



Whiting Petroleum Corp.

Weld County, CO

Sec 25-T10N-R58W

Razor #25P-2415

Hz

APD

Anticollision Report

27 May, 2015



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

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

Survey Tool Program		Date	5/27/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	15,631.67	APD (Hz)	MWD+IFR1+MS+sag	Fixed:v2:crustal dec & 3-axis correction + sag	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Sec 25-T10N-R58W						
Razor #25P-2413 - Hz - APD	300.00	300.00	59.99	58.38	37.149	CC, ES
Razor #25P-2413 - Hz - APD	15,631.67	15,722.97	660.34	357.81	2.183	SF
Razor #25P-2414 - Hz - APD	300.00	300.00	29.99	28.38	18.572	CC, ES
Razor #25P-2414 - Hz - APD	15,631.67	15,714.20	338.21	42.01	1.142	Level 2, SF
Razor #25P-2416 - Hz - APD	300.00	300.00	29.99	28.38	18.572	CC, ES
Razor #25P-2416 - Hz - APD	15,631.67	15,755.16	338.20	42.01	1.142	Level 2, SF
Razor #25P-2445 - Hz - APD	300.00	300.00	77.89	76.28	48.233	CC
Razor #25P-2445 - Hz - APD	400.00	397.67	78.04	75.82	35.081	ES
Razor #25P-2445 - Hz - APD	15,631.67	15,902.83	848.50	553.19	2.873	SF
Razor #25P-2446 - Hz - APD	500.00	496.58	57.83	55.01	20.566	CC, ES
Razor #25P-2446 - Hz - APD	15,631.67	16,035.43	579.90	314.48	2.185	SF
Razor #25P-2447 - Hz - APD	1,010.60	1,008.10	43.37	37.28	7.123	CC
Razor #25P-2447 - Hz - APD	15,631.67	15,740.36	181.50	-98.87	0.647	Level 1, ES, SF
Razor #25P-2448 - Hz - APD	300.00	300.00	58.36	56.74	36.135	CC
Razor #25P-2448 - Hz - APD	400.00	397.99	58.78	56.56	26.571	ES
Razor #25P-2448 - Hz - APD	15,631.67	15,974.81	343.90	168.70	1.963	SF

Offset Design Sec 25-T10N-R58W - Razor #25P-2413 - 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		Minimum Separation		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)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-90.97	-1.02	-59.98	59.99				
100.00	100.00	100.00	100.00	0.13	0.13	-90.97	-1.02	-59.98	59.99	59.73	0.27	225.244	
200.00	200.00	200.00	200.00	0.47	0.47	-90.97	-1.02	-59.98	59.99	59.05	0.94	63.779	
300.00	300.00	300.00	300.00	0.81	0.81	-90.97	-1.02	-59.98	59.99	58.38	1.61	37.149	CC, ES
400.00	399.98	398.03	398.01	1.11	1.12	80.06	-1.59	-61.56	61.29	59.07	2.22	27.608	
500.00	499.84	495.89	495.74	1.41	1.43	82.84	-3.31	-66.28	65.30	62.49	2.81	23.204	
600.00	599.66	593.46	592.95	1.71	1.75	84.95	-6.15	-74.10	72.46	69.01	3.45	20.997	
700.00	699.47	690.56	689.35	2.03	2.08	85.65	-10.11	-84.96	82.73	78.62	4.11	20.124	
800.00	799.29	787.33	784.99	2.37	2.45	85.32	-15.15	-98.82	96.01	91.22	4.79	20.044	
900.00	899.10	886.28	882.58	2.71	2.83	84.78	-20.73	-114.16	110.44	104.97	5.47	20.205	
1,000.00	998.91	985.23	980.17	3.05	3.23	84.36	-26.32	-129.51	124.88	118.73	6.15	20.318	
1,100.00	1,098.73	1,084.17	1,077.76	3.39	3.62	84.03	-31.91	-144.86	139.32	132.49	6.83	20.391	

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 #25P-2415	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
1,200.00	1,198.54	1,183.12	1,175.35	3.74	4.03	83.77	-37.49	-160.20	153.77	146.25	7.52	20.439		
1,300.00	1,298.35	1,282.07	1,272.94	4.09	4.43	83.54	-43.08	-175.55	168.22	160.01	8.22	20.472		
1,400.00	1,398.17	1,381.02	1,370.53	4.44	4.84	83.36	-48.66	-190.89	182.68	173.76	8.91	20.494		
1,500.00	1,497.98	1,479.97	1,468.13	4.79	5.25	83.20	-54.25	-206.24	197.13	187.52	9.61	20.509		
1,600.00	1,597.79	1,578.92	1,565.72	5.14	5.66	83.06	-59.83	-221.59	211.59	201.28	10.31	20.519		
1,700.00	1,697.61	1,677.86	1,663.31	5.49	6.07	82.94	-65.42	-236.93	226.04	215.03	11.01	20.525		
1,800.00	1,797.42	1,776.81	1,760.90	5.84	6.48	82.84	-71.00	-252.28	240.50	228.79	11.72	20.529		
1,900.00	1,897.23	1,875.76	1,858.49	6.19	6.89	82.74	-76.59	-267.63	254.96	242.54	12.42	20.531		
2,000.00	1,997.05	1,974.71	1,956.08	6.55	7.30	82.66	-82.18	-282.97	269.42	256.30	13.12	20.532		
2,100.00	2,096.86	2,073.66	2,053.67	6.90	7.72	82.58	-87.76	-298.32	283.88	270.05	13.83	20.532		
2,200.00	2,196.67	2,172.61	2,151.27	7.25	8.13	82.52	-93.35	-313.66	298.34	283.81	14.53	20.531		
2,300.00	2,296.49	2,271.55	2,248.86	7.60	8.54	82.45	-98.93	-329.01	312.80	297.56	15.24	20.530		
2,400.00	2,396.30	2,370.50	2,346.45	7.96	8.96	82.40	-104.52	-344.36	327.26	311.32	15.94	20.528		
2,500.00	2,496.11	2,469.45	2,444.04	8.31	9.37	82.35	-110.10	-359.70	341.72	325.08	16.65	20.526		
2,600.00	2,595.93	2,568.40	2,541.63	8.66	9.79	82.30	-115.69	-375.05	356.18	338.83	17.35	20.524		
2,700.00	2,695.74	2,667.35	2,639.22	9.02	10.20	82.26	-121.28	-390.40	370.65	352.59	18.06	20.522		
2,800.00	2,795.55	2,766.30	2,736.81	9.37	10.62	82.22	-126.86	-405.74	385.11	366.34	18.77	20.519		
2,900.00	2,895.37	2,865.24	2,834.41	9.72	11.03	82.18	-132.45	-421.09	399.57	380.10	19.48	20.517		
3,000.00	2,995.18	2,964.19	2,932.00	10.08	11.45	82.14	-138.03	-436.44	414.03	393.85	20.18	20.515		
3,100.00	3,095.00	3,063.14	3,029.59	10.43	11.86	82.11	-143.62	-451.78	428.50	407.61	20.89	20.512		
3,200.00	3,194.81	3,162.09	3,127.18	10.78	12.28	82.08	-149.20	-467.13	442.96	421.36	21.60	20.510		
3,300.00	3,294.62	3,261.04	3,224.77	11.14	12.69	82.05	-154.79	-482.47	457.42	435.11	22.31	20.507		
3,400.00	3,394.44	3,359.98	3,322.36	11.48	13.11	82.09	-160.37	-497.82	471.90	448.90	23.00	20.516		
3,500.00	3,494.38	3,458.84	3,419.86	11.73	13.52	82.05	-165.95	-513.15	486.72	463.12	23.60	20.621		
3,600.00	3,594.37	3,557.50	3,517.16	11.98	13.94	-88.46	-171.52	-528.45	502.01	477.82	24.19	20.752		
3,700.00	3,694.37	3,656.13	3,614.44	12.24	14.35	-89.13	-177.09	-543.75	517.42	492.64	24.78	20.882		
3,800.00	3,794.37	3,754.75	3,711.72	12.50	14.76	-89.76	-182.66	-559.05	532.90	507.53	25.37	21.006		
3,900.00	3,894.37	3,853.38	3,808.99	12.76	15.18	-90.35	-188.23	-574.34	548.44	522.48	25.96	21.123		
4,000.00	3,994.37	3,952.01	3,906.27	13.03	15.59	-90.92	-193.79	-589.64	564.04	537.47	26.56	21.234		
4,100.00	4,094.37	4,050.64	4,003.54	13.30	16.01	-91.45	-199.36	-604.94	579.68	552.52	27.17	21.339		
4,200.00	4,194.37	4,149.27	4,100.82	13.58	16.42	-91.95	-204.93	-620.23	595.37	567.60	27.77	21.439		
4,300.00	4,294.37	4,247.90	4,198.10	13.85	16.83	-92.43	-210.50	-635.53	611.11	582.73	28.38	21.533		
4,400.00	4,394.37	4,346.53	4,295.37	14.13	17.25	-92.89	-216.06	-650.83	626.88	597.89	28.99	21.623		
4,500.00	4,494.37	4,446.36	4,411.80	14.41	17.63	-93.37	-222.24	-667.81	641.64	612.05	29.60	21.680		
4,600.00	4,594.37	4,541.23	4,503.86	14.70	17.97	-93.73	-227.11	-681.19	652.42	622.22	30.19	21.610		
4,700.00	4,694.37	4,719.13	4,665.45	14.98	18.28	-93.94	-230.09	-689.35	658.94	628.15	30.79	21.398		
4,800.00	4,794.37	4,847.55	4,793.83	15.27	18.58	-94.01	-231.11	-692.16	661.18	629.77	31.42	21.046		
4,900.00	4,894.37	4,948.09	4,894.37	15.56	18.83	-94.01	-231.11	-692.16	661.18	629.19	31.99	20.668		
5,000.00	4,994.37	5,048.09	4,994.37	15.85	19.09	-94.01	-231.11	-692.16	661.18	628.62	32.56	20.306		
5,100.00	5,093.99	5,156.34	5,102.12	16.14	19.35	-93.95	-222.74	-692.16	661.14	628.02	33.12	19.965		
5,200.00	5,190.49	5,265.63	5,206.83	16.39	19.59	-93.74	-192.13	-692.16	660.97	627.36	33.61	19.667		
5,300.00	5,280.33	5,374.10	5,302.18	16.63	19.78	-93.37	-140.85	-692.17	660.71	626.66	34.06	19.400		
5,400.00	5,360.20	5,481.37	5,384.05	16.87	19.91	-92.87	-71.82	-692.17	660.41	625.90	34.50	19.140		
5,500.00	5,427.17	5,587.17	5,449.28	17.12	20.00	-92.27	11.25	-692.17	660.10	625.10	35.00	18.860		
5,600.00	5,478.78	5,691.31	5,495.83	17.42	20.05	-91.58	104.21	-692.18	659.84	624.25	35.59	18.540		
5,700.00	5,513.13	5,793.70	5,522.70	17.78	20.08	-90.84	202.85	-692.18	659.67	623.36	36.30	18.171		
5,800.00	5,528.96	5,894.31	5,530.00	18.22	20.15	-90.09	303.05	-692.19	659.60	622.46	37.14	17.760		
5,803.79	5,529.20	5,898.10	5,530.00	18.24	20.15	-90.07	306.83	-692.19	659.60	622.43	37.18	17.743		
5,900.00	5,530.00	5,994.29	5,530.00	18.72	20.33	-90.00	403.03	-692.19	659.61	621.48	38.13	17.301		
6,000.00	5,530.00	6,094.29	5,530.00	19.33	20.71	-90.00	503.03	-692.19	659.62	620.31	39.31	16.782		
6,100.00	5,530.00	6,194.29	5,530.00	20.03	21.29	-90.00	603.03	-692.20	659.62	618.96	40.66	16.221		
6,200.00	5,530.00	6,294.29	5,530.00	20.81	21.99	-90.00	703.03	-692.20	659.63	617.45	42.19	15.636		

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



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Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,300.00	5,530.00	6,394.29	5,530.00	21.66	22.78	-90.00	803.03	-692.21	659.64	615.79	43.85	15.042		
6,400.00	5,530.00	6,494.29	5,530.00	22.57	23.64	-90.00	903.03	-692.21	659.65	614.00	45.65	14.451		
6,500.00	5,530.00	6,594.29	5,530.00	23.55	24.57	-90.00	1,003.03	-692.22	659.65	612.10	47.56	13.871		
6,600.00	5,530.00	6,694.29	5,530.00	24.57	25.54	-90.00	1,103.03	-692.22	659.66	610.09	49.57	13.308		
6,700.00	5,530.00	6,794.29	5,530.00	25.63	26.57	-90.00	1,203.03	-692.23	659.67	608.00	51.67	12.767		
6,800.00	5,530.00	6,894.29	5,530.00	26.74	27.63	-90.00	1,303.03	-692.23	659.68	605.83	53.85	12.251		
6,900.00	5,530.00	6,994.29	5,530.00	27.87	28.73	-90.00	1,403.03	-692.23	659.68	603.59	56.10	11.760		
7,000.00	5,530.00	7,094.29	5,530.00	29.04	29.86	-90.00	1,503.03	-692.24	659.69	601.28	58.41	11.295		
7,100.00	5,530.00	7,194.29	5,530.00	30.24	31.02	-90.00	1,603.03	-692.24	659.70	598.92	60.77	10.855		
7,200.00	5,530.00	7,294.29	5,530.00	31.45	32.20	-90.00	1,703.03	-692.25	659.71	596.52	63.19	10.440		
7,300.00	5,530.00	7,394.29	5,530.00	32.69	33.41	-90.00	1,803.03	-692.25	659.71	594.07	65.65	10.050		
7,400.00	5,530.00	7,494.29	5,530.00	33.95	34.64	-90.00	1,903.03	-692.26	659.72	591.58	68.14	9.682		
7,500.00	5,530.00	7,594.29	5,530.00	35.22	35.88	-90.00	2,003.03	-692.26	659.73	589.06	70.67	9.335		
7,600.00	5,530.00	7,694.29	5,530.00	36.51	37.14	-90.00	2,103.03	-692.26	659.74	586.50	73.23	9.009		
7,700.00	5,530.00	7,794.29	5,530.00	37.82	38.42	-90.00	2,203.03	-692.27	659.74	583.92	75.82	8.701		
7,800.00	5,530.00	7,894.29	5,530.00	39.13	39.71	-90.00	2,303.03	-692.27	659.75	581.31	78.44	8.411		
7,900.00	5,530.00	7,994.29	5,530.00	40.46	41.01	-90.00	2,403.03	-692.28	659.76	578.68	81.07	8.138		
8,000.00	5,530.00	8,094.29	5,530.00	41.79	42.32	-90.00	2,503.03	-692.28	659.76	576.04	83.73	7.880		
8,100.00	5,530.00	8,194.29	5,530.00	43.13	43.65	-90.00	2,603.03	-692.29	659.77	573.37	86.41	7.636		
8,200.00	5,530.00	8,294.29	5,530.00	44.49	44.98	-90.00	2,703.03	-692.29	659.78	570.68	89.10	7.405		
8,300.00	5,530.00	8,394.29	5,530.00	45.85	46.32	-90.00	2,803.03	-692.29	659.79	567.98	91.81	7.187		
8,400.00	5,530.00	8,494.29	5,530.00	47.21	47.67	-90.00	2,903.03	-692.30	659.79	565.27	94.53	6.980		
8,500.00	5,530.00	8,594.29	5,530.00	48.58	49.02	-90.00	3,003.03	-692.30	659.80	562.54	97.26	6.784		
8,600.00	5,530.00	8,694.29	5,530.00	49.96	50.38	-90.00	3,103.03	-692.31	659.81	559.80	100.01	6.598		
8,700.00	5,530.00	8,794.29	5,530.00	51.34	51.75	-90.00	3,203.03	-692.31	659.82	557.05	102.77	6.421		
8,800.00	5,530.00	8,894.29	5,530.00	52.73	53.12	-90.00	3,303.03	-692.32	659.82	554.29	105.53	6.252		
8,900.00	5,530.00	8,994.29	5,530.00	54.12	54.50	-90.00	3,403.03	-692.32	659.83	551.52	108.31	6.092		
9,000.00	5,530.00	9,094.29	5,530.00	55.52	55.88	-90.00	3,503.03	-692.33	659.84	548.74	111.10	5.939		
9,100.00	5,530.00	9,194.29	5,530.00	56.92	57.27	-90.00	3,603.03	-692.33	659.85	545.96	113.89	5.794		
9,200.00	5,530.00	9,294.29	5,530.00	58.32	58.66	-90.00	3,703.03	-692.33	659.85	543.16	116.69	5.655		
9,300.00	5,530.00	9,394.29	5,530.00	59.73	60.05	-90.00	3,803.03	-692.34	659.86	540.36	119.50	5.522		
9,400.00	5,530.00	9,494.29	5,530.00	61.14	61.45	-90.00	3,903.03	-692.34	659.87	537.56	122.31	5.395		
9,500.00	5,530.00	9,594.29	5,530.00	62.55	62.85	-90.00	4,003.03	-692.35	659.88	534.74	125.13	5.273		
9,600.00	5,530.00	9,694.29	5,530.00	63.97	64.26	-90.00	4,103.03	-692.35	659.88	531.93	127.96	5.157		
9,700.00	5,530.00	9,794.29	5,530.00	65.39	65.67	-90.00	4,203.03	-692.36	659.89	529.10	130.79	5.045		
9,800.00	5,530.00	9,894.29	5,530.00	66.81	67.08	-90.00	4,303.03	-692.36	659.90	526.27	133.62	4.938		
9,900.00	5,530.00	9,994.29	5,530.00	68.23	68.49	-90.00	4,403.03	-692.36	659.90	523.44	136.46	4.836		
10,000.00	5,530.00	10,094.29	5,530.00	69.66	69.91	-90.00	4,503.03	-692.37	659.91	520.60	139.31	4.737		
10,100.00	5,530.00	10,194.29	5,530.00	71.08	71.32	-90.00	4,603.03	-692.37	659.92	517.76	142.16	4.642		
10,200.00	5,530.00	10,294.29	5,530.00	72.51	72.74	-90.00	4,703.03	-692.38	659.93	514.92	145.01	4.551		
10,300.00	5,530.00	10,394.29	5,530.00	73.94	74.16	-90.00	4,803.03	-692.38	659.93	512.07	147.87	4.463		
10,400.00	5,530.00	10,494.29	5,530.00	75.37	75.59	-90.00	4,903.03	-692.39	659.94	509.22	150.72	4.378		
10,500.00	5,530.00	10,594.29	5,530.00	76.80	77.01	-90.00	5,003.03	-692.39	659.95	506.36	153.59	4.297		
10,600.00	5,530.00	10,694.29	5,530.00	78.24	78.44	-90.00	5,103.03	-692.40	659.96	503.50	156.45	4.218		
10,700.00	5,530.00	10,794.29	5,530.00	79.67	79.87	-90.00	5,203.03	-692.40	659.96	500.64	159.32	4.142		
10,800.00	5,530.00	10,894.29	5,530.00	81.11	81.30	-90.00	5,303.03	-692.40	659.97	497.78	162.19	4.069		
10,900.00	5,530.00	10,994.29	5,530.00	82.55	82.73	-90.00	5,403.03	-692.41	659.98	494.91	165.06	3.998		
11,000.00	5,530.00	11,094.29	5,530.00	83.99	84.16	-90.00	5,503.03	-692.41	659.99	492.05	167.94	3.930		
11,100.00	5,530.00	11,194.29	5,530.00	85.43	85.60	-90.00	5,603.03	-692.42	659.99	489.17	170.82	3.864		
11,200.00	5,530.00	11,294.29	5,530.00	86.87	87.03	-90.00	5,703.03	-692.42	660.00	486.30	173.70	3.800		
11,300.00	5,530.00	11,394.29	5,530.00	88.31	88.47	-90.00	5,803.03	-692.43	660.01	483.43	176.58	3.738		
11,400.00	5,530.00	11,494.29	5,530.00	89.76	89.91	-90.00	5,903.03	-692.43	660.02	480.55	179.47	3.678		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
11,500.00	5,530.00	11,594.29	5,530.00	91.20	91.35	-90.00	6,003.03	-692.43	660.02	477.67	182.35	3.619		
11,600.00	5,530.00	11,694.29	5,530.00	92.65	92.79	-90.00	6,103.03	-692.44	660.03	474.79	185.24	3.563		
11,700.00	5,530.00	11,794.29	5,530.00	94.09	94.23	-90.00	6,203.03	-692.44	660.04	471.91	188.13	3.508		
11,800.00	5,530.00	11,894.29	5,530.00	95.54	95.67	-90.00	6,303.03	-692.45	660.05	469.02	191.02	3.455		
11,900.00	5,530.00	11,994.29	5,530.00	96.99	97.11	-90.00	6,403.03	-692.45	660.05	466.14	193.92	3.404		
12,000.00	5,530.00	12,094.29	5,530.00	98.44	98.56	-90.00	6,503.03	-692.46	660.06	463.25	196.81	3.354		
12,100.00	5,530.00	12,194.29	5,530.00	99.89	100.00	-90.00	6,603.03	-692.46	660.07	460.36	199.71	3.305		
12,200.00	5,530.00	12,294.29	5,530.00	101.34	101.45	-90.00	6,703.03	-692.46	660.07	457.47	202.60	3.258		
12,300.00	5,530.00	12,394.29	5,530.00	102.79	102.89	-90.00	6,803.03	-692.47	660.08	454.58	205.50	3.212		
12,400.00	5,530.00	12,494.29	5,530.00	104.24	104.34	-90.00	6,903.03	-692.47	660.09	451.69	208.40	3.167		
12,500.00	5,530.00	12,594.29	5,530.00	105.69	105.79	-90.00	7,003.03	-692.48	660.10	448.79	211.30	3.124		
12,600.00	5,530.00	12,694.29	5,530.00	107.14	107.23	-90.00	7,103.03	-692.48	660.10	445.90	214.20	3.082		
12,700.00	5,530.00	12,794.29	5,530.00	108.59	108.68	-90.00	7,203.03	-692.49	660.11	443.00	217.11	3.040		
12,800.00	5,530.00	12,894.29	5,530.00	110.05	110.13	-90.00	7,303.03	-692.49	660.12	440.11	220.01	3.000		
12,900.00	5,530.00	12,994.29	5,530.00	111.50	111.58	-90.00	7,403.03	-692.50	660.13	437.21	222.92	2.961		
13,000.00	5,530.00	13,094.29	5,530.00	112.95	113.03	-90.00	7,503.03	-692.50	660.13	434.31	225.82	2.923		
13,100.00	5,530.00	13,194.29	5,530.00	114.41	114.48	-90.00	7,603.03	-692.50	660.14	431.41	228.73	2.886		
13,200.00	5,530.00	13,294.29	5,530.00	115.86	115.93	-90.00	7,703.03	-692.51	660.15	428.51	231.64	2.850		
13,300.00	5,530.00	13,394.29	5,530.00	117.32	117.39	-90.00	7,803.03	-692.51	660.16	425.61	234.55	2.815		
13,400.00	5,530.00	13,494.29	5,530.00	118.78	118.84	-90.00	7,903.03	-692.52	660.16	422.70	237.46	2.780		
13,500.00	5,530.00	13,594.29	5,530.00	120.23	120.29	-90.00	8,003.03	-692.52	660.17	419.80	240.37	2.746		
13,600.00	5,530.00	13,694.29	5,530.00	121.69	121.75	-90.00	8,103.03	-692.53	660.18	416.90	243.28	2.714		
13,700.00	5,530.00	13,794.29	5,530.00	123.14	123.20	-90.00	8,203.03	-692.53	660.19	413.99	246.19	2.682		
13,800.00	5,530.00	13,894.29	5,530.00	124.60	124.65	-90.00	8,303.03	-692.53	660.19	411.09	249.11	2.650		
13,900.00	5,530.00	13,994.29	5,530.00	126.06	126.11	-90.00	8,403.03	-692.54	660.20	408.18	252.02	2.620		
14,000.00	5,530.00	14,094.29	5,530.00	127.52	127.56	-90.00	8,503.03	-692.54	660.21	405.27	254.94	2.590		
14,100.00	5,530.00	14,194.29	5,530.00	128.98	129.02	-90.00	8,603.03	-692.55	660.22	402.37	257.85	2.560		
14,200.00	5,530.00	14,294.29	5,530.00	130.43	130.47	-90.00	8,703.03	-692.55	660.22	399.46	260.77	2.532		
14,300.00	5,530.00	14,394.29	5,530.00	131.89	131.93	-90.00	8,803.03	-692.56	660.23	396.55	263.68	2.504		
14,400.00	5,530.00	14,494.29	5,530.00	133.35	133.39	-90.00	8,903.03	-692.56	660.24	393.64	266.60	2.477		
14,500.00	5,530.00	14,594.29	5,530.00	134.81	134.84	-90.00	9,003.03	-692.57	660.24	390.73	269.52	2.450		
14,600.00	5,530.00	14,694.29	5,530.00	136.27	136.30	-90.00	9,103.03	-692.57	660.25	387.82	272.43	2.424		
14,700.00	5,530.00	14,794.29	5,530.00	137.73	137.76	-90.00	9,203.03	-692.57	660.26	384.91	275.35	2.398		
14,800.00	5,530.00	14,894.29	5,530.00	139.19	139.22	-90.00	9,303.03	-692.58	660.27	381.99	278.27	2.373		
14,900.00	5,530.00	14,994.29	5,530.00	140.65	140.67	-90.00	9,403.03	-692.58	660.27	379.08	281.19	2.348		
15,000.00	5,530.00	15,094.29	5,530.00	142.11	142.13	-90.00	9,503.03	-692.59	660.28	376.17	284.11	2.324		
15,100.00	5,530.00	15,194.29	5,530.00	143.57	143.59	-90.00	9,603.03	-692.59	660.29	373.26	287.03	2.300		
15,200.00	5,530.00	15,294.29	5,530.00	145.03	145.05	-90.00	9,703.03	-692.60	660.30	370.34	289.95	2.277		
15,300.00	5,530.00	15,394.29	5,530.00	146.50	146.51	-90.00	9,803.03	-692.60	660.30	367.43	292.88	2.255		
15,400.00	5,530.00	15,494.29	5,530.00	147.96	147.97	-90.00	9,903.03	-692.60	660.31	364.51	295.80	2.232		
15,500.00	5,530.00	15,594.29	5,530.00	149.42	149.43	-90.00	10,003.03	-692.61	660.32	361.60	298.72	2.210		
15,600.00	5,530.00	15,694.29	5,530.00	150.88	150.89	-90.00	10,103.03	-692.61	660.33	358.68	301.64	2.189		
15,614.16	5,530.00	15,708.45	5,530.00	151.09	151.09	-90.00	10,117.18	-692.61	660.33	358.27	302.06	2.186		
15,631.67	5,530.00	15,722.97	5,530.00	151.34	151.30	-90.00	10,131.70	-692.61	660.34	357.81	302.52	2.183 SF		



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-90.01	0.00	-29.99	29.99					
100.00	100.00	100.00	100.00	0.13	0.13	-90.01	0.00	-29.99	29.99	29.73	0.27	112.606		
200.00	200.00	200.00	200.00	0.47	0.47	-90.01	0.00	-29.99	29.99	29.05	0.94	31.885		
300.00	300.00	300.00	300.00	0.81	0.81	-90.01	0.00	-29.99	29.99	28.38	1.61	18.572 CC, ES		
400.00	399.98	399.07	399.05	1.11	1.12	81.57	-0.83	-31.49	31.21	28.99	2.22	14.060		
500.00	499.84	498.01	497.85	1.41	1.43	85.47	-3.32	-35.98	35.01	32.20	2.81	12.444		
600.00	599.66	597.26	596.76	1.71	1.75	87.41	-7.29	-43.13	41.35	37.89	3.45	11.977		
700.00	699.47	697.03	696.15	2.03	2.08	88.50	-11.50	-50.73	48.09	43.99	4.10	11.717		
800.00	799.29	796.80	795.54	2.37	2.43	89.32	-15.72	-58.34	54.85	50.08	4.77	11.493		
900.00	899.10	896.57	894.93	2.71	2.78	89.96	-19.93	-65.95	61.62	56.17	5.45	11.305		
1,000.00	998.91	996.33	994.32	3.05	3.13	90.47	-24.15	-73.55	68.40	62.26	6.14	11.147		
1,100.00	1,098.73	1,096.10	1,093.71	3.39	3.49	90.89	-28.36	-81.16	75.18	68.35	6.83	11.014		
1,200.00	1,198.54	1,195.87	1,193.10	3.74	3.85	91.24	-32.58	-88.76	81.96	74.44	7.52	10.901		
1,300.00	1,298.35	1,295.64	1,292.49	4.09	4.21	91.54	-36.80	-96.37	88.75	80.53	8.21	10.804		
1,400.00	1,398.17	1,395.41	1,391.87	4.44	4.57	91.79	-41.01	-103.97	95.54	86.62	8.91	10.719		
1,500.00	1,497.98	1,495.18	1,491.26	4.79	4.93	92.01	-45.23	-111.58	102.33	92.71	9.61	10.646		
1,600.00	1,597.79	1,594.95	1,590.65	5.14	5.29	92.21	-49.44	-119.18	109.12	98.81	10.31	10.581		
1,700.00	1,697.61	1,694.71	1,690.04	5.49	5.65	92.38	-53.66	-126.79	115.91	104.90	11.01	10.524		
1,800.00	1,797.42	1,794.48	1,789.43	5.84	6.01	92.53	-57.87	-134.39	122.70	110.99	11.72	10.473		
1,900.00	1,897.23	1,894.25	1,888.82	6.19	6.38	92.67	-62.09	-142.00	129.50	117.08	12.42	10.427		
2,000.00	1,997.05	1,994.02	1,988.21	6.55	6.74	92.79	-66.30	-149.60	136.29	123.17	13.12	10.386		
2,100.00	2,096.86	2,093.79	2,087.60	6.90	7.10	92.90	-70.52	-157.21	143.09	129.26	13.83	10.348		
2,200.00	2,196.67	2,193.56	2,186.98	7.25	7.46	93.00	-74.74	-164.81	149.88	135.35	14.53	10.314		
2,300.00	2,296.49	2,293.32	2,286.37	7.60	7.83	93.09	-78.95	-172.42	156.68	141.44	15.24	10.283		
2,400.00	2,396.30	2,393.09	2,385.76	7.96	8.19	93.18	-83.17	-180.02	163.47	147.53	15.94	10.254		
2,500.00	2,496.11	2,492.86	2,485.15	8.31	8.55	93.25	-87.38	-187.63	170.27	153.62	16.65	10.228		
2,600.00	2,595.93	2,592.63	2,584.54	8.66	8.92	93.33	-91.60	-195.23	177.07	159.71	17.35	10.204		
2,700.00	2,695.74	2,692.40	2,683.93	9.02	9.28	93.39	-95.81	-202.84	183.87	165.81	18.06	10.181		
2,800.00	2,795.55	2,792.17	2,783.32	9.37	9.64	93.45	-100.03	-210.44	190.66	171.90	18.77	10.160		
2,900.00	2,895.37	2,891.94	2,882.71	9.72	10.01	93.51	-104.24	-218.05	197.46	177.99	19.47	10.141		
3,000.00	2,995.18	2,991.70	2,982.10	10.08	10.37	93.56	-108.46	-225.65	204.26	184.08	20.18	10.123		
3,100.00	3,095.00	3,091.47	3,081.48	10.43	10.73	93.61	-112.68	-233.26	211.06	190.17	20.89	10.106		
3,200.00	3,194.81	3,191.24	3,180.87	10.78	11.10	93.66	-116.89	-240.86	217.85	196.26	21.59	10.090		
3,300.00	3,294.62	3,291.01	3,280.26	11.14	11.46	93.71	-121.11	-248.47	224.65	202.35	22.30	10.075		
3,400.00	3,394.44	3,390.78	3,379.65	11.48	11.82	93.75	-125.32	-256.07	231.44	208.45	22.99	10.066		
3,500.00	3,494.38	3,490.52	3,479.02	11.73	12.19	93.30	-129.54	-263.68	238.08	214.49	23.59	10.091		
3,600.00	3,594.37	3,590.16	3,578.28	11.98	12.55	-77.91	-133.75	-271.27	244.62	220.43	24.18	10.115		
3,700.00	3,694.37	3,689.78	3,677.52	12.24	12.91	-79.21	-137.96	-278.87	251.26	226.49	24.78	10.142		
3,800.00	3,794.37	3,789.40	3,776.76	12.50	13.28	-80.45	-142.17	-286.46	258.03	232.66	25.37	10.171		
3,900.00	3,894.37	3,889.02	3,876.00	12.76	13.64	-81.62	-146.38	-294.05	264.91	238.95	25.97	10.202		
4,000.00	3,994.37	3,988.64	3,975.24	13.03	14.01	-82.74	-150.58	-301.65	271.90	245.33	26.57	10.235		
4,100.00	4,094.37	4,088.26	4,074.48	13.30	14.37	-83.79	-154.79	-309.24	278.98	251.82	27.17	10.269		
4,200.00	4,194.37	4,187.88	4,173.72	13.58	14.73	-84.80	-159.00	-316.84	286.16	258.39	27.77	10.303		
4,300.00	4,294.37	4,287.50	4,272.96	13.85	15.10	-85.75	-163.21	-324.43	293.42	265.03	28.38	10.338		
4,400.00	4,394.37	4,387.12	4,372.20	14.13	15.46	-86.66	-167.42	-332.02	300.75	271.76	28.99	10.373		
4,500.00	4,494.37	4,486.74	4,471.44	14.41	15.82	-87.53	-171.63	-339.62	308.16	278.55	29.61	10.409		
4,600.00	4,594.37	4,586.36	4,570.68	14.70	16.19	-88.36	-175.84	-347.21	315.63	285.41	30.22	10.444		
4,700.00	4,694.37	4,688.88	4,673.83	14.98	16.54	-89.15	-180.08	-354.86	322.95	292.12	30.83	10.474		
4,800.00	4,794.37	4,800.69	4,784.47	15.27	16.82	-89.67	-182.98	-360.09	327.65	296.26	31.39	10.437		
4,900.00	4,894.37	4,910.61	4,894.37	15.56	17.12	-89.82	-183.81	-361.60	329.00	297.01	31.99	10.285		
5,000.00	4,994.37	5,010.61	4,994.37	15.85	17.40	-89.82	-183.81	-361.60	329.00	296.43	32.57	10.102		
5,039.77	5,034.11	5,050.35	5,034.11	15.97	17.50	-90.04	-183.81	-361.60	329.00	296.21	32.78	10.035		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	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	5,093.99	5,110.34	5,094.10	16.14	17.66	-91.00	-183.72	-361.60	329.05	295.95	33.10	9.942		
5,200.00	5,190.49	5,211.85	5,194.76	16.39	17.93	-93.46	-171.93	-361.60	329.61	296.06	33.56	9.823		
5,300.00	5,280.33	5,316.33	5,293.96	16.63	18.17	-95.82	-139.68	-361.60	330.74	296.78	33.96	9.740		
5,400.00	5,360.20	5,423.84	5,387.21	16.87	18.39	-97.98	-86.56	-361.60	332.27	297.95	34.32	9.681		
5,500.00	5,427.17	5,534.28	5,469.57	17.12	18.57	-99.84	-13.29	-361.60	333.97	299.28	34.69	9.627		
5,600.00	5,478.78	5,647.33	5,535.97	17.42	18.71	-101.30	77.93	-361.61	335.56	300.43	35.14	9.550		
5,700.00	5,513.13	5,762.43	5,581.78	17.78	18.80	-102.31	183.26	-361.61	336.78	301.05	35.73	9.425		
5,800.00	5,528.96	5,878.82	5,603.49	18.22	19.09	-102.80	297.37	-361.62	337.42	300.88	36.54	9.235		
5,900.00	5,530.00	5,984.53	5,605.00	18.72	19.61	-102.84	403.04	-361.62	337.48	299.97	37.51	8.997		
6,000.00	5,530.00	6,084.53	5,605.00	19.33	20.20	-102.84	503.04	-361.63	337.49	298.83	38.66	8.730		
6,100.00	5,530.00	6,184.53	5,605.00	20.03	20.88	-102.84	603.04	-361.63	337.50	297.51	39.98	8.441		
6,200.00	5,530.00	6,284.53	5,605.00	20.81	21.63	-102.84	703.04	-361.64	337.50	296.04	41.47	8.139		
6,300.00	5,530.00	6,384.53	5,605.00	21.66	22.46	-102.84	803.04	-361.64	337.51	294.42	43.09	7.833		
6,400.00	5,530.00	6,484.53	5,605.00	22.57	23.34	-102.84	903.04	-361.65	337.52	292.68	44.84	7.527		
6,500.00	5,530.00	6,584.53	5,605.00	23.55	24.29	-102.84	1,003.04	-361.65	337.53	290.82	46.70	7.227		
6,600.00	5,530.00	6,684.53	5,605.00	24.57	25.28	-102.84	1,103.04	-361.66	337.53	288.87	48.67	6.936		
6,700.00	5,530.00	6,784.53	5,605.00	25.63	26.32	-102.84	1,203.04	-361.66	337.54	286.83	50.72	6.656		
6,800.00	5,530.00	6,884.53	5,605.00	26.74	27.39	-102.84	1,303.04	-361.66	337.55	284.71	52.84	6.388		
6,900.00	5,530.00	6,984.53	5,605.00	27.87	28.50	-102.84	1,403.04	-361.67	337.56	282.52	55.04	6.133		
7,000.00	5,530.00	7,084.53	5,605.00	29.04	29.65	-102.84	1,503.04	-361.67	337.56	280.27	57.30	5.892		
7,100.00	5,530.00	7,184.53	5,605.00	30.24	30.82	-102.84	1,603.04	-361.68	337.57	277.96	59.61	5.663		
7,200.00	5,530.00	7,284.53	5,605.00	31.45	32.01	-102.84	1,703.04	-361.68	337.58	275.61	61.97	5.448		
7,300.00	5,530.00	7,384.53	5,605.00	32.69	33.23	-102.84	1,803.04	-361.69	337.59	273.22	64.37	5.245		
7,400.00	5,530.00	7,484.53	5,605.00	33.95	34.47	-102.84	1,903.04	-361.69	337.59	270.79	66.81	5.053		
7,500.00	5,530.00	7,584.53	5,605.00	35.22	35.72	-102.84	2,003.04	-361.70	337.60	268.32	69.28	4.873		
7,600.00	5,530.00	7,684.53	5,605.00	36.51	36.99	-102.84	2,103.04	-361.70	337.61	265.83	71.78	4.703		
7,700.00	5,530.00	7,784.53	5,605.00	37.82	38.28	-102.84	2,203.04	-361.71	337.62	263.30	74.31	4.543		
7,800.00	5,530.00	7,884.53	5,605.00	39.13	39.57	-102.83	2,303.04	-361.71	337.62	260.75	76.87	4.392		
7,900.00	5,530.00	7,984.53	5,605.00	40.46	40.88	-102.83	2,403.04	-361.71	337.63	258.18	79.45	4.250		
8,000.00	5,530.00	8,084.53	5,605.00	41.79	42.20	-102.83	2,503.04	-361.72	337.64	255.59	82.04	4.115		
8,100.00	5,530.00	8,184.53	5,605.00	43.13	43.53	-102.83	2,603.04	-361.72	337.64	252.98	84.66	3.988		
8,200.00	5,530.00	8,284.53	5,605.00	44.49	44.87	-102.83	2,703.04	-361.73	337.65	250.36	87.29	3.868		
8,300.00	5,530.00	8,384.53	5,605.00	45.85	46.22	-102.83	2,803.04	-361.73	337.66	247.72	89.94	3.754		
8,400.00	5,530.00	8,484.53	5,605.00	47.21	47.57	-102.83	2,903.04	-361.74	337.67	245.06	92.60	3.646		
8,500.00	5,530.00	8,584.53	5,605.00	48.58	48.93	-102.83	3,003.04	-361.74	337.67	242.39	95.28	3.544		
8,600.00	5,530.00	8,684.53	5,605.00	49.96	50.30	-102.83	3,103.04	-361.75	337.68	239.71	97.97	3.447		
8,700.00	5,530.00	8,784.53	5,605.00	51.34	51.67	-102.83	3,203.04	-361.75	337.69	237.02	100.66	3.355		
8,800.00	5,530.00	8,884.53	5,605.00	52.73	53.05	-102.83	3,303.04	-361.76	337.70	234.32	103.37	3.267		
8,900.00	5,530.00	8,984.53	5,605.00	54.12	54.43	-102.83	3,403.04	-361.76	337.70	231.62	106.09	3.183		
9,000.00	5,530.00	9,084.53	5,605.00	55.52	55.82	-102.83	3,503.04	-361.76	337.71	228.90	108.81	3.104		
9,100.00	5,530.00	9,184.53	5,605.00	56.92	57.21	-102.83	3,603.04	-361.77	337.72	226.17	111.55	3.028		
9,200.00	5,530.00	9,284.53	5,605.00	58.32	58.61	-102.83	3,703.04	-361.77	337.73	223.44	114.29	2.955		
9,300.00	5,530.00	9,384.53	5,605.00	59.73	60.01	-102.83	3,803.04	-361.78	337.73	220.70	117.03	2.886		
9,400.00	5,530.00	9,484.53	5,605.00	61.14	61.41	-102.83	3,903.04	-361.78	337.74	217.95	119.79	2.820		
9,500.00	5,530.00	9,584.53	5,605.00	62.55	62.81	-102.83	4,003.04	-361.79	337.75	215.20	122.55	2.756		
9,600.00	5,530.00	9,684.53	5,605.00	63.97	64.22	-102.83	4,103.04	-361.79	337.76	212.44	125.31	2.695		
9,700.00	5,530.00	9,784.53	5,605.00	65.39	65.63	-102.83	4,203.04	-361.80	337.76	209.68	128.08	2.637		
9,800.00	5,530.00	9,884.53	5,605.00	66.81	67.05	-102.83	4,303.04	-361.80	337.77	206.91	130.86	2.581		
9,900.00	5,530.00	9,984.53	5,605.00	68.23	68.46	-102.83	4,403.04	-361.81	337.78	204.14	133.63	2.528		
10,000.00	5,530.00	10,084.53	5,605.00	69.66	69.88	-102.83	4,503.04	-361.81	337.79	201.37	136.42	2.476		
10,100.00	5,530.00	10,184.53	5,605.00	71.08	71.30	-102.83	4,603.04	-361.81	337.79	198.59	139.21	2.427		
10,200.00	5,530.00	10,284.53	5,605.00	72.51	72.73	-102.83	4,703.04	-361.82	337.80	195.80	142.00	2.379		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,300.00	5,530.00	10,384.53	5,605.00	73.94	74.15	-102.83	4,803.04	-361.82	337.81	193.02	144.79	2.333		
10,400.00	5,530.00	10,484.53	5,605.00	75.37	75.58	-102.83	4,903.04	-361.83	337.81	190.22	147.59	2.289		
10,500.00	5,530.00	10,584.53	5,605.00	76.80	77.01	-102.83	5,003.04	-361.83	337.82	187.43	150.39	2.246		
10,600.00	5,530.00	10,684.53	5,605.00	78.24	78.44	-102.83	5,103.04	-361.84	337.83	184.63	153.20	2.205		
10,700.00	5,530.00	10,784.53	5,605.00	79.67	79.87	-102.83	5,203.04	-361.84	337.84	181.83	156.00	2.166		
10,800.00	5,530.00	10,884.53	5,605.00	81.11	81.30	-102.83	5,303.04	-361.85	337.84	179.03	158.81	2.127		
10,900.00	5,530.00	10,984.53	5,605.00	82.55	82.73	-102.83	5,403.04	-361.85	337.85	176.23	161.62	2.090		
11,000.00	5,530.00	11,084.53	5,605.00	83.99	84.17	-102.83	5,503.04	-361.86	337.86	173.42	164.44	2.055		
11,100.00	5,530.00	11,184.53	5,605.00	85.43	85.61	-102.83	5,603.04	-361.86	337.87	170.61	167.26	2.020		
11,200.00	5,530.00	11,284.53	5,605.00	86.87	87.04	-102.83	5,703.04	-361.86	337.87	167.80	170.08	1.987		
11,300.00	5,530.00	11,384.53	5,605.00	88.31	88.48	-102.82	5,803.04	-361.87	337.88	164.98	172.90	1.954		
11,400.00	5,530.00	11,484.53	5,605.00	89.76	89.92	-102.82	5,903.04	-361.87	337.89	162.17	175.72	1.923		
11,500.00	5,530.00	11,584.53	5,605.00	91.20	91.36	-102.82	6,003.04	-361.88	337.90	159.35	178.54	1.893		
11,600.00	5,530.00	11,684.53	5,605.00	92.65	92.81	-102.82	6,103.04	-361.88	337.90	156.53	181.37	1.863		
11,700.00	5,530.00	11,784.53	5,605.00	94.09	94.25	-102.82	6,203.04	-361.89	337.91	153.71	184.20	1.834		
11,800.00	5,530.00	11,884.53	5,605.00	95.54	95.69	-102.82	6,303.04	-361.89	337.92	150.89	187.03	1.807		
11,900.00	5,530.00	11,984.53	5,605.00	96.99	97.14	-102.82	6,403.04	-361.90	337.93	148.06	189.86	1.780		
12,000.00	5,530.00	12,084.53	5,605.00	98.44	98.58	-102.82	6,503.04	-361.90	337.93	145.24	192.69	1.754		
12,100.00	5,530.00	12,184.53	5,605.00	99.89	100.03	-102.82	6,603.04	-361.91	337.94	142.41	195.53	1.728		
12,200.00	5,530.00	12,284.53	5,605.00	101.34	101.48	-102.82	6,703.04	-361.91	337.95	139.58	198.37	1.704		
12,300.00	5,530.00	12,384.53	5,605.00	102.79	102.92	-102.82	6,803.04	-361.91	337.95	136.75	201.20	1.680		
12,400.00	5,530.00	12,484.53	5,605.00	104.24	104.37	-102.82	6,903.04	-361.92	337.96	133.92	204.04	1.656		
12,500.00	5,530.00	12,584.53	5,605.00	105.69	105.82	-102.82	7,003.04	-361.92	337.97	131.09	206.88	1.634		
12,600.00	5,530.00	12,684.53	5,605.00	107.14	107.27	-102.82	7,103.04	-361.93	337.98	128.26	209.72	1.612		
12,700.00	5,530.00	12,784.53	5,605.00	108.59	108.72	-102.82	7,203.04	-361.93	337.98	125.42	212.56	1.590		
12,800.00	5,530.00	12,884.53	5,605.00	110.05	110.17	-102.82	7,303.04	-361.94	337.99	122.59	215.41	1.569		
12,900.00	5,530.00	12,984.53	5,605.00	111.50	111.62	-102.82	7,403.04	-361.94	338.00	119.75	218.25	1.549		
13,000.00	5,530.00	13,084.53	5,605.00	112.95	113.07	-102.82	7,503.04	-361.95	338.01	116.91	221.10	1.529		
13,100.00	5,530.00	13,184.53	5,605.00	114.41	114.53	-102.82	7,603.04	-361.95	338.01	114.07	223.94	1.509		
13,200.00	5,530.00	13,284.53	5,605.00	115.86	115.98	-102.82	7,703.04	-361.96	338.02	111.23	226.79	1.490 Level 3		
13,300.00	5,530.00	13,384.53	5,605.00	117.32	117.43	-102.82	7,803.04	-361.96	338.03	108.39	229.64	1.472 Level 3		
13,400.00	5,530.00	13,484.53	5,605.00	118.78	118.89	-102.82	7,903.04	-361.96	338.04	105.55	232.48	1.454 Level 3		
13,500.00	5,530.00	13,584.53	5,605.00	120.23	120.34	-102.82	8,003.04	-361.97	338.04	102.71	235.33	1.436 Level 3		
13,600.00	5,530.00	13,684.53	5,605.00	121.69	121.79	-102.82	8,103.04	-361.97	338.05	99.87	238.18	1.419 Level 3		
13,700.00	5,530.00	13,784.53	5,605.00	123.14	123.25	-102.82	8,203.04	-361.98	338.06	97.02	241.03	1.403 Level 3		
13,800.00	5,530.00	13,884.53	5,605.00	124.60	124.70	-102.82	8,303.04	-361.98	338.07	94.18	243.89	1.386 Level 3		
13,900.00	5,530.00	13,984.53	5,605.00	126.06	126.16	-102.82	8,403.04	-361.99	338.07	91.33	246.74	1.370 Level 3		
14,000.00	5,530.00	14,084.53	5,605.00	127.52	127.62	-102.82	8,503.04	-361.99	338.08	88.49	249.59	1.355 Level 3		
14,100.00	5,530.00	14,184.53	5,605.00	128.98	129.07	-102.82	8,603.04	-362.00	338.09	85.64	252.45	1.339 Level 3		
14,200.00	5,530.00	14,284.53	5,605.00	130.43	130.53	-102.82	8,703.04	-362.00	338.10	82.80	255.30	1.324 Level 3		
14,300.00	5,530.00	14,384.53	5,605.00	131.89	131.99	-102.82	8,803.04	-362.01	338.10	79.95	258.15	1.310 Level 3		
14,400.00	5,530.00	14,484.53	5,605.00	133.35	133.44	-102.82	8,903.04	-362.01	338.11	77.10	261.01	1.295 Level 3		
14,500.00	5,530.00	14,584.53	5,605.00	134.81	134.90	-102.82	9,003.04	-362.01	338.12	74.25	263.87	1.281 Level 3		
14,600.00	5,530.00	14,684.53	5,605.00	136.27	136.36	-102.82	9,103.04	-362.02	338.12	71.40	266.72	1.268 Level 3		
14,700.00	5,530.00	14,784.53	5,605.00	137.73	137.82	-102.82	9,203.04	-362.02	338.13	68.55	269.58	1.254 Level 3		
14,800.00	5,530.00	14,884.53	5,605.00	139.19	139.28	-102.81	9,303.04	-362.03	338.14	65.70	272.44	1.241 Level 2		
14,900.00	5,530.00	14,984.53	5,605.00	140.65	140.74	-102.81	9,403.04	-362.03	338.15	62.85	275.30	1.228 Level 2		
15,000.00	5,530.00	15,084.53	5,605.00	142.11	142.19	-102.81	9,503.04	-362.04	338.15	60.00	278.15	1.216 Level 2		
15,100.00	5,530.00	15,184.53	5,605.00	143.57	143.65	-102.81	9,603.04	-362.04	338.16	57.15	281.01	1.203 Level 2		
15,200.00	5,530.00	15,284.53	5,605.00	145.03	145.11	-102.81	9,703.04	-362.05	338.17	54.30	283.87	1.191 Level 2		
15,300.00	5,530.00	15,384.53	5,605.00	146.50	146.57	-102.81	9,803.04	-362.05	338.18	51.44	286.73	1.179 Level 2		
15,400.00	5,530.00	15,484.53	5,605.00	147.96	148.03	-102.81	9,903.04	-362.06	338.18	48.59	289.59	1.168 Level 2		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	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 #25P-2414 - Hz - APD		Offset Site Error:		0.00 usft	
Survey Program: 0-MWD+IFR1+MS+sag														Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor					
15,500.00	5,530.00	15,584.53	5,605.00	149.42	149.49	-102.81	10,003.04	-362.06	338.19	45.74	292.46	1.156	Level 2				
15,600.00	5,530.00	15,684.53	5,605.00	150.88	150.95	-102.81	10,103.04	-362.06	338.20	42.88	295.32	1.145	Level 2				
15,614.63	5,530.00	15,699.17	5,605.00	151.09	151.17	-102.81	10,117.67	-362.07	338.20	42.46	295.73	1.144	Level 2				
15,631.67	5,530.00	15,714.20	5,605.00	151.34	151.39	-102.81	10,132.71	-362.07	338.21	42.01	296.19	1.142	Level 2, SF				



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	29.99	29.99					
100.00	100.00	100.00	100.00	0.13	0.13	90.00	0.00	29.99	29.99	29.73	0.27	112.606		
200.00	200.00	200.00	200.00	0.47	0.47	90.00	0.00	29.99	29.99	29.05	0.94	31.885		
300.00	300.00	300.00	300.00	0.81	0.81	90.00	0.00	29.99	29.99	28.38	1.61	18.572 CC, ES		
400.00	399.98	399.17	399.15	1.11	1.11	-101.06	-1.10	31.31	31.63	29.41	2.22	14.255		
500.00	499.84	498.17	498.02	1.41	1.42	-103.51	-4.40	35.24	36.56	33.74	2.81	13.003		
600.00	599.66	597.40	596.90	1.71	1.74	-103.83	-9.66	41.51	43.96	40.51	3.45	12.750		
700.00	699.47	697.10	696.22	2.03	2.07	-103.70	-15.25	48.16	51.70	47.60	4.10	12.615		
800.00	799.29	796.80	795.54	2.37	2.41	-103.60	-20.83	54.82	59.44	54.68	4.76	12.475		
900.00	899.10	896.50	894.86	2.71	2.76	-103.52	-26.42	61.48	67.19	61.75	5.44	12.347		
1,000.00	998.91	996.20	994.18	3.05	3.12	-103.46	-32.00	68.13	74.93	68.81	6.13	12.234		
1,100.00	1,098.73	1,095.90	1,093.50	3.39	3.47	-103.41	-37.59	74.79	82.68	75.86	6.81	12.134		
1,200.00	1,198.54	1,195.60	1,192.82	3.74	3.83	-103.37	-43.18	81.45	90.42	82.91	7.51	12.048		
1,300.00	1,298.35	1,295.30	1,292.14	4.09	4.19	-103.33	-48.76	88.10	98.16	89.96	8.20	11.972		
1,400.00	1,398.17	1,395.00	1,391.46	4.44	4.54	-103.30	-54.35	94.76	105.91	97.01	8.90	11.905		
1,500.00	1,497.98	1,494.70	1,490.78	4.79	4.90	-103.28	-59.93	101.42	113.65	104.06	9.59	11.847		
1,600.00	1,597.79	1,594.39	1,590.10	5.14	5.26	-103.25	-65.52	108.07	121.40	111.10	10.29	11.794		
1,700.00	1,697.61	1,694.09	1,689.42	5.49	5.62	-103.23	-71.10	114.73	129.14	118.15	10.99	11.748		
1,800.00	1,797.42	1,793.79	1,788.74	5.84	5.99	-103.22	-76.69	121.39	136.88	125.19	11.69	11.706		
1,900.00	1,897.23	1,893.49	1,888.06	6.19	6.35	-103.20	-82.27	128.04	144.63	132.23	12.40	11.668		
2,000.00	1,997.05	1,993.19	1,987.38	6.55	6.71	-103.19	-87.86	134.70	152.37	139.27	13.10	11.634		
2,100.00	2,096.86	2,092.89	2,086.70	6.90	7.07	-103.17	-93.44	141.35	160.12	146.32	13.80	11.603		
2,200.00	2,196.67	2,192.59	2,186.03	7.25	7.43	-103.16	-99.03	148.01	167.86	153.36	14.50	11.574		
2,300.00	2,296.49	2,292.29	2,285.35	7.60	7.79	-103.15	-104.61	154.67	175.60	160.40	15.21	11.548		
2,400.00	2,396.30	2,391.99	2,384.67	7.96	8.16	-103.14	-110.20	161.32	183.35	167.44	15.91	11.524		
2,500.00	2,496.11	2,491.69	2,483.99	8.31	8.52	-103.13	-115.79	167.98	191.09	174.48	16.61	11.502		
2,600.00	2,595.93	2,591.39	2,583.31	8.66	8.88	-103.12	-121.37	174.64	198.84	181.52	17.32	11.481		
2,700.00	2,695.74	2,691.09	2,682.63	9.02	9.24	-103.12	-126.96	181.29	206.58	188.56	18.02	11.462		
2,800.00	2,795.55	2,790.79	2,781.95	9.37	9.61	-103.11	-132.54	187.95	214.32	195.60	18.73	11.444		
2,900.00	2,895.37	2,890.49	2,881.27	9.72	9.97	-103.10	-138.13	194.61	222.07	202.64	19.43	11.428		
3,000.00	2,995.18	2,990.19	2,980.59	10.08	10.33	-103.10	-143.71	201.26	229.81	209.67	20.14	11.412		
3,100.00	3,095.00	3,089.89	3,079.91	10.43	10.69	-103.09	-149.30	207.92	237.56	216.71	20.84	11.398		
3,200.00	3,194.81	3,189.59	3,179.23	10.78	11.06	-103.09	-154.88	214.58	245.30	223.75	21.55	11.384		
3,300.00	3,294.62	3,289.29	3,278.55	11.14	11.42	-103.08	-160.47	221.23	253.04	230.79	22.25	11.371		
3,400.00	3,394.44	3,388.99	3,377.87	11.48	11.78	-103.09	-166.05	227.89	260.76	237.82	22.95	11.364		
3,500.00	3,494.38	3,488.70	3,477.20	11.73	12.15	-102.68	-171.64	234.55	267.93	244.37	23.55	11.376		
3,600.00	3,594.37	3,588.33	3,576.45	11.98	12.51	88.40	-177.22	241.20	274.49	250.34	24.15	11.367		
3,700.00	3,694.37	3,687.95	3,675.69	12.24	12.87	89.58	-182.80	247.85	281.08	256.33	24.74	11.359		
3,800.00	3,794.37	3,787.57	3,774.93	12.50	13.23	90.70	-188.38	254.50	287.78	262.43	25.34	11.355		
3,900.00	3,894.37	3,887.19	3,874.17	12.76	13.60	91.77	-193.97	261.15	294.58	268.64	25.94	11.354		
4,000.00	3,994.37	3,986.81	3,973.42	13.03	13.96	92.80	-199.55	267.80	301.49	274.94	26.55	11.356		
4,100.00	4,094.37	4,086.43	4,072.66	13.30	14.32	93.77	-205.13	274.45	308.49	281.33	27.16	11.360		
4,200.00	4,194.37	4,186.05	4,171.90	13.58	14.69	94.71	-210.71	281.11	315.57	287.80	27.77	11.366		
4,300.00	4,294.37	4,285.67	4,271.14	13.85	15.05	95.60	-216.29	287.76	322.73	294.35	28.38	11.373		
4,400.00	4,394.37	4,394.32	4,379.50	14.13	15.39	96.38	-221.38	293.82	328.79	299.82	28.98	11.347		
4,500.00	4,494.37	4,504.91	4,490.01	14.41	15.67	96.75	-223.87	296.79	331.72	302.19	29.53	11.233		
4,600.00	4,594.37	4,609.28	4,594.37	14.70	15.95	96.79	-224.10	297.06	331.99	301.88	30.11	11.025		
4,700.00	4,694.37	4,709.28	4,694.37	14.98	16.22	96.79	-224.10	297.06	331.99	301.32	30.66	10.827		
4,800.00	4,794.37	4,809.28	4,794.37	15.27	16.48	96.79	-224.10	297.06	331.99	300.77	31.22	10.633		
4,900.00	4,894.37	4,909.28	4,894.37	15.56	16.75	96.79	-224.10	297.06	331.99	300.20	31.78	10.445		
5,000.00	4,994.37	5,009.28	4,994.37	15.85	17.02	96.79	-224.10	297.06	331.99	299.64	32.35	10.262		
5,100.00	5,093.99	5,109.85	5,094.95	16.14	17.30	97.88	-223.99	297.06	332.87	299.99	32.88	10.124		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	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	5,190.49	5,220.17	5,204.18	16.39	17.58	100.14	-210.08	297.06	334.97	301.63	33.34	10.047		
5,300.00	5,280.33	5,333.76	5,311.00	16.63	17.84	102.00	-172.10	297.07	337.10	303.38	33.72	9.996		
5,400.00	5,360.20	5,450.13	5,409.24	16.87	18.07	103.38	-110.19	297.07	338.90	304.84	34.06	9.949		
5,500.00	5,427.17	5,568.47	5,492.55	17.12	18.25	104.19	-26.50	297.07	340.05	305.61	34.44	9.875		
5,600.00	5,478.78	5,687.76	5,555.28	17.42	18.41	104.39	74.67	297.08	340.34	305.40	34.94	9.741		
5,700.00	5,513.13	5,806.85	5,593.35	17.78	18.67	103.97	187.22	297.08	339.73	304.07	35.66	9.527		
5,800.00	5,528.96	5,923.51	5,605.00	18.22	19.11	102.96	303.06	297.09	338.33	301.72	36.61	9.241		
5,854.48	5,531.47	5,977.93	5,605.00	18.49	19.37	102.57	357.48	297.09	337.77	300.61	37.17	9.088		
5,900.00	5,530.00	6,023.49	5,605.00	18.72	19.61	102.82	403.04	297.09	338.09	300.50	37.60	8.992		
6,000.00	5,530.00	6,123.49	5,605.00	19.33	20.21	102.82	503.04	297.09	338.10	299.33	38.76	8.722		
6,100.00	5,530.00	6,223.49	5,605.00	20.03	20.90	102.82	603.04	297.10	338.10	298.00	40.10	8.431		
6,200.00	5,530.00	6,323.49	5,605.00	20.81	21.66	102.82	703.04	297.10	338.10	296.51	41.59	8.129		
6,300.00	5,530.00	6,423.49	5,605.00	21.66	22.50	102.82	803.04	297.11	338.10	294.87	43.23	7.822		
6,400.00	5,530.00	6,523.49	5,605.00	22.57	23.40	102.82	903.04	297.11	338.10	293.11	44.99	7.516		
6,500.00	5,530.00	6,623.49	5,605.00	23.55	24.35	102.82	1,003.04	297.11	338.10	291.25	46.86	7.216		
6,600.00	5,530.00	6,723.49	5,605.00	24.57	25.35	102.82	1,103.04	297.12	338.10	289.28	48.82	6.925		
6,700.00	5,530.00	6,823.49	5,605.00	25.63	26.39	102.82	1,203.04	297.12	338.10	287.23	50.88	6.645		
6,800.00	5,530.00	6,923.49	5,605.00	26.74	27.48	102.82	1,303.04	297.13	338.10	285.09	53.01	6.378		
6,900.00	5,530.00	7,023.49	5,605.00	27.87	28.60	102.82	1,403.04	297.13	338.11	282.90	55.21	6.124		
7,000.00	5,530.00	7,123.49	5,605.00	29.04	29.74	102.82	1,503.04	297.14	338.11	280.64	57.47	5.883		
7,100.00	5,530.00	7,223.49	5,605.00	30.24	30.92	102.82	1,603.04	297.14	338.11	278.33	59.78	5.656		
7,200.00	5,530.00	7,323.49	5,605.00	31.45	32.12	102.82	1,703.04	297.14	338.11	275.97	62.14	5.441		
7,300.00	5,530.00	7,423.49	5,605.00	32.69	33.34	102.82	1,803.04	297.15	338.11	273.57	64.54	5.238		
7,400.00	5,530.00	7,523.49	5,605.00	33.95	34.58	102.82	1,903.04	297.15	338.11	271.13	66.98	5.048		
7,500.00	5,530.00	7,623.49	5,605.00	35.22	35.84	102.82	2,003.04	297.16	338.11	268.66	69.46	4.868		
7,600.00	5,530.00	7,723.49	5,605.00	36.51	37.12	102.82	2,103.04	297.16	338.11	266.15	71.96	4.699		
7,700.00	5,530.00	7,823.49	5,605.00	37.82	38.41	102.82	2,203.04	297.16	338.11	263.62	74.49	4.539		
7,800.00	5,530.00	7,923.49	5,605.00	39.13	39.71	102.82	2,303.04	297.17	338.12	261.07	77.05	4.389		
7,900.00	5,530.00	8,023.49	5,605.00	40.46	41.02	102.82	2,403.04	297.17	338.12	258.49	79.62	4.247		
8,000.00	5,530.00	8,123.49	5,605.00	41.79	42.34	102.82	2,503.04	297.18	338.12	255.90	82.22	4.112		
8,100.00	5,530.00	8,223.49	5,605.00	43.13	43.67	102.82	2,603.04	297.18	338.12	253.28	84.83	3.986		
8,200.00	5,530.00	8,323.49	5,605.00	44.49	45.02	102.82	2,703.04	297.19	338.12	250.65	87.47	3.866		
8,300.00	5,530.00	8,423.49	5,605.00	45.85	46.36	102.82	2,803.04	297.19	338.12	248.01	90.11	3.752		
8,400.00	5,530.00	8,523.49	5,605.00	47.21	47.72	102.82	2,903.04	297.19	338.12	245.35	92.77	3.645		
8,500.00	5,530.00	8,623.49	5,605.00	48.58	49.08	102.82	3,003.04	297.20	338.12	242.68	95.45	3.543		
8,600.00	5,530.00	8,723.49	5,605.00	49.96	50.45	102.82	3,103.04	297.20	338.12	239.99	98.13	3.446		
8,700.00	5,530.00	8,823.49	5,605.00	51.34	51.83	102.82	3,203.04	297.21	338.13	237.30	100.83	3.354		
8,800.00	5,530.00	8,923.49	5,605.00	52.73	53.21	102.82	3,303.04	297.21	338.13	234.59	103.53	3.266		
8,900.00	5,530.00	9,023.49	5,605.00	54.12	54.59	102.82	3,403.04	297.21	338.13	231.88	106.25	3.182		
9,000.00	5,530.00	9,123.49	5,605.00	55.52	55.98	102.82	3,503.04	297.22	338.13	229.16	108.97	3.103		
9,100.00	5,530.00	9,223.49	5,605.00	56.92	57.37	102.82	3,603.04	297.22	338.13	226.43	111.70	3.027		
9,200.00	5,530.00	9,323.49	5,605.00	58.32	58.77	102.82	3,703.04	297.23	338.13	223.69	114.44	2.955		
9,300.00	5,530.00	9,423.49	5,605.00	59.73	60.17	102.82	3,803.04	297.23	338.13	220.95	117.18	2.885		
9,400.00	5,530.00	9,523.49	5,605.00	61.14	61.57	102.82	3,903.04	297.24	338.13	218.20	119.93	2.819		
9,500.00	5,530.00	9,623.49	5,605.00	62.55	62.98	102.82	4,003.04	297.24	338.13	215.44	122.69	2.756		
9,600.00	5,530.00	9,723.49	5,605.00	63.97	64.39	102.82	4,103.04	297.24	338.14	212.68	125.45	2.695		
9,700.00	5,530.00	9,823.49	5,605.00	65.39	65.80	102.82	4,203.04	297.25	338.14	209.92	128.22	2.637		
9,800.00	5,530.00	9,923.49	5,605.00	66.81	67.22	102.82	4,303.04	297.25	338.14	207.14	130.99	2.581		
9,900.00	5,530.00	10,023.49	5,605.00	68.23	68.64	102.82	4,403.04	297.26	338.14	204.37	133.77	2.528		
10,000.00	5,530.00	10,123.49	5,605.00	69.66	70.06	102.82	4,503.04	297.26	338.14	201.59	136.55	2.476		
10,100.00	5,530.00	10,223.49	5,605.00	71.08	71.48	102.82	4,603.04	297.26	338.14	198.81	139.34	2.427		
10,200.00	5,530.00	10,323.49	5,605.00	72.51	72.90	102.82	4,703.04	297.27	338.14	196.02	142.12	2.379		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,300.00	5,530.00	10,423.49	5,605.00	73.94	74.33	102.82	4,803.04	297.27	338.14	193.23	144.92	2.333		
10,400.00	5,530.00	10,523.49	5,605.00	75.37	75.75	102.82	4,903.04	297.28	338.14	190.43	147.71	2.289		
10,500.00	5,530.00	10,623.49	5,605.00	76.80	77.18	102.82	5,003.04	297.28	338.15	187.63	150.51	2.247		
10,600.00	5,530.00	10,723.49	5,605.00	78.24	78.61	102.82	5,103.04	297.28	338.15	184.83	153.31	2.206		
10,700.00	5,530.00	10,823.49	5,605.00	79.67	80.05	102.81	5,203.04	297.29	338.15	182.03	156.12	2.166		
10,800.00	5,530.00	10,923.49	5,605.00	81.11	81.48	102.81	5,303.04	297.29	338.15	179.23	158.92	2.128		
10,900.00	5,530.00	11,023.49	5,605.00	82.55	82.91	102.81	5,403.04	297.30	338.15	176.42	161.73	2.091		
11,000.00	5,530.00	11,123.49	5,605.00	83.99	84.35	102.81	5,503.04	297.30	338.15	173.61	164.54	2.055		
11,100.00	5,530.00	11,223.49	5,605.00	85.43	85.79	102.81	5,603.04	297.31	338.15	170.79	167.36	2.021		
11,200.00	5,530.00	11,323.49	5,605.00	86.87	87.23	102.81	5,703.04	297.31	338.15	167.98	170.17	1.987		
11,300.00	5,530.00	11,423.49	5,605.00	88.31	88.67	102.81	5,803.04	297.31	338.15	165.16	172.99	1.955		
11,400.00	5,530.00	11,523.49	5,605.00	89.76	90.11	102.81	5,903.04	297.32	338.15	162.34	175.81	1.923		
11,500.00	5,530.00	11,623.49	5,605.00	91.20	91.55	102.81	6,003.04	297.32	338.16	159.52	178.64	1.893		
11,600.00	5,530.00	11,723.49	5,605.00	92.65	92.99	102.81	6,103.04	297.33	338.16	156.70	181.46	1.864		
11,700.00	5,530.00	11,823.49	5,605.00	94.09	94.43	102.81	6,203.04	297.33	338.16	153.87	184.29	1.835		
11,800.00	5,530.00	11,923.49	5,605.00	95.54	95.88	102.81	6,303.04	297.33	338.16	151.05	187.11	1.807		
11,900.00	5,530.00	12,023.49	5,605.00	96.99	97.32	102.81	6,403.04	297.34	338.16	148.22	189.94	1.780		
12,000.00	5,530.00	12,123.49	5,605.00	98.44	98.77	102.81	6,503.04	297.34	338.16	145.39	192.77	1.754		
12,100.00	5,530.00	12,223.49	5,605.00	99.89	100.21	102.81	6,603.04	297.35	338.16	142.56	195.60	1.729		
12,200.00	5,530.00	12,323.49	5,605.00	101.34	101.66	102.81	6,703.04	297.35	338.16	139.73	198.44	1.704		
12,300.00	5,530.00	12,423.49	5,605.00	102.79	103.11	102.81	6,803.04	297.36	338.16	136.89	201.27	1.680		
12,400.00	5,530.00	12,523.49	5,605.00	104.24	104.56	102.81	6,903.04	297.36	338.17	134.06	204.11	1.657		
12,500.00	5,530.00	12,623.49	5,605.00	105.69	106.01	102.81	7,003.04	297.36	338.17	131.22	206.94	1.634		
12,600.00	5,530.00	12,723.49	5,605.00	107.14	107.46	102.81	7,103.04	297.37	338.17	128.39	209.78	1.612		
12,700.00	5,530.00	12,823.49	5,605.00	108.59	108.91	102.81	7,203.04	297.37	338.17	125.55	212.62	1.590		
12,800.00	5,530.00	12,923.49	5,605.00	110.05	110.36	102.81	7,303.04	297.38	338.17	122.71	215.46	1.570		
12,900.00	5,530.00	13,023.49	5,605.00	111.50	111.81	102.81	7,403.04	297.38	338.17	119.87	218.30	1.549		
13,000.00	5,530.00	13,123.49	5,605.00	112.95	113.26	102.81	7,503.04	297.38	338.17	117.03	221.14	1.529		
13,100.00	5,530.00	13,223.49	5,605.00	114.41	114.72	102.81	7,603.04	297.39	338.17	114.19	223.99	1.510		
13,200.00	5,530.00	13,323.49	5,605.00	115.86	116.17	102.81	7,703.04	297.39	338.17	111.35	226.83	1.491 Level 3		
13,300.00	5,530.00	13,423.49	5,605.00	117.32	117.62	102.81	7,803.04	297.40	338.18	108.50	229.67	1.472 Level 3		
13,400.00	5,530.00	13,523.49	5,605.00	118.78	119.08	102.81	7,903.04	297.40	338.18	105.66	232.52	1.454 Level 3		
13,500.00	5,530.00	13,623.49	5,605.00	120.23	120.53	102.81	8,003.04	297.41	338.18	102.81	235.37	1.437 Level 3		
13,600.00	5,530.00	13,723.49	5,605.00	121.69	121.99	102.81	8,103.04	297.41	338.18	99.97	238.21	1.420 Level 3		
13,700.00	5,530.00	13,823.49	5,605.00	123.14	123.44	102.81	8,203.04	297.41	338.18	97.12	241.06	1.403 Level 3		
13,800.00	5,530.00	13,923.49	5,605.00	124.60	124.90	102.81	8,303.04	297.42	338.18	94.27	243.91	1.387 Level 3		
13,900.00	5,530.00	14,023.49	5,605.00	126.06	126.35	102.81	8,403.04	297.42	338.18	91.42	246.76	1.370 Level 3		
14,000.00	5,530.00	14,123.49	5,605.00	127.52	127.81	102.81	8,503.04	297.43	338.18	88.57	249.61	1.355 Level 3		
14,100.00	5,530.00	14,223.49	5,605.00	128.98	129.27	102.81	8,603.04	297.43	338.18	85.73	252.46	1.340 Level 3		
14,200.00	5,530.00	14,323.49	5,605.00	130.43	130.72	102.81	8,703.04	297.43	338.19	82.88	255.31	1.325 Level 3		
14,300.00	5,530.00	14,423.49	5,605.00	131.89	132.18	102.81	8,803.04	297.44	338.19	80.02	258.16	1.310 Level 3		
14,400.00	5,530.00	14,523.49	5,605.00	133.35	133.64	102.81	8,903.04	297.44	338.19	77.17	261.01	1.296 Level 3		
14,500.00	5,530.00	14,623.49	5,605.00	134.81	135.10	102.81	9,003.04	297.45	338.19	74.32	263.87	1.282 Level 3		
14,600.00	5,530.00	14,723.49	5,605.00	136.27	136.55	102.81	9,103.04	297.45	338.19	71.47	266.72	1.268 Level 3		
14,700.00	5,530.00	14,823.49	5,605.00	137.73	138.01	102.81	9,203.04	297.45	338.19	68.62	269.58	1.255 Level 3		
14,800.00	5,530.00	14,923.49	5,605.00	139.19	139.47	102.81	9,303.04	297.46	338.19	65.76	272.43	1.241 Level 2		
14,900.00	5,530.00	15,023.49	5,605.00	140.65	140.93	102.81	9,403.04	297.46	338.19	62.91	275.28	1.229 Level 2		
15,000.00	5,530.00	15,123.49	5,605.00	142.11	142.39	102.81	9,503.04	297.47	338.19	60.05	278.14	1.216 Level 2		
15,100.00	5,530.00	15,223.49	5,605.00	143.57	143.85	102.81	9,603.04	297.47	338.20	57.20	281.00	1.204 Level 2		
15,200.00	5,530.00	15,323.49	5,605.00	145.03	145.31	102.81	9,703.04	297.48	338.20	54.34	283.85	1.191 Level 2		
15,300.00	5,530.00	15,423.49	5,605.00	146.50	146.77	102.81	9,803.04	297.48	338.20	51.49	286.71	1.180 Level 2		
15,400.00	5,530.00	15,523.49	5,605.00	147.96	148.23	102.81	9,903.04	297.48	338.20	48.63	289.57	1.168 Level 2		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	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 #25P-2416 - Hz - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,500.00	5,530.00	15,623.49	5,605.00	149.42	149.69	102.81	10,003.04	297.49	338.20	45.77	292.42	1.157 Level 2	
15,600.00	5,530.00	15,723.49	5,605.00	150.88	151.15	102.81	10,103.04	297.49	338.20	42.92	295.28	1.145 Level 2	
15,631.67	5,530.00	15,755.16	5,605.00	151.34	151.61	102.81	10,134.72	297.49	338.20	42.01	296.19	1.142 Level 2, SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-130.52	-50.61	-59.22	77.89					
100.00	100.00	100.00	100.00	0.13	0.13	-130.52	-50.61	-59.22	77.89	77.63	0.27	292.453		
200.00	200.00	200.00	200.00	0.47	0.47	-130.52	-50.61	-59.22	77.89	76.95	0.94	82.809		
300.00	300.00	300.00	300.00	0.81	0.81	-130.52	-50.61	-59.22	77.89	76.28	1.61	48.233 CC		
400.00	399.98	397.67	397.65	1.11	1.12	40.90	-50.90	-60.86	78.04	75.82	2.22	35.081 ES		
500.00	499.84	495.12	494.97	1.41	1.43	45.03	-51.76	-65.76	78.85	76.03	2.81	28.011		
600.00	599.66	592.23	591.72	1.71	1.76	50.36	-53.19	-73.88	82.63	79.18	3.44	24.013		
700.00	699.47	688.79	687.60	2.03	2.09	55.69	-55.18	-85.16	90.35	86.26	4.09	22.082		
800.00	799.29	784.62	782.31	2.37	2.45	60.45	-57.71	-99.49	102.07	97.31	4.76	21.463		
900.00	899.10	880.70	876.77	2.71	2.83	64.38	-60.76	-116.82	117.48	112.05	5.43	21.629		
1,000.00	998.91	979.08	973.34	3.05	3.24	67.49	-64.02	-135.31	134.11	128.01	6.10	21.988		
1,100.00	1,098.73	1,077.46	1,069.91	3.39	3.65	69.91	-67.28	-153.79	151.04	144.27	6.77	22.309		
1,200.00	1,198.54	1,175.84	1,166.48	3.74	4.07	71.84	-70.54	-172.28	168.18	160.73	7.45	22.583		
1,300.00	1,298.35	1,274.21	1,263.05	4.09	4.49	73.41	-73.80	-190.76	185.47	177.34	8.13	22.817		
1,400.00	1,398.17	1,372.59	1,359.62	4.44	4.91	74.71	-77.06	-209.25	202.87	194.06	8.81	23.018		
1,500.00	1,497.98	1,470.97	1,456.19	4.79	5.34	75.81	-80.32	-227.74	220.36	210.86	9.50	23.191		
1,600.00	1,597.79	1,569.35	1,552.76	5.14	5.76	76.75	-83.58	-246.22	237.91	227.72	10.19	23.342		
1,700.00	1,697.61	1,667.73	1,649.33	5.49	6.19	77.55	-86.84	-264.71	255.52	244.64	10.89	23.473		
1,800.00	1,797.42	1,766.10	1,745.90	5.84	6.62	78.26	-90.10	-283.20	273.17	261.59	11.58	23.589		
1,900.00	1,897.23	1,864.48	1,842.47	6.19	7.05	78.87	-93.36	-301.68	290.86	278.58	12.28	23.691		
2,000.00	1,997.05	1,962.86	1,939.04	6.55	7.48	79.42	-96.62	-320.17	308.58	295.60	12.97	23.783		
2,100.00	2,096.86	2,061.24	2,035.61	6.90	7.91	79.91	-99.88	-338.65	326.31	312.64	13.67	23.864		
2,200.00	2,196.67	2,159.62	2,132.18	7.25	8.34	80.35	-103.14	-357.14	344.07	329.70	14.37	23.938		
2,300.00	2,296.49	2,257.99	2,228.75	7.60	8.78	80.74	-106.40	-375.63	361.85	346.78	15.07	24.004		
2,400.00	2,396.30	2,356.37	2,325.32	7.96	9.21	81.10	-109.66	-394.11	379.64	363.87	15.78	24.064		
2,500.00	2,496.11	2,454.75	2,421.89	8.31	9.64	81.43	-112.92	-412.60	397.45	380.97	16.48	24.119		
2,600.00	2,595.93	2,553.13	2,518.46	8.66	10.07	81.72	-116.18	-431.09	415.27	398.09	17.18	24.170		
2,700.00	2,695.74	2,651.51	2,615.04	9.02	10.51	82.00	-119.44	-449.57	433.09	415.21	17.88	24.216		
2,800.00	2,795.55	2,749.88	2,711.61	9.37	10.94	82.25	-122.70	-468.06	450.93	432.34	18.59	24.258		
2,900.00	2,895.37	2,848.26	2,808.18	9.72	11.37	82.48	-125.95	-486.54	468.77	449.48	19.29	24.297		
3,000.00	2,995.18	2,946.64	2,904.75	10.08	11.81	82.70	-129.21	-505.03	486.62	466.63	20.00	24.334		
3,100.00	3,095.00	3,045.02	3,001.32	10.43	12.24	82.90	-132.47	-523.52	504.48	483.78	20.70	24.367		
3,200.00	3,194.81	3,143.40	3,097.89	10.78	12.68	83.08	-135.73	-542.00	522.34	500.93	21.41	24.399		
3,300.00	3,294.62	3,241.77	3,194.46	11.14	13.11	83.26	-138.99	-560.49	540.21	518.10	22.11	24.428		
3,400.00	3,394.44	3,340.15	3,291.03	11.48	13.54	83.50	-142.25	-578.98	558.09	535.29	22.81	24.468		
3,500.00	3,494.38	3,438.48	3,387.55	11.73	13.98	83.76	-145.51	-597.45	576.26	552.84	23.41	24.612		
3,600.00	3,594.37	3,536.67	3,483.93	11.98	14.41	-86.46	-148.76	-615.90	594.76	570.76	24.01	24.776		
3,700.00	3,694.37	3,634.83	3,580.29	12.24	14.85	-86.87	-152.02	-634.35	613.35	588.75	24.60	24.937		
3,800.00	3,794.37	3,732.99	3,676.65	12.50	15.28	-87.27	-155.27	-652.79	631.96	606.77	25.19	25.088		
3,900.00	3,894.37	3,831.15	3,773.01	12.76	15.71	-87.64	-158.52	-671.24	650.60	624.82	25.79	25.228		
4,000.00	3,994.37	3,929.32	3,869.37	13.03	16.15	-87.99	-161.77	-689.69	669.27	642.88	26.39	25.360		
4,100.00	4,094.37	4,027.48	3,965.73	13.30	16.58	-88.32	-165.03	-708.13	687.96	660.96	27.00	25.484		
4,200.00	4,194.37	4,125.64	4,062.09	13.58	17.01	-88.63	-168.28	-726.58	706.67	679.06	27.60	25.599		
4,300.00	4,294.37	4,223.81	4,158.45	13.85	17.45	-88.93	-171.53	-745.02	725.40	697.18	28.22	25.708		
4,400.00	4,394.37	4,321.97	4,254.81	14.13	17.88	-89.21	-174.78	-763.47	744.15	715.31	28.83	25.811		
4,500.00	4,494.37	4,420.13	4,351.16	14.41	18.32	-89.48	-178.04	-781.91	762.91	733.46	29.45	25.907		
4,600.00	4,594.37	4,518.29	4,447.52	14.70	18.75	-89.73	-181.29	-800.36	781.69	751.62	30.07	25.997		
4,700.00	4,694.37	4,645.45	4,572.70	14.98	19.19	-90.02	-185.17	-822.37	799.09	768.37	30.72	26.012		
4,800.00	4,794.37	4,782.61	4,708.66	15.27	19.57	-90.24	-188.29	-840.05	811.99	780.64	31.35	25.898		
4,900.00	4,894.37	4,921.19	4,846.75	15.56	19.92	-90.38	-190.28	-851.38	820.18	788.19	32.00	25.634		
5,000.00	4,994.37	5,060.57	4,986.03	15.85	20.24	-90.43	-191.12	-856.12	823.59	790.94	32.65	25.224		
5,100.00	5,093.99	5,168.53	5,093.99	16.14	20.50	-90.91	-191.15	-856.27	823.78	790.56	33.22	24.800		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	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	5,190.49	5,265.03	5,190.49	16.39	20.74	-92.53	-191.15	-856.27	824.59	790.92	33.68	24.487		
5,300.00	5,280.33	5,367.67	5,292.75	16.63	21.00	-94.92	-184.23	-856.27	827.23	793.15	34.08	24.275		
5,400.00	5,360.20	5,481.62	5,402.28	16.87	21.26	-97.32	-153.61	-856.28	831.39	796.94	34.45	24.131		
5,500.00	5,427.17	5,607.46	5,512.28	17.12	21.51	-99.58	-93.12	-856.28	836.50	801.67	34.82	24.021		
5,600.00	5,478.78	5,746.44	5,613.01	17.42	21.72	-101.53	2.04	-856.29	841.61	806.37	35.25	23.878		
5,700.00	5,513.13	5,897.82	5,689.93	17.78	21.89	-102.95	131.80	-856.30	845.60	809.78	35.83	23.602		
5,800.00	5,528.96	6,057.58	5,727.20	18.22	22.07	-103.57	286.50	-856.31	847.41	810.73	36.68	23.101		
5,900.00	5,530.00	6,174.11	5,729.00	18.72	22.29	-103.58	402.99	-856.32	847.44	809.77	37.67	22.496		
6,000.00	5,530.00	6,274.11	5,729.00	19.33	22.61	-103.58	502.99	-856.33	847.45	808.65	38.80	21.841		
6,100.00	5,530.00	6,374.11	5,729.00	20.03	23.05	-103.58	602.99	-856.34	847.46	807.36	40.10	21.132		
6,200.00	5,530.00	6,474.11	5,729.00	20.81	23.62	-103.58	702.99	-856.35	847.47	805.90	41.56	20.389		
6,300.00	5,530.00	6,574.11	5,729.00	21.66	24.31	-103.58	802.99	-856.36	847.48	804.31	43.17	19.632		
6,400.00	5,530.00	6,674.11	5,729.00	22.57	25.08	-103.58	902.99	-856.36	847.49	802.59	44.90	18.876		
6,500.00	5,530.00	6,774.11	5,729.00	23.55	25.93	-103.58	1,002.99	-856.37	847.50	800.76	46.74	18.132		
6,600.00	5,530.00	6,874.11	5,729.00	24.57	26.85	-103.58	1,102.99	-856.38	847.51	798.83	48.68	17.408		
6,700.00	5,530.00	6,974.11	5,729.00	25.63	27.82	-103.58	1,202.99	-856.39	847.52	796.81	50.72	16.711		
6,800.00	5,530.00	7,074.11	5,729.00	26.74	28.83	-103.58	1,302.99	-856.40	847.54	794.71	52.82	16.044		
6,900.00	5,530.00	7,174.11	5,729.00	27.87	29.89	-103.58	1,402.99	-856.40	847.55	792.54	55.00	15.409		
7,000.00	5,530.00	7,274.11	5,729.00	29.04	30.98	-103.58	1,502.99	-856.41	847.56	790.31	57.24	14.806		
7,100.00	5,530.00	7,374.11	5,729.00	30.24	32.10	-103.58	1,602.99	-856.42	847.57	788.03	59.54	14.236		
7,200.00	5,530.00	7,474.11	5,729.00	31.45	33.25	-103.58	1,702.99	-856.43	847.58	785.70	61.88	13.697		
7,300.00	5,530.00	7,574.11	5,729.00	32.69	34.43	-103.58	1,802.99	-856.44	847.59	783.32	64.27	13.188		
7,400.00	5,530.00	7,674.11	5,729.00	33.95	35.63	-103.58	1,902.99	-856.45	847.60	780.91	66.69	12.709		
7,500.00	5,530.00	7,774.11	5,729.00	35.22	36.85	-103.58	2,002.99	-856.45	847.61	778.46	69.15	12.257		
7,600.00	5,530.00	7,874.11	5,729.00	36.51	38.08	-103.58	2,102.99	-856.46	847.62	775.98	71.64	11.832		
7,700.00	5,530.00	7,974.11	5,729.00	37.82	39.33	-103.58	2,202.99	-856.47	847.63	773.47	74.16	11.430		
7,800.00	5,530.00	8,074.11	5,729.00	39.13	40.60	-103.58	2,302.99	-856.48	847.64	770.94	76.70	11.051		
7,900.00	5,530.00	8,174.11	5,729.00	40.46	41.88	-103.58	2,402.99	-856.49	847.66	768.39	79.27	10.694		
8,000.00	5,530.00	8,274.11	5,729.00	41.79	43.18	-103.58	2,502.99	-856.49	847.67	765.81	81.85	10.356		
8,100.00	5,530.00	8,374.11	5,729.00	43.13	44.48	-103.58	2,602.99	-856.50	847.68	763.22	84.46	10.037		
8,200.00	5,530.00	8,474.11	5,729.00	44.49	45.79	-103.58	2,702.99	-856.51	847.69	760.61	87.08	9.735		
8,300.00	5,530.00	8,574.11	5,729.00	45.85	47.12	-103.58	2,802.99	-856.52	847.70	757.98	89.72	9.449		
8,400.00	5,530.00	8,674.11	5,729.00	47.21	48.45	-103.58	2,902.99	-856.53	847.71	755.34	92.37	9.178		
8,500.00	5,530.00	8,774.11	5,729.00	48.58	49.79	-103.58	3,002.99	-856.54	847.72	752.69	95.03	8.921		
8,600.00	5,530.00	8,874.11	5,729.00	49.96	51.14	-103.58	3,102.99	-856.54	847.73	750.03	97.71	8.676		
8,700.00	5,530.00	8,974.11	5,729.00	51.34	52.49	-103.58	3,202.99	-856.55	847.74	747.35	100.39	8.444		
8,800.00	5,530.00	9,074.11	5,729.00	52.73	53.85	-103.58	3,302.99	-856.56	847.75	744.66	103.09	8.223		
8,900.00	5,530.00	9,174.11	5,729.00	54.12	55.21	-103.58	3,402.99	-856.57	847.76	741.97	105.80	8.013		
9,000.00	5,530.00	9,274.11	5,729.00	55.52	56.59	-103.58	3,502.99	-856.58	847.78	739.26	108.51	7.813		
9,100.00	5,530.00	9,374.11	5,729.00	56.92	57.96	-103.58	3,602.99	-856.58	847.79	736.55	111.23	7.622		
9,200.00	5,530.00	9,474.11	5,729.00	58.32	59.34	-103.58	3,702.99	-856.59	847.80	733.83	113.96	7.439		
9,300.00	5,530.00	9,574.11	5,729.00	59.73	60.73	-103.57	3,802.99	-856.60	847.81	731.11	116.70	7.265		
9,400.00	5,530.00	9,674.11	5,729.00	61.14	62.11	-103.57	3,902.99	-856.61	847.82	728.37	119.45	7.098		
9,500.00	5,530.00	9,774.11	5,729.00	62.55	63.51	-103.57	4,002.99	-856.62	847.83	725.63	122.19	6.938		
9,600.00	5,530.00	9,874.11	5,729.00	63.97	64.90	-103.57	4,102.99	-856.63	847.84	722.89	124.95	6.785		
9,700.00	5,530.00	9,974.11	5,729.00	65.39	66.30	-103.57	4,202.99	-856.63	847.85	720.14	127.71	6.639		
9,800.00	5,530.00	10,074.11	5,729.00	66.81	67.70	-103.57	4,302.99	-856.64	847.86	717.39	130.48	6.498		
9,900.00	5,530.00	10,174.11	5,729.00	68.23	69.11	-103.57	4,402.99	-856.65	847.87	714.63	133.25	6.363		
10,000.00	5,530.00	10,274.11	5,729.00	69.66	70.52	-103.57	4,502.99	-856.66	847.88	711.86	136.02	6.234		
10,100.00	5,530.00	10,374.11	5,729.00	71.08	71.93	-103.57	4,602.99	-856.67	847.90	709.10	138.80	6.109		
10,200.00	5,530.00	10,474.11	5,729.00	72.51	73.34	-103.57	4,702.99	-856.67	847.91	706.33	141.58	5.989		
10,300.00	5,530.00	10,574.11	5,729.00	73.94	74.75	-103.57	4,802.99	-856.68	847.92	703.55	144.37	5.873		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,400.00	5,530.00	10,674.11	5,729.00	75.37	76.17	-103.57	4,902.99	-856.69	847.93	700.77	147.16	5.762		
10,500.00	5,530.00	10,774.11	5,729.00	76.80	77.59	-103.57	5,002.99	-856.70	847.94	697.99	149.95	5.655		
10,600.00	5,530.00	10,874.11	5,729.00	78.24	79.01	-103.57	5,102.99	-856.71	847.95	695.21	152.74	5.551		
10,700.00	5,530.00	10,974.11	5,729.00	79.67	80.43	-103.57	5,202.99	-856.72	847.96	692.42	155.54	5.452		
10,800.00	5,530.00	11,074.11	5,729.00	81.11	81.86	-103.57	5,302.99	-856.72	847.97	689.63	158.34	5.355		
10,900.00	5,530.00	11,174.11	5,729.00	82.55	83.28	-103.57	5,402.99	-856.73	847.98	686.84	161.15	5.262		
11,000.00	5,530.00	11,274.11	5,729.00	83.99	84.71	-103.57	5,502.99	-856.74	847.99	684.04	163.95	5.172		
11,100.00	5,530.00	11,374.11	5,729.00	85.43	86.14	-103.57	5,602.99	-856.75	848.00	681.24	166.76	5.085		
11,200.00	5,530.00	11,474.11	5,729.00	86.87	87.57	-103.57	5,702.99	-856.76	848.02	678.44	169.57	5.001		
11,300.00	5,530.00	11,574.11	5,729.00	88.31	89.00	-103.57	5,802.99	-856.77	848.03	675.64	172.38	4.919		
11,400.00	5,530.00	11,674.11	5,729.00	89.76	90.44	-103.57	5,902.99	-856.77	848.04	672.84	175.20	4.840		
11,500.00	5,530.00	11,774.11	5,729.00	91.20	91.87	-103.57	6,002.99	-856.78	848.05	670.03	178.01	4.764		
11,600.00	5,530.00	11,874.11	5,729.00	92.65	93.31	-103.57	6,102.99	-856.79	848.06	667.23	180.83	4.690		
11,700.00	5,530.00	11,974.11	5,729.00	94.09	94.74	-103.57	6,202.99	-856.80	848.07	664.42	183.65	4.618		
11,800.00	5,530.00	12,074.11	5,729.00	95.54	96.18	-103.57	6,302.99	-856.81	848.08	661.61	186.47	4.548		
11,900.00	5,530.00	12,174.11	5,729.00	96.99	97.62	-103.57	6,402.99	-856.81	848.09	658.79	189.30	4.480		
12,000.00	5,530.00	12,274.11	5,729.00	98.44	99.06	-103.57	6,502.99	-856.82	848.10	655.98	192.12	4.414		
12,100.00	5,530.00	12,374.11	5,729.00	99.89	100.50	-103.57	6,602.99	-856.83	848.11	653.16	194.95	4.350		
12,200.00	5,530.00	12,474.11	5,729.00	101.34	101.94	-103.57	6,702.99	-856.84	848.12	650.35	197.78	4.288		
12,300.00	5,530.00	12,574.11	5,729.00	102.79	103.38	-103.57	6,802.99	-856.85	848.14	647.53	200.61	4.228		
12,400.00	5,530.00	12,674.11	5,729.00	104.24	104.83	-103.57	6,902.99	-856.86	848.15	644.71	203.44	4.169		
12,500.00	5,530.00	12,774.11	5,729.00	105.69	106.27	-103.57	7,002.99	-856.86	848.16	641.89	206.27	4.112		
12,600.00	5,530.00	12,874.11	5,729.00	107.14	107.71	-103.57	7,102.99	-856.87	848.17	639.07	209.10	4.056		
12,700.00	5,530.00	12,974.11	5,729.00	108.59	109.16	-103.57	7,202.99	-856.88	848.18	636.25	211.93	4.002		
12,800.00	5,530.00	13,074.11	5,729.00	110.05	110.61	-103.57	7,302.99	-856.89	848.19	633.42	214.77	3.949		
12,900.00	5,530.00	13,174.11	5,729.00	111.50	112.05	-103.57	7,402.99	-856.90	848.20	630.60	217.60	3.898		
13,000.00	5,530.00	13,274.11	5,729.00	112.95	113.50	-103.57	7,502.99	-856.90	848.21	627.77	220.44	3.848		
13,100.00	5,530.00	13,374.11	5,729.00	114.41	114.95	-103.57	7,602.99	-856.91	848.22	624.94	223.28	3.799		
13,200.00	5,530.00	13,474.11	5,729.00	115.86	116.40	-103.57	7,702.99	-856.92	848.23	622.12	226.12	3.751		
13,300.00	5,530.00	13,574.11	5,729.00	117.32	117.85	-103.57	7,802.99	-856.93	848.24	619.29	228.96	3.705		
13,400.00	5,530.00	13,674.11	5,729.00	118.78	119.30	-103.57	7,902.99	-856.94	848.26	616.46	231.80	3.659		
13,500.00	5,530.00	13,774.11	5,729.00	120.23	120.75	-103.57	8,002.99	-856.95	848.27	613.63	234.64	3.615		
13,600.00	5,530.00	13,874.11	5,729.00	121.69	122.20	-103.57	8,102.99	-856.95	848.28	610.80	237.48	3.572		
13,700.00	5,530.00	13,974.11	5,729.00	123.14	123.65	-103.57	8,202.99	-856.96	848.29	607.96	240.32	3.530		
13,800.00	5,530.00	14,074.11	5,729.00	124.60	125.10	-103.57	8,302.99	-856.97	848.30	605.13	243.17	3.489		
13,900.00	5,530.00	14,174.11	5,729.00	126.06	126.55	-103.57	8,402.99	-856.98	848.31	602.30	246.01	3.448		
14,000.00	5,530.00	14,274.11	5,729.00	127.52	128.00	-103.57	8,502.99	-856.99	848.32	599.46	248.86	3.409		
14,100.00	5,530.00	14,374.11	5,729.00	128.98	129.46	-103.57	8,602.99	-856.99	848.33	596.63	251.70	3.370		
14,200.00	5,530.00	14,474.11	5,729.00	130.43	130.91	-103.57	8,702.99	-857.00	848.34	593.79	254.55	3.333		
14,300.00	5,530.00	14,574.11	5,729.00	131.89	132.36	-103.57	8,802.99	-857.01	848.35	590.96	257.39	3.296		
14,400.00	5,530.00	14,674.11	5,729.00	133.35	133.82	-103.57	8,902.99	-857.02	848.36	588.12	260.24	3.260		
14,500.00	5,530.00	14,774.11	5,729.00	134.81	135.27	-103.57	9,002.99	-857.03	848.38	585.29	263.09	3.225		
14,600.00	5,530.00	14,874.11	5,729.00	136.27	136.73	-103.57	9,102.99	-857.04	848.39	582.45	265.94	3.190		
14,700.00	5,530.00	14,974.11	5,729.00	137.73	138.18	-103.57	9,202.99	-857.04	848.40	579.61	268.79	3.156		
14,800.00	5,530.00	15,074.11	5,729.00	139.19	139.64	-103.57	9,302.99	-857.05	848.41	576.77	271.64	3.123		
14,900.00	5,530.00	15,174.11	5,729.00	140.65	141.09	-103.56	9,402.99	-857.06	848.42	573.93	274.49	3.091		
15,000.00	5,530.00	15,274.11	5,729.00	142.11	142.55	-103.56	9,502.99	-857.07	848.43	571.09	277.34	3.059		
15,100.00	5,530.00	15,374.11	5,729.00	143.57	144.01	-103.56	9,602.99	-857.08	848.44	568.25	280.19	3.028		
15,200.00	5,530.00	15,474.11	5,729.00	145.03	145.46	-103.56	9,702.99	-857.08	848.45	565.41	283.04	2.998		
15,300.00	5,530.00	15,574.11	5,729.00	146.50	146.92	-103.56	9,802.99	-857.09	848.46	562.57	285.89	2.968		
15,400.00	5,530.00	15,674.11	5,729.00	147.96	148.38	-103.56	9,902.99	-857.10	848.47	559.73	288.75	2.938		
15,500.00	5,530.00	15,774.11	5,729.00	149.42	149.84	-103.56	10,002.99	-857.11	848.48	556.89	291.60	2.910		

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



WOG
Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	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 #25P-2445 - Hz - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,600.00	5,530.00	15,874.11	5,729.00	150.88	151.29	-103.56	10,102.99	-857.12	848.50	554.04	294.45	2.882	
15,613.89	5,530.00	15,888.00	5,729.00	151.08	151.50	-103.56	10,116.87	-857.12	848.50	553.65	294.85	2.878	
15,631.67	5,530.00	15,902.83	5,729.00	151.34	151.71	-103.56	10,131.71	-857.12	848.50	553.19	295.31	2.873 SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-150.00	-50.61	-29.22	58.44					
100.00	100.00	100.00	100.00	0.13	0.13	-150.00	-50.61	-29.22	58.44	58.17	0.27	219.405		
200.00	200.00	200.00	200.00	0.47	0.47	-150.00	-50.61	-29.22	58.44	57.50	0.94	62.126		
300.00	300.00	300.00	300.00	0.81	0.81	-150.00	-50.61	-29.22	58.44	56.82	1.61	36.186		
400.00	399.98	398.37	398.35	1.11	1.12	21.59	-51.27	-30.78	58.19	55.97	2.23	26.153		
483.90	483.79	480.80	480.68	1.36	1.38	25.26	-52.83	-34.47	58.07	55.35	2.72	21.355		
500.00	499.84	496.58	496.43	1.41	1.43	26.33	-53.24	-35.43	57.83	55.01	2.81	20.566	CC, ES	
600.00	599.66	594.53	594.01	1.71	1.75	32.94	-56.52	-43.15	60.15	56.71	3.43	17.525		
700.00	699.47	692.94	691.75	2.03	2.09	39.84	-60.99	-53.70	66.18	62.10	4.08	16.214		
800.00	799.29	792.42	790.49	2.37	2.45	45.66	-65.73	-64.86	73.56	68.82	4.74	15.534		
900.00	899.10	891.89	889.22	2.71	2.81	50.39	-70.47	-76.02	81.56	76.16	5.40	15.111		
1,000.00	998.91	991.37	987.95	3.05	3.18	54.26	-75.21	-87.17	90.01	83.95	6.07	14.835		
1,100.00	1,098.73	1,090.84	1,086.69	3.39	3.56	57.46	-79.94	-98.33	98.81	92.06	6.74	14.651		
1,200.00	1,198.54	1,190.32	1,185.42	3.74	3.93	60.12	-84.68	-109.49	107.85	100.43	7.43	14.525		
1,300.00	1,298.35	1,289.79	1,284.15	4.09	4.31	62.37	-89.42	-120.65	117.10	108.99	8.11	14.437		
1,400.00	1,398.17	1,389.27	1,382.88	4.44	4.69	64.29	-94.15	-131.81	126.49	117.69	8.80	14.374		
1,500.00	1,497.98	1,488.74	1,481.62	4.79	5.07	65.94	-98.89	-142.97	136.01	126.52	9.49	14.329		
1,600.00	1,597.79	1,588.21	1,580.35	5.14	5.45	67.38	-103.63	-154.13	145.63	135.44	10.19	14.297		
1,700.00	1,697.61	1,687.69	1,679.08	5.49	5.83	68.63	-108.36	-165.29	155.32	144.44	10.88	14.273		
1,800.00	1,797.42	1,787.16	1,777.82	5.84	6.21	69.74	-113.10	-176.45	165.08	153.50	11.58	14.256		
1,900.00	1,897.23	1,886.64	1,876.55	6.19	6.59	70.73	-117.84	-187.61	174.90	162.62	12.28	14.244		
2,000.00	1,997.05	1,986.11	1,975.28	6.55	6.98	71.61	-122.57	-198.77	184.76	171.78	12.98	14.236		
2,100.00	2,096.86	2,085.59	2,074.02	6.90	7.36	72.40	-127.31	-209.93	194.66	180.98	13.68	14.230		
2,200.00	2,196.67	2,185.06	2,172.75	7.25	7.74	73.11	-132.05	-221.09	204.59	190.21	14.38	14.226		
2,300.00	2,296.49	2,284.54	2,271.48	7.60	8.12	73.76	-136.78	-232.24	214.55	199.47	15.08	14.224		
2,400.00	2,396.30	2,384.01	2,370.22	7.96	8.51	74.35	-141.52	-243.40	224.54	208.75	15.79	14.223		
2,500.00	2,496.11	2,483.49	2,468.95	8.31	8.89	74.89	-146.26	-254.56	234.54	218.05	16.49	14.223		
2,600.00	2,595.93	2,582.96	2,567.68	8.66	9.27	75.39	-150.99	-265.72	244.57	227.37	17.19	14.223		
2,700.00	2,695.74	2,682.44	2,666.42	9.02	9.66	75.85	-155.73	-276.88	254.61	236.71	17.90	14.225		
2,800.00	2,795.55	2,781.91	2,765.15	9.37	10.04	76.27	-160.47	-288.04	264.67	246.07	18.60	14.226		
2,900.00	2,895.37	2,881.39	2,863.88	9.72	10.42	76.66	-165.20	-299.20	274.74	255.43	19.31	14.228		
3,000.00	2,995.18	2,980.86	2,962.62	10.08	10.81	77.02	-169.94	-310.36	284.82	264.81	20.02	14.230		
3,100.00	3,095.00	3,080.33	3,061.35	10.43	11.19	77.36	-174.68	-321.52	294.92	274.20	20.72	14.233		
3,200.00	3,194.81	3,179.81	3,160.08	10.78	11.57	77.68	-179.41	-332.68	305.02	283.59	21.43	14.235		
3,300.00	3,294.62	3,279.28	3,258.82	11.14	11.96	77.97	-184.15	-343.84	315.13	293.00	22.13	14.238		
3,400.00	3,394.44	3,378.76	3,357.55	11.48	12.34	78.28	-188.89	-355.00	325.27	302.45	22.83	14.249		
3,500.00	3,494.38	3,478.18	3,456.23	11.73	12.72	78.31	-193.62	-366.15	335.93	312.50	23.42	14.341		
3,600.00	3,594.37	3,577.46	3,554.77	11.98	13.11	-92.24	-198.35	-377.29	347.22	323.21	24.01	14.462		
3,700.00	3,694.37	3,676.71	3,653.28	12.24	13.49	-92.93	-203.08	-388.42	358.65	334.05	24.60	14.581		
3,800.00	3,794.37	3,775.97	3,751.80	12.50	13.87	-93.58	-207.80	-399.56	370.13	344.94	25.19	14.694		
3,900.00	3,894.37	3,875.22	3,850.31	12.76	14.26	-94.18	-212.53	-410.69	381.65	355.87	25.79	14.801		
4,000.00	3,994.37	3,974.48	3,948.83	13.03	14.64	-94.76	-217.26	-421.82	393.22	366.83	26.39	14.903		
4,100.00	4,094.37	4,073.73	4,047.34	13.30	15.02	-95.30	-221.98	-432.96	404.82	377.83	26.99	14.999		
4,200.00	4,194.37	4,172.99	4,145.86	13.58	15.41	-95.80	-226.71	-444.09	416.45	388.86	27.60	15.091		
4,300.00	4,294.37	4,272.24	4,244.37	13.85	15.79	-96.29	-231.43	-455.23	428.12	399.91	28.21	15.178		
4,400.00	4,394.37	4,371.50	4,342.89	14.13	16.17	-96.74	-236.16	-466.36	439.81	410.99	28.82	15.261		
4,500.00	4,494.37	4,470.75	4,441.40	14.41	16.56	-97.18	-240.89	-477.50	451.53	422.09	29.43	15.340		
4,600.00	4,594.37	4,570.01	4,539.92	14.70	16.94	-97.59	-245.61	-488.63	463.27	433.22	30.05	15.416		
4,700.00	4,694.37	4,669.26	4,638.43	14.98	17.32	-97.98	-250.34	-499.77	475.04	444.36	30.67	15.487		
4,800.00	4,794.37	4,774.13	4,742.54	15.27	17.70	-98.36	-255.25	-511.34	486.66	455.36	31.30	15.549		
4,900.00	4,894.37	4,873.56	4,841.49	15.56	18.02	-98.68	-259.42	-521.16	495.31	463.41	31.90	15.529		
5,000.00	4,994.37	5,013.68	4,981.46	15.85	18.32	-98.84	-261.65	-526.42	499.92	467.43	32.49	15.386		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	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	5,093.99	5,126.22	5,093.99	16.14	18.61	-99.53	-262.05	-527.36	501.86	468.82	33.04	15.190		
5,200.00	5,190.49	5,222.72	5,190.49	16.39	18.86	-101.75	-262.05	-527.36	506.79	473.36	33.43	15.159		
5,300.00	5,280.33	5,312.56	5,280.33	16.63	19.10	-104.82	-262.05	-527.36	517.98	484.29	33.69	15.376		
5,400.00	5,360.20	5,425.75	5,393.18	16.87	19.39	-109.48	-255.55	-527.36	537.24	503.48	33.76	15.911		
5,500.00	5,427.17	5,583.54	5,542.89	17.12	19.75	-115.11	-207.65	-527.36	558.96	525.37	33.59	16.641		
5,600.00	5,478.78	5,784.69	5,701.52	17.42	20.06	-120.02	-86.00	-527.36	577.16	543.87	33.29	17.337		
5,700.00	5,513.13	6,024.70	5,814.13	17.78	20.20	-122.21	123.54	-527.36	584.77	551.28	33.49	17.463		
5,800.00	5,528.96	6,205.80	5,832.00	18.22	20.34	-121.44	303.08	-527.36	580.20	545.80	34.40	16.865		
5,854.61	5,531.47	6,260.34	5,832.00	18.49	20.54	-121.26	357.62	-527.36	578.90	544.01	34.88	16.596		
5,900.00	5,530.00	6,305.78	5,832.00	18.72	20.77	-121.40	403.06	-527.36	579.66	544.43	35.23	16.453		
6,000.00	5,530.00	6,405.78	5,832.00	19.33	21.37	-121.40	503.06	-527.36	579.66	543.43	36.23	16.000		
6,100.00	5,530.00	6,505.78	5,832.00	20.03	22.06	-121.40	603.06	-527.36	579.67	542.29	37.38	15.508		
6,200.00	5,530.00	6,605.78	5,832.00	20.81	22.83	-121.40	703.06	-527.36	579.67	541.00	38.66	14.992		
6,300.00	5,530.00	6,705.78	5,832.00	21.66	23.66	-121.40	803.06	-527.36	579.67	539.59	40.08	14.464		
6,400.00	5,530.00	6,805.78	5,832.00	22.57	24.55	-121.40	903.06	-527.36	579.67	538.07	41.60	13.934		
6,500.00	5,530.00	6,905.78	5,832.00	23.55	25.49	-121.40	1,003.06	-527.36	579.68	536.45	43.22	13.411		
6,600.00	5,530.00	7,005.78	5,832.00	24.57	26.48	-121.40	1,103.06	-527.36	579.68	534.74	44.94	12.900		
6,700.00	5,530.00	7,105.78	5,832.00	25.63	27.51	-121.40	1,203.06	-527.36	579.68	532.95	46.73	12.405		
6,800.00	5,530.00	7,205.78	5,832.00	26.74	28.58	-121.40	1,303.06	-527.35	579.68	531.09	48.59	11.929		
6,900.00	5,530.00	7,305.78	5,832.00	27.87	29.68	-121.40	1,403.06	-527.35	579.69	529.17	50.52	11.475		
7,000.00	5,530.00	7,405.78	5,832.00	29.04	30.81	-121.40	1,503.06	-527.35	579.69	527.19	52.50	11.042		
7,100.00	5,530.00	7,505.78	5,832.00	30.24	31.97	-121.40	1,603.06	-527.35	579.69	525.16	54.53	10.630		
7,200.00	5,530.00	7,605.78	5,832.00	31.45	33.16	-121.40	1,703.06	-527.35	579.69	523.08	56.61	10.240		
7,300.00	5,530.00	7,705.78	5,832.00	32.69	34.36	-121.40	1,803.06	-527.35	579.70	520.97	58.72	9.871		
7,400.00	5,530.00	7,805.78	5,832.00	33.95	35.59	-121.40	1,903.06	-527.35	579.70	518.82	60.88	9.523		
7,500.00	5,530.00	7,905.78	5,832.00	35.22	36.83	-121.40	2,003.06	-527.35	579.70	516.64	63.06	9.193		
7,600.00	5,530.00	8,005.78	5,832.00	36.51	38.09	-121.40	2,103.06	-527.35	579.70	514.43	65.27	8.881		
7,700.00	5,530.00	8,105.78	5,832.00	37.82	39.37	-121.40	2,203.06	-527.35	579.70	512.20	67.51	8.587		
7,800.00	5,530.00	8,205.78	5,832.00	39.13	40.66	-121.40	2,303.06	-527.35	579.71	509.94	69.77	8.309		
7,900.00	5,530.00	8,305.78	5,832.00	40.46	41.95	-121.40	2,403.06	-527.35	579.71	507.66	72.05	8.046		
8,000.00	5,530.00	8,405.78	5,832.00	41.79	43.27	-121.40	2,503.06	-527.35	579.71	505.36	74.36	7.796		
8,100.00	5,530.00	8,505.78	5,832.00	43.13	44.59	-121.40	2,603.06	-527.35	579.71	503.04	76.68	7.561		
8,200.00	5,530.00	8,605.78	5,832.00	44.49	45.91	-121.40	2,703.06	-527.35	579.72	500.71	79.01	7.337		
8,300.00	5,530.00	8,705.78	5,832.00	45.85	47.25	-121.40	2,803.06	-527.35	579.72	498.36	81.36	7.125		
8,400.00	5,530.00	8,805.78	5,832.00	47.21	48.60	-121.40	2,903.06	-527.35	579.72	496.00	83.72	6.924		
8,500.00	5,530.00	8,905.78	5,832.00	48.58	49.95	-121.40	3,003.06	-527.35	579.72	493.62	86.10	6.733		
8,600.00	5,530.00	9,005.78	5,832.00	49.96	51.31	-121.39	3,103.06	-527.35	579.73	491.24	88.49	6.552		
8,700.00	5,530.00	9,105.78	5,832.00	51.34	52.67	-121.39	3,203.06	-527.35	579.73	488.84	90.89	6.379		
8,800.00	5,530.00	9,205.78	5,832.00	52.73	54.05	-121.39	3,303.06	-527.35	579.73	486.44	93.29	6.214		
8,900.00	5,530.00	9,305.78	5,832.00	54.12	55.42	-121.39	3,403.06	-527.35	579.73	484.03	95.71	6.057		
9,000.00	5,530.00	9,405.78	5,832.00	55.52	56.80	-121.39	3,503.06	-527.35	579.74	481.60	98.13	5.908		
9,100.00	5,530.00	9,505.78	5,832.00	56.92	58.19	-121.39	3,603.06	-527.35	579.74	479.17	100.56	5.765		
9,200.00	5,530.00	9,605.78	5,832.00	58.32	59.58	-121.39	3,703.06	-527.35	579.74	476.74	103.00	5.628		
9,300.00	5,530.00	9,705.78	5,832.00	59.73	60.97	-121.39	3,803.06	-527.35	579.74	474.29	105.45	5.498		
9,400.00	5,530.00	9,805.78	5,832.00	61.14	62.36	-121.39	3,903.06	-527.35	579.75	471.85	107.90	5.373		
9,500.00	5,530.00	9,905.78	5,832.00	62.55	63.76	-121.39	4,003.06	-527.35	579.75	469.39	110.36	5.253		
9,600.00	5,530.00	10,005.78	5,832.00	63.97	65.17	-121.39	4,103.06	-527.35	579.75	466.93	112.82	5.139		
9,700.00	5,530.00	10,105.78	5,832.00	65.39	66.57	-121.39	4,203.06	-527.35	579.75	464.46	115.29	5.029		
9,800.00	5,530.00	10,205.78	5,832.00	66.81	67.98	-121.39	4,303.06	-527.35	579.76	461.99	117.76	4.923		
9,900.00	5,530.00	10,305.78	5,832.00	68.23	69.39	-121.39	4,403.06	-527.35	579.76	459.52	120.24	4.822		
10,000.00	5,530.00	10,405.78	5,832.00	69.66	70.81	-121.39	4,503.06	-527.35	579.76	457.04	122.72	4.724		
10,100.00	5,530.00	10,505.78	5,832.00	71.08	72.22	-121.39	4,603.06	-527.35	579.76	454.56	125.20	4.631		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,200.00	5,530.00	10,605.78	5,832.00	72.51	73.64	-121.39	4,703.06	-527.35	579.77	452.07	127.69	4.540		
10,300.00	5,530.00	10,705.78	5,832.00	73.94	75.06	-121.39	4,803.06	-527.35	579.77	449.58	130.19	4.453		
10,400.00	5,530.00	10,805.78	5,832.00	75.37	76.48	-121.39	4,903.06	-527.35	579.77	447.09	132.68	4.370		
10,500.00	5,530.00	10,905.78	5,832.00	76.80	77.91	-121.39	5,003.06	-527.35	579.77	444.59	135.18	4.289		
10,600.00	5,530.00	11,005.78	5,832.00	78.24	79.33	-121.39	5,103.06	-527.35	579.78	442.09	137.68	4.211		
10,700.00	5,530.00	11,105.78	5,832.00	79.67	80.76	-121.39	5,203.06	-527.35	579.78	439.59	140.19	4.136		
10,800.00	5,530.00	11,205.78	5,832.00	81.11	82.19	-121.39	5,303.06	-527.35	579.78	437.09	142.69	4.063		
10,900.00	5,530.00	11,305.78	5,832.00	82.55	83.62	-121.39	5,403.06	-527.35	579.78	434.58	145.20	3.993		
11,000.00	5,530.00	11,405.78	5,832.00	83.99	85.05	-121.39	5,503.06	-527.35	579.79	432.07	147.71	3.925		
11,100.00	5,530.00	11,505.78	5,832.00	85.43	86.49	-121.39	5,603.06	-527.35	579.79	429.56	150.23	3.859		
11,200.00	5,530.00	11,605.78	5,832.00	86.87	87.92	-121.39	5,703.06	-527.35	579.79	427.05	152.74	3.796		
11,300.00	5,530.00	11,705.78	5,832.00	88.31	89.36	-121.39	5,803.06	-527.35	579.79	424.53	155.26	3.734		
11,400.00	5,530.00	11,805.78	5,832.00	89.76	90.79	-121.39	5,903.06	-527.35	579.80	422.01	157.78	3.675		
11,500.00	5,530.00	11,905.78	5,832.00	91.20	92.23	-121.39	6,003.06	-527.35	579.80	419.49	160.30	3.617		
11,600.00	5,530.00	12,005.78	5,832.00	92.65	93.67	-121.39	6,103.06	-527.35	579.80	416.97	162.83	3.561		
11,700.00	5,530.00	12,105.78	5,832.00	94.09	95.11	-121.39	6,203.06	-527.35	579.80	414.45	165.35	3.506		
11,800.00	5,530.00	12,205.78	5,832.00	95.54	96.55	-121.39	6,303.06	-527.35	579.80	411.92	167.88	3.454		
11,900.00	5,530.00	12,305.78	5,832.00	96.99	97.99	-121.39	6,403.06	-527.35	579.81	409.40	170.41	3.402		
12,000.00	5,530.00	12,405.78	5,832.00	98.44	99.43	-121.39	6,503.06	-527.35	579.81	406.87	172.94	3.353		
12,100.00	5,530.00	12,505.78	5,832.00	99.89	100.88	-121.39	6,603.06	-527.35	579.81	404.34	175.47	3.304		
12,200.00	5,530.00	12,605.78	5,832.00	101.34	102.32	-121.39	6,703.06	-527.35	579.81	401.81	178.00	3.257		
12,300.00	5,530.00	12,705.78	5,832.00	102.79	103.77	-121.39	6,803.06	-527.35	579.82	399.28	180.54	3.212		
12,400.00	5,530.00	12,805.78	5,832.00	104.24	105.21	-121.39	6,903.06	-527.35	579.82	396.75	183.07	3.167		
12,500.00	5,530.00	12,905.78	5,832.00	105.69	106.66	-121.39	7,003.06	-527.35	579.82	394.21	185.61	3.124		
12,600.00	5,530.00	13,005.78	5,832.00	107.14	108.11	-121.39	7,103.06	-527.35	579.82	391.68	188.15	3.082		
12,700.00	5,530.00	13,105.78	5,832.00	108.59	109.55	-121.39	7,203.06	-527.35	579.83	389.14	190.68	3.041		
12,800.00	5,530.00	13,205.78	5,832.00	110.05	111.00	-121.39	7,303.06	-527.34	579.83	386.60	193.22	3.001		
12,900.00	5,530.00	13,305.78	5,832.00	111.50	112.45	-121.39	7,403.06	-527.34	579.83	384.07	195.77	2.962		
13,000.00	5,530.00	13,405.78	5,832.00	112.95	113.90	-121.39	7,503.06	-527.34	579.83	381.53	198.31	2.924		
13,100.00	5,530.00	13,505.78	5,832.00	114.41	115.35	-121.39	7,603.06	-527.34	579.84	378.99	200.85	2.887		
13,200.00	5,530.00	13,605.78	5,832.00	115.86	116.80	-121.39	7,703.06	-527.34	579.84	376.45	203.39	2.851		
13,300.00	5,530.00	13,705.78	5,832.00	117.32	118.25	-121.39	7,803.06	-527.34	579.84	373.90	205.94	2.816		
13,400.00	5,530.00	13,805.78	5,832.00	118.78	119.71	-121.39	7,903.06	-527.34	579.84	371.36	208.48	2.781		
13,500.00	5,530.00	13,905.78	5,832.00	120.23	121.16	-121.39	8,003.06	-527.34	579.85	368.82	211.03	2.748		
13,600.00	5,530.00	14,005.78	5,832.00	121.69	122.61	-121.39	8,103.06	-527.34	579.85	366.27	213.58	2.715		
13,700.00	5,530.00	14,105.78	5,832.00	123.14	124.06	-121.39	8,203.06	-527.34	579.85	363.73	216.12	2.683		
13,800.00	5,530.00	14,205.78	5,832.00	124.60	125.52	-121.39	8,303.06	-527.34	579.85	361.18	218.67	2.652		
13,900.00	5,530.00	14,305.78	5,832.00	126.06	126.97	-121.39	8,403.06	-527.34	579.86	358.64	221.22	2.621		
14,000.00	5,530.00	14,405.78	5,832.00	127.52	128.43	-121.39	8,503.06	-527.34	579.86	356.09	223.77	2.591		
14,100.00	5,530.00	14,505.78	5,832.00	128.98	129.88	-121.39	8,603.06	-527.34	579.86	353.54	226.32	2.562		
14,200.00	5,530.00	14,605.78	5,832.00	130.43	131.34	-121.39	8,703.06	-527.34	579.86	350.99	228.87	2.534		
14,300.00	5,530.00	14,705.78	5,832.00	131.89	132.79	-121.39	8,803.06	-527.34	579.87	348.44	231.42	2.506		
14,400.00	5,530.00	14,805.78	5,832.00	133.35	134.25	-121.39	8,903.06	-527.34	579.87	345.89	233.97	2.478		
14,500.00	5,530.00	14,905.78	5,832.00	134.81	135.70	-121.39	9,003.06	-527.34	579.87	343.34	236.53	2.452		
14,600.00	5,530.00	15,005.78	5,832.00	136.27	137.16	-121.39	9,103.06	-527.34	579.87	340.79	239.08	2.425		
14,700.00	5,530.00	15,105.78	5,832.00	137.73	138.62	-121.39	9,203.06	-527.34	579.88	338.24	241.63	2.400		
14,800.00	5,530.00	15,205.78	5,832.00	139.19	140.07	-121.39	9,303.06	-527.34	579.88	335.69	244.19	2.375		
14,900.00	5,530.00	15,305.78	5,832.00	140.65	141.53	-121.39	9,403.06	-527.34	579.88	333.14	246.74	2.350		
15,000.00	5,530.00	15,405.78	5,832.00	142.11	142.99	-121.39	9,503.06	-527.34	579.88	330.59	249.30	2.326		
15,100.00	5,530.00	15,505.78	5,832.00	143.57	144.45	-121.39	9,603.06	-527.34	579.89	328.03	251.85	2.302		
15,200.00	5,530.00	15,605.78	5,832.00	145.03	145.90	-121.39	9,703.06	-527.34	579.89	325.48	254.41	2.279		
15,300.00	5,530.00	15,705.78	5,832.00	146.50	147.36	-121.39	9,803.06	-527.34	579.89	322.92	256.97	2.257		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	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 #25P-2446 - Hz - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,400.00	5,530.00	15,805.78	5,832.00	147.96	148.82	-121.38	9,903.06	-527.34	579.89	320.37	259.52	2.234	
15,500.00	5,530.00	15,905.78	5,832.00	149.42	150.28	-121.38	10,003.06	-527.34	579.90	317.81	262.08	2.213	
15,600.00	5,530.00	16,005.78	5,832.00	150.88	151.74	-121.38	10,103.06	-527.34	579.90	315.26	264.64	2.191	
15,614.72	5,530.00	16,020.50	5,832.00	151.10	151.96	-121.38	10,117.78	-527.34	579.90	314.88	265.01	2.188	
15,631.67	5,530.00	16,035.43	5,832.00	151.34	152.17	-121.38	10,132.71	-527.34	579.90	314.48	265.42	2.185 SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	179.13	-50.61	0.77	50.61					
100.00	100.00	100.00	100.00	0.13	0.13	179.13	-50.61	0.77	50.61	50.35	0.27	190.023		
200.00	200.00	200.00	200.00	0.47	0.47	179.13	-50.61	0.77	50.61	49.67	0.94	53.806		
300.00	300.00	300.00	300.00	0.81	0.81	179.13	-50.61	0.77	50.61	49.00	1.61	31.340		
400.00	399.98	398.88	398.86	1.11	1.11	-9.73	-51.70	-0.54	50.00	47.77	2.22	22.491		
500.00	499.84	497.95	497.80	1.41	1.42	-6.19	-54.94	-4.40	48.33	45.52	2.81	17.223		
600.00	599.66	597.86	597.53	1.71	1.73	-1.58	-58.86	-9.07	46.64	43.21	3.42	13.624		
700.00	699.47	697.78	697.25	2.03	2.06	3.33	-62.78	-13.74	45.27	41.21	4.06	11.153		
800.00	799.29	797.69	796.98	2.37	2.39	8.52	-66.70	-18.42	44.25	39.55	4.70	9.405		
900.00	899.10	897.60	896.71	2.71	2.74	13.89	-70.62	-23.09	43.62	38.26	5.36	8.140		
1,000.00	998.91	997.52	996.43	3.05	3.08	19.38	-74.55	-27.76	43.37	37.35	6.02	7.207		
1,010.60	1,009.49	1,008.10	1,007.00	3.09	3.12	19.97	-74.96	-28.26	43.37	37.28	6.09	7.123 CC		
1,100.00	1,098.73	1,097.43	1,096.16	3.39	3.42	24.88	-78.47	-32.43	43.53	36.85	6.68	6.513		
1,200.00	1,198.54	1,197.34	1,195.89	3.74	3.77	30.29	-82.39	-37.11	44.09	36.73	7.36	5.994		
1,300.00	1,298.35	1,297.25	1,295.61	4.09	4.12	35.52	-86.31	-41.78	45.02	36.99	8.03	5.604		
1,400.00	1,398.17	1,397.17	1,395.34	4.44	4.47	40.50	-90.23	-46.45	46.32	37.60	8.72	5.313		
1,500.00	1,497.98	1,497.08	1,495.06	4.79	4.82	45.17	-94.15	-51.12	47.94	38.53	9.41	5.096		
1,600.00	1,597.79	1,596.99	1,594.79	5.14	5.17	49.51	-98.07	-55.80	49.87	39.76	10.10	4.936		
1,700.00	1,697.61	1,696.91	1,694.52	5.49	5.52	53.51	-101.99	-60.47	52.05	41.25	10.80	4.819		
1,800.00	1,797.42	1,796.82	1,794.24	5.84	5.87	57.17	-105.91	-65.14	54.47	42.97	11.50	4.735		
1,900.00	1,897.23	1,896.73	1,893.97	6.19	6.22	60.51	-109.83	-69.81	57.10	44.89	12.21	4.676		
2,000.00	1,997.05	1,996.64	1,993.70	6.55	6.57	63.55	-113.75	-74.49	59.89	46.98	12.92	4.637		
2,100.00	2,096.86	2,096.56	2,093.42	6.90	6.92	66.30	-117.67	-79.16	62.85	49.22	13.62	4.613		
2,200.00	2,196.67	2,196.47	2,193.15	7.25	7.27	68.81	-121.59	-83.83	65.93	51.60	14.33	4.601		
2,300.00	2,296.49	2,296.38	2,292.88	7.60	7.62	71.08	-125.51	-88.50	69.13	54.09	15.04	4.597		
2,400.00	2,396.30	2,396.30	2,392.60	7.96	7.98	73.16	-129.44	-93.18	72.43	56.68	15.75	4.599		
2,500.00	2,496.11	2,496.21	2,492.33	8.31	8.33	75.05	-133.36	-97.85	75.81	59.36	16.46	4.607		
2,600.00	2,595.93	2,596.12	2,592.06	8.66	8.68	76.78	-137.28	-102.52	79.27	62.11	17.17	4.618		
2,700.00	2,695.74	2,696.03	2,691.78	9.02	9.03	78.36	-141.20	-107.19	82.80	64.93	17.88	4.632		
2,800.00	2,795.55	2,795.95	2,791.51	9.37	9.38	79.81	-145.12	-111.87	86.39	67.80	18.58	4.648		
2,900.00	2,895.37	2,895.86	2,891.24	9.72	9.73	81.14	-149.04	-116.54	90.02	70.73	19.29	4.666		
3,000.00	2,995.18	2,995.77	2,990.96	10.08	10.09	82.37	-152.96	-121.21	93.70	73.70	20.00	4.685		
3,100.00	3,095.00	3,095.69	3,090.69	10.43	10.44	83.51	-156.88	-125.88	97.42	76.71	20.71	4.704		
3,200.00	3,194.81	3,195.60	3,190.41	10.78	10.79	84.56	-160.80	-130.56	101.18	79.76	21.42	4.724		
3,300.00	3,294.62	3,295.51	3,290.14	11.14	11.14	85.54	-164.72	-135.23	104.96	82.84	22.13	4.744		
3,400.00	3,394.44	3,395.42	3,389.87	11.48	11.50	86.41	-168.64	-139.90	108.79	85.97	22.82	4.767		
3,500.00	3,494.38	3,495.34	3,489.59	11.73	11.85	86.01	-172.56	-144.57	112.78	89.36	23.42	4.816		
3,600.00	3,594.37	3,595.17	3,589.24	11.98	12.20	-85.88	-176.48	-149.24	117.06	93.06	24.00	4.878		
3,700.00	3,694.37	3,694.98	3,688.87	12.24	12.55	-87.89	-180.40	-153.91	121.52	96.94	24.58	4.944		
3,800.00	3,794.37	3,794.79	3,788.49	12.50	12.90	-89.74	-184.31	-158.58	126.12	100.95	25.17	5.011		
3,900.00	3,894.37	3,894.61	3,888.12	12.76	13.26	-91.47	-188.23	-163.25	130.84	105.08	25.76	5.079		
4,000.00	3,994.37	3,994.42	3,987.75	13.03	13.61	-93.08	-192.15	-167.91	135.67	109.32	26.35	5.148		
4,100.00	4,094.37	4,094.23	4,087.37	13.30	13.96	-94.57	-196.06	-172.58	140.60	113.65	26.95	5.217		
4,200.00	4,194.37	4,194.05	4,187.00	13.58	14.31	-95.96	-199.98	-177.25	145.62	118.07	27.55	5.286		
4,300.00	4,294.37	4,293.86	4,286.63	13.85	14.67	-97.26	-203.90	-181.92	150.72	122.57	28.15	5.354		
4,400.00	4,394.37	4,393.67	4,386.26	14.13	15.02	-98.47	-207.81	-186.58	155.90	127.14	28.76	5.420		
4,500.00	4,494.37	4,493.49	4,485.88	14.41	15.37	-99.61	-211.73	-191.25	161.13	131.76	29.37	5.486		
4,600.00	4,594.37	4,595.61	4,587.83	14.70	15.71	-100.63	-215.51	-195.75	166.13	136.16	29.97	5.543		
4,700.00	4,694.37	4,700.95	4,693.14	14.98	15.97	-101.10	-217.32	-197.91	168.47	137.95	30.52	5.520		
4,800.00	4,794.37	4,802.19	4,794.37	15.27	16.26	-101.12	-217.38	-197.99	168.55	137.45	31.10	5.419		
4,900.00	4,894.37	4,902.19	4,894.37	15.56	16.52	-101.12	-217.38	-197.99	168.55	136.89	31.67	5.323		
5,000.00	4,994.37	5,002.19	4,994.37	15.85	16.79	-101.12	-217.38	-197.99	168.55	136.32	32.23	5.229		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	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	5,093.99	5,102.62	5,094.80	16.14	17.07	-103.26	-217.27	-197.99	170.01	137.28	32.73	5.194		
5,200.00	5,190.49	5,211.37	5,202.51	16.39	17.35	-107.59	-203.75	-197.99	173.63	140.53	33.10	5.246		
5,300.00	5,280.33	5,323.35	5,308.00	16.63	17.63	-111.16	-166.82	-197.99	177.47	144.17	33.30	5.330		
5,400.00	5,360.20	5,438.18	5,405.42	16.87	17.88	-113.85	-106.49	-197.98	180.91	147.54	33.37	5.421		
5,500.00	5,427.17	5,555.20	5,488.68	17.12	18.11	-115.57	-24.61	-197.98	183.37	149.95	33.42	5.487		
5,600.00	5,478.78	5,673.49	5,552.17	17.42	18.34	-116.28	74.91	-197.98	184.45	150.81	33.64	5.483		
5,700.00	5,513.13	5,792.01	5,591.67	17.78	18.71	-115.97	186.38	-197.97	183.98	149.79	34.19	5.381		
5,800.00	5,528.96	5,909.66	5,605.00	18.22	19.22	-114.65	303.01	-197.97	182.03	146.85	35.18	5.174		
5,854.96	5,531.48	5,964.63	5,605.00	18.49	19.51	-113.96	357.98	-197.96	180.99	145.18	35.81	5.055		
5,900.00	5,530.00	6,009.71	5,605.00	18.72	19.77	-114.39	403.06	-197.96	181.59	145.43	36.16	5.022		
6,000.00	5,530.00	6,109.71	5,605.00	19.33	20.40	-114.39	503.06	-197.96	181.59	144.31	37.28	4.871		
6,100.00	5,530.00	6,209.71	5,605.00	20.03	21.12	-114.39	603.06	-197.95	181.59	143.04	38.55	4.710		
6,200.00	5,530.00	6,309.71	5,605.00	20.81	21.92	-114.39	703.06	-197.95	181.59	141.62	39.97	4.543		
6,300.00	5,530.00	6,409.71	5,605.00	21.66	22.78	-114.39	803.06	-197.95	181.59	140.06	41.53	4.373		
6,400.00	5,530.00	6,509.71	5,605.00	22.57	23.70	-114.39	903.06	-197.94	181.59	138.40	43.19	4.204		
6,500.00	5,530.00	6,609.71	5,605.00	23.55	24.68	-114.39	1,003.06	-197.94	181.59	136.63	44.96	4.039		
6,600.00	5,530.00	6,709.71	5,605.00	24.57	25.70	-114.39	1,103.06	-197.93	181.59	134.77	46.82	3.878		
6,700.00	5,530.00	6,809.71	5,605.00	25.63	26.76	-114.39	1,203.06	-197.93	181.58	132.82	48.76	3.724		
6,800.00	5,530.00	6,909.71	5,605.00	26.74	27.86	-114.39	1,303.06	-197.93	181.58	130.81	50.77	3.576		
6,900.00	5,530.00	7,009.71	5,605.00	27.87	29.00	-114.40	1,403.06	-197.92	181.58	128.73	52.85	3.436		
7,000.00	5,530.00	7,109.71	5,605.00	29.04	30.16	-114.40	1,503.06	-197.92	181.58	126.60	54.98	3.303		
7,100.00	5,530.00	7,209.71	5,605.00	30.24	31.35	-114.40	1,603.06	-197.91	181.58	124.42	57.17	3.176		
7,200.00	5,530.00	7,309.71	5,605.00	31.45	32.56	-114.40	1,703.06	-197.91	181.58	122.19	59.39	3.057		
7,300.00	5,530.00	7,409.71	5,605.00	32.69	33.80	-114.40	1,803.06	-197.90	181.58	119.92	61.66	2.945		
7,400.00	5,530.00	7,509.71	5,605.00	33.95	35.05	-114.40	1,903.06	-197.90	181.58	117.62	63.96	2.839		
7,500.00	5,530.00	7,609.71	5,605.00	35.22	36.31	-114.40	2,003.06	-197.90	181.58	115.28	66.29	2.739		
7,600.00	5,530.00	7,709.71	5,605.00	36.51	37.60	-114.40	2,103.06	-197.89	181.58	112.92	68.65	2.645		
7,700.00	5,530.00	7,809.71	5,605.00	37.82	38.89	-114.40	2,203.06	-197.89	181.57	110.53	71.04	2.556		
7,800.00	5,530.00	7,909.71	5,605.00	39.13	40.20	-114.40	2,303.06	-197.88	181.57	108.12	73.45	2.472		
7,900.00	5,530.00	8,009.71	5,605.00	40.46	41.52	-114.40	2,403.06	-197.88	181.57	105.69	75.88	2.393		
8,000.00	5,530.00	8,109.71	5,605.00	41.79	42.85	-114.40	2,503.06	-197.88	181.57	103.24	78.33	2.318		
8,100.00	5,530.00	8,209.71	5,605.00	43.13	44.19	-114.40	2,603.06	-197.87	181.57	100.77	80.80	2.247		
8,200.00	5,530.00	8,309.71	5,605.00	44.49	45.53	-114.40	2,703.06	-197.87	181.57	98.29	83.28	2.180		
8,300.00	5,530.00	8,409.71	5,605.00	45.85	46.89	-114.40	2,803.06	-197.86	181.57	95.79	85.78	2.117		
8,400.00	5,530.00	8,509.71	5,605.00	47.21	48.25	-114.40	2,903.06	-197.86	181.57	93.27	88.29	2.056		
8,500.00	5,530.00	8,609.71	5,605.00	48.58	49.61	-114.40	3,003.06	-197.86	181.57	90.75	90.82	1.999		
8,600.00	5,530.00	8,709.71	5,605.00	49.96	50.99	-114.40	3,103.06	-197.85	181.57	88.22	93.35	1.945		
8,700.00	5,530.00	8,809.71	5,605.00	51.34	52.36	-114.40	3,203.06	-197.85	181.56	85.67	95.89	1.893		
8,800.00	5,530.00	8,909.71	5,605.00	52.73	53.75	-114.40	3,303.06	-197.84	181.56	83.12	98.45	1.844		
8,900.00	5,530.00	9,009.71	5,605.00	54.12	55.14	-114.40	3,403.06	-197.84	181.56	80.55	101.01	1.797		
9,000.00	5,530.00	9,109.71	5,605.00	55.52	56.53	-114.40	3,503.06	-197.83	181.56	77.98	103.58	1.753		
9,100.00	5,530.00	9,209.71	5,605.00	56.92	57.92	-114.40	3,603.06	-197.83	181.56	75.40	106.16	1.710		
9,200.00	5,530.00	9,309.71	5,605.00	58.32	59.32	-114.40	3,703.06	-197.83	181.56	72.82	108.74	1.670		
9,300.00	5,530.00	9,409.71	5,605.00	59.73	60.73	-114.40	3,803.06	-197.82	181.56	70.23	111.33	1.631		
9,400.00	5,530.00	9,509.71	5,605.00	61.14	62.13	-114.40	3,903.06	-197.82	181.56	67.63	113.93	1.594		
9,500.00	5,530.00	9,609.71	5,605.00	62.55	63.54	-114.40	4,003.06	-197.81	181.56	65.03	116.53	1.558		
9,600.00	5,530.00	9,709.71	5,605.00	63.97	64.95	-114.40	4,103.06	-197.81	181.56	62.42	119.14	1.524		
9,700.00	5,530.00	9,809.71	5,605.00	65.39	66.37	-114.40	4,203.06	-197.81	181.55	59.80	121.75	1.491 Level 3		
9,800.00	5,530.00	9,909.71	5,605.00	66.81	67.78	-114.40	4,303.06	-197.80	181.55	57.18	124.37	1.460 Level 3		
9,900.00	5,530.00	10,009.71	5,605.00	68.23	69.20	-114.40	4,403.06	-197.80	181.55	54.56	126.99	1.430 Level 3		
10,000.00	5,530.00	10,109.71	5,605.00	69.66	70.62	-114.40	4,503.06	-197.79	181.55	51.94	129.62	1.401 Level 3		
10,100.00	5,530.00	10,209.71	5,605.00	71.08	72.05	-114.40	4,603.06	-197.79	181.55	49.31	132.25	1.373 Level 3		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,200.00	5,530.00	10,309.71	5,605.00	72.51	73.47	-114.40	4,703.06	-197.79	181.55	46.67	134.88	1.346	Level 3	
10,300.00	5,530.00	10,409.71	5,605.00	73.94	74.90	-114.40	4,803.06	-197.78	181.55	44.03	137.51	1.320	Level 3	
10,400.00	5,530.00	10,509.71	5,605.00	75.37	76.33	-114.40	4,903.06	-197.78	181.55	41.39	140.15	1.295	Level 3	
10,500.00	5,530.00	10,609.71	5,605.00	76.80	77.76	-114.40	5,003.06	-197.77	181.55	38.75	142.80	1.271	Level 3	
10,600.00	5,530.00	10,709.71	5,605.00	78.24	79.19	-114.40	5,103.06	-197.77	181.55	36.10	145.44	1.248	Level 2	
10,700.00	5,530.00	10,809.71	5,605.00	79.67	80.62	-114.40	5,203.06	-197.76	181.54	33.45	148.09	1.226	Level 2	
10,800.00	5,530.00	10,909.71	5,605.00	81.11	82.06	-114.40	5,303.06	-197.76	181.54	30.80	150.74	1.204	Level 2	
10,900.00	5,530.00	11,009.71	5,605.00	82.55	83.49	-114.40	5,403.06	-197.76	181.54	28.15	153.39	1.184	Level 2	
11,000.00	5,530.00	11,109.71	5,605.00	83.99	84.93	-114.40	5,503.06	-197.75	181.54	25.49	156.05	1.163	Level 2	
11,100.00	5,530.00	11,209.71	5,605.00	85.43	86.37	-114.40	5,603.06	-197.75	181.54	22.83	158.71	1.144	Level 2	
11,200.00	5,530.00	11,309.71	5,605.00	86.87	87.81	-114.40	5,703.06	-197.74	181.54	20.17	161.37	1.125	Level 2	
11,300.00	5,530.00	11,409.71	5,605.00	88.31	89.25	-114.40	5,803.06	-197.74	181.54	17.51	164.03	1.107	Level 2	
11,400.00	5,530.00	11,509.71	5,605.00	89.76	90.69	-114.40	5,903.06	-197.74	181.54	14.85	166.69	1.089	Level 2	
11,500.00	5,530.00	11,609.71	5,605.00	91.20	92.13	-114.40	6,003.06	-197.73	181.54	12.18	169.35	1.072	Level 2	
11,600.00	5,530.00	11,709.71	5,605.00	92.65	93.58	-114.40	6,103.06	-197.73	181.54	9.51	172.02	1.055	Level 2	
11,700.00	5,530.00	11,809.71	5,605.00	94.09	95.02	-114.40	6,203.06	-197.72	181.53	6.84	174.69	1.039	Level 2	
11,800.00	5,530.00	11,909.71	5,605.00	95.54	96.47	-114.40	6,303.06	-197.72	181.53	4.17	177.36	1.024	Level 2	
11,900.00	5,530.00	12,009.71	5,605.00	96.99	97.91	-114.40	6,403.06	-197.71	181.53	1.50	180.03	1.008	Level 2	
12,000.00	5,530.00	12,109.71	5,605.00	98.44	99.36	-114.40	6,503.06	-197.71	181.53	-1.17	182.70	0.994	Level 1	
12,100.00	5,530.00	12,209.71	5,605.00	99.89	100.81	-114.40	6,603.06	-197.71	181.53	-3.85	185.38	0.979	Level 1	
12,200.00	5,530.00	12,309.71	5,605.00	101.34	102.25	-114.40	6,703.06	-197.70	181.53	-6.52	188.05	0.965	Level 1	
12,300.00	5,530.00	12,409.71	5,605.00	102.79	103.70	-114.40	6,803.06	-197.70	181.53	-9.20	190.73	0.952	Level 1	
12,400.00	5,530.00	12,509.71	5,605.00	104.24	105.15	-114.40	6,903.06	-197.69	181.53	-11.88	193.41	0.939	Level 1	
12,500.00	5,530.00	12,609.71	5,605.00	105.69	106.60	-114.40	7,003.06	-197.69	181.53	-14.56	196.09	0.926	Level 1	
12,600.00	5,530.00	12,709.71	5,605.00	107.14	108.05	-114.40	7,103.06	-197.69	181.53	-17.24	198.77	0.913	Level 1	
12,700.00	5,530.00	12,809.71	5,605.00	108.59	109.50	-114.40	7,203.06	-197.68	181.52	-19.92	201.45	0.901	Level 1	
12,800.00	5,530.00	12,909.71	5,605.00	110.05	110.96	-114.40	7,303.06	-197.68	181.52	-22.61	204.13	0.889	Level 1	
12,900.00	5,530.00	13,009.71	5,605.00	111.50	112.41	-114.40	7,403.06	-197.67	181.52	-25.29	206.81	0.878	Level 1	
13,000.00	5,530.00	13,109.71	5,605.00	112.95	113.86	-114.40	7,503.06	-197.67	181.52	-27.98	209.50	0.866	Level 1	
13,100.00	5,530.00	13,209.71	5,605.00	114.41	115.31	-114.40	7,603.06	-197.67	181.52	-30.66	212.18	0.855	Level 1	
13,200.00	5,530.00	13,309.71	5,605.00	115.86	116.77	-114.40	7,703.06	-197.66	181.52	-33.35	214.87	0.845	Level 1	
13,300.00	5,530.00	13,409.71	5,605.00	117.32	118.22	-114.40	7,803.06	-197.66	181.52	-36.04	217.56	0.834	Level 1	
13,400.00	5,530.00	13,509.71	5,605.00	118.78	119.68	-114.40	7,903.06	-197.65	181.52	-38.73	220.24	0.824	Level 1	
13,500.00	5,530.00	13,609.71	5,605.00	120.23	121.13	-114.40	8,003.06	-197.65	181.52	-41.42	222.93	0.814	Level 1	
13,600.00	5,530.00	13,709.71	5,605.00	121.69	122.59	-114.40	8,103.06	-197.64	181.52	-44.11	225.62	0.805	Level 1	
13,700.00	5,530.00	13,809.71	5,605.00	123.14	124.04	-114.40	8,203.06	-197.64	181.51	-46.80	228.31	0.795	Level 1	
13,800.00	5,530.00	13,909.71	5,605.00	124.60	125.50	-114.41	8,303.06	-197.64	181.51	-49.49	231.00	0.786	Level 1	
13,900.00	5,530.00	14,009.71	5,605.00	126.06	126.95	-114.41	8,403.06	-197.63	181.51	-52.18	233.69	0.777	Level 1	
14,000.00	5,530.00	14,109.71	5,605.00	127.52	128.41	-114.41	8,503.06	-197.63	181.51	-54.87	236.38	0.768	Level 1	
14,100.00	5,530.00	14,209.71	5,605.00	128.98	129.87	-114.41	8,603.06	-197.62	181.51	-57.57	239.08	0.759	Level 1	
14,200.00	5,530.00	14,309.71	5,605.00	130.43	131.32	-114.41	8,703.06	-197.62	181.51	-60.26	241.77	0.751	Level 1	
14,300.00	5,530.00	14,409.71	5,605.00	131.89	132.78	-114.41	8,803.06	-197.62	181.51	-62.95	244.46	0.742	Level 1	
14,400.00	5,530.00	14,509.71	5,605.00	133.35	134.24	-114.41	8,903.06	-197.61	181.51	-65.65	247.16	0.734	Level 1	
14,500.00	5,530.00	14,609.71	5,605.00	134.81	135.70	-114.41	9,003.06	-197.61	181.51	-68.35	249.85	0.726	Level 1	
14,600.00	5,530.00	14,709.71	5,605.00	136.27	137.16	-114.41	9,103.06	-197.60	181.51	-71.04	252.55	0.719	Level 1	
14,700.00	5,530.00	14,809.71	5,605.00	137.73	138.62	-114.41	9,203.06	-197.60	181.50	-73.74	255.24	0.711	Level 1	
14,800.00	5,530.00	14,909.71	5,605.00	139.19	140.08	-114.41	9,303.06	-197.59	181.50	-76.44	257.94	0.704	Level 1	
14,900.00	5,530.00	15,009.71	5,605.00	140.65	141.53	-114.41	9,403.06	-197.59	181.50	-79.13	260.64	0.696	Level 1	
15,000.00	5,530.00	15,109.71	5,605.00	142.11	142.99	-114.41	9,503.06	-197.59	181.50	-81.83	263.33	0.689	Level 1	
15,100.00	5,530.00	15,209.71	5,605.00	143.57	144.45	-114.41	9,603.06	-197.58	181.50	-84.53	266.03	0.682	Level 1	
15,200.00	5,530.00	15,309.71	5,605.00	145.03	145.91	-114.41	9,703.06	-197.58	181.50	-87.23	268.73	0.675	Level 1	
15,300.00	5,530.00	15,409.71	5,605.00	146.50	147.37	-114.41	9,803.06	-197.57	181.50	-89.93	271.43	0.669	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 #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	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 #25P-2447 - Hz - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,400.00	5,530.00	15,509.71	5,605.00	147.96	148.84	-114.41	9,903.06	-197.57	181.50	-92.63	274.13	0.662	Level 1
15,500.00	5,530.00	15,609.71	5,605.00	149.42	150.30	-114.41	10,003.06	-197.57	181.50	-95.33	276.82	0.656	Level 1
15,600.00	5,530.00	15,709.71	5,605.00	150.88	151.76	-114.41	10,103.06	-197.56	181.50	-98.03	279.52	0.649	Level 1
15,625.80	5,530.00	15,735.50	5,605.00	151.26	152.13	-114.41	10,128.86	-197.56	181.49	-98.73	280.22	0.648	Level 1
15,631.67	5,530.00	15,740.36	5,605.00	151.34	152.20	-114.41	10,133.72	-197.56	181.50	-98.87	280.36	0.647	Level 1, ES, SF



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	148.19	-49.59	30.76	58.36					
100.00	100.00	100.00	100.00	0.13	0.13	148.19	-49.59	30.76	58.36	58.09	0.27	219.099		
200.00	200.00	200.00	200.00	0.47	0.47	148.19	-49.59	30.76	58.36	57.42	0.94	62.039		
300.00	300.00	300.00	300.00	0.81	0.81	148.19	-49.59	30.76	58.36	56.74	1.61	36.135 CC		
400.00	399.98	397.99	397.97	1.11	1.11	-42.87	-51.04	31.60	58.78	56.56	2.21	26.571 ES		
500.00	499.84	496.86	496.73	1.41	1.40	-45.93	-55.11	33.95	59.85	57.07	2.79	21.472		
600.00	599.66	596.78	596.51	1.71	1.71	-49.55	-59.64	36.57	60.94	57.53	3.40	17.910		
700.00	699.47	696.70	696.30	2.03	2.03	-53.03	-64.17	39.18	62.25	58.21	4.04	15.401		
800.00	799.29	796.63	796.08	2.37	2.36	-56.35	-68.70	41.80	63.79	59.09	4.70	13.580		
900.00	899.10	896.55	895.87	2.71	2.70	-59.50	-73.23	44.41	65.53	60.16	5.36	12.218		
1,000.00	998.91	996.47	995.65	3.05	3.04	-62.48	-77.76	47.02	67.46	61.42	6.04	11.173		
1,100.00	1,098.73	1,096.39	1,095.44	3.39	3.38	-65.29	-82.29	49.64	69.56	62.84	6.72	10.354		
1,200.00	1,198.54	1,196.31	1,195.22	3.74	3.72	-67.93	-86.82	52.25	71.81	64.41	7.40	9.701		
1,300.00	1,298.35	1,296.23	1,295.01	4.09	4.07	-70.41	-91.35	54.87	74.22	66.12	8.09	9.172		
1,400.00	1,398.17	1,396.16	1,394.79	4.44	4.41	-72.72	-95.87	57.48	76.75	67.96	8.78	8.738		
1,500.00	1,497.98	1,496.08	1,494.57	4.79	4.76	-74.89	-100.40	60.10	79.39	69.92	9.48	8.378		
1,600.00	1,597.79	1,596.00	1,594.36	5.14	5.10	-76.91	-104.93	62.71	82.15	71.98	10.17	8.076		
1,700.00	1,697.61	1,695.92	1,694.14	5.49	5.45	-78.80	-109.46	65.33	85.00	74.13	10.87	7.820		
1,800.00	1,797.42	1,795.84	1,793.93	5.84	5.80	-80.56	-113.99	67.94	87.93	76.37	11.57	7.602		
1,900.00	1,897.23	1,895.76	1,893.71	6.19	6.14	-82.21	-118.52	70.56	90.95	78.68	12.27	7.414		
2,000.00	1,997.05	1,995.68	1,993.50	6.55	6.49	-83.75	-123.05	73.17	94.03	81.06	12.97	7.252		
2,100.00	2,096.86	2,095.61	2,093.28	6.90	6.84	-85.20	-127.58	75.79	97.18	83.51	13.67	7.110		
2,200.00	2,196.67	2,195.53	2,193.07	7.25	7.19	-86.55	-132.11	78.40	100.38	86.02	14.37	6.987		
2,300.00	2,296.49	2,295.45	2,292.85	7.60	7.54	-87.82	-136.63	81.02	103.64	88.57	15.07	6.878		
2,400.00	2,396.30	2,395.37	2,392.63	7.96	7.88	-89.01	-141.16	83.63	106.95	91.18	15.77	6.781		
2,500.00	2,496.11	2,495.29	2,492.42	8.31	8.23	-90.12	-145.69	86.25	110.30	93.83	16.47	6.696		
2,600.00	2,595.93	2,595.21	2,592.20	8.66	8.58	-91.18	-150.22	88.86	113.69	96.51	17.17	6.620		
2,700.00	2,695.74	2,695.13	2,691.99	9.02	8.93	-92.17	-154.75	91.48	117.11	99.23	17.88	6.551		
2,800.00	2,795.55	2,795.06	2,791.77	9.37	9.28	-93.10	-159.28	94.09	120.57	101.99	18.58	6.490		
2,900.00	2,895.37	2,894.98	2,891.56	9.72	9.63	-93.98	-163.81	96.70	124.06	104.78	19.28	6.435		
3,000.00	2,995.18	2,994.90	2,991.34	10.08	9.97	-94.82	-168.34	99.32	127.57	107.59	19.98	6.384		
3,100.00	3,095.00	3,094.82	3,091.13	10.43	10.32	-95.60	-172.86	101.93	131.11	110.43	20.68	6.339		
3,200.00	3,194.81	3,194.74	3,190.91	10.78	10.67	-96.35	-177.39	104.55	134.68	113.29	21.39	6.298		
3,300.00	3,294.62	3,294.66	3,290.70	11.14	11.02	-97.06	-181.92	107.16	138.26	116.18	22.09	6.260		
3,400.00	3,394.44	3,394.59	3,390.48	11.48	11.37	-97.71	-186.45	109.78	141.86	119.08	22.78	6.228		
3,500.00	3,494.38	3,494.52	3,490.28	11.73	11.72	-97.39	-190.98	112.39	145.12	121.75	23.38	6.208		
3,600.00	3,594.37	3,594.40	3,590.02	11.98	12.07	94.12	-195.51	115.01	148.05	124.08	23.97	6.176		
3,700.00	3,694.37	3,694.26	3,689.75	12.24	12.42	95.76	-200.03	117.62	151.05	126.49	24.57	6.149		
3,800.00	3,794.37	3,794.13	3,789.48	12.50	12.77	97.34	-204.56	120.23	154.17	129.01	25.17	6.126		
3,900.00	3,894.37	3,893.99	3,889.20	12.76	13.11	98.85	-209.09	122.85	157.40	131.64	25.77	6.109		
4,000.00	3,994.37	3,993.85	3,988.93	13.03	13.46	100.30	-213.61	125.46	160.74	134.37	26.37	6.095		
4,100.00	4,094.37	4,093.72	4,088.65	13.30	13.81	101.70	-218.14	128.07	164.18	137.20	26.98	6.086		
4,200.00	4,194.37	4,193.58	4,188.38	13.58	14.16	103.03	-222.67	130.69	167.71	140.12	27.59	6.079		
4,300.00	4,294.37	4,297.48	4,292.21	13.85	14.48	103.96	-225.94	132.58	170.22	142.05	28.17	6.043		
4,400.00	4,394.37	4,399.65	4,394.37	14.13	14.77	104.08	-226.36	132.82	170.54	141.79	28.74	5.933		
4,500.00	4,494.37	4,499.65	4,494.37	14.41	15.03	104.08	-226.36	132.82	170.54	141.25	29.29	5.823		
4,600.00	4,594.37	4,599.65	4,594.37	14.70	15.29	104.08	-226.36	132.82	170.54	140.71	29.83	5.717		
4,700.00	4,694.37	4,699.65	4,694.37	14.98	15.55	104.08	-226.36	132.82	170.54	140.15	30.38	5.613		
4,800.00	4,794.37	4,799.65	4,794.37	15.27	15.82	104.08	-226.36	132.82	170.54	139.60	30.94	5.512		
4,900.00	4,894.37	4,899.65	4,894.37	15.56	16.09	104.08	-226.36	132.82	170.54	139.04	31.50	5.414		
5,000.00	4,994.37	4,999.65	4,994.37	15.85	16.36	104.08	-226.36	132.82	170.54	138.47	32.07	5.318		
5,100.00	5,093.99	5,099.27	5,093.99	16.14	16.63	106.11	-226.36	132.82	172.36	139.78	32.58	5.291		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	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	5,190.49	5,195.77	5,190.49	16.39	16.90	112.77	-226.36	132.82	181.24	148.37	32.88	5.513		
5,300.00	5,280.33	5,285.61	5,280.33	16.63	17.15	121.27	-226.36	132.82	202.99	170.24	32.74	6.199		
5,400.00	5,360.20	5,390.36	5,384.83	16.87	17.44	131.02	-221.12	132.82	240.13	208.19	31.94	7.517		
5,500.00	5,427.17	5,528.37	5,517.29	17.12	17.79	139.99	-183.82	132.82	281.42	250.89	30.54	9.216		
5,600.00	5,478.78	5,701.63	5,662.18	17.42	18.20	146.75	-90.28	132.81	318.44	289.46	28.98	10.988		
5,700.00	5,513.13	5,916.25	5,786.90	17.78	18.78	150.78	82.51	132.80	342.32	314.42	27.91	12.267		
5,800.00	5,528.96	6,143.16	5,832.00	18.22	19.71	151.33	303.09	132.79	345.23	317.22	28.00	12.327		
5,854.77	5,531.48	6,197.87	5,832.00	18.49	19.99	151.17	357.79	132.78	343.02	314.74	28.28	12.129		
5,900.00	5,530.00	6,243.14	5,832.00	18.72	20.25	151.30	403.06	132.78	344.31	315.82	28.49	12.086		
6,000.00	5,530.00	6,343.14	5,832.00	19.33	20.88	151.30	503.06	132.78	344.31	315.26	29.04	11.854		
6,100.00	5,530.00	6,443.14	5,832.00	20.03	21.59	151.30	603.06	132.77	344.30	314.61	29.69	11.598		
6,200.00	5,530.00	6,543.14	5,832.00	20.81	22.37	151.30	703.06	132.76	344.30	313.89	30.41	11.322		
6,300.00	5,530.00	6,643.14	5,832.00	21.66	23.22	151.30	803.06	132.76	344.29	313.09	31.21	11.033		
6,400.00	5,530.00	6,743.14	5,832.00	22.57	24.13	151.30	903.06	132.75	344.29	312.21	32.07	10.734		
6,500.00	5,530.00	6,843.14	5,832.00	23.55	25.10	151.30	1,003.06	132.75	344.28	311.28	33.01	10.431		
6,600.00	5,530.00	6,943.14	5,832.00	24.57	26.11	151.31	1,103.06	132.74	344.28	310.28	34.00	10.127		
6,700.00	5,530.00	7,043.14	5,832.00	25.63	27.16	151.31	1,203.06	132.74	344.28	309.23	35.04	9.825		
6,800.00	5,530.00	7,143.14	5,832.00	26.74	28.25	151.31	1,303.06	132.73	344.27	308.14	36.14	9.527		
6,900.00	5,530.00	7,243.14	5,832.00	27.87	29.37	151.31	1,403.06	132.72	344.27	306.99	37.27	9.236		
7,000.00	5,530.00	7,343.14	5,832.00	29.04	30.53	151.31	1,503.06	132.72	344.26	305.81	38.45	8.953		
7,100.00	5,530.00	7,443.14	5,832.00	30.24	31.71	151.31	1,603.06	132.71	344.26	304.59	39.67	8.678		
7,200.00	5,530.00	7,543.14	5,832.00	31.45	32.91	151.31	1,703.06	132.71	344.25	303.33	40.92	8.413		
7,300.00	5,530.00	7,643.14	5,832.00	32.69	34.13	151.31	1,803.06	132.70	344.25	302.05	42.20	8.157		
7,400.00	5,530.00	7,743.14	5,832.00	33.95	35.38	151.32	1,903.06	132.69	344.25	300.73	43.51	7.912		
7,500.00	5,530.00	7,843.14	5,832.00	35.22	36.64	151.32	2,003.06	132.69	344.24	299.40	44.85	7.676		
7,600.00	5,530.00	7,943.14	5,832.00	36.51	37.91	151.32	2,103.06	132.68	344.24	298.03	46.20	7.450		
7,700.00	5,530.00	8,043.14	5,832.00	37.82	39.20	151.32	2,203.06	132.68	344.23	296.65	47.58	7.234		
7,800.00	5,530.00	8,143.14	5,832.00	39.13	40.50	151.32	2,303.06	132.67	344.23	295.25	48.98	7.027		
7,900.00	5,530.00	8,243.14	5,832.00	40.46	41.82	151.32	2,403.06	132.67	344.22	293.82	50.40	6.830		
8,000.00	5,530.00	8,343.14	5,832.00	41.79	43.14	151.32	2,503.06	132.66	344.22	292.39	51.84	6.641		
8,100.00	5,530.00	8,443.14	5,832.00	43.13	44.47	151.33	2,603.06	132.65	344.22	290.93	53.28	6.460		
8,200.00	5,530.00	8,543.14	5,832.00	44.49	45.81	151.33	2,703.06	132.65	344.21	289.47	54.75	6.287		
8,300.00	5,530.00	8,643.14	5,832.00	45.85	47.16	151.33	2,803.06	132.64	344.21	287.99	56.22	6.122		
8,400.00	5,530.00	8,743.14	5,832.00	47.21	48.52	151.33	2,903.06	132.64	344.20	286.49	57.71	5.964		
8,500.00	5,530.00	8,843.14	5,832.00	48.58	49.88	151.33	3,003.06	132.63	344.20	284.99	59.21	5.813		
8,600.00	5,530.00	8,943.14	5,832.00	49.96	51.25	151.33	3,103.06	132.63	344.20	283.48	60.72	5.669		
8,700.00	5,530.00	9,043.14	5,832.00	51.34	52.62	151.33	3,203.06	132.62	344.19	281.96	62.23	5.531		
8,800.00	5,530.00	9,143.14	5,832.00	52.73	54.00	151.33	3,303.06	132.61	344.19	280.43	63.76	5.398		
8,900.00	5,530.00	9,243.14	5,832.00	54.12	55.38	151.34	3,403.06	132.61	344.18	278.89	65.30	5.271		
9,000.00	5,530.00	9,343.14	5,832.00	55.52	56.77	151.34	3,503.06	132.60	344.18	277.34	66.84	5.149		
9,100.00	5,530.00	9,443.14	5,832.00	56.92	58.17	151.34	3,603.06	132.60	344.17	275.79	68.39	5.033		
9,200.00	5,530.00	9,543.14	5,832.00	58.32	59.56	151.34	3,703.06	132.59	344.17	274.23	69.94	4.921		
9,300.00	5,530.00	9,643.14	5,832.00	59.73	60.96	151.34	3,803.06	132.59	344.17	272.66	71.50	4.813		
9,400.00	5,530.00	9,743.14	5,832.00	61.14	62.37	151.34	3,903.06	132.58	344.16	271.09	73.07	4.710		
9,500.00	5,530.00	9,843.14	5,832.00	62.55	63.77	151.34	4,003.06	132.57	344.16	269.51	74.65	4.611		
9,600.00	5,530.00	9,943.14	5,832.00	63.97	65.18	151.34	4,103.06	132.57	344.15	267.93	76.22	4.515		
9,700.00	5,530.00	10,043.14	5,832.00	65.39	66.59	151.35	4,203.06	132.56	344.15	266.34	77.81	4.423		
9,800.00	5,530.00	10,143.14	5,832.00	66.81	68.01	151.35	4,303.06	132.56	344.14	264.75	79.39	4.335		
9,900.00	5,530.00	10,243.14	5,832.00	68.23	69.42	151.35	4,403.06	132.55	344.14	263.16	80.98	4.250		
10,000.00	5,530.00	10,343.14	5,832.00	69.66	70.84	151.35	4,503.06	132.54	344.14	261.56	82.58	4.167		
10,100.00	5,530.00	10,443.14	5,832.00	71.08	72.26	151.35	4,603.06	132.54	344.13	259.95	84.18	4.088		
10,200.00	5,530.00	10,543.14	5,832.00	72.51	73.69	151.35	4,703.06	132.53	344.13	258.35	85.78	4.012		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,300.00	5,530.00	10,643.14	5,832.00	73.94	75.11	151.35	4,803.06	132.53	344.12	256.74	87.38	3.938		
10,400.00	5,530.00	10,743.14	5,832.00	75.37	76.54	151.35	4,903.06	132.52	344.12	255.13	88.99	3.867		
10,500.00	5,530.00	10,843.14	5,832.00	76.80	77.97	151.36	5,003.06	132.52	344.12	253.51	90.60	3.798		
10,600.00	5,530.00	10,943.14	5,832.00	78.24	79.40	151.36	5,103.06	132.51	344.11	251.89	92.22	3.731		
10,700.00	5,530.00	11,043.14	5,832.00	79.67	80.83	151.36	5,203.06	132.50	344.11	250.27	93.83	3.667		
10,800.00	5,530.00	11,143.14	5,832.00	81.11	82.26	151.36	5,303.06	132.50	344.10	248.65	95.45	3.605		
10,900.00	5,530.00	11,243.14	5,832.00	82.55	83.70	151.36	5,403.06	132.49	344.10	247.02	97.08	3.545		
11,000.00	5,530.00	11,343.14	5,832.00	83.99	85.13	151.36	5,503.06	132.49	344.09	245.39	98.70	3.486		
11,100.00	5,530.00	11,443.14	5,832.00	85.43	86.57	151.36	5,603.06	132.48	344.09	243.76	100.33	3.430		
11,200.00	5,530.00	11,543.14	5,832.00	86.87	88.01	151.36	5,703.06	132.48	344.09	242.13	101.95	3.375		
11,300.00	5,530.00	11,643.14	5,832.00	88.31	89.44	151.37	5,803.06	132.47	344.08	240.50	103.58	3.322		
11,400.00	5,530.00	11,743.14	5,832.00	89.76	90.89	151.37	5,903.06	132.46	344.08	238.86	105.21	3.270		
11,500.00	5,530.00	11,843.14	5,832.00	91.20	92.33	151.37	6,003.06	132.46	344.07	237.23	106.85	3.220		
11,600.00	5,530.00	11,943.14	5,832.00	92.65	93.77	151.37	6,103.06	132.45	344.07	235.59	108.48	3.172		
11,700.00	5,530.00	12,043.14	5,832.00	94.09	95.21	151.37	6,203.06	132.45	344.06	233.95	110.12	3.124		
11,800.00	5,530.00	12,143.14	5,832.00	95.54	96.65	151.37	6,303.06	132.44	344.06	232.30	111.76	3.079		
11,900.00	5,530.00	12,243.14	5,832.00	96.99	98.10	151.37	6,403.06	132.43	344.06	230.66	113.40	3.034		
12,000.00	5,530.00	12,343.14	5,832.00	98.44	99.54	151.38	6,503.06	132.43	344.05	229.01	115.04	2.991		
12,100.00	5,530.00	12,443.14	5,832.00	99.89	100.99	151.38	6,603.06	132.42	344.05	227.37	116.68	2.949		
12,200.00	5,530.00	12,543.14	5,832.00	101.34	102.44	151.38	6,703.06	132.42	344.04	225.72	118.32	2.908		
12,300.00	5,530.00	12,643.14	5,832.00	102.79	103.89	151.38	6,803.06	132.41	344.04	224.07	119.97	2.868		
12,400.00	5,530.00	12,743.14	5,832.00	104.24	105.33	151.38	6,903.06	132.41	344.03	222.42	121.61	2.829		
12,500.00	5,530.00	12,843.14	5,832.00	105.69	106.78	151.38	7,003.06	132.40	344.03	220.77	123.26	2.791		
12,600.00	5,530.00	12,943.14	5,832.00	107.14	108.23	151.38	7,103.06	132.39	344.03	219.12	124.91	2.754		
12,700.00	5,530.00	13,043.14	5,832.00	108.59	109.68	151.38	7,203.06	132.39	344.02	217.47	126.56	2.718		
12,800.00	5,530.00	13,143.14	5,832.00	110.05	111.13	151.39	7,303.06	132.38	344.02	215.81	128.21	2.683		
12,900.00	5,530.00	13,243.14	5,832.00	111.50	112.58	151.39	7,403.06	132.38	344.01	214.16	129.86	2.649		
13,000.00	5,530.00	13,343.14	5,832.00	112.95	114.04	151.39	7,503.06	132.37	344.01	212.50	131.51	2.616		
13,100.00	5,530.00	13,443.14	5,832.00	114.41	115.49	151.39	7,603.06	132.37	344.01	210.84	133.16	2.583		
13,200.00	5,530.00	13,543.14	5,832.00	115.86	116.94	151.39	7,703.06	132.36	344.00	209.19	134.81	2.552		
13,300.00	5,530.00	13,643.14	5,832.00	117.32	118.39	151.39	7,803.06	132.35	344.00	207.53	136.47	2.521		
13,400.00	5,530.00	13,743.14	5,832.00	118.78	119.85	151.39	7,903.06	132.35	343.99	205.87	138.12	2.490		
13,500.00	5,530.00	13,843.14	5,832.00	120.23	121.30	151.39	8,003.06	132.34	343.99	204.21	139.78	2.461		
13,600.00	5,530.00	13,943.14	5,832.00	121.69	122.76	151.40	8,103.06	132.34	343.98	202.55	141.43	2.432		
13,700.00	5,530.00	14,043.14	5,832.00	123.14	124.21	151.40	8,203.06	132.33	343.98	200.89	143.09	2.404		
13,800.00	5,530.00	14,143.14	5,832.00	124.60	125.67	151.40	8,303.06	132.33	343.98	199.23	144.75	2.376		
13,900.00	5,530.00	14,243.14	5,832.00	126.06	127.12	151.40	8,403.06	132.32	343.97	197.56	146.41	2.349		
14,000.00	5,530.00	14,343.14	5,832.00	127.52	128.58	151.40	8,503.06	132.31	343.97	195.90	148.07	2.323		
14,100.00	5,530.00	14,443.14	5,832.00	128.98	130.03	151.40	8,603.06	132.31	343.96	194.24	149.73	2.297		
14,200.00	5,530.00	14,543.14	5,832.00	130.43	131.49	151.40	8,703.06	132.30	343.96	192.57	151.38	2.272		
14,300.00	5,530.00	14,643.14	5,832.00	131.89	132.95	151.40	8,803.06	132.30	343.95	190.91	153.05	2.247		
14,400.00	5,530.00	14,743.14	5,832.00	133.35	134.41	151.41	8,903.06	132.29	343.95	189.24	154.71	2.223		
14,500.00	5,530.00	14,843.14	5,832.00	134.81	135.86	151.41	9,003.06	132.28	343.95	187.58	156.37	2.200		
14,600.00	5,530.00	14,943.14	5,832.00	136.27	137.32	151.41	9,103.06	132.28	343.94	185.91	158.03	2.176		
14,700.00	5,530.00	15,043.14	5,832.00	137.73	138.78	151.41	9,203.06	132.27	343.94	184.25	159.69	2.154		
14,800.00	5,530.00	15,143.14	5,832.00	139.19	140.24	151.41	9,303.06	132.27	343.93	182.58	161.35	2.132		
14,900.00	5,530.00	15,243.14	5,832.00	140.65	141.70	151.41	9,403.06	132.26	343.93	180.91	163.02	2.110		
15,000.00	5,530.00	15,343.14	5,832.00	142.11	143.16	151.41	9,503.06	132.26	343.93	179.25	164.68	2.088		
15,100.00	5,530.00	15,443.14	5,832.00	143.57	144.62	151.42	9,603.06	132.25	343.92	177.58	166.34	2.068		
15,200.00	5,530.00	15,543.14	5,832.00	145.03	146.08	151.42	9,703.06	132.24	343.92	175.91	168.01	2.047		
15,300.00	5,530.00	15,643.14	5,832.00	146.50	147.54	151.42	9,803.06	132.24	343.91	174.24	169.67	2.027		
15,400.00	5,530.00	15,743.14	5,832.00	147.96	149.00	151.42	9,903.06	132.23	343.91	172.57	171.34	2.007		

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



WOG
Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	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 #25P-2448 - Hz - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,500.00	5,530.00	15,843.14	5,832.00	149.42	150.46	151.42	10,003.06	132.23	343.90	170.90	173.00	1.988	
15,600.00	5,530.00	15,943.14	5,832.00	150.88	151.92	151.42	10,103.06	132.22	343.90	169.23	174.67	1.969	
15,631.67	5,530.00	15,974.81	5,832.00	151.34	152.38	151.42	10,134.73	132.22	343.90	168.70	175.20	1.963 SF	



WOG

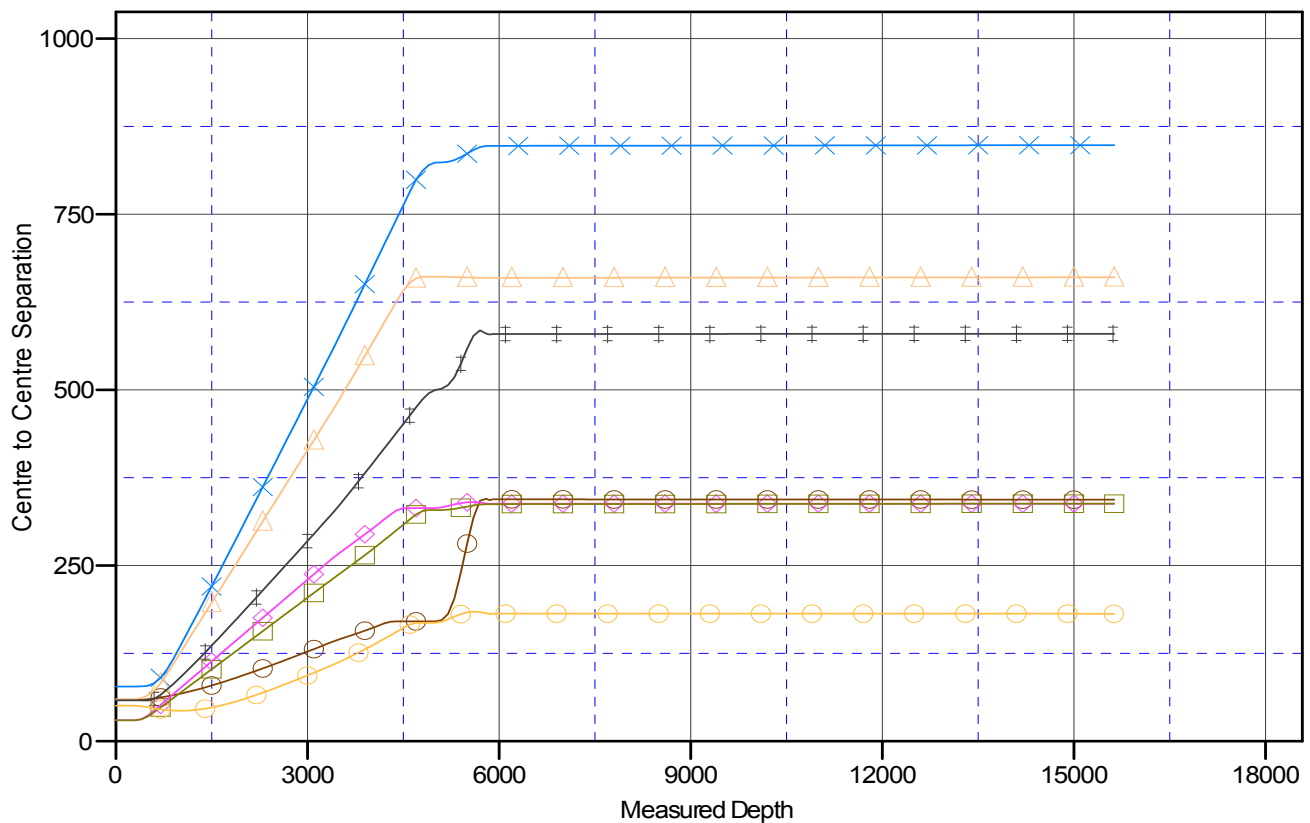
Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2415
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2415	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KBE @ 4762.00usft (Original Well Ele)
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Razor #25P-2415
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.09°

Ladder Plot



LEGEND

- Razor#25P-2448,HZ,APDV0
- Razor#25P-2413,HZ,APDV0
- Razor#25P-2447,HZ,APDV0
- Razor#25P-2416,HZ,APDV0
- Razor#25P-2446,HZ,APDV0
- Razor#25P-2445,HZ,APDV0
- Razor#25P-2414,HZ,APDV0



WOG

Anticollision Report

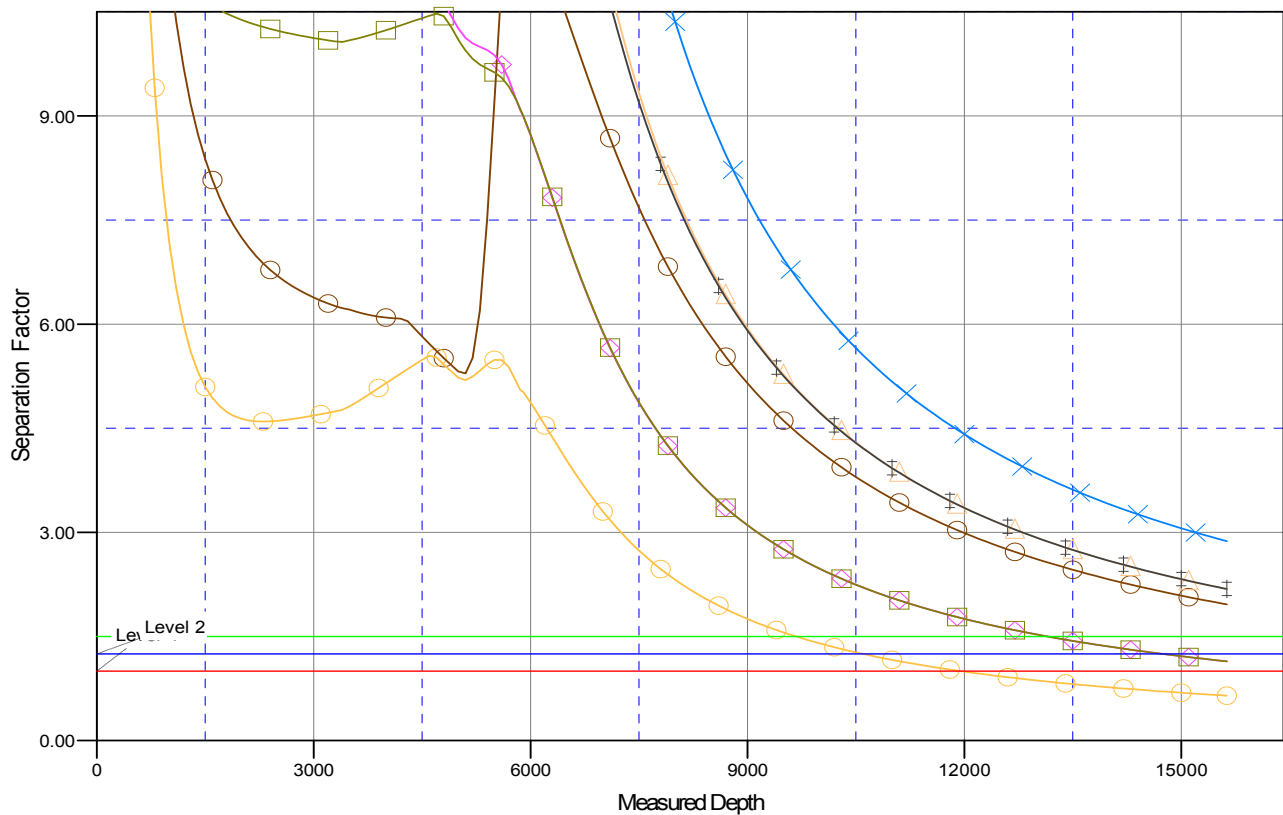
Company: Whiting Petroleum Corp.
Project: Weld County, CO
Reference Site: Sec 25-T10N-R58W
Site Error: 0.00 usft
Reference Well: Razor #25P-2415
Well Error: 0.00 usft
Reference Wellbore: Hz
Reference Design: APD

Local Co-ordinate Reference: Well Razor #25P-2415
TVD Reference: KBE @ 4762.00usft (Original Well Elev)
MD Reference: KBE @ 4762.00usft (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 @ 4762.00usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Razor #25P-2415
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.09°

Separation Factor Plot



LEGEND

- Razor#25P-2448,HZ,APDV0
- △ Razor#25P-2413,HZ,APDV0
- Razor#25P-2447,HZ,APDV0
- ◇ Razor#25P-2416,HZ,APDV0
- ⊠ Razor#25P-2446,HZ,APDV0
- ✕ Razor#25P-2445,HZ,APDV0
- ⊞ Razor#25P-2414,HZ,APDV0