



Whiting Petroleum Corp.

Weld County, CO

Sec 25-T10N-R58W

Razor #25N-2437

Hz

APD

Anticollision Report

15 May, 2015



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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	5/15/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	15,918.20	APD (Hz)	MWD+IFR1+MS+sag	Fixed:v2:crustal dec & 3-axis correction + sag	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Sec 25-T10N-R58W						
Razor #25N-2405 - Hz - APD	742.49	743.82	49.57	45.00	10.846	CC
Razor #25N-2405 - Hz - APD	15,918.20	15,625.43	249.82	34.58	1.161	Level 2, ES, SF
Razor #25N-2406 - Hz - APD	593.26	597.20	57.15	53.67	16.419	CC
Razor #25N-2406 - Hz - APD	600.00	603.94	57.15	53.63	16.218	ES
Razor #25N-2406 - Hz - APD	15,918.20	15,666.28	509.60	214.81	1.729	SF
Razor #25N-2407 - Hz - APD	300.00	300.00	77.89	76.28	48.232	CC
Razor #25N-2407 - Hz - APD	400.00	402.13	78.03	75.79	34.846	ES
Razor #25N-2407 - Hz - APD	15,918.20	15,688.22	845.24	548.22	2.846	SF
Razor #25N-2408 - HZ - APD	300.00	300.00	103.73	102.12	64.232	CC, ES
Razor #25N-2408 - HZ - APD	15,918.20	15,717.80	1,161.25	859.50	3.848	SF
Razor #25N-2438 - Hz - APD	300.00	300.00	29.99	28.38	18.572	CC
Razor #25N-2438 - Hz - APD	600.00	602.95	30.67	27.16	8.730	ES
Razor #25N-2438 - Hz - APD	15,918.20	16,020.10	345.49	52.54	1.179	Level 2, SF
Razor #25N-2439 - Hz - APD	300.00	300.00	59.99	58.38	37.149	CC
Razor #25N-2439 - Hz - APD	400.00	401.86	60.17	57.92	26.756	ES
Razor #25N-2439 - Hz - APD	15,918.20	15,825.62	659.56	355.43	2.169	SF
Razor #25N-2440 - Hz - APD	300.00	300.00	89.98	88.37	55.719	CC, ES
Razor #25N-2440 - Hz - APD	15,918.20	16,007.10	994.69	691.71	3.283	SF

Offset Design												Sec 25-T10N-R58W - Razor #25N-2405 - Hz - APD		Offset Site Error:		0.00 usft	
Survey Program:												0-MWD+IFR1+MS+sag		Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor						
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)						
0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.59	0.00	49.59								
100.00	100.00	100.00	100.00	0.13	0.13	0.00	49.59	0.00	49.59	49.32	0.27	186.187					
200.00	200.00	200.00	200.00	0.47	0.47	0.00	49.59	0.00	49.59	48.65	0.94	52.720					
300.00	300.00	300.00	300.00	0.81	0.81	0.00	49.59	0.00	49.59	47.98	1.61	30.707					
400.00	399.98	400.30	400.28	1.13	1.13	99.99	49.29	-1.73	49.59	47.34	2.25	22.049					
500.00	499.84	500.60	500.44	1.45	1.45	99.98	48.37	-6.91	49.59	46.71	2.88	17.228					
600.00	599.45	600.90	600.35	1.78	1.78	99.95	46.85	-15.55	49.58	46.04	3.55	13.978					
700.00	698.70	701.20	699.89	2.13	2.14	99.90	44.72	-27.62	49.58	45.32	4.25	11.652					
742.49	740.73	743.82	742.05	2.29	2.29	99.88	43.63	-33.79	49.57	45.00	4.57	10.846	CC				
800.00	797.47	801.34	798.86	2.51	2.51	100.37	42.07	-42.64	49.65	44.65	5.00	9.928					

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



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Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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		
900.00	895.71	901.30	897.59	2.91	2.90	103.79	39.36	-58.04	50.29	44.52	5.77	8.718		
1,000.00	993.87	1,001.24	996.29	3.32	3.29	107.58	36.64	-73.44	51.23	44.69	6.54	7.833		
1,100.00	1,092.03	1,101.17	1,095.00	3.74	3.69	111.22	33.93	-88.84	52.39	45.09	7.31	7.170		
1,200.00	1,190.20	1,201.11	1,193.71	4.17	4.09	114.69	31.21	-104.23	53.76	45.69	8.07	6.665		
1,300.00	1,288.36	1,301.05	1,292.42	4.60	4.49	117.97	28.50	-119.63	55.31	46.49	8.81	6.275		
1,400.00	1,386.52	1,400.99	1,391.13	5.03	4.89	121.07	25.78	-135.02	57.03	47.48	9.55	5.972		
1,500.00	1,484.69	1,500.93	1,489.84	5.46	5.30	123.98	23.07	-150.42	58.90	48.63	10.27	5.733		
1,600.00	1,582.85	1,600.87	1,588.55	5.90	5.70	126.70	20.35	-165.82	60.92	49.94	10.99	5.544		
1,700.00	1,681.01	1,700.81	1,687.25	6.33	6.11	129.24	17.64	-181.21	63.07	51.38	11.69	5.393		
1,800.00	1,779.17	1,800.75	1,785.96	6.77	6.51	131.61	14.92	-196.61	65.34	52.95	12.39	5.273		
1,900.00	1,877.34	1,900.69	1,884.67	7.21	6.92	133.82	12.21	-212.01	67.71	54.62	13.08	5.175		
2,000.00	1,975.50	2,000.63	1,983.38	7.64	7.33	135.88	9.49	-227.40	70.17	56.40	13.77	5.096		
2,100.00	2,073.66	2,100.57	2,082.09	8.08	7.74	137.79	6.78	-242.80	72.72	58.27	14.45	5.033		
2,200.00	2,171.82	2,200.50	2,180.80	8.52	8.14	139.57	4.06	-258.20	75.34	60.21	15.13	4.981		
2,300.00	2,269.99	2,300.44	2,279.51	8.96	8.55	141.24	1.35	-273.59	78.03	62.23	15.80	4.938		
2,400.00	2,368.15	2,400.38	2,378.22	9.40	8.96	142.78	-1.37	-288.99	80.78	64.31	16.47	4.904		
2,500.00	2,466.31	2,500.32	2,476.92	9.84	9.37	144.23	-4.08	-304.39	83.59	66.44	17.14	4.876		
2,600.00	2,564.48	2,600.26	2,575.63	10.28	9.78	145.58	-6.80	-319.78	86.44	68.63	17.81	4.853		
2,700.00	2,662.64	2,700.20	2,674.34	10.72	10.19	146.85	-9.51	-335.18	89.34	70.86	18.48	4.834		
2,800.00	2,760.80	2,800.14	2,773.05	11.16	10.60	148.03	-12.23	-350.57	92.29	73.14	19.15	4.819		
2,900.00	2,858.96	2,900.08	2,871.76	11.60	11.01	149.14	-14.94	-365.97	95.26	75.45	19.82	4.807		
3,000.00	2,957.13	3,000.02	2,970.47	12.04	11.42	150.19	-17.65	-381.37	98.28	77.79	20.49	4.797		
3,100.00	3,055.29	3,099.96	3,069.18	12.48	11.83	151.17	-20.37	-396.76	101.32	80.17	21.15	4.790		
3,200.00	3,153.45	3,199.90	3,167.88	12.93	12.24	152.09	-23.08	-412.16	104.39	82.57	21.82	4.784		
3,300.00	3,251.61	3,299.83	3,266.59	13.37	12.65	152.96	-25.80	-427.56	107.49	85.00	22.49	4.779		
3,400.00	3,349.78	3,399.77	3,365.30	13.81	13.06	153.78	-28.51	-442.95	110.61	87.45	23.16	4.776		
3,500.00	3,447.94	3,499.71	3,464.01	14.25	13.47	154.56	-31.23	-458.35	113.75	89.92	23.83	4.773		
3,600.00	3,546.10	3,599.65	3,562.72	14.69	13.88	155.30	-33.94	-473.75	116.91	92.41	24.50	4.772		
3,700.00	3,644.27	3,699.59	3,661.43	15.13	14.29	155.99	-36.66	-489.14	120.09	94.92	25.17	4.771		
3,800.00	3,742.43	3,799.53	3,760.14	15.58	14.70	156.65	-39.37	-504.54	123.29	97.44	25.85	4.770		
3,900.00	3,840.59	3,899.47	3,858.85	16.02	15.11	157.28	-42.09	-519.94	126.50	99.98	26.52	4.770		
4,000.00	3,938.75	3,999.41	3,957.55	16.46	15.52	157.87	-44.80	-535.33	129.73	102.54	27.19	4.771		
4,100.00	4,036.92	4,099.35	4,056.26	16.90	15.93	158.44	-47.52	-550.73	132.97	105.10	27.87	4.772		
4,200.00	4,135.08	4,199.29	4,154.97	17.34	16.34	158.98	-50.23	-566.12	136.22	107.68	28.54	4.773		
4,300.00	4,233.24	4,299.23	4,253.68	17.78	16.75	159.49	-52.95	-581.52	139.48	110.27	29.21	4.774		
4,400.00	4,331.40	4,399.16	4,352.39	18.23	17.16	159.98	-55.66	-596.92	142.76	112.87	29.89	4.776		
4,500.00	4,429.57	4,498.00	4,450.02	18.67	17.55	160.46	-58.33	-612.05	146.13	115.58	30.55	4.783		
4,600.00	4,527.73	4,593.15	4,544.33	19.11	17.81	161.18	-60.51	-624.43	151.75	120.62	31.13	4.874		
4,700.00	4,626.21	4,687.99	4,638.70	19.47	18.06	162.05	-62.15	-633.68	158.89	127.22	31.68	5.016		
4,800.00	4,725.23	4,782.60	4,733.10	19.75	18.29	162.84	-63.23	-639.85	165.89	133.73	32.16	5.158		
4,900.00	4,824.67	4,877.00	4,827.45	20.01	18.51	163.54	-63.78	-642.94	172.73	140.11	32.62	5.295		
5,000.00	4,924.43	4,973.98	4,924.43	20.25	18.75	164.15	-63.85	-643.33	179.02	145.94	33.08	5.412		
5,100.00	5,024.36	5,071.92	5,022.36	20.48	19.01	164.42	-63.68	-643.33	182.46	148.92	33.54	5.441		
5,200.00	5,124.36	5,157.59	5,107.44	20.71	19.23	161.92	-54.49	-643.33	187.78	153.63	34.15	5.499		
5,300.00	5,224.34	5,238.39	5,185.29	20.96	19.43	56.17	-33.15	-643.33	201.39	166.42	34.97	5.759		
5,400.00	5,323.10	5,315.59	5,255.74	21.20	19.61	50.12	-1.77	-643.33	217.86	182.47	35.39	6.156		
5,500.00	5,417.22	5,390.83	5,319.22	21.42	19.76	45.65	38.51	-643.34	233.07	197.91	35.16	6.629		
5,600.00	5,503.25	5,464.64	5,375.22	21.61	19.89	42.49	86.50	-643.34	245.78	211.52	34.26	7.175		
5,700.00	5,578.04	5,537.46	5,423.27	21.76	20.01	40.42	141.13	-643.34	255.17	222.34	32.83	7.772		
5,800.00	5,638.83	5,609.64	5,462.94	21.89	20.11	39.29	201.37	-643.34	260.72	229.53	31.19	8.358		
5,900.00	5,683.39	5,681.55	5,493.81	21.99	20.20	39.00	266.25	-643.34	262.16	232.41	29.75	8.812		
6,000.00	5,710.08	5,750.00	5,514.63	22.09	20.29	39.51	331.41	-643.34	259.46	230.53	28.93	8.968		

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



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Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25N-2437
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Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,100.00	5,718.00	5,825.86	5,527.51	22.23	20.41	40.89	406.10	-643.34	252.70	223.59	29.11	8.682		
6,200.00	5,718.00	5,907.23	5,530.00	22.46	20.61	41.27	487.38	-643.34	250.12	220.41	29.71	8.419		
6,300.00	5,718.00	6,007.23	5,530.00	22.81	20.98	41.27	587.38	-643.34	250.12	219.72	30.40	8.228		
6,400.00	5,718.00	6,107.23	5,530.00	23.29	21.51	41.26	687.38	-643.34	250.11	218.90	31.21	8.013		
6,500.00	5,718.00	6,207.23	5,530.00	23.90	22.16	41.26	787.38	-643.34	250.11	217.96	32.15	7.780		
6,600.00	5,718.00	6,307.23	5,530.00	24.61	22.92	41.26	887.38	-643.34	250.11	216.92	33.19	7.535		
6,700.00	5,718.00	6,407.23	5,530.00	25.41	23.75	41.26	987.38	-643.34	250.10	215.77	34.33	7.285		
6,800.00	5,718.00	6,507.23	5,530.00	26.28	24.66	41.26	1,087.38	-643.34	250.10	214.54	35.56	7.033		
6,900.00	5,718.00	6,607.23	5,530.00	27.22	25.62	41.26	1,187.38	-643.34	250.10	213.23	36.87	6.783		
7,000.00	5,718.00	6,707.23	5,530.00	28.20	26.63	41.26	1,287.38	-643.35	250.10	211.85	38.25	6.538		
7,100.00	5,718.00	6,807.23	5,530.00	29.23	27.68	41.26	1,387.38	-643.35	250.09	210.40	39.69	6.301		
7,200.00	5,718.00	6,907.23	5,530.00	30.30	28.77	41.26	1,487.38	-643.35	250.09	208.89	41.19	6.071		
7,300.00	5,718.00	7,007.23	5,530.00	31.40	29.89	41.26	1,587.38	-643.35	250.09	207.34	42.75	5.850		
7,400.00	5,718.00	7,107.23	5,530.00	32.53	31.04	41.26	1,687.38	-643.35	250.08	205.74	44.34	5.640		
7,500.00	5,718.00	7,207.23	5,530.00	33.69	32.22	41.26	1,787.38	-643.35	250.08	204.10	45.98	5.439		
7,600.00	5,718.00	7,307.23	5,530.00	34.88	33.42	41.25	1,887.38	-643.35	250.08	202.42	47.66	5.247		
7,700.00	5,718.00	7,407.23	5,530.00	36.08	34.64	41.25	1,987.38	-643.35	250.07	200.71	49.37	5.066		
7,800.00	5,718.00	7,507.23	5,530.00	37.31	35.88	41.25	2,087.38	-643.35	250.07	198.96	51.11	4.893		
7,900.00	5,718.00	7,607.23	5,530.00	38.55	37.14	41.25	2,187.38	-643.35	250.07	197.20	52.87	4.730		
8,000.00	5,718.00	7,707.23	5,530.00	39.81	38.41	41.25	2,287.38	-643.35	250.06	195.40	54.66	4.575		
8,100.00	5,718.00	7,807.23	5,530.00	41.08	39.70	41.25	2,387.38	-643.35	250.06	193.59	56.47	4.428		
8,200.00	5,718.00	7,907.23	5,530.00	42.36	41.00	41.25	2,487.38	-643.35	250.06	191.76	58.30	4.289		
8,300.00	5,718.00	8,007.23	5,530.00	43.66	42.31	41.25	2,587.38	-643.36	250.05	189.90	60.15	4.157		
8,400.00	5,718.00	8,107.23	5,530.00	44.97	43.63	41.25	2,687.38	-643.36	250.05	188.04	62.02	4.032		
8,500.00	5,718.00	8,207.23	5,530.00	46.28	44.96	41.25	2,787.38	-643.36	250.05	186.15	63.90	3.913		
8,600.00	5,718.00	8,307.23	5,530.00	47.61	46.30	41.25	2,887.38	-643.36	250.04	184.25	65.79	3.801		
8,700.00	5,718.00	8,407.23	5,530.00	48.95	47.64	41.25	2,987.38	-643.36	250.04	182.35	67.70	3.694		
8,800.00	5,718.00	8,507.23	5,530.00	50.29	49.00	41.24	3,087.38	-643.36	250.04	180.42	69.61	3.592		
8,900.00	5,718.00	8,607.23	5,530.00	51.64	50.36	41.24	3,187.38	-643.36	250.04	178.49	71.54	3.495		
9,000.00	5,718.00	8,707.23	5,530.00	52.99	51.72	41.24	3,287.38	-643.36	250.03	176.55	73.48	3.403		
9,100.00	5,718.00	8,807.23	5,530.00	54.35	53.09	41.24	3,387.38	-643.36	250.03	174.60	75.43	3.315		
9,200.00	5,718.00	8,907.23	5,530.00	55.72	54.47	41.24	3,487.38	-643.36	250.03	172.64	77.38	3.231		
9,300.00	5,718.00	9,007.23	5,530.00	57.09	55.85	41.24	3,587.38	-643.36	250.02	170.68	79.35	3.151		
9,400.00	5,718.00	9,107.23	5,530.00	58.47	57.24	41.24	3,687.38	-643.36	250.02	168.70	81.32	3.075		
9,500.00	5,718.00	9,207.23	5,530.00	59.85	58.63	41.24	3,787.38	-643.37	250.02	166.72	83.29	3.002		
9,600.00	5,718.00	9,307.23	5,530.00	61.24	60.02	41.24	3,887.38	-643.37	250.01	164.74	85.28	2.932		
9,700.00	5,718.00	9,407.23	5,530.00	62.63	61.42	41.24	3,987.38	-643.37	250.01	162.75	87.26	2.865		
9,800.00	5,718.00	9,507.23	5,530.00	64.02	62.82	41.24	4,087.38	-643.37	250.01	160.75	89.26	2.801		
9,900.00	5,718.00	9,607.23	5,530.00	65.42	64.22	41.24	4,187.38	-643.37	250.00	158.75	91.26	2.740		
10,000.00	5,718.00	9,707.23	5,530.00	66.82	65.63	41.23	4,287.38	-643.37	250.00	156.74	93.26	2.681		
10,100.00	5,718.00	9,807.23	5,530.00	68.22	67.04	41.23	4,387.38	-643.37	250.00	154.73	95.27	2.624		
10,200.00	5,718.00	9,907.23	5,530.00	69.63	68.45	41.23	4,487.38	-643.37	249.99	152.71	97.28	2.570		
10,300.00	5,718.00	10,007.23	5,530.00	71.03	69.87	41.23	4,587.38	-643.37	249.99	150.70	99.30	2.518		
10,400.00	5,718.00	10,107.23	5,530.00	72.44	71.29	41.23	4,687.38	-643.37	249.99	148.67	101.31	2.467		
10,500.00	5,718.00	10,207.23	5,530.00	73.86	72.70	41.23	4,787.38	-643.37	249.99	146.65	103.34	2.419		
10,600.00	5,718.00	10,307.23	5,530.00	75.27	74.13	41.23	4,887.38	-643.37	249.98	144.62	105.36	2.373		
10,700.00	5,718.00	10,407.23	5,530.00	76.69	75.55	41.23	4,987.38	-643.37	249.98	142.59	107.39	2.328		
10,800.00	5,718.00	10,507.23	5,530.00	78.11	76.97	41.23	5,087.38	-643.38	249.98	140.55	109.42	2.284		
10,900.00	5,718.00	10,607.23	5,530.00	79.53	78.40	41.23	5,187.38	-643.38	249.97	138.51	111.46	2.243		
11,000.00	5,718.00	10,707.23	5,530.00	80.96	79.83	41.23	5,287.38	-643.38	249.97	136.47	113.50	2.202		
11,100.00	5,718.00	10,807.23	5,530.00	82.38	81.26	41.23	5,387.38	-643.38	249.97	134.43	115.53	2.164		
11,200.00	5,718.00	10,907.23	5,530.00	83.81	82.69	41.23	5,487.38	-643.38	249.96	132.39	117.58	2.126		

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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
11,300.00	5,718.00	11,007.23	5,530.00	85.23	84.12	41.22	5,587.38	-643.38	249.96	130.34	119.62	2.090	
11,400.00	5,718.00	11,107.23	5,530.00	86.66	85.56	41.22	5,687.38	-643.38	249.96	128.29	121.67	2.054	
11,500.00	5,718.00	11,207.23	5,530.00	88.09	86.99	41.22	5,787.38	-643.38	249.95	126.24	123.71	2.020	
11,600.00	5,718.00	11,307.23	5,530.00	89.53	88.43	41.22	5,887.38	-643.38	249.95	124.19	125.76	1.987	
11,700.00	5,718.00	11,407.23	5,530.00	90.96	89.87	41.22	5,987.38	-643.38	249.95	122.13	127.81	1.956	
11,800.00	5,718.00	11,507.23	5,530.00	92.39	91.31	41.22	6,087.38	-643.38	249.94	120.08	129.87	1.925	
11,900.00	5,718.00	11,607.23	5,530.00	93.83	92.75	41.22	6,187.38	-643.38	249.94	118.02	131.92	1.895	
12,000.00	5,718.00	11,707.23	5,530.00	95.27	94.19	41.22	6,287.38	-643.39	249.94	115.96	133.98	1.866	
12,100.00	5,718.00	11,807.23	5,530.00	96.71	95.63	41.22	6,387.38	-643.39	249.93	113.90	136.03	1.837	
12,200.00	5,718.00	11,907.23	5,530.00	98.14	97.07	41.22	6,487.38	-643.39	249.93	111.84	138.09	1.810	
12,300.00	5,718.00	12,007.23	5,530.00	99.58	98.51	41.22	6,587.38	-643.39	249.93	109.77	140.15	1.783	
12,400.00	5,718.00	12,107.23	5,530.00	101.02	99.96	41.22	6,687.38	-643.39	249.93	107.71	142.22	1.757	
12,500.00	5,718.00	12,207.23	5,530.00	102.47	101.40	41.21	6,787.38	-643.39	249.92	105.64	144.28	1.732	
12,600.00	5,718.00	12,307.23	5,530.00	103.91	102.85	41.21	6,887.38	-643.39	249.92	103.58	146.34	1.708	
12,700.00	5,718.00	12,407.23	5,530.00	105.35	104.30	41.21	6,987.38	-643.39	249.92	101.51	148.41	1.684	
12,800.00	5,718.00	12,507.23	5,530.00	106.80	105.74	41.21	7,087.38	-643.39	249.91	99.44	150.47	1.661	
12,900.00	5,718.00	12,607.23	5,530.00	108.24	107.19	41.21	7,187.38	-643.39	249.91	97.37	152.54	1.638	
13,000.00	5,718.00	12,707.23	5,530.00	109.69	108.64	41.21	7,287.38	-643.39	249.91	95.30	154.61	1.616	
13,100.00	5,718.00	12,807.23	5,530.00	111.13	110.09	41.21	7,387.38	-643.39	249.90	93.23	156.68	1.595	
13,200.00	5,718.00	12,907.23	5,530.00	112.58	111.54	41.21	7,487.38	-643.40	249.90	91.16	158.74	1.574	
13,300.00	5,718.00	13,007.23	5,530.00	114.03	112.99	41.21	7,587.38	-643.40	249.90	89.08	160.82	1.554	
13,400.00	5,718.00	13,107.23	5,530.00	115.48	114.44	41.21	7,687.38	-643.40	249.89	87.01	162.89	1.534	
13,500.00	5,718.00	13,207.23	5,530.00	116.92	115.89	41.21	7,787.38	-643.40	249.89	84.93	164.96	1.515	
13,600.00	5,718.00	13,307.23	5,530.00	118.37	117.34	41.21	7,887.38	-643.40	249.89	82.86	167.03	1.496 Level 3	
13,700.00	5,718.00	13,407.23	5,530.00	119.82	118.79	41.20	7,987.38	-643.40	249.88	80.78	169.10	1.478 Level 3	
13,800.00	5,718.00	13,507.23	5,530.00	121.27	120.25	41.20	8,087.38	-643.40	249.88	78.70	171.18	1.460 Level 3	
13,900.00	5,718.00	13,607.23	5,530.00	122.72	121.70	41.20	8,187.38	-643.40	249.88	76.63	173.25	1.442 Level 3	
14,000.00	5,718.00	13,707.23	5,530.00	124.17	123.15	41.20	8,287.38	-643.40	249.88	74.55	175.33	1.425 Level 3	
14,100.00	5,718.00	13,807.23	5,530.00	125.63	124.61	41.20	8,387.38	-643.40	249.87	72.47	177.40	1.408 Level 3	
14,200.00	5,718.00	13,907.23	5,530.00	127.08	126.06	41.20	8,487.38	-643.40	249.87	70.39	179.48	1.392 Level 3	
14,300.00	5,718.00	14,007.23	5,530.00	128.53	127.52	41.20	8,587.38	-643.40	249.87	68.31	181.56	1.376 Level 3	
14,400.00	5,718.00	14,107.23	5,530.00	129.98	128.97	41.20	8,687.38	-643.40	249.86	66.23	183.64	1.361 Level 3	
14,500.00	5,718.00	14,207.23	5,530.00	131.44	130.43	41.20	8,787.38	-643.41	249.86	64.15	185.71	1.345 Level 3	
14,600.00	5,718.00	14,307.23	5,530.00	132.89	131.89	41.20	8,887.38	-643.41	249.86	62.06	187.79	1.330 Level 3	
14,700.00	5,718.00	14,407.23	5,530.00	134.35	133.34	41.20	8,987.38	-643.41	249.85	59.98	189.87	1.316 Level 3	
14,800.00	5,718.00	14,507.23	5,530.00	135.80	134.80	41.20	9,087.38	-643.41	249.85	57.90	191.95	1.302 Level 3	
14,900.00	5,718.00	14,607.23	5,530.00	137.26	136.26	41.19	9,187.38	-643.41	249.85	55.81	194.03	1.288 Level 3	
15,000.00	5,718.00	14,707.23	5,530.00	138.71	137.71	41.19	9,287.38	-643.41	249.84	53.73	196.11	1.274 Level 3	
15,100.00	5,718.00	14,807.23	5,530.00	140.17	139.17	41.19	9,387.38	-643.41	249.84	51.65	198.19	1.261 Level 3	
15,200.00	5,718.00	14,907.23	5,530.00	141.62	140.63	41.19	9,487.38	-643.41	249.84	49.56	200.28	1.247 Level 2	
15,300.00	5,718.00	15,007.23	5,530.00	143.08	142.09	41.19	9,587.38	-643.41	249.83	47.48	202.36	1.235 Level 2	
15,400.00	5,718.00	15,107.23	5,530.00	144.54	143.54	41.19	9,687.38	-643.41	249.83	45.39	204.44	1.222 Level 2	
15,500.00	5,718.00	15,207.23	5,530.00	145.99	145.00	41.19	9,787.38	-643.41	249.83	43.31	206.52	1.210 Level 2	
15,600.00	5,718.00	15,307.23	5,530.00	147.45	146.46	41.19	9,887.38	-643.41	249.83	41.22	208.60	1.198 Level 2	
15,700.00	5,718.00	15,407.23	5,530.00	148.91	147.92	41.19	9,987.38	-643.42	249.82	39.13	210.69	1.186 Level 2	
15,800.00	5,718.00	15,507.23	5,530.00	150.37	149.38	41.19	10,087.38	-643.42	249.82	37.05	212.77	1.174 Level 2	
15,900.00	5,718.00	15,607.23	5,530.00	151.82	150.84	41.19	10,187.38	-643.42	249.82	34.96	214.86	1.163 Level 2	
15,918.20	5,718.00	15,625.43	5,530.00	152.09	151.11	41.19	10,205.59	-643.42	249.82	34.58	215.23	1.161 Level 2, ES, SF	

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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	30.66	50.60	29.99	58.82					
100.00	100.00	100.00	100.00	0.13	0.13	30.66	50.60	29.99	58.82	58.56	0.27	220.851		
200.00	200.00	200.00	200.00	0.47	0.47	30.66	50.60	29.99	58.82	57.88	0.94	62.535		
300.00	300.00	300.00	300.00	0.81	0.81	30.66	50.60	29.99	58.82	57.21	1.61	36.424		
400.00	399.98	401.61	401.59	1.13	1.13	130.86	49.99	28.30	58.59	56.34	2.25	26.030		
500.00	499.84	503.22	503.05	1.45	1.45	131.47	48.14	23.22	57.89	55.02	2.88	20.130		
593.26	592.74	597.20	596.70	1.76	1.76	132.67	45.47	15.88	57.15	53.67	3.48	16.419 CC		
600.00	599.45	603.94	603.42	1.78	1.78	132.83	45.27	15.33	57.15	53.63	3.52	16.218 ES		
700.00	698.70	703.86	702.96	2.13	2.12	136.41	42.29	7.15	58.62	54.44	4.18	14.011		
800.00	797.47	803.59	802.31	2.51	2.46	141.81	39.31	-1.02	63.02	58.17	4.85	12.996		
900.00	895.71	903.06	901.40	2.91	2.82	147.83	36.35	-9.17	70.47	64.96	5.51	12.790		
1,000.00	993.87	1,002.49	1,000.45	3.32	3.17	152.85	33.39	-17.31	78.94	72.77	6.17	12.796		
1,100.00	1,092.03	1,101.91	1,099.50	3.74	3.52	156.87	30.42	-25.45	87.90	81.07	6.83	12.869		
1,200.00	1,190.20	1,201.34	1,198.55	4.17	3.88	160.14	27.46	-33.60	97.21	89.72	7.49	12.973		
1,300.00	1,288.36	1,300.77	1,297.59	4.60	4.24	162.83	24.49	-41.74	106.78	98.62	8.16	13.087		
1,400.00	1,386.52	1,400.20	1,396.64	5.03	4.60	165.08	21.53	-49.88	116.54	107.71	8.83	13.202		
1,500.00	1,484.69	1,499.62	1,495.69	5.46	4.95	166.97	18.57	-58.03	126.45	116.96	9.50	13.313		
1,600.00	1,582.85	1,599.05	1,594.74	5.90	5.31	168.59	15.60	-66.17	136.49	126.31	10.17	13.417		
1,700.00	1,681.01	1,698.48	1,693.79	6.33	5.67	169.99	12.64	-74.31	146.61	135.76	10.85	13.515		
1,800.00	1,779.17	1,797.90	1,792.84	6.77	6.03	171.21	9.68	-82.45	156.81	145.28	11.53	13.605		
1,900.00	1,877.34	1,897.33	1,891.89	7.21	6.39	172.27	6.71	-90.60	167.07	154.86	12.20	13.689		
2,000.00	1,975.50	1,996.76	1,990.93	7.64	6.75	173.22	3.75	-98.74	177.38	164.50	12.89	13.766		
2,100.00	2,073.66	2,096.18	2,089.98	8.08	7.11	174.06	0.78	-106.88	187.73	174.17	13.57	13.837		
2,200.00	2,171.82	2,195.61	2,189.03	8.52	7.47	174.81	-2.18	-115.03	198.12	183.87	14.25	13.903		
2,300.00	2,269.99	2,295.04	2,288.08	8.96	7.84	175.49	-5.14	-123.17	208.54	193.61	14.93	13.964		
2,400.00	2,368.15	2,394.46	2,387.13	9.40	8.20	176.10	-8.11	-131.31	218.99	203.37	15.62	14.020		
2,500.00	2,466.31	2,493.89	2,486.18	9.84	8.56	176.66	-11.07	-139.46	229.46	213.15	16.31	14.073		
2,600.00	2,564.48	2,593.32	2,585.23	10.28	8.92	177.16	-14.04	-147.60	239.95	222.96	16.99	14.122		
2,700.00	2,662.64	2,692.75	2,684.27	10.72	9.28	177.63	-17.00	-155.74	250.45	232.77	17.68	14.167		
2,800.00	2,760.80	2,792.17	2,783.32	11.16	9.64	178.06	-19.96	-163.88	260.97	242.61	18.37	14.209		
2,900.00	2,858.96	2,891.60	2,882.37	11.60	10.00	178.45	-22.93	-172.03	271.51	252.45	19.05	14.249		
3,000.00	2,957.13	2,991.03	2,981.42	12.04	10.36	178.82	-25.89	-180.17	282.05	262.31	19.74	14.286		
3,100.00	3,055.29	3,090.45	3,080.47	12.48	10.73	179.16	-28.85	-188.31	292.61	272.18	20.43	14.321		
3,200.00	3,153.45	3,189.88	3,179.52	12.93	11.09	179.47	-31.82	-196.46	303.17	282.05	21.12	14.354		
3,300.00	3,251.61	3,289.31	3,278.57	13.37	11.45	179.77	-34.78	-204.60	313.75	291.94	21.81	14.384		
3,400.00	3,349.78	3,388.73	3,377.61	13.81	11.81	-179.96	-37.75	-212.74	324.33	301.83	22.50	14.413		
3,500.00	3,447.94	3,488.16	3,476.66	14.25	12.17	-179.70	-40.71	-220.89	334.92	311.73	23.19	14.441		
3,600.00	3,546.10	3,587.59	3,575.71	14.69	12.53	-179.46	-43.67	-229.03	345.51	321.63	23.88	14.467		
3,700.00	3,644.27	3,687.01	3,674.76	15.13	12.89	-179.23	-46.64	-237.17	356.11	331.54	24.57	14.491		
3,800.00	3,742.43	3,786.44	3,773.81	15.58	13.26	-179.02	-49.60	-245.31	366.72	341.45	25.27	14.515		
3,900.00	3,840.59	3,885.87	3,872.86	16.02	13.62	-178.82	-52.57	-253.46	377.33	351.37	25.96	14.537		
4,000.00	3,938.75	3,985.30	3,971.91	16.46	13.98	-178.62	-55.53	-261.60	387.94	361.30	26.65	14.558		
4,100.00	4,036.92	4,084.72	4,070.95	16.90	14.34	-178.44	-58.49	-269.74	398.56	371.22	27.34	14.578		
4,200.00	4,135.08	4,184.15	4,170.00	17.34	14.70	-178.27	-61.46	-277.89	409.19	381.15	28.03	14.597		
4,300.00	4,233.24	4,283.58	4,269.05	17.78	15.07	-178.11	-64.42	-286.03	419.81	391.09	28.72	14.615		
4,400.00	4,331.40	4,383.00	4,368.10	18.23	15.43	-177.95	-67.38	-294.17	430.44	401.02	29.42	14.632		
4,500.00	4,429.57	4,482.43	4,467.15	18.67	15.79	-177.81	-70.35	-302.32	441.07	410.96	30.11	14.649		
4,600.00	4,527.73	4,570.91	4,555.36	19.11	16.07	-177.71	-72.69	-308.74	452.70	421.96	30.73	14.730		
4,700.00	4,626.21	4,656.67	4,641.02	19.47	16.30	-177.68	-74.08	-312.57	465.46	434.15	31.30	14.869		
4,800.00	4,725.23	4,742.17	4,726.50	19.75	16.51	-177.71	-74.60	-313.99	477.65	445.85	31.81	15.017		
4,900.00	4,824.67	4,840.34	4,824.67	20.01	16.79	-177.77	-74.60	-314.00	488.09	455.75	32.34	15.094		
5,000.00	4,924.43	4,940.09	4,924.43	20.25	17.06	-177.80	-74.60	-314.00	495.06	462.22	32.84	15.075		

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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,024.36	5,040.02	5,024.36	20.48	17.34	-177.82	-74.60	-314.00	498.54	465.22	33.32	14.963		
5,200.00	5,124.36	5,134.00	5,118.28	20.71	17.60	81.95	-72.64	-314.00	499.29	465.46	33.82	14.762		
5,300.00	5,224.34	5,219.88	5,202.84	20.96	17.83	80.28	-58.19	-314.00	501.82	467.54	34.28	14.638		
5,400.00	5,323.10	5,300.00	5,278.59	21.20	18.04	78.27	-32.37	-314.00	505.29	470.67	34.62	14.596		
5,500.00	5,417.22	5,384.28	5,353.02	21.42	18.24	76.53	6.99	-314.00	508.56	473.66	34.90	14.570		
5,600.00	5,503.25	5,464.37	5,417.00	21.61	18.40	75.26	55.04	-313.99	511.31	476.18	35.13	14.555		
5,700.00	5,578.04	5,543.62	5,472.32	21.76	18.54	74.43	111.67	-313.99	513.22	477.88	35.34	14.522		
5,800.00	5,638.83	5,622.39	5,518.17	21.89	18.64	74.06	175.63	-313.99	514.10	478.50	35.61	14.439		
5,900.00	5,683.39	5,700.00	5,553.42	21.99	18.72	74.15	244.69	-313.99	513.88	477.89	35.99	14.279		
6,000.00	5,710.08	5,779.99	5,578.60	22.09	18.79	74.71	320.53	-313.98	512.56	476.00	36.57	14.018		
6,100.00	5,718.00	5,859.53	5,591.84	22.23	19.08	75.68	398.89	-313.98	510.30	472.96	37.35	13.664		
6,180.27	5,718.00	5,928.35	5,594.00	22.40	19.42	75.92	467.64	-313.98	509.64	471.55	38.09	13.380		
6,200.00	5,718.00	5,948.07	5,594.00	22.46	19.53	75.92	487.36	-313.98	509.64	471.36	38.29	13.311		
6,300.00	5,718.00	6,048.07	5,594.00	22.81	20.13	75.92	587.36	-313.98	509.64	470.23	39.42	12.930		
6,400.00	5,718.00	6,148.07	5,594.00	23.29	20.81	75.92	687.36	-313.97	509.64	468.93	40.72	12.517		
6,500.00	5,718.00	6,248.07	5,594.00	23.90	21.57	75.92	787.36	-313.97	509.64	467.47	42.17	12.085		
6,600.00	5,718.00	6,348.07	5,594.00	24.61	22.39	75.92	887.36	-313.96	509.64	465.88	43.77	11.645		
6,700.00	5,718.00	6,448.07	5,594.00	25.41	23.28	75.92	987.36	-313.96	509.64	464.16	45.49	11.204		
6,800.00	5,718.00	6,548.07	5,594.00	26.28	24.23	75.92	1,087.36	-313.96	509.64	462.32	47.32	10.771		
6,900.00	5,718.00	6,648.07	5,594.00	27.22	25.22	75.92	1,187.36	-313.95	509.64	460.39	49.25	10.348		
7,000.00	5,718.00	6,748.07	5,594.00	28.20	26.26	75.92	1,287.36	-313.95	509.64	458.37	51.27	9.941		
7,100.00	5,718.00	6,848.07	5,594.00	29.23	27.34	75.92	1,387.36	-313.95	509.64	456.28	53.36	9.550		
7,200.00	5,718.00	6,948.07	5,594.00	30.30	28.46	75.92	1,487.36	-313.94	509.64	454.11	55.53	9.178		
7,300.00	5,718.00	7,048.07	5,594.00	31.40	29.60	75.92	1,587.36	-313.94	509.64	451.88	57.76	8.824		
7,400.00	5,718.00	7,148.07	5,594.00	32.53	30.77	75.92	1,687.36	-313.94	509.64	449.60	60.04	8.489		
7,500.00	5,718.00	7,248.07	5,594.00	33.69	31.97	75.92	1,787.36	-313.93	509.64	447.27	62.37	8.171		
7,600.00	5,718.00	7,348.07	5,594.00	34.88	33.19	75.92	1,887.36	-313.93	509.64	444.90	64.74	7.872		
7,700.00	5,718.00	7,448.07	5,594.00	36.08	34.43	75.92	1,987.36	-313.93	509.64	442.48	67.15	7.589		
7,800.00	5,718.00	7,548.07	5,594.00	37.31	35.69	75.92	2,087.36	-313.92	509.64	440.04	69.60	7.322		
7,900.00	5,718.00	7,648.07	5,594.00	38.55	36.96	75.92	2,187.36	-313.92	509.64	437.56	72.08	7.071		
8,000.00	5,718.00	7,748.07	5,594.00	39.81	38.24	75.92	2,287.36	-313.92	509.64	435.05	74.58	6.833		
8,100.00	5,718.00	7,848.07	5,594.00	41.08	39.54	75.92	2,387.36	-313.91	509.64	432.52	77.11	6.609		
8,200.00	5,718.00	7,948.07	5,594.00	42.36	40.85	75.92	2,487.36	-313.91	509.64	429.97	79.67	6.397		
8,300.00	5,718.00	8,048.07	5,594.00	43.66	42.18	75.92	2,587.36	-313.91	509.63	427.39	82.24	6.197		
8,400.00	5,718.00	8,148.07	5,594.00	44.97	43.51	75.92	2,687.36	-313.90	509.63	424.80	84.84	6.007		
8,500.00	5,718.00	8,248.07	5,594.00	46.28	44.85	75.92	2,787.36	-313.90	509.63	422.19	87.45	5.828		
8,600.00	5,718.00	8,348.07	5,594.00	47.61	46.20	75.92	2,887.36	-313.89	509.63	419.56	90.07	5.658		
8,700.00	5,718.00	8,448.07	5,594.00	48.95	47.55	75.92	2,987.36	-313.89	509.63	416.92	92.71	5.497		
8,800.00	5,718.00	8,548.07	5,594.00	50.29	48.91	75.92	3,087.36	-313.89	509.63	414.26	95.37	5.344		
8,900.00	5,718.00	8,648.07	5,594.00	51.64	50.28	75.92	3,187.36	-313.88	509.63	411.60	98.03	5.198		
9,000.00	5,718.00	8,748.07	5,594.00	52.99	51.65	75.92	3,287.36	-313.88	509.63	408.92	100.71	5.060		
9,100.00	5,718.00	8,848.07	5,594.00	54.35	53.03	75.92	3,387.36	-313.88	509.63	406.23	103.40	4.929		
9,200.00	5,718.00	8,948.07	5,594.00	55.72	54.42	75.92	3,487.36	-313.87	509.63	403.53	106.10	4.803		
9,300.00	5,718.00	9,048.07	5,594.00	57.09	55.81	75.92	3,587.36	-313.87	509.63	400.83	108.80	4.684		
9,400.00	5,718.00	9,148.07	5,594.00	58.47	57.20	75.92	3,687.36	-313.87	509.63	398.11	111.52	4.570		
9,500.00	5,718.00	9,248.07	5,594.00	59.85	58.59	75.92	3,787.36	-313.86	509.63	395.39	114.24	4.461		
9,600.00	5,718.00	9,348.07	5,594.00	61.24	59.99	75.92	3,887.36	-313.86	509.63	392.66	116.97	4.357		
9,700.00	5,718.00	9,448.07	5,594.00	62.63	61.40	75.92	3,987.36	-313.86	509.63	389.93	119.70	4.258		
9,800.00	5,718.00	9,548.07	5,594.00	64.02	62.80	75.92	4,087.36	-313.85	509.63	387.19	122.44	4.162		
9,900.00	5,718.00	9,648.07	5,594.00	65.42	64.21	75.92	4,187.36	-313.85	509.63	384.44	125.19	4.071		
10,000.00	5,718.00	9,748.07	5,594.00	66.82	65.63	75.92	4,287.36	-313.85	509.63	381.69	127.94	3.983		
10,100.00	5,718.00	9,848.07	5,594.00	68.22	67.04	75.92	4,387.36	-313.84	509.63	378.93	130.70	3.899		

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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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	5,718.00	9,948.07	5,594.00	69.63	68.46	75.92	4,487.36	-313.84	509.63	376.17	133.46	3.819		
10,300.00	5,718.00	10,048.07	5,594.00	71.03	69.88	75.92	4,587.36	-313.83	509.63	373.40	136.23	3.741		
10,400.00	5,718.00	10,148.07	5,594.00	72.44	71.30	75.92	4,687.36	-313.83	509.63	370.63	139.00	3.666		
10,500.00	5,718.00	10,248.07	5,594.00	73.86	72.72	75.92	4,787.36	-313.83	509.63	367.86	141.77	3.595		
10,600.00	5,718.00	10,348.07	5,594.00	75.27	74.15	75.92	4,887.36	-313.82	509.62	365.08	144.55	3.526		
10,700.00	5,718.00	10,448.07	5,594.00	76.69	75.57	75.92	4,987.36	-313.82	509.62	362.29	147.33	3.459		
10,800.00	5,718.00	10,548.07	5,594.00	78.11	77.00	75.92	5,087.36	-313.82	509.62	359.51	150.11	3.395		
10,900.00	5,718.00	10,648.07	5,594.00	79.53	78.43	75.92	5,187.36	-313.81	509.62	356.72	152.90	3.333		
11,000.00	5,718.00	10,748.07	5,594.00	80.96	79.86	75.92	5,287.36	-313.81	509.62	353.93	155.69	3.273		
11,100.00	5,718.00	10,848.07	5,594.00	82.38	81.30	75.92	5,387.36	-313.81	509.62	351.14	158.49	3.216		
11,200.00	5,718.00	10,948.07	5,594.00	83.81	82.73	75.92	5,487.36	-313.80	509.62	348.34	161.28	3.160		
11,300.00	5,718.00	11,048.07	5,594.00	85.23	84.17	75.92	5,587.36	-313.80	509.62	345.54	164.08	3.106		
11,400.00	5,718.00	11,148.07	5,594.00	86.66	85.61	75.92	5,687.36	-313.80	509.62	342.74	166.88	3.054		
11,500.00	5,718.00	11,248.07	5,594.00	88.09	87.04	75.92	5,787.36	-313.79	509.62	339.94	169.69	3.003		
11,600.00	5,718.00	11,348.07	5,594.00	89.53	88.48	75.92	5,887.36	-313.79	509.62	337.13	172.49	2.954		
11,700.00	5,718.00	11,448.07	5,594.00	90.96	89.92	75.92	5,987.36	-313.79	509.62	334.32	175.30	2.907		
11,800.00	5,718.00	11,548.07	5,594.00	92.39	91.36	75.92	6,087.36	-313.78	509.62	331.51	178.11	2.861		
11,900.00	5,718.00	11,648.07	5,594.00	93.83	92.81	75.92	6,187.36	-313.78	509.62	328.70	180.92	2.817		
12,000.00	5,718.00	11,748.07	5,594.00	95.27	94.25	75.92	6,287.36	-313.77	509.62	325.89	183.73	2.774		
12,100.00	5,718.00	11,848.07	5,594.00	96.71	95.69	75.92	6,387.36	-313.77	509.62	323.07	186.55	2.732		
12,200.00	5,718.00	11,948.07	5,594.00	98.14	97.14	75.92	6,487.36	-313.77	509.62	320.25	189.36	2.691		
12,300.00	5,718.00	12,048.07	5,594.00	99.58	98.58	75.92	6,587.36	-313.76	509.62	317.44	192.18	2.652		
12,400.00	5,718.00	12,148.07	5,594.00	101.02	100.03	75.92	6,687.36	-313.76	509.62	314.62	195.00	2.613		
12,500.00	5,718.00	12,248.07	5,594.00	102.47	101.48	75.92	6,787.36	-313.76	509.62	311.80	197.82	2.576		
12,600.00	5,718.00	12,348.07	5,594.00	103.91	102.93	75.92	6,887.36	-313.75	509.62	308.97	200.64	2.540		
12,700.00	5,718.00	12,448.07	5,594.00	105.35	104.37	75.92	6,987.36	-313.75	509.62	306.15	203.47	2.505		
12,800.00	5,718.00	12,548.07	5,594.00	106.80	105.82	75.92	7,087.36	-313.75	509.62	303.32	206.29	2.470		
12,900.00	5,718.00	12,648.07	5,594.00	108.24	107.27	75.92	7,187.36	-313.74	509.62	300.50	209.12	2.437		
13,000.00	5,718.00	12,748.07	5,594.00	109.69	108.72	75.92	7,287.36	-313.74	509.61	297.67	211.94	2.404		
13,100.00	5,718.00	12,848.07	5,594.00	111.13	110.18	75.92	7,387.36	-313.74	509.61	294.84	214.77	2.373		
13,200.00	5,718.00	12,948.07	5,594.00	112.58	111.63	75.92	7,487.36	-313.73	509.61	292.01	217.60	2.342		
13,300.00	5,718.00	13,048.07	5,594.00	114.03	113.08	75.92	7,587.36	-313.73	509.61	289.18	220.43	2.312		
13,400.00	5,718.00	13,148.07	5,594.00	115.48	114.53	75.92	7,687.36	-313.73	509.61	286.35	223.26	2.283		
13,500.00	5,718.00	13,248.07	5,594.00	116.92	115.98	75.92	7,787.36	-313.72	509.61	283.52	226.10	2.254		
13,600.00	5,718.00	13,348.07	5,594.00	118.37	117.44	75.92	7,887.36	-313.72	509.61	280.68	228.93	2.226		
13,700.00	5,718.00	13,448.07	5,594.00	119.82	118.89	75.92	7,987.36	-313.72	509.61	277.85	231.76	2.199		
13,800.00	5,718.00	13,548.07	5,594.00	121.27	120.35	75.92	8,087.36	-313.71	509.61	275.01	234.60	2.172		
13,900.00	5,718.00	13,648.07	5,594.00	122.72	121.80	75.92	8,187.36	-313.71	509.61	272.18	237.43	2.146		
14,000.00	5,718.00	13,748.07	5,594.00	124.17	123.26	75.92	8,287.36	-313.70	509.61	269.34	240.27	2.121		
14,100.00	5,718.00	13,848.07	5,594.00	125.63	124.71	75.92	8,387.36	-313.70	509.61	266.50	243.11	2.096		
14,200.00	5,718.00	13,948.07	5,594.00	127.08	126.17	75.92	8,487.36	-313.70	509.61	263.67	245.94	2.072		
14,300.00	5,718.00	14,048.07	5,594.00	128.53	127.62	75.92	8,587.36	-313.69	509.61	260.83	248.78	2.048		
14,400.00	5,718.00	14,148.07	5,594.00	129.98	129.08	75.92	8,687.36	-313.69	509.61	257.99	251.62	2.025		
14,500.00	5,718.00	14,248.07	5,594.00	131.44	130.54	75.92	8,787.36	-313.69	509.61	255.15	254.46	2.003		
14,600.00	5,718.00	14,348.07	5,594.00	132.89	131.99	75.92	8,887.36	-313.68	509.61	252.31	257.30	1.981		
14,700.00	5,718.00	14,448.07	5,594.00	134.35	133.45	75.92	8,987.36	-313.68	509.61	249.46	260.14	1.959		
14,800.00	5,718.00	14,548.07	5,594.00	135.80	134.91	75.92	9,087.36	-313.68	509.61	246.62	262.98	1.938		
14,900.00	5,718.00	14,648.07	5,594.00	137.26	136.37	75.92	9,187.36	-313.67	509.61	243.78	265.83	1.917		
15,000.00	5,718.00	14,748.07	5,594.00	138.71	137.83	75.92	9,287.36	-313.67	509.61	240.94	268.67	1.897		
15,100.00	5,718.00	14,848.07	5,594.00	140.17	139.29	75.92	9,387.36	-313.67	509.61	238.09	271.51	1.877		
15,200.00	5,718.00	14,948.07	5,594.00	141.62	140.74	75.92	9,487.36	-313.66	509.61	235.25	274.36	1.857		
15,300.00	5,718.00	15,048.07	5,594.00	143.08	142.20	75.92	9,587.36	-313.66	509.60	232.40	277.20	1.838		

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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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 #25N-2406 - 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	5,718.00	15,148.07	5,594.00	144.54	143.66	75.92	9,687.36	-313.66	509.60	229.56	280.05	1.820	
15,500.00	5,718.00	15,248.07	5,594.00	145.99	145.12	75.92	9,787.36	-313.65	509.60	226.71	282.89	1.801	
15,600.00	5,718.00	15,348.07	5,594.00	147.45	146.58	75.92	9,887.36	-313.65	509.60	223.87	285.74	1.783	
15,700.00	5,718.00	15,448.07	5,594.00	148.91	148.04	75.92	9,987.36	-313.64	509.60	221.02	288.58	1.766	
15,800.00	5,718.00	15,548.07	5,594.00	150.37	149.50	75.92	10,087.36	-313.64	509.60	218.17	291.43	1.749	
15,900.00	5,718.00	15,648.07	5,594.00	151.82	150.96	75.92	10,187.36	-313.64	509.60	215.33	294.28	1.732	
15,918.20	5,718.00	15,666.28	5,594.00	152.09	151.23	75.92	10,205.57	-313.64	509.60	214.81	294.80	1.729 SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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	49.48	50.60	59.22	77.89					
100.00	100.00	100.00	100.00	0.13	0.13	49.48	50.60	59.22	77.89	77.63	0.27	292.444		
200.00	200.00	200.00	200.00	0.47	0.47	49.48	50.60	59.22	77.89	76.95	0.94	82.807		
300.00	300.00	300.00	300.00	0.81	0.81	49.48	50.60	59.22	77.89	76.28	1.61	48.232 CC		
400.00	399.98	402.13	402.11	1.13	1.12	150.98	48.82	58.87	78.03	75.79	2.24	34.846 ES		
500.00	499.84	503.94	503.77	1.45	1.42	155.40	43.48	57.83	78.74	75.89	2.84	27.679		
600.00	599.45	603.53	603.12	1.78	1.73	161.30	36.66	56.51	82.12	78.64	3.48	23.612		
700.00	698.70	702.84	702.19	2.13	2.05	167.17	29.86	55.18	89.70	85.56	4.14	21.691		
800.00	797.47	801.76	800.86	2.51	2.38	172.35	23.09	53.87	101.53	96.72	4.80	21.137		
900.00	895.71	900.23	899.09	2.91	2.72	176.54	16.35	52.56	117.03	111.56	5.47	21.396		
1,000.00	993.87	998.63	997.25	3.32	3.06	179.75	9.61	51.25	133.44	127.30	6.14	21.734		
1,100.00	1,092.03	1,097.03	1,095.41	3.74	3.40	-177.74	2.87	49.94	150.17	143.35	6.82	22.029		
1,200.00	1,190.20	1,195.43	1,193.57	4.17	3.75	-175.73	-3.87	48.63	167.12	159.62	7.50	22.282		
1,300.00	1,288.36	1,293.83	1,291.73	4.60	4.09	-174.10	-10.61	47.32	184.23	176.05	8.19	22.499		
1,400.00	1,386.52	1,392.23	1,389.89	5.03	4.44	-172.74	-17.34	46.01	201.47	192.59	8.88	22.685		
1,500.00	1,484.69	1,490.63	1,488.06	5.46	4.79	-171.60	-24.08	44.70	218.80	209.22	9.58	22.846		
1,600.00	1,582.85	1,589.03	1,586.22	5.90	5.14	-170.63	-30.82	43.39	236.20	225.93	10.28	22.986		
1,700.00	1,681.01	1,687.43	1,684.38	6.33	5.49	-169.78	-37.56	42.08	253.66	242.68	10.98	23.109		
1,800.00	1,779.17	1,785.83	1,782.54	6.77	5.84	-169.05	-44.29	40.77	271.17	259.49	11.68	23.216		
1,900.00	1,877.34	1,884.23	1,880.70	7.21	6.19	-168.41	-51.03	39.46	288.71	276.32	12.38	23.312		
2,000.00	1,975.50	1,982.63	1,978.86	7.64	6.54	-167.84	-57.77	38.15	306.28	293.19	13.09	23.397		
2,100.00	2,073.66	2,081.03	2,077.02	8.08	6.89	-167.33	-64.51	36.84	323.88	310.08	13.80	23.474		
2,200.00	2,171.82	2,179.44	2,175.18	8.52	7.24	-166.87	-71.25	35.53	341.50	327.00	14.51	23.543		
2,300.00	2,269.99	2,277.84	2,273.34	8.96	7.59	-166.46	-77.98	34.22	359.14	343.93	15.21	23.605		
2,400.00	2,368.15	2,376.24	2,371.50	9.40	7.94	-166.09	-84.72	32.91	376.80	360.88	15.92	23.661		
2,500.00	2,466.31	2,474.64	2,469.66	9.84	8.29	-165.75	-91.46	31.60	394.47	377.84	16.64	23.713		
2,600.00	2,564.48	2,573.04	2,567.83	10.28	8.64	-165.44	-98.20	30.29	412.16	394.81	17.35	23.760		
2,700.00	2,662.64	2,671.44	2,665.99	10.72	8.99	-165.16	-104.94	28.98	429.85	411.79	18.06	23.803		
2,800.00	2,760.80	2,769.84	2,764.15	11.16	9.35	-164.90	-111.67	27.67	447.55	428.78	18.77	23.843		
2,900.00	2,858.96	2,868.24	2,862.31	11.60	9.70	-164.65	-118.41	26.36	465.27	445.78	19.48	23.880		
3,000.00	2,957.13	2,966.64	2,960.47	12.04	10.05	-164.43	-125.15	25.05	482.99	462.79	20.20	23.914		
3,100.00	3,055.29	3,065.04	3,058.63	12.48	10.40	-164.22	-131.89	23.74	500.71	479.80	20.91	23.946		
3,200.00	3,153.45	3,163.44	3,156.79	12.93	10.75	-164.03	-138.63	22.43	518.44	496.82	21.62	23.975		
3,300.00	3,251.61	3,261.84	3,254.95	13.37	11.10	-163.84	-145.36	21.12	536.18	513.84	22.34	24.002		
3,400.00	3,349.78	3,360.24	3,353.11	13.81	11.46	-163.67	-152.10	19.81	553.92	530.87	23.05	24.028		
3,500.00	3,447.94	3,458.64	3,451.27	14.25	11.81	-163.52	-158.84	18.50	571.67	547.90	23.77	24.052		
3,600.00	3,546.10	3,556.10	3,548.53	14.69	12.13	-163.42	-164.98	17.31	589.47	565.02	24.45	24.111		
3,700.00	3,644.27	3,652.75	3,645.12	15.13	12.41	-163.62	-168.14	16.70	607.52	582.43	25.08	24.219		
3,800.00	3,742.43	3,750.06	3,742.43	15.58	12.69	-164.07	-168.52	16.62	625.84	600.13	25.71	24.345		
3,900.00	3,840.59	3,848.22	3,840.59	16.02	12.95	-164.53	-168.52	16.62	644.23	617.92	26.31	24.484		
4,000.00	3,938.75	3,946.39	3,938.75	16.46	13.20	-164.97	-168.52	16.62	662.66	635.76	26.90	24.633		
4,100.00	4,036.92	4,044.55	4,036.92	16.90	13.45	-165.39	-168.52	16.62	681.13	653.64	27.49	24.773		
4,200.00	4,135.08	4,142.71	4,135.08	17.34	13.71	-165.78	-168.52	16.62	699.63	671.54	28.09	24.905		
4,300.00	4,233.24	4,240.87	4,233.24	17.78	13.96	-166.16	-168.52	16.62	718.16	689.47	28.69	25.030		
4,400.00	4,331.40	4,339.04	4,331.40	18.23	14.23	-166.51	-168.52	16.62	736.72	707.43	29.30	25.148		
4,500.00	4,429.57	4,437.20	4,429.57	18.67	14.49	-166.85	-168.52	16.62	755.31	725.41	29.90	25.259		
4,600.00	4,527.73	4,535.36	4,527.73	19.11	14.76	-167.17	-168.52	16.62	773.92	743.41	30.51	25.365		
4,700.00	4,626.21	4,633.84	4,626.21	19.47	15.03	-167.52	-168.52	16.62	790.87	759.75	31.12	25.413		
4,800.00	4,725.23	4,732.86	4,725.23	19.75	15.30	-167.80	-168.52	16.62	804.47	772.81	31.67	25.403		
4,900.00	4,824.67	4,832.31	4,824.67	20.01	15.58	-167.99	-168.52	16.62	814.70	782.50	32.20	25.301		
5,000.00	4,924.43	4,932.06	4,924.43	20.25	15.86	-168.12	-168.52	16.62	821.52	788.81	32.71	25.112		
5,100.00	5,024.36	5,032.79	5,025.16	20.48	16.14	-168.20	-168.28	16.62	824.93	791.72	33.21	24.841		

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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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	5,124.36	5,135.93	5,127.26	20.71	16.41	90.86	-154.95	16.62	825.05	791.36	33.69	24.488		
5,249.34	5,173.69	5,184.19	5,173.68	20.83	16.53	89.99	-141.85	16.62	824.95	791.04	33.91	24.324		
5,300.00	5,224.34	5,230.72	5,217.12	20.96	16.64	88.82	-125.19	16.62	825.15	791.03	34.12	24.183		
5,400.00	5,323.10	5,318.78	5,294.51	21.20	16.83	86.58	-83.38	16.62	826.60	792.11	34.49	23.968		
5,500.00	5,417.22	5,400.00	5,358.71	21.42	17.01	84.52	-33.78	16.62	829.19	794.38	34.81	23.819		
5,600.00	5,503.25	5,483.43	5,415.82	21.61	17.20	82.54	26.92	16.61	832.51	797.38	35.13	23.701		
5,700.00	5,578.04	5,561.68	5,459.95	21.76	17.41	80.84	91.45	16.61	836.15	800.71	35.44	23.596		
5,800.00	5,638.83	5,638.07	5,493.23	21.89	17.64	79.42	160.13	16.61	839.68	803.91	35.77	23.474		
5,900.00	5,683.39	5,713.09	5,515.81	21.99	17.91	78.30	231.60	16.60	842.72	806.56	36.17	23.301		
6,000.00	5,710.08	5,787.17	5,527.81	22.09	18.22	77.53	304.64	16.60	844.98	808.32	36.66	23.049		
6,100.00	5,718.00	5,870.01	5,530.00	22.23	18.61	77.16	387.42	16.60	846.06	808.72	37.34	22.659		
6,200.00	5,718.00	5,970.01	5,530.00	22.46	19.17	77.16	487.42	16.59	846.05	807.68	38.37	22.050		
6,300.00	5,718.00	6,070.01	5,530.00	22.81	19.82	77.16	587.42	16.59	846.05	806.47	39.58	21.376		
6,400.00	5,718.00	6,170.01	5,530.00	23.29	20.56	77.16	687.42	16.58	846.04	805.08	40.96	20.657		
6,500.00	5,718.00	6,270.01	5,530.00	23.90	21.38	77.16	787.42	16.58	846.03	803.54	42.48	19.914		
6,600.00	5,718.00	6,370.01	5,530.00	24.61	22.26	77.16	887.42	16.57	846.02	801.87	44.15	19.164		
6,700.00	5,718.00	6,470.01	5,530.00	25.41	23.20	77.16	987.42	16.57	846.01	800.08	45.93	18.419		
6,800.00	5,718.00	6,570.01	5,530.00	26.28	24.19	77.16	1,087.42	16.56	846.00	798.18	47.82	17.691		
6,900.00	5,718.00	6,670.01	5,530.00	27.22	25.23	77.16	1,187.42	16.56	845.99	796.19	49.81	16.985		
7,000.00	5,718.00	6,770.01	5,530.00	28.20	26.32	77.16	1,287.42	16.56	845.99	794.11	51.88	16.308		
7,100.00	5,718.00	6,870.01	5,530.00	29.23	27.44	77.16	1,387.42	16.55	845.98	791.96	54.02	15.660		
7,200.00	5,718.00	6,970.01	5,530.00	30.30	28.59	77.16	1,487.42	16.55	845.97	789.74	56.23	15.044		
7,300.00	5,718.00	7,070.01	5,530.00	31.40	29.77	77.16	1,587.42	16.54	845.96	787.46	58.50	14.461		
7,400.00	5,718.00	7,170.01	5,530.00	32.53	30.97	77.16	1,687.42	16.54	845.95	785.13	60.82	13.909		
7,500.00	5,718.00	7,270.01	5,530.00	33.69	32.20	77.16	1,787.42	16.53	845.94	782.76	63.19	13.388		
7,600.00	5,718.00	7,370.01	5,530.00	34.88	33.44	77.16	1,887.42	16.53	845.94	780.34	65.59	12.896		
7,700.00	5,718.00	7,470.01	5,530.00	36.08	34.71	77.16	1,987.42	16.52	845.93	777.89	68.04	12.433		
7,800.00	5,718.00	7,570.01	5,530.00	37.31	35.99	77.16	2,087.42	16.52	845.92	775.40	70.52	11.996		
7,900.00	5,718.00	7,670.01	5,530.00	38.55	37.28	77.16	2,187.42	16.51	845.91	772.89	73.02	11.584		
8,000.00	5,718.00	7,770.01	5,530.00	39.81	38.59	77.16	2,287.42	16.51	845.90	770.34	75.56	11.195		
8,100.00	5,718.00	7,870.01	5,530.00	41.08	39.91	77.16	2,387.42	16.50	845.89	767.78	78.12	10.829		
8,200.00	5,718.00	7,970.01	5,530.00	42.36	41.23	77.16	2,487.42	16.50	845.89	765.19	80.70	10.482		
8,300.00	5,718.00	8,070.01	5,530.00	43.66	42.57	77.16	2,587.42	16.50	845.88	762.58	83.30	10.155		
8,400.00	5,718.00	8,170.01	5,530.00	44.97	43.92	77.16	2,687.42	16.49	845.87	759.96	85.91	9.846		
8,500.00	5,718.00	8,270.01	5,530.00	46.28	45.27	77.16	2,787.42	16.49	845.86	757.31	88.55	9.553		
8,600.00	5,718.00	8,370.01	5,530.00	47.61	46.63	77.16	2,887.42	16.48	845.85	754.66	91.20	9.275		
8,700.00	5,718.00	8,470.01	5,530.00	48.95	48.00	77.16	2,987.42	16.48	845.84	751.99	93.86	9.012		
8,800.00	5,718.00	8,570.01	5,530.00	50.29	49.38	77.16	3,087.42	16.47	845.84	749.30	96.53	8.762		
8,900.00	5,718.00	8,670.01	5,530.00	51.64	50.76	77.16	3,187.42	16.47	845.83	746.61	99.22	8.525		
9,000.00	5,718.00	8,770.01	5,530.00	52.99	52.14	77.16	3,287.42	16.46	845.82	743.90	101.92	8.299		
9,100.00	5,718.00	8,870.01	5,530.00	54.35	53.53	77.16	3,387.42	16.46	845.81	741.19	104.62	8.084		
9,200.00	5,718.00	8,970.01	5,530.00	55.72	54.92	77.16	3,487.42	16.45	845.80	738.46	107.34	7.880		
9,300.00	5,718.00	9,070.01	5,530.00	57.09	56.32	77.16	3,587.42	16.45	845.79	735.73	110.06	7.685		
9,400.00	5,718.00	9,170.01	5,530.00	58.47	57.72	77.16	3,687.42	16.44	845.79	732.99	112.80	7.498		
9,500.00	5,718.00	9,270.01	5,530.00	59.85	59.13	77.16	3,787.42	16.44	845.78	730.24	115.54	7.320		
9,600.00	5,718.00	9,370.01	5,530.00	61.24	60.53	77.16	3,887.42	16.44	845.77	727.49	118.28	7.150		
9,700.00	5,718.00	9,470.01	5,530.00	62.63	61.94	77.16	3,987.42	16.43	845.76	724.73	121.03	6.988		
9,800.00	5,718.00	9,570.01	5,530.00	64.02	63.36	77.16	4,087.42	16.43	845.75	721.96	123.79	6.832		
9,900.00	5,718.00	9,670.01	5,530.00	65.42	64.77	77.16	4,187.42	16.42	845.74	719.19	126.56	6.683		
10,000.00	5,718.00	9,770.01	5,530.00	66.82	66.19	77.16	4,287.42	16.42	845.74	716.41	129.33	6.540		
10,100.00	5,718.00	9,870.01	5,530.00	68.22	67.61	77.16	4,387.42	16.41	845.73	713.63	132.10	6.402		
10,200.00	5,718.00	9,970.01	5,530.00	69.63	69.04	77.16	4,487.42	16.41	845.72	710.84	134.88	6.270		

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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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	5,718.00	10,070.01	5,530.00	71.03	70.46	77.16	4,587.42	16.40	845.71	708.05	137.66	6.143		
10,400.00	5,718.00	10,170.01	5,530.00	72.44	71.89	77.16	4,687.42	16.40	845.70	705.26	140.45	6.021		
10,500.00	5,718.00	10,270.01	5,530.00	73.86	73.32	77.16	4,787.42	16.39	845.69	702.46	143.24	5.904		
10,600.00	5,718.00	10,370.01	5,530.00	75.27	74.75	77.15	4,887.42	16.39	845.69	699.65	146.03	5.791		
10,700.00	5,718.00	10,470.01	5,530.00	76.69	76.18	77.15	4,987.42	16.38	845.68	696.85	148.83	5.682		
10,800.00	5,718.00	10,570.01	5,530.00	78.11	77.61	77.15	5,087.42	16.38	845.67	694.04	151.63	5.577		
10,900.00	5,718.00	10,670.01	5,530.00	79.53	79.05	77.15	5,187.42	16.38	845.66	691.23	154.43	5.476		
11,000.00	5,718.00	10,770.01	5,530.00	80.96	80.48	77.15	5,287.42	16.37	845.65	688.41	157.24	5.378		
11,100.00	5,718.00	10,870.01	5,530.00	82.38	81.92	77.15	5,387.42	16.37	845.64	685.60	160.05	5.284		
11,200.00	5,718.00	10,970.01	5,530.00	83.81	83.36	77.15	5,487.42	16.36	845.64	682.78	162.86	5.192		
11,300.00	5,718.00	11,070.01	5,530.00	85.23	84.80	77.15	5,587.42	16.36	845.63	679.96	165.67	5.104		
11,400.00	5,718.00	11,170.01	5,530.00	86.66	86.24	77.15	5,687.42	16.35	845.62	677.13	168.49	5.019		
11,500.00	5,718.00	11,270.01	5,530.00	88.09	87.68	77.15	5,787.42	16.35	845.61	674.31	171.30	4.936		
11,600.00	5,718.00	11,370.01	5,530.00	89.53	89.12	77.15	5,887.42	16.34	845.60	671.48	174.12	4.856		
11,700.00	5,718.00	11,470.01	5,530.00	90.96	90.57	77.15	5,987.42	16.34	845.59	668.65	176.95	4.779		
11,800.00	5,718.00	11,570.01	5,530.00	92.39	92.01	77.15	6,087.42	16.33	845.58	665.81	179.77	4.704		
11,900.00	5,718.00	11,670.01	5,530.00	93.83	93.46	77.15	6,187.42	16.33	845.58	662.98	182.60	4.631		
12,000.00	5,718.00	11,770.01	5,530.00	95.27	94.90	77.15	6,287.42	16.32	845.57	660.14	185.42	4.560		
12,100.00	5,718.00	11,870.01	5,530.00	96.71	96.35	77.15	6,387.42	16.32	845.56	657.31	188.25	4.492		
12,200.00	5,718.00	11,970.01	5,530.00	98.14	97.80	77.15	6,487.42	16.32	845.55	654.47	191.08	4.425		
12,300.00	5,718.00	12,070.01	5,530.00	99.58	99.25	77.15	6,587.42	16.31	845.54	651.63	193.92	4.360		
12,400.00	5,718.00	12,170.01	5,530.00	101.02	100.70	77.15	6,687.42	16.31	845.53	648.79	196.75	4.298		
12,500.00	5,718.00	12,270.01	5,530.00	102.47	102.15	77.15	6,787.42	16.30	845.53	645.94	199.58	4.236		
12,600.00	5,718.00	12,370.01	5,530.00	103.91	103.60	77.15	6,887.42	16.30	845.52	643.10	202.42	4.177		
12,700.00	5,718.00	12,470.01	5,530.00	105.35	105.05	77.15	6,987.42	16.29	845.51	640.25	205.26	4.119		
12,800.00	5,718.00	12,570.01	5,530.00	106.80	106.50	77.15	7,087.42	16.29	845.50	637.41	208.10	4.063		
12,900.00	5,718.00	12,670.01	5,530.00	108.24	107.95	77.15	7,187.42	16.28	845.49	634.56	210.94	4.008		
13,000.00	5,718.00	12,770.01	5,530.00	109.69	109.40	77.15	7,287.42	16.28	845.48	631.71	213.78	3.955		
13,100.00	5,718.00	12,870.01	5,530.00	111.13	110.86	77.15	7,387.42	16.27	845.48	628.86	216.62	3.903		
13,200.00	5,718.00	12,970.01	5,530.00	112.58	112.31	77.15	7,487.42	16.27	845.47	626.01	219.46	3.852		
13,300.00	5,718.00	13,070.01	5,530.00	114.03	113.76	77.15	7,587.42	16.26	845.46	623.15	222.31	3.803		
13,400.00	5,718.00	13,170.01	5,530.00	115.48	115.22	77.15	7,687.42	16.26	845.45	620.30	225.15	3.755		
13,500.00	5,718.00	13,270.01	5,530.00	116.92	116.67	77.15	7,787.42	16.25	845.44	617.45	228.00	3.708		
13,600.00	5,718.00	13,370.01	5,530.00	118.37	118.13	77.15	7,887.42	16.25	845.43	614.59	230.84	3.662		
13,700.00	5,718.00	13,470.01	5,530.00	119.82	119.58	77.15	7,987.42	16.25	845.43	611.74	233.69	3.618		
13,800.00	5,718.00	13,570.01	5,530.00	121.27	121.04	77.15	8,087.42	16.24	845.42	608.88	236.54	3.574		
13,900.00	5,718.00	13,670.01	5,530.00	122.72	122.50	77.15	8,187.42	16.24	845.41	606.02	239.39	3.532		
14,000.00	5,718.00	13,770.01	5,530.00	124.17	123.95	77.15	8,287.42	16.23	845.40	603.16	242.24	3.490		
14,100.00	5,718.00	13,870.01	5,530.00	125.63	125.41	77.15	8,387.42	16.23	845.39	600.30	245.09	3.449		
14,200.00	5,718.00	13,970.01	5,530.00	127.08	126.87	77.15	8,487.42	16.22	845.38	597.44	247.94	3.410		
14,300.00	5,718.00	14,070.01	5,530.00	128.53	128.33	77.15	8,587.42	16.22	845.38	594.58	250.79	3.371		
14,400.00	5,718.00	14,170.01	5,530.00	129.98	129.79	77.15	8,687.42	16.21	845.37	591.72	253.64	3.333		
14,500.00	5,718.00	14,270.01	5,530.00	131.44	131.24	77.15	8,787.42	16.21	845.36	588.86	256.50	3.296		
14,600.00	5,718.00	14,370.01	5,530.00	132.89	132.70	77.15	8,887.42	16.20	845.35	586.00	259.35	3.259		
14,700.00	5,718.00	14,470.01	5,530.00	134.35	134.16	77.15	8,987.42	16.20	845.34	583.14	262.21	3.224		
14,800.00	5,718.00	14,570.01	5,530.00	135.80	135.62	77.15	9,087.42	16.19	845.33	580.27	265.06	3.189		
14,900.00	5,718.00	14,670.01	5,530.00	137.26	137.08	77.15	9,187.42	16.19	845.33	577.41	267.92	3.155		
15,000.00	5,718.00	14,770.01	5,530.00	138.71	138.54	77.15	9,287.42	16.19	845.32	574.55	270.77	3.122		
15,100.00	5,718.00	14,870.01	5,530.00	140.17	140.00	77.15	9,387.42	16.18	845.31	571.68	273.63	3.089		
15,200.00	5,718.00	14,970.01	5,530.00	141.62	141.46	77.15	9,487.42	16.18	845.30	568.81	276.49	3.057		
15,300.00	5,718.00	15,070.01	5,530.00	143.08	142.92	77.15	9,587.42	16.17	845.29	565.95	279.34	3.026		
15,400.00	5,718.00	15,170.01	5,530.00	144.54	144.38	77.15	9,687.42	16.17	845.28	563.08	282.20	2.995		

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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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 #25N-2407 - 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	5,718.00	15,270.01	5,530.00	145.99	145.84	77.15	9,787.42	16.16	845.28	560.22	285.06	2.965	
15,600.00	5,718.00	15,370.01	5,530.00	147.45	147.30	77.15	9,887.42	16.16	845.27	557.35	287.92	2.936	
15,700.00	5,718.00	15,470.01	5,530.00	148.91	148.77	77.15	9,987.42	16.15	845.26	554.48	290.78	2.907	
15,800.00	5,718.00	15,570.01	5,530.00	150.37	150.23	77.15	10,087.42	16.15	845.25	551.61	293.64	2.879	
15,900.00	5,718.00	15,670.01	5,530.00	151.82	151.69	77.15	10,187.42	16.14	845.24	548.74	296.50	2.851	
15,918.20	5,718.00	15,688.22	5,530.00	152.09	151.96	77.15	10,205.62	16.14	845.24	548.22	297.02	2.846 SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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	60.16	51.61	89.98	103.73					
100.00	100.00	100.00	100.00	0.13	0.13	60.16	51.61	89.98	103.73	103.46	0.27	389.454		
200.00	200.00	200.00	200.00	0.47	0.47	60.16	51.61	89.98	103.73	102.79	0.94	110.276		
300.00	300.00	300.00	300.00	0.81	0.81	60.16	51.61	89.98	103.73	102.12	1.61	64.232 CC, ES		
400.00	399.98	398.38	398.36	1.13	1.11	161.28	50.65	91.36	106.12	103.88	2.24	47.302		
500.00	499.84	496.17	496.01	1.45	1.42	164.36	47.76	95.48	113.53	110.65	2.87	39.508		
600.00	599.45	593.82	593.33	1.78	1.74	168.54	43.17	102.04	126.29	122.74	3.54	35.665		
700.00	698.70	691.94	691.08	2.13	2.06	172.34	38.27	109.04	143.35	139.14	4.21	34.079		
800.00	797.47	789.36	788.14	2.51	2.39	175.43	33.40	116.00	164.32	159.45	4.87	33.736		
900.00	895.71	886.08	884.49	2.91	2.73	177.87	28.56	122.90	188.63	183.10	5.52	34.161		
1,000.00	993.87	982.70	980.73	3.32	3.07	179.77	23.73	129.80	213.61	207.44	6.17	34.625		
1,100.00	1,092.03	1,079.31	1,076.98	3.74	3.42	-178.73	18.90	136.70	238.77	231.95	6.82	34.992		
1,200.00	1,190.20	1,175.92	1,173.22	4.17	3.76	-177.51	14.07	143.59	264.05	256.57	7.48	35.287		
1,300.00	1,288.36	1,272.54	1,269.47	4.60	4.11	-176.51	9.24	150.49	289.43	281.28	8.15	35.528		
1,400.00	1,386.52	1,369.15	1,365.72	5.03	4.46	-175.67	4.41	157.39	314.87	306.06	8.81	35.726		
1,500.00	1,484.69	1,465.76	1,461.96	5.46	4.80	-174.96	-0.42	164.29	340.37	330.89	9.48	35.888		
1,600.00	1,582.85	1,562.38	1,558.21	5.90	5.15	-174.34	-5.25	171.18	365.92	355.76	10.16	36.027		
1,700.00	1,681.01	1,658.99	1,654.45	6.33	5.50	-173.80	-10.08	178.08	391.49	380.66	10.83	36.146		
1,800.00	1,779.17	1,755.60	1,750.70	6.77	5.85	-173.33	-14.91	184.98	417.10	405.59	11.51	36.248		
1,900.00	1,877.34	1,852.22	1,846.94	7.21	6.20	-172.92	-19.74	191.88	442.73	430.54	12.18	36.336		
2,000.00	1,975.50	1,948.83	1,943.19	7.64	6.55	-172.55	-24.57	198.78	468.37	455.51	12.86	36.413		
2,100.00	2,073.66	2,045.44	2,039.44	8.08	6.90	-172.22	-29.40	205.67	494.04	480.49	13.54	36.480		
2,200.00	2,171.82	2,142.06	2,135.68	8.52	7.25	-171.92	-34.23	212.57	519.71	505.49	14.22	36.540		
2,300.00	2,269.99	2,238.67	2,231.93	8.96	7.60	-171.65	-39.05	219.47	545.40	530.50	14.90	36.593		
2,400.00	2,368.15	2,335.28	2,328.17	9.40	7.95	-171.40	-43.88	226.37	571.10	555.52	15.59	36.640		
2,500.00	2,466.31	2,431.90	2,424.42	9.84	8.30	-171.18	-48.71	233.26	596.81	580.54	16.27	36.682		
2,600.00	2,564.48	2,528.51	2,520.66	10.28	8.65	-170.97	-53.54	240.16	622.53	605.58	16.95	36.720		
2,700.00	2,662.64	2,625.12	2,616.91	10.72	9.00	-170.78	-58.37	247.06	648.25	630.62	17.64	36.755		
2,800.00	2,760.80	2,721.74	2,713.15	11.16	9.35	-170.60	-63.20	253.96	673.98	655.66	18.32	36.786		
2,900.00	2,858.96	2,818.35	2,809.40	11.60	9.70	-170.44	-68.03	260.85	699.72	680.71	19.01	36.814		
3,000.00	2,957.13	2,914.96	2,905.65	12.04	10.06	-170.29	-72.86	267.75	725.46	705.77	19.69	36.840		
3,100.00	3,055.29	3,011.58	3,001.89	12.48	10.41	-170.15	-77.69	274.65	751.21	730.83	20.38	36.864		
3,200.00	3,153.45	3,108.19	3,098.14	12.93	10.76	-170.02	-82.52	281.55	776.95	755.89	21.06	36.886		
3,300.00	3,251.61	3,204.80	3,194.38	13.37	11.11	-169.89	-87.35	288.44	802.71	780.96	21.75	36.905		
3,400.00	3,349.78	3,301.42	3,290.63	13.81	11.46	-169.78	-92.18	295.34	828.46	806.03	22.44	36.924		
3,500.00	3,447.94	3,398.03	3,386.87	14.25	11.81	-169.67	-97.01	302.24	854.22	831.10	23.12	36.941		
3,600.00	3,546.10	3,494.64	3,483.12	14.69	12.16	-169.57	-101.84	309.14	879.98	856.17	23.81	36.956		
3,700.00	3,644.27	3,591.25	3,579.36	15.13	12.51	-169.47	-106.67	316.03	905.75	881.25	24.50	36.970		
3,800.00	3,742.43	3,687.87	3,675.61	15.58	12.86	-169.38	-111.50	322.93	931.51	906.33	25.19	36.984		
3,900.00	3,840.59	3,784.48	3,771.86	16.02	13.22	-169.29	-116.33	329.83	957.28	931.41	25.88	36.996		
4,000.00	3,938.75	3,881.09	3,868.10	16.46	13.57	-169.21	-121.16	336.73	983.05	956.49	26.56	37.007		
4,100.00	4,036.92	4,009.49	3,996.17	16.90	13.97	-169.18	-126.38	344.18	1,007.60	980.30	27.30	36.908		
4,200.00	4,135.08	4,147.81	4,134.43	17.34	14.32	-169.35	-128.36	347.01	1,028.37	1,000.37	28.00	36.723		
4,300.00	4,233.24	4,246.62	4,233.24	17.78	14.59	-169.54	-128.36	347.01	1,047.14	1,018.51	28.63	36.576		
4,400.00	4,331.40	4,344.79	4,331.40	18.23	14.86	-169.73	-128.36	347.01	1,065.92	1,036.68	29.25	36.445		
4,500.00	4,429.57	4,442.95	4,429.57	18.67	15.12	-169.91	-128.36	347.01	1,084.72	1,054.85	29.87	36.318		
4,600.00	4,527.73	4,541.11	4,527.73	19.11	15.39	-170.08	-128.36	347.01	1,103.52	1,073.03	30.49	36.193		
4,700.00	4,626.21	4,639.59	4,626.21	19.47	15.66	-170.29	-128.36	347.01	1,120.63	1,089.49	31.14	35.988		
4,800.00	4,725.23	4,738.61	4,725.23	19.75	15.94	-170.46	-128.36	347.01	1,134.36	1,102.63	31.73	35.756		
4,900.00	4,824.67	4,838.06	4,824.67	20.01	16.22	-170.58	-128.36	347.01	1,144.67	1,112.38	32.29	35.447		
5,000.00	4,924.43	4,937.81	4,924.43	20.25	16.50	-170.66	-128.36	347.01	1,151.55	1,118.71	32.84	35.067		
5,100.00	5,024.36	5,037.74	5,024.36	20.48	16.79	-170.70	-128.36	347.01	1,155.00	1,121.63	33.36	34.620		

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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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	5,124.36	5,136.23	5,122.78	20.71	17.07	89.18	-125.99	347.01	1,155.46	1,121.56	33.90	34.083		
5,300.00	5,224.34	5,230.17	5,214.97	20.96	17.32	88.33	-108.67	347.01	1,155.85	1,121.44	34.41	33.589		
5,400.00	5,323.10	5,320.09	5,298.95	21.20	17.55	87.29	-76.86	347.01	1,156.68	1,121.82	34.86	33.180		
5,500.00	5,417.22	5,407.29	5,374.01	21.42	17.74	86.35	-32.66	347.00	1,157.75	1,122.49	35.27	32.827		
5,600.00	5,503.25	5,492.33	5,439.12	21.61	17.90	85.53	21.90	347.00	1,158.93	1,123.27	35.66	32.502		
5,700.00	5,578.04	5,575.69	5,493.50	21.76	18.03	84.85	84.96	347.00	1,160.07	1,124.00	36.06	32.169		
5,800.00	5,638.83	5,657.81	5,536.57	21.89	18.14	84.34	154.77	347.00	1,161.02	1,124.51	36.51	31.797		
5,900.00	5,683.39	5,739.08	5,567.89	21.99	18.28	84.00	229.68	347.00	1,161.70	1,124.65	37.05	31.359		
6,000.00	5,710.08	5,819.88	5,587.11	22.09	18.55	83.84	308.08	346.99	1,162.01	1,124.33	37.68	30.841		
6,100.00	5,718.00	5,904.69	5,594.00	22.23	18.91	83.87	392.51	346.99	1,161.95	1,123.52	38.43	30.232		
6,136.00	5,718.00	5,935.59	5,594.00	22.30	19.07	83.87	423.41	346.99	1,161.94	1,123.16	38.77	29.969		
6,200.00	5,718.00	5,999.59	5,594.00	22.46	19.41	83.87	487.42	346.99	1,161.93	1,122.51	39.42	29.478		
6,300.00	5,718.00	6,099.59	5,594.00	22.81	20.02	83.87	587.42	346.99	1,161.92	1,121.31	40.61	28.612		
6,400.00	5,718.00	6,199.59	5,594.00	23.29	20.72	83.87	687.42	346.98	1,161.92	1,119.94	41.97	27.681		
6,500.00	5,718.00	6,299.59	5,594.00	23.90	21.49	83.87	787.42	346.98	1,161.91	1,118.42	43.49	26.714		
6,600.00	5,718.00	6,399.59	5,594.00	24.61	22.34	83.87	887.42	346.98	1,161.90	1,116.75	45.15	25.733		
6,700.00	5,718.00	6,499.59	5,594.00	25.41	23.24	83.87	987.42	346.97	1,161.90	1,114.96	46.93	24.755		
6,800.00	5,718.00	6,599.59	5,594.00	26.28	24.21	83.87	1,087.42	346.97	1,161.89	1,113.06	48.83	23.795		
6,900.00	5,718.00	6,699.59	5,594.00	27.22	25.22	83.87	1,187.42	346.97	1,161.88	1,111.06	50.82	22.862		
7,000.00	5,718.00	6,799.59	5,594.00	28.20	26.27	83.87	1,287.42	346.96	1,161.88	1,108.98	52.90	21.964		
7,100.00	5,718.00	6,899.59	5,594.00	29.23	27.36	83.87	1,387.42	346.96	1,161.87	1,106.81	55.06	21.103		
7,200.00	5,718.00	6,999.59	5,594.00	30.30	28.49	83.87	1,487.42	346.96	1,161.86	1,104.58	57.28	20.283		
7,300.00	5,718.00	7,099.59	5,594.00	31.40	29.64	83.87	1,587.42	346.95	1,161.86	1,102.29	59.57	19.505		
7,400.00	5,718.00	7,199.59	5,594.00	32.53	30.83	83.87	1,687.42	346.95	1,161.85	1,099.94	61.91	18.767		
7,500.00	5,718.00	7,299.59	5,594.00	33.69	32.03	83.87	1,787.42	346.95	1,161.84	1,097.54	64.30	18.070		
7,600.00	5,718.00	7,399.59	5,594.00	34.88	33.26	83.87	1,887.42	346.95	1,161.83	1,095.10	66.73	17.411		
7,700.00	5,718.00	7,499.59	5,594.00	36.08	34.51	83.87	1,987.42	346.94	1,161.83	1,092.63	69.20	16.789		
7,800.00	5,718.00	7,599.59	5,594.00	37.31	35.77	83.87	2,087.42	346.94	1,161.82	1,090.12	71.70	16.203		
7,900.00	5,718.00	7,699.59	5,594.00	38.55	37.05	83.87	2,187.42	346.94	1,161.81	1,087.57	74.24	15.649		
8,000.00	5,718.00	7,799.59	5,594.00	39.81	38.34	83.87	2,287.42	346.93	1,161.81	1,085.00	76.81	15.127		
8,100.00	5,718.00	7,899.59	5,594.00	41.08	39.65	83.87	2,387.42	346.93	1,161.80	1,082.40	79.39	14.633		
8,200.00	5,718.00	7,999.59	5,594.00	42.36	40.96	83.87	2,487.42	346.93	1,161.79	1,079.79	82.01	14.167		
8,300.00	5,718.00	8,099.59	5,594.00	43.66	42.29	83.87	2,587.42	346.92	1,161.79	1,077.15	84.64	13.726		
8,400.00	5,718.00	8,199.59	5,594.00	44.97	43.63	83.87	2,687.42	346.92	1,161.78	1,074.49	87.29	13.309		
8,500.00	5,718.00	8,299.59	5,594.00	46.28	44.97	83.87	2,787.42	346.92	1,161.77	1,071.81	89.96	12.914		
8,600.00	5,718.00	8,399.59	5,594.00	47.61	46.32	83.87	2,887.42	346.91	1,161.76	1,069.12	92.65	12.540		
8,700.00	5,718.00	8,499.59	5,594.00	48.95	47.68	83.87	2,987.42	346.91	1,161.76	1,066.41	95.35	12.185		
8,800.00	5,718.00	8,599.59	5,594.00	50.29	49.05	83.87	3,087.42	346.91	1,161.75	1,063.69	98.06	11.848		
8,900.00	5,718.00	8,699.59	5,594.00	51.64	50.42	83.87	3,187.42	346.91	1,161.74	1,060.96	100.78	11.527		
9,000.00	5,718.00	8,799.59	5,594.00	52.99	51.80	83.87	3,287.42	346.90	1,161.74	1,058.22	103.52	11.223		
9,100.00	5,718.00	8,899.59	5,594.00	54.35	53.18	83.87	3,387.42	346.90	1,161.73	1,055.46	106.26	10.932		
9,200.00	5,718.00	8,999.59	5,594.00	55.72	54.57	83.87	3,487.42	346.90	1,161.72	1,052.70	109.02	10.656		
9,300.00	5,718.00	9,099.59	5,594.00	57.09	55.96	83.87	3,587.42	346.89	1,161.72	1,049.93	111.79	10.392		
9,400.00	5,718.00	9,199.59	5,594.00	58.47	57.35	83.87	3,687.42	346.89	1,161.71	1,047.15	114.56	10.141		
9,500.00	5,718.00	9,299.59	5,594.00	59.85	58.75	83.87	3,787.42	346.89	1,161.70	1,044.36	117.34	9.900		
9,600.00	5,718.00	9,399.59	5,594.00	61.24	60.15	83.87	3,887.42	346.88	1,161.69	1,041.57	120.13	9.671		
9,700.00	5,718.00	9,499.59	5,594.00	62.63	61.56	83.87	3,987.42	346.88	1,161.69	1,038.77	122.92	9.451		
9,800.00	5,718.00	9,599.59	5,594.00	64.02	62.97	83.87	4,087.42	346.88	1,161.68	1,035.96	125.72	9.240		
9,900.00	5,718.00	9,699.59	5,594.00	65.42	64.38	83.87	4,187.42	346.88	1,161.67	1,033.15	128.53	9.038		
10,000.00	5,718.00	9,799.59	5,594.00	66.82	65.79	83.87	4,287.42	346.87	1,161.67	1,030.33	131.34	8.845		
10,100.00	5,718.00	9,899.59	5,594.00	68.22	67.21	83.87	4,387.42	346.87	1,161.66	1,027.51	134.15	8.659		
10,200.00	5,718.00	9,999.59	5,594.00	69.63	68.63	83.87	4,487.42	346.87	1,161.65	1,024.68	136.98	8.481		

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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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 #25N-2408 - 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				
10,300.00	5,718.00	10,099.59	5,594.00	71.03	70.05	83.87	4,587.42	346.86	1,161.65	1,021.85	139.80	8.309				
10,400.00	5,718.00	10,199.59	5,594.00	72.44	71.47	83.87	4,687.42	346.86	1,161.64	1,019.01	142.63	8.144				
10,500.00	5,718.00	10,299.59	5,594.00	73.86	72.90	83.87	4,787.42	346.86	1,161.63	1,016.17	145.46	7.986				
10,600.00	5,718.00	10,399.59	5,594.00	75.27	74.33	83.87	4,887.42	346.85	1,161.63	1,013.32	148.30	7.833				
10,700.00	5,718.00	10,499.59	5,594.00	76.69	75.75	83.87	4,987.42	346.85	1,161.62	1,010.47	151.14	7.686				
10,800.00	5,718.00	10,599.59	5,594.00	78.11	77.18	83.87	5,087.42	346.85	1,161.61	1,007.62	153.99	7.544				
10,900.00	5,718.00	10,699.59	5,594.00	79.53	78.62	83.87	5,187.42	346.84	1,161.60	1,004.77	156.84	7.407				
11,000.00	5,718.00	10,799.59	5,594.00	80.96	80.05	83.87	5,287.42	346.84	1,161.60	1,001.91	159.69	7.274				
11,100.00	5,718.00	10,899.59	5,594.00	82.38	81.48	83.87	5,387.42	346.84	1,161.59	999.05	162.54	7.147				
11,200.00	5,718.00	10,999.59	5,594.00	83.81	82.92	83.87	5,487.42	346.84	1,161.58	996.19	165.39	7.023				
11,300.00	5,718.00	11,099.59	5,594.00	85.23	84.36	83.87	5,587.42	346.83	1,161.58	993.32	168.25	6.904				
11,400.00	5,718.00	11,199.59	5,594.00	86.66	85.80	83.87	5,687.42	346.83	1,161.57	990.46	171.11	6.788				
11,500.00	5,718.00	11,299.59	5,594.00	88.09	87.23	83.87	5,787.42	346.83	1,161.56	987.59	173.98	6.677				
11,600.00	5,718.00	11,399.59	5,594.00	89.53	88.68	83.87	5,887.42	346.82	1,161.56	984.71	176.84	6.568				
11,700.00	5,718.00	11,499.59	5,594.00	90.96	90.12	83.87	5,987.42	346.82	1,161.55	981.84	179.71	6.463				
11,800.00	5,718.00	11,599.59	5,594.00	92.39	91.56	83.87	6,087.42	346.82	1,161.54	978.96	182.58	6.362				
11,900.00	5,718.00	11,699.59	5,594.00	93.83	93.00	83.87	6,187.42	346.81	1,161.53	976.08	185.45	6.263				
12,000.00	5,718.00	11,799.59	5,594.00	95.27	94.45	83.87	6,287.42	346.81	1,161.53	973.20	188.32	6.168				
12,100.00	5,718.00	11,899.59	5,594.00	96.71	95.89	83.87	6,387.42	346.81	1,161.52	970.32	191.20	6.075				
12,200.00	5,718.00	11,999.59	5,594.00	98.14	97.34	83.87	6,487.42	346.81	1,161.51	967.44	194.07	5.985				
12,300.00	5,718.00	12,099.59	5,594.00	99.58	98.78	83.87	6,587.42	346.80	1,161.51	964.55	196.95	5.897				
12,400.00	5,718.00	12,199.59	5,594.00	101.02	100.23	83.87	6,687.42	346.80	1,161.50	961.67	199.83	5.812				
12,500.00	5,718.00	12,299.59	5,594.00	102.47	101.68	83.87	6,787.42	346.80	1,161.49	958.78	202.71	5.730				
12,600.00	5,718.00	12,399.59	5,594.00	103.91	103.13	83.87	6,887.42	346.79	1,161.49	955.89	205.60	5.649				
12,700.00	5,718.00	12,499.59	5,594.00	105.35	104.58	83.87	6,987.42	346.79	1,161.48	953.00	208.48	5.571				
12,800.00	5,718.00	12,599.59	5,594.00	106.80	106.03	83.87	7,087.42	346.79	1,161.47	950.11	211.36	5.495				
12,900.00	5,718.00	12,699.59	5,594.00	108.24	107.48	83.87	7,187.42	346.78	1,161.46	947.21	214.25	5.421				
13,000.00	5,718.00	12,799.59	5,594.00	109.69	108.93	83.87	7,287.42	346.78	1,161.46	944.32	217.14	5.349				
13,100.00	5,718.00	12,899.59	5,594.00	111.13	110.38	83.87	7,387.42	346.78	1,161.45	941.43	220.03	5.279				
13,200.00	5,718.00	12,999.59	5,594.00	112.58	111.83	83.87	7,487.42	346.77	1,161.44	938.53	222.92	5.210				
13,300.00	5,718.00	13,099.59	5,594.00	114.03	113.29	83.87	7,587.42	346.77	1,161.44	935.63	225.81	5.144				
13,400.00	5,718.00	13,199.59	5,594.00	115.48	114.74	83.87	7,687.42	346.77	1,161.43	932.73	228.70	5.078				
13,500.00	5,718.00	13,299.59	5,594.00	116.92	116.19	83.87	7,787.42	346.77	1,161.42	929.83	231.59	5.015				
13,600.00	5,718.00	13,399.59	5,594.00	118.37	117.65	83.87	7,887.42	346.76	1,161.42	926.93	234.48	4.953				
13,700.00	5,718.00	13,499.59	5,594.00	119.82	119.10	83.87	7,987.42	346.76	1,161.41	924.03	237.38	4.893				
13,800.00	5,718.00	13,599.59	5,594.00	121.27	120.56	83.87	8,087.42	346.76	1,161.40	921.13	240.27	4.834				
13,900.00	5,718.00	13,699.59	5,594.00	122.72	122.01	83.87	8,187.42	346.75	1,161.40	918.23	243.17	4.776				
14,000.00	5,718.00	13,799.59	5,594.00	124.17	123.47	83.87	8,287.42	346.75	1,161.39	915.32	246.06	4.720				
14,100.00	5,718.00	13,899.59	5,594.00	125.63	124.92	83.87	8,387.42	346.75	1,161.38	912.42	248.96	4.665				
14,200.00	5,718.00	13,999.59	5,594.00	127.08	126.38	83.87	8,487.42	346.74	1,161.37	909.51	251.86	4.611				
14,300.00	5,718.00	14,099.59	5,594.00	128.53	127.84	83.87	8,587.42	346.74	1,161.37	906.61	254.76	4.559				
14,400.00	5,718.00	14,199.59	5,594.00	129.98	129.29	83.87	8,687.42	346.74	1,161.36	903.70	257.66	4.507				
14,500.00	5,718.00	14,299.59	5,594.00	131.44	130.75	83.87	8,787.42	346.74	1,161.35	900.79	260.56	4.457				
14,600.00	5,718.00	14,399.59	5,594.00	132.89	132.21	83.87	8,887.42	346.73	1,161.35	897.89	263.46	4.408				
14,700.00	5,718.00	14,499.59	5,594.00	134.35	133.67	83.87	8,987.42	346.73	1,161.34	894.98	266.36	4.360				
14,800.00	5,718.00	14,599.59	5,594.00	135.80	135.12	83.87	9,087.42	346.73	1,161.33	892.07	269.26	4.313				
14,900.00	5,718.00	14,699.59	5,594.00	137.26	136.58	83.87	9,187.42	346.72	1,161.33	889.16	272.17	4.267				
15,000.00	5,718.00	14,799.59	5,594.00	138.71	138.04	83.87	9,287.42	346.72	1,161.32	886.25	275.07	4.222				
15,100.00	5,718.00	14,899.59	5,594.00	140.17	139.50	83.87	9,387.42	346.72	1,161.31	883.34	277.97	4.178				
15,200.00	5,718.00	14,999.59	5,594.00	141.62	140.96	83.87	9,487.42	346.71	1,161.30	880.43	280.88	4.135				
15,300.00	5,718.00	15,099.59	5,594.00	143.08	142.42	83.87	9,587.42	346.71	1,161.30	877.51	283.78	4.092				
15,400.00	5,718.00	15,199.59	5,594.00	144.54	143.88	83.87	9,687.42	346.71	1,161.29	874.60	286.69	4.051				

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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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 #25N-2408 - 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	5,718.00	15,299.59	5,594.00	145.99	145.34	83.87	9,787.42	346.70	1,161.28	871.69	289.59	4.010	
15,600.00	5,718.00	15,399.59	5,594.00	147.45	146.80	83.87	9,887.42	346.70	1,161.28	868.78	292.50	3.970	
15,700.00	5,718.00	15,499.59	5,594.00	148.91	148.26	83.87	9,987.42	346.70	1,161.27	865.86	295.41	3.931	
15,800.00	5,718.00	15,599.59	5,594.00	150.37	149.72	83.87	10,087.42	346.70	1,161.26	862.95	298.31	3.893	
15,900.00	5,718.00	15,699.59	5,594.00	151.82	151.18	83.87	10,187.42	346.69	1,161.26	860.03	301.22	3.855	
15,918.20	5,718.00	15,717.80	5,594.00	152.09	151.45	83.87	10,205.62	346.69	1,161.25	859.50	301.75	3.848 SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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 #25N-2438 - Hz - APD		Offset Site Error:		0.00 usft
Survey Program:		0-MWD+IFR1+MS+sag											Offset Well Error:		0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor					
0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	29.99	29.99								
100.00	100.00	100.00	100.00	0.13	0.13	90.00	0.00	29.99	29.99	29.73	0.27	112.606					
200.00	200.00	200.00	200.00	0.47	0.47	90.00	0.00	29.99	29.99	29.05	0.94	31.885					
300.00	300.00	300.00	300.00	0.81	0.81	90.00	0.00	29.99	29.99	28.38	1.61	18.572	CC				
400.00	399.98	400.99	400.97	1.13	1.13	-169.42	-0.61	28.32	30.06	27.81	2.25	13.362					
500.00	499.84	501.98	501.81	1.45	1.45	-167.71	-2.43	23.30	30.27	27.40	2.87	10.548					
600.00	599.45	602.95	602.39	1.78	1.78	-164.91	-5.47	14.95	30.67	27.16	3.51	8.730	ES				
700.00	698.70	703.38	702.11	2.13	2.13	-161.58	-9.53	3.81	31.80	27.63	4.17	7.618					
800.00	797.47	803.29	801.27	2.51	2.49	-160.20	-13.69	-7.63	35.97	31.11	4.85	7.412					
900.00	895.71	903.04	900.28	2.91	2.86	-160.56	-17.85	-19.05	43.01	37.47	5.54	7.769					
1,000.00	993.87	1,002.76	999.26	3.32	3.23	-161.00	-22.01	-30.47	50.46	44.24	6.23	8.104					
1,100.00	1,092.03	1,102.48	1,098.23	3.74	3.61	-161.33	-26.16	-41.89	57.92	51.00	6.92	8.366					
1,200.00	1,190.20	1,202.20	1,197.21	4.17	3.98	-161.58	-30.32	-53.31	65.38	57.76	7.62	8.576					
1,300.00	1,288.36	1,301.92	1,296.19	4.60	4.36	-161.78	-34.48	-64.73	72.84	64.51	8.33	8.748					
1,400.00	1,386.52	1,401.64	1,395.17	5.03	4.74	-161.94	-38.63	-76.15	80.30	71.27	9.03	8.891					
1,500.00	1,484.69	1,501.36	1,494.15	5.46	5.12	-162.08	-42.79	-87.57	87.76	78.02	9.74	9.013					
1,600.00	1,582.85	1,601.08	1,593.12	5.90	5.50	-162.19	-46.95	-98.99	95.22	84.78	10.45	9.116					
1,700.00	1,681.01	1,700.80	1,692.10	6.33	5.88	-162.29	-51.10	-110.41	102.68	91.53	11.15	9.205					
1,800.00	1,779.17	1,800.53	1,791.08	6.77	6.27	-162.37	-55.26	-121.83	110.15	98.28	11.86	9.284					
1,900.00	1,877.34	1,900.25	1,890.06	7.21	6.65	-162.44	-59.42	-133.25	117.61	105.03	12.58	9.352					
2,000.00	1,975.50	1,999.97	1,989.03	7.64	7.03	-162.51	-63.57	-144.67	125.07	111.78	13.29	9.413					
2,100.00	2,073.66	2,099.69	2,088.01	8.08	7.41	-162.57	-67.73	-156.09	132.53	118.54	14.00	9.468					
2,200.00	2,171.82	2,199.41	2,186.99	8.52	7.80	-162.62	-71.89	-167.51	140.00	125.29	14.71	9.517					
2,300.00	2,269.99	2,299.13	2,285.97	8.96	8.18	-162.66	-76.04	-178.93	147.46	132.04	15.42	9.561					
2,400.00	2,368.15	2,398.85	2,384.95	9.40	8.56	-162.71	-80.20	-190.35	154.92	138.79	16.14	9.601					
2,500.00	2,466.31	2,498.57	2,483.92	9.84	8.95	-162.74	-84.36	-201.77	162.39	145.54	16.85	9.637					
2,600.00	2,564.48	2,598.29	2,582.90	10.28	9.33	-162.78	-88.51	-213.19	169.85	152.29	17.56	9.671					
2,700.00	2,662.64	2,698.01	2,681.88	10.72	9.71	-162.81	-92.67	-224.61	177.31	159.03	18.28	9.701					
2,800.00	2,760.80	2,797.74	2,780.86	11.16	10.10	-162.84	-96.83	-236.03	184.77	165.78	18.99	9.729					
2,900.00	2,858.96	2,897.46	2,879.83	11.60	10.48	-162.87	-100.98	-247.45	192.24	172.53	19.71	9.756					
3,000.00	2,957.13	2,997.18	2,978.81	12.04	10.86	-162.89	-105.14	-258.87	199.70	179.28	20.42	9.780					
3,100.00	3,055.29	3,096.90	3,077.79	12.48	11.25	-162.91	-109.29	-270.29	207.16	186.03	21.13	9.802					
3,200.00	3,153.45	3,196.62	3,176.77	12.93	11.63	-162.93	-113.45	-281.71	214.63	192.78	21.85	9.823					
3,300.00	3,251.61	3,296.34	3,275.75	13.37	12.02	-162.95	-117.61	-293.13	222.09	199.53	22.56	9.843					
3,400.00	3,349.78	3,396.06	3,374.72	13.81	12.40	-162.97	-121.76	-304.55	229.55	206.28	23.28	9.861					
3,500.00	3,447.94	3,495.78	3,473.70	14.25	12.79	-162.99	-125.92	-315.97	237.02	213.02	23.99	9.878					
3,600.00	3,546.10	3,595.50	3,572.68	14.69	13.17	-163.01	-130.08	-327.39	244.48	219.77	24.71	9.895					
3,700.00	3,644.27	3,695.23	3,671.66	15.13	13.55	-163.02	-134.23	-338.81	251.94	226.52	25.42	9.910					
3,800.00	3,742.43	3,794.95	3,770.63	15.58	13.94	-163.04	-138.39	-350.23	259.41	233.27	26.14	9.924					
3,900.00	3,840.59	3,894.67	3,869.61	16.02	14.32	-163.05	-142.55	-361.65	266.87	240.02	26.85	9.938					
4,000.00	3,938.75	3,994.39	3,968.59	16.46	14.71	-163.06	-146.70	-373.07	274.33	246.76	27.57	9.950					
4,100.00	4,036.92	4,094.11	4,067.57	16.90	15.09	-163.08	-150.86	-384.49	281.80	253.51	28.29	9.963					
4,200.00	4,135.08	4,193.83	4,166.55	17.34	15.48	-163.09	-155.02	-395.91	289.26	260.26	29.00	9.974					
4,300.00	4,233.24	4,293.55	4,265.52	17.78	15.86	-163.10	-159.17	-407.33	296.73	267.01	29.72	9.985					
4,400.00	4,331.40	4,393.27	4,364.50	18.23	16.25	-163.11	-163.33	-418.75	304.19	273.76	30.43	9.996					
4,500.00	4,429.57	4,492.99	4,463.48	18.67	16.63	-163.12	-167.49	-430.17	311.65	280.50	31.15	10.006					
4,600.00	4,527.73	4,592.71	4,562.46	19.11	17.01	-163.13	-171.64	-441.59	319.12	287.25	31.86	10.015					
4,700.00	4,626.21	4,692.54	4,661.54	19.47	17.40	-163.08	-175.80	-453.02	324.91	292.36	32.55	9.980					
4,800.00	4,725.23	4,787.18	4,755.53	19.75	17.73	-162.90	-179.59	-463.42	327.84	294.71	33.14	9.894					
4,900.00	4,824.67	4,877.88	4,845.87	20.01	17.97	-162.76	-182.32	-470.92	330.01	296.39	33.62	9.817					
5,000.00	4,924.43	4,968.56	4,936.40	20.25	18.19	-162.69	-184.07	-475.73	331.65	297.60	34.06	9.739					
5,100.00	5,024.36	5,059.21	5,027.02	20.48	18.42	-162.68	-184.84	-477.84	332.78	298.30	34.48	9.652					

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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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	5,124.36	5,156.55	5,124.36	20.71	18.67	97.30	-184.88	-477.95	333.08	298.11	34.98	9.523		
5,248.78	5,173.14	5,205.32	5,173.14	20.83	18.80	97.41	-184.88	-477.95	333.16	297.90	35.26	9.448		
5,300.00	5,224.34	5,256.53	5,224.34	20.96	18.94	97.41	-184.88	-477.95	333.17	297.62	35.55	9.371		
5,400.00	5,323.10	5,358.13	5,325.93	21.20	19.21	99.64	-184.24	-477.95	335.30	299.00	36.30	9.237		
5,500.00	5,417.22	5,470.87	5,437.06	21.42	19.49	102.68	-166.56	-477.95	338.89	301.89	36.99	9.160		
5,600.00	5,503.25	5,588.54	5,546.14	21.61	19.75	105.23	-123.12	-477.95	342.63	305.18	37.45	9.149		
5,700.00	5,578.04	5,710.59	5,646.01	21.76	19.97	107.14	-53.46	-477.95	345.86	308.17	37.70	9.175		
5,800.00	5,638.83	5,835.90	5,728.84	21.89	20.12	108.30	40.17	-477.96	348.00	310.10	37.90	9.183		
5,900.00	5,683.39	5,962.87	5,787.57	21.99	20.21	108.62	152.40	-477.96	348.61	310.36	38.25	9.113		
6,000.00	5,710.08	6,089.61	5,817.44	22.09	20.27	108.09	275.24	-477.96	347.59	308.64	38.95	8.924		
6,100.00	5,718.00	6,201.89	5,821.00	22.23	20.47	107.32	387.39	-477.96	346.03	306.12	39.91	8.670		
6,200.00	5,718.00	6,301.89	5,821.00	22.46	20.92	107.32	487.39	-477.96	346.03	305.10	40.92	8.455		
6,300.00	5,718.00	6,401.89	5,821.00	22.81	21.53	107.32	587.39	-477.97	346.02	303.92	42.10	8.219		
6,400.00	5,718.00	6,501.89	5,821.00	23.29	22.23	107.32	687.39	-477.97	346.02	302.58	43.43	7.967		
6,500.00	5,718.00	6,601.89	5,821.00	23.90	23.01	107.32	787.39	-477.97	346.01	301.11	44.90	7.706		
6,600.00	5,718.00	6,701.89	5,821.00	24.61	23.85	107.32	887.39	-477.97	346.00	299.51	46.50	7.442		
6,700.00	5,718.00	6,801.89	5,821.00	25.41	24.75	107.32	987.39	-477.97	346.00	297.80	48.20	7.178		
6,800.00	5,718.00	6,901.89	5,821.00	26.28	25.70	107.32	1,087.39	-477.98	345.99	295.98	50.01	6.918		
6,900.00	5,718.00	7,001.89	5,821.00	27.22	26.70	107.32	1,187.39	-477.98	345.99	294.08	51.91	6.665		
7,000.00	5,718.00	7,101.89	5,821.00	28.20	27.74	107.32	1,287.39	-477.98	345.98	292.09	53.89	6.420		
7,100.00	5,718.00	7,201.89	5,821.00	29.23	28.81	107.32	1,387.39	-477.98	345.98	290.03	55.95	6.184		
7,200.00	5,718.00	7,301.89	5,821.00	30.30	29.92	107.32	1,487.39	-477.98	345.97	287.91	58.07	5.958		
7,300.00	5,718.00	7,401.89	5,821.00	31.40	31.06	107.32	1,587.39	-477.98	345.97	285.72	60.24	5.743		
7,400.00	5,718.00	7,501.89	5,821.00	32.53	32.23	107.32	1,687.39	-477.99	345.96	283.49	62.47	5.538		
7,500.00	5,718.00	7,601.89	5,821.00	33.69	33.42	107.32	1,787.39	-477.99	345.95	281.21	64.75	5.343		
7,600.00	5,718.00	7,701.89	5,821.00	34.88	34.63	107.32	1,887.39	-477.99	345.95	278.88	67.06	5.158		
7,700.00	5,718.00	7,801.89	5,821.00	36.08	35.86	107.32	1,987.39	-477.99	345.94	276.52	69.42	4.983		
7,800.00	5,718.00	7,901.89	5,821.00	37.31	37.11	107.32	2,087.39	-477.99	345.94	274.13	71.81	4.817		
7,900.00	5,718.00	8,001.89	5,821.00	38.55	38.37	107.32	2,187.39	-478.00	345.93	271.70	74.23	4.660		
8,000.00	5,718.00	8,101.89	5,821.00	39.81	39.65	107.32	2,287.39	-478.00	345.93	269.25	76.68	4.512		
8,100.00	5,718.00	8,201.89	5,821.00	41.08	40.94	107.32	2,387.39	-478.00	345.92	266.77	79.15	4.371		
8,200.00	5,718.00	8,301.89	5,821.00	42.36	42.24	107.32	2,487.39	-478.00	345.92	264.27	81.64	4.237		
8,300.00	5,718.00	8,401.89	5,821.00	43.66	43.55	107.32	2,587.39	-478.00	345.91	261.75	84.16	4.110		
8,400.00	5,718.00	8,501.89	5,821.00	44.97	44.88	107.32	2,687.39	-478.00	345.90	259.21	86.70	3.990		
8,500.00	5,718.00	8,601.89	5,821.00	46.28	46.21	107.32	2,787.39	-478.01	345.90	256.65	89.25	3.876		
8,600.00	5,718.00	8,701.89	5,821.00	47.61	47.55	107.32	2,887.39	-478.01	345.89	254.07	91.82	3.767		
8,700.00	5,718.00	8,801.89	5,821.00	48.95	48.90	107.32	2,987.39	-478.01	345.89	251.49	94.40	3.664		
8,800.00	5,718.00	8,901.89	5,821.00	50.29	50.25	107.32	3,087.39	-478.01	345.88	248.88	97.00	3.566		
8,900.00	5,718.00	9,001.89	5,821.00	51.64	51.61	107.32	3,187.39	-478.01	345.88	246.27	99.61	3.472		
9,000.00	5,718.00	9,101.89	5,821.00	52.99	52.98	107.32	3,287.39	-478.02	345.87	243.64	102.23	3.383		
9,100.00	5,718.00	9,201.89	5,821.00	54.35	54.35	107.32	3,387.39	-478.02	345.87	241.00	104.86	3.298		
9,200.00	5,718.00	9,301.89	5,821.00	55.72	55.73	107.33	3,487.39	-478.02	345.86	238.36	107.50	3.217		
9,300.00	5,718.00	9,401.89	5,821.00	57.09	57.11	107.33	3,587.39	-478.02	345.86	235.70	110.16	3.140		
9,400.00	5,718.00	9,501.89	5,821.00	58.47	58.49	107.33	3,687.39	-478.02	345.85	233.03	112.82	3.066		
9,500.00	5,718.00	9,601.89	5,821.00	59.85	59.88	107.33	3,787.39	-478.02	345.84	230.36	115.48	2.995		
9,600.00	5,718.00	9,701.89	5,821.00	61.24	61.28	107.33	3,887.39	-478.03	345.84	227.68	118.16	2.927		
9,700.00	5,718.00	9,801.89	5,821.00	62.63	62.68	107.33	3,987.39	-478.03	345.83	224.99	120.84	2.862		
9,800.00	5,718.00	9,901.89	5,821.00	64.02	64.08	107.33	4,087.39	-478.03	345.83	222.30	123.53	2.800		
9,900.00	5,718.00	10,001.89	5,821.00	65.42	65.48	107.33	4,187.39	-478.03	345.82	219.60	126.22	2.740		
10,000.00	5,718.00	10,101.89	5,821.00	66.82	66.89	107.33	4,287.39	-478.03	345.82	216.90	128.92	2.682		
10,100.00	5,718.00	10,201.89	5,821.00	68.22	68.30	107.33	4,387.39	-478.04	345.81	214.19	131.62	2.627		
10,200.00	5,718.00	10,301.89	5,821.00	69.63	69.71	107.33	4,487.39	-478.04	345.81	211.47	134.33	2.574		

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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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	5,718.00	10,401.89	5,821.00	71.03	71.12	107.33	4,587.39	-478.04	345.80	208.75	137.05	2.523		
10,400.00	5,718.00	10,501.89	5,821.00	72.44	72.54	107.33	4,687.39	-478.04	345.79	206.03	139.77	2.474		
10,500.00	5,718.00	10,601.89	5,821.00	73.86	73.96	107.33	4,787.39	-478.04	345.79	203.30	142.49	2.427		
10,600.00	5,718.00	10,701.89	5,821.00	75.27	75.38	107.33	4,887.39	-478.05	345.78	200.56	145.22	2.381		
10,700.00	5,718.00	10,801.89	5,821.00	76.69	76.80	107.33	4,987.39	-478.05	345.78	197.83	147.95	2.337		
10,800.00	5,718.00	10,901.89	5,821.00	78.11	78.23	107.33	5,087.39	-478.05	345.77	195.09	150.68	2.295		
10,900.00	5,718.00	11,001.89	5,821.00	79.53	79.65	107.33	5,187.39	-478.05	345.77	192.35	153.42	2.254		
11,000.00	5,718.00	11,101.89	5,821.00	80.96	81.08	107.33	5,287.39	-478.05	345.76	189.60	156.16	2.214		
11,100.00	5,718.00	11,201.89	5,821.00	82.38	82.51	107.33	5,387.39	-478.05	345.76	186.85	158.91	2.176		
11,200.00	5,718.00	11,301.89	5,821.00	83.81	83.94	107.33	5,487.39	-478.06	345.75	184.10	161.65	2.139		
11,300.00	5,718.00	11,401.89	5,821.00	85.23	85.37	107.33	5,587.39	-478.06	345.74	181.34	164.40	2.103		
11,400.00	5,718.00	11,501.89	5,821.00	86.66	86.81	107.33	5,687.39	-478.06	345.74	178.59	167.15	2.068		
11,500.00	5,718.00	11,601.89	5,821.00	88.09	88.24	107.33	5,787.39	-478.06	345.73	175.83	169.91	2.035		
11,600.00	5,718.00	11,701.89	5,821.00	89.53	89.68	107.33	5,887.39	-478.06	345.73	173.06	172.66	2.002		
11,700.00	5,718.00	11,801.89	5,821.00	90.96	91.11	107.33	5,987.39	-478.07	345.72	170.30	175.42	1.971		
11,800.00	5,718.00	11,901.89	5,821.00	92.39	92.55	107.33	6,087.39	-478.07	345.72	167.53	178.18	1.940		
11,900.00	5,718.00	12,001.89	5,821.00	93.83	93.99	107.33	6,187.39	-478.07	345.71	164.77	180.95	1.911		
12,000.00	5,718.00	12,101.89	5,821.00	95.27	95.43	107.33	6,287.39	-478.07	345.71	162.00	183.71	1.882		
12,100.00	5,718.00	12,201.89	5,821.00	96.71	96.87	107.33	6,387.39	-478.07	345.70	159.22	186.48	1.854		
12,200.00	5,718.00	12,301.89	5,821.00	98.14	98.32	107.33	6,487.39	-478.07	345.69	156.45	189.24	1.827		
12,300.00	5,718.00	12,401.89	5,821.00	99.58	99.76	107.33	6,587.39	-478.08	345.69	153.67	192.01	1.800		
12,400.00	5,718.00	12,501.89	5,821.00	101.02	101.20	107.33	6,687.39	-478.08	345.68	150.90	194.79	1.775		
12,500.00	5,718.00	12,601.89	5,821.00	102.47	102.65	107.33	6,787.39	-478.08	345.68	148.12	197.56	1.750		
12,600.00	5,718.00	12,701.89	5,821.00	103.91	104.09	107.33	6,887.39	-478.08	345.67	145.34	200.33	1.725		
12,700.00	5,718.00	12,801.89	5,821.00	105.35	105.54	107.34	6,987.39	-478.08	345.67	142.56	203.11	1.702		
12,800.00	5,718.00	12,901.89	5,821.00	106.80	106.99	107.34	7,087.39	-478.09	345.66	139.77	205.89	1.679		
12,900.00	5,718.00	13,001.89	5,821.00	108.24	108.43	107.34	7,187.39	-478.09	345.66	136.99	208.67	1.657		
13,000.00	5,718.00	13,101.89	5,821.00	109.69	109.88	107.34	7,287.39	-478.09	345.65	134.21	211.44	1.635		
13,100.00	5,718.00	13,201.89	5,821.00	111.13	111.33	107.34	7,387.39	-478.09	345.65	131.42	214.23	1.613		
13,200.00	5,718.00	13,301.89	5,821.00	112.58	112.78	107.34	7,487.39	-478.09	345.64	128.63	217.01	1.593		
13,300.00	5,718.00	13,401.89	5,821.00	114.03	114.23	107.34	7,587.39	-478.09	345.63	125.84	219.79	1.573		
13,400.00	5,718.00	13,501.89	5,821.00	115.48	115.68	107.34	7,687.39	-478.10	345.63	123.05	222.58	1.553		
13,500.00	5,718.00	13,601.89	5,821.00	116.92	117.13	107.34	7,787.39	-478.10	345.62	120.26	225.36	1.534		
13,600.00	5,718.00	13,701.89	5,821.00	118.37	118.58	107.34	7,887.39	-478.10	345.62	117.47	228.15	1.515		
13,700.00	5,718.00	13,801.89	5,821.00	119.82	120.03	107.34	7,987.39	-478.10	345.61	114.68	230.93	1.497 Level 3		
13,800.00	5,718.00	13,901.89	5,821.00	121.27	121.49	107.34	8,087.39	-478.10	345.61	111.88	233.72	1.479 Level 3		
13,900.00	5,718.00	14,001.89	5,821.00	122.72	122.94	107.34	8,187.39	-478.11	345.60	109.09	236.51	1.461 Level 3		
14,000.00	5,718.00	14,101.89	5,821.00	124.17	124.39	107.34	8,287.39	-478.11	345.60	106.29	239.30	1.444 Level 3		
14,100.00	5,718.00	14,201.89	5,821.00	125.63	125.85	107.34	8,387.39	-478.11	345.59	103.50	242.09	1.428 Level 3		
14,200.00	5,718.00	14,301.89	5,821.00	127.08	127.30	107.34	8,487.39	-478.11	345.58	100.70	244.88	1.411 Level 3		
14,300.00	5,718.00	14,401.89	5,821.00	128.53	128.75	107.34	8,587.39	-478.11	345.58	97.90	247.68	1.395 Level 3		
14,400.00	5,718.00	14,501.89	5,821.00	129.98	130.21	107.34	8,687.39	-478.11	345.57	95.10	250.47	1.380 Level 3		
14,500.00	5,718.00	14,601.89	5,821.00	131.44	131.66	107.34	8,787.39	-478.12	345.57	92.31	253.26	1.364 Level 3		
14,600.00	5,718.00	14,701.89	5,821.00	132.89	133.12	107.34	8,887.39	-478.12	345.56	89.51	256.06	1.350 Level 3		
14,700.00	5,718.00	14,801.89	5,821.00	134.35	134.58	107.34	8,987.39	-478.12	345.56	86.70	258.85	1.335 Level 3		
14,800.00	5,718.00	14,901.89	5,821.00	135.80	136.03	107.34	9,087.39	-478.12	345.55	83.90	261.65	1.321 Level 3		
14,900.00	5,718.00	15,001.89	5,821.00	137.26	137.49	107.34	9,187.39	-478.12	345.55	81.10	264.44	1.307 Level 3		
15,000.00	5,718.00	15,101.89	5,821.00	138.71	138.95	107.34	9,287.39	-478.13	345.54	78.30	267.24	1.293 Level 3		
15,100.00	5,718.00	15,201.89	5,821.00	140.17	140.40	107.34	9,387.39	-478.13	345.53	75.50	270.04	1.280 Level 3		
15,200.00	5,718.00	15,301.89	5,821.00	141.62	141.86	107.34	9,487.39	-478.13	345.53	72.69	272.84	1.266 Level 3		
15,300.00	5,718.00	15,401.89	5,821.00	143.08	143.32	107.34	9,587.39	-478.13	345.52	69.89	275.64	1.254 Level 3		
15,400.00	5,718.00	15,501.89	5,821.00	144.54	144.78	107.34	9,687.39	-478.13	345.52	67.08	278.43	1.241 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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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 #25N-2438 - Hz - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.00	5,718.00	15,601.89	5,821.00	145.99	146.23	107.34	9,787.39	-478.13	345.51	64.28	281.23	1.229	Level 2
15,600.00	5,718.00	15,701.89	5,821.00	147.45	147.69	107.34	9,887.39	-478.14	345.51	61.47	284.03	1.216	Level 2
15,700.00	5,718.00	15,801.89	5,821.00	148.91	149.15	107.34	9,987.39	-478.14	345.50	58.67	286.84	1.205	Level 2
15,800.00	5,718.00	15,901.89	5,821.00	150.37	150.61	107.34	10,087.39	-478.14	345.50	55.86	289.64	1.193	Level 2
15,900.00	5,718.00	16,001.89	5,821.00	151.82	152.07	107.34	10,187.39	-478.14	345.49	53.05	292.44	1.181	Level 2
15,918.20	5,718.00	16,020.10	5,821.00	152.09	152.34	107.34	10,205.59	-478.14	345.49	52.54	292.95	1.179	Level 2, SF



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	89.04	1.01	59.98	59.99					
100.00	100.00	100.00	100.00	0.13	0.13	89.04	1.01	59.98	59.99	59.73	0.27	225.244		
200.00	200.00	200.00	200.00	0.47	0.47	89.04	1.01	59.98	59.99	59.05	0.94	63.779		
300.00	300.00	300.00	300.00	0.81	0.81	89.04	1.01	59.98	59.99	58.38	1.61	37.149 CC		
400.00	399.98	401.86	401.84	1.13	1.12	-170.39	0.10	58.42	60.17	57.92	2.25	26.756 ES		
500.00	499.84	502.72	502.58	1.45	1.44	-168.95	-2.33	54.20	61.14	58.28	2.86	21.355		
600.00	599.45	602.63	602.35	1.78	1.75	-168.04	-4.95	49.67	65.22	61.72	3.50	18.609		
700.00	698.70	702.34	701.93	2.13	2.08	-167.82	-7.56	45.15	72.73	68.56	4.16	17.471		
800.00	797.47	801.74	801.19	2.51	2.41	-168.13	-10.16	40.64	83.63	78.80	4.83	17.324		
900.00	895.71	900.76	900.08	2.91	2.75	-168.74	-12.75	36.15	97.50	92.01	5.49	17.761		
1,000.00	993.87	999.73	998.91	3.32	3.09	-169.27	-15.34	31.67	111.81	105.66	6.15	18.168		
1,100.00	1,092.03	1,098.70	1,097.74	3.74	3.43	-169.67	-17.93	27.18	126.13	119.30	6.82	18.484		
1,200.00	1,190.20	1,197.66	1,196.57	4.17	3.77	-169.99	-20.52	22.70	140.45	132.95	7.50	18.735		
1,300.00	1,288.36	1,296.63	1,295.40	4.60	4.11	-170.26	-23.11	18.21	154.77	146.60	8.17	18.939		
1,400.00	1,386.52	1,395.60	1,394.23	5.03	4.45	-170.48	-25.70	13.73	169.10	160.25	8.85	19.108		
1,500.00	1,484.69	1,494.56	1,493.06	5.46	4.79	-170.66	-28.29	9.24	183.42	173.90	9.53	19.250		
1,600.00	1,582.85	1,593.53	1,591.89	5.90	5.13	-170.82	-30.88	4.76	197.75	187.54	10.21	19.370		
1,700.00	1,681.01	1,692.50	1,690.73	6.33	5.48	-170.95	-33.47	0.27	212.09	201.19	10.89	19.473		
1,800.00	1,779.17	1,791.46	1,789.56	6.77	5.82	-171.07	-36.06	-4.22	226.42	214.84	11.57	19.563		
1,900.00	1,877.34	1,890.43	1,888.39	7.21	6.16	-171.18	-38.65	-8.70	240.75	228.49	12.26	19.642		
2,000.00	1,975.50	1,989.40	1,987.22	7.64	6.51	-171.27	-41.24	-13.19	255.08	242.14	12.94	19.711		
2,100.00	2,073.66	2,088.36	2,086.05	8.08	6.85	-171.35	-43.83	-17.67	269.42	255.79	13.63	19.773		
2,200.00	2,171.82	2,187.33	2,184.88	8.52	7.20	-171.43	-46.42	-22.16	283.75	269.44	14.31	19.829		
2,300.00	2,269.99	2,286.30	2,283.71	8.96	7.54	-171.49	-49.01	-26.64	298.09	283.09	15.00	19.878		
2,400.00	2,368.15	2,385.26	2,382.54	9.40	7.89	-171.56	-51.60	-31.13	312.42	296.74	15.68	19.923		
2,500.00	2,466.31	2,484.23	2,481.37	9.84	8.23	-171.61	-54.19	-35.61	326.76	310.39	16.37	19.964		
2,600.00	2,564.48	2,583.20	2,580.20	10.28	8.57	-171.66	-56.78	-40.10	341.10	324.04	17.05	20.001		
2,700.00	2,662.64	2,682.16	2,679.03	10.72	8.92	-171.71	-59.37	-44.59	355.43	337.69	17.74	20.036		
2,800.00	2,760.80	2,781.13	2,777.87	11.16	9.26	-171.75	-61.96	-49.07	369.77	351.34	18.43	20.067		
2,900.00	2,858.96	2,880.10	2,876.70	11.60	9.61	-171.79	-64.55	-53.56	384.11	364.99	19.11	20.096		
3,000.00	2,957.13	2,979.06	2,975.53	12.04	9.95	-171.83	-67.14	-58.04	398.44	378.64	19.80	20.123		
3,100.00	3,055.29	3,078.03	3,074.36	12.48	10.30	-171.86	-69.73	-62.53	412.78	392.29	20.49	20.147		
3,200.00	3,153.45	3,177.00	3,173.19	12.93	10.64	-171.90	-72.32	-67.01	427.12	405.94	21.18	20.170		
3,300.00	3,251.61	3,275.96	3,272.02	13.37	10.99	-171.93	-74.90	-71.50	441.46	419.59	21.86	20.192		
3,400.00	3,349.78	3,374.93	3,370.85	13.81	11.33	-171.96	-77.49	-75.99	455.79	433.24	22.55	20.212		
3,500.00	3,447.94	3,473.90	3,469.68	14.25	11.68	-171.98	-80.08	-80.47	470.13	446.89	23.24	20.231		
3,600.00	3,546.10	3,572.86	3,568.51	14.69	12.02	-172.01	-82.67	-84.96	484.47	460.54	23.93	20.248		
3,700.00	3,644.27	3,671.83	3,667.34	15.13	12.37	-172.03	-85.26	-89.44	498.81	474.19	24.61	20.265		
3,800.00	3,742.43	3,770.79	3,766.18	15.58	12.71	-172.05	-87.85	-93.93	513.15	487.84	25.30	20.280		
3,900.00	3,840.59	3,869.76	3,865.01	16.02	13.06	-172.07	-90.44	-98.41	527.48	501.49	25.99	20.295		
4,000.00	3,938.75	3,968.73	3,963.84	16.46	13.40	-172.09	-93.03	-102.90	541.82	515.14	26.68	20.308		
4,100.00	4,036.92	4,067.69	4,062.67	16.90	13.75	-172.11	-95.62	-107.38	556.16	528.79	27.37	20.321		
4,200.00	4,135.08	4,166.66	4,161.50	17.34	14.09	-172.13	-98.21	-111.87	570.50	542.44	28.06	20.334		
4,300.00	4,233.24	4,265.63	4,260.33	17.78	14.44	-172.15	-100.80	-116.36	584.84	556.09	28.75	20.345		
4,400.00	4,331.40	4,364.59	4,359.16	18.23	14.78	-172.16	-103.39	-120.84	599.17	569.74	29.43	20.356		
4,500.00	4,429.57	4,463.56	4,457.99	18.67	15.13	-172.18	-105.98	-125.33	613.51	583.39	30.12	20.367		
4,600.00	4,527.73	4,562.53	4,556.82	19.11	15.47	-172.20	-108.57	-129.81	627.85	597.04	30.81	20.377		
4,700.00	4,626.21	4,661.72	4,655.88	19.47	15.82	-172.22	-111.17	-134.31	640.48	608.98	31.50	20.334		
4,800.00	4,725.23	4,761.29	4,755.32	19.75	16.17	-172.20	-113.77	-138.82	649.66	617.54	32.12	20.227		
4,900.00	4,824.67	4,861.12	4,855.00	20.01	16.52	-172.13	-116.39	-143.35	655.40	622.68	32.72	20.031		
5,000.00	4,924.43	4,959.77	4,944.56	20.25	16.80	-172.04	-118.51	-147.02	658.17	624.93	33.24	19.802		
5,100.00	5,024.36	5,033.87	5,027.64	20.48	17.03	-172.01	-119.34	-148.47	659.85	626.17	33.67	19.595		

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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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	5,124.36	5,130.59	5,124.36	20.71	17.29	87.99	-119.37	-148.51	660.23	626.06	34.18	19.319		
5,300.00	5,224.34	5,229.43	5,223.19	20.96	17.56	87.99	-118.71	-148.51	660.23	625.50	34.73	19.012		
5,400.00	5,323.10	5,325.22	5,317.88	21.20	17.82	88.04	-105.18	-148.51	660.21	624.97	35.23	18.738		
5,500.00	5,417.22	5,421.18	5,408.65	21.42	18.07	88.17	-74.48	-148.51	660.16	624.45	35.71	18.487		
5,600.00	5,503.25	5,517.45	5,492.52	21.61	18.30	88.36	-27.51	-148.51	660.09	623.92	36.17	18.249		
5,700.00	5,578.04	5,614.15	5,566.64	21.76	18.50	88.60	34.39	-148.51	660.02	623.36	36.66	18.006		
5,800.00	5,638.83	5,711.40	5,628.36	21.89	18.69	88.90	109.36	-148.50	659.94	622.74	37.20	17.739		
5,900.00	5,683.39	5,809.31	5,675.36	21.99	18.90	89.24	195.09	-148.50	659.87	622.02	37.85	17.435		
6,000.00	5,710.08	5,907.96	5,705.67	22.09	19.26	89.61	288.81	-148.50	659.83	621.21	38.62	17.085		
6,100.00	5,718.00	6,007.42	5,717.81	22.23	19.72	89.98	387.38	-148.50	659.81	620.29	39.52	16.695		
6,200.00	5,718.00	6,107.42	5,718.00	22.46	20.26	90.00	487.37	-148.50	659.81	619.24	40.57	16.263		
6,300.00	5,718.00	6,207.42	5,718.00	22.81	20.89	90.00	587.37	-148.50	659.81	618.00	41.80	15.783		
6,400.00	5,718.00	6,307.42	5,718.00	23.29	21.61	90.00	687.37	-148.50	659.80	616.60	43.20	15.272		
6,500.00	5,718.00	6,407.42	5,718.00	23.90	22.40	90.00	787.37	-148.50	659.80	615.05	44.75	14.744		
6,600.00	5,718.00	6,507.42	5,718.00	24.61	23.26	90.00	887.37	-148.49	659.80	613.36	46.43	14.210		
6,700.00	5,718.00	6,607.42	5,718.00	25.41	24.17	90.00	987.37	-148.49	659.80	611.56	48.24	13.678		
6,800.00	5,718.00	6,707.42	5,718.00	26.28	25.14	90.00	1,087.37	-148.49	659.79	609.64	50.15	13.156		
6,900.00	5,718.00	6,807.42	5,718.00	27.22	26.16	90.00	1,187.37	-148.49	659.79	607.63	52.16	12.650		
7,000.00	5,718.00	6,907.42	5,718.00	28.20	27.21	90.00	1,287.37	-148.49	659.79	605.54	54.25	12.161		
7,100.00	5,718.00	7,007.42	5,718.00	29.23	28.31	90.00	1,387.37	-148.49	659.78	603.36	56.42	11.694		
7,200.00	5,718.00	7,107.42	5,718.00	30.30	29.43	90.00	1,487.37	-148.49	659.78	601.12	58.66	11.248		
7,300.00	5,718.00	7,207.42	5,718.00	31.40	30.59	90.00	1,587.37	-148.48	659.78	598.82	60.96	10.824		
7,400.00	5,718.00	7,307.42	5,718.00	32.53	31.77	90.00	1,687.37	-148.48	659.78	596.47	63.31	10.422		
7,500.00	5,718.00	7,407.42	5,718.00	33.69	32.98	90.00	1,787.37	-148.48	659.77	594.07	65.71	10.041		
7,600.00	5,718.00	7,507.42	5,718.00	34.88	34.20	90.00	1,887.37	-148.48	659.77	591.63	68.15	9.682		
7,700.00	5,718.00	7,607.42	5,718.00	36.08	35.45	90.00	1,987.37	-148.48	659.77	589.14	70.63	9.342		
7,800.00	5,718.00	7,707.42	5,718.00	37.31	36.71	90.00	2,087.37	-148.48	659.77	586.63	73.14	9.021		
7,900.00	5,718.00	7,807.42	5,718.00	38.55	37.99	90.00	2,187.37	-148.48	659.76	584.08	75.69	8.717		
8,000.00	5,718.00	7,907.42	5,718.00	39.81	39.28	90.00	2,287.37	-148.47	659.76	581.50	78.26	8.431		
8,100.00	5,718.00	8,007.42	5,718.00	41.08	40.58	90.00	2,387.37	-148.47	659.76	578.90	80.86	8.160		
8,200.00	5,718.00	8,107.42	5,718.00	42.36	41.89	90.00	2,487.37	-148.47	659.76	576.28	83.48	7.903		
8,300.00	5,718.00	8,207.42	5,718.00	43.66	43.22	90.00	2,587.37	-148.47	659.75	573.63	86.12	7.661		
8,400.00	5,718.00	8,307.42	5,718.00	44.97	44.55	90.00	2,687.37	-148.47	659.75	570.97	88.78	7.431		
8,500.00	5,718.00	8,407.42	5,718.00	46.28	45.89	90.00	2,787.37	-148.47	659.75	568.29	91.46	7.214		
8,600.00	5,718.00	8,507.42	5,718.00	47.61	47.24	90.00	2,887.37	-148.47	659.75	565.59	94.15	7.007		
8,700.00	5,718.00	8,607.42	5,718.00	48.95	48.60	90.00	2,987.37	-148.46	659.74	562.88	96.86	6.811		
8,800.00	5,718.00	8,707.42	5,718.00	50.29	49.96	90.00	3,087.37	-148.46	659.74	560.16	99.58	6.625		
8,900.00	5,718.00	8,807.42	5,718.00	51.64	51.33	90.00	3,187.37	-148.46	659.74	557.42	102.32	6.448		
9,000.00	5,718.00	8,907.42	5,718.00	52.99	52.70	90.00	3,287.37	-148.46	659.74	554.67	105.06	6.279		
9,100.00	5,718.00	9,007.42	5,718.00	54.35	54.08	90.00	3,387.37	-148.46	659.73	551.92	107.82	6.119		
9,200.00	5,718.00	9,107.42	5,718.00	55.72	55.47	90.00	3,487.37	-148.46	659.73	549.15	110.58	5.966		
9,300.00	5,718.00	9,207.42	5,718.00	57.09	56.86	90.00	3,587.37	-148.46	659.73	546.37	113.36	5.820		
9,400.00	5,718.00	9,307.42	5,718.00	58.47	58.25	90.00	3,687.37	-148.45	659.73	543.58	116.14	5.680		
9,500.00	5,718.00	9,407.42	5,718.00	59.85	59.65	90.00	3,787.37	-148.45	659.72	540.79	118.93	5.547		
9,600.00	5,718.00	9,507.42	5,718.00	61.24	61.05	90.00	3,887.37	-148.45	659.72	537.99	121.73	5.420		
9,700.00	5,718.00	9,607.42	5,718.00	62.63	62.45	90.00	3,987.37	-148.45	659.72	535.18	124.53	5.297		
9,800.00	5,718.00	9,707.42	5,718.00	64.02	63.86	90.00	4,087.37	-148.45	659.72	532.37	127.35	5.181		
9,900.00	5,718.00	9,807.42	5,718.00	65.42	65.27	90.00	4,187.37	-148.45	659.71	529.55	130.16	5.068		
10,000.00	5,718.00	9,907.42	5,718.00	66.82	66.68	90.00	4,287.37	-148.45	659.71	526.73	132.98	4.961		
10,100.00	5,718.00	10,007.42	5,718.00	68.22	68.09	90.00	4,387.37	-148.44	659.71	523.90	135.81	4.858		
10,200.00	5,718.00	10,107.42	5,718.00	69.63	69.51	90.00	4,487.37	-148.44	659.71	521.06	138.64	4.758		
10,300.00	5,718.00	10,207.42	5,718.00	71.03	70.93	90.00	4,587.37	-148.44	659.70	518.22	141.48	4.663		

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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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	5,718.00	10,307.42	5,718.00	72.44	72.35	90.00	4,687.37	-148.44	659.70	515.38	144.32	4.571		
10,500.00	5,718.00	10,407.42	5,718.00	73.86	73.77	90.00	4,787.37	-148.44	659.70	512.53	147.17	4.483		
10,600.00	5,718.00	10,507.42	5,718.00	75.27	75.20	90.00	4,887.37	-148.44	659.70	509.68	150.01	4.398		
10,700.00	5,718.00	10,607.42	5,718.00	76.69	76.62	90.00	4,987.37	-148.44	659.69	506.83	152.87	4.315		
10,800.00	5,718.00	10,707.42	5,718.00	78.11	78.05	90.00	5,087.37	-148.43	659.69	503.97	155.72	4.236		
10,900.00	5,718.00	10,807.42	5,718.00	79.53	79.48	90.00	5,187.37	-148.43	659.69	501.11	158.58	4.160		
11,000.00	5,718.00	10,907.42	5,718.00	80.96	80.91	90.00	5,287.37	-148.43	659.69	498.24	161.44	4.086		
11,100.00	5,718.00	11,007.42	5,718.00	82.38	82.35	90.00	5,387.37	-148.43	659.68	495.37	164.31	4.015		
11,200.00	5,718.00	11,107.42	5,718.00	83.81	83.78	90.00	5,487.37	-148.43	659.68	492.50	167.18	3.946		
11,300.00	5,718.00	11,207.42	5,718.00	85.23	85.22	90.00	5,587.37	-148.43	659.68	489.63	170.05	3.879		
11,400.00	5,718.00	11,307.42	5,718.00	86.66	86.65	90.00	5,687.37	-148.43	659.68	486.76	172.92	3.815		
11,500.00	5,718.00	11,407.42	5,718.00	88.09	88.09	90.00	5,787.37	-148.42	659.67	483.88	175.79	3.753		
11,600.00	5,718.00	11,507.42	5,718.00	89.53	89.53	90.00	5,887.37	-148.42	659.67	481.00	178.67	3.692		
11,700.00	5,718.00	11,607.42	5,718.00	90.96	90.97	90.00	5,987.37	-148.42	659.67	478.12	181.55	3.634		
11,800.00	5,718.00	11,707.42	5,718.00	92.39	92.41	90.00	6,087.37	-148.42	659.66	475.23	184.43	3.577		
11,900.00	5,718.00	11,807.42	5,718.00	93.83	93.86	90.00	6,187.37	-148.42	659.66	472.35	187.32	3.522		
12,000.00	5,718.00	11,907.42	5,718.00	95.27	95.30	90.00	6,287.37	-148.42	659.66	469.46	190.20	3.468		
12,100.00	5,718.00	12,007.42	5,718.00	96.71	96.74	90.00	6,387.37	-148.42	659.66	466.57	193.09	3.416		
12,200.00	5,718.00	12,107.42	5,718.00	98.14	98.19	90.00	6,487.37	-148.41	659.65	463.68	195.98	3.366		
12,300.00	5,718.00	12,207.42	5,718.00	99.58	99.63	90.00	6,587.37	-148.41	659.65	460.79	198.87	3.317		
12,400.00	5,718.00	12,307.42	5,718.00	101.02	101.08	90.00	6,687.37	-148.41	659.65	457.89	201.76	3.270		
12,500.00	5,718.00	12,407.42	5,718.00	102.47	102.53	90.00	6,787.37	-148.41	659.65	455.00	204.65	3.223		
12,600.00	5,718.00	12,507.42	5,718.00	103.91	103.97	90.00	6,887.37	-148.41	659.64	452.10	207.55	3.178		
12,700.00	5,718.00	12,607.42	5,718.00	105.35	105.42	90.00	6,987.37	-148.41	659.64	449.20	210.44	3.135		
12,800.00	5,718.00	12,707.42	5,718.00	106.80	106.87	90.00	7,087.37	-148.41	659.64	446.30	213.34	3.092		
12,900.00	5,718.00	12,807.42	5,718.00	108.24	108.32	90.00	7,187.37	-148.41	659.64	443.40	216.24	3.051		
13,000.00	5,718.00	12,907.42	5,718.00	109.69	109.77	90.00	7,287.37	-148.40	659.63	440.50	219.14	3.010		
13,100.00	5,718.00	13,007.42	5,718.00	111.13	111.22	90.00	7,387.37	-148.40	659.63	437.59	222.04	2.971		
13,200.00	5,718.00	13,107.42	5,718.00	112.58	112.67	90.00	7,487.37	-148.40	659.63	434.69	224.94	2.932		
13,300.00	5,718.00	13,207.42	5,718.00	114.03	114.12	90.00	7,587.37	-148.40	659.63	431.78	227.84	2.895		
13,400.00	5,718.00	13,307.42	5,718.00	115.48	115.58	90.00	7,687.37	-148.40	659.62	428.88	230.75	2.859		
13,500.00	5,718.00	13,407.42	5,718.00	116.92	117.03	90.00	7,787.37	-148.40	659.62	425.97	233.65	2.823		
13,600.00	5,718.00	13,507.42	5,718.00	118.37	118.48	90.00	7,887.37	-148.40	659.62	423.06	236.56	2.788		
13,700.00	5,718.00	13,607.42	5,718.00	119.82	119.94	90.00	7,987.37	-148.39	659.62	420.15	239.46	2.755		
13,800.00	5,718.00	13,707.42	5,718.00	121.27	121.39	90.00	8,087.37	-148.39	659.61	417.24	242.37	2.721		
13,900.00	5,718.00	13,807.42	5,718.00	122.72	122.84	90.00	8,187.37	-148.39	659.61	414.33	245.28	2.689		
14,000.00	5,718.00	13,907.42	5,718.00	124.17	124.30	90.00	8,287.37	-148.39	659.61	411.42	248.19	2.658		
14,100.00	5,718.00	14,007.42	5,718.00	125.63	125.75	90.00	8,387.37	-148.39	659.61	408.51	251.10	2.627		
14,200.00	5,718.00	14,107.42	5,718.00	127.08	127.21	90.00	8,487.37	-148.39	659.60	405.59	254.01	2.597		
14,300.00	5,718.00	14,207.42	5,718.00	128.53	128.67	90.00	8,587.37	-148.39	659.60	402.68	256.92	2.567		
14,400.00	5,718.00	14,307.42	5,718.00	129.98	130.12	90.00	8,687.37	-148.38	659.60	399.76	259.84	2.539		
14,500.00	5,718.00	14,407.42	5,718.00	131.44	131.58	90.00	8,787.37	-148.38	659.60	396.85	262.75	2.510		
14,600.00	5,718.00	14,507.42	5,718.00	132.89	133.04	90.00	8,887.37	-148.38	659.59	393.93	265.66	2.483		
14,700.00	5,718.00	14,607.42	5,718.00	134.35	134.49	90.00	8,987.37	-148.38	659.59	391.01	268.58	2.456		
14,800.00	5,718.00	14,707.42	5,718.00	135.80	135.95	90.00	9,087.37	-148.38	659.59	388.10	271.49	2.429		
14,900.00	5,718.00	14,807.42	5,718.00	137.26	137.41	90.00	9,187.37	-148.38	659.59	385.18	274.41	2.404		
15,000.00	5,718.00	14,907.42	5,718.00	138.71	138.87	90.00	9,287.37	-148.38	659.58	382.26	277.32	2.378		
15,100.00	5,718.00	15,007.42	5,718.00	140.17	140.33	90.00	9,387.37	-148.37	659.58	379.34	280.24	2.354		
15,200.00	5,718.00	15,107.42	5,718.00	141.62	141.79	90.00	9,487.37	-148.37	659.58	376.42	283.16	2.329		
15,300.00	5,718.00	15,207.42	5,718.00	143.08	143.24	90.00	9,587.37	-148.37	659.58	373.50	286.08	2.306		
15,400.00	5,718.00	15,307.42	5,718.00	144.54	144.70	90.00	9,687.37	-148.37	659.57	370.58	288.99	2.282		
15,500.00	5,718.00	15,407.42	5,718.00	145.99	146.16	90.00	9,787.37	-148.37	659.57	367.66	291.91	2.259		

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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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 #25N-2439 - Hz - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,600.00	5,718.00	15,507.42	5,718.00	147.45	147.62	90.00	9,887.37	-148.37	659.57	364.73	294.83	2.237	
15,700.00	5,718.00	15,607.42	5,718.00	148.91	149.08	90.00	9,987.37	-148.37	659.57	361.81	297.75	2.215	
15,800.00	5,718.00	15,707.42	5,718.00	150.37	150.54	90.00	10,087.37	-148.36	659.56	358.89	300.67	2.194	
15,900.00	5,718.00	15,807.42	5,718.00	151.82	152.00	90.00	10,187.37	-148.36	659.56	355.97	303.59	2.173	
15,918.20	5,718.00	15,825.62	5,718.00	152.09	152.27	90.00	10,205.58	-148.36	659.56	355.43	304.13	2.169 SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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
0.00	0.00	0.00	0.00	0.00	0.00	89.36	1.01	89.98	89.98				
100.00	100.00	100.00	100.00	0.13	0.13	89.36	1.01	89.98	89.98	89.72	0.27	337.840	
200.00	200.00	200.00	200.00	0.47	0.47	89.36	1.01	89.98	89.98	89.04	0.94	95.661	
300.00	300.00	300.00	300.00	0.81	0.81	89.36	1.01	89.98	89.98	88.37	1.61	55.719 CC, ES	
400.00	399.98	398.65	398.63	1.13	1.11	-169.85	-0.53	90.70	92.42	90.19	2.24	41.316	
500.00	499.84	496.85	496.69	1.45	1.40	-167.70	-5.11	92.83	99.83	96.98	2.86	34.940	
600.00	599.45	596.01	595.62	1.78	1.71	-165.42	-11.38	95.76	111.61	108.10	3.51	31.789	
700.00	698.70	694.80	694.16	2.13	2.03	-163.98	-17.63	98.67	126.85	122.68	4.17	30.397	
800.00	797.47	793.04	792.17	2.51	2.36	-163.22	-23.84	101.57	145.44	140.60	4.84	30.039	
900.00	895.71	890.71	889.59	2.91	2.69	-162.97	-30.01	104.44	166.90	161.39	5.50	30.319	
1,000.00	993.87	988.29	986.94	3.32	3.03	-162.87	-36.18	107.32	188.77	182.60	6.17	30.598	
1,100.00	1,092.03	1,085.87	1,084.28	3.74	3.37	-162.78	-42.35	110.20	210.63	203.79	6.84	30.789	
1,200.00	1,190.20	1,183.45	1,181.62	4.17	3.71	-162.71	-48.52	113.08	232.50	224.98	7.52	30.922	
1,300.00	1,288.36	1,281.03	1,278.96	4.60	4.06	-162.66	-54.69	115.95	254.37	246.17	8.20	31.016	
1,400.00	1,386.52	1,378.60	1,376.30	5.03	4.40	-162.61	-60.86	118.83	276.24	267.36	8.89	31.085	
1,500.00	1,484.69	1,476.18	1,473.64	5.46	4.75	-162.57	-67.03	121.71	298.11	288.54	9.58	31.133	
1,600.00	1,582.85	1,573.76	1,570.98	5.90	5.09	-162.53	-73.20	124.58	319.98	309.72	10.27	31.171	
1,700.00	1,681.01	1,671.34	1,668.33	6.33	5.44	-162.50	-79.37	127.46	341.85	330.89	10.96	31.198	
1,800.00	1,779.17	1,768.92	1,765.67	6.77	5.78	-162.48	-85.53	130.34	363.72	352.07	11.65	31.219	
1,900.00	1,877.34	1,866.50	1,863.01	7.21	6.13	-162.45	-91.70	133.21	385.59	373.25	12.35	31.234	
2,000.00	1,975.50	1,964.08	1,960.35	7.64	6.48	-162.43	-97.87	136.09	407.46	394.42	13.04	31.245	
2,100.00	2,073.66	2,061.66	2,057.69	8.08	6.82	-162.41	-104.04	138.97	429.33	415.59	13.74	31.252	
2,200.00	2,171.82	2,159.24	2,155.03	8.52	7.17	-162.39	-110.21	141.84	451.20	436.77	14.43	31.258	
2,300.00	2,269.99	2,256.82	2,252.37	8.96	7.52	-162.38	-116.38	144.72	473.07	457.94	15.13	31.262	
2,400.00	2,368.15	2,354.40	2,349.72	9.40	7.86	-162.36	-122.55	147.60	494.94	479.11	15.83	31.264	
2,500.00	2,466.31	2,451.97	2,447.06	9.84	8.21	-162.35	-128.72	150.47	516.81	500.28	16.53	31.265	
2,600.00	2,564.48	2,549.55	2,544.40	10.28	8.56	-162.34	-134.89	153.35	538.68	521.45	17.23	31.265	
2,700.00	2,662.64	2,647.13	2,641.74	10.72	8.91	-162.33	-141.06	156.23	560.55	542.62	17.93	31.264	
2,800.00	2,760.80	2,744.71	2,739.08	11.16	9.26	-162.32	-147.22	159.10	582.42	563.79	18.63	31.263	
2,900.00	2,858.96	2,842.29	2,836.42	11.60	9.60	-162.31	-153.39	161.98	604.29	584.96	19.33	31.261	
3,000.00	2,957.13	2,939.87	2,933.76	12.04	9.95	-162.30	-159.56	164.86	626.16	606.13	20.03	31.259	
3,100.00	3,055.29	3,037.45	3,031.11	12.48	10.30	-162.29	-165.73	167.73	648.03	627.30	20.73	31.257	
3,200.00	3,153.45	3,135.03	3,128.45	12.93	10.65	-162.28	-171.90	170.61	669.90	648.47	21.43	31.254	
3,300.00	3,251.61	3,232.61	3,225.79	13.37	11.00	-162.28	-178.07	173.49	691.77	669.64	22.14	31.251	
3,400.00	3,349.78	3,330.19	3,323.13	13.81	11.34	-162.27	-184.24	176.36	713.65	690.81	22.84	31.248	
3,500.00	3,447.94	3,428.21	3,420.91	14.25	11.69	-162.26	-190.43	179.25	735.51	711.97	23.54	31.245	
3,600.00	3,546.10	3,541.83	3,534.39	14.69	12.02	-162.41	-195.46	181.60	756.29	732.08	24.21	31.233	
3,700.00	3,644.27	3,651.72	3,644.27	15.13	12.31	-162.81	-196.56	182.11	775.08	750.23	24.86	31.184	
3,800.00	3,742.43	3,749.88	3,742.43	15.58	12.58	-163.22	-196.56	182.11	793.36	767.89	25.47	31.146	
3,900.00	3,840.59	3,848.04	3,840.59	16.02	12.83	-163.61	-196.56	182.11	811.67	785.60	26.08	31.127	
4,000.00	3,938.75	3,946.20	3,938.75	16.46	13.09	-163.98	-196.56	182.11	830.02	803.34	26.68	31.107	
4,100.00	4,036.92	4,044.37	4,036.92	16.90	13.35	-164.33	-196.56	182.11	848.40	821.11	27.29	31.085	
4,200.00	4,135.08	4,142.53	4,135.08	17.34	13.61	-164.67	-196.56	182.11	866.82	838.91	27.91	31.063	
4,300.00	4,233.24	4,240.69	4,233.24	17.78	13.88	-165.00	-196.56	182.11	885.26	856.73	28.52	31.039	
4,400.00	4,331.40	4,338.85	4,331.40	18.23	14.15	-165.31	-196.56	182.11	903.72	874.58	29.14	31.015	
4,500.00	4,429.57	4,437.02	4,429.57	18.67	14.42	-165.61	-196.56	182.11	922.21	892.45	29.76	30.990	
4,600.00	4,527.73	4,535.18	4,527.73	19.11	14.70	-165.90	-196.56	182.11	940.73	910.35	30.38	30.964	
4,700.00	4,626.21	4,633.66	4,626.21	19.47	14.98	-166.24	-196.56	182.11	957.60	926.58	31.01	30.879	
4,800.00	4,725.23	4,732.68	4,725.23	19.75	15.26	-166.49	-196.56	182.11	971.13	939.55	31.58	30.754	
4,900.00	4,824.67	4,832.12	4,824.67	20.01	15.54	-166.68	-196.56	182.11	981.30	949.17	32.13	30.544	
5,000.00	4,924.43	4,931.88	4,924.43	20.25	15.83	-166.81	-196.56	182.11	988.09	955.43	32.66	30.255	
5,100.00	5,024.36	5,031.81	5,024.36	20.48	16.12	-166.87	-196.56	182.11	991.49	958.32	33.17	29.891	

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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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	5,124.36	5,131.81	5,124.36	20.71	16.41	93.12	-196.56	182.11	991.91	958.20	33.72	29.419		
5,248.76	5,173.11	5,180.56	5,173.11	20.83	16.56	93.15	-196.56	182.11	991.95	957.95	34.00	29.176		
5,300.00	5,224.34	5,231.79	5,224.34	20.96	16.71	93.16	-196.56	182.11	991.95	957.66	34.29	28.924		
5,400.00	5,323.10	5,334.06	5,326.60	21.20	17.01	93.90	-195.88	182.11	992.83	957.94	34.89	28.457		
5,500.00	5,417.22	5,449.84	5,440.63	21.42	17.33	94.94	-177.25	182.11	994.22	958.76	35.46	28.036		
5,600.00	5,503.25	5,570.68	5,552.19	21.61	17.62	95.78	-131.51	182.10	995.57	959.61	35.97	27.680		
5,700.00	5,578.04	5,695.76	5,653.36	21.76	17.91	96.38	-58.49	182.10	996.63	960.18	36.45	27.345		
5,800.00	5,638.83	5,823.59	5,735.78	21.89	18.19	96.67	38.81	182.09	997.17	960.19	36.98	26.967		
5,900.00	5,683.39	5,952.24	5,792.36	21.99	18.56	96.64	153.99	182.08	997.09	959.45	37.64	26.489		
6,000.00	5,710.08	6,079.63	5,818.96	22.09	19.05	96.27	278.24	182.08	996.40	957.92	38.49	25.890		
6,100.00	5,718.00	6,188.89	5,821.00	22.23	19.55	95.94	387.45	182.07	995.72	956.29	39.43	25.255		
6,200.00	5,718.00	6,288.89	5,821.00	22.46	20.11	95.94	487.45	182.06	995.71	955.21	40.50	24.587		
6,300.00	5,718.00	6,388.89	5,821.00	22.81	20.76	95.94	587.45	182.05	995.70	953.96	41.74	23.853		
6,400.00	5,718.00	6,488.89	5,821.00	23.29	21.50	95.94	687.45	182.05	995.69	952.53	43.15	23.073		
6,500.00	5,718.00	6,588.89	5,821.00	23.90	22.30	95.94	787.45	182.04	995.68	950.97	44.71	22.269		
6,600.00	5,718.00	6,688.89	5,821.00	24.61	23.17	95.94	887.45	182.03	995.67	949.27	46.40	21.457		
6,700.00	5,718.00	6,788.89	5,821.00	25.41	24.10	95.94	987.45	182.03	995.66	947.45	48.21	20.652		
6,800.00	5,718.00	6,888.89	5,821.00	26.28	25.08	95.94	1,087.45	182.02	995.65	945.52	50.13	19.863		
6,900.00	5,718.00	6,988.89	5,821.00	27.22	26.11	95.94	1,187.45	182.01	995.64	943.50	52.14	19.097		
7,000.00	5,718.00	7,088.89	5,821.00	28.20	27.18	95.94	1,287.45	182.01	995.63	941.40	54.23	18.360		
7,100.00	5,718.00	7,188.89	5,821.00	29.23	28.28	95.94	1,387.45	182.00	995.61	939.22	56.40	17.654		
7,200.00	5,718.00	7,288.89	5,821.00	30.30	29.42	95.94	1,487.45	182.00	995.60	936.97	58.63	16.981		
7,300.00	5,718.00	7,388.89	5,821.00	31.40	30.59	95.94	1,587.45	181.99	995.59	934.67	60.92	16.342		
7,400.00	5,718.00	7,488.89	5,821.00	32.53	31.78	95.94	1,687.45	181.98	995.58	932.31	63.27	15.736		
7,500.00	5,718.00	7,588.89	5,821.00	33.69	32.99	95.94	1,787.45	181.98	995.57	929.91	65.66	15.162		
7,600.00	5,718.00	7,688.89	5,821.00	34.88	34.22	95.94	1,887.45	181.97	995.56	927.47	68.10	14.620		
7,700.00	5,718.00	7,788.89	5,821.00	36.08	35.48	95.94	1,987.45	181.96	995.55	924.98	70.57	14.108		
7,800.00	5,718.00	7,888.89	5,821.00	37.31	36.74	95.94	2,087.45	181.96	995.54	922.47	73.07	13.624		
7,900.00	5,718.00	7,988.89	5,821.00	38.55	38.03	95.94	2,187.45	181.95	995.53	919.92	75.61	13.167		
8,000.00	5,718.00	8,088.89	5,821.00	39.81	39.32	95.94	2,287.45	181.94	995.52	917.35	78.17	12.735		
8,100.00	5,718.00	8,188.89	5,821.00	41.08	40.63	95.94	2,387.45	181.94	995.51	914.75	80.76	12.327		
8,200.00	5,718.00	8,288.89	5,821.00	42.36	41.95	95.94	2,487.45	181.93	995.50	912.13	83.37	11.940		
8,300.00	5,718.00	8,388.89	5,821.00	43.66	43.28	95.94	2,587.45	181.92	995.49	909.49	86.00	11.575		
8,400.00	5,718.00	8,488.89	5,821.00	44.97	44.62	95.94	2,687.45	181.92	995.48	906.82	88.65	11.229		
8,500.00	5,718.00	8,588.89	5,821.00	46.28	45.96	95.94	2,787.45	181.91	995.47	904.15	91.32	10.901		
8,600.00	5,718.00	8,688.89	5,821.00	47.61	47.32	95.94	2,887.45	181.90	995.46	901.45	94.00	10.590		
8,700.00	5,718.00	8,788.89	5,821.00	48.95	48.68	95.94	2,987.45	181.90	995.45	898.75	96.70	10.294		
8,800.00	5,718.00	8,888.89	5,821.00	50.29	50.04	95.94	3,087.45	181.89	995.44	896.03	99.41	10.013		
8,900.00	5,718.00	8,988.89	5,821.00	51.64	51.42	95.94	3,187.45	181.88	995.43	893.29	102.13	9.746		
9,000.00	5,718.00	9,088.89	5,821.00	52.99	52.79	95.94	3,287.45	181.88	995.41	890.55	104.87	9.492		
9,100.00	5,718.00	9,188.89	5,821.00	54.35	54.18	95.94	3,387.45	181.87	995.40	887.79	107.61	9.250		
9,200.00	5,718.00	9,288.89	5,821.00	55.72	55.56	95.94	3,487.45	181.86	995.39	885.03	110.36	9.019		
9,300.00	5,718.00	9,388.89	5,821.00	57.09	56.95	95.94	3,587.45	181.86	995.38	882.26	113.13	8.799		
9,400.00	5,718.00	9,488.89	5,821.00	58.47	58.35	95.94	3,687.45	181.85	995.37	879.48	115.90	8.589		
9,500.00	5,718.00	9,588.89	5,821.00	59.85	59.75	95.94	3,787.45	181.84	995.36	876.69	118.67	8.387		
9,600.00	5,718.00	9,688.89	5,821.00	61.24	61.15	95.94	3,887.45	181.84	995.35	873.89	121.46	8.195		
9,700.00	5,718.00	9,788.89	5,821.00	62.63	62.56	95.94	3,987.45	181.83	995.34	871.09	124.25	8.011		
9,800.00	5,718.00	9,888.89	5,821.00	64.02	63.97	95.94	4,087.45	181.82	995.33	868.28	127.05	7.834		
9,900.00	5,718.00	9,988.89	5,821.00	65.42	65.38	95.94	4,187.45	181.82	995.32	865.47	129.85	7.665		
10,000.00	5,718.00	10,088.89	5,821.00	66.82	66.79	95.94	4,287.45	181.81	995.31	862.65	132.66	7.503		
10,100.00	5,718.00	10,188.89	5,821.00	68.22	68.21	95.94	4,387.45	181.80	995.30	859.82	135.47	7.347		
10,200.00	5,718.00	10,288.89	5,821.00	69.63	69.63	95.94	4,487.45	181.80	995.29	856.99	138.29	7.197		

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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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	5,718.00	10,388.89	5,821.00	71.03	71.05	95.94	4,587.45	181.79	995.28	854.16	141.12	7.053		
10,400.00	5,718.00	10,488.89	5,821.00	72.44	72.47	95.94	4,687.45	181.78	995.27	851.32	143.94	6.914		
10,500.00	5,718.00	10,588.89	5,821.00	73.86	73.90	95.94	4,787.45	181.78	995.26	848.48	146.78	6.781		
10,600.00	5,718.00	10,688.89	5,821.00	75.27	75.32	95.94	4,887.45	181.77	995.25	845.63	149.61	6.652		
10,700.00	5,718.00	10,788.89	5,821.00	76.69	76.75	95.94	4,987.45	181.76	995.24	842.79	152.45	6.528		
10,800.00	5,718.00	10,888.89	5,821.00	78.11	78.18	95.94	5,087.45	181.76	995.23	839.93	155.29	6.409		
10,900.00	5,718.00	10,988.89	5,821.00	79.53	79.61	95.94	5,187.45	181.75	995.21	837.08	158.14	6.293		
11,000.00	5,718.00	11,088.89	5,821.00	80.96	81.04	95.94	5,287.45	181.74	995.20	834.22	160.99	6.182		
11,100.00	5,718.00	11,188.89	5,821.00	82.38	82.48	95.94	5,387.45	181.74	995.19	831.36	163.84	6.074		
11,200.00	5,718.00	11,288.89	5,821.00	83.81	83.91	95.94	5,487.45	181.73	995.18	828.49	166.69	5.970		
11,300.00	5,718.00	11,388.89	5,821.00	85.23	85.35	95.94	5,587.45	181.72	995.17	825.62	169.55	5.870		
11,400.00	5,718.00	11,488.89	5,821.00	86.66	86.79	95.94	5,687.45	181.72	995.16	822.76	172.41	5.772		
11,500.00	5,718.00	11,588.89	5,821.00	88.09	88.23	95.94	5,787.45	181.71	995.15	819.88	175.27	5.678		
11,600.00	5,718.00	11,688.89	5,821.00	89.53	89.67	95.94	5,887.45	181.70	995.14	817.01	178.13	5.587		
11,700.00	5,718.00	11,788.89	5,821.00	90.96	91.11	95.94	5,987.45	181.70	995.13	814.13	181.00	5.498		
11,800.00	5,718.00	11,888.89	5,821.00	92.39	92.55	95.94	6,087.45	181.69	995.12	811.26	183.86	5.412		
11,900.00	5,718.00	11,988.89	5,821.00	93.83	93.99	95.94	6,187.45	181.68	995.11	808.38	186.73	5.329		
12,000.00	5,718.00	12,088.89	5,821.00	95.27	95.44	95.94	6,287.45	181.68	995.10	805.49	189.61	5.248		
12,100.00	5,718.00	12,188.89	5,821.00	96.71	96.88	95.94	6,387.45	181.67	995.09	802.61	192.48	5.170		
12,200.00	5,718.00	12,288.89	5,821.00	98.14	98.33	95.94	6,487.45	181.66	995.08	799.73	195.35	5.094		
12,300.00	5,718.00	12,388.89	5,821.00	99.58	99.78	95.94	6,587.45	181.66	995.07	796.84	198.23	5.020		
12,400.00	5,718.00	12,488.89	5,821.00	101.02	101.22	95.94	6,687.45	181.65	995.06	793.95	201.11	4.948		
12,500.00	5,718.00	12,588.89	5,821.00	102.47	102.67	95.94	6,787.45	181.64	995.05	791.06	203.99	4.878		
12,600.00	5,718.00	12,688.89	5,821.00	103.91	104.12	95.94	6,887.45	181.64	995.04	788.17	206.87	4.810		
12,700.00	5,718.00	12,788.89	5,821.00	105.35	105.57	95.94	6,987.45	181.63	995.03	785.28	209.75	4.744		
12,800.00	5,718.00	12,888.89	5,821.00	106.80	107.02	95.94	7,087.45	181.62	995.01	782.38	212.63	4.680		
12,900.00	5,718.00	12,988.89	5,821.00	108.24	108.47	95.94	7,187.45	181.62	995.00	779.49	215.52	4.617		
13,000.00	5,718.00	13,088.89	5,821.00	109.69	109.92	95.94	7,287.45	181.61	994.99	776.59	218.40	4.556		
13,100.00	5,718.00	13,188.89	5,821.00	111.13	111.37	95.94	7,387.45	181.60	994.98	773.69	221.29	4.496		
13,200.00	5,718.00	13,288.89	5,821.00	112.58	112.82	95.94	7,487.45	181.60	994.97	770.80	224.18	4.438		
13,300.00	5,718.00	13,388.89	5,821.00	114.03	114.27	95.94	7,587.45	181.59	994.96	767.90	227.07	4.382		
13,400.00	5,718.00	13,488.89	5,821.00	115.48	115.73	95.94	7,687.45	181.58	994.95	765.00	229.96	4.327		
13,500.00	5,718.00	13,588.89	5,821.00	116.92	117.18	95.94	7,787.45	181.58	994.94	762.09	232.85	4.273		
13,600.00	5,718.00	13,688.89	5,821.00	118.37	118.63	95.94	7,887.45	181.57	994.93	759.19	235.74	4.220		
13,700.00	5,718.00	13,788.89	5,821.00	119.82	120.09	95.94	7,987.45	181.56	994.92	756.29	238.63	4.169		
13,800.00	5,718.00	13,888.89	5,821.00	121.27	121.54	95.94	8,087.45	181.56	994.91	753.38	241.53	4.119		
13,900.00	5,718.00	13,988.89	5,821.00	122.72	123.00	95.94	8,187.45	181.55	994.90	750.48	244.42	4.070		
14,000.00	5,718.00	14,088.89	5,821.00	124.17	124.45	95.94	8,287.45	181.54	994.89	747.57	247.32	4.023		
14,100.00	5,718.00	14,188.89	5,821.00	125.63	125.91	95.94	8,387.45	181.54	994.88	744.67	250.21	3.976		
14,200.00	5,718.00	14,288.89	5,821.00	127.08	127.37	95.94	8,487.45	181.53	994.87	741.76	253.11	3.931		
14,300.00	5,718.00	14,388.89	5,821.00	128.53	128.82	95.94	8,587.45	181.52	994.86	738.85	256.01	3.886		
14,400.00	5,718.00	14,488.89	5,821.00	129.98	130.28	95.94	8,687.45	181.52	994.85	735.94	258.90	3.843		
14,500.00	5,718.00	14,588.89	5,821.00	131.44	131.74	95.94	8,787.45	181.51	994.84	733.03	261.80	3.800		
14,600.00	5,718.00	14,688.89	5,821.00	132.89	133.19	95.94	8,887.45	181.50	994.83	730.12	264.70	3.758		
14,700.00	5,718.00	14,788.89	5,821.00	134.35	134.65	95.94	8,987.45	181.50	994.82	727.21	267.60	3.718		
14,800.00	5,718.00	14,888.89	5,821.00	135.80	136.11	95.94	9,087.45	181.49	994.80	724.30	270.50	3.678		
14,900.00	5,718.00	14,988.89	5,821.00	137.26	137.57	95.94	9,187.45	181.49	994.79	721.39	273.41	3.639		
15,000.00	5,718.00	15,088.89	5,821.00	138.71	139.03	95.94	9,287.45	181.48	994.78	718.48	276.31	3.600		
15,100.00	5,718.00	15,188.89	5,821.00	140.17	140.49	95.94	9,387.45	181.47	994.77	715.56	279.21	3.563		
15,200.00	5,718.00	15,288.89	5,821.00	141.62	141.95	95.94	9,487.45	181.47	994.76	712.65	282.11	3.526		
15,300.00	5,718.00	15,388.89	5,821.00	143.08	143.41	95.94	9,587.45	181.46	994.75	709.73	285.02	3.490		
15,400.00	5,718.00	15,488.89	5,821.00	144.54	144.87	95.94	9,687.45	181.45	994.74	706.82	287.92	3.455		

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 #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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 #25N-2440 - 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	5,718.00	15,588.89	5,821.00	145.99	146.33	95.94	9,787.45	181.45	994.73	703.90	290.83	3.420	
15,600.00	5,718.00	15,688.89	5,821.00	147.45	147.79	95.94	9,887.45	181.44	994.72	700.99	293.73	3.386	
15,700.00	5,718.00	15,788.89	5,821.00	148.91	149.25	95.94	9,987.45	181.43	994.71	698.07	296.64	3.353	
15,800.00	5,718.00	15,888.89	5,821.00	150.37	150.71	95.94	10,087.45	181.43	994.70	695.16	299.54	3.321	
15,900.00	5,718.00	15,988.89	5,821.00	151.82	152.17	95.94	10,187.45	181.42	994.69	692.24	302.45	3.289	
15,918.20	5,718.00	16,007.10	5,821.00	152.09	152.43	95.94	10,205.65	181.42	994.69	691.71	302.98	3.283 SF	



WOG

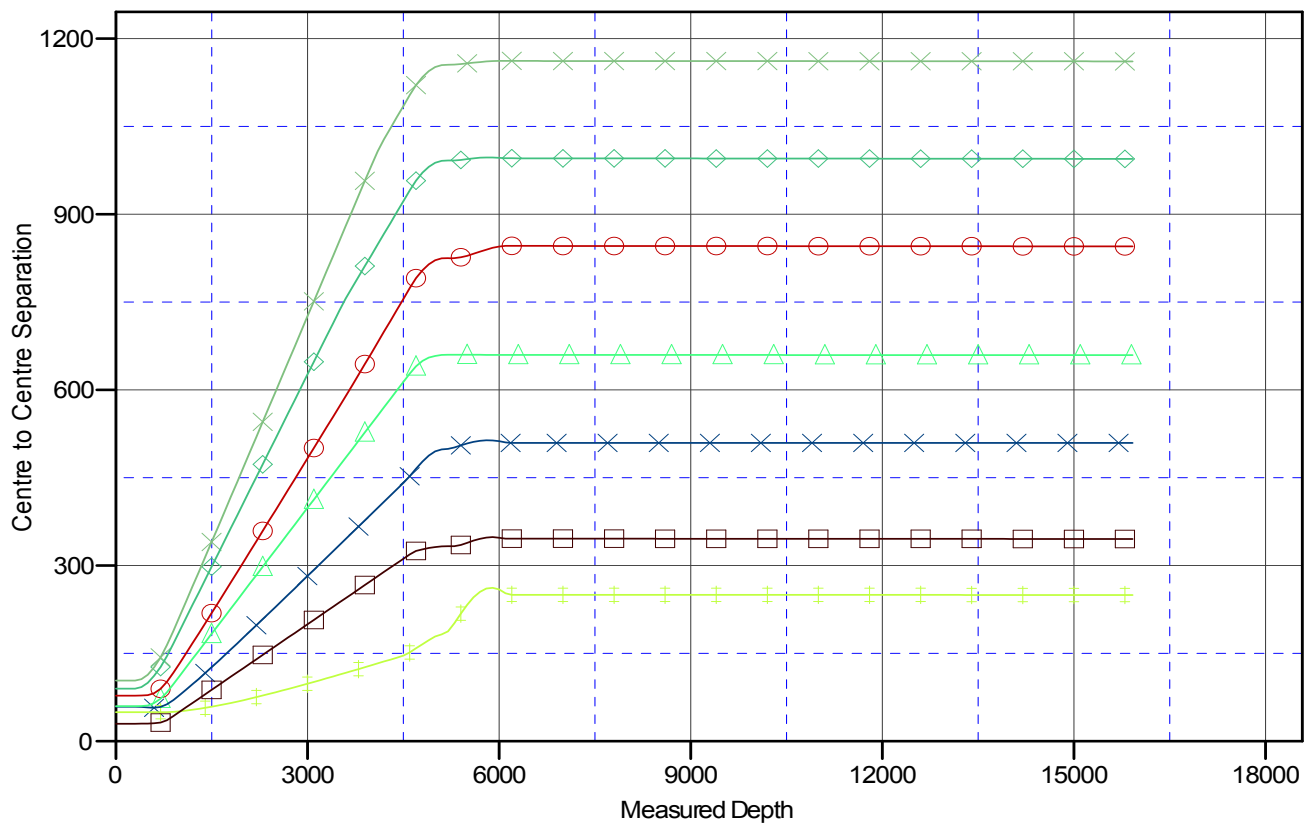
Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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 @ 4722.00usft (Original Well Ele)
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Razor #25N-2437
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.09°

Ladder Plot



LEGEND

- ✕ Razor #25N-2406, Hz, APDV0
- + Razor #25N-2405, Hz, APDV0
- Razor #25N-2438, Hz, APDV0
- △ Razor #25N-2439, Hz, APDV0
- ◇ Razor #25N-2440, Hz, APDV0
- Razor #25N-2407, Hz, APDV0
- ✕ Razor #25N-2408, Hz, APDV0



WOG

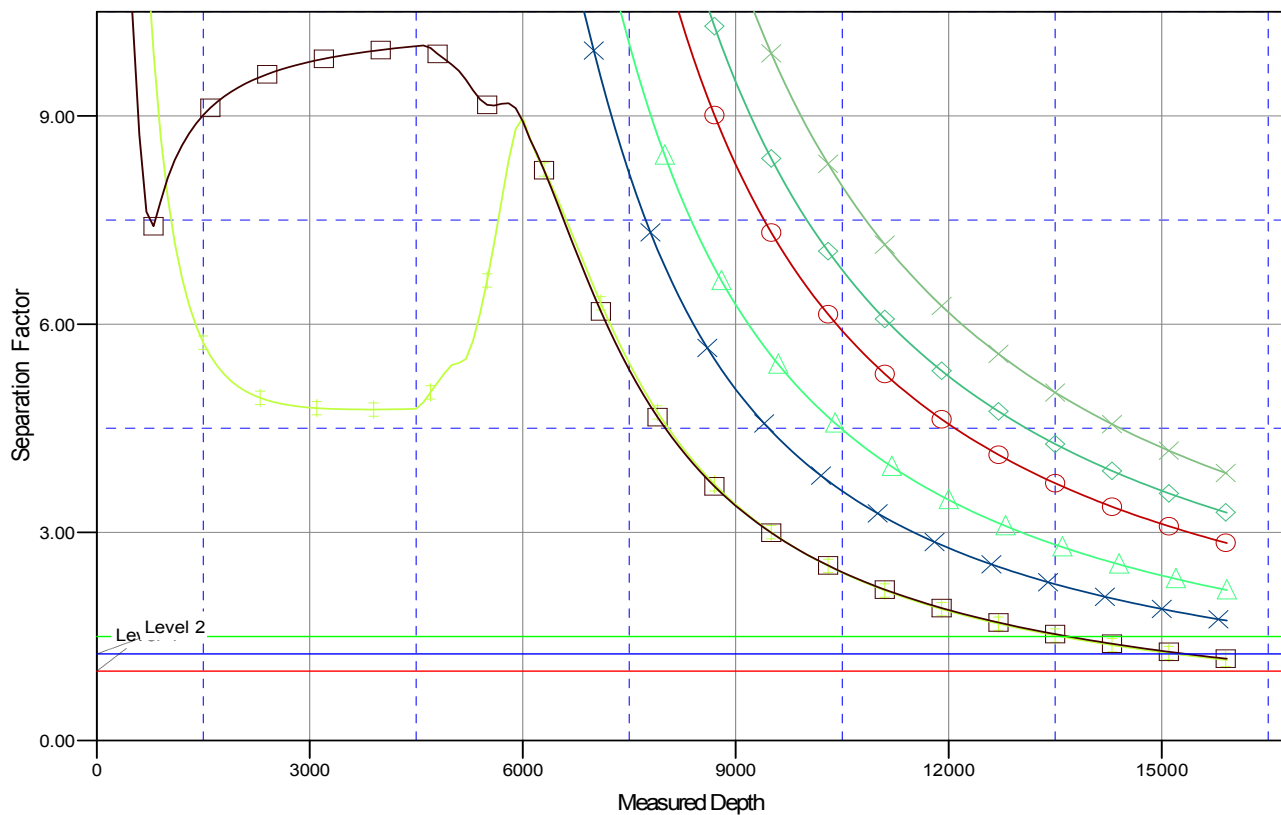
Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25N-2437
Project:	Weld County, CO	TVD Reference:	KBE @ 4722.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4722.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25N-2437	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 @ 4722.00usft (Original Well Ele)
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Razor #25N-2437
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.09°

Separation Factor Plot



LEGEND

- ★ Razor #25N-2406, Hz, APD V0
- ★ Razor #25N-2405, Hz, APD V0
- Razor #25N-2438, Hz, APD V0
- ★ Razor #25N-2439, Hz, APD V0
- ★ Razor #25N-2408, Hz, APD V0
- ★ Razor #25N-2440, Hz, APD V0
- ★ Razor #25N-2407, Hz, APD V0