



EnCana Oil & Gas (USA)

**DJ Wattenberg
S9-T2N-R67W (Sprague)
Sprague 3E-9H-N267**

**ST 1
Plan 1**

Anticollision Report

04 March, 2015



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Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Reference	Plan 1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 846.90 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	3/4/2015		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
336.00	816.00	Survey #1 - Surface (Hz)	SDI MWD	SDI MWD - Standard ver 1.0.1	
902.00	6,469.00	Survey #2 - Intermediate (Hz)	SDI MWD	SDI MWD - Standard ver 1.0.1	
6,469.00	12,715.98	Plan 1 (ST 1)	SDI MWD	SDI MWD - Standard ver 1.0.1	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
S9-T2N-R67W (Sprague)						
SPRAGUE 24-9 (EXISTING) - ENCANA WELL - EXISTIN	100.00	68.99	137.60	137.45	896.237	CC, ES
SPRAGUE 24-9 (EXISTING) - ENCANA WELL - EXISTIN	7,479.84	7,100.01	251.96	228.33	10.660	SF
SPRAGUE 2-8-9 (EXISTING) - ENCANA WELL - SURVE	1,900.00	1,902.42	70.28	60.04	6.867	CC, ES
SPRAGUE 2-8-9 (EXISTING) - ENCANA WELL - SURVE	2,000.00	2,000.45	73.56	61.99	6.356	SF
Sprague 3A-9H-N267 - Hz - FINAL	249.16	249.09	38.12	37.45	56.674	CC, ES
Sprague 3A-9H-N267 - Hz - FINAL	1,400.00	1,379.23	193.05	185.03	24.075	SF
Sprague 3AA-9H-N267 - Hz - FINAL	164.71	164.81	48.60	48.18	117.101	CC, ES
Sprague 3AA-9H-N267 - Hz - FINAL	3,400.00	3,332.41	622.89	600.14	27.381	SF
Sprague 3B-9H-N267 - Hz - FINAL	272.71	272.36	28.02	27.27	37.603	CC
Sprague 3B-9H-N267 - Hz - FINAL	300.00	299.61	28.04	27.21	33.835	ES
Sprague 3B-9H-N267 - Hz - FINAL	600.00	596.95	45.45	43.21	20.262	SF
Sprague 3C-9H-N267 - Hz - FINAL	208.30	208.21	18.68	18.13	33.530	CC, ES
Sprague 3C-9H-N267 - Hz - FINAL	12,715.98	12,593.84	686.40	461.03	3.046	SF
Sprague 3D-9H-N267 - Hz - SURVEYS	0.00	0.00	8.39			
Sprague 3D-9H-N267 - Hz - SURVEYS	100.00	99.92	8.50	8.27	36.597	ES
Sprague 3D-9H-N267 - Hz - SURVEYS	11,400.00	11,206.00	596.78	436.78	3.730	SF
Sprague 3E-9H-N267 - Hz - Hz	6,500.00	6,500.00	0.22	0.05	1.285	Level 3, CC, ES, SF
Sprague 3F-9H-N267 - Hz - Plan 5	0.00	0.50	11.18			
Sprague 3F-9H-N267 - Hz - Plan 5	12,715.98	12,947.23	409.32	220.21	2.164	SF
Sprague 3G-9H-N267 - Hz - Plan #2	0.00	0.50	22.36			
Sprague 3G-9H-N267 - Hz - Plan #2	12,715.98	12,772.37	701.74	487.87	3.281	SF
Sprague 3H-9H-N267 - Hz - Plan #3	0.00	0.50	30.75			
Sprague 3H-9H-N267 - Hz - Plan #3	4,200.00	4,130.95	681.20	656.06	27.102	SF
Sprague 3I-9H-N267 - Hz - Plan #3	0.00	0.50	42.09			
Sprague 3I-9H-N267 - Hz - Plan #3	700.00	690.40	90.47	87.74	33.221	SF
Sprague 3J-9H-N267 - Hz - Plan #3	0.00	0.50	50.45			
Sprague 3J-9H-N267 - Hz - Plan #3	700.00	681.58	117.57	114.87	43.601	SF
SPRAGUE 4-8-9 (EXISTING) - ENCANA WELL - SURVE	100.00	82.98	240.22	240.00	1,085.006	CC, ES
SPRAGUE 4-8-9 (EXISTING) - ENCANA WELL - SURVE	4,200.00	4,075.12	835.17	810.48	33.823	SF



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Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 24-9 (EXISTING) - ENCANA WELL - EXISTING - VES GYRO													Offset Site Error:	0.00 ft
Survey Program: 100-Gyro													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	93.02	-7.22	136.98	140.52					
100.00	99.99	68.99	68.99	0.09	0.06	-107.76	-7.24	137.10	137.60	137.45	0.15	896.237 CC, ES		
200.00	199.95	168.42	168.41	0.22	0.15	-108.92	-7.26	137.68	139.12	138.75	0.37	376.177		
300.00	299.82	268.92	268.92	0.36	0.23	-110.90	-7.08	138.31	141.46	140.88	0.59	241.347		
400.00	399.54	369.39	369.39	0.60	0.32	-107.46	-6.54	138.27	143.97	143.06	0.91	158.196		
500.00	498.86	468.61	468.60	0.90	0.41	-107.04	-5.91	137.94	147.06	145.77	1.29	114.341		
600.00	597.69	567.31	567.30	1.25	0.50	-111.04	-5.68	137.79	151.93	150.24	1.70	89.491		
700.00	696.11	665.64	665.63	1.64	0.58	-111.36	-5.43	137.66	158.42	156.30	2.13	74.470		
800.00	794.29	764.32	764.31	2.01	0.67	-125.19	-4.92	137.35	167.26	164.73	2.53	66.236		
900.00	892.24	862.15	862.14	2.45	0.75	-128.07	-4.67	136.79	179.05	176.11	2.94	60.870		
1,000.00	990.17	959.61	959.60	2.87	0.84	-140.48	-4.43	136.56	193.26	189.94	3.32	58.165		
1,100.00	1,088.28	1,057.09	1,057.08	3.25	0.92	-143.74	-4.10	136.50	208.76	205.08	3.68	56.770		
1,200.00	1,186.50	1,154.79	1,154.77	3.66	1.01	-147.57	-3.93	136.97	224.88	220.83	4.05	55.538		
1,300.00	1,284.70	1,252.33	1,252.31	4.09	1.09	-148.74	-3.64	137.54	241.67	237.23	4.45	54.366		
1,400.00	1,383.13	1,351.29	1,351.27	4.53	1.18	-147.48	-2.72	137.76	257.50	252.67	4.84	53.224		
1,500.00	1,481.65	1,450.43	1,450.40	4.95	1.27	-147.94	-2.21	137.56	272.29	267.06	5.23	52.056		
1,600.00	1,580.34	1,548.53	1,548.51	5.37	1.35	-147.97	-1.81	137.70	286.47	280.84	5.62	50.964		
1,700.00	1,679.19	1,648.51	1,648.48	5.77	1.44	-145.78	-1.27	137.64	299.58	293.57	6.02	49.792		
1,800.00	1,777.90	1,747.60	1,747.58	6.19	1.53	-144.63	-1.39	137.48	312.54	306.12	6.42	48.697		
1,900.00	1,876.72	1,846.12	1,846.09	6.60	1.61	-152.04	-1.06	137.27	325.50	318.69	6.81	47.810		
2,000.00	1,975.48	1,945.76	1,945.73	7.01	1.70	-158.96	-1.09	136.98	339.73	332.52	7.21	47.137		
2,100.00	2,073.95	2,044.15	2,044.12	7.44	1.78	-158.11	-1.33	137.05	355.87	348.26	7.62	46.718		
2,200.00	2,172.63	2,142.39	2,142.36	7.87	1.87	-157.15	-1.36	136.75	370.71	362.69	8.02	46.218		
2,300.00	2,271.42	2,240.34	2,240.31	8.29	1.96	-159.62	-1.27	136.79	385.19	376.76	8.43	45.705		
2,400.00	2,369.98	2,338.65	2,338.62	8.73	2.04	-159.10	-1.28	137.10	401.22	392.38	8.84	45.366		
2,500.00	2,468.44	2,436.85	2,436.82	9.19	2.13	-159.66	-0.81	136.89	417.92	408.65	9.26	45.114		
2,600.00	2,566.71	2,535.54	2,535.51	9.65	2.21	-166.37	-0.73	137.03	435.78	426.09	9.68	45.004		
2,700.00	2,664.99	2,633.75	2,633.72	10.10	2.30	-167.90	-0.57	137.27	454.08	443.98	10.10	44.955		
2,800.00	2,763.42	2,733.35	2,733.32	10.55	2.39	-166.59	-0.42	136.86	471.22	460.70	10.52	44.794		
2,900.00	2,861.97	2,831.18	2,831.15	11.00	2.47	-165.18	-0.35	136.84	487.73	476.79	10.94	44.590		
3,000.00	2,960.73	2,930.73	2,930.70	11.42	2.56	-164.64	-0.32	136.69	502.86	491.52	11.35	44.311		
3,100.00	3,059.68	3,030.64	3,030.60	11.83	2.65	-164.78	-0.52	136.81	516.70	504.95	11.75	43.959		
3,200.00	3,158.77	3,132.75	3,132.71	12.22	2.73	-167.01	-1.46	137.47	529.15	516.99	12.16	43.529		
3,300.00	3,258.07	3,234.30	3,234.25	12.60	2.82	-171.26	-2.51	137.11	539.66	527.11	12.55	43.006		
3,400.00	3,357.50	3,334.92	3,334.86	12.94	2.91	-170.38	-3.59	136.32	548.86	535.94	12.92	42.469		
3,500.00	3,457.26	3,434.73	3,434.66	13.25	3.00	-174.13	-5.16	136.02	554.19	540.91	13.28	41.736		
3,600.00	3,557.13	3,531.17	3,531.10	13.53	3.08	-177.14	-6.09	135.51	558.16	544.54	13.62	40.973		
3,700.00	3,657.09	3,628.58	3,628.50	13.77	3.17	147.18	-6.34	134.74	560.33	546.38	13.95	40.176		
3,800.00	3,757.07	3,727.23	3,727.15	13.99	3.25	163.91	-6.26	134.22	561.22	546.93	14.29	39.274		
3,900.00	3,857.07	3,828.55	3,828.47	14.21	3.34	-168.65	-6.30	133.74	562.30	547.66	14.64	38.399		
4,000.00	3,957.05	3,929.69	3,929.61	14.44	3.43	-179.05	-6.49	133.13	563.67	548.67	15.00	37.590		
4,100.00	4,057.04	4,030.96	4,030.87	14.66	3.52	38.45	-6.97	132.49	563.97	548.66	15.31	36.834		
4,200.00	4,157.04	4,130.03	4,129.94	14.87	3.60	67.31	-7.45	131.81	562.81	547.15	15.66	35.944		
4,290.27	4,247.31	4,218.43	4,218.34	15.05	3.68	100.88	-7.82	131.76	562.45	546.48	15.98	35.207		
4,300.00	4,257.03	4,228.17	4,228.08	15.07	3.69	102.35	-7.86	131.78	562.45	546.44	16.01	35.131		
4,400.00	4,357.02	4,328.06	4,327.96	15.29	3.78	103.84	-8.19	131.83	562.54	546.18	16.36	34.383		
4,500.00	4,457.00	4,427.78	4,427.68	15.51	3.86	113.94	-8.43	131.84	563.02	546.30	16.72	33.683		
4,600.00	4,556.99	4,528.24	4,528.15	15.72	3.95	59.35	-8.66	131.71	562.35	545.31	17.04	33.004		
4,700.00	4,656.96	4,628.82	4,628.72	15.93	4.04	37.99	-8.75	131.20	560.96	543.58	17.38	32.275		
4,800.00	4,756.92	4,728.23	4,728.13	16.13	4.13	-16.23	-9.40	131.28	557.62	539.93	17.69	31.521		

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



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Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

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Survey Program: 100-Gyro													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,900.00	4,856.86	4,821.72	4,821.61	16.32	4.21	-25.85	-9.60	132.49	554.71	536.66	18.05	30.731		
4,971.76	4,928.60	4,891.71	4,891.59	16.48	4.27	-50.16	-9.41	133.73	554.07	535.74	18.33	30.233		
5,000.00	4,956.84	4,919.62	4,919.50	16.54	4.29	-65.67	-9.27	134.23	554.28	535.84	18.43	30.067		
5,100.00	5,056.82	5,019.04	5,018.90	16.77	4.38	-78.80	-8.51	135.61	555.27	536.47	18.80	29.534		
5,200.00	5,156.82	5,118.69	5,118.54	17.01	4.47	-68.83	-7.28	136.21	556.29	537.13	19.16	29.033		
5,300.00	5,256.82	5,220.32	5,220.16	17.25	4.56	-37.51	-5.51	135.68	557.31	537.79	19.52	28.550		
5,400.00	5,356.81	5,325.87	5,325.69	17.48	4.65	37.59	-4.38	134.48	557.33	537.45	19.88	28.030		
5,500.00	5,456.81	5,427.11	5,426.92	17.72	4.74	62.57	-3.77	133.35	556.90	536.66	20.24	27.508		
5,600.00	5,556.80	5,528.94	5,528.75	17.96	4.83	66.86	-3.67	132.08	555.82	535.22	20.61	26.971		
5,700.00	5,656.79	5,625.95	5,625.75	18.20	4.91	-18.20	-3.51	131.54	554.96	534.00	20.96	26.471		
5,800.00	5,756.79	5,727.35	5,727.15	18.44	5.00	11.91	-3.13	130.76	554.21	532.87	21.33	25.979		
5,900.00	5,856.78	5,831.68	5,831.47	18.68	5.09	-25.65	-2.97	129.20	553.09	531.39	21.70	25.492		
6,000.00	5,956.78	5,935.97	5,935.74	18.93	5.18	-39.74	-3.89	127.59	550.76	528.70	22.06	24.970		
6,100.00	6,056.77	6,034.38	6,034.14	19.17	5.27	0.46	-5.32	126.71	548.23	525.81	22.43	24.446		
6,200.00	6,156.77	6,128.58	6,128.33	19.42	5.35	-49.68	-6.10	126.23	546.49	523.70	22.79	23.983		
6,262.68	6,219.44	6,186.31	6,186.07	19.58	5.40	-73.75	-6.06	126.23	546.13	523.11	23.02	23.727		
6,300.00	6,256.75	6,221.92	6,221.67	19.67	5.43	-80.93	-5.82	126.34	546.27	523.11	23.15	23.593		
6,400.00	6,356.73	6,320.60	6,320.34	19.93	5.52	-92.06	-4.52	125.94	546.99	523.47	23.53	23.248		
6,500.00	6,456.71	6,422.18	6,421.90	20.17	5.61	-82.56	-3.06	124.71	548.39	524.52	23.87	22.970		
6,600.00	6,556.67	6,519.45	6,519.16	20.30	5.69	17.71	-1.35	123.49	547.13	523.10	24.02	22.775		
6,700.00	6,656.32	6,620.35	6,620.02	20.38	5.78	23.68	0.56	121.96	540.83	516.78	24.04	22.494		
6,800.00	6,754.34	6,718.40	6,718.04	20.38	5.87	24.79	2.52	120.30	524.15	500.38	23.77	22.047		
6,900.00	6,849.08	6,815.86	6,815.46	20.31	5.95	27.03	4.30	118.41	496.07	472.72	23.35	21.241		
7,000.00	6,938.98	6,907.46	6,907.04	20.20	6.03	30.74	5.73	116.54	457.42	434.52	22.90	19.975		
7,100.00	7,022.58	6,994.56	6,994.11	20.08	6.11	36.62	6.71	114.61	409.45	386.79	22.66	18.072		
7,200.00	7,098.51	7,069.91	7,069.44	19.98	6.17	45.25	7.20	113.17	354.63	331.68	22.95	15.451		
7,300.00	7,165.53	7,100.01	7,099.54	19.97	6.20	52.13	7.32	112.83	299.59	276.20	23.39	12.809		
7,400.00	7,222.55	7,100.01	7,099.54	20.09	6.20	54.53	7.32	112.83	262.07	238.55	23.52	11.142		
7,479.84	7,260.25	7,100.01	7,099.54	20.32	6.20	55.15	7.32	112.83	251.96	228.33	23.64	10.660 SF		
7,500.00	7,268.62	7,100.01	7,099.54	20.38	6.20	55.11	7.32	112.83	252.62	228.98	23.64	10.686		
7,600.00	7,302.99	7,100.01	7,099.54	20.88	6.20	53.77	7.32	112.83	274.30	250.61	23.69	11.581		
7,700.00	7,325.12	7,100.01	7,099.54	21.59	6.20	50.72	7.32	112.83	320.57	296.95	23.62	13.573		
7,800.00	7,334.62	7,100.01	7,099.54	22.48	6.20	46.42	7.32	112.83	382.02	358.57	23.45	16.291		
7,900.00	7,334.78	7,100.01	7,099.54	23.55	6.20	45.14	7.32	112.83	453.36	429.27	24.09	18.822		
8,000.00	7,334.49	7,100.01	7,099.54	24.77	6.20	45.14	7.32	112.83	533.80	508.66	25.13	21.239		
8,100.00	7,334.19	7,100.01	7,099.54	26.13	6.20	45.14	7.32	112.83	619.96	593.68	26.28	23.592		
8,200.00	7,333.89	7,100.01	7,099.54	27.60	6.20	45.14	7.32	112.83	709.76	682.25	27.51	25.801		
8,300.00	7,333.60	7,100.01	7,099.54	29.17	6.20	45.14	7.32	112.83	801.97	773.16	28.81	27.838		



Scientific Drilling International
Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 2-8-9 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error:	0.00 ft
Survey Program: 79-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	107.34	-73.16	234.26	246.02					
100.00	99.99	83.98	83.98	0.09	0.13	-93.23	-73.32	234.00	245.27	245.05	0.22	1,097.568		
160.86	160.83	144.22	144.22	0.17	0.24	-93.52	-73.60	233.71	245.17	244.76	0.41	599.729		
200.00	199.95	183.16	183.16	0.22	0.30	-93.78	-73.84	233.59	245.21	244.68	0.53	464.174		
300.00	299.82	284.43	284.42	0.36	0.48	-94.68	-74.93	232.92	245.25	244.41	0.84	292.794		
400.00	399.54	389.42	389.39	0.60	0.67	-89.79	-75.81	231.03	244.11	242.84	1.26	193.461		
500.00	498.86	498.60	498.43	0.90	0.88	-87.85	-75.22	225.71	238.87	237.11	1.75	136.163		
600.00	597.69	605.34	604.73	1.25	1.12	-90.33	-74.33	216.24	229.56	227.27	2.29	100.295		
700.00	696.11	710.45	709.03	1.64	1.39	-89.00	-75.72	203.30	217.21	214.36	2.86	76.013		
800.00	794.29	811.53	808.82	2.01	1.69	-100.32	-81.07	188.19	203.53	200.12	3.41	59.680		
900.00	892.24	914.75	910.26	2.45	2.05	-101.92	-89.32	171.01	190.27	186.26	4.01	47.416		
1,000.00	990.17	1,017.98	1,011.07	2.87	2.46	-113.23	-99.11	151.07	175.92	171.33	4.59	38.361		
1,100.00	1,088.28	1,117.26	1,107.65	3.25	2.87	-116.78	-109.18	130.42	161.60	156.50	5.09	31.719		
1,200.00	1,186.50	1,216.34	1,203.87	3.66	3.30	-121.66	-120.20	109.53	147.46	141.86	5.60	26.315		
1,300.00	1,284.70	1,315.16	1,299.71	4.09	3.75	-124.66	-132.50	88.75	133.82	127.71	6.11	21.889		
1,400.00	1,383.13	1,413.53	1,395.03	4.53	4.19	-125.63	-145.34	68.18	119.40	112.80	6.60	18.101		
1,500.00	1,481.65	1,511.27	1,489.82	4.95	4.63	-129.63	-158.21	48.10	105.27	98.22	7.05	14.927		
1,600.00	1,580.34	1,608.52	1,584.32	5.37	5.05	-135.03	-170.14	28.53	92.34	84.82	7.52	12.276		
1,700.00	1,679.19	1,706.79	1,679.93	5.77	5.49	-141.75	-180.52	8.33	81.00	72.89	8.12	9.980		
1,800.00	1,777.90	1,804.88	1,775.23	6.19	5.93	-153.47	-190.96	-12.42	73.21	64.19	9.02	8.119		
1,897.95	1,874.68	1,900.50	1,868.21	6.59	6.35	-174.32	-201.33	-32.19	70.45	60.26	10.19	6.911		
1,900.00	1,876.72	1,902.42	1,870.08	6.60	6.36	-175.07	-201.53	-32.58	70.28	60.04	10.23	6.867 CC, ES		
2,000.00	1,975.48	2,000.45	1,965.53	7.01	6.79	165.27	-211.83	-52.44	73.56	61.99	11.57	6.356 SF		
2,100.00	2,073.95	2,098.59	2,060.93	7.44	7.23	155.23	-221.83	-73.17	82.71	69.80	12.91	6.405		
2,200.00	2,172.63	2,197.20	2,157.07	7.87	7.64	148.00	-231.69	-92.76	93.84	79.75	14.09	6.661		
2,300.00	2,271.42	2,295.32	2,252.96	8.29	8.05	139.39	-241.23	-111.23	106.10	91.00	15.10	7.028		
2,400.00	2,369.98	2,393.31	2,348.53	8.73	8.48	135.34	-250.71	-130.69	121.12	105.10	16.02	7.560		
2,500.00	2,468.44	2,491.62	2,444.46	9.19	8.89	131.73	-260.05	-150.08	137.59	120.70	16.89	8.144		
2,600.00	2,566.71	2,591.61	2,541.94	9.65	9.33	122.83	-270.29	-169.80	153.87	136.09	17.78	8.653		
2,700.00	2,664.99	2,691.27	2,639.02	10.10	9.76	119.69	-281.67	-189.26	168.54	149.89	18.65	9.037		
2,800.00	2,763.42	2,788.57	2,733.56	10.55	10.21	119.13	-293.15	-209.17	183.60	164.11	19.49	9.419		
2,900.00	2,861.97	2,888.08	2,830.30	11.00	10.65	118.79	-304.81	-229.40	199.09	178.78	20.32	9.800		
3,000.00	2,960.73	2,986.92	2,926.52	11.42	11.08	117.77	-316.30	-248.85	214.23	193.13	21.10	10.153		
3,100.00	3,059.68	3,084.96	3,022.09	11.83	11.50	116.12	-327.15	-267.86	229.32	207.48	21.84	10.502		
3,200.00	3,158.77	3,181.40	3,116.12	12.22	11.93	112.43	-337.29	-286.71	244.70	222.14	22.56	10.849		
3,300.00	3,258.07	3,284.53	3,216.57	12.60	12.37	106.37	-348.65	-307.05	258.69	235.45	23.24	11.129		
3,400.00	3,357.50	3,385.62	3,315.48	12.94	12.76	105.77	-359.64	-324.84	270.77	246.89	23.87	11.342		
3,500.00	3,457.26	3,480.67	3,408.53	13.25	13.15	100.15	-369.08	-341.76	282.96	258.55	24.41	11.593		
3,600.00	3,557.13	3,581.58	3,507.29	13.53	13.55	94.82	-379.21	-359.85	294.67	269.80	24.87	11.848		
3,700.00	3,657.09	3,679.86	3,603.58	13.77	13.95	56.73	-389.22	-376.75	305.77	280.52	25.25	12.108		
3,800.00	3,757.07	3,775.45	3,697.03	13.99	14.34	70.62	-399.30	-394.18	317.50	291.97	25.53	12.435		
3,900.00	3,857.07	3,877.27	3,796.85	14.21	14.72	95.69	-408.32	-412.10	331.10	305.31	25.79	12.838		
4,000.00	3,957.05	3,981.85	3,899.89	14.44	15.06	83.53	-416.10	-428.19	343.47	317.39	26.07	13.174		
4,100.00	4,057.04	4,086.36	4,003.27	14.66	15.37	-60.30	-422.46	-442.07	354.23	327.87	26.36	13.439		
4,200.00	4,157.04	4,191.64	4,107.71	14.87	15.65	-32.92	-428.17	-454.09	363.50	336.90	26.60	13.667		
4,300.00	4,257.03	4,296.88	4,212.36	15.07	15.89	0.84	-433.05	-464.07	370.53	343.69	26.84	13.803		
4,400.00	4,357.02	4,403.16	4,318.29	15.29	16.09	1.40	-436.21	-472.05	375.51	348.38	27.13	13.840		
4,500.00	4,457.00	4,513.78	4,428.75	15.51	16.25	10.83	-438.64	-477.49	378.15	350.71	27.44	13.779		
4,600.00	4,556.99	4,613.39	4,528.29	15.72	16.39	-44.35	-440.01	-480.87	379.57	351.83	27.74	13.684		
4,700.00	4,656.96	4,714.00	4,628.84	15.93	16.53	-66.33	-441.05	-484.12	381.03	353.02	28.01	13.602		
4,800.00	4,756.92	4,813.28	4,728.07	16.13	16.66	-121.09	-441.83	-487.21	384.84	356.59	28.25	13.623		

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



Scientific Drilling International

Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 2-8-9 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error:	0.00 ft
Survey Program: 79-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,900.00	4,856.86	4,910.97	4,825.70	16.32	16.80	-131.34	-442.35	-490.58	390.01	361.53	28.49	13.692		
5,000.00	4,956.84	5,010.01	4,924.67	16.54	16.93	-171.43	-442.23	-494.36	395.66	366.87	28.79	13.744		
5,100.00	5,056.82	5,111.46	5,026.05	16.77	17.06	175.44	-441.96	-498.07	400.79	371.64	29.14	13.752		
5,200.00	5,156.82	5,213.21	5,127.75	17.01	17.19	-174.47	-441.34	-501.23	405.05	375.54	29.51	13.726		
5,300.00	5,256.82	5,313.12	5,227.61	17.25	17.32	-142.94	-440.64	-504.11	408.75	378.87	29.88	13.680		
5,400.00	5,356.81	5,413.06	5,327.51	17.48	17.44	-67.73	-440.04	-507.01	411.77	381.53	30.24	13.616		
5,500.00	5,456.81	5,513.06	5,427.47	17.72	17.57	-42.76	-439.38	-509.90	414.18	383.58	30.60	13.536		
5,600.00	5,556.80	5,613.04	5,527.40	17.96	17.70	-38.60	-438.63	-512.77	415.96	385.00	30.95	13.439		
5,700.00	5,656.79	5,712.98	5,627.30	18.20	17.83	-123.79	-437.94	-515.65	418.27	386.98	31.29	13.366		
5,800.00	5,756.79	5,812.21	5,726.48	18.44	17.96	-93.63	-437.33	-518.60	421.79	390.13	31.66	13.323		
5,900.00	5,856.78	5,911.53	5,825.75	18.68	18.10	-131.11	-436.75	-521.76	425.23	393.21	32.02	13.279		
6,000.00	5,956.78	6,013.64	5,927.81	18.93	18.23	-145.10	-436.21	-524.79	429.08	396.69	32.39	13.248		
6,100.00	6,056.77	6,115.27	6,029.41	19.17	18.36	-104.93	-435.69	-527.32	432.17	399.41	32.76	13.191		
6,200.00	6,156.77	6,216.01	6,130.12	19.42	18.48	-155.05	-434.89	-529.52	435.02	401.89	33.13	13.131		
6,300.00	6,256.75	6,316.33	6,230.42	19.67	18.60	173.98	-433.74	-531.50	439.14	405.64	33.50	13.107		
6,400.00	6,356.73	6,416.45	6,330.51	19.93	18.71	163.29	-432.28	-533.38	442.92	409.00	33.92	13.057		
6,500.00	6,456.71	6,515.64	6,429.67	20.17	18.83	173.47	-430.62	-535.24	446.70	412.37	34.33	13.011		
6,600.00	6,556.67	6,614.44	6,528.43	20.30	18.96	-86.13	-428.85	-537.27	449.54	414.96	34.58	12.998		
6,700.00	6,656.32	6,710.77	6,624.71	20.38	19.09	-81.13	-427.02	-539.75	451.24	416.55	34.69	13.008		
6,800.00	6,754.34	6,806.37	6,720.24	20.38	19.22	-83.22	-425.13	-542.91	452.15	417.62	34.53	13.095		
6,900.00	6,849.08	6,900.38	6,814.17	20.31	19.36	-86.73	-423.35	-546.40	453.28	419.14	34.14	13.277		
7,000.00	6,938.98	6,991.18	6,904.89	20.20	19.50	-91.30	-421.88	-549.95	456.83	423.18	33.65	13.576		
7,100.00	7,022.58	7,076.59	6,990.24	20.08	19.63	-96.40	-421.46	-552.97	465.50	432.36	33.14	14.046		
7,200.00	7,098.51	7,153.44	7,067.06	19.98	19.74	-101.19	-421.94	-555.33	482.75	450.07	32.68	14.772		
7,300.00	7,165.53	7,222.00	7,135.59	19.97	19.84	-105.01	-422.43	-557.16	511.22	478.87	32.35	15.802		
7,400.00	7,222.55	7,280.47	7,194.04	20.09	19.92	-107.26	-422.74	-558.52	552.21	519.88	32.33	17.082		
7,500.00	7,268.62	7,326.44	7,240.00	20.38	19.98	-107.37	-422.93	-559.49	605.60	572.75	32.85	18.436		
7,600.00	7,302.99	7,359.93	7,273.48	20.88	20.03	-104.94	-423.07	-560.22	670.10	636.04	34.07	19.671		
7,700.00	7,325.12	7,381.31	7,294.86	21.59	20.06	-99.58	-423.16	-560.71	743.56	707.69	35.87	20.729		
7,800.00	7,334.62	7,390.26	7,303.80	22.48	20.07	-90.92	-423.20	-560.91	823.51	785.81	37.70	21.847		



Scientific Drilling International

Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3A-9H-N267 - Hz - FINAL														Offset Site Error:	0.00 ft
Survey Program: 134-Geolink MWD														Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
0.00	0.00	0.50	0.50	0.00	0.00	-92.06	-1.39	-38.58	38.60						
100.00	99.99	100.30	100.30	0.09	0.14	68.84	-1.46	-38.83	38.49	38.26	0.23	166.752			
200.00	199.95	200.10	200.10	0.22	0.30	72.79	-1.64	-39.56	38.22	37.70	0.52	73.143			
249.16	249.05	249.09	249.09	0.29	0.39	75.74	-1.75	-40.07	38.12	37.45	0.67	56.674 CC, ES			
300.00	299.82	299.66	299.64	0.36	0.48	79.33	-1.97	-40.87	38.28	37.45	0.83	46.212			
400.00	399.54	398.67	398.61	0.60	0.66	94.59	-2.58	-43.64	40.39	39.15	1.24	32.457			
500.00	498.86	497.23	497.03	0.90	0.85	109.70	-3.79	-48.90	47.35	45.63	1.73	27.416			
600.00	597.69	595.35	594.69	1.25	1.08	117.81	-7.15	-57.47	59.18	56.92	2.27	26.089			
700.00	696.11	693.65	692.01	1.64	1.37	125.38	-13.53	-69.79	74.64	71.75	2.88	25.878			
800.00	794.29	791.10	787.81	2.01	1.70	117.08	-22.47	-85.13	91.72	88.18	3.54	25.931			
900.00	892.24	888.98	883.61	2.45	2.07	118.54	-32.81	-102.40	109.03	104.75	4.28	25.481			
1,000.00	990.17	987.23	979.49	2.87	2.47	110.12	-43.73	-120.86	126.21	121.17	5.04	25.041			
1,100.00	1,088.28	1,084.27	1,074.29	3.25	2.85	109.91	-53.35	-139.21	142.64	136.89	5.75	24.805			
1,200.00	1,186.50	1,182.83	1,170.72	3.66	3.24	108.80	-61.96	-157.70	159.24	152.75	6.49	24.530			
1,300.00	1,284.70	1,281.35	1,267.09	4.09	3.63	109.91	-70.58	-176.21	175.85	168.58	7.26	24.209			
1,400.00	1,383.13	1,379.23	1,362.88	4.53	4.02	113.19	-78.78	-194.59	193.05	185.03	8.02	24.075 SF			
1,500.00	1,481.65	1,477.26	1,458.76	4.95	4.41	114.30	-86.85	-213.33	211.18	202.41	8.77	24.089			
1,600.00	1,580.34	1,576.67	1,556.02	5.37	4.80	115.43	-95.25	-232.12	228.93	219.43	9.50	24.103			
1,700.00	1,679.19	1,677.20	1,654.71	5.77	5.17	118.71	-102.57	-249.81	246.56	236.37	10.20	24.181			
1,800.00	1,777.90	1,776.91	1,752.76	6.19	5.54	121.19	-110.26	-266.21	264.30	253.39	10.91	24.233			
1,900.00	1,876.72	1,871.00	1,845.10	6.60	5.90	114.86	-117.87	-282.60	282.31	270.70	11.61	24.320			
2,000.00	1,975.48	1,969.53	1,941.63	7.01	6.29	108.59	-125.03	-301.00	299.94	287.62	12.33	24.329			
2,100.00	2,073.95	2,065.55	2,035.71	7.44	6.68	110.39	-132.76	-318.53	317.00	303.93	13.07	24.247			
2,200.00	2,172.63	2,164.94	2,132.88	7.87	7.08	112.30	-140.22	-338.06	335.84	322.01	13.83	24.289			
2,300.00	2,271.42	2,257.80	2,223.75	8.29	7.46	110.19	-147.48	-355.70	353.81	339.28	14.53	24.348			
2,400.00	2,369.98	2,353.08	2,316.72	8.73	7.87	111.28	-153.66	-375.66	374.40	359.13	15.27	24.518			
2,500.00	2,468.44	2,455.12	2,416.17	9.19	8.31	111.40	-161.63	-397.01	394.84	378.77	16.07	24.574			
2,600.00	2,566.71	2,563.25	2,521.78	9.65	8.74	105.30	-171.11	-418.22	413.14	396.24	16.89	24.455			
2,700.00	2,664.99	2,655.10	2,611.73	10.10	9.12	104.63	-178.76	-435.18	429.64	411.97	17.67	24.312			
2,800.00	2,763.42	2,751.04	2,705.39	10.55	9.53	106.45	-186.59	-454.37	447.46	429.01	18.45	24.254			
2,900.00	2,861.97	2,848.79	2,800.87	11.00	9.92	108.35	-194.13	-473.94	465.89	446.69	19.20	24.260			
3,000.00	2,960.73	2,948.70	2,898.66	11.42	10.32	109.44	-200.85	-493.24	484.23	464.28	19.95	24.270			
3,100.00	3,059.68	3,048.16	2,996.06	11.83	10.72	109.58	-207.70	-512.22	502.01	481.34	20.67	24.286			
3,200.00	3,158.77	3,149.40	3,095.27	12.22	11.11	107.47	-214.76	-531.10	519.07	497.69	21.38	24.279			
3,300.00	3,258.07	3,247.52	3,191.47	12.60	11.49	103.18	-221.48	-549.18	534.58	512.53	22.05	24.244			
3,400.00	3,357.50	3,347.87	3,289.98	12.94	11.87	104.02	-227.98	-567.17	549.42	526.72	22.69	24.209			
3,500.00	3,457.26	3,443.48	3,383.76	13.25	12.24	99.82	-234.14	-584.79	564.04	540.76	23.27	24.234			
3,600.00	3,557.13	3,547.61	3,485.99	13.53	12.63	96.01	-241.08	-603.31	577.08	553.27	23.82	24.231			
3,700.00	3,657.09	3,643.97	3,580.54	13.77	13.01	59.45	-247.64	-620.65	589.95	565.65	24.30	24.281			
3,800.00	3,757.07	3,742.79	3,677.39	13.99	13.40	74.80	-255.40	-638.73	601.93	577.19	24.74	24.328			
3,900.00	3,857.07	3,842.23	3,774.67	14.21	13.80	100.90	-263.78	-657.55	615.81	590.65	25.16	24.474			
4,000.00	3,957.05	3,941.04	3,871.61	14.44	14.18	89.38	-271.63	-675.02	629.09	603.51	25.57	24.599			
4,100.00	4,057.04	4,029.47	3,958.24	14.66	14.54	-53.93	-277.91	-691.58	643.57	617.59	25.98	24.774			
4,200.00	4,157.04	4,124.48	4,051.09	14.87	14.94	-26.31	-284.77	-710.50	659.15	632.80	26.34	25.022			
4,300.00	4,257.03	4,226.73	4,151.09	15.07	15.35	7.34	-292.25	-730.56	674.04	647.34	26.70	25.243			
4,400.00	4,357.02	4,326.67	4,248.92	15.29	15.76	7.54	-299.49	-749.57	688.08	660.99	27.09	25.402			
4,500.00	4,457.00	4,428.60	4,348.43	15.51	16.19	16.21	-309.16	-769.48	702.24	674.78	27.47	25.567			
4,600.00	4,556.99	4,521.22	4,438.88	15.72	16.59	-39.57	-318.08	-787.25	716.33	688.49	27.84	25.731			
4,700.00	4,656.96	4,616.48	4,531.63	15.93	17.00	-62.32	-327.69	-806.74	731.90	703.73	28.16	25.986			
4,800.00	4,756.92	4,717.59	4,630.23	16.13	17.43	-117.72	-337.51	-826.88	749.67	721.20	28.48	26.327			
4,900.00	4,856.86	4,804.77	4,715.29	16.32	17.81	-128.57	-345.48	-844.22	768.85	740.13	28.72	26.769			

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



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3A-9H-N267 - Hz - FINAL													Offset Site Error: 0.00 ft
Survey Program: 134-Geolink MWD													Offset Well Error: 0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,000.00	4,956.84	4,905.61	4,813.70	16.54	18.22	-169.52	-352.49	-865.06	789.53	760.52	29.00	27.223	
5,100.00	5,056.82	5,001.65	4,907.68	16.77	18.62	176.64	-358.79	-883.84	808.97	779.61	29.36	27.558	
5,200.00	5,156.82	5,103.07	5,006.76	17.01	19.03	-174.04	-366.04	-904.26	828.65	798.93	29.72	27.884	
5,300.00	5,256.82	5,215.65	5,117.10	17.25	19.46	-143.27	-373.43	-925.33	846.79	816.70	30.09	28.140	

Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3AA-9H-N267 - Hz - FINAL													Offset Site Error:	0.00 ft
Survey Program: 134-Geolink MWD													Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.00	0.00	0.60	0.60	0.00	0.00	-89.93	0.06	-49.10	49.10					
100.00	99.99	100.50	100.50	0.09	0.14	70.89	0.15	-49.20	48.86	48.63	0.23	211.425		
164.71	164.68	164.81	164.81	0.18	0.24	72.93	0.28	-49.46	48.60	48.18	0.42	117.101 CC, ES		
200.00	199.95	199.69	199.69	0.22	0.30	74.36	0.30	-49.94	48.72	48.20	0.52	93.344		
300.00	299.82	298.28	298.22	0.36	0.48	79.06	-0.05	-52.97	50.58	49.76	0.83	61.235		
400.00	399.54	396.13	395.85	0.60	0.69	90.35	-1.43	-59.22	55.78	54.54	1.25	44.786		
500.00	498.86	493.88	493.08	0.90	0.93	100.65	-3.93	-69.07	65.91	64.16	1.74	37.774		
600.00	597.69	591.51	589.84	1.25	1.21	106.86	-7.71	-81.49	79.96	77.64	2.32	34.502		
700.00	696.11	688.00	684.99	1.64	1.54	115.18	-13.23	-96.43	97.70	94.75	2.95	33.084		
800.00	794.29	785.29	780.43	2.01	1.90	108.75	-20.40	-113.92	117.48	113.86	3.61	32.533		
900.00	892.24	882.02	874.98	2.45	2.29	111.80	-28.43	-132.71	137.43	133.09	4.34	31.661		
1,000.00	990.17	980.15	970.70	2.87	2.69	104.82	-37.05	-152.48	157.01	151.92	5.09	30.858		
1,100.00	1,088.28	1,080.36	1,068.52	3.25	3.10	105.25	-46.28	-172.19	174.45	168.63	5.82	29.991		
1,200.00	1,186.50	1,175.03	1,160.69	3.66	3.53	104.02	-55.49	-191.70	192.11	185.54	6.57	29.246		
1,300.00	1,284.70	1,268.86	1,251.78	4.09	3.95	105.04	-63.57	-212.73	211.85	204.52	7.33	28.894		
1,400.00	1,383.13	1,367.85	1,347.85	4.53	4.40	108.36	-71.35	-235.27	232.79	224.69	8.10	28.727		
1,500.00	1,481.65	1,466.59	1,443.85	4.95	4.84	109.68	-78.89	-257.09	253.89	245.04	8.85	28.687		
1,600.00	1,580.34	1,566.25	1,540.88	5.37	5.27	111.13	-86.43	-278.60	274.55	264.96	9.59	28.627		
1,700.00	1,679.19	1,667.48	1,639.61	5.77	5.70	114.31	-94.74	-299.33	294.37	284.06	10.31	28.565		
1,800.00	1,777.90	1,762.97	1,732.92	6.19	6.09	116.85	-101.76	-318.40	315.43	304.43	11.00	28.682		
1,900.00	1,876.72	1,858.40	1,826.19	6.60	6.49	110.92	-107.45	-337.75	337.06	325.37	11.69	28.823		
2,000.00	1,975.48	1,957.64	1,923.17	7.01	6.90	104.91	-113.41	-357.95	356.82	344.41	12.40	28.764		
2,100.00	2,073.95	2,056.77	2,020.11	7.44	7.30	107.00	-119.51	-377.73	376.19	363.04	13.15	28.609		
2,200.00	2,172.63	2,155.83	2,117.02	7.87	7.70	109.30	-125.59	-397.36	395.87	381.98	13.89	28.495		
2,300.00	2,271.42	2,252.55	2,211.65	8.29	8.10	107.49	-131.76	-416.37	415.13	400.53	14.60	28.430		
2,400.00	2,369.98	2,349.13	2,305.97	8.73	8.51	108.74	-138.00	-436.17	435.38	420.04	15.33	28.395		
2,500.00	2,468.44	2,449.89	2,404.40	9.19	8.92	109.18	-144.68	-456.62	455.84	439.74	16.10	28.307		
2,600.00	2,566.71	2,547.93	2,500.28	9.65	9.33	103.35	-151.32	-476.01	475.20	458.31	16.89	28.131		
2,700.00	2,664.99	2,649.51	2,599.61	10.10	9.74	102.84	-158.27	-496.10	493.50	475.80	17.70	27.880		
2,800.00	2,763.42	2,745.15	2,693.09	10.55	10.15	104.80	-165.53	-514.97	511.36	492.89	18.48	27.674		
2,900.00	2,861.97	2,841.43	2,786.88	11.00	10.57	106.65	-173.64	-535.17	530.30	511.05	19.25	27.545		
3,000.00	2,960.73	2,947.04	2,889.86	11.42	11.02	107.57	-182.52	-556.81	548.90	528.87	20.03	27.403		
3,100.00	3,059.68	3,030.38	2,971.21	11.83	11.38	107.73	-188.82	-573.80	567.59	546.89	20.70	27.420		
3,200.00	3,158.77	3,134.34	3,072.63	12.22	11.81	105.69	-194.97	-595.77	587.42	566.01	21.41	27.433		
3,300.00	3,258.07	3,227.04	3,163.15	12.60	12.21	101.48	-200.77	-614.88	605.24	583.16	22.08	27.408		
3,400.00	3,357.50	3,332.41	3,265.94	12.94	12.65	102.28	-207.67	-636.98	622.89	600.14	22.75	27.381 SF		
3,500.00	3,457.26	3,428.56	3,359.83	13.25	13.07	98.13	-214.18	-656.66	639.41	616.07	23.34	27.395		
3,600.00	3,557.13	3,526.56	3,455.33	13.53	13.50	94.34	-221.68	-677.33	655.29	631.41	23.88	27.437		
3,700.00	3,657.09	3,623.94	3,550.17	13.77	13.93	57.76	-229.42	-698.08	671.04	646.67	24.37	27.538		
3,800.00	3,757.07	3,726.35	3,649.82	13.99	14.38	73.09	-238.30	-719.95	685.94	661.13	24.81	27.645		
3,900.00	3,857.07	3,832.58	3,753.41	14.21	14.83	99.19	-248.12	-741.33	701.04	675.81	25.23	27.789		
4,000.00	3,957.05	3,925.40	3,844.08	14.44	15.22	87.84	-255.54	-759.73	716.65	691.03	25.62	27.977		
4,100.00	4,057.04	4,025.08	3,941.49	14.66	15.63	-55.48	-263.02	-779.48	732.38	706.34	26.04	28.128		
4,200.00	4,157.04	4,120.84	4,035.01	14.87	16.04	-27.77	-271.05	-798.44	747.84	721.44	26.40	28.329		
4,300.00	4,257.03	4,206.00	4,117.91	15.07	16.43	6.11	-278.47	-816.47	764.13	737.40	26.73	28.586		
4,400.00	4,357.02	4,295.01	4,204.36	15.29	16.84	6.45	-285.40	-836.48	781.59	754.52	27.08	28.867		
4,500.00	4,457.00	4,407.81	4,314.08	15.51	17.32	15.27	-293.64	-861.34	799.09	771.64	27.45	29.110		
4,600.00	4,556.99	4,515.20	4,419.19	15.72	17.75	-40.30	-301.02	-882.08	814.16	786.33	27.82	29.261		
4,700.00	4,656.96	4,598.07	4,500.21	15.93	18.11	-62.51	-306.00	-898.73	830.51	802.38	28.13	29.522		



Scientific Drilling International

Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3B-9H-N267 - Hz - FINAL													Offset Site Error:	0.00 ft
Survey Program: 135-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-92.77	-1.39	-28.79	28.83					
100.00	99.99	99.90	99.90	0.09	0.14	69.11	-1.19	-28.95	28.61	28.37	0.23	124.042		
200.00	199.95	199.78	199.77	0.22	0.30	75.61	-0.81	-29.42	28.18	27.66	0.52	53.944		
272.71	272.57	272.36	272.36	0.32	0.43	81.96	-0.99	-29.96	28.02	27.27	0.75	37.603 CC		
300.00	299.82	299.61	299.60	0.36	0.47	84.51	-1.24	-30.24	28.04	27.21	0.83	33.835 ES		
400.00	399.54	399.13	399.07	0.60	0.66	100.56	-3.28	-32.18	29.44	28.20	1.25	23.608		
500.00	498.86	498.32	498.13	0.90	0.85	115.76	-6.73	-36.29	35.05	33.32	1.73	20.279		
600.00	597.69	596.95	596.48	1.25	1.06	125.81	-10.48	-42.50	45.45	43.21	2.24	20.262 SF		
700.00	696.11	695.26	694.23	1.64	1.30	135.02	-15.38	-51.68	59.94	57.13	2.80	21.380		
800.00	794.29	793.38	791.34	2.01	1.59	127.45	-22.02	-64.02	76.27	72.87	3.40	22.411		
900.00	892.24	892.60	889.10	2.45	1.90	129.07	-30.62	-78.60	92.47	88.37	4.09	22.590		
1,000.00	990.17	988.41	983.52	2.87	2.21	121.54	-37.86	-93.15	109.15	104.39	4.76	22.937		
1,100.00	1,088.28	1,085.75	1,079.22	3.25	2.56	121.47	-44.29	-109.76	126.20	120.75	5.45	23.155		
1,200.00	1,186.50	1,186.29	1,177.87	3.66	2.92	119.61	-52.02	-127.51	142.45	136.26	6.19	23.024		
1,300.00	1,284.70	1,286.28	1,276.05	4.09	3.29	120.15	-60.42	-144.50	157.74	150.79	6.95	22.692		
1,400.00	1,383.13	1,384.26	1,372.30	4.53	3.65	122.80	-69.18	-160.58	172.43	164.72	7.70	22.385		
1,500.00	1,481.65	1,478.24	1,464.48	4.95	4.00	123.48	-75.64	-177.70	190.25	181.82	8.43	22.577		
1,600.00	1,580.34	1,580.97	1,565.36	5.37	4.37	124.28	-82.75	-195.75	207.39	198.23	9.16	22.630		
1,700.00	1,679.19	1,684.17	1,666.97	5.77	4.72	127.03	-90.89	-211.82	222.59	212.71	9.88	22.531		
1,800.00	1,777.90	1,786.68	1,768.10	6.19	5.06	129.08	-99.83	-225.98	237.32	226.73	10.59	22.412		
1,900.00	1,876.72	1,883.00	1,863.26	6.60	5.36	122.69	-108.09	-238.38	251.01	239.74	11.26	22.286		
2,000.00	1,975.48	1,976.27	1,955.52	7.01	5.66	116.86	-113.58	-250.90	265.14	253.21	11.93	22.224		
2,100.00	2,073.95	2,071.04	2,048.92	7.44	6.00	118.83	-119.12	-265.93	281.57	268.92	12.65	22.259		
2,200.00	2,172.63	2,173.22	2,149.28	7.87	6.38	120.48	-126.42	-283.71	298.51	285.10	13.41	22.268		
2,300.00	2,271.42	2,274.61	2,248.93	8.29	6.75	118.09	-134.97	-300.30	313.54	299.39	14.15	22.158		
2,400.00	2,369.98	2,376.51	2,349.02	8.73	7.13	118.82	-144.54	-316.89	328.50	313.58	14.92	22.021		
2,500.00	2,468.44	2,479.00	2,449.76	9.19	7.50	118.74	-155.09	-332.55	342.67	326.97	15.70	21.826		
2,600.00	2,566.71	2,572.26	2,541.62	9.65	7.82	112.76	-163.55	-346.20	356.75	340.30	16.45	21.692		
2,700.00	2,664.99	2,673.92	2,641.84	10.10	8.16	112.19	-171.65	-361.19	370.57	353.35	17.22	21.517		
2,800.00	2,763.42	2,773.54	2,740.02	10.55	8.51	114.11	-180.16	-375.77	383.78	365.80	17.98	21.349		
2,900.00	2,861.97	2,871.78	2,836.91	11.00	8.84	116.07	-188.09	-389.98	397.39	378.67	18.71	21.235		
3,000.00	2,960.73	2,973.31	2,937.09	11.42	9.17	117.07	-196.23	-404.26	410.57	391.12	19.45	21.113		
3,100.00	3,059.68	3,071.23	3,033.76	11.83	9.50	117.15	-204.27	-417.65	422.89	402.74	20.15	20.989		
3,200.00	3,158.77	3,164.43	3,125.67	12.22	9.82	114.95	-211.19	-431.47	436.14	415.31	20.83	20.941		
3,300.00	3,258.07	3,265.86	3,225.66	12.60	10.17	110.49	-218.73	-446.76	448.03	426.51	21.51	20.825		
3,400.00	3,357.50	3,369.21	3,327.64	12.94	10.50	111.11	-226.50	-461.56	458.73	436.55	22.17	20.689		
3,500.00	3,457.26	3,464.83	3,422.13	13.25	10.81	106.72	-233.55	-474.43	467.73	444.98	22.76	20.555		
3,600.00	3,557.13	3,555.07	3,511.21	13.53	11.12	102.93	-238.76	-487.83	477.65	454.37	23.28	20.516		
3,700.00	3,657.09	3,651.24	3,605.99	13.77	11.46	66.18	-244.12	-503.25	488.09	464.30	23.79	20.513		
3,800.00	3,757.07	3,751.65	3,704.77	13.99	11.81	81.32	-250.56	-520.03	497.79	473.50	24.29	20.497		
3,900.00	3,857.07	3,855.88	3,807.41	14.21	12.19	107.25	-257.68	-536.74	508.28	483.50	24.78	20.510		
4,000.00	3,957.05	3,958.57	3,908.37	14.44	12.56	95.29	-266.78	-553.13	518.18	492.92	25.26	20.515		
4,100.00	4,057.04	4,054.78	4,003.11	14.66	12.90	-48.49	-274.77	-567.92	527.79	502.08	25.71	20.529		
4,200.00	4,157.04	4,151.61	4,098.36	14.87	13.25	-21.21	-282.71	-583.41	537.97	511.86	26.12	20.597		
4,300.00	4,257.03	4,251.96	4,197.15	15.07	13.60	12.22	-290.47	-599.18	547.87	521.35	26.51	20.664		
4,400.00	4,357.02	4,344.57	4,288.41	15.29	13.93	12.33	-296.86	-613.58	557.70	530.80	26.90	20.731		
4,500.00	4,457.00	4,444.42	4,386.67	15.51	14.29	21.00	-303.70	-629.92	568.61	541.30	27.31	20.821		
4,600.00	4,556.99	4,548.50	4,489.19	15.72	14.64	-35.00	-311.12	-646.27	578.96	551.27	27.70	20.904		
4,700.00	4,656.96	4,648.05	4,587.26	15.93	15.00	-57.85	-318.93	-661.51	588.99	560.92	28.07	20.981		
4,800.00	4,756.92	4,746.28	4,683.86	16.13	15.36	-113.50	-327.91	-676.90	601.52	573.11	28.40	21.178		
4,900.00	4,856.86	4,847.73	4,783.74	16.32	15.71	-124.74	-336.78	-692.34	615.05	586.36	28.70	21.431		

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



Scientific Drilling International
Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3B-9H-N267 - Hz - FINAL													Offset Site Error:	0.00 ft
Survey Program: 135-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,956.84	4,949.82	4,884.45	16.54	16.05	-165.92	-345.05	-706.85	628.33	599.31	29.02	21.650		
5,100.00	5,056.82	5,041.73	4,974.95	16.77	16.38	179.92	-353.30	-720.56	642.02	612.64	29.39	21.847		
5,200.00	5,156.82	5,139.91	5,071.51	17.01	16.74	-171.12	-362.69	-735.66	655.90	626.15	29.75	22.044		
5,300.00	5,256.82	5,235.80	5,165.87	17.25	17.08	-140.58	-370.79	-750.63	670.11	640.00	30.11	22.253		
5,400.00	5,356.81	5,346.03	5,274.61	17.48	17.44	-66.32	-379.10	-766.68	682.97	652.48	30.49	22.400		
5,500.00	5,456.81	5,439.74	5,367.17	17.72	17.76	-42.14	-386.67	-779.26	694.23	663.39	30.85	22.506		
5,600.00	5,556.80	5,517.59	5,443.71	17.96	18.06	-38.61	-392.95	-791.94	707.74	676.56	31.18	22.699		
5,700.00	5,656.79	5,620.11	5,544.26	18.20	18.44	-124.72	-401.60	-809.98	723.31	691.80	31.51	22.952		
5,800.00	5,756.79	5,741.17	5,663.68	18.44	18.83	-95.43	-410.14	-827.88	737.44	705.56	31.89	23.128		
5,900.00	5,856.78	5,846.89	5,768.25	18.68	19.16	-133.57	-417.30	-841.70	749.84	717.59	32.25	23.249		
6,000.00	5,956.78	5,945.78	5,866.06	18.93	19.46	-148.19	-424.78	-854.18	762.44	729.84	32.60	23.386		
6,100.00	6,056.77	6,040.75	5,959.99	19.17	19.76	-108.58	-431.50	-866.43	775.21	742.24	32.96	23.516		
6,200.00	6,156.77	6,122.56	6,040.80	19.42	20.05	-159.22	-437.21	-877.86	789.19	755.89	33.30	23.700		
6,300.00	6,256.75	6,219.74	6,136.48	19.67	20.38	169.06	-444.11	-893.40	806.57	772.93	33.64	23.979		
6,400.00	6,356.73	6,309.12	6,224.62	19.93	20.70	157.73	-449.71	-907.13	823.20	789.18	34.03	24.192		
6,500.00	6,456.71	6,395.63	6,309.55	20.17	21.04	167.21	-456.04	-922.31	841.78	807.37	34.41	24.464		



Scientific Drilling International

Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3C-9H-N267 - Hz - FINAL													Offset Site Error:	0.00 ft
Survey Program: 228-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-89.87	0.05	-19.57	19.57					
100.00	99.99	100.01	100.00	0.09	0.15	73.57	0.39	-19.52	19.21	18.96	0.25	77.550		
200.00	199.95	199.92	199.91	0.22	0.31	85.65	1.41	-19.36	18.69	18.16	0.53	35.030		
208.30	208.24	208.21	208.20	0.23	0.32	87.04	1.52	-19.34	18.68	18.13	0.56	33.530 CC, ES		
300.00	299.82	299.71	299.70	0.36	0.48	103.48	2.45	-19.37	19.55	18.72	0.83	23.587		
400.00	399.54	399.38	399.35	0.60	0.65	124.17	2.02	-21.09	23.54	22.32	1.22	19.292		
500.00	498.86	499.06	498.92	0.90	0.83	137.65	-0.41	-24.88	31.61	29.94	1.67	18.939		
600.00	597.69	598.38	598.00	1.25	1.03	143.24	-4.35	-30.55	43.00	40.85	2.15	20.038		
700.00	696.11	697.58	696.85	1.64	1.24	150.43	-9.14	-37.42	56.83	54.18	2.65	21.461		
800.00	794.29	796.63	795.41	2.01	1.46	143.04	-14.80	-45.34	71.51	68.36	3.15	22.682		
900.00	892.24	895.99	894.09	2.45	1.71	145.48	-21.64	-54.77	86.11	82.38	3.73	23.110		
1,000.00	990.17	995.29	992.63	2.87	1.97	137.99	-29.10	-64.49	99.84	95.53	4.31	23.177		
1,100.00	1,088.28	1,094.48	1,091.09	3.25	2.22	138.69	-36.71	-73.88	111.75	106.86	4.88	22.887		
1,200.00	1,186.50	1,190.49	1,186.44	3.66	2.47	138.11	-42.42	-83.39	124.86	119.39	5.47	22.841		
1,300.00	1,284.70	1,289.85	1,285.17	4.09	2.73	139.82	-47.31	-93.48	139.03	132.94	6.09	22.835		
1,400.00	1,383.13	1,390.03	1,384.40	4.53	3.02	142.40	-53.73	-105.59	152.31	145.54	6.77	22.495		
1,500.00	1,481.65	1,490.32	1,483.69	4.95	3.31	142.73	-61.10	-117.66	164.92	157.46	7.45	22.131		
1,600.00	1,580.34	1,590.35	1,582.80	5.37	3.60	143.30	-68.53	-129.01	176.60	168.48	8.12	21.742		
1,700.00	1,679.19	1,688.12	1,679.76	5.77	3.87	145.94	-75.76	-139.22	187.65	178.88	8.77	21.391		
1,800.00	1,777.90	1,783.42	1,774.27	6.19	4.15	147.63	-81.15	-150.27	202.12	192.68	9.43	21.423		
1,900.00	1,876.72	1,882.53	1,872.20	6.60	4.46	140.04	-87.30	-164.14	216.89	206.74	10.15	21.363		
2,000.00	1,975.48	1,983.45	1,971.97	7.01	4.76	133.06	-94.11	-177.69	229.89	219.04	10.86	21.172		
2,100.00	2,073.95	2,085.31	2,072.81	7.44	5.06	134.52	-101.26	-190.21	242.99	231.44	11.55	21.031		
2,200.00	2,172.63	2,187.36	2,173.95	7.87	5.35	136.18	-109.00	-201.33	254.59	242.35	12.24	20.802		
2,300.00	2,271.42	2,284.51	2,270.15	8.29	5.66	133.83	-116.92	-212.27	265.45	252.50	12.95	20.505		
2,400.00	2,369.98	2,388.15	2,372.43	8.73	5.99	134.20	-126.73	-225.84	277.27	263.57	13.69	20.248		
2,500.00	2,468.44	2,480.13	2,463.30	9.19	6.28	133.97	-134.99	-237.48	289.88	275.47	14.40	20.125		
2,600.00	2,566.71	2,580.00	2,562.04	9.65	6.59	127.74	-142.62	-250.34	303.67	288.52	15.14	20.056		
2,700.00	2,664.99	2,673.74	2,654.60	10.10	6.91	126.70	-149.75	-263.33	317.24	301.36	15.88	19.978		
2,800.00	2,763.42	2,774.30	2,753.73	10.55	7.24	128.10	-157.35	-278.45	331.16	314.52	16.64	19.907		
2,900.00	2,861.97	2,875.29	2,853.37	11.00	7.57	129.57	-165.14	-292.90	344.58	327.20	17.38	19.823		
3,000.00	2,960.73	2,975.09	2,951.96	11.42	7.89	130.16	-172.67	-306.41	357.23	339.13	18.11	19.730		
3,100.00	3,059.68	3,075.18	3,050.99	11.83	8.19	129.99	-179.79	-319.09	368.99	350.19	18.80	19.627		
3,200.00	3,158.77	3,175.49	3,150.39	12.22	8.47	127.69	-186.43	-330.82	379.92	360.45	19.47	19.512		
3,300.00	3,258.07	3,275.72	3,249.84	12.60	8.75	123.35	-192.69	-341.64	388.77	368.65	20.12	19.327		
3,400.00	3,357.50	3,374.55	3,347.97	12.94	9.03	124.14	-198.44	-351.87	396.89	376.15	20.74	19.136		
3,500.00	3,457.26	3,475.53	3,448.05	13.25	9.32	119.52	-205.16	-363.53	403.28	381.91	21.37	18.874		
3,600.00	3,557.13	3,572.54	3,544.30	13.53	9.59	115.54	-211.43	-373.84	407.79	385.85	21.95	18.581		
3,700.00	3,657.09	3,670.27	3,641.11	13.77	9.89	78.53	-217.39	-385.77	412.58	390.05	22.52	18.317		
3,800.00	3,757.07	3,771.85	3,741.59	13.99	10.20	93.40	-224.91	-398.65	415.63	392.52	23.11	17.984		
3,900.00	3,857.07	3,870.00	3,838.74	14.21	10.51	119.21	-231.99	-410.68	420.16	396.48	23.68	17.743		
4,000.00	3,957.05	3,968.45	3,935.99	14.44	10.82	107.09	-239.85	-423.88	425.61	401.37	24.24	17.561		
4,100.00	4,057.04	4,077.56	4,043.87	14.66	11.17	-37.29	-248.92	-437.49	430.05	405.24	24.81	17.335		
4,200.00	4,157.04	4,178.94	4,144.16	14.87	11.47	-10.41	-258.56	-448.73	432.43	407.11	25.32	17.078		
4,300.00	4,257.03	4,277.00	4,241.33	15.07	11.75	22.83	-267.22	-458.62	434.34	408.54	25.80	16.838		
4,400.00	4,357.02	4,372.00	4,335.49	15.29	12.03	22.65	-274.65	-468.79	437.18	410.92	26.27	16.644		
4,500.00	4,457.00	4,467.00	4,429.73	15.51	12.28	31.26	-281.00	-478.95	441.04	414.33	26.71	16.511		
4,600.00	4,556.99	4,561.00	4,522.89	15.72	12.58	-24.86	-286.71	-490.03	446.11	418.95	27.16	16.426		
4,700.00	4,656.96	4,653.46	4,614.30	15.93	12.87	-47.86	-291.96	-502.91	453.37	425.79	27.58	16.440		
4,800.00	4,756.92	4,753.49	4,713.23	16.13	13.17	-103.73	-297.48	-516.62	462.85	434.87	27.98	16.542		
4,900.00	4,856.86	4,852.84	4,811.55	16.32	13.47	-115.14	-302.74	-529.83	473.32	444.98	28.34	16.701		

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



Scientific Drilling International

Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3C-9H-N267 - Hz - FINAL													Offset Site Error:	0.00 ft
Survey Program: 228-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,956.84	4,954.05	4,911.86	16.54	13.75	-156.39	-307.15	-542.59	484.40	455.68	28.71	16.871		
5,100.00	5,056.82	5,059.13	5,016.09	16.77	14.05	-170.70	-312.62	-554.69	494.24	465.11	29.13	16.968		
5,200.00	5,156.82	5,155.36	5,111.45	17.01	14.34	-161.77	-318.26	-566.37	504.20	474.67	29.54	17.069		
5,300.00	5,256.82	5,261.85	5,216.77	17.25	14.68	-131.76	-327.15	-579.37	513.21	483.24	29.97	17.126		
5,400.00	5,356.81	5,365.33	5,319.20	17.48	14.99	-57.95	-336.29	-590.89	520.64	490.26	30.38	17.138		
5,500.00	5,456.81	5,462.67	5,415.45	17.72	15.30	-34.35	-346.00	-601.64	527.32	496.53	30.79	17.128		
5,600.00	5,556.80	5,563.34	5,514.73	17.96	15.63	-31.75	-357.49	-613.75	534.22	503.05	31.18	17.136		
5,700.00	5,656.79	5,662.90	5,613.13	18.20	15.93	-118.32	-368.01	-624.58	541.19	509.64	31.55	17.156		
5,800.00	5,756.79	5,759.96	5,709.09	18.44	16.24	-89.45	-377.72	-635.41	550.04	518.11	31.93	17.228		
5,900.00	5,856.78	5,850.47	5,798.42	18.68	16.55	-128.14	-387.51	-646.23	559.57	527.29	32.28	17.333		
6,000.00	5,956.78	5,953.37	5,900.03	18.93	16.86	-143.33	-397.03	-659.35	571.08	538.44	32.64	17.495		
6,100.00	6,056.77	6,054.78	6,000.53	19.17	17.15	-104.11	-404.67	-670.59	581.21	548.20	33.01	17.607		
6,200.00	6,156.77	6,154.43	6,099.38	19.42	17.43	-155.06	-411.00	-681.43	591.48	558.11	33.37	17.725		
6,300.00	6,256.75	6,240.37	6,184.60	19.67	17.69	-173.21	-415.90	-691.42	604.13	570.42	33.71	17.921		
6,400.00	6,356.73	6,328.41	6,271.71	19.93	17.95	-161.82	-419.81	-703.54	618.82	584.74	34.09	18.155		
6,500.00	6,456.71	6,425.84	6,368.15	20.17	18.19	-171.76	-418.46	-717.11	634.41	599.96	34.46	18.411		
6,600.00	6,556.67	6,510.42	6,451.63	20.30	18.36	-87.02	-411.16	-728.46	649.59	614.86	34.73	18.705		
6,700.00	6,656.32	6,590.96	6,530.31	20.38	18.52	-80.25	-399.80	-741.34	666.42	631.49	34.93	19.079		
6,800.00	6,754.34	6,676.91	6,613.21	20.38	18.67	-79.16	-382.21	-755.55	682.94	647.98	34.96	19.534		
6,900.00	6,849.08	6,787.96	6,718.07	20.31	18.78	-78.62	-349.96	-772.42	697.38	662.68	34.70	20.095		
7,000.00	6,938.98	6,892.08	6,813.69	20.20	18.83	-78.57	-310.79	-784.87	707.90	673.62	34.27	20.654		
7,100.00	7,022.58	6,984.22	6,894.19	20.08	18.84	-78.71	-267.08	-794.39	716.44	682.63	33.81	21.189		
7,200.00	7,098.51	7,066.00	6,961.33	19.98	18.87	-78.96	-221.18	-802.71	724.38	690.96	33.42	21.675		
7,300.00	7,165.53	7,263.96	7,115.21	19.97	18.93	-81.57	-97.99	-815.76	731.68	698.64	33.04	22.148		
7,400.00	7,222.55	7,329.15	7,164.40	20.09	18.94	-83.23	-55.31	-813.99	725.70	692.48	33.22	21.845		
7,500.00	7,268.62	7,395.00	7,206.55	20.38	19.03	-84.51	-4.84	-814.58	723.97	690.27	33.70	21.482		
7,503.61	7,270.06	7,395.00	7,206.55	20.40	19.03	-84.51	-4.84	-814.58	723.97	690.10	33.87	21.376		
7,600.00	7,302.99	7,480.84	7,247.69	20.88	19.22	-85.53	70.28	-817.27	725.55	690.97	34.58	20.984		
7,700.00	7,325.12	7,584.00	7,280.55	21.59	19.56	-86.36	167.97	-817.55	725.09	689.15	35.94	20.176		
7,744.92	7,330.96	7,620.49	7,289.43	21.99	19.72	-86.71	203.35	-817.43	724.69	687.94	36.75	19.719		
7,800.00	7,334.62	7,661.72	7,297.86	22.48	19.93	-87.12	243.71	-818.17	725.25	687.70	37.55	19.315		
7,900.00	7,334.78	7,753.60	7,310.79	23.55	20.50	-88.10	334.61	-820.92	727.66	688.12	39.54	18.405		
8,000.00	7,334.49	7,857.08	7,316.46	24.77	21.26	-88.58	437.87	-823.61	730.09	688.17	41.92	17.415		
8,100.00	7,334.19	7,950.77	7,318.37	26.13	22.06	-88.76	531.49	-826.44	733.05	688.57	44.48	16.482		
8,200.00	7,333.89	8,053.53	7,320.04	27.60	23.05	-88.92	634.19	-829.68	736.17	688.83	47.34	15.550		
8,300.00	7,333.60	8,154.87	7,320.09	29.17	24.11	-88.95	735.49	-832.37	738.81	688.43	50.38	14.666		
8,400.00	7,333.30	8,244.40	7,319.82	30.82	25.12	-88.95	824.97	-835.19	741.98	688.57	53.40	13.894		
8,500.00	7,333.00	8,343.41	7,322.36	32.54	26.31	-89.18	923.85	-839.58	746.36	689.68	56.68	13.167		
8,600.00	7,332.71	8,454.07	7,324.00	34.32	27.70	-89.33	1,034.42	-843.50	749.90	689.66	60.24	12.449		
8,700.00	7,332.41	8,561.87	7,324.41	36.16	29.10	-89.39	1,142.20	-845.88	752.10	688.25	63.85	11.779		
8,800.00	7,332.11	8,673.48	7,322.99	38.03	30.59	-89.31	1,253.80	-846.95	753.07	685.47	67.61	11.139		
8,900.00	7,331.82	8,782.13	7,320.15	39.95	32.08	-89.11	1,362.40	-846.16	752.35	680.96	71.38	10.540		
9,000.00	7,331.52	8,879.24	7,318.25	41.89	33.44	-88.99	1,459.49	-845.39	751.59	676.55	75.03	10.017		
9,100.00	7,331.22	8,979.14	7,316.95	43.87	34.88	-88.91	1,559.38	-844.82	751.03	672.26	78.77	9.534		
9,200.00	7,330.93	9,080.80	7,317.24	45.87	36.38	-88.96	1,661.03	-844.12	750.33	667.75	82.58	9.086		
9,300.00	7,330.63	9,191.22	7,318.88	47.89	38.02	-89.10	1,771.43	-842.75	749.09	662.52	86.57	8.653		
9,400.00	7,330.33	9,286.65	7,319.64	49.93	39.46	-89.18	1,866.83	-840.58	746.81	656.47	90.34	8.266		
9,500.00	7,330.04	9,376.15	7,321.27	51.98	40.83	-89.33	1,956.31	-839.84	745.96	651.91	94.05	7.932		
9,514.02	7,329.99	9,388.80	7,321.63	52.27	41.03	-89.36	1,968.96	-839.83	745.94	651.23	94.72	7.875		
9,600.00	7,329.74	9,462.90	7,324.17	54.05	42.19	-89.57	2,043.02	-840.40	746.57	648.85	97.73	7.640		

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



Scientific Drilling International

Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3C-9H-N267 - Hz - FINAL													Offset Site Error:	0.00 ft
Survey Program: 228-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,700.00	7,329.44	9,555.37	7,327.03	56.14	43.65	-89.81	2,135.40	-842.61	748.93	647.42	101.52	7.377		
9,800.00	7,329.15	9,656.92	7,328.43	58.23	45.27	-89.94	2,236.92	-845.21	751.49	646.01	105.48	7.125		
9,900.00	7,328.85	9,775.13	7,328.57	60.34	47.15	-89.98	2,355.08	-846.97	753.04	643.30	109.74	6.862		
10,000.00	7,328.55	9,882.95	7,323.31	62.45	48.88	-89.60	2,462.77	-846.28	752.40	638.56	113.84	6.609		
10,100.00	7,328.26	9,988.55	7,319.67	64.58	50.57	-89.35	2,568.30	-844.58	750.81	632.90	117.91	6.367		
10,200.00	7,327.96	10,089.06	7,319.22	66.71	52.20	-89.33	2,668.78	-842.68	748.92	627.00	121.92	6.143		
10,300.00	7,327.66	10,182.87	7,318.03	68.85	53.72	-89.26	2,762.58	-841.32	747.49	621.67	125.82	5.941		
10,400.00	7,327.37	10,281.09	7,315.66	70.99	55.33	-89.10	2,860.76	-840.38	746.56	616.76	129.80	5.752		
10,500.00	7,327.07	10,379.17	7,314.54	73.14	56.94	-89.04	2,958.83	-839.72	745.90	612.11	133.79	5.575		
10,600.00	7,326.77	10,480.03	7,315.11	75.29	58.61	-89.10	3,059.68	-839.18	745.35	607.51	137.84	5.407		
10,700.00	7,326.48	10,584.48	7,316.07	77.46	60.34	-89.20	3,164.13	-838.24	744.43	602.47	141.96	5.244		
10,799.77	7,326.18	10,675.06	7,316.26	79.61	61.85	-89.24	3,254.70	-837.38	743.50	597.66	145.84	5.098		
10,800.00	7,326.18	10,675.24	7,316.26	79.62	61.85	-89.24	3,254.88	-837.38	743.50	597.65	145.85	5.098		
10,900.00	7,325.88	10,774.08	7,316.22	81.79	63.50	-89.26	3,353.72	-837.75	743.88	593.99	149.89	4.963		
11,000.00	7,325.58	10,873.38	7,316.66	83.96	65.16	-89.31	3,453.01	-837.95	744.07	590.13	153.94	4.834		
11,100.00	7,325.29	10,972.76	7,317.16	86.14	66.83	-89.37	3,552.40	-838.28	744.39	586.40	157.99	4.712		
11,200.00	7,324.99	11,072.77	7,317.72	88.32	68.51	-89.44	3,652.40	-838.63	744.73	582.66	162.06	4.595		
11,300.00	7,324.69	11,170.98	7,318.32	90.50	70.17	-89.51	3,750.61	-839.05	745.15	579.04	166.11	4.486		
11,400.00	7,324.40	11,270.11	7,318.50	92.68	71.85	-89.55	3,849.74	-839.72	745.83	575.65	170.18	4.383		
11,500.00	7,324.10	11,366.20	7,318.52	94.87	73.48	-89.57	3,945.82	-840.58	746.72	572.53	174.19	4.287		
11,600.00	7,323.80	11,462.88	7,319.08	96.91	75.12	-89.64	4,042.49	-842.01	746.79	568.24	178.55	4.183		
11,700.00	7,323.47	11,556.26	7,319.29	98.84	76.71	-89.68	4,135.85	-843.92	743.60	561.15	182.45	4.076		
11,800.00	7,323.13	11,669.35	7,318.44	101.06	78.64	-89.65	4,248.90	-846.12	740.08	553.22	186.85	3.961		
11,900.00	7,322.80	11,778.50	7,315.52	103.28	80.49	-89.44	4,358.01	-846.17	734.62	543.43	191.19	3.842		
12,000.00	7,322.46	11,877.28	7,313.87	105.50	82.17	-89.33	4,456.78	-845.76	728.72	533.37	195.35	3.730		
12,100.00	7,322.12	11,977.46	7,312.83	107.72	83.88	-89.27	4,556.96	-845.41	722.87	523.33	199.54	3.623		
12,200.00	7,321.78	12,078.45	7,313.51	109.94	85.60	-89.35	4,657.93	-844.92	716.88	513.13	203.75	3.518		
12,300.00	7,321.44	12,175.80	7,315.91	112.17	87.27	-89.57	4,755.26	-844.47	710.88	502.98	207.90	3.419		
12,400.00	7,321.10	12,271.77	7,315.68	114.40	88.91	-89.57	4,851.23	-844.72	705.62	493.60	212.02	3.328		
12,500.00	7,320.75	12,376.12	7,312.78	116.63	90.69	-89.36	4,955.53	-844.75	700.18	483.89	216.29	3.237		
12,600.00	7,320.40	12,481.40	7,309.45	118.86	92.50	-89.11	5,060.76	-844.01	694.01	473.44	220.57	3.146		
12,700.00	7,320.06	12,579.02	7,307.89	121.09	94.17	-89.00	5,158.35	-842.89	687.38	462.66	224.72	3.059		
12,715.98	7,320.00	12,593.84	7,307.75	121.45	94.42	-88.99	5,173.18	-842.79	686.40	461.03	225.37	3.046 SF		



Scientific Drilling International

Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3D-9H-N267 - Hz - SURVEYS													Offset Site Error:	0.00 ft
Survey Program: 140-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-89.74	0.04	-8.39	8.39					
100.00	99.99	99.92	99.92	0.09	0.14	77.59	0.24	-8.77	8.50	8.27	0.23	36.597 ES		
200.00	199.95	199.86	199.85	0.22	0.30	97.39	0.66	-9.78	9.48	8.96	0.52	18.117		
300.00	299.82	299.96	299.94	0.36	0.47	119.19	0.18	-10.50	11.35	10.53	0.82	13.836		
400.00	399.54	399.93	399.89	0.60	0.65	144.68	-2.14	-10.66	14.40	13.20	1.20	12.039		
500.00	498.86	499.79	499.68	0.90	0.84	159.42	-5.72	-11.94	21.61	20.00	1.62	13.380		
600.00	597.69	598.89	598.67	1.25	1.02	164.78	-9.62	-14.07	32.66	30.61	2.04	15.994		
700.00	696.11	698.40	698.04	1.64	1.22	170.18	-13.61	-17.67	46.45	43.96	2.49	18.679		
800.00	794.29	797.97	797.29	2.01	1.43	160.31	-19.13	-23.32	60.36	57.41	2.95	20.485		
900.00	892.24	896.68	895.48	2.45	1.66	160.76	-25.50	-31.11	74.55	71.09	3.46	21.534		
1,000.00	990.17	995.58	993.82	2.87	1.89	151.83	-31.71	-39.59	88.90	84.90	4.00	22.243		
1,100.00	1,088.28	1,091.70	1,089.45	3.25	2.11	151.67	-36.17	-48.15	103.50	98.98	4.53	22.869		
1,200.00	1,186.50	1,190.58	1,187.89	3.66	2.34	150.49	-39.38	-56.92	118.89	113.81	5.08	23.422		
1,300.00	1,284.70	1,289.75	1,286.66	4.09	2.56	151.80	-42.69	-65.22	134.12	128.47	5.64	23.761		
1,400.00	1,383.13	1,388.92	1,385.42	4.53	2.79	155.02	-46.12	-73.47	148.53	142.31	6.22	23.868		
1,500.00	1,481.65	1,488.94	1,485.03	4.95	3.02	156.02	-50.02	-81.65	162.41	155.61	6.81	23.864		
1,600.00	1,580.34	1,587.86	1,583.53	5.37	3.26	157.04	-54.35	-89.61	175.02	167.62	7.39	23.670		
1,700.00	1,679.19	1,686.11	1,681.26	5.77	3.50	159.47	-58.20	-99.00	187.93	179.92	8.01	23.474		
1,800.00	1,777.90	1,787.47	1,782.03	6.19	3.75	160.76	-62.88	-108.83	201.50	192.87	8.63	23.338		
1,900.00	1,876.72	1,888.62	1,882.62	6.60	4.00	153.63	-68.62	-117.82	213.26	204.00	9.26	23.028		
2,000.00	1,975.48	1,990.01	1,983.49	7.01	4.25	147.30	-74.86	-125.93	223.70	213.84	9.86	22.680		
2,100.00	2,073.95	2,085.09	2,078.10	7.44	4.48	149.11	-80.68	-133.31	235.39	224.93	10.45	22.515		
2,200.00	2,172.63	2,183.40	2,175.91	7.87	4.72	150.75	-85.10	-142.22	248.39	237.32	11.07	22.433		
2,300.00	2,271.42	2,284.22	2,276.20	8.29	4.97	148.53	-90.19	-151.18	260.22	248.52	11.69	22.254		
2,400.00	2,369.98	2,385.64	2,377.10	8.73	5.22	149.55	-95.85	-159.72	272.56	260.25	12.31	22.144		
2,500.00	2,468.44	2,479.32	2,470.29	9.19	5.45	149.65	-100.77	-167.89	285.97	273.05	12.92	22.127		
2,600.00	2,566.71	2,578.07	2,568.51	9.65	5.70	143.53	-105.00	-177.31	300.93	287.36	13.56	22.186		
2,700.00	2,664.99	2,678.71	2,668.55	10.10	5.96	142.70	-109.75	-187.09	314.91	300.70	14.21	22.163		
2,800.00	2,763.42	2,777.84	2,767.06	10.55	6.22	144.43	-114.79	-197.03	328.08	313.23	14.85	22.092		
2,900.00	2,861.97	2,879.07	2,867.63	11.00	6.48	146.09	-120.28	-207.16	340.72	325.22	15.50	21.983		
3,000.00	2,960.73	2,980.31	2,968.41	11.42	6.71	147.10	-125.60	-215.09	351.92	335.82	16.10	21.861		
3,100.00	3,059.68	3,079.21	3,066.96	11.83	6.94	147.38	-130.58	-221.73	361.94	345.26	16.68	21.694		
3,200.00	3,158.77	3,177.24	3,164.47	12.22	7.19	145.08	-135.80	-230.25	371.59	354.28	17.31	21.472		
3,300.00	3,258.07	3,277.65	3,264.28	12.60	7.45	140.56	-141.43	-239.65	379.29	361.36	17.93	21.151		
3,400.00	3,357.50	3,377.92	3,363.99	12.94	7.70	141.15	-147.09	-248.68	385.86	367.33	18.54	20.814		
3,500.00	3,457.26	3,478.82	3,464.37	13.25	7.95	136.71	-152.74	-257.20	389.54	370.42	19.13	20.367		
3,600.00	3,557.13	3,578.87	3,563.94	13.53	8.19	132.89	-158.42	-265.11	391.14	371.45	19.69	19.864		
3,700.00	3,657.09	3,672.77	3,657.41	13.77	8.42	96.26	-163.30	-272.73	391.59	371.36	20.23	19.358		
3,800.00	3,757.07	3,768.40	3,752.49	13.99	8.67	111.66	-167.14	-282.14	392.22	371.42	20.80	18.854		
3,900.00	3,857.07	3,868.45	3,851.98	14.21	8.92	137.76	-170.98	-291.99	394.40	373.01	21.39	18.440		
4,000.00	3,957.05	3,967.55	3,950.56	14.44	9.16	126.16	-174.72	-301.45	397.03	375.09	21.95	18.089		
4,100.00	4,057.04	4,067.04	4,049.55	14.66	9.40	-17.59	-178.22	-310.83	399.30	376.81	22.49	17.757		
4,200.00	4,157.04	4,166.57	4,148.58	14.87	9.65	9.86	-181.69	-320.09	400.67	377.64	23.03	17.396		
4,300.00	4,257.03	4,267.36	4,248.89	15.07	9.89	43.49	-185.21	-329.26	401.87	378.30	23.56	17.055		
4,400.00	4,357.02	4,367.60	4,348.71	15.29	10.12	43.68	-188.64	-337.82	402.67	378.58	24.09	16.717		
4,500.00	4,457.00	4,466.47	4,447.18	15.51	10.35	52.58	-191.81	-346.02	403.86	379.25	24.61	16.412		
4,600.00	4,556.99	4,572.35	4,552.61	15.72	10.61	-3.48	-196.16	-354.77	403.77	378.63	25.14	16.060		
4,696.12	4,653.08	4,666.02	4,645.72	15.92	10.86	-25.57	-201.36	-363.59	403.26	377.59	25.67	15.708		
4,700.00	4,656.96	4,669.93	4,649.60	15.93	10.87	-26.51	-201.59	-363.99	403.14	377.44	25.69	15.691		
4,800.00	4,756.92	4,768.99	4,748.00	16.13	11.13	-82.65	-207.30	-373.84	404.16	377.92	26.24	15.405		
4,900.00	4,856.86	4,867.10	4,845.54	16.32	11.38	-94.23	-212.34	-383.18	406.42	379.68	26.74	15.199		

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

Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3D-9H-N267 - Hz - SURVEYS													Offset Site Error:	0.00 ft
Survey Program: 140-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,000.00	4,956.84	4,967.85	4,945.80	16.54	11.62	-135.68	-216.88	-391.99	410.10	382.87	27.24	15.058		
5,100.00	5,056.82	5,071.92	5,049.45	16.77	11.86	-150.12	-221.47	-400.01	413.74	386.01	27.74	14.918		
5,200.00	5,156.82	5,176.20	5,153.23	17.01	12.12	-141.54	-228.09	-407.90	415.75	387.50	28.25	14.718		
5,300.00	5,256.82	5,276.43	5,252.97	17.25	12.36	-111.45	-234.84	-415.11	417.16	388.41	28.75	14.511		
5,400.00	5,356.81	5,368.10	5,344.12	17.48	12.60	-37.57	-241.21	-422.42	418.56	389.34	29.22	14.324		
5,500.00	5,456.81	5,461.42	5,436.92	17.72	12.83	-13.79	-245.58	-431.20	422.07	392.38	29.68	14.219		
5,600.00	5,556.80	5,562.86	5,537.86	17.96	13.07	-10.78	-249.78	-440.39	425.17	395.02	30.15	14.101		
5,700.00	5,656.79	5,661.61	5,636.17	18.20	13.32	-97.03	-253.70	-448.83	428.64	398.01	30.63	13.994		
5,800.00	5,756.79	5,762.75	5,736.73	18.44	13.57	-68.19	-258.66	-458.43	433.69	402.59	31.09	13.947		
5,900.00	5,856.78	5,866.43	5,839.95	18.68	13.81	-106.82	-263.40	-466.94	437.87	406.31	31.55	13.878		
6,000.00	5,956.78	5,972.85	5,945.97	18.93	14.06	-121.97	-268.77	-474.45	441.54	409.52	32.02	13.791		
6,100.00	6,056.77	6,062.70	6,035.35	19.17	14.30	-82.95	-274.46	-481.64	445.30	412.85	32.46	13.720		
6,200.00	6,156.77	6,164.85	6,136.90	19.42	14.55	-134.39	-280.48	-490.82	450.39	417.48	32.90	13.689		
6,300.00	6,256.75	6,266.50	6,238.14	19.67	14.78	-166.57	-285.45	-498.48	456.45	423.12	33.33	13.694		
6,400.00	6,356.73	6,357.00	6,328.18	19.93	15.02	-178.48	-290.29	-506.12	463.07	429.29	33.77	13.711		
6,500.00	6,456.71	6,437.53	6,408.21	20.17	15.23	-169.37	-293.73	-514.31	472.28	438.12	34.16	13.826		
6,600.00	6,556.67	6,511.06	6,481.03	20.30	15.41	-69.17	-291.85	-524.23	485.25	450.87	34.38	14.114		
6,700.00	6,656.32	6,585.42	6,554.15	20.38	15.59	-63.32	-284.88	-535.70	499.86	465.36	34.50	14.489		
6,800.00	6,754.34	6,686.46	6,652.95	20.38	15.82	-64.12	-272.40	-552.78	512.05	477.65	34.40	14.885		
6,900.00	6,849.08	6,804.02	6,767.15	20.31	15.93	-65.70	-247.96	-564.50	516.31	482.31	34.00	15.186		
7,000.00	6,938.98	6,902.62	6,860.32	20.20	15.95	-67.18	-215.88	-567.56	514.34	480.86	33.48	15.362		
7,100.00	7,022.58	6,989.03	6,941.37	20.08	15.97	-69.68	-186.07	-570.17	508.78	475.75	33.03	15.402		
7,200.00	7,098.51	7,069.00	7,013.90	19.98	16.00	-72.51	-152.52	-572.73	502.81	470.08	32.73	15.363		
7,300.00	7,165.53	7,146.55	7,082.20	19.97	16.06	-75.86	-116.01	-576.48	497.98	465.29	32.69	15.235		
7,400.00	7,222.55	7,240.93	7,162.32	20.09	16.16	-80.49	-66.37	-581.11	494.31	461.32	32.99	14.984		
7,500.00	7,268.62	7,326.88	7,232.23	20.38	16.28	-85.21	-16.50	-583.90	491.69	458.10	33.59	14.637		
7,510.72	7,272.87	7,335.08	7,238.67	20.43	16.29	-85.66	-11.43	-584.19	491.66	457.85	33.82	14.539		
7,600.00	7,302.99	7,404.64	7,291.46	20.88	16.44	-89.51	33.74	-587.22	494.01	459.60	34.41	14.356		
7,700.00	7,325.12	7,488.81	7,350.70	21.59	16.70	-94.03	93.30	-592.01	502.60	467.19	35.41	14.196		
7,800.00	7,334.62	7,592.84	7,413.93	22.48	17.13	-99.22	175.62	-597.52	515.93	479.41	36.52	14.127		
7,900.00	7,334.78	7,726.49	7,475.93	23.55	17.86	-105.53	293.70	-601.18	530.07	492.32	37.75	14.042		
8,000.00	7,334.49	7,873.21	7,514.66	24.77	18.94	-109.62	434.85	-599.22	536.82	497.21	39.62	13.550		
8,100.00	7,334.19	7,981.05	7,524.75	26.13	19.92	-110.69	542.17	-598.38	539.39	497.43	41.96	12.854		
8,200.00	7,333.89	8,088.17	7,531.27	27.60	21.02	-111.38	649.09	-597.95	541.32	496.75	44.57	12.144		
8,300.00	7,333.60	8,206.73	7,536.57	29.17	22.34	-112.06	767.48	-594.95	540.71	493.22	47.49	11.385		
8,400.00	7,333.30	8,317.24	7,537.95	30.82	23.66	-112.41	877.89	-590.39	537.47	486.93	50.54	10.636		
8,500.00	7,333.00	8,413.31	7,536.69	32.54	24.88	-112.48	973.86	-586.21	533.08	479.50	53.58	9.949		
8,600.00	7,332.71	8,501.78	7,536.03	34.32	26.06	-112.52	1,062.30	-584.48	531.06	474.44	56.62	9.379		
8,700.00	7,332.41	8,602.88	7,535.73	36.16	27.45	-112.57	1,163.40	-583.15	529.84	469.94	59.90	8.845		
8,800.00	7,332.11	8,699.84	7,534.88	38.03	28.84	-112.58	1,260.34	-581.69	528.25	465.04	63.21	8.357		
8,841.06	7,331.99	8,736.13	7,534.31	38.82	29.37	-112.53	1,296.63	-581.71	528.07	463.41	64.65	8.168		
8,900.00	7,331.82	8,790.73	7,533.49	39.95	30.17	-112.44	1,351.22	-582.26	528.35	461.80	66.54	7.940		
9,000.00	7,331.52	8,885.20	7,533.70	41.89	31.58	-112.44	1,445.67	-583.45	529.70	459.78	69.92	7.575		
9,100.00	7,331.22	8,979.17	7,534.81	43.87	33.02	-112.50	1,539.62	-585.30	532.09	458.78	73.31	7.258		
9,200.00	7,330.93	9,086.46	7,535.70	45.87	34.67	-112.50	1,646.86	-588.33	535.19	458.23	76.96	6.954		
9,300.00	7,330.63	9,193.01	7,536.42	47.89	36.33	-112.60	1,753.41	-588.39	535.57	454.99	80.58	6.647		
9,400.00	7,330.33	9,294.01	7,536.21	49.93	37.92	-112.59	1,854.41	-588.82	536.00	451.81	84.19	6.366		
9,500.00	7,330.04	9,384.82	7,535.62	51.98	39.37	-112.52	1,945.21	-589.75	536.84	449.13	87.71	6.120		
9,600.00	7,329.74	9,486.51	7,535.31	54.05	41.01	-112.42	2,046.87	-592.14	539.01	447.57	91.44	5.895		
9,700.00	7,329.44	9,596.85	7,534.04	56.14	42.79	-112.28	2,157.19	-593.35	539.70	444.36	95.34	5.661		

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



Scientific Drilling International

Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3D-9H-N267 - Hz - SURVEYS													Offset Site Error:	0.00 ft
Survey Program: 140-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,791.80	7,329.17	9,690.02	7,533.14	58.06	44.30	-112.23	2,250.36	-593.15	539.29	440.50	98.79	5.459		
9,800.00	7,329.15	9,694.00	7,533.16	58.23	44.37	-112.23	2,254.34	-593.11	539.26	440.25	99.01	5.446		
9,900.00	7,328.85	9,788.00	7,532.83	60.34	45.91	-112.18	2,348.33	-594.10	540.20	437.55	102.65	5.263		
10,000.00	7,328.55	9,878.69	7,532.03	62.45	47.41	-112.02	2,438.96	-597.02	542.90	436.58	106.32	5.106		
10,100.00	7,328.26	9,967.20	7,531.94	64.58	48.89	-111.88	2,527.39	-600.83	546.98	437.01	109.96	4.974		
10,200.00	7,327.96	10,080.79	7,531.74	66.71	50.78	-111.71	2,640.88	-605.68	551.01	436.97	114.04	4.832		
10,300.00	7,327.66	10,179.96	7,531.12	68.85	52.44	-111.56	2,739.99	-608.79	553.80	435.91	117.89	4.698		
10,400.00	7,327.37	10,282.18	7,530.54	70.99	54.15	-111.42	2,842.17	-611.66	556.31	434.52	121.79	4.568		
10,500.00	7,327.07	10,377.69	7,530.22	73.14	55.76	-111.32	2,937.64	-614.45	559.02	433.43	125.58	4.451		
10,600.00	7,326.77	10,471.12	7,529.83	75.29	57.34	-111.16	3,030.98	-618.47	562.97	433.58	129.39	4.351		
10,700.00	7,326.48	10,576.85	7,529.23	77.46	59.13	-110.96	3,136.60	-623.13	567.00	433.57	133.43	4.249		
10,800.00	7,326.18	10,678.25	7,528.11	79.62	60.85	-110.77	3,237.95	-626.35	569.68	432.26	137.42	4.146		
10,900.00	7,325.88	10,762.02	7,526.96	81.79	62.28	-110.53	3,321.60	-630.51	573.98	432.81	141.16	4.066		
11,000.00	7,325.58	10,847.02	7,527.14	83.96	63.73	-110.33	3,406.31	-637.47	581.74	436.82	144.92	4.014		
11,100.00	7,325.29	10,971.67	7,528.25	86.14	65.86	-110.21	3,530.72	-645.04	587.78	438.53	149.26	3.938		
11,200.00	7,324.99	11,094.02	7,527.12	88.32	67.94	-110.02	3,653.00	-648.55	590.30	436.67	153.63	3.842		
11,300.00	7,324.69	11,200.89	7,525.89	90.50	69.75	-109.94	3,759.87	-648.46	589.92	432.25	157.67	3.742		
11,309.43	7,324.67	11,206.00	7,525.81	90.70	69.84	-109.94	3,764.97	-648.44	589.86	431.75	158.11	3.731		
11,400.00	7,324.40	11,206.00	7,525.81	92.68	69.84	-109.94	3,764.97	-648.44	596.78	436.78	160.00	3.730 SF		
11,500.00	7,324.10	11,206.00	7,525.81	94.87	69.84	-109.94	3,764.97	-648.44	619.88	457.64	162.25	3.821		
11,600.00	7,323.80	11,206.00	7,525.81	96.91	69.84	-109.64	3,764.97	-648.44	656.36	491.38	164.98	3.978		
11,700.00	7,323.47	11,206.00	7,525.81	98.84	69.84	-109.49	3,764.97	-648.44	702.18	534.92	167.26	4.198		
11,800.00	7,323.13	11,206.00	7,525.81	101.06	69.84	-109.48	3,764.97	-648.44	758.29	588.69	169.61	4.471		
11,900.00	7,322.80	11,206.00	7,525.81	103.28	69.84	-109.48	3,764.97	-648.44	822.77	650.82	171.95	4.785		



Scientific Drilling International

Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3E-9H-N267 - Hz - Hz													Offset Site Error:	0.00 ft
Survey Program: 336-SDI MWD, 902-SDI MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
6,469.00	6,425.73	6,469.00	6,425.71	0.00	0.00	61.41	-505.15	-95.42	0.53	0.53	0.00	6,283.479		
6,500.00	6,456.71	6,500.00	6,456.71	0.08	0.09	75.66	-505.73	-94.98	0.22	0.05	0.17	1.285	Level 3, CC, ES, SF	
6,600.00	6,556.67	6,599.94	6,556.63	0.23	0.37	175.27	-507.19	-94.14	3.88	3.27	0.60	6.426		
6,700.00	6,656.32	6,700.70	6,657.33	0.37	0.65	-178.49	-505.63	-94.21	10.42	9.40	1.02	10.237		
6,800.00	6,754.34	6,802.33	6,756.78	0.51	0.90	-155.96	-485.77	-98.51	11.22	9.91	1.32	8.526		
6,900.00	6,849.08	6,903.20	6,853.16	0.63	1.10	-150.51	-456.22	-101.20	14.78	13.26	1.52	9.707		
7,000.00	6,938.98	7,004.78	6,946.84	0.75	1.29	-149.19	-417.31	-105.03	21.71	19.99	1.72	12.613		
7,100.00	7,022.58	7,108.37	7,035.66	0.91	1.44	-147.27	-364.35	-108.60	27.13	25.18	1.95	13.889		
7,200.00	7,098.51	7,211.99	7,115.23	1.14	1.60	-147.79	-298.10	-109.15	28.54	26.17	2.37	12.044		
7,300.00	7,165.53	7,315.49	7,184.06	1.46	1.90	-145.70	-220.98	-109.96	28.43	25.41	3.02	9.407		
7,400.00	7,222.55	7,418.94	7,240.49	1.92	2.69	-140.26	-134.38	-110.96	26.65	22.61	4.03	6.607		
7,500.00	7,268.62	7,521.75	7,282.95	2.66	5.12	-131.98	-40.88	-110.79	22.70	16.91	5.79	3.919		
7,600.00	7,302.99	7,623.15	7,307.99	4.92	6.28	-106.95	57.24	-110.39	17.22	12.31	4.90	3.511		
7,642.78	7,313.98	7,665.69	7,314.23	5.33	6.64	-90.90	99.32	-110.34	16.41	14.01	2.39	6.853		
7,700.00	7,325.12	7,722.48	7,319.72	5.88	7.09	-72.10	155.83	-110.61	17.53	16.18	1.35	12.958		
7,733.23	7,329.69	7,755.57	7,322.22	6.13	7.34	-66.14	188.83	-110.81	18.45	15.17	3.28	5.623		
7,800.00	7,334.62	7,784.00	7,324.09	6.64	7.55	-61.26	217.20	-110.98	42.76	36.91	5.84	7.318		
7,900.00	7,334.78	7,784.00	7,324.09	7.36	7.55	-56.92	217.20	-110.98	139.23	131.46	7.76	17.931		
8,000.00	7,334.49	7,784.00	7,324.09	8.13	7.55	-56.92	217.20	-110.98	238.60	229.60	9.00	26.508		
8,100.00	7,334.19	7,784.00	7,324.09	9.00	7.55	-56.92	217.20	-110.98	338.35	328.00	10.35	32.696		
8,200.00	7,333.89	7,784.00	7,324.09	9.98	7.55	-56.92	217.20	-110.98	438.21	426.42	11.79	37.163		
8,300.00	7,333.60	7,784.00	7,324.09	11.11	7.55	-56.92	217.20	-110.98	538.12	524.80	13.32	40.407		
8,400.00	7,333.30	7,784.00	7,324.09	12.38	7.55	-56.92	217.20	-110.98	638.06	623.14	14.91	42.784		
8,500.00	7,333.00	7,784.00	7,324.09	13.80	7.55	-56.92	217.20	-110.98	738.01	721.45	16.57	44.541		
8,600.00	7,332.71	7,784.00	7,324.09	15.33	7.55	-56.92	217.20	-110.98	837.98	819.70	18.28	45.848		



Scientific Drilling International

Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3F-9H-N267 - Hz - Plan 5													Offset Site Error:	0.00 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.50	0.50	0.00	0.00	89.89	0.02	11.18	11.18					
100.00	99.99	100.49	100.49	0.09	0.12	-115.15	0.02	11.18	11.57	11.36	0.22	53.646		
200.00	199.95	200.45	200.45	0.22	0.30	-127.09	0.02	11.18	13.13	12.62	0.51	25.538		
300.00	299.82	300.52	300.50	0.36	0.47	-135.22	-1.73	11.37	15.99	15.18	0.81	19.716		
400.00	399.54	400.67	400.51	0.60	0.67	-130.25	-6.97	11.92	19.35	18.12	1.23	15.741		
500.00	498.86	500.86	500.31	0.90	0.90	-127.69	-15.68	12.83	23.34	21.62	1.72	13.581		
600.00	597.69	601.12	599.81	1.25	1.17	-128.14	-27.86	14.11	27.76	25.49	2.28	12.203		
700.00	696.11	701.49	698.93	1.64	1.49	-122.68	-43.52	15.76	31.48	28.57	2.91	10.814		
800.00	794.29	801.41	797.33	2.01	1.82	-129.87	-60.78	17.57	35.30	31.74	3.56	9.922		
900.00	892.24	901.26	895.67	2.45	2.15	-127.28	-78.02	19.38	40.74	36.49	4.25	9.588		
1,000.00	990.17	1,001.06	993.95	2.87	2.49	-134.35	-95.25	21.20	46.97	42.03	4.94	9.506		
1,100.00	1,088.28	1,100.82	1,092.20	3.25	2.83	-131.97	-112.48	23.01	53.58	47.92	5.65	9.476		
1,200.00	1,186.50	1,200.58	1,190.44	3.66	3.17	-130.80	-129.71	24.82	60.08	53.67	6.40	9.383		
1,300.00	1,284.70	1,300.34	1,288.69	4.09	3.52	-127.87	-146.94	26.63	66.74	59.56	7.18	9.294		
1,400.00	1,383.13	1,400.18	1,387.01	4.53	3.86	-122.53	-164.18	28.44	71.98	64.01	7.97	9.029		
1,500.00	1,481.65	1,500.06	1,485.37	4.95	4.21	-119.31	-181.43	30.25	76.35	67.60	8.76	8.717		
1,600.00	1,580.34	1,599.96	1,583.75	5.37	4.56	-115.61	-198.68	32.07	79.98	70.43	9.56	8.370		
1,700.00	1,679.19	1,699.88	1,682.15	5.77	4.90	-109.59	-215.94	33.88	82.54	72.17	10.36	7.965		
1,800.00	1,777.90	1,799.84	1,780.59	6.19	5.25	-105.46	-233.20	35.69	84.52	73.36	11.16	7.577		
1,900.00	1,876.72	1,899.79	1,879.02	6.60	5.60	-109.48	-250.46	37.51	86.36	74.42	11.95	7.229		
2,000.00	1,975.48	1,999.65	1,977.37	7.01	5.95	-113.38	-267.71	39.32	90.60	77.86	12.74	7.113		
2,100.00	2,073.95	2,099.50	2,075.70	7.44	6.29	-110.81	-284.95	41.13	95.98	82.45	13.53	7.095		
2,200.00	2,172.63	2,199.39	2,174.08	7.87	6.64	-107.68	-302.20	42.95	100.21	85.88	14.33	6.994		
2,300.00	2,271.42	2,299.27	2,272.44	8.29	6.99	-107.79	-319.45	44.76	104.17	89.05	15.12	6.890		
2,400.00	2,369.98	2,399.16	2,370.81	8.73	7.34	-105.85	-336.70	46.57	108.78	92.87	15.91	6.837		
2,500.00	2,468.44	2,499.06	2,469.19	9.19	7.69	-105.23	-353.96	48.39	113.25	96.53	16.72	6.775		
2,600.00	2,566.71	2,598.90	2,567.51	9.65	8.03	-111.14	-371.20	50.20	118.93	101.42	17.51	6.793		
2,700.00	2,664.99	2,698.67	2,665.77	10.10	8.38	-112.07	-388.43	52.01	125.63	107.33	18.30	6.865		
2,800.00	2,763.42	2,798.47	2,764.05	10.55	8.73	-109.86	-405.66	53.82	131.87	112.77	19.10	6.903		
2,900.00	2,861.97	2,898.31	2,862.38	11.00	9.08	-107.45	-422.90	55.63	137.33	117.43	19.91	6.899		
3,000.00	2,960.73	2,998.17	2,960.72	11.42	9.43	-105.48	-440.15	57.45	142.02	121.32	20.70	6.862		
3,100.00	3,059.68	3,098.02	3,059.06	11.83	9.78	-103.87	-457.39	59.26	146.31	124.83	21.48	6.812		
3,200.00	3,158.77	3,197.85	3,157.36	12.22	10.13	-104.14	-474.63	61.07	150.42	128.19	22.23	6.765		
3,300.00	3,258.07	3,298.10	3,256.37	12.60	10.43	-106.51	-490.30	62.72	155.10	132.19	22.91	6.769		
3,400.00	3,357.50	3,398.59	3,356.10	12.94	10.68	-104.75	-502.54	64.00	159.35	135.83	23.52	6.776		
3,500.00	3,457.26	3,499.21	3,456.33	13.25	10.88	-107.74	-511.29	64.92	162.16	138.13	24.03	6.749		
3,600.00	3,557.13	3,599.92	3,556.89	13.53	11.03	-110.58	-516.55	65.48	164.64	140.19	24.45	6.734		
3,700.00	3,657.09	3,700.64	3,657.59	13.77	11.13	-146.46	-518.29	65.66	166.10	141.30	24.79	6.699		
3,800.00	3,757.07	3,800.62	3,757.57	13.99	11.23	-129.98	-518.29	65.66	167.50	142.38	25.12	6.669		
3,900.00	3,857.07	3,900.62	3,857.57	14.21	11.33	-102.92	-518.29	65.66	167.89	142.45	25.44	6.599		
4,000.00	3,957.05	4,000.60	3,957.55	14.44	11.44	-113.83	-518.29	65.66	168.43	142.66	25.77	6.536		
4,100.00	4,057.04	4,100.59	4,057.54	14.66	11.54	103.40	-518.29	65.66	168.96	142.87	26.09	6.475		
4,200.00	4,157.04	4,200.59	4,157.54	14.87	11.65	132.45	-518.29	65.66	169.18	142.77	26.41	6.405		
4,300.00	4,257.03	4,300.58	4,257.53	15.07	11.76	167.52	-518.29	65.66	170.18	143.45	26.73	6.367		
4,400.00	4,357.02	4,400.57	4,357.52	15.29	11.87	168.94	-518.29	65.66	171.83	144.77	27.06	6.351		
4,500.00	4,457.00	4,500.55	4,457.50	15.51	11.99	178.88	-518.29	65.66	173.56	146.17	27.39	6.337		
4,600.00	4,556.99	4,600.54	4,557.49	15.72	12.10	124.47	-518.29	65.66	174.98	147.26	27.72	6.313		
4,700.00	4,656.96	4,700.51	4,657.46	15.93	12.22	103.53	-518.29	65.66	176.18	148.14	28.04	6.283		
4,800.00	4,756.92	4,800.47	4,757.42	16.13	12.33	50.15	-518.29	65.66	174.86	146.51	28.35	6.168		
4,900.00	4,856.86	4,900.41	4,857.36	16.32	12.45	41.35	-518.29	65.66	172.60	143.93	28.67	6.021		
5,000.00	4,956.84	5,000.39	4,957.34	16.54	12.57	1.79	-518.29	65.66	170.61	141.60	29.01	5.881		

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



Scientific Drilling International

Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3F-9H-N267 - Hz - Plan 5													Offset Site Error:	0.00 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,056.82	5,100.37	5,057.32	16.77	12.69	-11.39	-518.29	65.66	169.16	139.79	29.37	5.760		
5,200.00	5,156.82	5,200.37	5,157.32	17.01	12.81	-1.32	-518.29	65.66	168.06	138.33	29.73	5.653		
5,300.00	5,256.82	5,300.37	5,257.32	17.25	12.94	30.21	-518.29	65.66	167.31	137.22	30.10	5.559		
5,372.86	5,329.68	5,373.23	5,330.18	17.42	13.03	89.90	-518.29	65.66	167.16	136.79	30.36	5.505		
5,400.00	5,356.81	5,400.36	5,357.31	17.48	13.06	105.62	-518.29	65.66	167.20	136.74	30.46	5.489		
5,500.00	5,456.81	5,500.36	5,457.31	17.72	13.19	130.90	-518.29	65.66	167.67	136.85	30.82	5.440		
5,600.00	5,556.80	5,600.35	5,557.30	17.96	13.31	135.54	-518.29	65.66	168.74	137.56	31.18	5.411		
5,700.00	5,656.79	5,700.34	5,657.29	18.20	13.44	50.81	-518.29	65.66	169.28	137.73	31.55	5.366		
5,800.00	5,756.79	5,800.34	5,757.29	18.44	13.57	81.25	-518.29	65.66	168.74	136.82	31.92	5.287		
5,900.00	5,856.78	5,900.33	5,857.28	18.68	13.70	44.05	-518.29	65.66	168.47	136.18	32.29	5.217		
6,000.00	5,956.78	6,000.33	5,957.28	18.93	13.83	30.35	-518.29	65.66	167.60	134.93	32.66	5.131		
6,100.00	6,056.77	6,100.32	6,057.27	19.17	13.96	70.83	-518.29	65.66	166.98	133.94	33.04	5.053		
6,200.00	6,156.77	6,200.32	6,157.27	19.42	14.10	20.95	-518.29	65.66	166.37	132.95	33.42	4.978		
6,300.00	6,256.75	6,300.30	6,257.25	19.67	14.23	-10.16	-518.29	65.66	164.39	130.58	33.80	4.863		
6,400.00	6,356.73	6,400.28	6,357.23	19.93	14.37	-21.10	-518.29	65.66	162.70	128.49	34.21	4.757		
6,500.00	6,456.71	6,500.26	6,457.21	20.17	14.50	-11.64	-518.29	65.66	161.14	126.55	34.59	4.658		
6,600.00	6,556.67	6,600.22	6,557.17	20.30	14.64	89.62	-518.29	65.66	160.44	125.59	34.84	4.604		
6,602.24	6,558.91	6,602.46	6,559.41	20.30	14.64	90.00	-518.29	65.66	160.43	125.59	34.85	4.604		
6,700.00	6,656.32	6,699.87	6,656.82	20.38	14.77	98.14	-518.29	65.66	161.25	126.24	35.01	4.606		
6,800.00	6,754.34	6,797.89	6,754.84	20.38	14.91	104.42	-518.29	65.66	165.15	130.24	34.91	4.731		
6,900.00	6,849.08	6,896.82	6,853.74	20.31	15.02	113.46	-517.13	65.66	175.60	141.34	34.26	5.125		
7,000.00	6,938.98	7,005.27	6,961.14	20.20	14.99	122.01	-502.80	65.66	190.86	157.87	32.99	5.785		
7,100.00	7,022.58	7,120.21	7,071.21	20.08	14.79	128.83	-470.11	65.66	208.04	176.69	31.35	6.636		
7,200.00	7,098.51	7,241.87	7,180.42	19.98	14.46	134.04	-416.83	65.66	225.03	195.50	29.53	7.621		
7,300.00	7,165.53	7,370.04	7,283.97	19.97	14.05	137.85	-341.59	65.66	240.04	212.30	27.73	8.656		
7,400.00	7,222.55	7,503.90	7,376.00	20.09	13.66	140.42	-244.65	65.66	251.62	225.41	26.21	9.601		
7,500.00	7,268.62	7,641.96	7,450.34	20.38	13.45	141.86	-128.57	65.66	258.69	233.47	25.22	10.257		
7,600.00	7,302.99	7,782.11	7,501.63	20.88	13.57	142.23	1.62	65.66	260.60	235.57	25.03	10.412		
7,700.00	7,325.12	7,921.90	7,526.58	21.59	14.10	141.56	138.94	65.66	257.16	231.35	25.82	9.961		
7,800.00	7,334.62	8,038.00	7,529.00	22.48	14.85	140.53	254.97	65.66	251.12	223.83	27.28	9.204		
7,844.08	7,335.67	8,082.07	7,529.00	22.95	15.19	140.38	299.04	65.66	250.31	222.36	27.95	8.955		
7,900.00	7,334.78	8,138.00	7,529.00	23.55	15.67	140.52	354.97	65.66	250.99	222.26	28.73	8.737		
8,000.00	7,334.49	8,238.00	7,529.00	24.77	16.63	140.56	454.97	65.66	251.22	220.88	30.34	8.280		
8,100.00	7,334.19	8,333.57	7,529.00	26.13	17.66	140.47	550.53	66.39	251.95	219.83	32.12	7.843		
8,200.00	7,333.89	8,430.91	7,529.00	27.60	18.82	139.82	647.79	70.39	254.81	220.51	34.29	7.430		
8,300.00	7,333.60	8,530.81	7,529.00	29.17	20.08	139.12	747.60	74.75	257.87	221.22	36.65	7.037		
8,400.00	7,333.30	8,630.72	7,529.00	30.82	21.42	138.44	847.41	79.11	260.97	221.85	39.12	6.670		
8,500.00	7,333.00	8,730.62	7,529.00	32.54	22.81	137.77	947.22	83.46	264.10	222.39	41.71	6.331		
8,600.00	7,332.71	8,830.53	7,529.00	34.32	24.24	137.13	1,047.03	87.82	267.27	222.87	44.41	6.019		
8,700.00	7,332.41	8,930.43	7,529.00	36.16	25.72	136.49	1,146.84	92.18	270.48	223.28	47.19	5.731		
8,800.00	7,332.11	9,030.34	7,529.00	38.03	27.23	135.87	1,246.65	96.54	273.71	223.65	50.06	5.467		
8,900.00	7,331.82	9,130.24	7,529.00	39.95	28.77	135.27	1,346.46	100.90	276.98	223.97	53.01	5.225		
9,000.00	7,331.52	9,230.15	7,529.00	41.89	30.33	134.68	1,446.26	105.25	280.27	224.25	56.02	5.003		
9,100.00	7,331.22	9,330.05	7,529.00	43.87	31.91	134.10	1,546.07	109.61	283.60	224.50	59.10	4.798		
9,200.00	7,330.93	9,429.95	7,529.00	45.87	33.51	133.54	1,645.88	113.97	286.95	224.71	62.24	4.610		
9,300.00	7,330.63	9,529.86	7,529.00	47.89	35.12	132.99	1,745.69	118.33	290.34	224.90	65.44	4.437		
9,400.00	7,330.33	9,629.76	7,529.00	49.93	36.75	132.45	1,845.50	122.68	293.74	225.06	68.68	4.277		
9,500.00	7,330.04	9,729.67	7,529.00	51.98	38.39	131.92	1,945.31	127.04	297.18	225.21	71.97	4.129		
9,600.00	7,329.74	9,829.57	7,529.00	54.05	40.04	131.41	2,045.12	131.40	300.63	225.33	75.30	3.992		
9,700.00	7,329.44	9,929.48	7,529.00	56.14	41.69	130.91	2,144.93	135.76	304.11	225.44	78.67	3.866		

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



Scientific Drilling International

Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3F-9H-N267 - Hz - Plan 5													Offset Site Error:	0.00 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,800.00	7,329.15	10,029.38	7,529.00	58.23	43.36	130.42	2,244.74	140.12	307.62	225.53	82.08	3.748		
9,900.00	7,328.85	10,129.28	7,529.00	60.34	45.03	129.94	2,344.55	144.47	311.14	225.61	85.53	3.638		
10,000.00	7,328.55	10,229.19	7,529.00	62.45	46.70	129.47	2,444.36	148.83	314.69	225.68	89.00	3.536		
10,100.00	7,328.26	10,329.09	7,529.00	64.58	48.39	129.01	2,544.17	153.19	318.25	225.74	92.51	3.440		
10,200.00	7,327.96	10,436.05	7,529.00	66.71	50.19	128.68	2,651.06	156.59	320.93	224.90	96.03	3.342		
10,300.00	7,327.66	10,536.03	7,529.00	68.85	51.88	128.54	2,751.03	158.14	322.33	223.06	99.27	3.247		
10,400.00	7,327.37	10,636.02	7,529.00	70.99	53.58	128.41	2,851.01	159.70	323.73	221.20	102.53	3.157		
10,500.00	7,327.07	10,736.01	7,529.00	73.14	55.28	128.28	2,950.99	161.25	325.13	219.33	105.80	3.073		
10,600.00	7,326.77	10,836.00	7,529.00	75.29	56.98	128.16	3,050.96	162.81	326.54	217.45	109.09	2.993		
10,700.00	7,326.48	10,935.98	7,529.00	77.46	58.68	128.03	3,150.94	164.36	327.95	215.55	112.40	2.918		
10,800.00	7,326.18	11,035.97	7,529.00	79.62	60.39	127.90	3,250.91	165.92	329.36	213.64	115.71	2.846		
10,900.00	7,325.88	11,135.96	7,529.00	81.79	62.10	127.78	3,350.89	167.47	330.77	211.73	119.04	2.779		
11,000.00	7,325.58	11,235.95	7,529.00	83.96	63.81	127.65	3,450.86	169.03	332.18	209.80	122.38	2.714		
11,100.00	7,325.29	11,335.93	7,529.00	86.14	65.53	127.53	3,550.84	170.58	333.59	207.86	125.73	2.653		
11,200.00	7,324.99	11,435.92	7,529.00	88.32	67.25	127.41	3,650.81	172.14	335.01	205.91	129.09	2.595		
11,300.00	7,324.69	11,535.91	7,529.00	90.50	68.96	127.29	3,750.79	173.69	336.42	203.96	132.47	2.540		
11,400.00	7,324.40	11,635.90	7,529.00	92.68	70.68	127.17	3,850.76	175.25	337.84	201.99	135.85	2.487		
11,500.00	7,324.10	11,735.88	7,529.00	94.87	72.41	127.05	3,950.74	176.80	339.26	200.02	139.24	2.436		
11,600.00	7,323.80	11,835.83	7,529.00	96.91	74.13	126.82	4,050.67	178.36	341.81	199.30	142.51	2.398		
11,700.00	7,323.47	11,935.60	7,529.00	98.84	75.85	126.22	4,150.43	179.91	347.47	201.16	146.30	2.375		
11,800.00	7,323.13	12,035.35	7,529.00	101.06	77.57	125.59	4,250.17	181.46	353.38	202.86	150.52	2.348		
11,900.00	7,322.80	12,135.10	7,529.00	103.28	79.30	124.98	4,349.91	183.01	359.34	204.60	154.74	2.322		
12,000.00	7,322.46	12,234.85	7,529.00	105.50	81.02	124.39	4,449.64	184.56	365.34	206.38	158.96	2.298		
12,100.00	7,322.12	12,334.60	7,529.00	107.72	82.75	123.82	4,549.38	186.12	371.38	208.20	163.18	2.276		
12,200.00	7,321.78	12,434.35	7,529.00	109.94	84.47	123.26	4,649.12	187.67	377.45	210.06	167.40	2.255		
12,300.00	7,321.44	12,534.10	7,529.00	112.17	86.20	122.73	4,748.86	189.22	383.56	211.95	171.62	2.235		
12,400.00	7,321.10	12,633.85	7,529.00	114.40	87.93	122.21	4,848.60	190.77	389.70	213.87	175.83	2.216		
12,500.00	7,320.75	12,733.60	7,529.00	116.63	89.66	121.71	4,948.33	192.32	395.88	215.83	180.05	2.199		
12,600.00	7,320.40	12,833.35	7,529.00	118.86	91.39	121.22	5,048.07	193.87	402.08	217.82	184.26	2.182		
12,700.00	7,320.06	12,933.10	7,529.00	121.09	93.12	120.75	5,147.81	195.42	408.32	219.84	188.48	2.166		
12,715.98	7,320.00	12,947.23	7,529.00	121.45	93.37	120.68	5,161.94	195.64	409.32	220.21	189.11	2.164 SF		



Scientific Drilling International

Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3G-9H-N267 - Hz - Plan #2													Offset Site Error:	0.00 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.50	0.50	0.00	0.00	89.96	0.02	22.36	22.36					
100.00	99.99	100.49	100.49	0.09	0.12	-112.80	0.02	22.36	22.73	22.52	0.22	105.295		
200.00	199.95	200.45	200.45	0.22	0.30	-119.40	0.02	22.36	24.06	23.54	0.52	46.518		
300.00	299.82	300.32	300.32	0.36	0.47	-128.71	0.02	22.36	26.88	26.06	0.81	33.098		
400.00	399.54	400.00	400.00	0.60	0.65	-133.06	0.02	22.36	31.84	30.64	1.20	26.512		
500.00	498.86	499.30	499.29	0.90	0.82	-139.38	-0.58	22.98	40.35	38.73	1.62	24.919		
600.00	597.69	598.32	598.28	1.25	1.00	-146.01	-2.37	24.83	52.57	50.52	2.05	25.614		
700.00	696.11	697.24	697.11	1.64	1.18	-145.48	-5.34	27.91	66.88	64.38	2.50	26.738		
800.00	794.29	796.18	795.86	2.01	1.37	-156.08	-9.49	32.21	82.42	79.48	2.95	27.971		
900.00	892.24	895.05	894.44	2.45	1.58	-154.07	-14.83	37.74	99.24	95.80	3.44	28.834		
1,000.00	990.17	993.94	992.87	2.87	1.80	-161.18	-21.35	44.49	116.22	112.25	3.96	29.327		
1,100.00	1,088.28	1,092.85	1,091.16	3.25	2.04	-158.95	-29.05	52.46	132.57	128.05	4.52	29.338		
1,200.00	1,186.50	1,191.71	1,189.19	3.66	2.30	-157.64	-37.92	61.65	148.47	143.34	5.13	28.962		
1,300.00	1,284.70	1,290.23	1,286.76	4.09	2.56	-154.16	-47.44	71.51	164.60	158.82	5.78	28.496		
1,400.00	1,383.13	1,388.98	1,384.54	4.53	2.84	-148.81	-56.99	81.39	179.41	172.97	6.44	27.857		
1,500.00	1,481.65	1,487.87	1,482.47	4.95	3.12	-145.75	-66.55	91.29	193.54	186.44	7.11	27.238		
1,600.00	1,580.34	1,586.89	1,580.53	5.37	3.40	-142.71	-76.12	101.21	206.73	198.96	7.78	26.589		
1,700.00	1,679.19	1,686.08	1,678.75	5.77	3.68	-137.68	-85.71	111.14	218.72	210.27	8.45	25.883		
1,800.00	1,777.90	1,785.31	1,777.02	6.19	3.97	-134.11	-95.30	121.07	230.74	221.61	9.13	25.274		
1,900.00	1,876.72	1,884.59	1,875.34	6.60	4.26	-139.18	-104.90	131.01	242.28	232.49	9.80	24.730		
2,000.00	1,975.48	1,983.59	1,973.37	7.01	4.55	-143.92	-114.47	140.92	255.70	245.24	10.46	24.442		
2,100.00	2,073.95	2,082.38	2,071.19	7.44	4.84	-141.34	-124.02	150.81	270.84	259.69	11.15	24.295		
2,200.00	2,172.63	2,181.37	2,169.22	7.87	5.13	-138.70	-133.59	160.72	284.60	272.76	11.84	24.035		
2,300.00	2,271.42	2,280.43	2,267.32	8.29	5.42	-139.55	-143.17	170.64	297.77	285.25	12.52	23.786		
2,400.00	2,369.98	2,379.35	2,365.27	8.73	5.71	-137.69	-152.73	180.54	312.19	298.98	13.21	23.638		
2,500.00	2,468.44	2,478.25	2,463.21	9.19	6.00	-136.97	-162.30	190.44	326.83	312.92	13.91	23.502		
2,600.00	2,566.71	2,576.94	2,560.94	9.65	6.30	-142.54	-171.84	200.32	342.86	328.28	14.58	23.513		
2,700.00	2,664.99	2,675.49	2,658.54	10.10	6.59	-143.17	-181.36	210.19	359.58	344.30	15.28	23.534		
2,800.00	2,763.42	2,774.17	2,756.25	10.55	6.88	-140.88	-190.90	220.07	375.54	359.56	15.98	23.503		
2,900.00	2,861.97	2,872.98	2,854.10	11.00	7.17	-138.61	-200.46	229.96	390.63	373.95	16.68	23.417		
3,000.00	2,960.73	2,971.96	2,952.12	11.42	7.47	-137.16	-210.03	239.87	404.52	387.14	17.38	23.280		
3,100.00	3,059.68	3,071.05	3,050.24	11.83	7.76	-136.39	-219.61	249.79	417.43	399.37	18.06	23.114		
3,200.00	3,158.77	3,170.20	3,148.43	12.22	8.06	-137.77	-229.19	259.72	429.63	410.90	18.73	22.937		
3,300.00	3,258.07	3,269.33	3,246.59	12.60	8.35	-141.04	-238.78	269.64	441.33	421.93	19.39	22.759		
3,400.00	3,357.50	3,368.48	3,344.78	12.94	8.65	-139.15	-248.36	279.57	452.33	432.29	20.04	22.567		
3,500.00	3,457.26	3,467.73	3,443.06	13.25	8.94	-141.78	-257.96	289.50	460.64	439.96	20.67	22.284		
3,600.00	3,557.13	3,566.88	3,541.25	13.53	9.24	-143.51	-267.54	299.43	468.10	446.83	21.27	22.004		
3,700.00	3,657.09	3,665.97	3,639.38	13.77	9.54	-177.76	-277.12	309.35	474.11	452.26	21.85	21.699		
3,800.00	3,757.07	3,764.90	3,737.34	13.99	9.83	-159.46	-286.69	319.25	479.62	457.21	22.41	21.404		
3,900.00	3,857.07	3,863.99	3,835.47	14.21	10.13	-130.49	-296.27	329.17	484.96	462.00	22.96	21.123		
4,000.00	3,957.05	3,963.12	3,933.63	14.44	10.42	-139.44	-305.85	339.10	490.92	467.42	23.50	20.888		
4,100.00	4,057.04	4,062.17	4,031.71	14.66	10.72	79.46	-315.42	349.01	496.80	472.77	24.03	20.678		
4,200.00	4,157.04	4,161.11	4,129.70	14.87	11.01	109.84	-324.99	358.92	502.14	477.60	24.54	20.461		
4,300.00	4,257.03	4,259.99	4,227.62	15.07	11.31	146.26	-334.55	368.82	508.62	483.58	25.04	20.310		
4,400.00	4,357.02	4,358.80	4,325.47	15.29	11.60	149.06	-344.10	378.71	516.08	490.55	25.53	20.213		
4,500.00	4,457.00	4,457.64	4,423.34	15.51	11.90	160.42	-353.66	388.61	524.06	498.04	26.02	20.144		
4,600.00	4,556.99	4,556.40	4,521.14	15.72	12.20	107.06	-363.21	398.49	531.75	505.27	26.48	20.079		
4,700.00	4,656.96	4,655.11	4,618.89	15.93	12.49	87.05	-372.75	408.38	539.38	512.45	26.93	20.029		
4,800.00	4,756.92	4,754.00	4,716.82	16.13	12.79	34.31	-382.31	418.28	544.73	517.39	27.35	19.919		
4,900.00	4,856.86	4,852.96	4,814.82	16.32	13.08	26.10	-391.88	428.18	549.48	521.69	27.79	19.776		
5,000.00	4,956.84	4,952.10	4,912.99	16.54	13.38	-12.44	-401.46	438.11	555.22	526.98	28.24	19.664		

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



Scientific Drilling International

Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3G-9H-N267 - Hz - Plan #2													Offset Site Error: 0.00 ft	
Survey Program: 0-Geolink MWD													Offset Well Error: 0.00 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,056.82	5,051.30	5,011.22	16.77	13.68	-24.42	-411.05	448.04	561.97	533.28	28.69	19.585		
5,200.00	5,156.82	5,150.44	5,109.40	17.01	13.97	-13.25	-420.64	457.96	569.23	540.08	29.15	19.530		
5,300.00	5,256.82	5,249.54	5,207.53	17.25	14.27	19.34	-430.22	467.88	577.02	547.43	29.59	19.500		
5,400.00	5,356.81	5,348.53	5,305.56	17.48	14.57	95.68	-439.79	477.80	585.56	555.53	30.02	19.503		
5,500.00	5,456.81	5,447.44	5,403.51	17.72	14.86	121.80	-449.35	487.70	594.84	564.39	30.45	19.536		
5,600.00	5,556.80	5,546.24	5,501.35	17.96	15.16	127.16	-458.90	497.59	604.87	574.01	30.86	19.601		
5,700.00	5,656.79	5,647.08	5,601.21	18.20	15.45	43.21	-468.61	507.64	614.57	583.30	31.27	19.656		
5,800.00	5,756.79	5,754.20	5,707.49	18.44	15.74	74.41	-477.92	517.29	622.53	590.85	31.68	19.650		
5,900.00	5,856.78	5,861.78	5,814.46	18.68	16.00	37.82	-485.89	525.54	629.60	597.52	32.09	19.621		
6,000.00	5,956.78	5,969.80	5,922.05	18.93	16.24	24.58	-492.49	532.37	634.85	602.36	32.49	19.539		
6,100.00	6,056.77	6,078.11	6,030.10	19.17	16.45	65.36	-497.68	537.75	639.07	606.18	32.89	19.430		
6,200.00	6,156.77	6,186.66	6,138.52	19.42	16.63	15.68	-501.47	541.67	642.00	608.71	33.29	19.287		
6,300.00	6,256.75	6,295.40	6,247.20	19.67	16.79	-15.20	-503.83	544.11	642.28	608.59	33.69	19.065		
6,400.00	6,356.73	6,404.17	6,355.96	19.93	16.92	-26.01	-504.75	545.07	641.50	607.40	34.10	18.812		
6,500.00	6,456.71	6,505.42	6,457.21	20.17	17.03	-16.25	-504.77	545.08	640.06	605.56	34.50	18.554		
6,600.00	6,556.67	6,605.38	6,557.17	20.30	17.15	84.40	-504.77	545.08	639.16	604.42	34.74	18.399		
6,660.60	6,617.10	6,665.81	6,617.60	20.34	17.22	89.43	-504.77	545.08	638.98	604.15	34.84	18.342		
6,700.00	6,656.32	6,705.03	6,656.82	20.38	17.27	90.84	-504.77	545.08	639.09	604.19	34.90	18.313		
6,800.00	6,754.34	6,804.15	6,755.93	20.38	17.38	92.50	-504.35	545.08	639.66	604.78	34.88	18.338		
6,900.00	6,849.08	6,909.36	6,860.12	20.31	17.34	94.23	-490.72	545.08	640.81	606.19	34.62	18.510		
7,000.00	6,938.98	7,019.00	6,964.11	20.20	17.16	95.45	-456.55	545.08	641.96	607.75	34.20	18.768		
7,100.00	7,022.58	7,131.58	7,062.13	20.08	16.86	96.09	-401.53	545.08	642.65	608.91	33.73	19.051		
7,200.00	7,098.51	7,245.19	7,148.23	19.98	16.51	96.08	-327.70	545.08	642.63	609.32	33.31	19.293		
7,300.00	7,165.53	7,357.71	7,217.51	19.97	16.21	95.42	-239.28	545.08	641.92	608.85	33.07	19.412		
7,400.00	7,222.55	7,467.22	7,267.12	20.09	16.04	94.18	-141.83	545.08	640.77	607.65	33.12	19.346		
7,500.00	7,268.62	7,572.28	7,296.48	20.38	16.04	92.44	-41.10	545.08	639.62	606.09	33.54	19.072		
7,600.00	7,302.99	7,672.05	7,306.91	20.88	16.24	90.29	57.99	545.08	639.02	604.71	34.31	18.625		
7,612.84	7,306.53	7,684.45	7,307.00	20.97	16.28	90.00	70.39	545.08	639.01	604.57	34.44	18.552		
7,700.00	7,325.12	7,769.56	7,307.00	21.59	16.60	88.35	155.50	545.07	639.28	603.81	35.47	18.024		
7,800.00	7,334.62	7,869.04	7,307.00	22.48	17.16	87.48	254.98	545.07	639.63	602.63	37.00	17.286		
7,900.00	7,334.78	7,969.03	7,307.00	23.55	17.87	87.47	354.97	545.07	639.64	600.74	38.89	16.445		
8,000.00	7,334.49	8,069.03	7,307.00	24.77	18.71	87.49	454.97	545.07	639.62	598.53	41.09	15.568		
8,100.00	7,334.19	8,169.03	7,307.00	26.13	19.68	87.52	554.97	545.07	639.61	596.07	43.54	14.691		
8,200.00	7,333.89	8,269.03	7,307.00	27.60	20.76	87.55	654.97	545.07	639.59	593.39	46.20	13.843		
8,300.00	7,333.60	8,369.03	7,307.00	29.17	21.92	87.57	754.97	545.07	639.58	590.53	49.05	13.039		
8,400.00	7,333.30	8,469.03	7,307.00	30.82	23.15	87.60	854.97	545.07	639.56	587.52	52.05	12.288		
8,500.00	7,333.00	8,569.03	7,307.00	32.54	24.45	87.63	954.97	545.06	639.55	584.38	55.17	11.592		
8,600.00	7,332.71	8,669.03	7,307.00	34.32	25.80	87.65	1,054.97	545.06	639.54	581.13	58.40	10.950		
8,700.00	7,332.41	8,769.03	7,307.00	36.16	27.20	87.68	1,154.97	545.06	639.52	577.80	61.72	10.361		
8,800.00	7,332.11	8,869.03	7,307.00	38.03	28.64	87.70	1,254.97	545.06	639.51	574.39	65.12	9.821		
8,900.00	7,331.82	8,969.03	7,307.00	39.95	30.11	87.73	1,354.97	545.06	639.50	570.92	68.58	9.325		
9,000.00	7,331.52	9,069.03	7,307.00	41.89	31.61	87.76	1,454.97	545.06	639.48	567.39	72.09	8.870		
9,100.00	7,331.22	9,169.03	7,307.00	43.87	33.13	87.78	1,554.97	545.06	639.47	563.82	75.66	8.452		
9,200.00	7,330.93	9,269.03	7,307.00	45.87	34.68	87.81	1,654.97	545.06	639.46	560.20	79.26	8.068		
9,300.00	7,330.63	9,369.03	7,307.00	47.89	36.24	87.84	1,754.97	545.05	639.45	556.55	82.90	7.714		
9,400.00	7,330.33	9,469.03	7,307.00	49.93	37.82	87.86	1,854.97	545.05	639.43	552.87	86.57	7.386		
9,500.00	7,330.04	9,569.03	7,307.00	51.98	39.42	87.89	1,954.97	545.05	639.42	549.16	90.27	7.084		
9,600.00	7,329.74	9,669.03	7,307.00	54.05	41.03	87.92	2,054.97	545.05	639.41	545.42	93.99	6.803		
9,700.00	7,329.44	9,769.03	7,307.00	56.14	42.65	87.94	2,154.97	545.05	639.40	541.67	97.73	6.542		
9,800.00	7,329.15	9,869.03	7,307.00	58.23	44.28	87.97	2,254.97	545.05	639.39	537.89	101.49	6.300		

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



Scientific Drilling International

Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3G-9H-N267 - Hz - Plan #2													Offset Site Error:	0.00 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,900.00	7,328.85	9,969.03	7,307.00	60.34	45.92	88.00	2,354.97	545.05	639.37	534.10	105.27	6.073		
10,000.00	7,328.55	10,069.03	7,307.00	62.45	47.57	88.02	2,454.97	545.04	639.36	530.29	109.07	5.862		
10,100.00	7,328.26	10,169.03	7,307.00	64.58	49.22	88.05	2,554.97	545.04	639.35	526.47	112.88	5.664		
10,200.00	7,327.96	10,269.02	7,307.00	66.71	50.89	88.08	2,654.96	545.04	639.34	522.64	116.70	5.479		
10,300.00	7,327.66	10,369.02	7,307.00	68.85	52.55	88.10	2,754.96	545.04	639.33	518.80	120.53	5.304		
10,400.00	7,327.37	10,469.02	7,307.00	70.99	54.23	88.13	2,854.96	545.04	639.32	514.94	124.37	5.140		
10,500.00	7,327.07	10,569.02	7,307.00	73.14	55.91	88.16	2,954.96	545.04	639.31	511.08	128.23	4.986		
10,600.00	7,326.77	10,669.02	7,307.00	75.29	57.59	88.18	3,054.96	545.04	639.30	507.21	132.09	4.840		
10,700.00	7,326.48	10,769.02	7,307.00	77.46	59.28	88.21	3,154.96	545.04	639.28	503.33	135.95	4.702		
10,800.00	7,326.18	10,869.02	7,307.00	79.62	60.97	88.24	3,254.96	545.03	639.27	499.45	139.83	4.572		
10,900.00	7,325.88	10,969.02	7,307.00	81.79	62.66	88.26	3,354.96	545.03	639.26	495.55	143.71	4.448		
11,000.00	7,325.58	11,069.02	7,307.00	83.96	64.36	88.29	3,454.96	545.03	639.25	491.65	147.60	4.331		
11,100.00	7,325.29	11,169.02	7,307.00	86.14	66.06	88.32	3,554.96	545.03	639.24	487.75	151.49	4.220		
11,200.00	7,324.99	11,269.02	7,307.00	88.32	67.76	88.34	3,654.96	545.03	639.23	483.84	155.39	4.114		
11,300.00	7,324.69	11,369.02	7,307.00	90.50	69.47	88.37	3,754.96	545.03	639.22	479.93	159.30	4.013		
11,400.00	7,324.40	11,469.02	7,307.00	92.68	71.17	88.40	3,854.96	545.03	639.21	476.01	163.20	3.917		
11,500.00	7,324.10	11,569.02	7,307.00	94.87	72.88	88.42	3,954.96	545.03	639.20	472.09	167.12	3.825		
11,500.25	7,324.10	11,569.27	7,307.00	94.88	72.89	88.42	3,955.21	545.03	639.20	472.08	167.13	3.825		
11,600.00	7,323.80	11,669.00	7,307.00	96.91	74.60	88.44	4,054.94	545.02	640.60	470.13	170.47	3.758		
11,700.00	7,323.47	11,768.86	7,307.00	98.84	76.31	88.48	4,154.80	545.02	645.83	471.95	173.88	3.714		
11,800.00	7,323.13	11,868.71	7,307.00	101.06	78.02	88.52	4,254.65	545.02	651.32	473.50	177.82	3.663		
11,900.00	7,322.80	11,968.56	7,307.00	103.28	79.74	88.57	4,354.50	545.02	656.81	475.05	181.77	3.614		
12,000.00	7,322.46	12,068.41	7,307.00	105.50	81.45	88.61	4,454.35	545.02	662.31	476.59	185.71	3.566		
12,100.00	7,322.12	12,168.25	7,307.00	107.72	83.17	88.65	4,554.19	545.02	667.80	478.14	189.66	3.521		
12,200.00	7,321.78	12,268.10	7,307.00	109.94	84.89	88.69	4,654.04	545.02	673.30	479.68	193.62	3.477		
12,300.00	7,321.44	12,367.95	7,307.00	112.17	86.61	88.73	4,753.89	545.01	678.79	481.22	197.57	3.436		
12,400.00	7,321.10	12,467.80	7,307.00	114.40	88.33	88.77	4,853.74	545.01	684.29	482.75	201.53	3.395		
12,500.00	7,320.75	12,567.64	7,307.00	116.63	90.06	88.80	4,953.58	545.01	689.78	484.29	205.49	3.357		
12,600.00	7,320.40	12,667.49	7,307.00	118.86	91.78	88.84	5,053.43	545.01	695.28	485.82	209.46	3.319		
12,700.00	7,320.06	12,767.34	7,307.00	121.09	93.50	88.88	5,153.28	545.01	700.78	487.35	213.42	3.284		
12,715.98	7,320.00	12,772.37	7,307.00	121.45	93.59	88.88	5,158.31	545.01	701.74	487.87	213.87	3.281 SF		



Scientific Drilling International
Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3H-9H-N267 - Hz - Plan #3													Offset Site Error:	0.00 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.50	0.50	0.00	0.00	89.98	0.01	30.75	30.75					
100.00	99.99	100.49	100.49	0.09	0.12	-112.13	0.01	30.75	31.11	30.90	0.22	144.075		
200.00	199.95	200.45	200.45	0.22	0.30	-117.05	0.01	30.75	32.37	31.85	0.52	62.487		
300.00	299.82	300.32	300.32	0.36	0.47	-124.36	0.01	30.75	34.93	34.12	0.82	42.856		
400.00	399.54	400.00	400.00	0.60	0.65	-127.08	0.01	30.75	39.37	38.16	1.21	32.544		
500.00	498.86	498.69	498.67	0.90	0.82	-131.76	-0.89	32.19	47.55	45.91	1.64	29.017		
600.00	597.69	597.04	596.89	1.25	1.01	-136.65	-3.58	36.50	60.11	58.01	2.10	28.636		
700.00	696.11	695.15	694.62	1.64	1.21	-134.21	-8.04	43.63	75.29	72.68	2.60	28.911		
800.00	794.29	792.94	791.71	2.01	1.46	-142.88	-14.25	53.57	92.46	89.32	3.14	29.463		
900.00	892.24	890.10	887.71	2.45	1.74	-139.03	-22.15	66.22	112.07	108.30	3.76	29.779		
1,000.00	990.17	987.69	983.83	2.87	2.05	-145.10	-31.12	80.57	132.96	128.55	4.41	30.171		
1,100.00	1,088.28	1,085.31	1,079.96	3.25	2.37	-142.88	-40.11	94.95	154.05	149.01	5.05	30.514		
1,200.00	1,186.50	1,182.97	1,176.14	3.66	2.69	-142.28	-49.09	109.33	175.02	169.31	5.71	30.639		
1,300.00	1,284.70	1,280.61	1,272.29	4.09	3.02	-139.74	-58.08	123.71	196.20	189.80	6.41	30.627		
1,400.00	1,383.13	1,378.55	1,368.75	4.53	3.35	-135.11	-67.09	138.13	215.95	208.84	7.11	30.371		
1,500.00	1,481.65	1,476.68	1,465.39	4.95	3.68	-132.59	-76.12	152.58	234.88	227.07	7.81	30.070		
1,600.00	1,580.34	1,574.98	1,562.19	5.37	4.02	-130.02	-85.17	167.06	252.91	244.40	8.51	29.717		
1,700.00	1,679.19	1,673.48	1,659.19	5.77	4.36	-125.31	-94.23	181.56	269.73	260.52	9.21	29.282		
1,800.00	1,777.90	1,772.08	1,756.29	6.19	4.70	-121.97	-103.30	196.08	286.28	276.36	9.92	28.855		
1,900.00	1,876.72	1,870.72	1,853.44	6.60	5.04	-127.29	-112.38	210.61	302.46	291.85	10.61	28.500		
2,000.00	1,975.48	1,968.97	1,950.19	7.01	5.39	-132.32	-121.42	225.08	320.73	309.44	11.29	28.416		
2,100.00	2,073.95	2,066.96	2,046.70	7.44	5.73	-130.07	-130.44	239.51	340.51	328.52	11.99	28.388		
2,200.00	2,172.63	2,165.21	2,143.46	7.87	6.07	-127.75	-139.48	253.98	358.95	346.24	12.71	28.239		
2,300.00	2,271.42	2,263.54	2,240.29	8.29	6.41	-128.81	-148.53	268.46	376.87	363.47	13.40	28.125		
2,400.00	2,369.98	2,361.71	2,336.97	8.73	6.76	-127.15	-157.56	282.91	395.84	381.74	14.11	28.059		
2,500.00	2,468.44	2,459.87	2,433.64	9.19	7.10	-126.61	-166.59	297.37	414.91	400.08	14.83	27.973		
2,600.00	2,566.71	2,557.75	2,530.03	9.65	7.44	-132.33	-175.60	311.78	435.33	419.81	15.53	28.037		
2,700.00	2,664.99	2,655.46	2,626.26	10.10	7.78	-133.25	-184.59	326.17	456.57	440.32	16.25	28.097		
2,800.00	2,763.42	2,753.31	2,722.62	10.55	8.13	-131.18	-193.60	340.58	477.11	460.14	16.97	28.117		
2,900.00	2,861.97	2,851.33	2,819.15	11.00	8.47	-129.11	-202.62	355.02	496.79	479.09	17.69	28.077		
3,000.00	2,960.73	2,949.55	2,915.88	11.42	8.82	-127.85	-211.65	369.48	515.36	496.95	18.41	27.999		
3,100.00	3,059.68	3,047.91	3,012.74	11.83	9.16	-127.27	-220.70	383.97	533.08	513.99	19.10	27.911		
3,200.00	3,158.77	3,146.34	3,109.68	12.22	9.51	-128.85	-229.76	398.46	550.21	530.43	19.78	27.822		
3,300.00	3,258.07	3,244.72	3,206.57	12.60	9.85	-132.36	-238.81	412.95	567.10	546.67	20.43	27.760		
3,400.00	3,357.50	3,343.15	3,303.50	12.94	10.20	-130.75	-247.87	427.44	583.43	562.36	21.07	27.687		
3,500.00	3,457.26	3,441.73	3,400.58	13.25	10.54	-133.69	-256.94	441.96	597.41	575.73	21.68	27.561		
3,600.00	3,557.13	3,540.23	3,497.58	13.53	10.89	-135.75	-266.01	456.47	610.77	588.53	22.24	27.467		
3,700.00	3,657.09	3,638.70	3,594.56	13.77	11.24	-170.38	-275.07	470.97	622.87	600.11	22.76	27.365		
3,800.00	3,757.07	3,737.01	3,691.37	13.99	11.58	-152.43	-284.11	485.44	634.64	611.39	23.25	27.296		
3,900.00	3,857.07	3,835.54	3,788.40	14.21	11.93	-123.74	-293.18	499.95	646.03	622.30	23.73	27.220		
4,000.00	3,957.05	3,934.08	3,885.45	14.44	12.28	-133.00	-302.25	514.46	657.95	633.74	24.22	27.170		
4,100.00	4,057.04	4,032.55	3,982.43	14.66	12.62	85.50	-311.31	528.97	669.81	645.13	24.69	27.132		
4,200.00	4,157.04	4,130.95	4,079.33	14.87	12.97	115.50	-320.36	543.46	681.20	656.06	25.13	27.102 SF		
4,300.00	4,257.03	4,229.23	4,176.12	15.07	13.31	151.54	-329.41	557.93	693.64	668.07	25.57	27.128		
4,400.00	4,357.02	4,327.42	4,272.82	15.29	13.66	153.94	-338.44	572.39	706.98	680.98	26.00	27.195		
4,500.00	4,457.00	4,425.63	4,369.53	15.51	14.00	164.93	-347.48	586.85	720.72	694.30	26.42	27.277		
4,600.00	4,556.99	4,523.78	4,466.19	15.72	14.35	111.11	-356.51	601.31	734.16	707.31	26.84	27.349		
4,700.00	4,656.96	4,621.91	4,562.83	15.93	14.70	90.69	-365.54	615.76	747.47	720.23	27.24	27.443		
4,800.00	4,756.92	4,720.32	4,659.75	16.13	15.04	37.53	-374.60	630.25	758.42	730.81	27.61	27.469		
4,900.00	4,856.86	4,818.86	4,756.79	16.32	15.39	28.96	-383.67	644.76	768.67	740.67	27.99	27.458		
5,000.00	4,956.84	4,917.56	4,853.98	16.54	15.74	-9.87	-392.75	659.29	779.74	751.34	28.39	27.460		

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



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													S9-T2N-R67W (Sprague) - Sprague 3H-9H-N267 - Hz - Plan #3		Offset Site Error:		0.00 ft	
Survey Program:													0-Geolink MWD		Offset Well Error:		0.00 ft	
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor						
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)							
5,100.00	5,056.82	5,016.27	4,951.20	16.77	16.08	-22.16	-401.83	673.83	791.71	762.89	28.82	27.473						
5,200.00	5,156.82	5,114.92	5,048.35	17.01	16.43	-11.33	-410.91	688.36	804.13	774.89	29.24	27.500						
5,300.00	5,256.82	5,213.50	5,145.44	17.25	16.78	20.92	-419.98	702.88	817.01	787.36	29.66	27.548						
5,400.00	5,356.81	5,311.96	5,242.40	17.48	17.12	96.91	-429.04	717.37	830.60	800.53	30.07	27.625						
5,500.00	5,456.81	5,410.31	5,339.25	17.72	17.47	122.68	-438.09	731.86	844.86	814.39	30.47	27.729						



Scientific Drilling International

Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3I-9H-N267 - Hz - Plan #3													Offset Site Error:	0.00 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.50	0.50	0.00	0.00	94.88	-3.58	41.93	42.09					
100.00	99.99	100.49	100.49	0.09	0.12	-106.81	-3.58	41.93	42.36	42.15	0.22	195.812		
200.00	199.95	200.45	200.45	0.22	0.30	-110.61	-3.58	41.93	43.33	42.81	0.52	83.345		
300.00	299.82	300.00	300.00	0.36	0.47	-116.50	-3.58	41.93	45.34	44.52	0.82	55.318		
400.00	399.54	398.65	398.63	0.60	0.65	-116.72	-4.23	43.50	50.23	49.01	1.22	41.103		
500.00	498.86	496.52	496.37	0.90	0.83	-118.78	-6.17	48.15	59.57	57.90	1.67	35.578		
600.00	597.69	593.76	593.25	1.25	1.05	-123.03	-9.37	55.82	73.39	71.22	2.17	33.782		
700.00	696.11	690.40	689.19	1.64	1.29	-121.00	-13.79	66.45	90.47	87.74	2.72	33.221 SF		
800.00	794.29	786.33	784.00	2.01	1.58	-130.72	-19.41	79.95	110.54	107.25	3.29	33.554		
900.00	892.24	881.18	877.20	2.45	1.92	-128.19	-26.17	96.17	134.12	130.18	3.94	34.030		
1,000.00	990.17	977.84	971.87	2.87	2.27	-135.74	-33.68	114.21	159.43	154.83	4.59	34.697		
1,100.00	1,088.28	1,074.47	1,066.49	3.25	2.63	-134.67	-41.20	132.25	185.06	179.83	5.23	35.361		
1,200.00	1,186.50	1,171.13	1,161.16	3.66	3.00	-134.98	-48.71	150.30	210.53	204.63	5.89	35.717		
1,300.00	1,284.70	1,267.77	1,255.80	4.09	3.38	-133.14	-56.23	168.34	236.11	229.52	6.59	35.851		
1,400.00	1,383.13	1,364.78	1,350.81	4.53	3.75	-129.08	-63.77	186.45	260.24	252.96	7.29	35.706		
1,500.00	1,481.65	1,462.01	1,446.03	4.95	4.13	-126.98	-71.33	204.61	283.50	275.52	7.99	35.501		
1,600.00	1,580.34	1,559.44	1,541.44	5.37	4.52	-124.81	-78.90	222.80	305.89	297.21	8.68	35.235		
1,700.00	1,679.19	1,657.13	1,637.11	5.77	4.90	-120.39	-86.50	241.03	327.08	317.70	9.38	34.888		
1,800.00	1,777.90	1,754.93	1,732.90	6.19	5.29	-117.26	-94.10	259.29	347.87	337.79	10.08	34.504		
1,900.00	1,876.72	1,852.79	1,828.74	6.60	5.67	-122.83	-101.71	277.57	368.34	357.57	10.77	34.205		
2,000.00	1,975.48	1,950.17	1,924.10	7.01	6.06	-128.07	-109.28	295.75	390.93	379.50	11.43	34.203		
2,100.00	2,073.95	2,047.23	2,019.16	7.44	6.44	-126.02	-116.83	313.87	414.93	402.79	12.13	34.195		
2,200.00	2,172.63	2,144.61	2,114.52	7.87	6.83	-123.93	-124.40	332.05	437.61	424.76	12.85	34.051		
2,300.00	2,271.42	2,242.08	2,209.98	8.29	7.21	-125.14	-131.98	350.25	459.81	446.28	13.53	33.984		
2,400.00	2,369.98	2,339.36	2,305.25	8.73	7.60	-123.59	-139.55	368.41	482.97	468.74	14.23	33.936		
2,500.00	2,468.44	2,436.62	2,400.50	9.19	7.99	-123.16	-147.11	386.57	506.18	491.23	14.96	33.846		
2,600.00	2,566.71	2,533.56	2,495.44	9.65	8.37	-128.97	-154.65	404.66	530.73	515.08	15.64	33.924		
2,700.00	2,664.99	2,630.29	2,590.16	10.10	8.76	-130.05	-162.17	422.72	556.10	539.73	16.37	33.966		
2,800.00	2,763.42	2,727.17	2,685.05	10.55	9.14	-128.10	-169.70	440.81	580.82	563.73	17.09	33.985		
2,900.00	2,861.97	2,824.27	2,780.14	11.00	9.53	-126.14	-177.25	458.94	604.69	586.87	17.82	33.939		
3,000.00	2,960.73	2,921.61	2,875.47	11.42	9.91	-125.02	-184.82	477.11	627.49	608.96	18.53	33.864		
3,100.00	3,059.68	3,019.12	2,970.96	11.83	10.30	-124.58	-192.40	495.32	649.48	630.26	19.22	33.793		
3,200.00	3,158.77	3,116.72	3,066.55	12.22	10.69	-126.31	-199.99	513.54	670.91	651.02	19.89	33.728		
3,300.00	3,258.07	3,214.28	3,162.09	12.60	11.08	-130.00	-207.57	531.75	692.18	671.65	20.53	33.708		
3,400.00	3,357.50	3,311.90	3,257.69	12.94	11.47	-128.60	-215.16	549.98	712.92	691.75	21.17	33.672		
3,500.00	3,457.26	3,409.76	3,353.53	13.25	11.86	-131.80	-222.77	568.25	731.39	709.63	21.76	33.605		
3,600.00	3,557.13	3,507.57	3,449.32	13.53	12.25	-134.11	-230.38	586.51	749.28	726.97	22.31	33.592		
3,700.00	3,657.09	3,605.41	3,545.14	13.77	12.64	-169.04	-237.99	604.78	765.91	743.10	22.81	33.578		
3,800.00	3,757.07	3,703.11	3,640.82	13.99	13.03	-151.33	-245.58	623.02	782.20	758.93	23.27	33.621		
3,900.00	3,857.07	3,801.06	3,736.74	14.21	13.42	-122.85	-253.20	641.30	798.04	774.32	23.72	33.649		
4,000.00	3,957.05	3,899.01	3,832.67	14.44	13.81	-132.33	-260.81	659.59	814.34	790.17	24.17	33.690		
4,100.00	4,057.04	3,996.90	3,928.54	14.66	14.20	85.89	-268.43	677.87	830.53	805.91	24.63	33.726		
4,200.00	4,157.04	4,094.74	4,024.36	14.87	14.59	115.65	-276.03	696.14	846.21	821.16	25.05	33.783		



Scientific Drilling International

Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3J-9H-N267 - Hz - Plan #3													Offset Site Error:	0.00 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.50	0.50	0.00	0.00	94.07	-3.58	50.32	50.45					
100.00	99.99	100.49	100.49	0.09	0.12	-107.40	-3.58	50.32	50.74	50.52	0.22	234.555		
200.00	199.95	200.00	200.00	0.22	0.30	-110.55	-3.58	50.32	51.72	51.20	0.52	99.627		
300.00	299.82	298.44	298.42	0.36	0.47	-115.29	-3.58	52.01	55.40	54.58	0.82	67.759		
400.00	399.54	395.91	395.76	0.60	0.66	-114.35	-3.58	57.02	63.71	62.49	1.22	52.237		
500.00	498.86	492.40	491.90	0.90	0.88	-115.81	-3.58	65.23	76.85	75.18	1.67	45.989		
600.00	597.69	587.63	586.45	1.25	1.13	-120.11	-3.58	76.50	95.13	92.97	2.16	43.982		
700.00	696.11	681.58	679.31	1.64	1.43	-118.62	-3.58	90.70	117.57	114.87	2.70	43.601 SF		
800.00	794.29	774.14	770.31	2.01	1.76	-129.46	-3.58	107.66	143.99	140.76	3.23	44.546		
900.00	892.24	864.92	858.96	2.45	2.14	-128.14	-3.58	127.14	174.79	170.96	3.83	45.685		
1,000.00	990.17	953.92	945.25	2.87	2.56	-136.90	-3.58	148.95	208.88	204.45	4.42	47.213		
1,100.00	1,088.28	1,045.88	1,033.73	3.25	3.02	-136.29	-3.86	173.99	245.27	240.25	5.02	48.831		
1,200.00	1,186.50	1,145.43	1,129.44	3.66	3.52	-136.46	-6.94	201.20	280.17	274.46	5.70	49.128		
1,300.00	1,284.70	1,245.76	1,225.86	4.09	4.03	-133.96	-13.50	228.10	313.14	306.70	6.43	48.675		
1,400.00	1,383.13	1,340.66	1,317.03	4.53	4.52	-129.28	-21.12	253.33	343.90	336.74	7.16	48.024		
1,500.00	1,481.65	1,435.86	1,408.49	4.95	5.00	-126.64	-28.77	278.63	373.90	366.02	7.88	47.436		
1,600.00	1,580.34	1,531.29	1,500.16	5.37	5.50	-124.06	-36.43	304.00	403.14	394.53	8.60	46.855		
1,700.00	1,679.19	1,627.05	1,592.16	5.77	6.00	-119.25	-44.11	329.46	431.27	421.95	9.32	46.294		
1,800.00	1,777.90	1,723.01	1,684.34	6.19	6.50	-115.73	-51.82	354.96	459.04	449.00	10.04	45.704		
1,900.00	1,876.72	1,819.02	1,776.57	6.60	7.00	-121.04	-59.53	380.49	486.55	475.80	10.75	45.251		
2,000.00	1,975.48	1,914.35	1,868.16	7.01	7.50	-126.01	-67.18	405.83	516.22	504.80	11.42	45.213		
2,100.00	2,073.95	2,009.33	1,959.41	7.44	8.00	-123.70	-74.81	431.08	547.25	535.11	12.14	45.084		
2,200.00	2,172.63	2,104.69	2,051.02	7.87	8.50	-121.48	-82.46	456.43	577.05	564.16	12.89	44.781		
2,300.00	2,271.42	2,200.17	2,142.74	8.29	9.00	-122.47	-90.13	481.81	606.41	592.84	13.57	44.692		
2,400.00	2,369.98	2,295.41	2,234.24	8.73	9.50	-120.70	-97.77	507.13	636.69	622.41	14.28	44.589		
2,500.00	2,468.44	2,390.68	2,325.75	9.19	10.00	-120.06	-105.42	532.45	667.01	651.99	15.02	44.410		
2,600.00	2,566.71	2,485.53	2,416.87	9.65	10.50	-125.67	-113.04	557.66	698.61	682.90	15.71	44.463		
2,700.00	2,664.99	2,580.07	2,507.70	10.10	11.00	-126.69	-120.63	582.79	731.07	714.60	16.47	44.376		
2,800.00	2,763.42	2,674.81	2,598.71	10.55	11.50	-124.63	-128.23	607.98	762.93	745.72	17.21	44.326		
2,900.00	2,861.97	2,769.82	2,689.98	11.00	12.00	-122.61	-135.86	633.23	793.98	776.02	17.96	44.198		
3,000.00	2,960.73	2,865.11	2,781.53	11.42	12.51	-121.46	-143.51	658.57	824.04	805.34	18.71	44.054		



Scientific Drilling International

Anticollision Report



Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 4-8-9 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error:	0.00 ft
Survey Program: 74-Geolink MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	99.86	-41.10	236.50	240.65					
100.00	99.99	82.98	82.98	0.09	0.13	-100.75	-41.18	236.47	240.22	240.00	0.22	1,085.006 CC, ES		
200.00	199.95	183.21	183.21	0.22	0.30	-101.33	-41.66	236.31	240.71	240.18	0.53	456.381		
300.00	299.82	283.48	283.47	0.36	0.48	-102.24	-42.66	235.91	241.49	240.65	0.83	289.573		
400.00	399.54	383.65	383.62	0.60	0.66	-97.14	-44.21	235.33	242.45	241.20	1.25	193.828		
500.00	498.86	483.74	483.69	0.90	0.84	-94.36	-46.52	234.42	242.85	241.12	1.73	140.365		
600.00	597.69	582.60	582.51	1.25	1.01	-95.76	-49.24	233.44	243.30	241.04	2.25	108.002		
700.00	696.11	680.57	680.46	1.64	1.19	-93.72	-51.10	232.77	244.15	241.35	2.80	87.044		
800.00	794.29	778.88	778.75	2.01	1.36	-105.40	-52.49	232.30	246.53	243.19	3.34	73.875		
900.00	892.24	876.97	876.84	2.45	1.53	-107.12	-53.48	231.79	251.61	247.70	3.91	64.374		
1,000.00	990.17	975.57	975.43	2.87	1.71	-118.85	-54.37	231.12	258.76	254.31	4.45	58.198		
1,100.00	1,088.28	1,069.53	1,069.35	3.25	1.88	-121.56	-56.90	231.65	268.41	263.46	4.95	54.244		
1,200.00	1,186.50	1,161.78	1,161.42	3.66	2.05	-124.59	-61.38	235.11	280.86	275.38	5.48	51.285		
1,300.00	1,284.70	1,256.88	1,256.14	4.09	2.24	-124.80	-67.87	240.52	294.84	288.78	6.06	48.691		
1,400.00	1,383.13	1,347.85	1,346.53	4.53	2.44	-122.18	-74.47	248.44	310.10	303.45	6.64	46.678		
1,500.00	1,481.65	1,440.51	1,438.14	4.95	2.68	-120.80	-83.55	258.85	325.93	318.66	7.27	44.829		
1,600.00	1,580.34	1,525.23	1,521.19	5.37	2.94	-118.70	-93.69	272.09	344.19	336.28	7.91	43.511		
1,700.00	1,679.19	1,611.73	1,605.29	5.77	3.23	-114.09	-104.06	289.44	365.32	356.74	8.58	42.602		
1,800.00	1,777.90	1,709.79	1,700.65	6.19	3.57	-110.84	-114.22	309.93	387.32	378.04	9.28	41.756		
1,900.00	1,876.72	1,810.16	1,798.51	6.60	3.94	-116.39	-124.23	329.86	408.23	398.26	9.97	40.944		
2,000.00	1,975.48	1,911.19	1,897.07	7.01	4.31	-121.62	-134.58	349.51	430.89	420.23	10.66	40.428		
2,100.00	2,073.95	2,013.94	1,997.67	7.44	4.68	-119.76	-144.32	367.96	453.69	442.32	11.37	39.901		
2,200.00	2,172.63	2,111.24	2,093.00	7.87	5.04	-117.83	-153.78	385.03	474.75	462.68	12.08	39.308		
2,300.00	2,271.42	2,216.41	2,196.17	8.29	5.41	-119.18	-164.14	402.54	494.51	481.73	12.79	38.671		
2,400.00	2,369.98	2,316.61	2,294.42	8.73	5.79	-117.66	-175.29	418.76	514.27	500.76	13.52	38.043		
2,500.00	2,468.44	2,414.38	2,390.34	9.19	6.14	-117.26	-186.12	434.32	533.79	519.54	14.25	37.462		
2,600.00	2,566.71	2,508.04	2,482.34	9.65	6.48	-123.20	-195.33	449.22	555.00	540.06	14.94	37.154		
2,700.00	2,664.99	2,605.68	2,578.20	10.10	6.84	-124.42	-204.72	465.30	577.70	562.03	15.66	36.880		
2,800.00	2,763.42	2,699.37	2,670.04	10.55	7.20	-122.54	-214.50	481.00	599.80	583.42	16.38	36.614		
2,900.00	2,861.97	2,792.53	2,761.27	11.00	7.56	-120.65	-223.93	497.32	621.87	604.77	17.10	36.364		
3,000.00	2,960.73	2,891.93	2,858.57	11.42	7.94	-119.56	-233.98	514.98	643.18	625.36	17.83	36.080		
3,100.00	3,059.68	2,993.14	2,957.77	11.83	8.32	-119.17	-243.92	532.40	663.35	644.82	18.53	35.805		
3,200.00	3,158.77	3,091.50	3,054.33	12.22	8.69	-121.01	-253.03	548.77	682.66	663.47	19.19	35.566		
3,300.00	3,258.07	3,188.41	3,149.48	12.60	9.05	-124.82	-261.59	565.04	702.25	682.41	19.84	35.401		
3,400.00	3,357.50	3,293.52	3,252.53	12.94	9.46	-123.39	-272.39	582.73	720.97	700.45	20.52	35.133		
3,500.00	3,457.26	3,403.58	3,360.25	13.25	9.89	-126.29	-286.32	600.46	736.31	715.13	21.19	34.755		
3,600.00	3,557.13	3,499.00	3,453.80	13.53	10.25	-128.49	-298.00	615.17	750.77	729.02	21.75	34.517		
3,700.00	3,657.09	3,593.68	3,546.57	13.77	10.62	-163.29	-309.50	630.17	764.63	742.35	22.29	34.310		
3,800.00	3,757.07	3,682.57	3,633.57	13.99	10.98	-145.55	-320.33	644.90	779.09	756.33	22.76	34.226		
3,900.00	3,857.07	3,780.97	3,729.91	14.21	11.36	-116.99	-331.20	661.67	793.76	770.52	23.25	34.143		
4,000.00	3,957.05	3,889.44	3,836.33	14.44	11.77	-126.30	-343.28	678.87	807.69	783.93	23.77	33.986		
4,100.00	4,057.04	3,986.91	3,931.88	14.66	12.15	92.06	-354.88	694.21	821.42	797.17	24.25	33.866		
4,200.00	4,157.04	4,075.12	4,018.26	14.87	12.50	121.87	-365.72	708.45	835.17	810.48	24.69	33.823 SF		

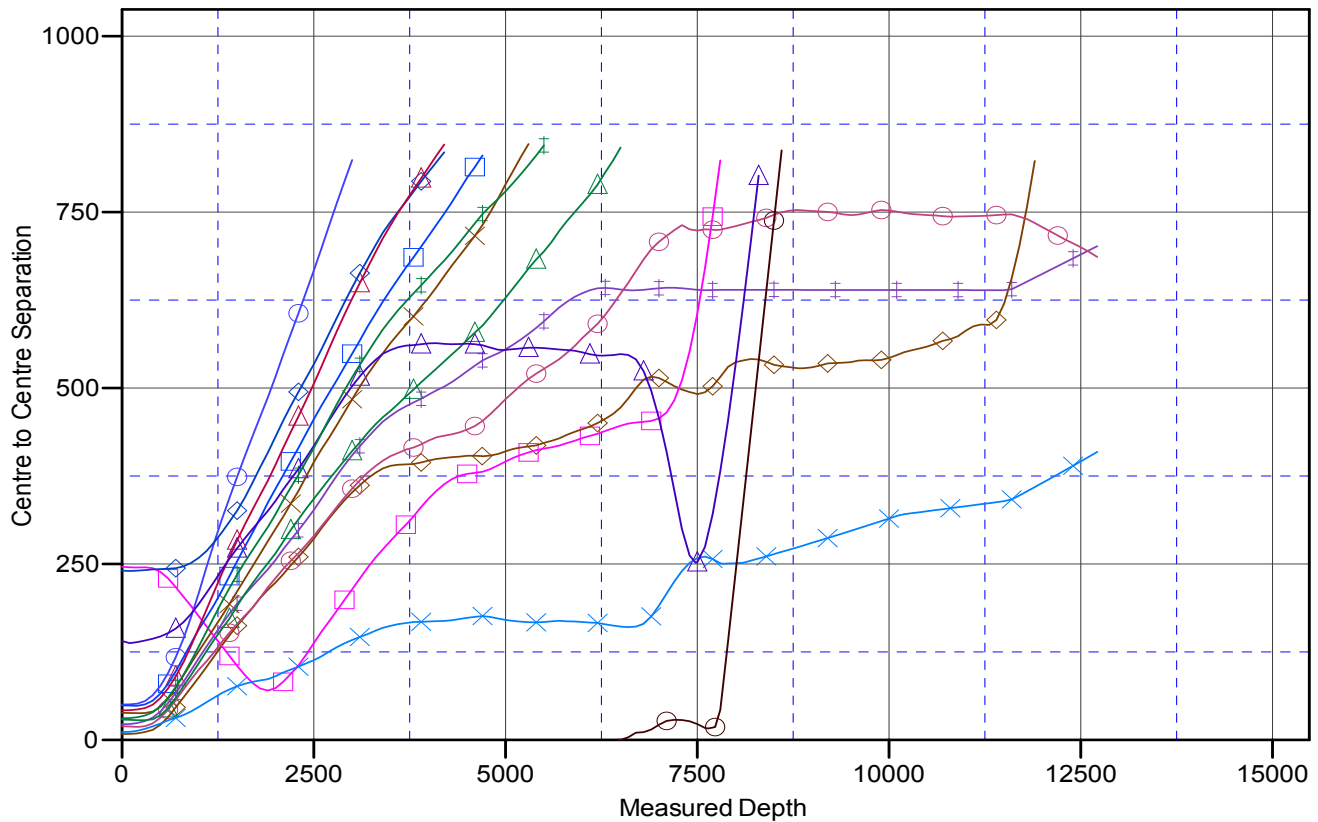
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 4982' & KB 28.5' @ 5010.50ft (Pa
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Sprague 3E-9H-N267
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.39°

Ladder Plot



LEGEND

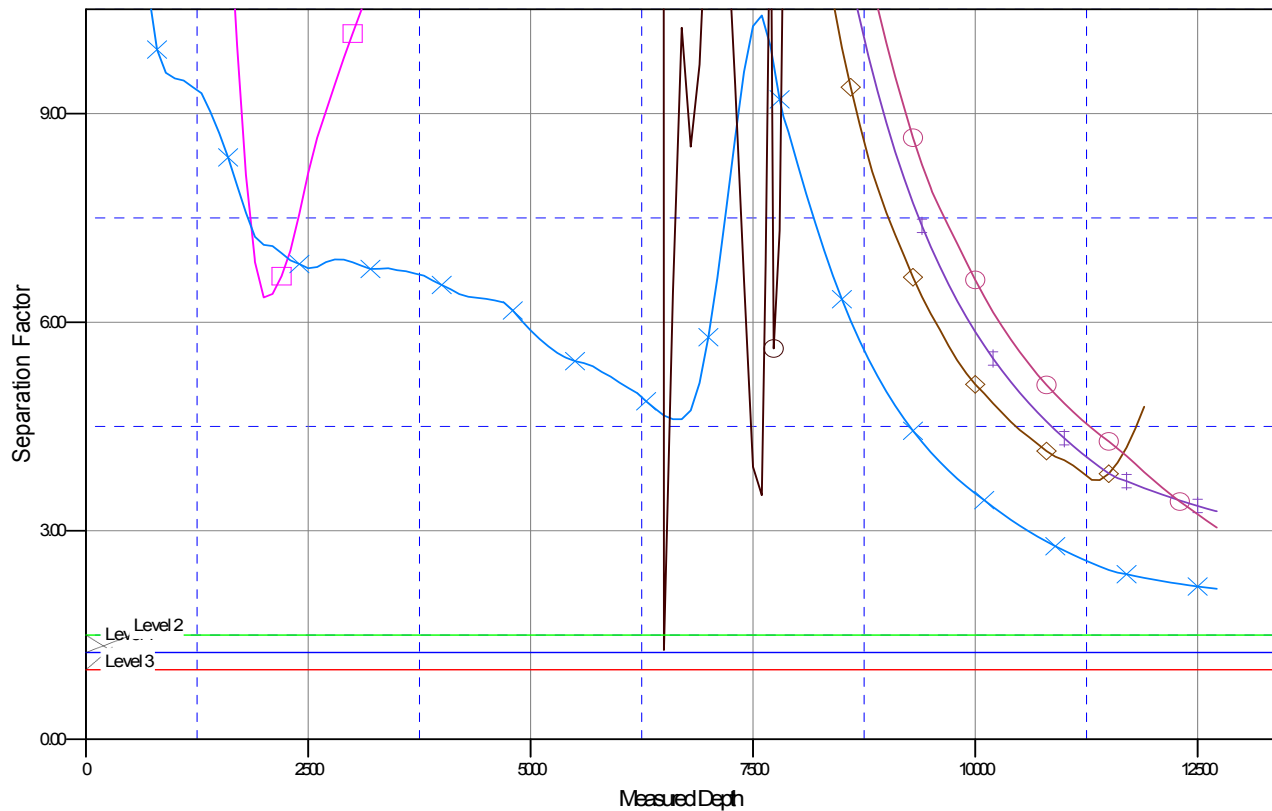
✕ Sprague 3A-9H-N267, Hz, FINAL V0	▲ Sprague 3B-9H-N267, Hz, FINAL V0
□ Sprague 3AA-9H-N267, Hz, FINAL V0	▲ Sprague 3I-9H-N267, Hz, Plan 1
○ Sprague 3C-9H-N267, Hz, FINAL V0	▲ SPRAGUE 24-9 (EXISTING), E
✕ Sprague 3F-9H-N267, Hz, Plan 5 V0	✕ Sprague 3H-9H-N267, Hz, Plan
● Sprague 3E-9H-N267, Hz, Hz V0	

Company:	EnCana Oil & Gas (USA)	Local Co-ordinate Reference:	Well Sprague 3E-9H-N267
Project:	DJ Wattenberg	TVD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	GL 4982' & KB 28.5' @ 5010.50ft (Patterson 272)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Sprague 3E-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	ST 1	Database:	Casper District
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 4982' & KB 28.5' @ 5010.50ft (Pa
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Sprague 3E-9H-N267
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.39°

Separation Factor Plot



LEGEND

✕ Sprague 3A-9H-N267, Hz, FINAL V0	▲ Sprague 3B-9H-N267, Hz, FINAL V0
✕ Sprague 3AA-9H-N267, Hz, FINAL V0	▲ Sprague 3I-9H-N267, Hz, Plan 1
○ Sprague 3C-9H-N267, Hz, FINAL V0	▲ SPRAGUE 24-9 (EXISTING), E
✕ Sprague 3F-9H-N267, Hz, Plan 5 V0	✕ Sprague 3H-9H-N267, Hz, Plan
○ Sprague 3E-9H-N267, Hz, Hz V0	