



Whiting Petroleum Corp.

Weld County, CO

Sec 25-T10N-R58W

Razor #25O-2443

Hz

APD

Anticollision Report

22 May, 2015



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference	APD		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,550.00 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	3.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	5/22/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	15,874.95	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 #25B-2449 - Hz - APD	10,779.52	6,105.08	659.49	561.68	6.743	CC
Razor #25B-2449 - Hz - APD	15,874.95	11,198.51	659.57	424.31	2.804	ES, SF
Razor #25B-2450 - Hz - APD	10,772.72	5,888.20	502.06	410.35	5.474	CC
Razor #25B-2450 - Hz - APD	15,874.95	10,987.68	531.00	309.18	2.394	ES, SF
Razor #25B-2451 - Hz - APD	10,485.00	5,856.08	329.71	237.11	3.561	CC
Razor #25B-2451 - Hz - APD	15,874.95	11,265.03	343.47	116.22	1.511	ES, SF
Razor #25B-2549 - Hz - Hz	5,998.74	10,183.00	646.91	508.69	4.680	CC
Razor #25B-2549 - Hz - Hz	6,000.00	10,183.00	646.92	508.69	4.680	ES, SF
Razor #25B-2550 - Hz - APD	5,927.35	10,560.57	469.86	385.74	5.586	CC, ES, SF
Razor #25B-2551 - Hz - Hz	6,000.00	10,242.88	226.76	94.58	1.716	ES, SF
Razor #25B-2551 - Hz - Hz	6,136.23	10,107.95	225.88	96.05	1.740	CC
Razor #25O-2410 - Hz - APD	993.76	996.75	49.02	42.83	7.927	CC
Razor #25O-2410 - Hz - APD	15,874.95	15,801.18	206.01	-46.19	0.817	Level 1, ES, SF
Razor #25O-2411 - Hz - APD	300.00	300.00	58.43	56.82	36.184	CC
Razor #25O-2411 - Hz - APD	15,874.95	15,656.63	258.68	46.12	1.217	Level 2, ES, SF
Razor #25O-2412 - Hz - APD	300.00	300.00	77.89	76.28	48.232	CC
Razor #25O-2412 - Hz - APD	15,874.95	15,750.23	510.35	66.39	1.150	Level 2, ES, SF
Razor #25O-2444 - Hz - APD	300.00	300.00	30.01	28.39	18.582	CC, ES
Razor #25O-2444 - Hz - APD	15,874.95	16,003.16	346.22	53.67	1.183	Level 2, SF

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		
9,000.00	5,729.00	5,450.00	5,403.43	52.96	19.76	-61.00	4,606.32	-798.53	1,489.72	1,424.93	64.80	22.990			
9,100.00	5,729.00	5,450.00	5,403.43	54.35	19.76	-61.00	4,606.32	-798.53	1,404.39	1,338.36	66.03	21.270			
9,200.00	5,729.00	5,450.00	5,403.43	55.74	19.76	-61.00	4,606.32	-798.53	1,321.12	1,253.86	67.26	19.642			
9,300.00	5,729.00	5,450.00	5,403.43	57.13	19.76	-61.00	4,606.32	-798.53	1,240.32	1,171.82	68.49	18.108			
9,400.00	5,729.00	5,477.32	5,429.21	58.53	19.82	-62.74	4,615.35	-798.53	1,161.60	1,091.02	70.58	16.457			
9,500.00	5,729.00	5,500.00	5,450.23	59.93	19.88	-64.20	4,623.87	-798.53	1,086.42	1,013.88	72.54	14.977			
9,600.00	5,729.00	5,500.00	5,450.23	61.34	19.88	-64.20	4,623.87	-798.53	1,014.80	940.99	73.82	13.748			
9,700.00	5,729.00	5,523.60	5,471.68	62.75	19.93	-65.73	4,633.69	-798.53	947.66	871.85	75.81	12.500			
9,800.00	5,729.00	5,550.00	5,495.13	64.16	19.99	-67.45	4,645.82	-798.53	885.90	808.02	77.88	11.375			

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 #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,900.00	5,729.00	5,568.04	5,510.78	65.57	20.02	-68.62	4,654.79	-798.53	830.25	750.54	79.70	10.417		
10,000.00	5,729.00	5,600.00	5,537.72	66.99	20.09	-70.67	4,671.98	-798.53	781.81	699.93	81.87	9.549		
10,100.00	5,729.00	5,630.23	5,562.18	68.41	20.15	-72.59	4,689.73	-798.53	741.36	657.41	83.95	8.831		
10,200.00	5,729.00	5,670.90	5,593.39	69.83	20.22	-75.09	4,715.80	-798.53	709.57	623.39	86.18	8.234		
10,300.00	5,729.00	5,720.04	5,628.24	71.25	20.30	-77.95	4,750.42	-798.53	686.54	598.11	88.42	7.764		
10,400.00	5,729.00	5,779.41	5,665.76	72.67	20.38	-81.10	4,796.39	-798.54	671.69	581.08	90.60	7.413		
10,500.00	5,729.00	5,850.00	5,703.21	74.10	20.46	-84.30	4,856.16	-798.54	663.65	571.00	92.65	7.163		
10,600.00	5,729.00	5,933.55	5,736.62	75.53	20.55	-87.19	4,932.64	-798.54	660.36	565.82	94.54	6.985		
10,700.00	5,729.00	6,026.79	5,758.95	76.96	20.65	-89.13	5,023.04	-798.54	659.55	563.21	96.34	6.846		
10,779.52	5,729.00	6,105.08	5,765.00	78.10	20.79	-89.65	5,101.02	-798.55	659.49	561.68	97.81	6.743 CC		
10,800.00	5,729.00	6,125.55	5,765.00	78.39	20.84	-89.65	5,121.49	-798.55	659.49	561.28	98.20	6.716		
10,900.00	5,729.00	6,225.55	5,765.00	79.82	21.17	-89.65	5,221.49	-798.55	659.49	559.33	100.16	6.584		
11,000.00	5,729.00	6,325.55	5,765.00	81.26	21.67	-89.65	5,321.49	-798.55	659.49	557.28	102.21	6.452		
11,100.00	5,729.00	6,425.55	5,765.00	82.69	22.30	-89.65	5,421.49	-798.55	659.49	555.15	104.34	6.321		
11,200.00	5,729.00	6,525.55	5,765.00	84.13	23.03	-89.65	5,521.49	-798.56	659.49	552.94	106.55	6.189		
11,300.00	5,729.00	6,625.55	5,765.00	85.57	23.85	-89.65	5,621.49	-798.56	659.49	550.67	108.83	6.060		
11,400.00	5,729.00	6,725.55	5,765.00	87.01	24.72	-89.65	5,721.49	-798.56	659.50	548.33	111.17	5.932		
11,500.00	5,729.00	6,825.55	5,765.00	88.45	25.66	-89.65	5,821.49	-798.57	659.50	545.94	113.56	5.807		
11,600.00	5,729.00	6,925.55	5,765.00	89.89	26.64	-89.65	5,921.49	-798.57	659.50	543.49	116.01	5.685		
11,700.00	5,729.00	7,025.55	5,765.00	91.33	27.67	-89.65	6,021.49	-798.57	659.50	541.01	118.49	5.566		
11,800.00	5,729.00	7,125.55	5,765.00	92.77	28.74	-89.65	6,121.49	-798.58	659.50	538.48	121.02	5.450		
11,900.00	5,729.00	7,225.55	5,765.00	94.22	29.84	-89.65	6,221.49	-798.58	659.50	535.92	123.58	5.337		
12,000.00	5,729.00	7,325.55	5,765.00	95.66	30.98	-89.65	6,321.49	-798.58	659.51	533.33	126.17	5.227		
12,100.00	5,729.00	7,425.55	5,765.00	97.11	32.14	-89.65	6,421.49	-798.58	659.51	530.72	128.79	5.121		
12,200.00	5,729.00	7,525.55	5,765.00	98.55	33.32	-89.65	6,521.49	-798.59	659.51	528.07	131.44	5.018		
12,300.00	5,729.00	7,625.55	5,765.00	100.00	34.53	-89.65	6,621.49	-798.59	659.51	525.41	134.10	4.918		
12,400.00	5,729.00	7,725.55	5,765.00	101.45	35.75	-89.65	6,721.49	-798.59	659.51	522.72	136.79	4.821		
12,500.00	5,729.00	7,825.55	5,765.00	102.90	37.00	-89.65	6,821.49	-798.60	659.51	520.02	139.50	4.728		
12,600.00	5,729.00	7,925.55	5,765.00	104.35	38.26	-89.65	6,921.49	-798.60	659.52	517.30	142.22	4.637		
12,700.00	5,729.00	8,025.55	5,765.00	105.80	39.53	-89.65	7,021.49	-798.60	659.52	514.57	144.95	4.550		
12,800.00	5,729.00	8,125.55	5,765.00	107.25	40.82	-89.65	7,121.49	-798.61	659.52	511.82	147.70	4.465		
12,900.00	5,729.00	8,225.55	5,765.00	108.70	42.12	-89.65	7,221.49	-798.61	659.52	509.06	150.46	4.383		
13,000.00	5,729.00	8,325.55	5,765.00	110.15	43.43	-89.65	7,321.49	-798.61	659.52	506.29	153.23	4.304		
13,100.00	5,729.00	8,425.55	5,765.00	111.60	44.75	-89.65	7,421.49	-798.61	659.53	503.51	156.02	4.227		
13,200.00	5,729.00	8,525.55	5,765.00	113.05	46.08	-89.65	7,521.49	-798.62	659.53	500.72	158.81	4.153		
13,300.00	5,729.00	8,625.55	5,765.00	114.51	47.42	-89.65	7,621.49	-798.62	659.53	497.92	161.61	4.081		
13,400.00	5,729.00	8,725.55	5,765.00	115.96	48.77	-89.65	7,721.49	-798.62	659.53	495.12	164.41	4.011		
13,500.00	5,729.00	8,825.55	5,765.00	117.42	50.12	-89.65	7,821.49	-798.63	659.53	492.30	167.23	3.944		
13,600.00	5,729.00	8,925.55	5,765.00	118.87	51.48	-89.65	7,921.49	-798.63	659.53	489.48	170.05	3.878		
13,700.00	5,729.00	9,025.55	5,765.00	120.32	52.85	-89.65	8,021.49	-798.63	659.54	486.66	172.88	3.815		
13,800.00	5,729.00	9,125.55	5,765.00	121.78	54.22	-89.65	8,121.49	-798.64	659.54	483.83	175.71	3.754		
13,900.00	5,729.00	9,225.55	5,765.00	123.24	55.59	-89.65	8,221.49	-798.64	659.54	480.99	178.55	3.694		
14,000.00	5,729.00	9,325.55	5,765.00	124.69	56.97	-89.65	8,321.49	-798.64	659.54	478.15	181.39	3.636		
14,100.00	5,729.00	9,425.55	5,765.00	126.15	58.36	-89.65	8,421.49	-798.64	659.54	475.30	184.24	3.580		
14,200.00	5,729.00	9,525.55	5,765.00	127.60	59.75	-89.65	8,521.49	-798.65	659.54	472.45	187.09	3.525		
14,300.00	5,729.00	9,625.55	5,765.00	129.06	61.14	-89.65	8,621.49	-798.65	659.55	469.60	189.94	3.472		
14,400.00	5,729.00	9,725.55	5,765.00	130.52	62.54	-89.65	8,721.49	-798.65	659.55	466.74	192.80	3.421		
14,500.00	5,729.00	9,825.55	5,765.00	131.98	63.94	-89.65	8,821.49	-798.66	659.55	463.88	195.67	3.371		
14,600.00	5,729.00	9,925.55	5,765.00	133.43	65.34	-89.65	8,921.49	-798.66	659.55	461.02	198.53	3.322		
14,700.00	5,729.00	10,025.55	5,765.00	134.89	66.75	-89.65	9,021.49	-798.66	659.55	458.15	201.40	3.275		
14,800.00	5,729.00	10,125.55	5,765.00	136.35	68.16	-89.65	9,121.49	-798.67	659.55	455.28	204.27	3.229		
14,900.00	5,729.00	10,225.55	5,765.00	137.81	69.57	-89.65	9,221.49	-798.67	659.56	452.41	207.15	3.184		

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



WOG

Anticollision Report

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Reference Well:	Razor #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design Sec 25-T10N-R58W - Razor #25B-2449 - Hz - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,000.00	5,729.00	10,325.55	5,765.00	139.27	70.98	-89.65	9,321.49	-798.67	659.56	449.53	210.03	3.140	
15,100.00	5,729.00	10,425.55	5,765.00	140.73	72.40	-89.65	9,421.49	-798.67	659.56	446.65	212.91	3.098	
15,200.00	5,729.00	10,525.55	5,765.00	142.19	73.82	-89.65	9,521.49	-798.68	659.56	443.77	215.79	3.057	
15,300.00	5,729.00	10,625.55	5,765.00	143.65	75.24	-89.65	9,621.49	-798.68	659.56	440.89	218.67	3.016	
15,400.00	5,729.00	10,725.55	5,765.00	145.11	76.66	-89.65	9,721.49	-798.68	659.56	438.01	221.56	2.977	
15,500.00	5,729.00	10,825.55	5,765.00	146.57	78.08	-89.65	9,821.49	-798.69	659.57	435.12	224.45	2.939	
15,600.00	5,729.00	10,925.55	5,765.00	148.03	79.51	-89.65	9,921.49	-798.69	659.57	432.23	227.34	2.901	
15,700.00	5,729.00	11,025.55	5,765.00	149.49	80.94	-89.65	10,021.49	-798.69	659.57	429.34	230.23	2.865	
15,800.00	5,729.00	11,125.55	5,765.00	150.95	82.37	-89.65	10,121.49	-798.70	659.57	426.45	233.12	2.829	
15,843.52	5,729.00	11,169.07	5,765.00	151.59	82.99	-89.65	10,165.01	-798.70	659.57	425.19	234.38	2.814	
15,874.95	5,729.00	11,198.51	5,765.00	152.05	83.41	-89.65	10,194.45	-798.70	659.57	424.31	235.26	2.804 ES, SF	



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Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,000.00	5,729.00	5,275.81	5,248.02	52.96	18.41	-41.45	4,617.73	-599.19	1,470.83	1,417.09	53.74	27.369		
9,100.00	5,729.00	5,300.00	5,270.25	54.35	18.47	-42.70	4,627.25	-599.25	1,383.60	1,328.05	55.55	24.907		
9,200.00	5,729.00	5,300.00	5,270.25	55.74	18.47	-42.70	4,627.25	-599.25	1,297.38	1,240.84	56.54	22.945		
9,300.00	5,729.00	5,300.00	5,270.25	57.13	18.47	-42.70	4,627.25	-599.25	1,213.28	1,155.74	57.54	21.086		
9,400.00	5,729.00	5,325.71	5,293.38	58.53	18.53	-44.06	4,638.50	-599.32	1,130.89	1,071.39	59.50	19.005		
9,500.00	5,729.00	5,350.00	5,314.68	59.93	18.58	-45.38	4,650.15	-599.39	1,051.17	989.70	61.47	17.102		
9,600.00	5,729.00	5,350.00	5,314.68	61.34	18.58	-45.38	4,650.15	-599.39	974.28	911.77	62.51	15.585		
9,700.00	5,729.00	5,381.15	5,341.17	62.75	18.65	-47.10	4,666.53	-599.49	900.60	835.79	64.82	13.895		
9,800.00	5,729.00	5,400.00	5,356.71	64.16	18.69	-48.16	4,677.20	-599.56	831.16	764.50	66.66	12.468		
9,900.00	5,729.00	5,431.77	5,382.00	65.57	18.75	-49.96	4,696.43	-599.68	766.48	697.41	69.07	11.098		
10,000.00	5,729.00	5,462.73	5,405.45	66.99	18.80	-51.72	4,716.62	-599.80	707.50	636.05	71.45	9.901		
10,100.00	5,729.00	5,500.00	5,432.05	68.41	18.86	-53.83	4,742.72	-599.96	655.09	580.99	74.10	8.841		
10,200.00	5,729.00	5,550.00	5,464.66	69.83	18.94	-56.58	4,780.59	-600.19	610.23	533.06	77.17	7.908		
10,300.00	5,729.00	5,586.08	5,485.87	71.25	18.98	-58.46	4,809.78	-600.37	573.07	493.42	79.65	7.194		
10,400.00	5,729.00	5,639.42	5,513.40	72.67	19.04	-61.02	4,855.44	-600.65	544.36	461.79	82.58	6.592		
10,500.00	5,729.00	5,700.00	5,538.81	74.10	19.09	-63.51	4,910.39	-600.99	523.70	438.26	85.44	6.129		
10,600.00	5,729.00	5,765.14	5,558.82	75.53	19.14	-65.55	4,972.33	-601.37	510.37	422.32	88.06	5.796		
10,700.00	5,729.00	5,835.48	5,571.57	76.96	19.25	-66.89	5,041.45	-601.79	503.48	413.14	90.34	5.573		
10,772.72	5,729.00	5,888.20	5,574.95	78.00	19.42	-67.26	5,094.05	-602.12	502.06	410.35	91.72	5.474 CC		
10,800.00	5,729.00	5,912.83	5,575.00	78.39	19.53	-67.27	5,118.67	-602.27	502.19	409.99	92.20	5.447		
10,900.00	5,729.00	6,012.83	5,575.00	79.82	20.07	-67.30	5,218.67	-602.88	502.76	408.69	94.06	5.345		
11,000.00	5,729.00	6,112.82	5,575.00	81.26	20.72	-67.33	5,318.66	-603.50	503.32	407.31	96.01	5.243		
11,100.00	5,729.00	6,212.82	5,575.00	82.69	21.45	-67.36	5,418.66	-604.11	503.89	405.86	98.03	5.140		
11,200.00	5,729.00	6,312.82	5,575.00	84.13	22.25	-67.38	5,518.65	-604.72	504.45	404.33	100.12	5.039		
11,300.00	5,729.00	6,412.82	5,575.00	85.57	23.12	-67.41	5,618.65	-605.34	505.02	402.75	102.27	4.938		
11,400.00	5,729.00	6,512.82	5,575.00	87.01	24.05	-67.44	5,718.65	-605.95	505.58	401.10	104.48	4.839		
11,500.00	5,729.00	6,612.81	5,575.00	88.45	25.03	-67.46	5,818.64	-606.57	506.15	399.41	106.74	4.742		
11,600.00	5,729.00	6,712.81	5,575.00	89.89	26.06	-67.49	5,918.64	-607.18	506.71	397.67	109.04	4.647		
11,700.00	5,729.00	6,812.81	5,575.00	91.33	27.12	-67.52	6,018.64	-607.79	507.28	395.89	111.39	4.554		
11,800.00	5,729.00	6,912.81	5,575.00	92.77	28.22	-67.54	6,118.63	-608.41	507.85	394.08	113.77	4.464		
11,900.00	5,729.00	7,012.81	5,575.00	94.22	29.36	-67.57	6,218.63	-609.02	508.41	392.23	116.18	4.376		
12,000.00	5,729.00	7,112.81	5,575.00	95.66	30.52	-67.59	6,318.62	-609.63	508.98	390.35	118.62	4.291		
12,100.00	5,729.00	7,212.80	5,575.00	97.11	31.71	-67.62	6,418.62	-610.25	509.54	388.45	121.09	4.208		
12,200.00	5,729.00	7,312.80	5,575.00	98.55	32.92	-67.65	6,518.62	-610.86	510.11	386.53	123.58	4.128		
12,300.00	5,729.00	7,412.80	5,575.00	100.00	34.15	-67.67	6,618.61	-611.48	510.68	384.58	126.09	4.050		
12,400.00	5,729.00	7,512.80	5,575.00	101.45	35.40	-67.70	6,718.61	-612.09	511.24	382.62	128.63	3.975		
12,500.00	5,729.00	7,612.80	5,575.00	102.90	36.67	-67.72	6,818.61	-612.70	511.81	380.64	131.17	3.902		
12,600.00	5,729.00	7,712.79	5,575.00	104.35	37.95	-67.75	6,918.60	-613.32	512.38	378.64	133.74	3.831		
12,700.00	5,729.00	7,812.79	5,575.00	105.80	39.25	-67.78	7,018.60	-613.93	512.94	376.63	136.32	3.763		
12,800.00	5,729.00	7,912.79	5,575.00	107.25	40.55	-67.80	7,118.59	-614.54	513.51	374.60	138.91	3.697		
12,900.00	5,729.00	8,012.79	5,575.00	108.70	41.87	-67.83	7,218.59	-615.16	514.08	372.57	141.51	3.633		
13,000.00	5,729.00	8,112.79	5,575.00	110.15	43.20	-67.85	7,318.59	-615.77	514.65	370.52	144.13	3.571		
13,100.00	5,729.00	8,212.78	5,575.00	111.60	44.53	-67.88	7,418.58	-616.39	515.21	368.46	146.75	3.511		
13,200.00	5,729.00	8,312.78	5,575.00	113.05	45.88	-67.91	7,518.58	-617.00	515.78	366.40	149.38	3.453		
13,300.00	5,729.00	8,412.78	5,575.00	114.51	47.23	-67.93	7,618.58	-617.61	516.35	364.32	152.03	3.396		
13,400.00	5,729.00	8,512.78	5,575.00	115.96	48.59	-67.96	7,718.57	-618.23	516.92	362.24	154.68	3.342		
13,500.00	5,729.00	8,612.78	5,575.00	117.42	49.96	-67.98	7,818.57	-618.84	517.48	360.15	157.33	3.289		
13,600.00	5,729.00	8,712.78	5,575.00	118.87	51.33	-68.01	7,918.56	-619.45	518.05	358.05	160.00	3.238		
13,700.00	5,729.00	8,812.77	5,575.00	120.32	52.71	-68.03	8,018.56	-620.07	518.62	355.95	162.67	3.188		
13,800.00	5,729.00	8,912.77	5,575.00	121.78	54.09	-68.06	8,118.56	-620.68	519.19	353.84	165.35	3.140		
13,900.00	5,729.00	9,012.77	5,575.00	123.24	55.48	-68.08	8,218.55	-621.30	519.76	351.73	168.03	3.093		
14,000.00	5,729.00	9,112.77	5,575.00	124.69	56.87	-68.11	8,318.55	-621.91	520.32	349.61	170.72	3.048		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design Sec 25-T10N-R58W - Razor #25B-2450 - Hz - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
14,100.00	5,729.00	9,212.77	5,575.00	126.15	58.26	-68.13	8,418.55	-622.52	520.89	347.48	173.41	3.004	
14,200.00	5,729.00	9,312.76	5,575.00	127.60	59.66	-68.16	8,518.54	-623.14	521.46	345.35	176.11	2.961	
14,300.00	5,729.00	9,412.76	5,575.00	129.06	61.06	-68.18	8,618.54	-623.75	522.03	343.22	178.81	2.919	
14,400.00	5,729.00	9,512.76	5,575.00	130.52	62.47	-68.21	8,718.53	-624.36	522.60	341.08	181.52	2.879	
14,500.00	5,729.00	9,612.76	5,575.00	131.98	63.88	-68.23	8,818.53	-624.98	523.17	338.94	184.23	2.840	
14,600.00	5,729.00	9,712.76	5,575.00	133.43	65.29	-68.26	8,918.53	-625.59	523.74	336.79	186.94	2.802	
14,700.00	5,729.00	9,812.75	5,575.00	134.89	66.71	-68.28	9,018.52	-626.21	524.30	334.64	189.66	2.764	
14,800.00	5,729.00	9,912.75	5,575.00	136.35	68.12	-68.31	9,118.52	-626.82	524.87	332.49	192.38	2.728	
14,900.00	5,729.00	10,012.75	5,575.00	137.81	69.54	-68.33	9,218.52	-627.43	525.44	330.34	195.11	2.693	
15,000.00	5,729.00	10,112.75	5,575.00	139.27	70.96	-68.36	9,318.51	-628.05	526.01	328.18	197.83	2.659	
15,100.00	5,729.00	10,212.75	5,575.00	140.73	72.39	-68.38	9,418.51	-628.66	526.58	326.02	200.56	2.626	
15,200.00	5,729.00	10,312.75	5,575.00	142.19	73.81	-68.41	9,518.50	-629.27	527.15	323.85	203.30	2.593	
15,300.00	5,729.00	10,412.74	5,575.00	143.65	75.24	-68.43	9,618.50	-629.89	527.72	321.69	206.03	2.561	
15,400.00	5,729.00	10,512.74	5,575.00	145.11	76.67	-68.46	9,718.50	-630.50	528.29	319.52	208.77	2.530	
15,500.00	5,729.00	10,612.74	5,575.00	146.57	78.10	-68.48	9,818.49	-631.12	528.86	317.35	211.51	2.500	
15,600.00	5,729.00	10,712.74	5,575.00	148.03	79.53	-68.50	9,918.49	-631.73	529.43	315.17	214.26	2.471	
15,700.00	5,729.00	10,812.74	5,575.00	149.49	80.96	-68.53	10,018.49	-632.34	530.00	313.00	217.00	2.442	
15,800.00	5,729.00	10,912.73	5,575.00	150.95	82.40	-68.55	10,118.48	-632.96	530.57	310.82	219.75	2.414	
15,874.95	5,729.00	10,987.68	5,575.00	152.05	83.47	-68.57	10,193.43	-633.42	531.00	309.18	221.81	2.394 ES, SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
8,800.00	5,729.00	5,468.99	5,453.08	50.21	18.42	-46.22	4,598.49	-468.77	1,545.96	1,491.07	54.89	28.167		
8,900.00	5,729.00	5,474.62	5,458.58	51.58	18.43	-46.73	4,599.70	-468.77	1,450.68	1,394.46	56.22	25.805		
9,000.00	5,729.00	5,480.85	5,464.66	52.96	18.45	-47.29	4,601.10	-468.77	1,355.98	1,298.38	57.60	23.540		
9,100.00	5,729.00	5,500.00	5,483.20	54.35	18.50	-49.08	4,605.88	-468.77	1,262.19	1,202.43	59.75	21.124		
9,200.00	5,729.00	5,500.00	5,483.20	55.74	18.50	-49.08	4,605.88	-468.77	1,168.86	1,108.02	60.84	19.213		
9,300.00	5,729.00	5,500.00	5,483.20	57.13	18.50	-49.08	4,605.88	-468.77	1,076.74	1,014.81	61.93	17.387		
9,400.00	5,729.00	5,500.00	5,483.20	58.53	18.50	-49.08	4,605.88	-468.77	986.15	923.13	63.02	15.648		
9,500.00	5,729.00	5,525.39	5,507.49	59.93	18.57	-51.58	4,613.25	-468.77	896.63	830.91	65.72	13.643		
9,600.00	5,729.00	5,550.00	5,530.67	61.34	18.64	-54.14	4,621.52	-468.77	809.64	741.19	68.45	11.828		
9,700.00	5,729.00	5,550.00	5,530.67	62.75	18.64	-54.14	4,621.52	-468.77	724.92	655.30	69.62	10.412		
9,800.00	5,729.00	5,571.08	5,550.20	64.16	18.69	-56.43	4,629.46	-468.77	643.89	571.68	72.21	8.917		
9,900.00	5,729.00	5,600.00	5,576.42	65.57	18.76	-59.71	4,641.63	-468.77	567.71	492.37	75.34	7.535		
10,000.00	5,729.00	5,617.25	5,591.74	66.99	18.80	-61.74	4,649.58	-468.77	497.75	420.04	77.71	6.405		
10,100.00	5,729.00	5,650.00	5,620.04	68.41	18.88	-65.69	4,666.04	-468.77	436.68	355.66	81.02	5.390		
10,200.00	5,729.00	5,685.84	5,649.76	69.83	18.96	-70.12	4,686.06	-468.77	387.30	302.97	84.33	4.593		
10,300.00	5,729.00	5,733.23	5,686.82	71.25	19.05	-76.00	4,715.57	-468.77	352.57	264.79	87.78	4.016		
10,400.00	5,729.00	5,793.04	5,729.50	72.67	19.16	-83.17	4,757.42	-468.77	334.00	243.18	90.82	3.678		
10,485.00	5,729.00	5,856.08	5,768.99	73.89	19.25	-90.00	4,806.51	-468.77	329.71	237.11	92.59	3.561 CC		
10,500.00	5,729.00	5,868.52	5,776.07	74.10	19.27	-91.23	4,816.74	-468.77	329.82	237.01	92.81	3.554		
10,600.00	5,729.00	5,962.13	5,821.14	75.53	19.37	-98.99	4,898.63	-468.78	334.59	241.10	93.49	3.579		
10,700.00	5,729.00	6,072.99	5,854.57	76.96	19.50	-104.55	5,004.12	-468.78	341.08	247.38	93.70	3.640		
10,800.00	5,729.00	6,191.07	5,865.00	78.39	20.02	-106.23	5,121.50	-468.78	343.40	248.46	94.94	3.617		
10,900.00	5,729.00	6,291.07	5,865.00	79.82	20.56	-106.23	5,221.50	-468.78	343.40	246.57	96.83	3.546		
11,000.00	5,729.00	6,391.07	5,865.00	81.26	21.19	-106.23	5,321.50	-468.79	343.41	244.60	98.80	3.476		
11,100.00	5,729.00	6,491.07	5,865.00	82.69	21.90	-106.23	5,421.50	-468.79	343.41	242.55	100.86	3.405		
11,200.00	5,729.00	6,591.07	5,865.00	84.13	22.68	-106.23	5,521.50	-468.79	343.41	240.42	102.98	3.335		
11,300.00	5,729.00	6,691.07	5,865.00	85.57	23.52	-106.23	5,621.50	-468.80	343.41	238.23	105.18	3.265		
11,400.00	5,729.00	6,791.07	5,865.00	87.01	24.43	-106.23	5,721.50	-468.80	343.41	235.98	107.43	3.197		
11,500.00	5,729.00	6,891.07	5,865.00	88.45	25.38	-106.23	5,821.50	-468.80	343.41	233.67	109.74	3.129		
11,600.00	5,729.00	6,991.07	5,865.00	89.89	26.39	-106.23	5,921.50	-468.80	343.41	231.32	112.10	3.064		
11,700.00	5,729.00	7,091.07	5,865.00	91.33	27.43	-106.23	6,021.50	-468.81	343.41	228.92	114.49	2.999		
11,800.00	5,729.00	7,191.07	5,865.00	92.77	28.52	-106.23	6,121.50	-468.81	343.42	226.48	116.93	2.937		
11,900.00	5,729.00	7,291.07	5,865.00	94.22	29.63	-106.23	6,221.50	-468.81	343.42	224.02	119.40	2.876		
12,000.00	5,729.00	7,391.07	5,865.00	95.66	30.78	-106.23	6,321.50	-468.81	343.42	221.52	121.90	2.817		
12,100.00	5,729.00	7,491.07	5,865.00	97.11	31.95	-106.23	6,421.50	-468.82	343.42	218.99	124.43	2.760		
12,200.00	5,729.00	7,591.07	5,865.00	98.55	33.15	-106.23	6,521.50	-468.82	343.42	216.44	126.98	2.705		
12,300.00	5,729.00	7,691.07	5,865.00	100.00	34.36	-106.23	6,621.50	-468.82	343.42	213.87	129.55	2.651		
12,400.00	5,729.00	7,791.07	5,865.00	101.45	35.60	-106.23	6,721.50	-468.82	343.42	211.28	132.15	2.599		
12,500.00	5,729.00	7,891.07	5,865.00	102.90	36.85	-106.23	6,821.50	-468.83	343.43	208.67	134.76	2.549		
12,600.00	5,729.00	7,991.07	5,865.00	104.35	38.12	-106.23	6,921.50	-468.83	343.43	206.05	137.38	2.500		
12,700.00	5,729.00	8,091.07	5,865.00	105.80	39.41	-106.23	7,021.50	-468.83	343.43	203.41	140.02	2.453		
12,800.00	5,729.00	8,191.07	5,865.00	107.25	40.70	-106.23	7,121.50	-468.84	343.43	200.75	142.67	2.407		
12,900.00	5,729.00	8,291.07	5,865.00	108.70	42.01	-106.23	7,221.50	-468.84	343.43	198.09	145.34	2.363		
13,000.00	5,729.00	8,391.07	5,865.00	110.15	43.33	-106.23	7,321.50	-468.84	343.43	195.42	148.02	2.320		
13,100.00	5,729.00	8,491.07	5,865.00	111.60	44.66	-106.23	7,421.50	-468.84	343.43	192.73	150.70	2.279		
13,200.00	5,729.00	8,591.07	5,865.00	113.05	45.99	-106.23	7,521.50	-468.85	343.43	190.04	153.40	2.239		
13,300.00	5,729.00	8,691.07	5,865.00	114.51	47.34	-106.23	7,621.50	-468.85	343.44	187.34	156.10	2.200		
13,400.00	5,729.00	8,791.07	5,865.00	115.96	48.69	-106.23	7,721.50	-468.85	343.44	184.63	158.81	2.163		
13,500.00	5,729.00	8,891.07	5,865.00	117.42	50.05	-106.23	7,821.50	-468.85	343.44	181.91	161.53	2.126		
13,600.00	5,729.00	8,991.07	5,865.00	118.87	51.41	-106.23	7,921.50	-468.86	343.44	179.19	164.25	2.091		
13,700.00	5,729.00	9,091.07	5,865.00	120.32	52.78	-106.23	8,021.50	-468.86	343.44	176.46	166.98	2.057		
13,800.00	5,729.00	9,191.07	5,865.00	121.78	54.16	-106.23	8,121.50	-468.86	343.44	173.73	169.72	2.024		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
13,900.00	5,729.00	9,291.07	5,865.00	123.24	55.54	-106.23	8,221.50	-468.86	343.44	170.99	172.46	1.991		
14,000.00	5,729.00	9,391.07	5,865.00	124.69	56.93	-106.23	8,321.50	-468.87	343.45	168.24	175.20	1.960		
14,100.00	5,729.00	9,491.07	5,865.00	126.15	58.31	-106.23	8,421.50	-468.87	343.45	165.49	177.95	1.930		
14,200.00	5,729.00	9,591.07	5,865.00	127.60	59.71	-106.23	8,521.50	-468.87	343.45	162.74	180.71	1.901		
14,300.00	5,729.00	9,691.07	5,865.00	129.06	61.11	-106.23	8,621.50	-468.88	343.45	159.98	183.46	1.872		
14,400.00	5,729.00	9,791.07	5,865.00	130.52	62.51	-106.23	8,721.50	-468.88	343.45	157.22	186.23	1.844		
14,500.00	5,729.00	9,891.07	5,865.00	131.98	63.91	-106.23	8,821.50	-468.88	343.45	154.46	188.99	1.817		
14,600.00	5,729.00	9,991.07	5,865.00	133.43	65.32	-106.23	8,921.50	-468.88	343.45	151.69	191.76	1.791		
14,700.00	5,729.00	10,091.07	5,865.00	134.89	66.73	-106.23	9,021.50	-468.89	343.45	148.92	194.53	1.766		
14,800.00	5,729.00	10,191.07	5,865.00	136.35	68.14	-106.23	9,121.50	-468.89	343.46	146.15	197.30	1.741		
14,900.00	5,729.00	10,291.07	5,865.00	137.81	69.55	-106.23	9,221.50	-468.89	343.46	143.38	200.08	1.717		
15,000.00	5,729.00	10,391.07	5,865.00	139.27	70.97	-106.23	9,321.50	-468.89	343.46	140.60	202.86	1.693		
15,100.00	5,729.00	10,491.07	5,865.00	140.73	72.39	-106.23	9,421.50	-468.90	343.46	137.82	205.64	1.670		
15,200.00	5,729.00	10,591.07	5,865.00	142.19	73.81	-106.23	9,521.50	-468.90	343.46	135.04	208.43	1.648		
15,300.00	5,729.00	10,691.07	5,865.00	143.65	75.23	-106.23	9,621.50	-468.90	343.46	132.25	211.21	1.626		
15,400.00	5,729.00	10,791.07	5,865.00	145.11	76.66	-106.23	9,721.50	-468.91	343.46	129.46	214.00	1.605		
15,500.00	5,729.00	10,891.07	5,865.00	146.57	78.09	-106.23	9,821.50	-468.91	343.46	126.68	216.79	1.584		
15,600.00	5,729.00	10,991.07	5,865.00	148.03	79.51	-106.23	9,921.50	-468.91	343.47	123.89	219.58	1.564		
15,700.00	5,729.00	11,091.07	5,865.00	149.49	80.94	-106.23	10,021.50	-468.91	343.47	121.09	222.37	1.545		
15,800.00	5,729.00	11,191.07	5,865.00	150.95	82.38	-106.23	10,121.50	-468.92	343.47	118.30	225.17	1.525		
15,843.91	5,729.00	11,234.98	5,865.00	151.59	83.00	-106.23	10,165.41	-468.92	343.47	117.07	226.40	1.517		
15,874.95	5,729.00	11,265.03	5,865.00	152.05	83.43	-106.23	10,195.46	-468.92	343.47	116.22	227.25	1.511 ES, SF		



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 505-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
4,500.00	4,492.61	10,183.00	5,760.90	14.67	120.12	-53.08	320.42	-785.92	1,474.72	1,355.75	118.97	12.396		
4,600.00	4,592.61	10,183.00	5,760.90	14.95	120.12	-53.08	320.42	-785.92	1,392.20	1,272.94	119.26	11.674		
4,700.00	4,692.61	10,183.00	5,760.90	15.24	120.12	-53.08	320.42	-785.92	1,312.11	1,192.57	119.54	10.976		
4,800.00	4,792.61	10,183.00	5,760.90	15.53	120.12	-53.08	320.42	-785.92	1,234.93	1,115.10	119.83	10.306		
4,900.00	4,892.61	10,183.00	5,760.90	15.82	120.12	-53.08	320.42	-785.92	1,161.24	1,041.12	120.12	9.667		
5,000.00	4,992.61	10,183.00	5,760.90	16.11	120.12	-53.08	320.42	-785.92	1,091.74	971.33	120.41	9.067		
5,100.00	5,092.61	10,183.00	5,760.90	16.41	120.12	-53.08	320.42	-785.92	1,027.29	906.58	120.71	8.510		
5,200.00	5,192.61	10,183.00	5,760.90	16.70	120.12	-53.08	320.42	-785.92	968.89	847.88	121.00	8.007		
5,300.00	5,292.24	10,183.00	5,760.90	16.99	120.12	-58.08	320.42	-785.92	914.27	788.01	126.26	7.241		
5,400.00	5,388.78	10,183.00	5,760.90	17.27	120.12	-64.48	320.42	-785.92	858.94	727.51	131.42	6.536		
5,500.00	5,478.68	10,183.00	5,760.90	17.52	120.12	-71.03	320.42	-785.92	804.84	669.82	135.03	5.961		
5,600.00	5,558.63	10,183.00	5,760.90	17.75	120.12	-77.20	320.42	-785.92	754.45	617.46	136.99	5.507		
5,700.00	5,625.71	10,183.00	5,760.90	17.95	120.12	-82.49	320.42	-785.92	710.59	572.87	137.71	5.160		
5,800.00	5,677.45	10,183.00	5,760.90	18.16	120.12	-86.50	320.42	-785.92	676.27	538.44	137.83	4.907		
5,900.00	5,711.93	10,183.00	5,760.90	18.48	120.12	-88.97	320.42	-785.92	654.35	516.44	137.91	4.745		
5,998.74	5,727.83	10,183.00	5,760.90	18.89	120.12	-89.79	320.42	-785.92	646.91	508.69	138.22	4.680 CC		
6,000.00	5,727.91	10,183.00	5,760.90	18.90	120.12	-89.79	320.42	-785.92	646.92	508.69	138.23	4.680 ES, SF		
6,100.00	5,729.00	10,121.71	5,761.30	19.39	118.51	-89.73	381.60	-789.67	651.89	514.81	137.08	4.755		
6,200.00	5,729.00	10,020.55	5,761.76	19.97	115.84	-89.77	482.56	-795.82	657.96	523.00	134.96	4.875		
6,300.00	5,729.00	9,889.02	5,760.02	20.65	112.37	-89.62	613.96	-801.25	662.30	530.18	132.12	5.013		
6,400.00	5,729.00	9,793.00	5,759.46	21.41	109.89	-89.57	709.97	-802.02	663.12	532.75	130.38	5.086		
6,500.00	5,729.00	9,702.00	5,760.88	22.24	107.54	-89.70	800.93	-803.88	665.20	536.38	128.82	5.164		
6,600.00	5,729.00	9,611.00	5,763.08	23.13	105.19	-89.89	891.83	-807.53	669.18	541.86	127.31	5.256		
6,700.00	5,729.00	9,533.75	5,765.05	24.08	103.22	-90.06	968.91	-812.25	675.29	549.04	126.24	5.349		
6,800.00	5,729.00	9,444.47	5,767.97	25.08	100.93	-90.30	1,057.80	-820.04	684.00	559.12	124.88	5.477		
6,900.00	5,729.00	9,357.48	5,770.25	26.12	98.68	-90.49	1,144.31	-828.85	694.16	570.56	123.60	5.616		
7,000.00	5,729.00	9,248.62	5,770.64	27.20	95.82	-90.51	1,252.52	-840.63	705.02	583.29	121.73	5.791		
7,100.00	5,729.00	9,126.64	5,769.96	28.32	92.71	-90.45	1,374.13	-850.04	712.61	592.96	119.65	5.956		
7,200.00	5,729.00	9,034.37	5,771.14	29.47	90.40	-90.54	1,466.15	-856.71	719.85	601.42	118.43	6.078		
7,300.00	5,729.00	8,940.92	5,773.34	30.65	88.03	-90.71	1,559.27	-864.18	727.87	610.72	117.15	6.213		
7,400.00	5,729.00	8,846.25	5,774.40	31.85	85.60	-90.78	1,653.54	-872.84	737.02	621.20	115.82	6.364		
7,500.00	5,729.00	8,732.90	5,773.02	33.07	82.67	-90.66	1,766.46	-882.48	745.54	631.53	114.01	6.539		
7,600.00	5,729.00	8,616.72	5,772.01	34.32	79.72	-90.58	1,882.41	-889.71	751.74	639.53	112.21	6.699		
7,700.00	5,729.00	8,517.33	5,770.59	35.58	77.23	-90.47	1,981.66	-894.82	756.87	645.96	110.90	6.825		
7,800.00	5,729.00	8,397.84	5,768.92	36.85	74.18	-90.34	2,101.03	-899.69	760.95	651.91	109.04	6.979		
7,900.00	5,729.00	8,284.35	5,767.11	38.14	71.33	-90.20	2,214.50	-901.37	762.37	654.97	107.39	7.099		
8,000.00	5,729.00	8,176.74	5,766.60	39.45	68.69	-90.17	2,322.10	-902.03	763.00	657.02	105.98	7.200		
8,054.53	5,729.00	8,122.94	5,767.38	40.16	67.39	-90.22	2,375.89	-901.87	762.84	657.49	105.36	7.241		
8,100.00	5,729.00	8,084.31	5,768.45	40.76	66.48	-90.30	2,414.51	-902.05	763.06	658.05	105.00	7.267		
8,200.00	5,729.00	8,003.55	5,771.69	42.09	64.53	-90.55	2,495.18	-903.70	765.14	660.86	104.28	7.337		
8,300.00	5,729.00	7,915.08	5,774.83	43.42	62.37	-90.78	2,583.51	-907.68	769.65	666.32	103.33	7.448		
8,400.00	5,729.00	7,831.03	5,775.81	44.76	60.33	-90.85	2,667.42	-912.30	775.23	672.73	102.50	7.563		
8,500.00	5,729.00	7,740.95	5,775.36	46.11	58.18	-90.80	2,757.19	-919.84	783.52	681.97	101.55	7.716		
8,600.00	5,729.00	7,639.76	5,775.40	47.47	55.87	-90.80	2,858.08	-927.48	791.06	690.65	100.41	7.878		
8,700.00	5,729.00	7,550.36	5,775.36	48.84	53.88	-90.79	2,947.13	-935.34	799.83	700.21	99.62	8.029		
8,800.00	5,729.00	7,448.52	5,775.81	50.21	51.59	-90.81	3,048.53	-944.92	809.25	710.80	98.46	8.219		
8,900.00	5,729.00	7,357.34	5,776.43	51.58	49.55	-90.85	3,139.31	-953.27	818.45	720.90	97.54	8.390		
9,000.00	5,729.00	7,258.76	5,774.96	52.96	47.43	-90.73	3,237.34	-963.60	828.91	732.36	96.54	8.586		
9,100.00	5,729.00	7,159.46	5,772.73	54.35	45.42	-90.57	3,336.11	-973.59	838.94	743.31	95.64	8.772		
9,200.00	5,729.00	7,055.42	5,771.60	55.74	43.31	-90.49	3,439.62	-984.00	848.94	754.38	94.55	8.979		
9,300.00	5,729.00	6,947.99	5,771.56	57.13	41.20	-90.48	3,546.60	-993.84	858.09	764.66	93.43	9.184		
9,400.00	5,729.00	6,845.53	5,771.89	58.53	39.33	-90.50	3,648.68	-1,002.66	866.71	774.14	92.57	9.363		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Sec 25-T10N-R58W - Razor #25B-2549 - Hz - Hz		Offset Site Error:		0.00 usft
Survey Program:		505-MWD											Offset Well Error:		0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor					
9,500.00	5,729.00	6,733.92	5,773.10	59.93	37.42	-90.57	3,759.93	-1,011.43	874.59	782.92	91.67	9.541					
9,600.00	5,729.00	6,624.09	5,776.47	61.34	35.66	-90.79	3,869.49	-1,018.26	880.82	789.89	90.94	9.686					
9,700.00	5,729.00	6,474.35	5,785.07	62.75	33.24	-91.34	4,018.87	-1,023.24	884.43	795.16	89.28	9.907					
9,800.00	5,729.00	6,319.00	5,788.08	64.16	30.94	-91.54	4,174.10	-1,019.16	881.99	794.16	87.83	10.042					
9,900.00	5,729.00	6,225.56	5,786.67	65.57	29.73	-91.46	4,267.38	-1,013.87	876.30	788.56	87.73	9.988					
10,000.00	5,729.00	6,100.15	5,776.30	66.99	28.46	-90.79	4,392.04	-1,005.71	869.59	782.05	87.55	9.933					
10,100.00	5,729.00	6,056.32	5,768.71	68.41	28.14	-90.29	4,435.14	-1,003.77	864.83	776.28	88.55	9.767					
10,122.75	5,729.00	6,044.69	5,766.18	68.73	28.07	-90.12	4,446.49	-1,003.68	864.62	775.85	88.77	9.740					
10,200.00	5,729.00	5,992.47	5,752.08	69.83	27.82	-89.18	4,496.73	-1,004.54	865.92	776.48	89.44	9.682					
10,300.00	5,729.00	5,848.00	5,690.71	71.25	27.36	-85.12	4,627.26	-1,002.40	866.49	776.52	89.97	9.631					
10,316.80	5,729.00	5,835.00	5,683.91	71.49	27.32	-84.67	4,638.31	-1,001.68	866.36	776.22	90.14	9.612					
10,400.00	5,729.00	5,803.81	5,665.38	72.67	27.25	-83.44	4,663.35	-1,000.49	869.04	777.94	91.11	9.539					
10,500.00	5,729.00	5,772.43	5,643.72	74.10	27.20	-82.02	4,686.03	-1,000.28	880.11	787.84	92.28	9.538					
10,600.00	5,729.00	5,744.46	5,622.61	75.53	27.19	-80.66	4,704.36	-1,000.75	899.86	806.44	93.43	9.632					
10,700.00	5,729.00	5,727.00	5,608.86	76.96	27.18	-79.78	4,715.09	-1,001.46	928.33	833.69	94.65	9.808					
10,800.00	5,729.00	5,697.00	5,584.50	78.39	27.21	-78.25	4,732.43	-1,003.77	965.12	869.42	95.70	10.085					
10,900.00	5,729.00	5,669.56	5,561.80	79.82	27.26	-76.86	4,747.59	-1,006.64	1,009.12	912.30	96.82	10.422					
11,000.00	5,729.00	5,536.99	5,449.73	81.26	27.34	-70.15	4,817.69	-1,010.62	1,054.73	958.64	96.09	10.976					
11,100.00	5,729.00	5,513.00	5,427.99	82.69	27.30	-68.85	4,827.65	-1,008.77	1,105.54	1,008.65	96.89	11.410					
11,200.00	5,729.00	5,502.17	5,417.98	84.13	27.28	-68.26	4,831.67	-1,007.81	1,162.15	1,064.19	97.96	11.864					
11,300.00	5,729.00	5,483.00	5,399.96	85.57	27.23	-67.20	4,837.99	-1,006.13	1,224.14	1,125.36	98.78	12.393					
11,400.00	5,729.00	5,483.00	5,399.96	87.01	27.23	-67.20	4,837.99	-1,006.13	1,290.43	1,190.32	100.12	12.889					
11,500.00	5,729.00	5,483.00	5,399.96	88.45	27.23	-67.20	4,837.99	-1,006.13	1,360.85	1,259.40	101.46	13.413					
11,600.00	5,729.00	5,470.66	5,388.18	89.89	27.20	-66.52	4,841.52	-1,005.09	1,434.54	1,332.12	102.42	14.007					
11,700.00	5,729.00	5,465.26	5,382.99	91.33	27.18	-66.22	4,842.92	-1,004.65	1,511.21	1,407.63	103.58	14.589					



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	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		
4,200.00	4,192.61	10,560.57	5,575.00	13.83	70.21	-43.50	288.45	-569.94	1,481.20	1,414.46	66.73	22.196		
4,300.00	4,292.61	10,560.57	5,575.00	14.11	70.21	-43.50	288.45	-569.94	1,391.21	1,324.20	67.01	20.761		
4,400.00	4,392.61	10,560.57	5,575.00	14.39	70.21	-43.50	288.45	-569.94	1,302.68	1,235.39	67.29	19.359		
4,500.00	4,492.61	10,560.57	5,575.00	14.67	70.21	-43.50	288.45	-569.94	1,215.94	1,148.36	67.57	17.994		
4,600.00	4,592.61	10,560.57	5,575.00	14.95	70.21	-43.50	288.45	-569.94	1,131.38	1,063.52	67.86	16.672		
4,700.00	4,692.61	10,560.57	5,575.00	15.24	70.21	-43.50	288.45	-569.94	1,049.55	981.40	68.15	15.401		
4,800.00	4,792.61	10,560.57	5,575.00	15.53	70.21	-43.50	288.45	-569.94	971.12	902.68	68.44	14.190		
4,900.00	4,892.61	10,560.57	5,575.00	15.82	70.21	-43.50	288.45	-569.94	896.99	828.26	68.73	13.051		
5,000.00	4,992.61	10,560.57	5,575.00	16.11	70.21	-43.50	288.45	-569.94	828.32	759.30	69.02	12.001		
5,100.00	5,092.61	10,560.57	5,575.00	16.41	70.21	-43.50	288.45	-569.94	766.57	697.25	69.32	11.059		
5,200.00	5,192.61	10,560.57	5,575.00	16.70	70.21	-43.50	288.45	-569.94	713.55	643.94	69.61	10.250		
5,300.00	5,292.24	10,560.57	5,575.00	16.99	70.21	-46.98	288.45	-569.94	666.85	594.09	72.76	9.165		
5,400.00	5,388.78	10,560.57	5,575.00	17.27	70.21	-51.33	288.45	-569.94	620.47	544.38	76.10	8.154		
5,500.00	5,478.68	10,560.57	5,575.00	17.52	70.21	-55.69	288.45	-569.94	576.21	497.31	78.89	7.303		
5,600.00	5,558.63	10,560.57	5,575.00	17.75	70.21	-59.73	288.45	-569.94	536.40	455.33	81.07	6.616		
5,700.00	5,625.71	10,560.57	5,575.00	17.95	70.21	-63.07	288.45	-569.94	503.74	421.10	82.63	6.096		
5,800.00	5,677.45	10,560.57	5,575.00	18.16	70.21	-65.39	288.45	-569.94	480.97	397.35	83.62	5.752		
5,900.00	5,711.93	10,560.57	5,575.00	18.48	70.21	-66.46	288.45	-569.94	470.42	386.34	84.08	5.595		
5,927.35	5,718.18	10,560.57	5,575.00	18.60	70.21	-66.51	288.45	-569.94	469.86	385.74	84.12	5.586	CC, ES, SF	
6,000.00	5,727.91	10,537.19	5,575.00	18.90	69.88	-66.02	311.82	-570.47	472.72	389.08	83.64	5.652		
6,100.00	5,729.00	10,437.23	5,575.00	19.39	68.47	-65.90	411.75	-572.72	475.22	392.62	82.60	5.753		
6,200.00	5,729.00	10,337.26	5,575.00	19.97	67.05	-66.01	511.70	-574.97	477.27	395.40	81.88	5.829		
6,300.00	5,729.00	10,237.29	5,575.00	20.65	65.64	-66.12	611.65	-577.22	479.33	398.10	81.23	5.901		
6,400.00	5,729.00	10,137.31	5,575.00	21.41	64.23	-66.23	711.60	-579.47	481.39	400.73	80.66	5.968		
6,500.00	5,729.00	10,037.34	5,575.00	22.24	62.82	-66.34	811.54	-581.72	483.45	403.29	80.16	6.031		
6,600.00	5,729.00	9,937.36	5,575.00	23.13	61.42	-66.44	911.49	-583.97	485.51	405.79	79.72	6.090		
6,700.00	5,729.00	9,837.39	5,575.00	24.08	60.02	-66.55	1,011.44	-586.22	487.57	408.24	79.33	6.146		
6,800.00	5,729.00	9,737.41	5,575.00	25.08	58.63	-66.65	1,111.39	-588.47	489.64	410.64	78.99	6.198		
6,900.00	5,729.00	9,637.44	5,575.00	26.12	57.23	-66.76	1,211.34	-590.72	491.70	413.00	78.70	6.248		
7,000.00	5,729.00	9,537.46	5,575.00	27.20	55.85	-66.86	1,311.29	-592.97	493.77	415.32	78.45	6.294		
7,100.00	5,729.00	9,437.49	5,575.00	28.32	54.46	-66.96	1,411.24	-595.22	495.84	417.61	78.23	6.338		
7,200.00	5,729.00	9,337.51	5,575.00	29.47	53.09	-67.06	1,511.19	-597.47	497.91	419.86	78.05	6.379		
7,300.00	5,729.00	9,237.54	5,575.00	30.65	51.71	-67.16	1,611.14	-599.72	499.98	422.08	77.90	6.418		
7,400.00	5,729.00	9,137.56	5,575.00	31.85	50.35	-67.26	1,711.09	-601.97	502.06	424.28	77.78	6.455		
7,500.00	5,729.00	9,037.59	5,575.00	33.07	48.99	-67.36	1,811.04	-604.23	504.13	426.45	77.68	6.490		
7,600.00	5,729.00	8,937.61	5,575.00	34.32	47.63	-67.46	1,910.99	-606.48	506.21	428.60	77.61	6.523		
7,700.00	5,729.00	8,837.64	5,575.00	35.58	46.29	-67.56	2,010.94	-608.73	508.29	430.73	77.56	6.553		
7,800.00	5,729.00	8,737.66	5,575.00	36.85	44.95	-67.65	2,110.89	-610.98	510.37	432.84	77.53	6.582		
7,900.00	5,729.00	8,637.69	5,575.00	38.14	43.62	-67.75	2,210.84	-613.23	512.45	434.92	77.53	6.610		
8,000.00	5,729.00	8,537.72	5,575.00	39.45	42.30	-67.85	2,310.79	-615.48	514.54	436.99	77.55	6.635		
8,100.00	5,729.00	8,437.74	5,575.00	40.76	40.99	-67.94	2,410.73	-617.73	516.62	439.04	77.58	6.659		
8,200.00	5,729.00	8,337.77	5,575.00	42.09	39.69	-68.03	2,510.68	-619.98	518.71	441.06	77.64	6.681		
8,300.00	5,729.00	8,237.79	5,575.00	43.42	38.41	-68.13	2,610.63	-622.23	520.79	443.07	77.72	6.701		
8,400.00	5,729.00	8,137.82	5,575.00	44.76	37.14	-68.22	2,710.58	-624.48	522.88	445.06	77.82	6.719		
8,500.00	5,729.00	8,037.84	5,575.00	46.11	35.88	-68.31	2,810.53	-626.73	524.97	447.03	77.94	6.735		
8,600.00	5,729.00	7,937.87	5,575.00	47.47	34.64	-68.40	2,910.48	-628.98	527.06	448.98	78.09	6.750		
8,700.00	5,729.00	7,837.89	5,575.00	48.84	33.42	-68.49	3,010.43	-631.23	529.15	450.90	78.26	6.762		
8,800.00	5,729.00	7,737.92	5,575.00	50.21	32.22	-68.58	3,110.38	-633.48	531.25	452.80	78.45	6.772		
8,900.00	5,729.00	7,637.94	5,575.00	51.58	31.05	-68.67	3,210.33	-635.73	533.34	454.67	78.67	6.779		
9,000.00	5,729.00	7,537.97	5,575.00	52.96	29.89	-68.75	3,310.28	-637.98	535.44	456.51	78.93	6.784		
9,100.00	5,729.00	7,437.99	5,575.00	54.35	28.77	-68.84	3,410.23	-640.23	537.54	458.33	79.21	6.786		
9,200.00	5,729.00	7,338.02	5,575.00	55.74	27.68	-68.93	3,510.18	-642.48	539.64	460.11	79.53	6.785		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
9,300.00	5,729.00	7,238.04	5,575.00	57.13	26.63	-69.01	3,610.13	-644.73	541.74	461.85	79.89	6.781	
9,400.00	5,729.00	7,138.07	5,575.00	58.53	25.61	-69.10	3,710.08	-646.98	543.84	463.55	80.29	6.774	
9,500.00	5,729.00	7,038.10	5,575.00	59.93	24.64	-69.18	3,810.03	-649.23	545.94	465.20	80.74	6.762	
9,600.00	5,729.00	6,938.12	5,575.00	61.34	23.72	-69.26	3,909.98	-651.48	548.04	466.81	81.23	6.746	
9,700.00	5,729.00	6,838.15	5,575.00	62.75	22.85	-69.35	4,009.92	-653.73	550.15	468.36	81.79	6.726	
9,800.00	5,729.00	6,738.17	5,575.00	64.16	22.04	-69.43	4,109.87	-655.99	552.25	469.84	82.41	6.701	
9,900.00	5,729.00	6,638.20	5,575.00	65.57	21.30	-69.51	4,209.82	-658.24	554.36	471.26	83.10	6.671	
10,000.00	5,729.00	6,538.22	5,575.00	66.99	20.63	-69.59	4,309.77	-660.49	556.47	472.60	83.87	6.635	
10,100.00	5,729.00	6,438.25	5,575.00	68.41	20.03	-69.67	4,409.72	-662.74	558.58	473.86	84.72	6.594	
10,200.00	5,729.00	6,338.27	5,575.00	69.83	19.55	-69.75	4,509.67	-664.99	560.69	475.03	85.65	6.546	
10,300.00	5,729.00	6,238.30	5,575.00	71.25	19.47	-69.83	4,609.62	-667.24	562.80	476.11	86.69	6.492	
10,400.00	5,729.00	6,138.32	5,575.00	72.67	19.59	-69.91	4,709.57	-669.49	564.91	477.09	87.82	6.432	
10,500.00	5,729.00	6,038.35	5,575.00	74.10	19.75	-69.99	4,809.52	-671.74	567.02	477.96	89.06	6.367	
10,600.00	5,729.00	5,950.00	5,574.78	75.53	19.92	-70.04	4,897.84	-673.73	569.33	478.95	90.38	6.299	
10,700.00	5,729.00	5,873.82	5,566.97	76.96	20.07	-69.36	4,973.53	-675.43	575.15	483.69	91.46	6.288	
10,800.00	5,729.00	5,800.00	5,548.96	78.39	20.23	-67.75	5,045.04	-677.04	586.24	494.14	92.10	6.365	
10,900.00	5,729.00	5,750.00	5,531.09	79.82	20.33	-66.18	5,091.71	-678.09	603.32	510.64	92.67	6.510	
11,000.00	5,729.00	5,684.99	5,501.32	81.26	20.45	-63.65	5,149.44	-679.39	627.06	534.44	92.62	6.771	
11,100.00	5,729.00	5,634.56	5,473.42	82.69	20.54	-61.36	5,191.40	-680.34	658.24	565.72	92.53	7.114	
11,200.00	5,729.00	5,600.00	5,452.00	84.13	20.60	-59.67	5,218.52	-680.95	697.08	604.39	92.68	7.521	
11,300.00	5,729.00	5,550.00	5,417.95	85.57	20.67	-57.10	5,255.10	-681.77	742.97	650.89	92.09	8.068	
11,400.00	5,729.00	5,518.56	5,394.80	87.01	20.71	-55.44	5,276.36	-682.25	795.75	703.73	92.02	8.647	
11,500.00	5,729.00	5,500.00	5,380.55	88.45	20.73	-54.44	5,288.24	-682.52	854.75	762.33	92.42	9.248	
11,600.00	5,729.00	5,450.00	5,340.14	89.89	20.77	-51.76	5,317.65	-683.18	919.03	827.75	91.28	10.068	
11,700.00	5,729.00	5,450.00	5,340.14	91.33	20.77	-51.76	5,317.65	-683.18	987.61	895.16	92.45	10.683	
11,800.00	5,729.00	5,422.06	5,316.39	92.77	20.78	-50.26	5,332.36	-683.51	1,060.20	967.99	92.21	11.497	
11,900.00	5,729.00	5,400.00	5,297.10	94.22	20.79	-49.09	5,343.05	-683.75	1,136.24	1,044.02	92.22	12.321	
12,000.00	5,729.00	5,400.00	5,297.10	95.66	20.79	-49.09	5,343.05	-683.75	1,215.21	1,121.85	93.36	13.017	
12,100.00	5,729.00	5,375.33	5,275.02	97.11	20.79	-47.81	5,354.04	-684.00	1,296.32	1,203.16	93.16	13.915	
12,200.00	5,729.00	5,350.00	5,251.82	98.55	20.80	-46.51	5,364.22	-684.23	1,379.85	1,286.97	92.88	14.856	
12,300.00	5,729.00	5,350.00	5,251.82	100.00	20.80	-46.51	5,364.22	-684.23	1,464.73	1,370.75	93.99	15.585	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 413-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
4,400.00	4,392.61	10,245.00	5,833.68	14.39	119.56	-23.91	320.69	-354.58	1,502.97	1,431.42	71.55	21.007		
4,500.00	4,492.61	10,245.00	5,833.68	14.67	119.56	-23.91	320.69	-354.58	1,409.89	1,338.06	71.83	19.627		
4,600.00	4,592.61	10,245.00	5,833.68	14.95	119.56	-23.91	320.69	-354.58	1,317.82	1,245.70	72.12	18.272		
4,700.00	4,692.61	10,245.00	5,833.68	15.24	119.56	-23.91	320.69	-354.58	1,227.00	1,154.58	72.41	16.944		
4,800.00	4,792.61	10,245.00	5,833.68	15.53	119.56	-23.91	320.69	-354.58	1,137.71	1,065.00	72.71	15.648		
4,900.00	4,892.61	10,245.00	5,833.68	15.82	119.56	-23.91	320.69	-354.58	1,050.36	977.36	73.00	14.388		
5,000.00	4,992.61	10,245.00	5,833.68	16.11	119.56	-23.91	320.69	-354.58	965.46	892.16	73.30	13.172		
5,100.00	5,092.61	10,245.00	5,833.68	16.41	119.56	-23.91	320.69	-354.58	883.73	810.14	73.60	12.008		
5,200.00	5,192.61	10,245.00	5,833.68	16.70	119.56	-23.91	320.69	-354.58	806.13	732.24	73.89	10.909		
5,300.00	5,292.24	10,245.00	5,833.68	16.99	119.56	-28.84	320.69	-354.58	729.72	646.57	83.14	8.776		
5,400.00	5,388.78	10,245.00	5,833.68	17.27	119.56	-37.22	320.69	-354.58	648.31	551.26	97.05	6.680		
5,500.00	5,478.68	10,245.00	5,833.68	17.52	119.56	-49.39	320.69	-354.58	563.20	450.11	113.09	4.980		
5,600.00	5,558.63	10,245.00	5,833.68	17.75	119.56	-65.51	320.69	-354.58	476.39	347.29	129.10	3.690		
5,700.00	5,625.71	10,245.00	5,833.68	17.95	119.56	-82.83	320.69	-354.58	391.00	253.98	137.02	2.854		
5,800.00	5,677.45	10,245.00	5,833.68	18.16	119.56	-96.84	320.69	-354.58	312.59	176.30	136.29	2.294		
5,900.00	5,711.93	10,245.00	5,833.68	18.48	119.56	-105.23	320.69	-354.58	251.94	118.75	133.20	1.891		
6,000.00	5,727.91	10,242.88	5,833.65	18.90	119.50	-108.02	322.82	-354.58	226.76	94.58	132.18	1.716 ES, SF		
6,100.00	5,729.00	10,143.58	5,832.59	19.39	116.93	-107.57	422.10	-354.41	225.93	95.40	130.53	1.731		
6,136.23	5,729.00	10,107.95	5,832.72	19.60	116.02	-107.61	457.74	-354.31	225.88	96.05	129.83	1.740 CC		
6,200.00	5,729.00	10,044.80	5,833.57	19.97	114.41	-107.82	520.88	-354.17	226.00	97.49	128.51	1.759		
6,300.00	5,729.00	9,945.85	5,833.90	20.65	111.89	-108.41	619.80	-353.85	226.42	100.06	126.37	1.792		
6,400.00	5,729.00	9,846.80	5,839.85	21.41	109.29	-109.36	718.77	-353.68	227.56	103.55	124.01	1.835		
6,500.00	5,729.00	9,747.81	5,843.65	22.24	106.66	-110.27	817.68	-353.61	228.79	107.10	121.70	1.880		
6,600.00	5,729.00	9,649.03	5,844.63	23.13	104.10	-110.34	916.45	-355.47	230.90	110.85	120.05	1.923		
6,700.00	5,729.00	9,548.57	5,847.77	24.08	101.49	-110.97	1,016.84	-356.56	233.01	114.97	118.04	1.974		
6,800.00	5,729.00	9,447.38	5,851.44	25.08	98.76	-111.76	1,117.96	-357.09	234.82	118.95	115.87	2.027		
6,900.00	5,729.00	9,344.43	5,850.13	26.12	96.03	-111.32	1,220.88	-358.64	235.76	121.21	114.55	2.058		
7,000.00	5,729.00	9,243.06	5,846.81	27.20	93.46	-110.47	1,322.18	-359.85	235.71	122.04	113.67	2.074		
7,050.87	5,729.00	9,193.60	5,845.73	27.77	92.23	-110.19	1,371.63	-360.26	235.72	122.51	113.20	2.082		
7,100.00	5,729.00	9,154.00	5,844.99	28.32	91.25	-109.97	1,411.22	-360.77	236.16	123.25	112.91	2.092		
7,200.00	5,729.00	9,062.00	5,845.64	29.47	88.88	-109.77	1,503.09	-365.02	240.86	129.01	111.84	2.154		
7,300.00	5,729.00	8,971.37	5,846.95	30.65	86.47	-109.36	1,593.25	-374.02	250.67	139.78	110.88	2.261		
7,400.00	5,729.00	8,857.66	5,847.83	31.85	83.53	-108.93	1,706.63	-382.25	257.57	148.13	109.43	2.354		
7,500.00	5,729.00	8,774.47	5,849.50	33.07	81.39	-108.75	1,789.46	-389.66	266.62	157.99	108.62	2.454		
7,600.00	5,729.00	8,684.33	5,850.38	34.32	79.02	-108.05	1,878.60	-402.88	280.81	172.92	107.89	2.603		
7,700.00	5,729.00	8,572.58	5,851.07	35.58	76.07	-107.31	1,989.42	-417.14	293.06	186.48	106.59	2.749		
7,800.00	5,729.00	8,472.52	5,850.33	36.85	73.48	-106.51	2,088.77	-429.00	304.20	198.53	105.67	2.879		
7,900.00	5,729.00	8,358.32	5,850.44	38.14	70.52	-105.97	2,202.44	-439.75	313.36	209.10	104.26	3.005		
8,000.00	5,729.00	8,252.61	5,852.69	39.45	67.70	-106.14	2,308.04	-444.12	317.89	215.21	102.68	3.096		
8,100.00	5,729.00	8,150.96	5,852.06	40.76	65.05	-105.81	2,409.57	-448.51	321.87	220.38	101.49	3.172		
8,200.00	5,729.00	8,045.94	5,847.86	42.09	62.49	-104.90	2,514.42	-452.74	324.69	224.04	100.65	3.226		
8,300.00	5,729.00	7,948.84	5,845.79	43.42	60.21	-104.40	2,611.45	-455.97	327.37	227.46	99.90	3.277		
8,400.00	5,729.00	7,850.26	5,845.11	44.76	57.78	-104.14	2,709.95	-459.46	330.63	231.72	98.92	3.343		
8,500.00	5,729.00	7,749.28	5,843.96	46.11	55.27	-103.78	2,810.85	-463.54	334.28	236.40	97.88	3.415		
8,600.00	5,729.00	7,644.70	5,843.65	47.47	52.64	-103.62	2,915.40	-466.05	336.52	239.87	96.66	3.482		
8,700.00	5,729.00	7,546.44	5,843.34	48.84	50.15	-103.49	3,013.64	-468.04	338.42	242.85	95.57	3.541		
8,800.00	5,729.00	7,447.21	5,842.55	50.21	47.68	-103.25	3,112.82	-470.91	341.05	246.52	94.53	3.608		
8,900.00	5,729.00	7,359.37	5,841.30	51.58	45.53	-102.91	3,200.57	-474.46	344.75	250.92	93.83	3.674		
9,000.00	5,729.00	7,266.51	5,838.96	52.96	43.33	-102.25	3,293.06	-482.41	352.51	259.33	93.18	3.783		
9,100.00	5,729.00	7,164.44	5,836.64	54.35	41.13	-101.60	3,394.73	-491.03	360.31	267.80	92.52	3.895		
9,200.00	5,729.00	7,065.29	5,838.81	55.74	38.95	-101.71	3,493.60	-498.08	367.72	276.08	91.63	4.013		
9,300.00	5,729.00	6,961.87	5,840.18	57.13	36.53	-101.69	3,596.75	-505.39	374.92	284.41	90.51	4.142		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 413-MWD												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
9,400.00	5,729.00	6,852.46	5,838.48	58.53	34.20	-101.24	3,705.96	-511.76	380.32	290.67	89.64	4.242	
9,500.00	5,729.00	6,746.47	5,837.95	59.93	32.09	-101.07	3,811.89	-514.88	383.07	294.14	88.93	4.307	
9,600.00	5,729.00	6,649.34	5,837.66	61.34	30.26	-100.94	3,908.96	-518.13	386.29	297.79	88.50	4.365	
9,700.00	5,729.00	6,549.98	5,837.58	62.75	28.44	-100.84	4,008.28	-521.13	389.24	301.17	88.07	4.420	
9,800.00	5,729.00	6,452.69	5,837.49	64.16	26.62	-100.72	4,105.49	-525.11	393.24	305.63	87.61	4.489	
9,900.00	5,729.00	6,349.75	5,836.43	65.57	24.83	-100.46	4,208.33	-529.26	397.01	309.79	87.22	4.552	
10,000.00	5,729.00	6,242.17	5,833.14	66.99	23.23	-99.91	4,315.81	-532.58	399.52	312.38	87.13	4.585	
10,100.00	5,729.00	6,143.32	5,826.14	68.41	22.00	-98.85	4,414.33	-535.49	401.27	313.79	87.48	4.587	
10,200.00	5,729.00	6,037.57	5,806.83	69.83	21.07	-96.06	4,518.15	-538.56	401.76	313.36	88.40	4.545	
10,300.00	5,729.00	5,940.00	5,789.14	71.25	20.66	-90.67	4,607.95	-542.28	403.47	313.71	89.76	4.495	
10,400.00	5,729.00	5,873.50	5,735.92	72.67	20.57	-86.00	4,665.35	-546.18	411.96	321.08	90.88	4.533	
10,500.00	5,729.00	5,791.56	5,684.42	74.10	20.58	-79.00	4,728.81	-550.57	429.33	338.04	91.29	4.703	
10,600.00	5,729.00	5,722.25	5,635.08	75.53	20.63	-72.60	4,777.46	-551.61	455.70	364.59	91.11	5.002	
10,700.00	5,729.00	5,676.54	5,600.34	76.96	20.67	-68.32	4,807.14	-551.81	493.18	402.30	90.88	5.427	
10,800.00	5,729.00	5,631.30	5,563.81	78.39	20.72	-64.09	4,833.81	-552.07	541.83	451.65	90.18	6.008	
10,900.00	5,729.00	5,582.03	5,523.38	79.82	20.80	-59.75	4,861.97	-552.32	598.44	509.50	88.94	6.729	
11,000.00	5,729.00	5,518.90	5,471.37	81.26	20.95	-54.72	4,897.76	-553.23	661.03	574.31	86.72	7.623	
11,100.00	5,729.00	5,481.00	5,440.34	82.69	21.04	-52.01	4,919.50	-553.97	727.44	641.63	85.81	8.478	
11,200.00	5,729.00	5,464.07	5,426.08	84.13	21.08	-50.84	4,928.61	-554.49	799.10	713.10	86.01	9.291	
11,300.00	5,729.00	5,450.00	5,413.84	85.57	21.11	-49.87	4,935.51	-554.96	875.48	789.15	86.32	10.142	
11,400.00	5,729.00	5,450.00	5,413.84	87.01	21.11	-49.87	4,935.51	-554.96	955.86	868.39	87.47	10.928	
11,500.00	5,729.00	5,420.00	5,386.52	88.45	21.14	-47.79	4,947.84	-555.73	1,039.08	952.41	86.67	11.989	
11,600.00	5,729.00	5,420.00	5,386.52	89.89	21.14	-47.79	4,947.84	-555.73	1,124.47	1,036.68	87.79	12.809	
11,700.00	5,729.00	5,420.00	5,386.52	91.33	21.14	-47.79	4,947.84	-555.73	1,212.09	1,123.18	88.91	13.633	
11,800.00	5,729.00	5,420.00	5,386.52	92.77	21.14	-47.79	4,947.84	-555.73	1,301.50	1,211.47	90.02	14.457	
11,900.00	5,729.00	5,420.00	5,386.52	94.22	21.14	-47.79	4,947.84	-555.73	1,392.35	1,301.20	91.14	15.277	
12,000.00	5,729.00	5,420.00	5,386.52	95.66	21.14	-47.79	4,947.84	-555.73	1,484.37	1,392.11	92.26	16.089	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	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	-0.87	50.60	-0.77	50.61					
100.00	100.00	100.00	100.00	0.13	0.13	-0.87	50.60	-0.77	50.61	50.34	0.27	190.008		
200.00	200.00	200.00	200.00	0.47	0.47	-0.87	50.60	-0.77	50.61	49.67	0.94	53.802		
300.00	300.00	300.00	300.00	0.81	0.81	-0.87	50.60	-0.77	50.61	48.99	1.61	31.338		
400.00	399.98	401.13	401.11	1.11	1.12	138.87	49.46	-2.14	50.81	48.58	2.23	22.765		
500.00	499.84	502.24	502.08	1.42	1.43	138.10	46.02	-6.24	51.44	48.61	2.83	18.160		
600.00	599.59	603.28	602.71	1.73	1.76	135.52	40.29	-13.05	51.24	47.77	3.47	14.764		
700.00	699.35	703.20	702.09	2.06	2.10	131.38	33.58	-21.05	50.27	46.13	4.13	12.157		
800.00	799.11	803.13	801.47	2.40	2.45	127.11	26.87	-29.06	49.56	44.75	4.82	10.286		
900.00	898.86	903.06	900.85	2.74	2.81	122.73	20.15	-37.06	49.15	43.63	5.52	8.907		
993.76	992.40	996.75	994.03	3.07	3.15	118.58	13.86	-44.56	49.02	42.83	6.18	7.927 CC		
1,000.00	998.62	1,002.99	1,000.23	3.09	3.17	118.31	13.44	-45.06	49.02	42.79	6.23	7.870		
1,100.00	1,098.38	1,102.92	1,099.61	3.44	3.54	113.89	6.72	-53.06	49.18	42.23	6.95	7.079		
1,200.00	1,198.13	1,202.84	1,198.99	3.79	3.91	109.52	0.01	-61.06	49.64	41.96	7.67	6.469		
1,300.00	1,297.89	1,302.77	1,298.37	4.14	4.28	105.26	-6.70	-69.06	50.37	41.97	8.40	5.995		
1,400.00	1,397.65	1,402.70	1,397.75	4.49	4.65	101.14	-13.42	-77.07	51.38	42.25	9.13	5.626		
1,500.00	1,497.40	1,502.63	1,497.13	4.85	5.02	97.20	-20.13	-85.07	52.64	42.78	9.86	5.337		
1,600.00	1,597.16	1,602.56	1,596.52	5.20	5.39	93.46	-26.85	-93.07	54.14	43.55	10.59	5.112		
1,700.00	1,696.91	1,702.48	1,695.90	5.56	5.77	89.94	-33.56	-101.07	55.86	44.54	11.32	4.935		
1,800.00	1,796.67	1,802.41	1,795.28	5.91	6.14	86.64	-40.27	-109.07	57.78	45.74	12.04	4.798		
1,900.00	1,896.43	1,902.34	1,894.66	6.27	6.51	83.56	-46.99	-117.07	59.87	47.11	12.76	4.692		
2,000.00	1,996.18	2,002.27	1,994.04	6.62	6.89	80.69	-53.70	-125.08	62.13	48.65	13.48	4.610		
2,100.00	2,095.94	2,102.20	2,093.42	6.98	7.26	78.03	-60.42	-133.08	64.53	50.34	14.19	4.547		
2,200.00	2,195.70	2,202.12	2,192.80	7.33	7.64	75.57	-67.13	-141.08	67.06	52.16	14.90	4.501		
2,300.00	2,295.45	2,302.05	2,292.18	7.69	8.01	73.29	-73.85	-149.08	69.70	54.10	15.61	4.466		
2,400.00	2,395.21	2,401.98	2,391.56	8.05	8.39	71.18	-80.56	-157.08	72.45	56.14	16.31	4.442		
2,500.00	2,494.97	2,501.91	2,490.94	8.40	8.76	69.22	-87.27	-165.08	75.29	58.27	17.01	4.425		
2,600.00	2,594.72	2,601.84	2,590.32	8.76	9.14	67.41	-93.99	-173.08	78.21	60.49	17.71	4.415		
2,700.00	2,694.48	2,701.76	2,689.70	9.12	9.51	65.74	-100.70	-181.09	81.20	62.79	18.41	4.410		
2,800.00	2,794.23	2,801.69	2,789.08	9.47	9.89	64.18	-107.42	-189.09	84.25	65.14	19.11	4.409		
2,900.00	2,893.99	2,901.62	2,888.46	9.83	10.26	62.73	-114.13	-197.09	87.37	67.56	19.80	4.412		
3,000.00	2,993.75	3,001.55	2,987.84	10.19	10.64	61.38	-120.84	-205.09	90.53	70.03	20.50	4.417		
3,100.00	3,093.50	3,101.48	3,087.22	10.54	11.01	60.13	-127.56	-213.09	93.74	72.55	21.19	4.424		
3,200.00	3,193.26	3,201.40	3,186.61	10.90	11.39	58.95	-134.27	-221.09	97.00	75.11	21.89	4.432		
3,300.00	3,293.02	3,301.33	3,285.99	11.26	11.77	57.86	-140.99	-229.10	100.29	77.71	22.58	4.442		
3,400.00	3,392.77	3,401.26	3,385.37	11.62	12.14	56.83	-147.70	-237.10	103.62	80.35	23.27	4.453		
3,500.00	3,492.63	3,501.11	3,484.67	11.92	12.52	55.18	-154.41	-245.09	107.96	84.08	23.89	4.520		
3,600.00	3,592.61	3,600.72	3,583.73	12.20	12.89	-87.71	-161.10	-253.07	114.50	90.06	24.44	4.685		
3,700.00	3,692.61	3,700.17	3,682.64	12.49	13.27	-91.00	-167.78	-261.03	122.45	97.46	25.00	4.899		
3,800.00	3,792.61	3,799.63	3,781.55	12.75	13.64	-93.88	-174.47	-269.00	130.76	105.23	25.53	5.122		
3,900.00	3,892.61	3,899.08	3,880.46	13.01	14.01	-96.41	-181.15	-276.96	139.35	113.28	26.08	5.344		
4,000.00	3,992.61	3,998.53	3,979.36	13.28	14.39	-98.64	-187.83	-284.92	148.19	121.55	26.64	5.563		
4,100.00	4,092.61	4,098.38	4,078.67	13.55	14.76	-100.63	-194.53	-292.91	157.21	130.01	27.20	5.780		
4,200.00	4,192.61	4,203.21	4,183.13	13.83	15.02	-102.12	-200.15	-299.61	164.54	136.84	27.70	5.940		
4,300.00	4,292.61	4,308.54	4,288.34	14.11	15.29	-102.90	-203.32	-303.38	168.69	140.46	28.23	5.976		
4,400.00	4,392.61	4,412.83	4,392.61	14.39	15.57	-103.08	-204.06	-304.27	169.67	140.87	28.80	5.891		
4,500.00	4,492.61	4,512.83	4,492.61	14.67	15.82	-103.08	-204.06	-304.27	169.67	140.31	29.36	5.779		
4,600.00	4,592.61	4,612.83	4,592.61	14.95	16.08	-103.08	-204.06	-304.27	169.67	139.75	29.92	5.671		
4,700.00	4,692.61	4,712.83	4,692.61	15.24	16.34	-103.08	-204.06	-304.27	169.67	139.19	30.48	5.567		
4,800.00	4,792.61	4,812.83	4,792.61	15.53	16.61	-103.08	-204.06	-304.27	169.67	138.62	31.05	5.465		
4,900.00	4,892.61	4,912.83	4,892.61	15.82	16.88	-103.08	-204.06	-304.27	169.67	138.05	31.62	5.366		
5,000.00	4,992.61	5,012.83	4,992.61	16.11	17.15	-103.08	-204.06	-304.27	169.67	137.47	32.20	5.270		

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 #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	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	5,092.61	5,113.50	5,093.28	16.41	17.42	-103.06	-203.98	-304.27	169.65	136.87	32.78	5.176		
5,200.00	5,192.61	5,219.55	5,198.40	16.70	17.69	-98.85	-191.38	-304.27	167.35	133.90	33.45	5.003		
5,300.00	5,292.24	5,319.18	5,292.93	16.99	17.92	-90.57	-160.38	-304.27	165.27	131.12	34.15	4.840		
5,306.97	5,299.11	5,325.95	5,299.11	17.01	17.93	-89.99	-157.63	-304.27	165.26	131.07	34.20	4.833		
5,400.00	5,388.78	5,414.26	5,376.08	17.27	18.10	-82.41	-114.56	-304.26	166.81	132.03	34.78	4.797		
5,500.00	5,478.68	5,505.55	5,446.82	17.52	18.24	-74.89	-57.04	-304.26	171.47	136.29	35.18	4.874		
5,600.00	5,558.63	5,593.73	5,504.63	17.75	18.35	-68.36	9.41	-304.26	178.28	143.03	35.25	5.058		
5,700.00	5,625.71	5,679.39	5,549.28	17.95	18.42	-62.97	82.40	-304.25	186.10	151.10	35.00	5.318		
5,800.00	5,677.45	5,763.08	5,580.79	18.16	18.49	-58.73	159.83	-304.25	193.86	159.27	34.59	5.604		
5,900.00	5,711.93	5,845.26	5,599.28	18.48	18.59	-55.58	239.82	-304.24	200.69	166.41	34.28	5.854		
6,000.00	5,727.91	5,927.27	5,605.00	18.90	18.85	-53.41	321.55	-304.24	205.93	171.62	34.31	6.001		
6,100.00	5,729.00	6,027.25	5,605.00	19.39	19.33	-53.11	421.52	-304.23	206.57	171.55	35.03	5.898		
6,200.00	5,729.00	6,127.25	5,605.00	19.97	19.91	-53.11	521.52	-304.23	206.57	170.62	35.94	5.747		
6,300.00	5,729.00	6,227.25	5,605.00	20.65	20.58	-53.11	621.52	-304.22	206.56	169.56	37.00	5.583		
6,400.00	5,729.00	6,327.25	5,605.00	21.41	21.33	-53.11	721.52	-304.21	206.56	168.38	38.18	5.410		
6,500.00	5,729.00	6,427.25	5,605.00	22.24	22.15	-53.11	821.52	-304.21	206.55	167.07	39.48	5.232		
6,600.00	5,729.00	6,527.25	5,605.00	23.13	23.04	-53.11	921.52	-304.20	206.54	165.67	40.88	5.053		
6,700.00	5,729.00	6,627.25	5,605.00	24.08	23.98	-53.10	1,021.52	-304.20	206.54	164.17	42.37	4.874		
6,800.00	5,729.00	6,727.25	5,605.00	25.08	24.97	-53.10	1,121.52	-304.19	206.53	162.58	43.95	4.699		
6,900.00	5,729.00	6,827.25	5,605.00	26.12	26.01	-53.10	1,221.52	-304.18	206.53	160.92	45.61	4.528		
7,000.00	5,729.00	6,927.25	5,605.00	27.20	27.08	-53.10	1,321.52	-304.18	206.52	159.19	47.33	4.363		
7,100.00	5,729.00	7,027.25	5,605.00	28.32	28.19	-53.10	1,421.52	-304.17	206.52	157.40	49.11	4.205		
7,200.00	5,729.00	7,127.25	5,605.00	29.47	29.34	-53.10	1,521.52	-304.17	206.51	155.56	50.95	4.053		
7,300.00	5,729.00	7,227.25	5,605.00	30.65	30.51	-53.10	1,621.52	-304.16	206.50	153.67	52.84	3.908		
7,400.00	5,729.00	7,327.25	5,605.00	31.85	31.71	-53.10	1,721.52	-304.15	206.50	151.73	54.77	3.771		
7,500.00	5,729.00	7,427.25	5,605.00	33.07	32.92	-53.10	1,821.52	-304.15	206.49	149.76	56.73	3.640		
7,600.00	5,729.00	7,527.25	5,605.00	34.32	34.16	-53.09	1,921.52	-304.14	206.49	147.75	58.74	3.515		
7,700.00	5,729.00	7,627.25	5,605.00	35.58	35.42	-53.09	2,021.52	-304.14	206.48	145.71	60.77	3.398		
7,800.00	5,729.00	7,727.25	5,605.00	36.85	36.69	-53.09	2,121.52	-304.13	206.47	143.64	62.83	3.286		
7,900.00	5,729.00	7,827.25	5,605.00	38.14	37.98	-53.09	2,221.52	-304.12	206.47	141.55	64.92	3.180		
8,000.00	5,729.00	7,927.25	5,605.00	39.45	39.27	-53.09	2,321.52	-304.12	206.46	139.43	67.04	3.080		
8,100.00	5,729.00	8,027.25	5,605.00	40.76	40.59	-53.09	2,421.52	-304.11	206.46	137.29	69.17	2.985		
8,200.00	5,729.00	8,127.25	5,605.00	42.09	41.91	-53.09	2,521.52	-304.11	206.45	135.13	71.32	2.895		
8,300.00	5,729.00	8,227.25	5,605.00	43.42	43.24	-53.09	2,621.52	-304.10	206.45	132.95	73.49	2.809		
8,400.00	5,729.00	8,327.25	5,605.00	44.76	44.58	-53.08	2,721.52	-304.09	206.44	130.76	75.68	2.728		
8,500.00	5,729.00	8,427.25	5,605.00	46.11	45.93	-53.08	2,821.52	-304.09	206.43	128.55	77.88	2.651		
8,600.00	5,729.00	8,527.25	5,605.00	47.47	47.28	-53.08	2,921.52	-304.08	206.43	126.33	80.09	2.577		
8,700.00	5,729.00	8,627.25	5,605.00	48.84	48.64	-53.08	3,021.52	-304.08	206.42	124.10	82.32	2.507		
8,800.00	5,729.00	8,727.25	5,605.00	50.21	50.01	-53.08	3,121.52	-304.07	206.42	121.86	84.56	2.441		
8,900.00	5,729.00	8,827.25	5,605.00	51.58	51.39	-53.08	3,221.52	-304.06	206.41	119.60	86.81	2.378		
9,000.00	5,729.00	8,927.25	5,605.00	52.96	52.77	-53.08	3,321.52	-304.06	206.40	117.34	89.07	2.317		
9,100.00	5,729.00	9,027.25	5,605.00	54.35	54.15	-53.08	3,421.52	-304.05	206.40	115.06	91.34	2.260		
9,200.00	5,729.00	9,127.25	5,605.00	55.74	55.54	-53.07	3,521.52	-304.05	206.39	112.78	93.61	2.205		
9,300.00	5,729.00	9,227.25	5,605.00	57.13	56.93	-53.07	3,621.52	-304.04	206.39	110.49	95.90	2.152		
9,400.00	5,729.00	9,327.25	5,605.00	58.53	58.33	-53.07	3,721.52	-304.03	206.38	108.19	98.19	2.102		
9,500.00	5,729.00	9,427.25	5,605.00	59.93	59.73	-53.07	3,821.52	-304.03	206.38	105.89	100.49	2.054		
9,600.00	5,729.00	9,527.25	5,605.00	61.34	61.13	-53.07	3,921.52	-304.02	206.37	103.58	102.79	2.008		
9,700.00	5,729.00	9,627.25	5,605.00	62.75	62.54	-53.07	4,021.52	-304.02	206.36	101.26	105.10	1.963		
9,800.00	5,729.00	9,727.25	5,605.00	64.16	63.95	-53.07	4,121.52	-304.01	206.36	98.94	107.42	1.921		
9,900.00	5,729.00	9,827.25	5,605.00	65.57	65.36	-53.07	4,221.52	-304.00	206.35	96.62	109.74	1.880		
10,000.00	5,729.00	9,927.25	5,605.00	66.99	66.77	-53.06	4,321.52	-304.00	206.35	94.28	112.06	1.841		
10,100.00	5,729.00	10,027.25	5,605.00	68.41	68.19	-53.06	4,421.52	-303.99	206.34	91.95	114.39	1.804		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	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	5,729.00	10,127.25	5,605.00	69.83	69.61	-53.06	4,521.52	-303.98	206.33	89.61	116.73	1.768		
10,300.00	5,729.00	10,227.25	5,605.00	71.25	71.03	-53.06	4,621.52	-303.98	206.33	87.26	119.06	1.733		
10,400.00	5,729.00	10,327.25	5,605.00	72.67	72.46	-53.06	4,721.52	-303.97	206.32	84.92	121.41	1.699		
10,500.00	5,729.00	10,427.25	5,605.00	74.10	73.88	-53.06	4,821.52	-303.97	206.32	82.57	123.75	1.667		
10,600.00	5,729.00	10,527.25	5,605.00	75.53	75.31	-53.06	4,921.52	-303.96	206.31	80.21	126.10	1.636		
10,700.00	5,729.00	10,627.25	5,605.00	76.96	76.74	-53.06	5,021.52	-303.95	206.31	77.85	128.45	1.606		
10,800.00	5,729.00	10,727.25	5,605.00	78.39	78.17	-53.05	5,121.52	-303.95	206.30	75.49	130.81	1.577		
10,900.00	5,729.00	10,827.25	5,605.00	79.82	79.60	-53.05	5,221.52	-303.94	206.29	73.13	133.16	1.549		
11,000.00	5,729.00	10,927.25	5,605.00	81.26	81.03	-53.05	5,321.52	-303.94	206.29	70.76	135.52	1.522		
11,100.00	5,729.00	11,027.25	5,605.00	82.69	82.47	-53.05	5,421.52	-303.93	206.28	68.40	137.89	1.496 Level 3		
11,200.00	5,729.00	11,127.25	5,605.00	84.13	83.90	-53.05	5,521.52	-303.92	206.28	66.02	140.25	1.471 Level 3		
11,300.00	5,729.00	11,227.25	5,605.00	85.57	85.34	-53.05	5,621.52	-303.92	206.27	63.65	142.62	1.446 Level 3		
11,400.00	5,729.00	11,327.25	5,605.00	87.01	86.78	-53.05	5,721.52	-303.91	206.26	61.28	144.99	1.423 Level 3		
11,500.00	5,729.00	11,427.25	5,605.00	88.45	88.22	-53.05	5,821.52	-303.91	206.26	58.90	147.36	1.400 Level 3		
11,600.00	5,729.00	11,527.25	5,605.00	89.89	89.66	-53.05	5,921.52	-303.90	206.25	56.52	149.73	1.377 Level 3		
11,700.00	5,729.00	11,627.25	5,605.00	91.33	91.10	-53.04	6,021.52	-303.89	206.25	54.14	152.11	1.356 Level 3		
11,800.00	5,729.00	11,727.25	5,605.00	92.77	92.54	-53.04	6,121.52	-303.89	206.24	51.76	154.48	1.335 Level 3		
11,900.00	5,729.00	11,827.25	5,605.00	94.22	93.99	-53.04	6,221.52	-303.88	206.23	49.37	156.86	1.315 Level 3		
12,000.00	5,729.00	11,927.25	5,605.00	95.66	95.43	-53.04	6,321.52	-303.88	206.23	46.99	159.24	1.295 Level 3		
12,100.00	5,729.00	12,027.25	5,605.00	97.11	96.88	-53.04	6,421.52	-303.87	206.22	44.60	161.63	1.276 Level 3		
12,200.00	5,729.00	12,127.25	5,605.00	98.55	98.32	-53.04	6,521.52	-303.86	206.22	42.21	164.01	1.257 Level 3		
12,300.00	5,729.00	12,227.25	5,605.00	100.00	99.77	-53.04	6,621.52	-303.86	206.21	39.82	166.39	1.239 Level 2		
12,400.00	5,729.00	12,327.25	5,605.00	101.45	101.22	-53.04	6,721.52	-303.85	206.21	37.43	168.78	1.222 Level 2		
12,500.00	5,729.00	12,427.25	5,605.00	102.90	102.67	-53.03	6,821.52	-303.85	206.20	35.03	171.17	1.205 Level 2		
12,600.00	5,729.00	12,527.25	5,605.00	104.35	104.11	-53.03	6,921.52	-303.84	206.19	32.64	173.55	1.188 Level 2		
12,700.00	5,729.00	12,627.25	5,605.00	105.80	105.56	-53.03	7,021.52	-303.83	206.19	30.24	175.94	1.172 Level 2		
12,800.00	5,729.00	12,727.25	5,605.00	107.25	107.01	-53.03	7,121.52	-303.83	206.18	27.85	178.33	1.156 Level 2		
12,900.00	5,729.00	12,827.25	5,605.00	108.70	108.46	-53.03	7,221.52	-303.82	206.18	25.45	180.73	1.141 Level 2		
13,000.00	5,729.00	12,927.25	5,605.00	110.15	109.91	-53.03	7,321.52	-303.82	206.17	23.05	183.12	1.126 Level 2		
13,100.00	5,729.00	13,027.25	5,605.00	111.60	111.37	-53.03	7,421.52	-303.81	206.16	20.65	185.51	1.111 Level 2		
13,200.00	5,729.00	13,127.25	5,605.00	113.05	112.82	-53.03	7,521.52	-303.80	206.16	18.25	187.91	1.097 Level 2		
13,300.00	5,729.00	13,227.25	5,605.00	114.51	114.27	-53.02	7,621.52	-303.80	206.15	15.85	190.30	1.083 Level 2		
13,400.00	5,729.00	13,327.25	5,605.00	115.96	115.72	-53.02	7,721.52	-303.79	206.15	13.45	192.70	1.070 Level 2		
13,500.00	5,729.00	13,427.25	5,605.00	117.42	117.18	-53.02	7,821.52	-303.79	206.14	11.04	195.10	1.057 Level 2		
13,600.00	5,729.00	13,527.25	5,605.00	118.87	118.63	-53.02	7,921.52	-303.78	206.14	8.64	197.50	1.044 Level 2		
13,700.00	5,729.00	13,627.25	5,605.00	120.32	120.09	-53.02	8,021.52	-303.77	206.13	6.24	199.89	1.031 Level 2		
13,800.00	5,729.00	13,727.25	5,605.00	121.78	121.54	-53.02	8,121.52	-303.77	206.12	3.83	202.29	1.019 Level 2		
13,900.00	5,729.00	13,827.25	5,605.00	123.24	123.00	-53.02	8,221.52	-303.76	206.12	1.42	204.69	1.007 Level 2		
14,000.00	5,729.00	13,927.25	5,605.00	124.69	124.45	-53.02	8,321.52	-303.76	206.11	-0.98	207.09	0.995 Level 1		
14,100.00	5,729.00	14,027.25	5,605.00	126.15	125.91	-53.01	8,421.52	-303.75	206.11	-3.39	209.50	0.984 Level 1		
14,200.00	5,729.00	14,127.25	5,605.00	127.60	127.36	-53.01	8,521.52	-303.74	206.10	-5.80	211.90	0.973 Level 1		
14,300.00	5,729.00	14,227.25	5,605.00	129.06	128.82	-53.01	8,621.52	-303.74	206.09	-8.21	214.30	0.962 Level 1		
14,400.00	5,729.00	14,327.25	5,605.00	130.52	130.28	-53.01	8,721.52	-303.73	206.09	-10.62	216.70	0.951 Level 1		
14,500.00	5,729.00	14,427.25	5,605.00	131.98	131.74	-53.01	8,821.52	-303.73	206.08	-13.03	219.11	0.941 Level 1		
14,600.00	5,729.00	14,527.25	5,605.00	133.43	133.19	-53.01	8,921.52	-303.72	206.08	-15.44	221.51	0.930 Level 1		
14,700.00	5,729.00	14,627.25	5,605.00	134.89	134.65	-53.01	9,021.52	-303.71	206.07	-17.85	223.92	0.920 Level 1		
14,800.00	5,729.00	14,727.25	5,605.00	136.35	136.11	-53.01	9,121.52	-303.71	206.07	-20.26	226.32	0.910 Level 1		
14,900.00	5,729.00	14,827.25	5,605.00	137.81	137.57	-53.00	9,221.52	-303.70	206.06	-22.67	228.73	0.901 Level 1		
15,000.00	5,729.00	14,927.25	5,605.00	139.27	139.03	-53.00	9,321.52	-303.70	206.05	-25.08	231.14	0.891 Level 1		
15,100.00	5,729.00	15,027.25	5,605.00	140.73	140.49	-53.00	9,421.52	-303.69	206.05	-27.50	233.54	0.882 Level 1		
15,200.00	5,729.00	15,127.25	5,605.00	142.19	141.95	-53.00	9,521.52	-303.68	206.04	-29.91	235.95	0.873 Level 1		
15,300.00	5,729.00	15,227.25	5,605.00	143.65	143.41	-53.00	9,621.52	-303.68	206.04	-32.32	238.36	0.864 Level 1		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design											Sec 25-T10N-R58W - Razor #25O-2410 - Hz - APD		Offset Site Error:		0.00 usft
Survey Program:											0-MWD+IFR1+MS+sag		Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
15,400.00	5,729.00	15,327.25	5,605.00	145.11	144.87	-53.00	9,721.52	-303.67	206.03	-34.74	240.77	0.856	Level 1		
15,500.00	5,729.00	15,427.25	5,605.00	146.57	146.33	-53.00	9,821.52	-303.67	206.02	-37.15	243.18	0.847	Level 1		
15,600.00	5,729.00	15,527.25	5,605.00	148.03	147.79	-53.00	9,921.52	-303.66	206.02	-39.57	245.58	0.839	Level 1		
15,700.00	5,729.00	15,627.25	5,605.00	149.49	149.25	-53.00	10,021.52	-303.65	206.01	-41.98	247.99	0.831	Level 1		
15,800.00	5,729.00	15,727.25	5,605.00	150.95	150.71	-52.99	10,121.52	-303.65	206.01	-44.40	250.40	0.823	Level 1		
15,855.07	5,729.00	15,782.32	5,605.00	151.76	151.51	-52.99	10,176.59	-303.64	206.00	-45.73	251.73	0.818	Level 1		
15,874.95	5,729.00	15,801.18	5,605.00	152.05	151.79	-52.99	10,195.45	-303.64	206.01	-46.19	252.20	0.817	Level 1, ES, SF		



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	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	30.01	50.60	29.22	58.43					
100.00	100.00	100.00	100.00	0.13	0.13	30.01	50.60	29.22	58.43	58.17	0.27	219.392		
200.00	200.00	200.00	200.00	0.47	0.47	30.01	50.60	29.22	58.43	57.49	0.94	62.122		
300.00	300.00	300.00	300.00	0.81	0.81	30.01	50.60	29.22	58.43	56.82	1.61	36.184 CC		
400.00	399.98	401.80	401.78	1.11	1.11	171.16	48.79	29.19	58.61	56.38	2.23	26.312		
500.00	499.84	503.52	503.35	1.42	1.42	174.59	43.38	29.10	59.28	56.46	2.82	21.047		
600.00	599.59	604.17	603.65	1.73	1.74	179.70	34.98	28.95	59.50	56.07	3.43	17.332		
700.00	699.35	704.02	703.12	2.06	2.06	-175.05	26.28	28.80	59.92	55.84	4.07	14.705		
800.00	799.11	803.87	802.59	2.40	2.40	-169.92	17.58	28.65	60.83	56.09	4.73	12.846		
900.00	898.86	903.72	902.06	2.74	2.75	-164.98	8.88	28.50	62.21	56.80	5.41	11.498		
1,000.00	998.62	1,003.57	1,001.52	3.09	3.10	-160.28	0.18	28.34	64.03	57.94	6.10	10.501		
1,100.00	1,098.38	1,103.42	1,100.99	3.44	3.46	-155.88	-8.52	28.19	66.26	59.47	6.80	9.751		
1,200.00	1,198.13	1,203.27	1,200.46	3.79	3.82	-151.78	-17.22	28.04	68.86	61.36	7.50	9.181		
1,300.00	1,297.89	1,303.12	1,299.93	4.14	4.18	-147.99	-25.93	27.89	71.78	63.57	8.21	8.742		
1,400.00	1,397.65	1,402.96	1,399.40	4.49	4.54	-144.52	-34.63	27.74	75.00	66.07	8.93	8.402		
1,500.00	1,497.40	1,502.81	1,498.87	4.85	4.90	-141.34	-43.33	27.58	78.46	68.82	9.64	8.135		
1,600.00	1,597.16	1,602.66	1,598.34	5.20	5.26	-138.44	-52.03	27.43	82.14	71.78	10.36	7.926		
1,700.00	1,696.91	1,702.51	1,697.81	5.56	5.63	-135.79	-60.73	27.28	86.02	74.94	11.09	7.759		
1,800.00	1,796.67	1,802.36	1,797.28	5.91	5.99	-133.38	-69.43	27.13	90.07	78.26	11.81	7.627		
1,900.00	1,896.43	1,902.21	1,896.75	6.27	6.35	-131.17	-78.13	26.98	94.26	81.73	12.53	7.522		
2,000.00	1,996.18	2,002.06	1,996.22	6.62	6.72	-129.16	-86.83	26.82	98.58	85.32	13.25	7.437		
2,100.00	2,095.94	2,101.91	2,095.69	6.98	7.08	-127.32	-95.53	26.67	103.01	89.03	13.98	7.370		
2,200.00	2,195.70	2,201.76	2,195.16	7.33	7.45	-125.63	-104.24	26.52	107.54	92.84	14.70	7.315		
2,300.00	2,295.45	2,301.61	2,294.63	7.69	7.81	-124.07	-112.94	26.37	112.15	96.73	15.42	7.272		
2,400.00	2,395.21	2,401.46	2,394.09	8.05	8.18	-122.65	-121.64	26.22	116.84	100.69	16.14	7.237		
2,500.00	2,494.97	2,501.31	2,493.56	8.40	8.55	-121.33	-130.34	26.07	121.59	104.73	16.87	7.209		
2,600.00	2,594.72	2,601.50	2,593.41	8.76	8.88	-120.31	-138.61	25.92	126.34	108.78	17.56	7.195		
2,700.00	2,694.48	2,702.07	2,693.84	9.12	9.14	-120.72	-143.81	25.83	130.65	112.48	18.17	7.190		
2,800.00	2,794.23	2,802.48	2,794.23	9.47	9.43	-122.58	-145.48	25.80	134.52	115.72	18.81	7.153		
2,900.00	2,893.99	2,902.24	2,893.99	9.83	9.72	-125.01	-145.48	25.80	138.41	118.98	19.43	7.123		
3,000.00	2,993.75	3,001.99	2,993.75	10.19	9.97	-127.30	-145.48	25.80	142.53	122.51	20.03	7.118		
3,100.00	3,093.50	3,101.75	3,093.50	10.54	10.23	-129.46	-145.48	25.80	146.87	126.25	20.62	7.122		
3,200.00	3,193.26	3,201.51	3,193.26	10.90	10.50	-131.50	-145.48	25.80	151.41	130.19	21.22	7.135		
3,300.00	3,293.02	3,301.26	3,293.02	11.26	10.77	-133.41	-145.48	25.80	156.12	134.30	21.82	7.155		
3,400.00	3,392.77	3,401.02	3,392.77	11.62	11.04	-135.22	-145.48	25.80	161.00	138.58	22.42	7.180		
3,500.00	3,492.63	3,500.88	3,492.63	11.92	11.31	-136.55	-145.48	25.80	164.76	141.77	22.99	7.167		
3,600.00	3,592.61	3,600.86	3,592.61	12.20	11.59	83.02	-145.48	25.80	166.03	142.49	23.55	7.052		
3,700.00	3,692.61	3,700.86	3,692.61	12.49	11.88	83.02	-145.48	25.80	166.03	141.91	24.12	6.884		
3,800.00	3,792.61	3,800.86	3,792.61	12.75	12.16	83.02	-145.48	25.80	166.03	141.36	24.67	6.730		
3,900.00	3,892.61	3,900.86	3,892.61	13.01	12.45	83.02	-145.48	25.80	166.03	140.81	25.23	6.582		
4,000.00	3,992.61	4,000.86	3,992.61	13.28	12.74	83.02	-145.48	25.80	166.03	140.25	25.79	6.438		
4,100.00	4,092.61	4,100.86	4,092.61	13.55	13.03	83.02	-145.48	25.80	166.03	139.68	26.36	6.299		
4,200.00	4,192.61	4,200.86	4,192.61	13.83	13.33	83.02	-145.48	25.80	166.03	139.11	26.93	6.166		
4,300.00	4,292.61	4,300.86	4,292.61	14.11	13.62	83.02	-145.48	25.80	166.03	138.53	27.51	6.036		
4,400.00	4,392.61	4,400.86	4,392.61	14.39	13.92	83.02	-145.48	25.80	166.03	137.95	28.09	5.911		
4,500.00	4,492.61	4,500.86	4,492.61	14.67	14.22	83.02	-145.48	25.80	166.03	137.36	28.67	5.791		
4,600.00	4,592.61	4,600.86	4,592.61	14.95	14.52	83.02	-145.48	25.80	166.03	136.77	29.26	5.674		
4,700.00	4,692.61	4,700.86	4,692.61	15.24	14.83	83.02	-145.48	25.80	166.03	136.18	29.86	5.561		
4,800.00	4,792.61	4,800.86	4,792.61	15.53	15.13	83.02	-145.48	25.80	166.03	135.58	30.45	5.452		
4,900.00	4,892.61	4,900.86	4,892.61	15.82	15.44	83.02	-145.48	25.80	166.03	134.98	31.05	5.347		
5,000.00	4,992.61	5,000.86	4,992.61	16.11	15.74	83.02	-145.48	25.80	166.03	134.38	31.65	5.245		
5,100.00	5,092.61	5,097.11	5,088.56	16.41	16.03	80.94	-139.39	25.80	166.93	134.72	32.22	5.181		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	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	5,192.61	5,187.67	5,176.41	16.70	16.27	73.84	-117.89	25.80	172.35	139.65	32.70	5.270		
5,300.00	5,292.24	5,271.21	5,253.04	16.99	16.46	64.30	-84.85	25.80	184.85	151.80	33.05	5.593		
5,400.00	5,388.78	5,350.00	5,319.60	17.27	16.64	56.55	-42.84	25.80	200.34	167.24	33.10	6.053		
5,500.00	5,478.68	5,428.85	5,379.12	17.52	16.82	50.47	8.76	25.81	216.34	183.61	32.74	6.609		
5,600.00	5,558.63	5,500.00	5,425.60	17.75	16.99	46.20	62.56	25.81	231.18	199.17	32.01	7.223		
5,700.00	5,625.71	5,578.60	5,467.90	17.95	17.21	42.92	128.72	25.81	243.45	212.39	31.07	7.836		
5,800.00	5,677.45	5,650.00	5,497.30	18.16	17.43	40.90	193.73	25.81	252.53	222.34	30.19	8.365		
5,900.00	5,711.93	5,724.32	5,518.17	18.48	17.70	39.76	264.99	25.81	257.83	228.17	29.66	8.693		
6,000.00	5,727.91	5,800.00	5,528.79	18.90	18.01	39.51	339.86	25.82	259.14	229.41	29.73	8.716		
6,099.04	5,731.14	5,880.67	5,530.00	19.38	18.38	39.33	420.50	25.82	260.05	229.85	30.20	8.610		
6,100.00	5,729.00	5,881.68	5,530.00	19.39	18.39	39.64	421.51	25.82	258.40	228.12	30.28	8.533		
6,200.00	5,729.00	5,981.68	5,530.00	19.97	18.95	39.64	521.51	25.82	258.40	227.42	30.98	8.342		
6,300.00	5,729.00	6,081.68	5,530.00	20.65	19.60	39.64	621.51	25.83	258.40	226.61	31.79	8.129		
6,400.00	5,729.00	6,181.68	5,530.00	21.41	20.34	39.64	721.51	25.83	258.40	225.70	32.71	7.900		
6,500.00	5,729.00	6,281.68	5,530.00	22.24	21.16	39.64	821.51	25.83	258.41	224.68	33.73	7.661		
6,600.00	5,729.00	6,381.68	5,530.00	23.13	22.04	39.64	921.51	25.84	258.41	223.57	34.84	7.416		
6,700.00	5,729.00	6,481.68	5,530.00	24.08	22.99	39.64	1,021.51	25.84	258.41	222.37	36.04	7.170		
6,800.00	5,729.00	6,581.68	5,530.00	25.08	23.99	39.64	1,121.51	25.84	258.42	221.11	37.31	6.926		
6,900.00	5,729.00	6,681.68	5,530.00	26.12	25.03	39.64	1,221.51	25.85	258.42	219.77	38.65	6.686		
7,000.00	5,729.00	6,781.68	5,530.00	27.20	26.12	39.64	1,321.51	25.85	258.42	218.37	40.05	6.452		
7,100.00	5,729.00	6,881.68	5,530.00	28.32	27.24	39.64	1,421.51	25.85	258.42	216.92	41.51	6.226		
7,200.00	5,729.00	6,981.68	5,530.00	29.47	28.39	39.64	1,521.51	25.85	258.43	215.42	43.01	6.009		
7,300.00	5,729.00	7,081.68	5,530.00	30.65	29.57	39.64	1,621.51	25.86	258.43	213.87	44.56	5.800		
7,400.00	5,729.00	7,181.68	5,530.00	31.85	30.78	39.65	1,721.51	25.86	258.43	212.29	46.15	5.600		
7,500.00	5,729.00	7,281.68	5,530.00	33.07	32.01	39.65	1,821.51	25.86	258.44	210.67	47.77	5.410		
7,600.00	5,729.00	7,381.68	5,530.00	34.32	33.26	39.65	1,921.51	25.87	258.44	209.01	49.43	5.229		
7,700.00	5,729.00	7,481.68	5,530.00	35.58	34.53	39.65	2,021.51	25.87	258.44	207.33	51.11	5.056		
7,800.00	5,729.00	7,581.68	5,530.00	36.85	35.81	39.65	2,121.51	25.87	258.45	205.62	52.83	4.892		
7,900.00	5,729.00	7,681.68	5,530.00	38.14	37.10	39.65	2,221.51	25.88	258.45	203.89	54.56	4.737		
8,000.00	5,729.00	7,781.68	5,530.00	39.45	38.41	39.65	2,321.51	25.88	258.45	202.13	56.32	4.589		
8,100.00	5,729.00	7,881.68	5,530.00	40.76	39.73	39.65	2,421.51	25.88	258.45	200.36	58.10	4.449		
8,200.00	5,729.00	7,981.68	5,530.00	42.09	41.07	39.65	2,521.51	25.89	258.46	198.56	59.89	4.315		
8,300.00	5,729.00	8,081.68	5,530.00	43.42	42.41	39.65	2,621.51	25.89	258.46	196.75	61.71	4.189		
8,400.00	5,729.00	8,181.68	5,530.00	44.76	43.75	39.65	2,721.51	25.89	258.46	194.93	63.53	4.068		
8,500.00	5,729.00	8,281.68	5,530.00	46.11	45.11	39.65	2,821.51	25.90	258.47	193.09	65.37	3.954		
8,600.00	5,729.00	8,381.68	5,530.00	47.47	46.47	39.65	2,921.51	25.90	258.47	191.24	67.23	3.845		
8,700.00	5,729.00	8,481.68	5,530.00	48.84	47.84	39.66	3,021.51	25.90	258.47	189.38	69.09	3.741		
8,800.00	5,729.00	8,581.68	5,530.00	50.21	49.22	39.66	3,121.51	25.91	258.47	187.51	70.97	3.642		
8,900.00	5,729.00	8,681.68	5,530.00	51.58	50.60	39.66	3,221.51	25.91	258.48	185.62	72.85	3.548		
9,000.00	5,729.00	8,781.68	5,530.00	52.96	51.99	39.66	3,321.51	25.91	258.48	183.73	74.75	3.458		
9,100.00	5,729.00	8,881.68	5,530.00	54.35	53.38	39.66	3,421.51	25.92	258.48	181.83	76.65	3.372		
9,200.00	5,729.00	8,981.68	5,530.00	55.74	54.77	39.66	3,521.51	25.92	258.49	179.92	78.56	3.290		
9,300.00	5,729.00	9,081.68	5,530.00	57.13	56.17	39.66	3,621.51	25.92	258.49	178.01	80.48	3.212		
9,400.00	5,729.00	9,181.68	5,530.00	58.53	57.57	39.66	3,721.51	25.93	258.49	176.08	82.41	3.137		
9,500.00	5,729.00	9,281.68	5,530.00	59.93	58.98	39.66	3,821.51	25.93	258.49	174.16	84.34	3.065		
9,600.00	5,729.00	9,381.68	5,530.00	61.34	60.39	39.66	3,921.51	25.93	258.50	172.22	86.28	2.996		
9,700.00	5,729.00	9,481.68	5,530.00	62.75	61.80	39.66	4,021.51	25.94	258.50	170.28	88.22	2.930		
9,800.00	5,729.00	9,581.68	5,530.00	64.16	63.21	39.66	4,121.51	25.94	258.50	168.34	90.17	2.867		
9,900.00	5,729.00	9,681.68	5,530.00	65.57	64.63	39.66	4,221.51	25.94	258.51	166.39	92.12	2.806		
10,000.00	5,729.00	9,781.68	5,530.00	66.99	66.05	39.67	4,321.51	25.95	258.51	164.43	94.08	2.748		
10,100.00	5,729.00	9,881.68	5,530.00	68.41	67.47	39.67	4,421.51	25.95	258.51	162.47	96.04	2.692		
10,200.00	5,729.00	9,981.68	5,530.00	69.83	68.89	39.67	4,521.51	25.95	258.51	160.51	98.01	2.638		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	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	5,729.00	10,081.68	5,530.00	71.25	70.32	39.67	4,621.51	25.96	258.52	158.54	99.98	2.586		
10,400.00	5,729.00	10,181.68	5,530.00	72.67	71.75	39.67	4,721.51	25.96	258.52	156.57	101.95	2.536		
10,500.00	5,729.00	10,281.68	5,530.00	74.10	73.18	39.67	4,821.51	25.96	258.52	154.60	103.93	2.488		
10,600.00	5,729.00	10,381.68	5,530.00	75.53	74.61	39.67	4,921.51	25.97	258.53	152.62	105.91	2.441		
10,700.00	5,729.00	10,481.68	5,530.00	76.96	76.04	39.67	5,021.51	25.97	258.53	150.64	107.89	2.396		
10,800.00	5,729.00	10,581.68	5,530.00	78.39	77.47	39.67	5,121.51	25.97	258.53	148.66	109.87	2.353		
10,900.00	5,729.00	10,681.68	5,530.00	79.82	78.91	39.67	5,221.51	25.97	258.54	146.67	111.86	2.311		
11,000.00	5,729.00	10,781.68	5,530.00	81.26	80.35	39.67	5,321.51	25.98	258.54	144.68	113.85	2.271		
11,100.00	5,729.00	10,881.68	5,530.00	82.69	81.79	39.67	5,421.51	25.98	258.54	142.69	115.85	2.232		
11,200.00	5,729.00	10,981.68	5,530.00	84.13	83.22	39.67	5,521.51	25.98	258.54	140.70	117.84	2.194		
11,300.00	5,729.00	11,081.68	5,530.00	85.57	84.66	39.68	5,621.51	25.99	258.55	138.71	119.84	2.157		
11,400.00	5,729.00	11,181.68	5,530.00	87.01	86.11	39.68	5,721.51	25.99	258.55	136.71	121.84	2.122		
11,500.00	5,729.00	11,281.68	5,530.00	88.45	87.55	39.68	5,821.51	25.99	258.55	134.71	123.84	2.088		
11,600.00	5,729.00	11,381.68	5,530.00	89.89	88.99	39.68	5,921.51	26.00	258.56	132.71	125.85	2.055		
11,700.00	5,729.00	11,481.68	5,530.00	91.33	90.44	39.68	6,021.51	26.00	258.56	130.70	127.85	2.022		
11,800.00	5,729.00	11,581.68	5,530.00	92.77	91.88	39.68	6,121.51	26.00	258.56	128.70	129.86	1.991		
11,900.00	5,729.00	11,681.68	5,530.00	94.22	93.33	39.68	6,221.51	26.01	258.56	126.69	131.87	1.961		
12,000.00	5,729.00	11,781.68	5,530.00	95.66	94.77	39.68	6,321.51	26.01	258.57	124.69	133.88	1.931		
12,100.00	5,729.00	11,881.68	5,530.00	97.11	96.22	39.68	6,421.51	26.01	258.57	122.68	135.89	1.903		
12,200.00	5,729.00	11,981.68	5,530.00	98.55	97.67	39.68	6,521.51	26.02	258.57	120.67	137.91	1.875		
12,300.00	5,729.00	12,081.68	5,530.00	100.00	99.12	39.68	6,621.51	26.02	258.58	118.65	139.92	1.848		
12,400.00	5,729.00	12,181.68	5,530.00	101.45	100.57	39.68	6,721.51	26.02	258.58	116.64	141.94	1.822		
12,500.00	5,729.00	12,281.68	5,530.00	102.90	102.02	39.68	6,821.51	26.03	258.58	114.63	143.96	1.796		
12,600.00	5,729.00	12,381.68	5,530.00	104.35	103.47	39.69	6,921.51	26.03	258.58	112.61	145.97	1.771		
12,700.00	5,729.00	12,481.68	5,530.00	105.80	104.92	39.69	7,021.51	26.03	258.59	110.59	148.00	1.747		
12,800.00	5,729.00	12,581.68	5,530.00	107.25	106.37	39.69	7,121.51	26.04	258.59	108.57	150.02	1.724		
12,900.00	5,729.00	12,681.68	5,530.00	108.70	107.82	39.69	7,221.51	26.04	258.59	106.55	152.04	1.701		
13,000.00	5,729.00	12,781.68	5,530.00	110.15	109.28	39.69	7,321.51	26.04	258.60	104.53	154.06	1.679		
13,100.00	5,729.00	12,881.68	5,530.00	111.60	110.73	39.69	7,421.51	26.05	258.60	102.51	156.09	1.657		
13,200.00	5,729.00	12,981.68	5,530.00	113.05	112.18	39.69	7,521.51	26.05	258.60	100.49	158.11	1.636		
13,300.00	5,729.00	13,081.68	5,530.00	114.51	113.64	39.69	7,621.51	26.05	258.60	98.47	160.14	1.615		
13,400.00	5,729.00	13,181.68	5,530.00	115.96	115.09	39.69	7,721.51	26.06	258.61	96.44	162.17	1.595		
13,500.00	5,729.00	13,281.68	5,530.00	117.42	116.55	39.69	7,821.51	26.06	258.61	94.42	164.19	1.575		
13,600.00	5,729.00	13,381.68	5,530.00	118.87	118.01	39.69	7,921.51	26.06	258.61	92.39	166.22	1.556		
13,700.00	5,729.00	13,481.68	5,530.00	120.32	119.46	39.69	8,021.51	26.07	258.62	90.36	168.25	1.537		
13,800.00	5,729.00	13,581.68	5,530.00	121.78	120.92	39.69	8,121.51	26.07	258.62	88.34	170.28	1.519		
13,900.00	5,729.00	13,681.68	5,530.00	123.24	122.37	39.70	8,221.51	26.07	258.62	86.31	172.31	1.501		
14,000.00	5,729.00	13,781.68	5,530.00	124.69	123.83	39.70	8,321.51	26.08	258.62	84.28	174.35	1.483 Level 3		
14,100.00	5,729.00	13,881.68	5,530.00	126.15	125.29	39.70	8,421.51	26.08	258.63	82.25	176.38	1.466 Level 3		
14,200.00	5,729.00	13,981.68	5,530.00	127.60	126.75	39.70	8,521.51	26.08	258.63	80.22	178.41	1.450 Level 3		
14,300.00	5,729.00	14,081.68	5,530.00	129.06	128.21	39.70	8,621.51	26.09	258.63	78.19	180.45	1.433 Level 3		
14,400.00	5,729.00	14,181.68	5,530.00	130.52	129.66	39.70	8,721.51	26.09	258.64	76.16	182.48	1.417 Level 3		
14,500.00	5,729.00	14,281.68	5,530.00	131.98	131.12	39.70	8,821.51	26.09	258.64	74.12	184.52	1.402 Level 3		
14,600.00	5,729.00	14,381.68	5,530.00	133.43	132.58	39.70	8,921.51	26.10	258.64	72.09	186.55	1.386 Level 3		
14,700.00	5,729.00	14,481.68	5,530.00	134.89	134.04	39.70	9,021.51	26.10	258.65	70.06	188.59	1.371 Level 3		
14,800.00	5,729.00	14,581.68	5,530.00	136.35	135.50	39.70	9,121.51	26.10	258.65	68.02	190.63	1.357 Level 3		
14,900.00	5,729.00	14,681.68	5,530.00	137.81	136.96	39.70	9,221.51	26.10	258.65	65.99	192.66	1.342 Level 3		
15,000.00	5,729.00	14,781.68	5,530.00	139.27	138.42	39.70	9,321.51	26.11	258.65	63.95	194.70	1.328 Level 3		
15,100.00	5,729.00	14,881.68	5,530.00	140.73	139.88	39.70	9,421.51	26.11	258.66	61.92	196.74	1.315 Level 3		
15,200.00	5,729.00	14,981.68	5,530.00	142.19	141.34	39.71	9,521.51	26.11	258.66	59.88	198.78	1.301 Level 3		
15,300.00	5,729.00	15,081.68	5,530.00	143.65	142.80	39.71	9,621.51	26.12	258.66	57.84	200.82	1.288 Level 3		
15,400.00	5,729.00	15,181.68	5,530.00	145.11	144.26	39.71	9,721.51	26.12	258.67	55.80	202.86	1.275 Level 3		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Sec 25-T10N-R58W - Razor #25O-2411 - 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	5,729.00	15,281.68	5,530.00	146.57	145.72	39.71	9,821.51	26.12	258.67	53.77	204.90	1.262	Level 3				
15,600.00	5,729.00	15,381.68	5,530.00	148.03	147.19	39.71	9,921.51	26.13	258.67	51.73	206.94	1.250	Level 2				
15,700.00	5,729.00	15,481.68	5,530.00	149.49	148.65	39.71	10,021.51	26.13	258.67	49.69	208.98	1.238	Level 2				
15,800.00	5,729.00	15,581.68	5,530.00	150.95	150.11	39.71	10,121.51	26.13	258.68	47.65	211.03	1.226	Level 2				
15,874.95	5,729.00	15,656.63	5,530.00	152.05	151.20	39.71	10,196.46	26.14	258.68	46.12	212.56	1.217	Level 2, ES, SF				



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	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	292.443		
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	399.26	399.24	1.11	1.12	-169.52	49.62	60.62	80.06	77.82	2.23	35.832		
500.00	499.84	498.13	497.97	1.42	1.42	-166.84	46.67	64.83	86.68	83.83	2.85	30.375		
600.00	599.59	596.97	596.47	1.73	1.77	-163.14	42.00	71.50	96.24	92.73	3.51	27.421		
700.00	699.35	696.29	695.42	2.06	2.15	-159.87	37.04	78.59	106.32	102.13	4.19	25.355		
800.00	799.11	795.61	794.36	2.40	2.54	-157.17	32.07	85.68	116.69	111.79	4.89	23.847		
900.00	898.86	894.94	893.31	2.74	2.94	-154.92	27.11	92.77	127.27	121.67	5.60	22.717		
1,000.00	998.62	994.26	992.25	3.09	3.35	-153.01	22.14	99.86	138.02	131.70	6.32	21.848		
1,100.00	1,098.38	1,093.59	1,091.20	3.44	3.75	-151.38	17.18	106.95	148.89	141.86	7.04	21.165		
1,200.00	1,198.13	1,192.91	1,190.15	3.79	4.16	-149.97	12.21	114.05	159.88	152.12	7.76	20.615		
1,300.00	1,297.89	1,292.23	1,289.09	4.14	4.58	-148.75	7.25	121.14	170.94	162.46	8.48	20.166		
1,400.00	1,397.65	1,391.56	1,388.04	4.49	4.99	-147.67	2.28	128.23	182.07	172.87	9.20	19.792		
1,500.00	1,497.40	1,490.88	1,486.98	4.85	5.40	-146.72	-2.69	135.32	193.26	183.34	9.92	19.477		
1,600.00	1,597.16	1,590.21	1,585.93	5.20	5.82	-145.87	-7.65	142.41	204.49	193.84	10.65	19.205		
1,700.00	1,696.91	1,689.53	1,684.88	5.56	6.24	-145.11	-12.62	149.50	215.77	204.39	11.37	18.971		
1,800.00	1,796.67	1,788.85	1,783.82	5.91	6.65	-144.42	-17.58	156.59	227.07	214.98	12.10	18.767		
1,900.00	1,896.43	1,888.18	1,882.77	6.27	7.07	-143.80	-22.55	163.68	238.41	225.59	12.83	18.589		
2,000.00	1,996.18	1,987.50	1,981.71	6.62	7.49	-143.24	-27.51	170.77	249.77	236.22	13.55	18.430		
2,100.00	2,095.94	2,086.82	2,080.66	6.98	7.90	-142.73	-32.48	177.87	261.16	246.88	14.28	18.290		
2,200.00	2,195.70	2,186.15	2,179.60	7.33	8.32	-142.26	-37.44	184.96	272.56	257.56	15.01	18.164		
2,300.00	2,295.45	2,285.47	2,278.55	7.69	8.74	-141.82	-42.41	192.05	283.98	268.25	15.73	18.050		
2,400.00	2,395.21	2,384.80	2,377.50	8.05	9.16	-141.42	-47.37	199.14	295.42	278.96	16.46	17.948		
2,500.00	2,494.97	2,484.12	2,476.44	8.40	9.58	-141.05	-52.34	206.23	306.86	289.68	17.19	17.855		
2,600.00	2,594.72	2,583.44	2,575.39	8.76	10.00	-140.71	-57.30	213.32	318.32	300.41	17.91	17.770		
2,700.00	2,694.48	2,682.77	2,674.33	9.12	10.42	-140.39	-62.27	220.41	329.79	311.15	18.64	17.692		
2,800.00	2,794.23	2,782.09	2,773.28	9.47	10.83	-140.09	-67.23	227.50	341.27	321.90	19.37	17.620		
2,900.00	2,893.99	2,881.41	2,872.23	9.83	11.25	-139.81	-72.20	234.59	352.76	332.66	20.10	17.554		
3,000.00	2,993.75	2,980.74	2,971.17	10.19	11.67	-139.55	-77.16	241.69	364.25	343.43	20.82	17.493		
3,100.00	3,093.50	3,080.06	3,070.12	10.54	12.09	-139.31	-82.13	248.78	375.76	354.21	21.55	17.436		
3,200.00	3,193.26	3,179.39	3,169.06	10.90	12.51	-139.08	-87.09	255.87	387.27	364.99	22.28	17.384		
3,300.00	3,293.02	3,278.71	3,268.01	11.26	12.93	-138.86	-92.06	262.96	398.78	375.78	23.00	17.335		
3,400.00	3,392.77	3,378.03	3,366.95	11.62	13.35	-138.65	-97.02	270.05	410.30	386.57	23.73	17.289		
3,500.00	3,492.63	3,477.47	3,466.01	11.92	13.77	-138.44	-102.00	277.15	420.53	396.09	24.44	17.208		
3,600.00	3,592.61	3,577.06	3,565.22	12.20	14.19	82.11	-106.97	284.26	428.19	403.08	25.11	17.054		
3,700.00	3,692.61	3,676.68	3,664.46	12.49	14.61	82.89	-111.95	291.37	434.62	408.86	25.76	16.870		
3,800.00	3,792.61	3,776.30	3,763.70	12.75	15.03	83.65	-116.93	298.48	441.14	414.75	26.39	16.717		
3,900.00	3,892.61	3,875.92	3,862.94	13.01	15.45	84.38	-121.91	305.60	447.73	420.71	27.02	16.572		
4,000.00	3,992.61	3,975.54	3,962.18	13.28	15.87	85.10	-126.89	312.71	454.39	426.75	27.65	16.436		
4,100.00	4,092.61	4,075.16	4,061.42	13.55	16.29	85.79	-131.87	319.82	461.12	432.84	28.28	16.307		
4,200.00	4,192.61	4,174.77	4,160.66	13.83	16.72	86.46	-136.85	326.93	467.92	439.01	28.91	16.185		
4,300.00	4,292.61	4,274.39	4,259.90	14.11	17.14	87.12	-141.83	334.04	474.78	445.23	29.54	16.070		
4,400.00	4,392.61	4,374.01	4,359.15	14.39	17.56	87.75	-146.81	341.16	481.69	451.51	30.18	15.961		
4,500.00	4,492.61	4,477.39	4,462.14	14.67	17.98	88.38	-151.91	348.43	488.58	457.76	30.82	15.855		
4,600.00	4,592.61	4,573.22	4,557.77	14.95	18.30	88.85	-155.72	353.88	493.21	461.81	31.39	15.710		
4,700.00	4,692.61	4,678.09	4,662.61	15.24	18.60	88.98	-156.87	355.51	494.59	462.61	31.99	15.463		
4,800.00	4,792.61	4,808.09	4,792.61	15.53	18.84	88.98	-156.87	355.51	494.59	462.05	32.54	15.197		
4,900.00	4,892.61	4,908.09	4,892.61	15.82	19.08	88.98	-156.87	355.51	494.59	461.50	33.09	14.947		
5,000.00	4,992.61	5,008.09	4,992.61	16.11	19.32	88.98	-156.87	355.51	494.59	460.95	33.64	14.702		
5,063.59	5,056.20	5,071.68	5,056.20	16.30	19.47	88.98	-156.87	355.51	494.59	460.60	33.99	14.550		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,092.61	5,107.94	5,092.47	16.41	19.56	88.97	-156.80	355.51	494.59	460.40	34.19	14.465		
5,200.00	5,192.61	5,204.83	5,188.64	16.70	19.73	87.76	-146.27	355.51	494.91	460.19	34.72	14.256		
5,300.00	5,292.24	5,296.92	5,276.76	16.99	19.81	85.28	-119.94	355.51	496.28	461.11	35.17	14.111		
5,400.00	5,388.87	5,385.87	5,356.20	17.27	19.82	82.95	-80.16	355.51	498.43	462.83	35.60	13.999		
5,500.00	5,478.68	5,472.31	5,425.84	17.52	19.80	80.88	-29.11	355.52	501.03	464.99	36.05	13.899		
5,600.00	5,558.63	5,556.77	5,484.82	17.75	19.77	79.13	31.21	355.52	503.74	467.22	36.52	13.793		
5,700.00	5,625.71	5,639.71	5,532.52	17.95	19.75	77.72	98.95	355.52	506.24	469.12	37.12	13.639		
5,800.00	5,677.45	5,721.55	5,568.47	18.16	19.78	76.70	172.37	355.52	508.23	470.28	37.94	13.394		
5,900.00	5,711.93	5,800.00	5,591.74	18.48	20.35	76.10	247.22	355.53	509.51	470.50	39.01	13.062		
6,000.00	5,727.91	5,883.46	5,603.87	18.90	21.38	75.89	329.70	355.53	509.92	469.43	40.49	12.594		
6,098.71	5,731.14	5,973.94	5,605.00	19.38	22.74	75.69	420.15	355.53	510.38	468.05	42.33	12.057		
6,100.00	5,729.00	5,975.28	5,605.00	19.39	22.76	75.92	421.49	355.53	509.85	467.49	42.37	12.034		
6,200.00	5,729.00	6,075.28	5,605.00	19.97	24.47	75.92	521.49	355.54	509.86	465.20	44.66	11.416		
6,300.00	5,729.00	6,175.28	5,605.00	20.65	26.38	75.92	621.49	355.54	509.86	462.62	47.24	10.793		
6,400.00	5,729.00	6,275.28	5,605.00	21.41	28.43	75.92	721.49	355.55	509.87	459.81	50.06	10.185		
6,500.00	5,729.00	6,375.28	5,605.00	22.24	30.62	75.93	821.49	355.55	509.87	456.80	53.08	9.606		
6,600.00	5,729.00	6,475.28	5,605.00	23.13	32.91	75.93	921.49	355.55	509.88	453.62	56.26	9.063		
6,700.00	5,729.00	6,575.28	5,605.00	24.08	35.29	75.93	1,021.49	355.56	509.88	450.30	59.58	8.558		
6,800.00	5,729.00	6,675.28	5,605.00	25.08	37.73	75.93	1,121.49	355.56	509.89	446.87	63.02	8.091		
6,900.00	5,729.00	6,775.28	5,605.00	26.12	40.23	75.93	1,221.49	355.57	509.89	443.33	66.56	7.661		
7,000.00	5,729.00	6,875.28	5,605.00	27.20	42.78	75.93	1,321.49	355.57	509.90	439.72	70.18	7.265		
7,100.00	5,729.00	6,975.28	5,605.00	28.32	45.36	75.93	1,421.49	355.57	509.90	436.03	73.88	6.902		
7,200.00	5,729.00	7,075.28	5,605.00	29.47	47.98	75.93	1,521.49	355.58	509.91	432.27	77.63	6.568		
7,300.00	5,729.00	7,175.28	5,605.00	30.65	50.63	75.93	1,621.49	355.58	509.91	428.47	81.44	6.261		
7,400.00	5,729.00	7,275.28	5,605.00	31.85	53.30	75.93	1,721.49	355.59	509.92	424.62	85.30	5.978		
7,500.00	5,729.00	7,375.28	5,605.00	33.07	55.99	75.93	1,821.49	355.59	509.92	420.72	89.20	5.717		
7,600.00	5,729.00	7,475.28	5,605.00	34.32	58.70	75.93	1,921.49	355.59	509.93	416.80	93.13	5.475		
7,700.00	5,729.00	7,575.28	5,605.00	35.58	61.42	75.93	2,021.49	355.60	509.93	412.84	97.10	5.252		
7,800.00	5,729.00	7,675.28	5,605.00	36.85	64.16	75.93	2,121.49	355.60	509.94	408.85	101.09	5.044		
7,900.00	5,729.00	7,775.28	5,605.00	38.14	66.91	75.93	2,221.49	355.60	509.94	404.83	105.11	4.852		
8,000.00	5,729.00	7,875.28	5,605.00	39.45	69.67	75.93	2,321.49	355.61	509.95	400.80	109.15	4.672		
8,100.00	5,729.00	7,975.28	5,605.00	40.76	72.44	75.93	2,421.49	355.61	509.95	396.74	113.21	4.504		
8,200.00	5,729.00	8,075.28	5,605.00	42.09	75.21	75.93	2,521.49	355.62	509.96	392.67	117.29	4.348		
8,300.00	5,729.00	8,175.28	5,605.00	43.42	78.00	75.93	2,621.49	355.62	509.96	388.58	121.38	4.201		
8,400.00	5,729.00	8,275.28	5,605.00	44.76	80.79	75.93	2,721.49	355.62	509.97	384.48	125.49	4.064		
8,500.00	5,729.00	8,375.28	5,605.00	46.11	83.59	75.93	2,821.49	355.63	509.97	380.36	129.61	3.935		
8,600.00	5,729.00	8,475.28	5,605.00	47.47	86.39	75.93	2,921.49	355.63	509.98	376.23	133.75	3.813		
8,700.00	5,729.00	8,575.28	5,605.00	48.84	89.20	75.93	3,021.49	355.64	509.98	372.09	137.89	3.698		
8,800.00	5,729.00	8,675.28	5,605.00	50.21	92.01	75.93	3,121.49	355.64	509.99	367.94	142.05	3.590		
8,900.00	5,729.00	8,775.28	5,605.00	51.58	94.83	75.93	3,221.49	355.64	509.99	363.78	146.22	3.488		
9,000.00	5,729.00	8,875.28	5,605.00	52.96	97.65	75.93	3,321.49	355.65	510.00	359.61	150.39	3.391		
9,100.00	5,729.00	8,975.28	5,605.00	54.35	100.47	75.93	3,421.49	355.65	510.00	355.43	154.57	3.300		
9,200.00	5,729.00	9,075.28	5,605.00	55.74	103.30	75.93	3,521.49	355.66	510.01	351.25	158.76	3.212		
9,300.00	5,729.00	9,175.28	5,605.00	57.13	106.13	75.93	3,621.49	355.66	510.01	347.06	162.95	3.130		
9,400.00	5,729.00	9,275.28	5,605.00	58.53	108.96	75.93	3,721.49	355.66	510.02	342.86	167.15	3.051		
9,500.00	5,729.00	9,375.28	5,605.00	59.93	111.79	75.93	3,821.49	355.67	510.02	338.66	171.36	2.976		
9,600.00	5,729.00	9,475.28	5,605.00	61.34	114.63	75.93	3,921.49	355.67	510.03	334.46	175.57	2.905		
9,700.00	5,729.00	9,575.28	5,605.00	62.75	117.47	75.93	4,021.49	355.68	510.03	330.24	179.79	2.837		
9,800.00	5,729.00	9,675.28	5,605.00	64.16	120.31	75.93	4,121.49	355.68	510.04	326.03	184.01	2.772		
9,900.00	5,729.00	9,775.28	5,605.00	65.57	123.15	75.93	4,221.49	355.68	510.04	321.81	188.24	2.710		
10,000.00	5,729.00	9,875.28	5,605.00	66.99	126.00	75.93	4,321.49	355.69	510.05	317.58	192.47	2.650		
10,100.00	5,729.00	9,975.28	5,605.00	68.41	128.84	75.93	4,421.49	355.69	510.05	313.35	196.70	2.593		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,200.00	5,729.00	10,075.28	5,605.00	69.83	131.69	75.93	4,521.49	355.69	510.06	309.12	200.94	2.538		
10,300.00	5,729.00	10,175.28	5,605.00	71.25	134.54	75.93	4,621.49	355.70	510.07	304.88	205.18	2.486		
10,400.00	5,729.00	10,275.28	5,605.00	72.67	137.39	75.93	4,721.49	355.70	510.07	300.64	209.43	2.436		
10,500.00	5,729.00	10,375.28	5,605.00	74.10	140.24	75.93	4,821.49	355.71	510.08	296.40	213.67	2.387		
10,600.00	5,729.00	10,475.28	5,605.00	75.53	143.09	75.93	4,921.49	355.71	510.08	292.16	217.92	2.341		
10,700.00	5,729.00	10,575.28	5,605.00	76.96	145.94	75.93	5,021.49	355.71	510.09	287.91	222.17	2.296		
10,800.00	5,729.00	10,675.28	5,605.00	78.39	148.80	75.93	5,121.49	355.72	510.09	283.66	226.43	2.253		
10,900.00	5,729.00	10,775.28	5,605.00	79.82	151.65	75.93	5,221.49	355.72	510.10	279.41	230.69	2.211		
11,000.00	5,729.00	10,875.28	5,605.00	81.26	154.51	75.93	5,321.49	355.73	510.10	275.15	234.95	2.171		
11,100.00	5,729.00	10,975.28	5,605.00	82.69	157.37	75.93	5,421.49	355.73	510.11	270.90	239.21	2.132		
11,200.00	5,729.00	11,075.28	5,605.00	84.13	160.23	75.93	5,521.49	355.73	510.11	266.64	243.47	2.095		
11,300.00	5,729.00	11,175.28	5,605.00	85.57	163.09	75.93	5,621.49	355.74	510.12	262.38	247.74	2.059		
11,400.00	5,729.00	11,275.28	5,605.00	87.01	165.95	75.93	5,721.49	355.74	510.12	258.12	252.00	2.024		
11,500.00	5,729.00	11,375.28	5,605.00	88.45	168.81	75.93	5,821.49	355.75	510.13	253.85	256.27	1.991		
11,600.00	5,729.00	11,475.28	5,605.00	89.89	171.67	75.93	5,921.49	355.75	510.13	249.59	260.54	1.958		
11,700.00	5,729.00	11,575.28	5,605.00	91.33	174.53	75.93	6,021.49	355.75	510.14	245.32	264.81	1.926		
11,800.00	5,729.00	11,675.28	5,605.00	92.77	177.39	75.93	6,121.49	355.76	510.14	241.05	269.09	1.896		
11,900.00	5,729.00	11,775.28	5,605.00	94.22	180.25	75.93	6,221.49	355.76	510.15	236.78	273.36	1.866		
12,000.00	5,729.00	11,875.28	5,605.00	95.66	183.12	75.93	6,321.49	355.76	510.15	232.51	277.64	1.837		
12,100.00	5,729.00	11,975.28	5,605.00	97.11	185.98	75.93	6,421.49	355.77	510.16	228.24	281.91	1.810		
12,200.00	5,729.00	12,075.28	5,605.00	98.55	188.85	75.93	6,521.49	355.77	510.16	223.97	286.19	1.783		
12,300.00	5,729.00	12,175.28	5,605.00	100.00	191.71	75.93	6,621.49	355.78	510.17	219.69	290.47	1.756		
12,400.00	5,729.00	12,275.28	5,605.00	101.45	194.58	75.93	6,721.49	355.78	510.17	215.42	294.75	1.731		
12,500.00	5,729.00	12,375.28	5,605.00	102.90	197.44	75.93	6,821.49	355.78	510.18	211.14	299.04	1.706		
12,600.00	5,729.00	12,475.28	5,605.00	104.35	200.31	75.93	6,921.49	355.79	510.18	206.86	303.32	1.682		
12,700.00	5,729.00	12,575.28	5,605.00	105.80	203.17	75.93	7,021.49	355.79	510.19	202.58	307.60	1.659		
12,800.00	5,729.00	12,675.28	5,605.00	107.25	206.04	75.93	7,121.49	355.80	510.19	198.30	311.89	1.636		
12,900.00	5,729.00	12,775.28	5,605.00	108.70	208.91	75.93	7,221.49	355.80	510.20	194.02	316.17	1.614		
13,000.00	5,729.00	12,875.28	5,605.00	110.15	211.78	75.93	7,321.49	355.80	510.20	189.74	320.46	1.592		
13,100.00	5,729.00	12,975.28	5,605.00	111.60	214.64	75.93	7,421.49	355.81	510.21	185.46	324.75	1.571		
13,200.00	5,729.00	13,075.28	5,605.00	113.05	217.51	75.93	7,521.49	355.81	510.21	181.18	329.04	1.551		
13,300.00	5,729.00	13,175.28	5,605.00	114.51	220.38	75.93	7,621.49	355.82	510.22	176.89	333.32	1.531		
13,400.00	5,729.00	13,275.28	5,605.00	115.96	223.25	75.93	7,721.49	355.82	510.22	172.61	337.61	1.511		
13,500.00	5,729.00	13,375.28	5,605.00	117.42	226.12	75.94	7,821.49	355.82	510.23	168.32	341.90	1.492 Level 3		
13,600.00	5,729.00	13,475.28	5,605.00	118.87	228.99	75.94	7,921.49	355.83	510.23	164.04	346.20	1.474 Level 3		
13,700.00	5,729.00	13,575.28	5,605.00	120.32	231.86	75.94	8,021.49	355.83	510.24	159.75	350.49	1.456 Level 3		
13,800.00	5,729.00	13,675.28	5,605.00	121.78	234.73	75.94	8,121.49	355.84	510.24	155.46	354.78	1.438 Level 3		
13,900.00	5,729.00	13,775.28	5,605.00	123.24	237.60	75.94	8,221.49	355.84	510.25	151.17	359.07	1.421 Level 3		
14,000.00	5,729.00	13,875.28	5,605.00	124.69	240.47	75.94	8,321.49	355.84	510.25	146.89	363.37	1.404 Level 3		
14,100.00	5,729.00	13,975.28	5,605.00	126.15	243.34	75.94	8,421.49	355.85	510.26	142.60	367.66	1.388 Level 3		
14,200.00	5,729.00	14,075.28	5,605.00	127.60	246.21	75.94	8,521.49	355.85	510.26	138.31	371.96	1.372 Level 3		
14,300.00	5,729.00	14,175.28	5,605.00	129.06	249.08	75.94	8,621.49	355.85	510.27	134.02	376.25	1.356 Level 3		
14,400.00	5,729.00	14,275.28	5,605.00	130.52	251.96	75.94	8,721.49	355.86	510.27	129.73	380.55	1.341 Level 3		
14,500.00	5,729.00	14,375.28	5,605.00	131.98	254.83	75.94	8,821.49	355.86	510.28	125.43	384.84	1.326 Level 3		
14,600.00	5,729.00	14,475.28	5,605.00	133.43	257.70	75.94	8,921.49	355.87	510.28	121.14	389.14	1.311 Level 3		
14,700.00	5,729.00	14,575.28	5,605.00	134.89	260.57	75.94	9,021.49	355.87	510.29	116.85	393.44	1.297 Level 3		
14,800.00	5,729.00	14,675.28	5,605.00	136.35	263.44	75.94	9,121.49	355.87	510.29	112.56	397.73	1.283 Level 3		
14,900.00	5,729.00	14,775.28	5,605.00	137.81	266.32	75.94	9,221.49	355.88	510.30	108.27	402.03	1.269 Level 3		
15,000.00	5,729.00	14,875.28	5,605.00	139.27	269.19	75.94	9,321.49	355.88	510.30	103.97	406.33	1.256 Level 3		
15,100.00	5,729.00	14,975.28	5,605.00	140.73	272.06	75.94	9,421.49	355.89	510.31	99.68	410.63	1.243 Level 2		
15,200.00	5,729.00	15,075.28	5,605.00	142.19	274.93	75.94	9,521.49	355.89	510.31	95.38	414.93	1.230 Level 2		
15,300.00	5,729.00	15,175.28	5,605.00	143.65	277.81	75.94	9,621.49	355.89	510.32	91.09	419.23	1.217 Level 2		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design Sec 25-T10N-R58W - Razor #25O-2412 - HZ - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,400.00	5,729.00	15,275.28	5,605.00	145.11	280.68	75.94	9,721.49	355.90	510.32	86.79	423.53	1.205 Level 2	
15,500.00	5,729.00	15,375.28	5,605.00	146.57	283.55	75.94	9,821.49	355.90	510.33	82.50	427.83	1.193 Level 2	
15,600.00	5,729.00	15,475.28	5,605.00	148.03	286.43	75.94	9,921.49	355.91	510.33	78.20	432.13	1.181 Level 2	
15,700.00	5,729.00	15,575.28	5,605.00	149.49	289.30	75.94	10,021.49	355.91	510.34	73.91	436.43	1.169 Level 2	
15,800.00	5,729.00	15,675.28	5,605.00	150.95	292.17	75.94	10,121.49	355.91	510.34	69.61	440.73	1.158 Level 2	
15,874.95	5,729.00	15,750.23	5,605.00	152.05	294.33	75.94	10,196.44	355.92	510.35	66.39	443.96	1.150 Level 2, ES, SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	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	88.07	1.01	29.99	30.01					
100.00	100.00	100.00	100.00	0.13	0.13	88.07	1.01	29.99	30.01	29.74	0.27	112.670		
200.00	200.00	200.00	200.00	0.47	0.47	88.07	1.01	29.99	30.01	29.07	0.94	31.903		
300.00	300.00	300.00	300.00	0.81	0.81	88.07	1.01	29.99	30.01	28.39	1.61	18.582 CC, ES		
400.00	399.98	399.31	399.29	1.11	1.11	-131.78	-0.31	31.10	32.24	30.02	2.23	14.486		
500.00	499.84	498.52	498.36	1.42	1.42	-131.54	-4.18	34.35	38.88	36.05	2.83	13.715		
600.00	599.59	598.16	597.82	1.73	1.72	-132.06	-8.84	38.26	47.30	43.84	3.46	13.687		
700.00	699.35	697.81	697.28	2.06	2.05	-132.43	-13.50	42.17	55.72	51.62	4.10	13.585		
800.00	799.11	797.45	796.74	2.40	2.38	-132.70	-18.16	46.08	64.14	59.38	4.76	13.470		
900.00	898.86	897.10	896.20	2.74	2.72	-132.91	-22.82	49.99	72.57	67.13	5.43	13.359		
1,000.00	998.62	996.74	995.66	3.09	3.06	-133.07	-27.48	53.90	80.99	74.88	6.11	13.259		
1,100.00	1,098.38	1,096.38	1,095.12	3.44	3.41	-133.20	-32.14	57.81	89.41	82.63	6.79	13.171		
1,200.00	1,198.13	1,196.03	1,194.57	3.79	3.75	-133.31	-36.80	61.72	97.84	90.37	7.47	13.093		
1,300.00	1,297.89	1,295.67	1,294.03	4.14	4.10	-133.41	-41.46	65.63	106.27	98.11	8.16	13.024		
1,400.00	1,397.65	1,395.32	1,393.49	4.49	4.44	-133.49	-46.12	69.54	114.69	105.84	8.85	12.963		
1,500.00	1,497.40	1,494.96	1,492.95	4.85	4.79	-133.55	-50.78	73.45	123.12	113.58	9.54	12.909		
1,600.00	1,597.16	1,594.61	1,592.41	5.20	5.14	-133.61	-55.44	77.36	131.54	121.31	10.23	12.861		
1,700.00	1,696.91	1,694.25	1,691.87	5.56	5.49	-133.67	-60.10	81.27	139.97	129.05	10.92	12.818		
1,800.00	1,796.67	1,793.89	1,791.32	5.91	5.84	-133.71	-64.76	85.18	148.40	136.78	11.61	12.779		
1,900.00	1,896.43	1,893.54	1,890.78	6.27	6.19	-133.75	-69.42	89.09	156.82	144.52	12.31	12.744		
2,000.00	1,996.18	1,993.18	1,990.24	6.62	6.54	-133.79	-74.08	93.00	165.25	152.25	13.00	12.712		
2,100.00	2,095.94	2,092.83	2,089.70	6.98	6.89	-133.83	-78.74	96.91	173.67	159.98	13.69	12.683		
2,200.00	2,195.70	2,192.47	2,189.16	7.33	7.24	-133.86	-83.40	100.82	182.10	167.71	14.39	12.656		
2,300.00	2,295.45	2,292.12	2,288.62	7.69	7.59	-133.88	-88.06	104.73	190.53	175.44	15.08	12.631		
2,400.00	2,395.21	2,391.76	2,388.08	8.05	7.94	-133.91	-92.72	108.64	198.95	183.18	15.78	12.609		
2,500.00	2,494.97	2,491.40	2,487.53	8.40	8.29	-133.93	-97.38	112.55	207.38	190.91	16.47	12.588		
2,600.00	2,594.72	2,591.05	2,586.99	8.76	8.64	-133.95	-102.04	116.46	215.81	198.64	17.17	12.569		
2,700.00	2,694.48	2,690.69	2,686.45	9.12	8.99	-133.97	-106.70	120.37	224.23	206.37	17.87	12.551		
2,800.00	2,794.23	2,790.34	2,785.91	9.47	9.34	-133.99	-111.36	124.28	232.66	214.10	18.56	12.534		
2,900.00	2,893.99	2,889.98	2,885.37	9.83	9.69	-134.01	-116.02	128.19	241.09	221.83	19.26	12.518		
3,000.00	2,993.75	2,989.63	2,984.83	10.19	10.04	-134.03	-120.68	132.10	249.52	229.56	19.96	12.504		
3,100.00	3,093.50	3,089.27	3,084.28	10.54	10.39	-134.04	-125.34	136.01	257.94	237.29	20.65	12.490		
3,200.00	3,193.26	3,188.91	3,183.74	10.90	10.74	-134.06	-130.00	139.92	266.37	245.02	21.35	12.477		
3,300.00	3,293.02	3,288.56	3,283.20	11.26	11.09	-134.07	-134.66	143.83	274.80	252.75	22.05	12.465		
3,400.00	3,392.77	3,388.20	3,382.66	11.62	11.44	-134.08	-139.32	147.74	283.22	260.48	22.74	12.453		
3,500.00	3,492.63	3,487.93	3,482.20	11.92	11.80	-133.95	-143.98	151.66	290.44	267.04	23.40	12.441		
3,600.00	3,592.61	3,587.74	3,581.83	12.20	12.15	86.70	-148.65	155.58	295.27	271.23	24.04	12.282		
3,700.00	3,692.61	3,687.55	3,681.45	12.49	12.50	87.63	-153.32	159.49	298.96	274.28	24.68	12.113		
3,800.00	3,792.61	3,787.37	3,781.08	12.75	12.85	88.55	-157.99	163.41	302.73	277.43	25.29	11.968		
3,900.00	3,892.61	3,887.18	3,880.71	13.01	13.20	89.44	-162.65	167.33	306.57	280.66	25.91	11.832		
4,000.00	3,992.61	3,987.00	3,980.34	13.28	13.55	90.31	-167.32	171.24	310.49	283.96	26.53	11.704		
4,100.00	4,092.61	4,086.81	4,079.96	13.55	13.91	91.15	-171.99	175.16	314.48	287.33	27.15	11.583		
4,200.00	4,192.61	4,186.62	4,179.59	13.83	14.26	91.98	-176.66	179.08	318.54	290.76	27.77	11.469		
4,300.00	4,292.61	4,286.44	4,279.22	14.11	14.61	92.79	-181.33	182.99	322.66	294.26	28.40	11.362		
4,400.00	4,392.61	4,386.25	4,378.85	14.39	14.96	93.57	-185.99	186.91	326.84	297.81	29.02	11.261		
4,500.00	4,492.61	4,486.07	4,478.07	14.67	15.29	94.20	-189.84	190.14	330.10	300.46	29.63	11.140		
4,600.00	4,592.61	4,586.15	4,578.15	14.95	15.59	94.35	-190.73	190.88	330.84	300.62	30.22	10.947		
4,700.00	4,692.61	4,686.15	4,678.15	15.24	15.85	94.35	-190.73	190.88	330.84	300.07	30.77	10.751		
4,800.00	4,792.61	4,786.15	4,778.15	15.53	16.12	94.35	-190.73	190.88	330.84	299.51	31.33	10.561		
4,900.00	4,892.61	4,886.15	4,878.15	15.82	16.38	94.35	-190.73	190.88	330.84	298.95	31.88	10.376		
5,000.00	4,992.61	4,986.15	4,978.15	16.11	16.65	94.35	-190.73	190.88	330.84	298.39	32.45	10.196		
5,100.00	5,092.61	5,086.15	5,078.15	16.41	16.92	94.35	-190.73	190.88	330.84	297.82	33.01	10.021		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	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	5,192.61	5,200.15	5,192.61	16.70	17.20	94.35	-190.73	190.88	330.84	297.25	33.59	9.851		
5,300.00	5,292.24	5,299.78	5,292.24	16.99	17.47	95.45	-190.73	190.88	331.43	297.29	34.14	9.708		
5,400.00	5,388.78	5,405.13	5,397.19	17.27	17.76	98.63	-183.57	190.88	333.80	299.15	34.65	9.634		
5,500.00	5,478.68	5,516.36	5,504.11	17.52	18.03	101.60	-153.66	190.89	336.96	301.90	35.06	9.610		
5,600.00	5,558.63	5,632.23	5,606.09	17.75	18.30	104.13	-99.17	190.89	340.37	304.98	35.39	9.617		
5,700.00	5,625.71	5,752.28	5,696.36	17.95	18.55	106.08	-20.43	190.89	343.45	307.76	35.70	9.622		
5,800.00	5,677.45	5,875.58	5,767.84	18.16	18.83	107.33	79.69	190.90	345.64	309.55	36.09	9.578		
5,900.00	5,711.93	6,000.75	5,814.32	18.48	19.21	107.81	195.58	190.90	346.52	309.84	36.68	9.446		
6,000.00	5,727.91	6,126.08	5,831.89	18.90	19.72	107.48	319.37	190.91	345.92	308.35	37.57	9.208		
6,065.21	5,730.75	6,193.37	5,832.00	19.22	20.05	107.06	386.66	190.91	345.11	306.88	38.23	9.028		
6,100.00	5,729.00	6,228.21	5,832.00	19.39	20.24	107.34	421.50	190.91	345.63	307.09	38.54	8.969		
6,200.00	5,729.00	6,328.21	5,832.00	19.97	20.83	107.34	521.50	190.92	345.64	305.98	39.66	8.716		
6,300.00	5,729.00	6,428.21	5,832.00	20.65	21.51	107.34	621.50	190.93	345.64	304.70	40.94	8.443		
6,400.00	5,729.00	6,528.21	5,832.00	21.41	22.27	107.34	721.50	190.93	345.65	303.27	42.37	8.157		
6,500.00	5,729.00	6,628.21	5,832.00	22.24	23.09	107.34	821.50	190.94	345.65	301.71	43.94	7.866		
6,600.00	5,729.00	6,728.21	5,832.00	23.13	23.98	107.34	921.50	190.94	345.66	300.03	45.63	7.575		
6,700.00	5,729.00	6,828.21	5,832.00	24.08	24.92	107.34	1,021.50	190.95	345.67	298.24	47.43	7.288		
6,800.00	5,729.00	6,928.21	5,832.00	25.08	25.92	107.34	1,121.50	190.95	345.67	296.35	49.33	7.008		
6,900.00	5,729.00	7,028.21	5,832.00	26.12	26.95	107.34	1,221.50	190.96	345.68	294.37	51.31	6.737		
7,000.00	5,729.00	7,128.21	5,832.00	27.20	28.03	107.34	1,321.50	190.96	345.68	292.32	53.36	6.478		
7,100.00	5,729.00	7,228.21	5,832.00	28.32	29.14	107.33	1,421.50	190.97	345.69	290.20	55.49	6.230		
7,200.00	5,729.00	7,328.21	5,832.00	29.47	30.28	107.33	1,521.50	190.97	345.70	288.02	57.67	5.994		
7,300.00	5,729.00	7,428.21	5,832.00	30.65	31.44	107.33	1,621.50	190.98	345.70	285.79	59.91	5.770		
7,400.00	5,729.00	7,528.21	5,832.00	31.85	32.64	107.33	1,721.50	190.98	345.71	283.51	62.20	5.558		
7,500.00	5,729.00	7,628.21	5,832.00	33.07	33.85	107.33	1,821.50	190.99	345.72	281.19	64.53	5.358		
7,600.00	5,729.00	7,728.21	5,832.00	34.32	35.09	107.33	1,921.50	190.99	345.72	278.83	66.90	5.168		
7,700.00	5,729.00	7,828.21	5,832.00	35.58	36.34	107.33	2,021.50	191.00	345.73	276.43	69.30	4.989		
7,800.00	5,729.00	7,928.21	5,832.00	36.85	37.61	107.33	2,121.50	191.00	345.73	274.00	71.73	4.820		
7,900.00	5,729.00	8,028.21	5,832.00	38.14	38.89	107.33	2,221.50	191.01	345.74	271.55	74.19	4.660		
8,000.00	5,729.00	8,128.21	5,832.00	39.45	40.18	107.33	2,321.50	191.01	345.75	269.07	76.68	4.509		
8,100.00	5,729.00	8,228.21	5,832.00	40.76	41.49	107.33	2,421.50	191.02	345.75	266.57	79.19	4.366		
8,200.00	5,729.00	8,328.21	5,832.00	42.09	42.81	107.33	2,521.50	191.02	345.76	264.04	81.72	4.231		
8,300.00	5,729.00	8,428.21	5,832.00	43.42	44.13	107.33	2,621.50	191.03	345.76	261.50	84.26	4.103		
8,400.00	5,729.00	8,528.21	5,832.00	44.76	45.47	107.33	2,721.50	191.03	345.77	258.94	86.83	3.982		
8,500.00	5,729.00	8,628.21	5,832.00	46.11	46.81	107.33	2,821.50	191.04	345.78	256.37	89.41	3.867		
8,600.00	5,729.00	8,728.21	5,832.00	47.47	48.17	107.33	2,921.50	191.04	345.78	253.78	92.01	3.758		
8,700.00	5,729.00	8,828.21	5,832.00	48.84	49.52	107.33	3,021.50	191.05	345.79	251.17	94.62	3.655		
8,800.00	5,729.00	8,928.21	5,832.00	50.21	50.89	107.33	3,121.50	191.05	345.79	248.56	97.24	3.556		
8,900.00	5,729.00	9,028.21	5,832.00	51.58	52.26	107.33	3,221.50	191.06	345.80	245.93	99.87	3.463		
9,000.00	5,729.00	9,128.21	5,832.00	52.96	53.64	107.33	3,321.50	191.06	345.81	243.30	102.51	3.373		
9,100.00	5,729.00	9,228.21	5,832.00	54.35	55.02	107.33	3,421.50	191.07	345.81	240.65	105.16	3.288		
9,200.00	5,729.00	9,328.21	5,832.00	55.74	56.40	107.33	3,521.50	191.07	345.82	237.99	107.82	3.207		
9,300.00	5,729.00	9,428.21	5,832.00	57.13	57.79	107.33	3,621.50	191.08	345.82	235.33	110.49	3.130		
9,400.00	5,729.00	9,528.21	5,832.00	58.53	59.19	107.33	3,721.50	191.08	345.83	232.66	113.17	3.056		
9,500.00	5,729.00	9,628.21	5,832.00	59.93	60.58	107.33	3,821.50	191.09	345.84	229.98	115.85	2.985		
9,600.00	5,729.00	9,728.21	5,832.00	61.34	61.98	107.33	3,921.50	191.09	345.84	227.30	118.55	2.917		
9,700.00	5,729.00	9,828.21	5,832.00	62.75	63.39	107.33	4,021.50	191.10	345.85	224.61	121.24	2.853		
9,800.00	5,729.00	9,928.21	5,832.00	64.16	64.80	107.33	4,121.50	191.10	345.86	221.91	123.94	2.790		
9,900.00	5,729.00	10,028.21	5,832.00	65.57	66.21	107.33	4,221.50	191.11	345.86	219.21	126.65	2.731		
10,000.00	5,729.00	10,128.21	5,832.00	66.99	67.62	107.33	4,321.50	191.11	345.87	216.50	129.37	2.674		
10,100.00	5,729.00	10,228.21	5,832.00	68.41	69.03	107.33	4,421.50	191.12	345.87	213.79	132.08	2.619		
10,200.00	5,729.00	10,328.21	5,832.00	69.83	70.45	107.33	4,521.50	191.12	345.88	211.07	134.81	2.566		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	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	5,729.00	10,428.21	5,832.00	71.25	71.87	107.32	4,621.50	191.13	345.89	208.35	137.53	2.515		
10,400.00	5,729.00	10,528.21	5,832.00	72.67	73.29	107.32	4,721.50	191.13	345.89	205.63	140.26	2.466		
10,500.00	5,729.00	10,628.21	5,832.00	74.10	74.71	107.32	4,821.50	191.14	345.90	202.90	143.00	2.419		
10,600.00	5,729.00	10,728.21	5,832.00	75.53	76.14	107.32	4,921.50	191.14	345.90	200.17	145.73	2.374		
10,700.00	5,729.00	10,828.21	5,832.00	76.96	77.57	107.32	5,021.50	191.15	345.91	197.44	148.47	2.330		
10,800.00	5,729.00	10,928.21	5,832.00	78.39	79.00	107.32	5,121.50	191.15	345.92	194.70	151.22	2.288		
10,900.00	5,729.00	11,028.21	5,832.00	79.82	80.43	107.32	5,221.50	191.16	345.92	191.96	153.97	2.247		
11,000.00	5,729.00	11,128.21	5,832.00	81.26	81.86	107.32	5,321.50	191.16	345.93	189.21	156.72	2.207		
11,100.00	5,729.00	11,228.21	5,832.00	82.69	83.29	107.32	5,421.50	191.17	345.93	186.47	159.47	2.169		
11,200.00	5,729.00	11,328.21	5,832.00	84.13	84.72	107.32	5,521.50	191.17	345.94	183.72	162.22	2.132		
11,300.00	5,729.00	11,428.21	5,832.00	85.57	86.16	107.32	5,621.50	191.18	345.95	180.96	164.98	2.097		
11,400.00	5,729.00	11,528.21	5,832.00	87.01	87.60	107.32	5,721.50	191.18	345.95	178.21	167.74	2.062		
11,500.00	5,729.00	11,628.21	5,832.00	88.45	89.04	107.32	5,821.50	191.19	345.96	175.46	170.50	2.029		
11,600.00	5,729.00	11,728.21	5,832.00	89.89	90.47	107.32	5,921.50	191.19	345.96	172.70	173.27	1.997		
11,700.00	5,729.00	11,828.21	5,832.00	91.33	91.91	107.32	6,021.50	191.20	345.97	169.94	176.03	1.965		
11,800.00	5,729.00	11,928.21	5,832.00	92.77	93.36	107.32	6,121.50	191.20	345.98	167.18	178.80	1.935		
11,900.00	5,729.00	12,028.21	5,832.00	94.22	94.80	107.32	6,221.50	191.21	345.98	164.41	181.57	1.905		
12,000.00	5,729.00	12,128.21	5,832.00	95.66	96.24	107.32	6,321.50	191.21	345.99	161.65	184.34	1.877		
12,100.00	5,729.00	12,228.21	5,832.00	97.11	97.68	107.32	6,421.50	191.22	346.00	158.88	187.12	1.849		
12,200.00	5,729.00	12,328.21	5,832.00	98.55	99.13	107.32	6,521.50	191.22	346.00	156.11	189.89	1.822		
12,300.00	5,729.00	12,428.21	5,832.00	100.00	100.57	107.32	6,621.50	191.23	346.01	153.34	192.67	1.796		
12,400.00	5,729.00	12,528.21	5,832.00	101.45	102.02	107.32	6,721.50	191.23	346.01	150.57	195.44	1.770		
12,500.00	5,729.00	12,628.21	5,832.00	102.90	103.47	107.32	6,821.50	191.24	346.02	147.80	198.22	1.746		
12,600.00	5,729.00	12,728.21	5,832.00	104.35	104.92	107.32	6,921.50	191.24	346.03	145.02	201.00	1.721		
12,700.00	5,729.00	12,828.21	5,832.00	105.80	106.36	107.32	7,021.50	191.25	346.03	142.25	203.79	1.698		
12,800.00	5,729.00	12,928.21	5,832.00	107.25	107.81	107.32	7,121.50	191.25	346.04	139.47	206.57	1.675		
12,900.00	5,729.00	13,028.21	5,832.00	108.70	109.26	107.32	7,221.50	191.26	346.04	136.69	209.35	1.653		
13,000.00	5,729.00	13,128.21	5,832.00	110.15	110.71	107.32	7,321.50	191.26	346.05	133.91	212.14	1.631		
13,100.00	5,729.00	13,228.21	5,832.00	111.60	112.16	107.32	7,421.50	191.27	346.06	131.13	214.92	1.610		
13,200.00	5,729.00	13,328.21	5,832.00	113.05	113.61	107.32	7,521.50	191.27	346.06	128.35	217.71	1.590		
13,300.00	5,729.00	13,428.21	5,832.00	114.51	115.07	107.32	7,621.50	191.28	346.07	125.57	220.50	1.569		
13,400.00	5,729.00	13,528.21	5,832.00	115.96	116.52	107.32	7,721.50	191.29	346.07	122.78	223.29	1.550		
13,500.00	5,729.00	13,628.21	5,832.00	117.42	117.97	107.31	7,821.50	191.29	346.08	120.00	226.08	1.531		
13,600.00	5,729.00	13,728.21	5,832.00	118.87	119.42	107.31	7,921.50	191.30	346.09	117.21	228.87	1.512		
13,700.00	5,729.00	13,828.21	5,832.00	120.32	120.88	107.31	8,021.50	191.30	346.09	114.43	231.66	1.494 Level 3		
13,800.00	5,729.00	13,928.21	5,832.00	121.78	122.33	107.31	8,121.50	191.31	346.10	111.64	234.46	1.476 Level 3		
13,900.00	5,729.00	14,028.21	5,832.00	123.24	123.79	107.31	8,221.50	191.31	346.10	108.85	237.25	1.459 Level 3		
14,000.00	5,729.00	14,128.21	5,832.00	124.69	125.24	107.31	8,321.50	191.32	346.11	106.07	240.04	1.442 Level 3		
14,100.00	5,729.00	14,228.21	5,832.00	126.15	126.70	107.31	8,421.50	191.32	346.12	103.28	242.84	1.425 Level 3		
14,200.00	5,729.00	14,328.21	5,832.00	127.60	128.15	107.31	8,521.50	191.33	346.12	100.49	245.64	1.409 Level 3		
14,300.00	5,729.00	14,428.21	5,832.00	129.06	129.61	107.31	8,621.50	191.33	346.13	97.70	248.43	1.393 Level 3		
14,400.00	5,729.00	14,528.21	5,832.00	130.52	131.06	107.31	8,721.50	191.34	346.13	94.91	251.23	1.378 Level 3		
14,500.00	5,729.00	14,628.21	5,832.00	131.98	132.52	107.31	8,821.50	191.34	346.14	92.11	254.03	1.363 Level 3		
14,600.00	5,729.00	14,728.21	5,832.00	133.43	133.98	107.31	8,921.50	191.35	346.15	89.32	256.83	1.348 Level 3		
14,700.00	5,729.00	14,828.21	5,832.00	134.89	135.43	107.31	9,021.50	191.35	346.15	86.53	259.63	1.333 Level 3		
14,800.00	5,729.00	14,928.21	5,832.00	136.35	136.89	107.31	9,121.50	191.36	346.16	83.73	262.43	1.319 Level 3		
14,900.00	5,729.00	15,028.21	5,832.00	137.81	138.35	107.31	9,221.50	191.36	346.17	80.94	265.23	1.305 Level 3		
15,000.00	5,729.00	15,128.21	5,832.00	139.27	139.81	107.31	9,321.50	191.37	346.17	78.14	268.03	1.292 Level 3		
15,100.00	5,729.00	15,228.21	5,832.00	140.73	141.27	107.31	9,421.50	191.37	346.18	75.35	270.83	1.278 Level 3		
15,200.00	5,729.00	15,328.21	5,832.00	142.19	142.73	107.31	9,521.50	191.38	346.18	72.55	273.63	1.265 Level 3		
15,300.00	5,729.00	15,428.21	5,832.00	143.65	144.18	107.31	9,621.50	191.38	346.19	69.76	276.43	1.252 Level 3		
15,400.00	5,729.00	15,528.21	5,832.00	145.11	145.64	107.31	9,721.50	191.39	346.20	66.96	279.24	1.240 Level 2		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design Sec 25-T10N-R58W - Razor #25O-2444 - HZ - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						
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	5,729.00	15,628.21	5,832.00	146.57	147.10	107.31	9,821.50	191.39	346.20	64.16	282.04	1.227	Level 2
15,600.00	5,729.00	15,728.21	5,832.00	148.03	148.56	107.31	9,921.50	191.40	346.21	61.36	284.84	1.215	Level 2
15,700.00	5,729.00	15,828.21	5,832.00	149.49	150.02	107.31	10,021.50	191.40	346.21	58.57	287.65	1.204	Level 2
15,800.00	5,729.00	15,928.21	5,832.00	150.95	151.48	107.31	10,121.50	191.41	346.22	55.77	290.45	1.192	Level 2
15,874.95	5,729.00	16,003.16	5,832.00	152.05	152.58	107.31	10,196.45	191.41	346.22	53.67	292.55	1.183	Level 2, SF



WOG

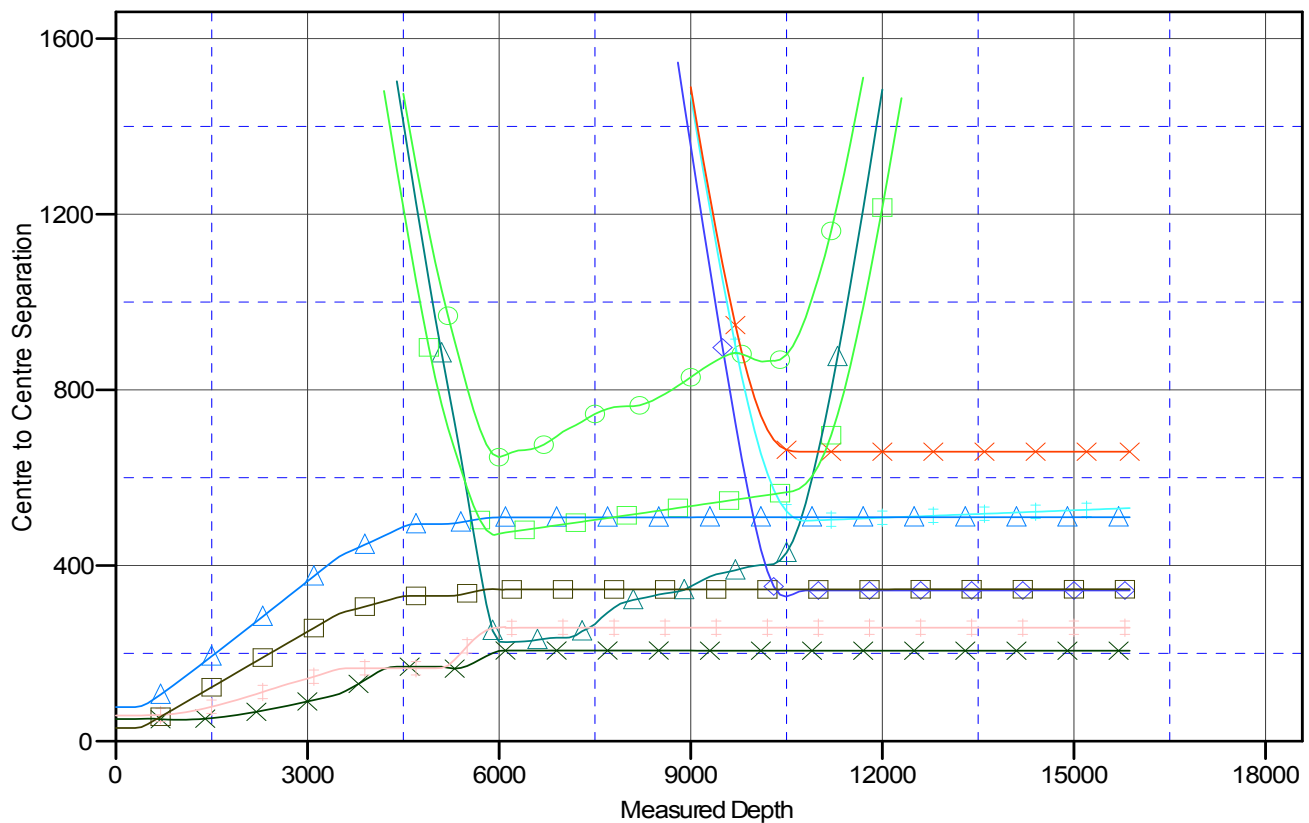
Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2443
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2443	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KBE @ 4738.00usft (Original Well Ele)
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Razor #25O-2443
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.09°

Ladder Plot



LEGEND

- ✕ Razor #25O-2410, Hz, APD V0
- ✕ Razor #25B-2449, Hz, APD V0
- Razor #25B-2550, Hz, APD V0
- ▲ Razor #25B-2551, Hz, Hz V0
- ▲ Razor #25O-2412, Hz, APD V0
- Razor #25B-2549, Hz, Hz V0
- ▲ Razor #25B-2450, Hz, APD V0
- ✕ Razor #25O-2411, Hz, APD V0
- ◆ Razor #25B-2451, Hz, APD V0
- Razor #25O-2444, Hz, APD V0



WOG

Anticollision Report

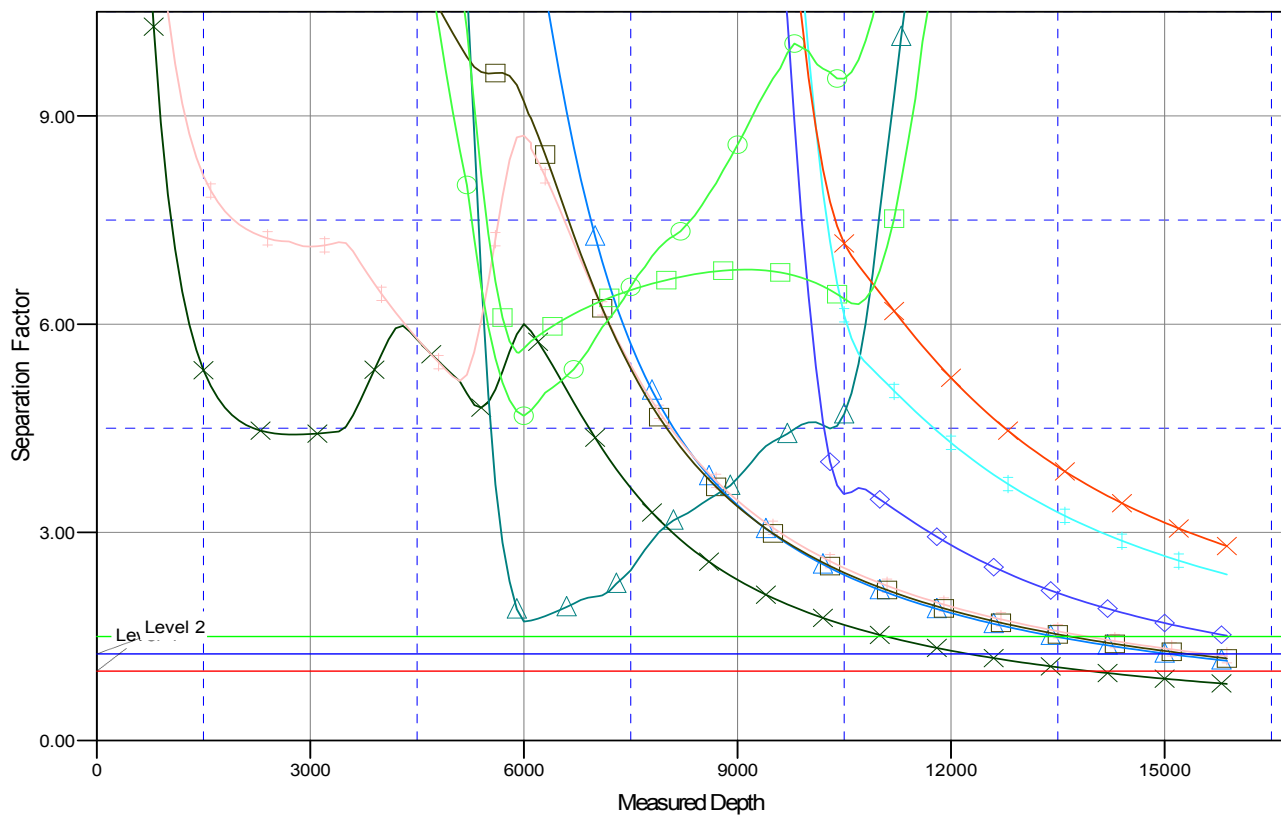
Company: Whiting Petroleum Corp.
Project: Weld County, CO
Reference Site: Sec 25-T10N-R58W
Site Error: 0.00 usft
Reference Well: Razor #25O-2443
Well Error: 0.00 usft
Reference Wellbore: Hz
Reference Design: APD

Local Co-ordinate Reference: Well Razor #25O-2443
TVD Reference: KBE @ 4738.00usft (Original Well Elev)
MD Reference: KBE @ 4738.00usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: LandmarkEDM
Offset TVD Reference: Offset Datum

Reference Depths are relative to KBE @ 4738.00usft (Original Well Ele)
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Razor #25O-2443
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.09°

Separation Factor Plot



LEGEND

- ✱ Razor #25O-2410, Hz, APDV0
- ✱ Razor #25B-2449, Hz, APDV0
- ✱ Razor #25B-2550, Hz, APDV0
- ✱ Razor #25B-2551, Hz, HzV0
- ✱ Razor #25O-2412, Hz, APDV0
- ✱ Razor #25B-2549, Hz, HzV0
- ✱ Razor #25B-2450, Hz, APDV0
- ✱ Razor #25O-2411, Hz, APDV0
- ✱ Razor #25B-2451, Hz, APDV0
- ✱ Razor #25O-2444, Hz, APDV0