



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site:	S9-T2N-R67W (Sprague)	North Reference:	True
Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

Project	DJ Wattenberg		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		S9-T2N-R67W (Sprague)			
Site Position:		Northing:	1,298,443.90 ft	Latitude:	40.151070
From:	Lat/Long	Easting:	3,167,093.12 ft	Longitude:	-104.902260
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.39 °

Well	Sprague 3I-9H-N267					
Well Position	+N/-S	0.0 ft	Northing:	1,296,972.36 ft	Latitude:	40.147010
	+E/-W	0.0 ft	Easting:	3,168,198.90 ft	Longitude:	-104.898340
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,981.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	11/5/2013	8.59	66.74	52,731

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	0.00

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)	(°)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
883.4	11.67	112.61	879.4	-22.8	54.6	2.00	2.00	0.00	112.61	
6,827.3	11.67	112.61	6,700.4	-484.9	1,164.4	0.00	0.00	0.00	0.00	
7,771.9	90.00	0.00	7,307.0	86.3	1,280.0	10.00	8.29	-11.92	-112.19	Sprague 3I-9H-N267
7,991.9	90.00	0.00	7,307.0	306.3	1,280.0	0.00	0.00	0.00	0.00	
8,017.0	90.00	359.50	7,307.0	331.4	1,279.9	2.00	0.00	-2.00	-90.00	
12,782.1	90.00	359.50	7,307.0	5,096.3	1,238.2	0.00	0.00	0.00	0.00	Sprague 3I-9H-N267



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Wellbore: Hz
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TVD Reference: WELL @ 5011.0ft (Original Well Elev)
MD Reference: WELL @ 5011.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	KOP @ 300' MD
400.0	2.00	112.61	400.0	-0.7	1.6	-0.7	2.00	2.00	
461.1	3.22	112.61	461.0	-1.7	4.2	-1.7	2.00	2.00	Fox Hills - BASE
500.0	4.00	112.61	499.8	-2.7	6.4	-2.7	2.00	2.00	
600.0	6.00	112.61	599.5	-6.0	14.5	-6.0	2.00	2.00	
700.0	8.00	112.61	698.7	-10.7	25.7	-10.7	2.00	2.00	
800.0	10.00	112.61	797.5	-16.7	40.2	-16.7	2.00	2.00	
883.4	11.67	112.61	879.4	-22.8	54.6	-22.8	2.00	2.00	EOB; 11.67°
900.0	11.67	112.61	895.6	-24.1	57.7	-24.1	0.00	0.00	
1,000.0	11.67	112.61	993.6	-31.8	76.4	-31.8	0.00	0.00	
1,100.0	11.67	112.61	1,091.5	-39.6	95.1	-39.6	0.00	0.00	
1,200.0	11.67	112.61	1,189.4	-47.4	113.8	-47.4	0.00	0.00	
1,300.0	11.67	112.61	1,287.4	-55.2	132.4	-55.2	0.00	0.00	
1,400.0	11.67	112.61	1,385.3	-62.9	151.1	-62.9	0.00	0.00	
1,500.0	11.67	112.61	1,483.2	-70.7	169.8	-70.7	0.00	0.00	
1,600.0	11.67	112.61	1,581.2	-78.5	188.4	-78.5	0.00	0.00	
1,700.0	11.67	112.61	1,679.1	-86.3	207.1	-86.3	0.00	0.00	
1,800.0	11.67	112.61	1,777.0	-94.0	225.8	-94.0	0.00	0.00	
1,900.0	11.67	112.61	1,875.0	-101.8	244.4	-101.8	0.00	0.00	
2,000.0	11.67	112.61	1,972.9	-109.6	263.1	-109.6	0.00	0.00	
2,100.0	11.67	112.61	2,070.8	-117.4	281.8	-117.4	0.00	0.00	
2,200.0	11.67	112.61	2,168.8	-125.1	300.5	-125.1	0.00	0.00	
2,300.0	11.67	112.61	2,266.7	-132.9	319.1	-132.9	0.00	0.00	
2,400.0	11.67	112.61	2,364.6	-140.7	337.8	-140.7	0.00	0.00	
2,500.0	11.67	112.61	2,462.6	-148.5	356.5	-148.5	0.00	0.00	
2,600.0	11.67	112.61	2,560.5	-156.2	375.1	-156.2	0.00	0.00	
2,700.0	11.67	112.61	2,658.4	-164.0	393.8	-164.0	0.00	0.00	
2,800.0	11.67	112.61	2,756.4	-171.8	412.5	-171.8	0.00	0.00	
2,900.0	11.67	112.61	2,854.3	-179.6	431.1	-179.6	0.00	0.00	
3,000.0	11.67	112.61	2,952.2	-187.3	449.8	-187.3	0.00	0.00	
3,100.0	11.67	112.61	3,050.2	-195.1	468.5	-195.1	0.00	0.00	
3,200.0	11.67	112.61	3,148.1	-202.9	487.2	-202.9	0.00	0.00	
3,300.0	11.67	112.61	3,246.0	-210.7	505.8	-210.7	0.00	0.00	
3,400.0	11.67	112.61	3,344.0	-218.4	524.5	-218.4	0.00	0.00	
3,500.0	11.67	112.61	3,441.9	-226.2	543.2	-226.2	0.00	0.00	
3,600.0	11.67	112.61	3,539.8	-234.0	561.8	-234.0	0.00	0.00	
3,700.0	11.67	112.61	3,637.8	-241.8	580.5	-241.8	0.00	0.00	
3,800.0	11.67	112.61	3,735.7	-249.5	599.2	-249.5	0.00	0.00	
3,900.0	11.67	112.61	3,833.6	-257.3	617.8	-257.3	0.00	0.00	
4,000.0	11.67	112.61	3,931.6	-265.1	636.5	-265.1	0.00	0.00	
4,100.0	11.67	112.61	4,029.5	-272.9	655.2	-272.9	0.00	0.00	
4,200.0	11.67	112.61	4,127.4	-280.6	673.9	-280.6	0.00	0.00	
4,300.0	11.67	112.61	4,225.4	-288.4	692.5	-288.4	0.00	0.00	
4,400.0	11.67	112.61	4,323.3	-296.2	711.2	-296.2	0.00	0.00	
4,496.7	11.67	112.61	4,418.0	-303.7	729.2	-303.7	0.00	0.00	Sussex
4,500.0	11.67	112.61	4,421.2	-304.0	729.9	-304.0	0.00	0.00	
4,600.0	11.67	112.61	4,519.2	-311.7	748.5	-311.7	0.00	0.00	
4,700.0	11.67	112.61	4,617.1	-319.5	767.2	-319.5	0.00	0.00	
4,748.9	11.67	112.61	4,665.0	-323.3	776.3	-323.3	0.00	0.00	Sussex Marker



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Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,800.0	11.67	112.61	4,715.0	-327.3	785.9	-327.3	0.00	0.00	
4,900.0	11.67	112.61	4,813.0	-335.1	804.5	-335.1	0.00	0.00	
5,000.0	11.67	112.61	4,910.9	-342.8	823.2	-342.8	0.00	0.00	
5,053.2	11.67	112.61	4,963.0	-347.0	833.1	-347.0	0.00	0.00	Shannon
5,100.0	11.67	112.61	5,008.8	-350.6	841.9	-350.6	0.00	0.00	
5,200.0	11.67	112.61	5,106.8	-358.4	860.6	-358.4	0.00	0.00	
5,300.0	11.67	112.61	5,204.7	-366.2	879.2	-366.2	0.00	0.00	
5,400.0	11.67	112.61	5,302.6	-373.9	897.9	-373.9	0.00	0.00	
5,500.0	11.67	112.61	5,400.6	-381.7	916.6	-381.7	0.00	0.00	
5,600.0	11.67	112.61	5,498.5	-389.5	935.2	-389.5	0.00	0.00	
5,700.0	11.67	112.61	5,596.4	-397.3	953.9	-397.3	0.00	0.00	
5,800.0	11.67	112.61	5,694.4	-405.0	972.6	-405.0	0.00	0.00	
5,900.0	11.67	112.61	5,792.3	-412.8	991.2	-412.8	0.00	0.00	
6,000.0	11.67	112.61	5,890.2	-420.6	1,009.9	-420.6	0.00	0.00	
6,100.0	11.67	112.61	5,988.2	-428.4	1,028.6	-428.4	0.00	0.00	
6,200.0	11.67	112.61	6,086.1	-436.2	1,047.3	-436.2	0.00	0.00	
6,300.0	11.67	112.61	6,184.0	-443.9	1,065.9	-443.9	0.00	0.00	
6,400.0	11.67	112.61	6,282.0	-451.7	1,084.6	-451.7	0.00	0.00	
6,429.6	11.67	112.61	6,311.0	-454.0	1,090.1	-454.0	0.00	0.00	Teepee Buttes (*if present)
6,500.0	11.67	112.61	6,379.9	-459.5	1,103.3	-459.5	0.00	0.00	
6,600.0	11.67	112.61	6,477.8	-467.3	1,121.9	-467.3	0.00	0.00	
6,700.0	11.67	112.61	6,575.8	-475.0	1,140.6	-475.0	0.00	0.00	
6,800.0	11.67	112.61	6,673.7	-482.8	1,159.3	-482.8	0.00	0.00	
6,827.3	11.67	112.61	6,700.4	-484.9	1,164.4	-484.9	0.00	0.00	Start 10° Build/Turn
6,850.0	11.01	101.52	6,722.7	-486.2	1,168.6	-486.2	10.00	-2.90	
6,900.0	11.15	75.29	6,771.8	-486.0	1,178.0	-486.0	10.00	0.28	
6,950.0	13.30	53.77	6,820.7	-481.3	1,187.3	-481.3	10.00	4.30	
7,000.0	16.70	39.47	6,869.0	-472.4	1,196.5	-472.4	10.00	6.80	
7,050.0	20.74	30.23	6,916.4	-459.2	1,205.5	-459.2	10.00	8.08	
7,100.0	25.11	24.00	6,962.4	-441.8	1,214.3	-441.8	10.00	8.75	
7,150.0	29.68	19.54	7,006.8	-420.5	1,222.8	-420.5	10.00	9.13	
7,200.0	34.35	16.19	7,049.2	-395.2	1,230.8	-395.2	10.00	9.35	
7,250.0	39.10	13.57	7,089.2	-366.3	1,238.5	-366.3	10.00	9.49	
7,300.0	43.90	11.43	7,126.7	-334.0	1,245.6	-334.0	10.00	9.59	
7,350.0	48.73	9.63	7,161.2	-298.5	1,252.2	-298.5	10.00	9.66	
7,385.8	52.20	8.50	7,184.0	-271.2	1,256.6	-271.2	10.00	9.70	Sharon Springs
7,400.0	53.58	8.09	7,192.6	-260.0	1,258.2	-260.0	10.00	9.72	
7,450.0	58.45	6.72	7,220.5	-218.9	1,263.5	-218.9	10.00	9.74	
7,500.0	63.33	5.49	7,244.8	-175.5	1,268.1	-175.5	10.00	9.77	
7,509.5	64.26	5.27	7,249.0	-167.0	1,268.9	-167.0	10.00	9.78	Niobrara
7,550.0	68.23	4.37	7,265.3	-130.1	1,272.1	-130.1	10.00	9.79	
7,600.0	73.13	3.31	7,281.9	-83.0	1,275.2	-83.0	10.00	9.80	
7,650.0	78.03	2.32	7,294.3	-34.6	1,277.6	-34.6	10.00	9.81	
7,663.7	79.38	2.05	7,297.0	-21.2	1,278.1	-21.2	10.00	9.82	B Chalk
7,700.0	82.94	1.35	7,302.6	14.6	1,279.2	14.6	10.00	9.82	
7,750.0	87.85	0.41	7,306.6	64.4	1,279.9	64.4	10.00	9.82	
7,771.9	90.00	0.00	7,307.0	86.3	1,280.0	86.3	10.00	9.82	LP @ 7307' TVD; 90°
7,800.0	90.00	0.00	7,307.0	114.4	1,280.0	114.4	0.00	0.00	
7,900.0	90.00	0.00	7,307.0	214.4	1,280.0	214.4	0.00	0.00	
7,991.9	90.00	0.00	7,307.0	306.3	1,280.0	306.3	0.00	0.00	Start 2° Turn
8,000.0	90.00	359.84	7,307.0	314.4	1,280.0	314.4	2.00	0.00	
8,017.0	90.00	359.50	7,307.0	331.4	1,279.9	331.4	2.00	0.00	EOT; 359.5°



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8,100.0	90.00	359.50	7,307.0	414.4	1,279.2	414.4	0.00	0.00	
8,200.0	90.00	359.50	7,307.0	514.4	1,278.3	514.4	0.00	0.00	
8,300.0	90.00	359.50	7,307.0	614.4	1,277.4	614.4	0.00	0.00	
8,400.0	90.00	359.50	7,307.0	714.4	1,276.5	714.4	0.00	0.00	
8,500.0	90.00	359.50	7,307.0	814.4	1,275.7	814.4	0.00	0.00	
8,600.0	90.00	359.50	7,307.0	914.4	1,274.8	914.4	0.00	0.00	
8,700.0	90.00	359.50	7,307.0	1,014.4	1,273.9	1,014.4	0.00	0.00	
8,800.0	90.00	359.50	7,307.0	1,114.4	1,273.0	1,114.4	0.00	0.00	
8,900.0	90.00	359.50	7,307.0	1,214.4	1,272.2	1,214.4	0.00	0.00	
9,000.0	90.00	359.50	7,307.0	1,314.4	1,271.3	1,314.4	0.00	0.00	
9,100.0	90.00	359.50	7,307.0	1,414.4	1,270.4	1,414.4	0.00	0.00	
9,200.0	90.00	359.50	7,307.0	1,514.4	1,269.5	1,514.4	0.00	0.00	
9,300.0	90.00	359.50	7,307.0	1,614.4	1,268.7	1,614.4	0.00	0.00	
9,400.0	90.00	359.50	7,307.0	1,714.4	1,267.8	1,714.4	0.00	0.00	
9,500.0	90.00	359.50	7,307.0	1,814.4	1,266.9	1,814.4	0.00	0.00	
9,600.0	90.00	359.50	7,307.0	1,914.4	1,266.0	1,914.4	0.00	0.00	
9,700.0	90.00	359.50	7,307.0	2,014.4	1,265.1	2,014.4	0.00	0.00	
9,800.0	90.00	359.50	7,307.0	2,114.4	1,264.3	2,114.4	0.00	0.00	
9,900.0	90.00	359.50	7,307.0	2,214.4	1,263.4	2,214.4	0.00	0.00	
10,000.0	90.00	359.50	7,307.0	2,314.4	1,262.5	2,314.4	0.00	0.00	
10,100.0	90.00	359.50	7,307.0	2,414.4	1,261.6	2,414.4	0.00	0.00	
10,200.0	90.00	359.50	7,307.0	2,514.4	1,260.8	2,514.4	0.00	0.00	
10,300.0	90.00	359.50	7,307.0	2,614.3	1,259.9	2,614.3	0.00	0.00	
10,400.0	90.00	359.50	7,307.0	2,714.3	1,259.0	2,714.3	0.00	0.00	
10,500.0	90.00	359.50	7,307.0	2,814.3	1,258.1	2,814.3	0.00	0.00	
10,600.0	90.00	359.50	7,307.0	2,914.3	1,257.3	2,914.3	0.00	0.00	
10,700.0	90.00	359.50	7,307.0	3,014.3	1,256.4	3,014.3	0.00	0.00	
10,800.0	90.00	359.50	7,307.0	3,114.3	1,255.5	3,114.3	0.00	0.00	
10,900.0	90.00	359.50	7,307.0	3,214.3	1,254.6	3,214.3	0.00	0.00	
11,000.0	90.00	359.50	7,307.0	3,314.3	1,253.8	3,314.3	0.00	0.00	
11,100.0	90.00	359.50	7,307.0	3,414.3	1,252.9	3,414.3	0.00	0.00	
11,200.0	90.00	359.50	7,307.0	3,514.3	1,252.0	3,514.3	0.00	0.00	
11,300.0	90.00	359.50	7,307.0	3,614.3	1,251.1	3,614.3	0.00	0.00	
11,400.0	90.00	359.50	7,307.0	3,714.3	1,250.3	3,714.3	0.00	0.00	
11,500.0	90.00	359.50	7,307.0	3,814.3	1,249.4	3,814.3	0.00	0.00	
11,600.0	90.00	359.50	7,307.0	3,914.3	1,248.5	3,914.3	0.00	0.00	
11,700.0	90.00	359.50	7,307.0	4,014.3	1,247.6	4,014.3	0.00	0.00	
11,800.0	90.00	359.50	7,307.0	4,114.3	1,246.8	4,114.3	0.00	0.00	
11,900.0	90.00	359.50	7,307.0	4,214.3	1,245.9	4,214.3	0.00	0.00	
12,000.0	90.00	359.50	7,307.0	4,314.3	1,245.0	4,314.3	0.00	0.00	
12,100.0	90.00	359.50	7,307.0	4,414.3	1,244.1	4,414.3	0.00	0.00	
12,200.0	90.00	359.50	7,307.0	4,514.3	1,243.3	4,514.3	0.00	0.00	
12,300.0	90.00	359.50	7,307.0	4,614.3	1,242.4	4,614.3	0.00	0.00	
12,400.0	90.00	359.50	7,307.0	4,714.3	1,241.5	4,714.3	0.00	0.00	
12,500.0	90.00	359.50	7,307.0	4,814.3	1,240.6	4,814.3	0.00	0.00	
12,600.0	90.00	359.50	7,307.0	4,914.3	1,239.7	4,914.3	0.00	0.00	
12,700.0	90.00	359.50	7,307.0	5,014.3	1,238.9	5,014.3	0.00	0.00	
12,782.1	90.00	359.50	7,307.0	5,096.3	1,238.2	5,096.3	0.00	0.00	PBHL @ 12782' MD



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site:	S9-T2N-R67W (Sprague)	North Reference:	True
Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
Sprague 3I-9H-N267 PB	0.00	0.00	7,307.0	5,096.3	1,238.2	1,302,076.98	3,169,402.45	40.161000	-104.893910
- plan hits target center									
- Point									
Sprague 3I-9H-N267 TG	0.00	0.00	7,307.0	86.3	1,280.0	1,297,067.34	3,169,478.29	40.147247	-104.893761
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
461.1	461.0	Fox Hills - BASE				
4,496.7	4,418.0	Sussex				
4,748.9	4,665.0	Sussex Marker				
5,053.2	4,963.0	Shannon				
6,429.6	6,311.0	Teepee Buttes (*if present)				
7,385.8	7,184.0	Sharon Springs				
7,509.5	7,249.0	Niobrara				
7,663.7	7,297.0	B Chalk				

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
300.0	300.0	0.0	0.0	KOP @ 300' MD
883.4	879.4	-22.8	54.6	EOB; 11.67°
6,827.3	6,700.4	-484.9	1,164.4	Start 10° Build/Turn
7,771.9	7,307.0	86.3	1,280.0	LP @ 7307' TVD; 90°
7,991.9	7,307.0	306.3	1,280.0	Start 2° Turn
8,017.0	7,307.0	331.4	1,279.9	EOT; 359.5°
12,782.1	7,307.0	5,096.3	1,238.2	PBHL @ 12782' MD



EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S9-T2N-R67W (Sprague)

Sprague 3I-9H-N267

Hz

Plan #2

Anticollision Report

21 November, 2013



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference	Plan #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,550.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date	11/21/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	12,782.1	Plan #2 (Hz)	Geolink MWD	Geolink MWD



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
S9-T2N-R67W (Sprague)						
BARNES 34-4 (EXISTING) - ENCANA WELL - ENCANA	12,782.1	7,222.0	400.4	295.9	3.833	CC, ES, SF
ECKSTINE V 9-10 (EXISTING) - NOBLE WELL - NO SU	9,309.9	7,260.0	380.7	335.2	8.374	CC, ES
ECKSTINE V 9-10 (EXISTING) - NOBLE WELL - NO SU	9,400.0	7,260.0	391.2	344.3	8.339	SF
ECKSTINE V 9-15 (EXISTING) - NOBLE WELL - NO SU	7,975.6	7,290.0	155.1	127.5	5.625	CC, ES, SF
KATHERINE 1 (EXISTING) - MACEY-MERSHON WELL						Out of range
LUHMAN 1 (EXISTING) - ENCANA WELL - Existing	12,782.1	7,217.0	879.1	774.6	8.415	CC, ES, SF
SHELEY 24-4 (EXISTING MR) - MACHII-ROSS WELL - N						Out of range
SHELEY 24-4 (EXISTING) - ENCANA WELL - NO SURV	12,782.1	7,214.0	842.0	737.5	8.061	CC, ES, SF
SHELEY 4-6-4 (EXISTING) - ENCANA WELL - SURVEY	12,782.1	7,333.0	1,032.7	922.1	9.331	CC, ES, SF
SPRAGUE 1 (EXISTING) - ENCANA WELL - NO SURVE	11,383.0	7,238.0	603.9	523.6	7.520	CC
SPRAGUE 1 (EXISTING) - ENCANA WELL - NO SURVE	11,400.0	7,238.0	604.1	523.5	7.495	ES
SPRAGUE 1 (EXISTING) - ENCANA WELL - NO SURVE	11,500.0	7,238.0	615.1	532.8	7.472	SF
SPRAGUE 1-9 (EXISTING) - MACHII-ROSS WELL - NO	11,152.6	7,233.0	1,506.3	1,429.9	19.731	CC
SPRAGUE 1-9 (EXISTING) - MACHII-ROSS WELL - NO	11,200.0	7,233.0	1,507.0	1,429.9	19.533	ES
SPRAGUE 1-9 (EXISTING) - MACHII-ROSS WELL - NO	11,500.0	7,233.0	1,545.8	1,463.5	18.780	SF
Sprague 21-9 - DD - Plan #1	11,800.1	7,250.0	1,023.2	935.7	11.695	CC, ES
Sprague 21-9 - DD - Plan #1	12,000.0	7,250.0	1,042.5	951.6	11.464	SF
SPRAGUE 22-9 J (EXISTING) - MACHII-ROSS WELL - N	10,483.2	7,252.0	1,070.8	1,005.8	16.488	CC
SPRAGUE 22-9 J (EXISTING) - MACHII-ROSS WELL - N	10,500.0	7,252.0	1,070.9	1,005.7	16.418	ES
SPRAGUE 22-9 J (EXISTING) - MACHII-ROSS WELL - N	10,800.0	7,252.0	1,116.6	1,046.3	15.876	SF
SPRAGUE 23-9 J (EXISTING) - MACHII-ROSS WELL - N	9,164.1	7,275.0	1,068.1	1,024.9	24.745	CC, ES
SPRAGUE 23-9 J (EXISTING) - MACHII-ROSS WELL - N	9,600.0	7,275.0	1,153.6	1,103.4	22.981	SF
SPRAGUE 24-9 (EXISTING) - ENCANA WELL - NO SUR	1,550.1	1,501.3	40.2	33.1	5.657	CC, ES, SF
SPRAGUE 24-9 J (EXISTING) - MACHII-ROSS WELL - N	1,092.0	1,059.7	140.5	135.9	30.868	CC
SPRAGUE 24-9 J (EXISTING) - MACHII-ROSS WELL - N	1,100.0	1,067.5	140.5	135.9	30.575	ES
SPRAGUE 24-9 J (EXISTING) - MACHII-ROSS WELL - N	1,500.0	1,459.2	162.9	156.5	25.200	SF
SPRAGUE 2-8-9 (EXISTING) - ENCANA WELL - SURVE	1,095.2	1,071.9	62.1	56.9	11.972	CC
SPRAGUE 2-8-9 (EXISTING) - ENCANA WELL - SURVE	1,100.0	1,076.3	62.1	56.9	11.883	ES, SF
SPRAGUE 31-9 (EXISTING) - ENCANA WELL - Plan #1	11,614.5	7,426.3	420.4	337.9	5.094	CC, ES, SF
SPRAGUE 31-9 (EXISTING) - ENCANA WELL - Plan #2	11,698.1	7,440.9	315.8	232.3	3.780	CC, ES, SF
SPRAGUE 31-9 (EXISTING) - ENCANA WELL - Plan #3	11,839.0	7,411.9	161.3	71.2	1.791	CC, ES, SF
SPRAGUE 31-9 (EXISTING) - ENCANA WELL - SURVE	11,819.4	7,416.8	220.3	132.5	2.508	CC, ES, SF
SPRAGUE 32-9 (EXISTING) - ENCANA WELL - NO SUR	10,355.1	7,251.0	259.8	197.0	4.139	CC, ES, SF
SPRAGUE 33-9 (EXISTING) - ENCANA WELL - NO SUR	9,330.5	7,261.0	238.6	192.8	5.210	CC, ES, SF
SPRAGUE 34-9 (EXISTING) - ENCANA WELL - NO SUR	7,740.4	7,275.2	1,075.4	1,049.2	41.073	CC, ES
SPRAGUE 34-9 (EXISTING) - ENCANA WELL - NO SUR	8,300.0	7,276.0	1,219.5	1,188.8	39.665	SF
SPRAGUE 3-9 (EXISTING) - ENCANA WELL - NO SURV	8,786.6	7,269.0	1,201.4	1,164.0	32.161	CC
SPRAGUE 3-9 (EXISTING) - ENCANA WELL - NO SURV	8,800.0	7,269.0	1,201.4	1,163.9	31.995	ES
SPRAGUE 3-9 (EXISTING) - ENCANA WELL - NO SURV	9,400.0	7,269.0	1,348.9	1,302.0	28.745	SF
Sprague 3A-9H-N267 - Hz - Plan #1	200.0	200.0	81.2	80.6	136.754	CC, ES
Sprague 3A-9H-N267 - Hz - Plan #1	600.0	585.3	121.0	119.0	60.930	SF
Sprague 3B-9H-N267 - Hz - Plan #1	300.0	300.0	70.0	69.0	74.253	CC, ES
Sprague 3B-9H-N267 - Hz - Plan #1	600.0	591.0	98.4	96.4	49.493	SF
Sprague 3C-9H-N267 - Hz - Plan #1	300.0	300.0	61.6	60.7	65.368	CC, ES
Sprague 3C-9H-N267 - Hz - Plan #1	600.0	597.3	79.3	77.3	39.900	SF
Sprague 3D-9H-N267 - Hz - Plan #1	300.0	300.0	50.4	49.5	53.528	CC, ES
Sprague 3D-9H-N267 - Hz - Plan #1	600.0	598.6	66.2	64.2	33.325	SF
Sprague 3E-9H-N267 - Hz - Plan #1	200.0	200.0	42.1	41.5	70.925	CC
Sprague 3E-9H-N267 - Hz - Plan #1	300.0	299.8	42.4	41.4	44.942	ES
Sprague 3E-9H-N267 - Hz - Plan #1	12,782.1	12,586.7	1,426.6	1,244.5	7.835	SF
Sprague 3F-9H-N267 - Hz - Plan #1	300.0	300.0	31.0	30.0	32.850	CC, ES
Sprague 3F-9H-N267 - Hz - Plan #1	12,782.1	12,898.1	1,106.9	926.5	6.135	SF
Sprague 3G-9H-N267 - Hz - Plan #1	300.0	300.0	19.9	19.0	21.110	CC, ES

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

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 3G-9H-N267 - Hz - Plan #1	12,782.1	12,706.8	735.1	551.3	3.999	SF
Sprague 3H-9H-N267 - Hz - Plan #2	300.0	300.0	11.7	10.8	12.459	CC, ES
Sprague 3H-9H-N267 - Hz - Plan #2	12,782.1	12,988.6	413.7	256.9	2.638	SF
Sprague 3J-9H-N267 - Hz - Plan #1	200.0	200.0	8.4	7.8	14.133	CC, ES
Sprague 3J-9H-N267 - Hz - Plan #1	12,782.1	13,068.3	414.0	257.7	2.650	SF
SPRAGUE 41-9 (EXISTING) - ENCANA WELL - SURVE	11,851.9	7,221.5	1,529.2	1,440.8	17.306	CC
SPRAGUE 41-9 (EXISTING) - ENCANA WELL - SURVE	11,900.0	7,221.4	1,530.0	1,440.8	17.153	ES
SPRAGUE 41-9 (EXISTING) - ENCANA WELL - SURVE	12,100.0	7,221.0	1,549.2	1,456.6	16.721	SF
SPRAGUE 4-6-9 (EXISTING) - ENCANA WELL - SURVE	1,224.2	1,172.7	181.1	176.6	40.198	CC, ES
SPRAGUE 4-6-9 (EXISTING) - ENCANA WELL - SURVE	8,609.3	7,491.7	359.9	315.9	8.176	SF
SPRAGUE 4-8-9 (EXISTING) - ENCANA WELL - SURVE	1,555.3	1,513.3	50.9	45.5	9.433	CC, ES
SPRAGUE 4-8-9 (EXISTING) - ENCANA WELL - SURVE	5,074.3	5,037.6	82.0	48.2	2.430	SF
SPRAGUE 6-0-9 (EXISTING) - ENCANA WELL - PLAN O	12,355.4	7,299.6	893.5	793.7	8.955	CC, ES
SPRAGUE 6-0-9 (EXISTING) - ENCANA WELL - PLAN O	12,500.0	7,299.6	905.1	802.8	8.849	SF
SPRAGUE 6-4-9 (EXISTING) - ENCANA WELL - SURVE	9,859.4	7,389.9	995.3	938.2	17.431	CC, ES
SPRAGUE 6-4-9 (EXISTING) - ENCANA WELL - SURVE	10,200.0	7,387.3	1,052.0	989.2	16.749	SF
SPRAGUE V 9-1 (EXISTING) - NOBLE WELL - NO SUR						Out of range
SPRAGUE V 9-7 (EXISTING) - NOBLE WELL - NO SUR	10,459.3	7,256.0	259.3	194.8	4.017	CC, ES, SF
SPRAGUE V 9-8 (EXISTING) - NOBLE WELL - NO SUR						Out of range



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design		S9-T2N-R67W (Sprague) - BARNES 34-4 (EXISTING) - ENCANA WELL - ENCANA WELL										Offset Site Error: 0.0 ft	
Survey Program: 8100-Geolink MWD												Offset Well Error: 0.0 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	Total Uncertainty Axis	Separation Factor	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)			
11,400.0	7,307.0	7,222.0	7,222.0	71.6	12.6	90.00	5,191.1	1,627.2	1,524.1	1,443.5	80.57	18.916	
11,500.0	7,307.0	7,222.0	7,222.0	73.3	12.6	90.00	5,191.1	1,627.2	1,427.6	1,345.4	82.29	17.349	
11,600.0	7,307.0	7,222.0	7,222.0	74.9	12.6	90.00	5,191.1	1,627.2	1,331.7	1,247.7	84.02	15.851	
11,700.0	7,307.0	7,222.0	7,222.0	76.5	12.6	90.00	5,191.1	1,627.2	1,236.5	1,150.7	85.74	14.421	
11,800.0	7,307.0	7,222.0	7,222.0	78.2	12.6	90.00	5,191.1	1,627.2	1,142.0	1,054.5	87.47	13.057	
11,900.0	7,307.0	7,222.0	7,222.0	79.8	12.6	90.00	5,191.1	1,627.2	1,048.6	959.4	89.19	11.756	
12,000.0	7,307.0	7,222.0	7,222.0	81.5	12.6	90.00	5,191.1	1,627.2	956.4	865.5	90.92	10.520	
12,100.0	7,307.0	7,222.0	7,222.0	83.2	12.6	90.00	5,191.1	1,627.2	866.1	773.4	92.65	9.348	
12,200.0	7,307.0	7,222.0	7,222.0	84.8	12.6	90.00	5,191.1	1,627.2	778.1	683.7	94.38	8.244	
12,300.0	7,307.0	7,222.0	7,222.0	86.5	12.6	90.00	5,191.1	1,627.2	693.4	597.3	96.11	7.214	
12,400.0	7,307.0	7,222.0	7,222.0	88.2	12.6	90.00	5,191.1	1,627.2	613.3	515.4	97.85	6.268	
12,500.0	7,307.0	7,222.0	7,222.0	89.9	12.6	90.00	5,191.1	1,627.2	539.8	440.2	99.58	5.421	
12,600.0	7,307.0	7,222.0	7,222.0	91.5	12.6	90.00	5,191.1	1,627.2	476.2	374.9	101.31	4.700	
12,700.0	7,307.0	7,222.0	7,222.0	93.2	12.6	90.00	5,191.1	1,627.2	426.7	323.6	103.05	4.141	
12,782.1	7,307.0	7,222.0	7,222.0	94.6	12.6	90.00	5,191.1	1,627.2	400.4	295.9	104.47	3.833	CC, ES, SF



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - ECKSTINE V 9-10 (EXISTING) - NOBLE WELL - NO SURVEYS													Offset Site Error: 0.0 ft
Survey Program: 7775-Geolink MWD													Offset Well Error: 0.0 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)	Total Uncertainty Axis	Separation Factor	
7,900.0	7,307.0	7,260.0	7,260.0	26.9	12.7	90.00	1,627.7	1,649.2	1,460.7	1,433.7	26.95	54.194	
7,991.9	7,307.0	7,260.0	7,260.0	27.3	12.7	90.00	1,627.7	1,649.2	1,372.0	1,344.3	27.64	49.629	
8,000.0	7,307.0	7,260.0	7,260.0	27.3	12.7	90.00	1,627.7	1,649.2	1,364.1	1,336.5	27.69	49.268	
8,017.0	7,307.0	7,260.0	7,260.0	27.4	12.7	90.00	1,627.7	1,649.2	1,347.9	1,320.1	27.78	48.519	
8,100.0	7,307.0	7,260.0	7,260.0	27.8	12.7	90.00	1,627.7	1,649.2	1,268.4	1,239.9	28.54	44.447	
8,200.0	7,307.0	7,260.0	7,260.0	28.4	12.7	90.00	1,627.7	1,649.2	1,173.4	1,143.8	29.57	39.680	
8,300.0	7,307.0	7,260.0	7,260.0	29.1	12.7	90.00	1,627.7	1,649.2	1,079.3	1,048.6	30.72	35.136	
8,400.0	7,307.0	7,260.0	7,260.0	29.8	12.7	90.00	1,627.7	1,649.2	986.4	954.4	31.96	30.867	
8,500.0	7,307.0	7,260.0	7,260.0	30.7	12.7	90.00	1,627.7	1,649.2	894.9	861.7	33.27	26.901	
8,600.0	7,307.0	7,260.0	7,260.0	31.6	12.7	90.00	1,627.7	1,649.2	805.6	770.9	34.64	23.254	
8,700.0	7,307.0	7,260.0	7,260.0	32.6	12.7	90.00	1,627.7	1,649.2	719.0	682.9	36.07	19.934	
8,800.0	7,307.0	7,260.0	7,260.0	33.7	12.7	90.00	1,627.7	1,649.2	636.4	598.8	37.54	16.954	
8,900.0	7,307.0	7,260.0	7,260.0	34.8	12.7	90.00	1,627.7	1,649.2	559.4	520.4	39.04	14.331	
9,000.0	7,307.0	7,260.0	7,260.0	35.9	12.7	90.00	1,627.7	1,649.2	490.9	450.3	40.57	12.100	
9,100.0	7,307.0	7,260.0	7,260.0	37.2	12.7	90.00	1,627.7	1,649.2	434.7	392.6	42.13	10.320	
9,200.0	7,307.0	7,260.0	7,260.0	38.4	12.7	90.00	1,627.7	1,649.2	396.2	352.5	43.70	9.067	
9,300.0	7,307.0	7,260.0	7,260.0	39.7	12.7	90.00	1,627.7	1,649.2	380.8	335.5	45.30	8.407	
9,309.9	7,307.0	7,260.0	7,260.0	39.8	12.7	90.00	1,627.7	1,649.2	380.7	335.2	45.46	8.374 CC, ES	
9,400.0	7,307.0	7,260.0	7,260.0	41.0	12.7	90.00	1,627.7	1,649.2	391.2	344.3	46.91	8.339 SF	
9,500.0	7,307.0	7,260.0	7,260.0	42.4	12.7	90.00	1,627.7	1,649.2	425.5	377.0	48.53	8.767	
9,600.0	7,307.0	7,260.0	7,260.0	43.8	12.7	90.00	1,627.7	1,649.2	478.6	428.4	50.17	9.539	
9,700.0	7,307.0	7,260.0	7,260.0	45.2	12.7	90.00	1,627.7	1,649.2	545.0	493.2	51.82	10.519	
9,800.0	7,307.0	7,260.0	7,260.0	46.6	12.7	90.00	1,627.7	1,649.2	620.6	567.1	53.47	11.605	
9,900.0	7,307.0	7,260.0	7,260.0	48.1	12.7	90.00	1,627.7	1,649.2	702.2	647.1	55.14	12.736	
10,000.0	7,307.0	7,260.0	7,260.0	49.6	12.7	90.00	1,627.7	1,649.2	788.1	731.3	56.81	13.873	
10,100.0	7,307.0	7,260.0	7,260.0	51.1	12.7	90.00	1,627.7	1,649.2	877.0	818.5	58.48	14.996	
10,200.0	7,307.0	7,260.0	7,260.0	52.6	12.7	90.00	1,627.7	1,649.2	968.1	907.9	60.17	16.090	
10,300.0	7,307.0	7,260.0	7,260.0	54.1	12.7	90.00	1,627.7	1,649.2	1,060.7	998.9	61.85	17.149	
10,400.0	7,307.0	7,260.0	7,260.0	55.7	12.7	90.00	1,627.7	1,649.2	1,154.6	1,091.1	63.54	18.170	
10,500.0	7,307.0	7,260.0	7,260.0	57.2	12.7	90.00	1,627.7	1,649.2	1,249.5	1,184.2	65.24	19.152	
10,600.0	7,307.0	7,260.0	7,260.0	58.8	12.7	90.00	1,627.7	1,649.2	1,345.1	1,278.1	66.94	20.093	
10,700.0	7,307.0	7,260.0	7,260.0	60.4	12.7	90.00	1,627.7	1,649.2	1,441.3	1,372.6	68.64	20.996	
10,800.0	7,307.0	7,260.0	7,260.0	61.9	12.7	90.00	1,627.7	1,649.2	1,537.9	1,467.6	70.35	21.861	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - ECKSTINE V 9-15 (EXISTING) - NOBLE WELL - NO SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 7775-Geolink MWD													Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	75.54	290.0	1,124.9	1,161.8					
100.0	100.0	83.0	83.0	0.1	0.1	75.54	290.0	1,124.9	1,161.7	1,161.4	0.27	4,347.039		
200.0	200.0	183.0	183.0	0.3	0.3	75.54	290.0	1,124.9	1,161.7	1,161.1	0.62	1,884.927		
300.0	300.0	283.0	283.0	0.5	0.5	75.54	290.0	1,124.9	1,161.7	1,160.7	0.97	1,203.359		
400.0	400.0	383.0	383.0	0.6	0.7	-37.13	290.0	1,124.9	1,160.3	1,159.0	1.32	882.262		
500.0	499.8	482.8	482.8	0.8	0.8	-37.34	290.0	1,124.9	1,156.1	1,154.4	1.67	692.595		
600.0	599.5	582.5	582.5	1.1	1.0	-37.69	290.0	1,124.9	1,149.2	1,147.2	2.03	565.301		
700.0	698.7	681.7	681.7	1.3	1.2	-38.18	290.0	1,124.9	1,139.6	1,137.1	2.41	472.487		
800.0	797.5	780.5	780.5	1.6	1.4	-38.83	290.0	1,124.9	1,127.3	1,124.4	2.81	400.815		
883.4	879.4	862.4	862.4	1.9	1.5	-39.49	290.0	1,124.9	1,115.0	1,111.8	3.17	352.089		
900.0	895.6	878.6	878.6	2.0	1.5	-39.59	290.0	1,124.9	1,112.4	1,109.2	3.24	343.404		
1,000.0	993.6	976.6	976.6	2.4	1.7	-40.26	290.0	1,124.9	1,096.8	1,093.1	3.68	297.771		
1,100.0	1,091.5	1,074.5	1,074.5	2.7	1.9	-40.95	290.0	1,124.9	1,081.3	1,077.1	4.14	261.331		
1,200.0	1,189.4	1,172.4	1,172.4	3.1	2.0	-41.65	290.0	1,124.9	1,065.9	1,061.3	4.60	231.680		
1,300.0	1,287.4	1,270.4	1,270.4	3.5	2.2	-42.38	290.0	1,124.9	1,050.8	1,045.7	5.07	207.149		
1,400.0	1,385.3	1,368.3	1,368.3	3.9	2.4	-43.13	290.0	1,124.9	1,035.8	1,030.2	5.55	186.561		
1,500.0	1,483.2	1,466.2	1,466.2	4.3	2.6	-43.90	290.0	1,124.9	1,021.0	1,014.9	6.04	169.064		
1,600.0	1,581.2	1,564.2	1,564.2	4.7	2.7	-44.69	290.0	1,124.9	1,006.3	999.8	6.53	154.033		
1,700.0	1,679.1	1,662.1	1,662.1	5.1	2.9	-45.50	290.0	1,124.9	991.9	984.9	7.04	140.997		
1,800.0	1,777.0	1,760.0	1,760.0	5.5	3.1	-46.34	290.0	1,124.9	977.7	970.2	7.54	129.597		
1,900.0	1,875.0	1,858.0	1,858.0	5.9	3.2	-47.20	290.0	1,124.9	963.7	955.6	8.06	119.557		
2,000.0	1,972.9	1,955.9	1,955.9	6.3	3.4	-48.08	290.0	1,124.9	949.9	941.3	8.58	110.656		
2,100.0	2,070.8	2,053.8	2,053.8	6.7	3.6	-48.99	290.0	1,124.9	936.4	927.2	9.12	102.720		
2,200.0	2,168.8	2,151.8	2,151.8	7.0	3.8	-49.93	290.0	1,124.9	923.1	913.4	9.65	95.610		
2,300.0	2,266.7	2,249.7	2,249.7	7.4	3.9	-50.89	290.0	1,124.9	910.0	899.8	10.20	89.211		
2,400.0	2,364.6	2,347.6	2,347.6	7.8	4.1	-51.88	290.0	1,124.9	897.2	886.5	10.75	83.429		
2,500.0	2,462.6	2,445.6	2,445.6	8.2	4.3	-52.90	290.0	1,124.9	884.7	873.4	11.32	78.187		
2,600.0	2,560.5	2,543.5	2,543.5	8.6	4.4	-53.94	290.0	1,124.9	872.5	860.6	11.88	73.418		
2,700.0	2,658.4	2,641.4	2,641.4	9.0	4.6	-55.01	290.0	1,124.9	860.6	848.1	12.46	69.068		
2,800.0	2,756.4	2,739.4	2,739.4	9.4	4.8	-56.12	290.0	1,124.9	849.0	835.9	13.04	65.090		
2,900.0	2,854.3	2,837.3	2,837.3	9.8	5.0	-57.25	290.0	1,124.9	837.7	824.1	13.63	61.446		
3,000.0	2,952.2	2,935.2	2,935.2	10.2	5.1	-58.41	290.0	1,124.9	826.8	812.6	14.23	58.100		
3,100.0	3,050.2	3,033.2	3,033.2	10.6	5.3	-59.60	290.0	1,124.9	816.2	801.4	14.83	55.022		
3,200.0	3,148.1	3,131.1	3,131.1	11.0	5.5	-60.82	290.0	1,124.9	806.0	790.6	15.44	52.189		
3,300.0	3,246.0	3,229.0	3,229.0	11.4	5.6	-62.07	290.0	1,124.9	796.2	780.1	16.06	49.576		
3,400.0	3,344.0	3,327.0	3,327.0	11.8	5.8	-63.35	290.0	1,124.9	786.8	770.1	16.68	47.165		
3,500.0	3,441.9	3,424.9	3,424.9	12.2	6.0	-64.66	290.0	1,124.9	777.7	760.4	17.31	44.939		
3,600.0	3,539.8	3,522.8	3,522.8	12.6	6.1	-66.00	290.0	1,124.9	769.1	751.2	17.94	42.881		
3,700.0	3,637.8	3,620.8	3,620.8	13.0	6.3	-67.37	290.0	1,124.9	761.0	742.4	18.57	40.979		
3,800.0	3,735.7	3,718.7	3,718.7	13.4	6.5	-68.76	290.0	1,124.9	753.3	734.1	19.21	39.220		
3,900.0	3,833.6	3,816.6	3,816.6	13.8	6.7	-70.18	290.0	1,124.9	746.1	726.2	19.85	37.594		
4,000.0	3,931.6	3,914.6	3,914.6	14.2	6.8	-71.63	290.0	1,124.9	739.3	718.9	20.49	36.091		
4,100.0	4,029.5	4,012.5	4,012.5	14.6	7.0	-73.10	290.0	1,124.9	733.1	712.0	21.13	34.702		
4,200.0	4,127.4	4,110.4	4,110.4	15.0	7.2	-74.60	290.0	1,124.9	727.4	705.6	21.76	33.419		
4,300.0	4,225.4	4,208.4	4,208.4	15.4	7.3	-76.11	290.0	1,124.9	722.1	699.7	22.40	32.236		
4,400.0	4,323.3	4,306.3	4,306.3	15.8	7.5	-77.65	290.0	1,124.9	717.5	694.4	23.04	31.145		
4,500.0	4,421.2	4,404.2	4,404.2	16.2	7.7	-79.21	290.0	1,124.9	713.3	689.7	23.67	30.140		
4,600.0	4,519.2	4,502.2	4,502.2	16.6	7.9	-80.78	290.0	1,124.9	709.7	685.4	24.29	29.216		
4,700.0	4,617.1	4,600.1	4,600.1	17.0	8.0	-82.36	290.0	1,124.9	706.7	681.8	24.91	28.369		
4,800.0	4,715.0	4,698.0	4,698.0	17.4	8.2	-83.96	290.0	1,124.9	704.3	678.7	25.52	27.592		
4,900.0	4,813.0	4,796.0	4,796.0	17.8	8.4	-85.57	290.0	1,124.9	702.4	676.2	26.13	26.883		
5,000.0	4,910.9	4,893.9	4,893.9	18.2	8.5	-87.18	290.0	1,124.9	701.1	674.3	26.72	26.236		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - ECKSTINE V 9-15 (EXISTING) - NOBLE WELL - NO SURVEYS												Offset Site Error:	0.0 ft
Survey Program: 7775-Geolink MWD												Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	5,008.8	4,991.8	4,991.8	18.6	8.7	-88.80	290.0	1,124.9	700.3	673.0	27.31	25.648	
5,174.0	5,081.3	5,064.3	5,064.3	18.9	8.8	-90.00	290.0	1,124.9	700.2	672.5	27.73	25.250	
5,200.0	5,106.8	5,089.8	5,089.8	19.0	8.9	-90.42	290.0	1,124.9	700.2	672.3	27.88	25.117	
5,300.0	5,204.7	5,187.7	5,187.7	19.4	9.1	-92.04	290.0	1,124.9	700.6	672.2	28.44	24.637	
5,400.0	5,302.6	5,285.6	5,285.6	19.8	9.2	-93.66	290.0	1,124.9	701.7	672.7	28.99	24.207	
5,500.0	5,400.6	5,383.6	5,383.6	20.2	9.4	-95.27	290.0	1,124.9	703.3	673.8	29.52	23.823	
5,600.0	5,498.5	5,481.5	5,481.5	20.6	9.6	-96.87	290.0	1,124.9	705.5	675.4	30.04	23.483	
5,700.0	5,596.4	5,579.4	5,579.4	21.0	9.7	-98.46	290.0	1,124.9	708.2	677.7	30.55	23.184	
5,800.0	5,694.4	5,677.4	5,677.4	21.4	9.9	-100.04	290.0	1,124.9	711.5	680.5	31.04	22.924	
5,900.0	5,792.3	5,775.3	5,775.3	21.8	10.1	-101.60	290.0	1,124.9	715.4	683.9	31.52	22.700	
6,000.0	5,890.2	5,873.2	5,873.2	22.2	10.3	-103.15	290.0	1,124.9	719.8	687.9	31.98	22.510	
6,100.0	5,988.2	5,971.2	5,971.2	22.6	10.4	-104.68	290.0	1,124.9	724.8	692.4	32.43	22.352	
6,200.0	6,086.1	6,069.1	6,069.1	23.0	10.6	-106.18	290.0	1,124.9	730.3	697.4	32.86	22.224	
6,300.0	6,184.0	6,167.0	6,167.0	23.4	10.8	-107.67	290.0	1,124.9	736.3	703.0	33.28	22.125	
6,400.0	6,282.0	6,265.0	6,265.0	23.8	10.9	-109.13	290.0	1,124.9	742.8	709.1	33.68	22.052	
6,500.0	6,379.9	6,362.9	6,362.9	24.2	11.1	-110.56	290.0	1,124.9	749.8	715.7	34.08	22.004	
6,600.0	6,477.8	6,460.8	6,460.8	24.6	11.3	-111.97	290.0	1,124.9	757.2	722.8	34.45	21.979	
6,700.0	6,575.8	6,558.8	6,558.8	25.0	11.4	-113.35	290.0	1,124.9	765.2	730.4	34.82	21.975	
6,800.0	6,673.7	6,656.7	6,656.7	25.4	11.6	-114.70	290.0	1,124.9	773.6	738.4	35.17	21.992	
6,827.3	6,700.4	6,683.4	6,683.4	25.5	11.7	-115.06	290.0	1,124.9	775.9	740.6	35.27	22.000	
6,850.0	6,722.7	6,705.7	6,705.7	25.6	11.7	-104.49	290.0	1,124.9	777.5	742.1	35.35	21.991	
6,900.0	6,771.8	6,754.8	6,754.8	25.7	11.8	-79.41	290.0	1,124.9	777.8	742.4	35.38	21.986	
6,950.0	6,820.7	6,803.7	6,803.7	25.9	11.9	-59.08	290.0	1,124.9	773.8	738.7	35.17	22.002	
7,000.0	6,869.0	6,852.0	6,852.0	26.0	12.0	-46.07	290.0	1,124.9	765.7	731.0	34.74	22.039	
7,050.0	6,916.4	6,899.4	6,899.4	26.1	12.0	-38.23	290.0	1,124.9	753.5	719.4	34.10	22.098	
7,100.0	6,962.4	6,945.4	6,945.4	26.1	12.1	-33.53	290.0	1,124.9	737.3	704.0	33.24	22.179	
7,150.0	7,006.8	6,989.8	6,989.8	26.2	12.2	-30.81	290.0	1,124.9	717.2	685.0	32.19	22.279	
7,200.0	7,049.2	7,032.2	7,032.2	26.2	12.3	-29.44	290.0	1,124.9	693.4	662.4	30.96	22.393	
7,250.0	7,089.2	7,072.2	7,072.2	26.2	12.3	-29.13	290.0	1,124.9	666.1	636.5	29.59	22.509	
7,300.0	7,126.7	7,109.7	7,109.7	26.2	12.4	-29.74	290.0	1,124.9	635.6	607.4	28.12	22.603	
7,350.0	7,161.2	7,144.2	7,144.2	26.2	12.5	-31.28	290.0	1,124.9	602.1	575.5	26.61	22.626	
7,400.0	7,192.6	7,175.6	7,175.6	26.2	12.5	-33.84	290.0	1,124.9	565.9	540.7	25.16	22.489	
7,450.0	7,220.5	7,203.5	7,203.5	26.2	12.6	-37.62	290.0	1,124.9	527.4	503.5	23.93	22.042	
7,500.0	7,244.8	7,227.8	7,227.8	26.3	12.6	-42.85	290.0	1,124.9	487.0	463.9	23.11	21.074	
7,550.0	7,265.3	7,248.3	7,248.3	26.3	12.7	-49.77	290.0	1,124.9	445.1	422.1	22.93	19.407	
7,600.0	7,281.9	7,264.9	7,264.9	26.3	12.7	-58.41	290.0	1,124.9	402.1	378.7	23.48	17.124	
7,650.0	7,294.3	7,277.3	7,277.3	26.4	12.7	-68.29	290.0	1,124.9	358.7	334.2	24.51	14.637	
7,700.0	7,302.6	7,285.6	7,285.6	26.4	12.7	-78.27	290.0	1,124.9	315.6	290.1	25.50	12.375	
7,750.0	7,306.6	7,289.6	7,289.6	26.5	12.7	-86.93	290.0	1,124.9	273.7	247.5	26.14	10.471	
7,771.9	7,307.0	7,290.0	7,290.0	26.5	12.7	-90.00	290.0	1,124.9	256.0	229.7	26.30	9.734	
7,800.0	7,307.0	7,290.0	7,290.0	26.6	12.7	-90.00	290.0	1,124.9	234.3	207.8	26.43	8.864	
7,900.0	7,307.0	7,290.0	7,290.0	26.9	12.7	-90.00	290.0	1,124.9	172.5	145.5	27.00	6.389	
7,975.6	7,307.0	7,290.0	7,290.0	27.2	12.7	-90.00	290.0	1,124.9	155.1	127.5	27.57	5.625 CC, ES, SF	
7,991.9	7,307.0	7,290.0	7,290.0	27.3	12.7	-90.00	290.0	1,124.9	156.0	128.3	27.70	5.631	
8,000.0	7,307.0	7,290.0	7,290.0	27.3	12.7	-90.00	290.0	1,124.9	157.0	129.3	27.74	5.660	
8,017.0	7,307.0	7,290.0	7,290.0	27.4	12.7	-90.00	290.0	1,124.9	160.4	132.6	27.83	5.764	
8,100.0	7,307.0	7,290.0	7,290.0	27.8	12.7	-90.00	290.0	1,124.9	198.2	169.6	28.59	6.933	
8,200.0	7,307.0	7,290.0	7,290.0	28.4	12.7	-90.00	290.0	1,124.9	271.8	242.2	29.62	9.177	
8,300.0	7,307.0	7,290.0	7,290.0	29.1	12.7	-90.00	290.0	1,124.9	358.5	327.7	30.77	11.651	
8,400.0	7,307.0	7,290.0	7,290.0	29.8	12.7	-90.00	290.0	1,124.9	450.7	418.7	32.01	14.081	
8,500.0	7,307.0	7,290.0	7,290.0	30.7	12.7	-90.00	290.0	1,124.9	545.7	512.3	33.32	16.376	
8,600.0	7,307.0	7,290.0	7,290.0	31.6	12.7	-90.00	290.0	1,124.9	642.2	607.5	34.69	18.509	

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - ECKSTINE V 9-15 (EXISTING) - NOBLE WELL - NO SURVEYS													Offset Site Error: 0.0 ft
Survey Program: 7775-Geolink MWD													Offset Well Error: 0.0 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)	Total Uncertainty Axis	Separation Factor	
8,700.0	7,307.0	7,290.0	7,290.0	32.6	12.7	-90.00	290.0	1,124.9	739.6	703.5	36.12	20.476	
8,800.0	7,307.0	7,290.0	7,290.0	33.7	12.7	-90.00	290.0	1,124.9	837.6	800.0	37.59	22.285	
8,900.0	7,307.0	7,290.0	7,290.0	34.8	12.7	-90.00	290.0	1,124.9	936.1	897.0	39.09	23.947	
9,000.0	7,307.0	7,290.0	7,290.0	35.9	12.7	-90.00	290.0	1,124.9	1,034.8	994.2	40.62	25.475	
9,100.0	7,307.0	7,290.0	7,290.0	37.2	12.7	-90.00	290.0	1,124.9	1,133.8	1,091.6	42.18	26.881	
9,200.0	7,307.0	7,290.0	7,290.0	38.4	12.7	-90.00	290.0	1,124.9	1,232.9	1,189.2	43.76	28.177	
9,300.0	7,307.0	7,290.0	7,290.0	39.7	12.7	-90.00	290.0	1,124.9	1,332.2	1,286.8	45.35	29.374	
9,400.0	7,307.0	7,290.0	7,290.0	41.0	12.7	-90.00	290.0	1,124.9	1,431.5	1,384.6	46.96	30.483	
9,500.0	7,307.0	7,290.0	7,290.0	42.4	12.7	-90.00	290.0	1,124.9	1,531.0	1,482.4	48.59	31.510	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - LUHMAN 1 (EXISTING) - ENCANA WELL - Existing													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Separation Factor	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)	Total Uncertainty Axis			
12,000.0	7,307.0	7,217.0	7,217.0	81.5	12.6	90.00	5,719.6	1,858.0	1,533.2	1,442.3	90.91	16.865		
12,100.0	7,307.0	7,217.0	7,217.0	83.2	12.6	90.00	5,719.6	1,858.0	1,442.5	1,349.9	92.64	15.571		
12,200.0	7,307.0	7,217.0	7,217.0	84.8	12.6	90.00	5,719.6	1,858.0	1,353.1	1,258.7	94.37	14.338		
12,300.0	7,307.0	7,217.0	7,217.0	86.5	12.6	90.00	5,719.6	1,858.0	1,265.2	1,169.1	96.10	13.165		
12,400.0	7,307.0	7,217.0	7,217.0	88.2	12.6	90.00	5,719.6	1,858.0	1,179.3	1,081.5	97.84	12.054		
12,500.0	7,307.0	7,217.0	7,217.0	89.9	12.6	90.00	5,719.6	1,858.0	1,095.8	996.3	99.57	11.006		
12,600.0	7,307.0	7,217.0	7,217.0	91.5	12.6	90.00	5,719.6	1,858.0	1,015.3	914.0	101.30	10.023		
12,700.0	7,307.0	7,217.0	7,217.0	93.2	12.6	90.00	5,719.6	1,858.0	938.6	835.5	103.04	9.109		
12,782.1	7,307.0	7,217.0	7,217.0	94.6	12.6	90.00	5,719.6	1,858.0	879.1	774.6	104.46	8.415 CC, ES, SF		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SHELEY 24-4 (EXISTING) - ENCANA WELL - NO SURVEYS													Offset Site Error: 0.0 ft
Survey Program: 0-MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis			Distance					Separation Factor	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)	Total Uncertainty Axis		
11,700.0	7,307.0	7,214.0	7,214.0	76.5	12.6	-90.00	5,260.2	412.2	1,500.1	1,414.3	85.73	17.498	
11,800.0	7,307.0	7,214.0	7,214.0	78.2	12.6	-90.00	5,260.2	412.2	1,417.6	1,330.1	87.45	16.210	
11,900.0	7,307.0	7,214.0	7,214.0	79.8	12.6	-90.00	5,260.2	412.2	1,337.5	1,248.3	89.18	14.998	
12,000.0	7,307.0	7,214.0	7,214.0	81.5	12.6	-90.00	5,260.2	412.2	1,260.3	1,169.4	90.91	13.863	
12,100.0	7,307.0	7,214.0	7,214.0	83.2	12.6	-90.00	5,260.2	412.2	1,186.4	1,093.8	92.64	12.807	
12,200.0	7,307.0	7,214.0	7,214.0	84.8	12.6	-90.00	5,260.2	412.2	1,116.7	1,022.3	94.37	11.833	
12,300.0	7,307.0	7,214.0	7,214.0	86.5	12.6	-90.00	5,260.2	412.2	1,051.8	955.7	96.10	10.945	
12,400.0	7,307.0	7,214.0	7,214.0	88.2	12.6	-90.00	5,260.2	412.2	992.8	895.0	97.83	10.148	
12,500.0	7,307.0	7,214.0	7,214.0	89.9	12.6	-90.00	5,260.2	412.2	940.8	841.2	99.56	9.449	
12,600.0	7,307.0	7,214.0	7,214.0	91.5	12.6	-90.00	5,260.2	412.2	896.9	795.6	101.30	8.854	
12,700.0	7,307.0	7,214.0	7,214.0	93.2	12.6	-90.00	5,260.2	412.2	862.4	759.4	103.03	8.370	
12,782.1	7,307.0	7,214.0	7,214.0	94.6	12.6	-90.00	5,260.2	412.2	842.0	737.5	104.46	8.061 CC, ES, SF	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SHELEY 4-6-4 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error: 0.0 ft
Survey Program: 683-MWD													Offset Well Error: 0.0 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)	Total Uncertainty Axis	Separation Factor	
12,300.0	7,307.0	7,330.1	7,212.0	86.5	21.1	-87.00	6,079.6	922.8	1,499.9	1,397.6	102.27	14.665	
12,400.0	7,307.0	7,330.6	7,212.5	88.2	21.1	-87.11	6,079.6	922.8	1,402.2	1,298.1	104.02	13.480	
12,500.0	7,307.0	7,331.2	7,213.2	89.9	21.1	-87.23	6,079.6	922.8	1,304.8	1,199.0	105.76	12.337	
12,600.0	7,307.0	7,331.9	7,213.8	91.5	21.1	-87.34	6,079.6	922.8	1,207.8	1,100.3	107.50	11.235	
12,700.0	7,307.0	7,332.5	7,214.4	93.2	21.1	-87.46	6,079.7	922.8	1,111.4	1,002.1	109.25	10.173	
12,782.1	7,307.0	7,333.0	7,214.9	94.6	21.1	-87.55	6,079.7	922.8	1,032.7	922.1	110.68	9.331 CC, ES, SF	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 1 (EXISTING) - ENCANA WELL - NO SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 8075-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
10,000.0	7,307.0	7,238.0	7,238.0	49.6	12.6	90.00	3,702.6	1,854.3	1,509.1	1,452.3	56.77	26.584		
10,100.0	7,307.0	7,238.0	7,238.0	51.1	12.6	90.00	3,702.6	1,854.3	1,418.0	1,359.6	58.45	24.263		
10,200.0	7,307.0	7,238.0	7,238.0	52.6	12.6	90.00	3,702.6	1,854.3	1,328.2	1,268.1	60.13	22.090		
10,300.0	7,307.0	7,238.0	7,238.0	54.1	12.6	90.00	3,702.6	1,854.3	1,240.0	1,178.2	61.81	20.060		
10,400.0	7,307.0	7,238.0	7,238.0	55.7	12.6	90.00	3,702.6	1,854.3	1,153.7	1,090.2	63.51	18.166		
10,500.0	7,307.0	7,238.0	7,238.0	57.2	12.6	90.00	3,702.6	1,854.3	1,069.8	1,004.6	65.20	16.407		
10,600.0	7,307.0	7,238.0	7,238.0	58.8	12.6	90.00	3,702.6	1,854.3	988.8	921.9	66.90	14.780		
10,700.0	7,307.0	7,238.0	7,238.0	60.4	12.6	90.00	3,702.6	1,854.3	911.7	843.1	68.60	13.289		
10,800.0	7,307.0	7,238.0	7,238.0	61.9	12.6	90.00	3,702.6	1,854.3	839.4	769.1	70.31	11.938		
10,900.0	7,307.0	7,238.0	7,238.0	63.5	12.6	90.00	3,702.6	1,854.3	773.3	701.3	72.02	10.737		
11,000.0	7,307.0	7,238.0	7,238.0	65.1	12.6	90.00	3,702.6	1,854.3	715.1	641.4	73.73	9.699		
11,100.0	7,307.0	7,238.0	7,238.0	66.7	12.6	90.00	3,702.6	1,854.3	666.9	591.5	75.44	8.840		
11,200.0	7,307.0	7,238.0	7,238.0	68.4	12.6	90.00	3,702.6	1,854.3	631.0	553.8	77.16	8.178		
11,300.0	7,307.0	7,238.0	7,238.0	70.0	12.6	90.00	3,702.6	1,854.3	609.6	530.7	78.88	7.728		
11,383.0	7,307.0	7,238.0	7,238.0	71.3	12.6	90.00	3,702.6	1,854.3	603.9	523.6	80.31	7.520 CC		
11,400.0	7,307.0	7,238.0	7,238.0	71.6	12.6	90.00	3,702.6	1,854.3	604.1	523.5	80.60	7.495 ES		
11,500.0	7,307.0	7,238.0	7,238.0	73.3	12.6	90.00	3,702.6	1,854.3	615.1	532.8	82.32	7.472 SF		
11,600.0	7,307.0	7,238.0	7,238.0	74.9	12.6	90.00	3,702.6	1,854.3	641.7	557.6	84.04	7.635		
11,700.0	7,307.0	7,238.0	7,238.0	76.5	12.6	90.00	3,702.6	1,854.3	682.0	596.2	85.77	7.952		
11,800.0	7,307.0	7,238.0	7,238.0	78.2	12.6	90.00	3,702.6	1,854.3	733.8	646.4	87.49	8.387		
11,900.0	7,307.0	7,238.0	7,238.0	79.8	12.6	90.00	3,702.6	1,854.3	794.9	705.7	89.22	8.910		
12,000.0	7,307.0	7,238.0	7,238.0	81.5	12.6	90.00	3,702.6	1,854.3	863.3	772.4	90.95	9.492		
12,100.0	7,307.0	7,238.0	7,238.0	83.2	12.6	90.00	3,702.6	1,854.3	937.4	844.7	92.68	10.115		
12,200.0	7,307.0	7,238.0	7,238.0	84.8	12.6	90.00	3,702.6	1,854.3	1,015.9	921.5	94.41	10.761		
12,300.0	7,307.0	7,238.0	7,238.0	86.5	12.6	90.00	3,702.6	1,854.3	1,098.0	1,001.8	96.14	11.420		
12,400.0	7,307.0	7,238.0	7,238.0	88.2	12.6	90.00	3,702.6	1,854.3	1,182.8	1,084.9	97.87	12.085		
12,500.0	7,307.0	7,238.0	7,238.0	89.9	12.6	90.00	3,702.6	1,854.3	1,269.8	1,170.2	99.61	12.748		
12,600.0	7,307.0	7,238.0	7,238.0	91.5	12.6	90.00	3,702.6	1,854.3	1,358.6	1,257.2	101.34	13.406		
12,700.0	7,307.0	7,238.0	7,238.0	93.2	12.6	90.00	3,702.6	1,854.3	1,448.8	1,345.7	103.08	14.056		
12,782.1	7,307.0	7,238.0	7,238.0	94.6	12.6	90.00	3,702.6	1,854.3	1,523.8	1,419.3	104.50	14.582		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 1-9 (EXISTING) - MACHII-ROSS WELL - NO SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 8150-Geolink MWD													Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor		
10,800.0	7,307.0	7,233.0	7,233.0	61.9	12.6	-90.00	3,453.7	-253.8	1,547.0	1,476.7	70.30	22.005		
10,900.0	7,307.0	7,233.0	7,233.0	63.5	12.6	-90.00	3,453.7	-253.8	1,527.3	1,455.3	72.01	21.209		
11,000.0	7,307.0	7,233.0	7,233.0	65.1	12.6	-90.00	3,453.7	-253.8	1,514.0	1,440.3	73.72	20.536		
11,100.0	7,307.0	7,233.0	7,233.0	66.7	12.6	-90.00	3,453.7	-253.8	1,507.2	1,431.8	75.44	19.980		
11,152.6	7,307.0	7,233.0	7,233.0	67.6	12.6	-90.00	3,453.7	-253.8	1,506.3	1,429.9	76.34	19.731 CC		
11,200.0	7,307.0	7,233.0	7,233.0	68.4	12.6	-90.00	3,453.7	-253.8	1,507.0	1,429.9	77.15	19.533 ES		
11,300.0	7,307.0	7,233.0	7,233.0	70.0	12.6	-90.00	3,453.7	-253.8	1,513.5	1,434.6	78.87	19.189		
11,400.0	7,307.0	7,233.0	7,233.0	71.6	12.6	-90.00	3,453.7	-253.8	1,526.5	1,445.9	80.59	18.941		
11,500.0	7,307.0	7,233.0	7,233.0	73.3	12.6	-90.00	3,453.7	-253.8	1,545.8	1,463.5	82.31	18.780 SF		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 21-9 - DD - Plan #1												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)			
10,700.0	7,307.0	7,250.0	7,250.0	60.4	12.6	-90.00	4,105.5	223.6	1,502.4	1,433.8	68.60	21.901	
10,800.0	7,307.0	7,250.0	7,250.0	61.9	12.6	-90.00	4,105.5	223.6	1,430.8	1,360.5	70.30	20.352	
10,900.0	7,307.0	7,250.0	7,250.0	63.5	12.6	-90.00	4,105.5	223.6	1,362.8	1,290.8	72.01	18.924	
11,000.0	7,307.0	7,250.0	7,250.0	65.1	12.6	-90.00	4,105.5	223.6	1,298.9	1,225.2	73.72	17.618	
11,100.0	7,307.0	7,250.0	7,250.0	66.7	12.6	-90.00	4,105.5	223.6	1,239.8	1,164.4	75.44	16.435	
11,200.0	7,307.0	7,250.0	7,250.0	68.4	12.6	-90.00	4,105.5	223.6	1,186.2	1,109.0	77.15	15.374	
11,300.0	7,307.0	7,250.0	7,250.0	70.0	12.6	-90.00	4,105.5	223.6	1,138.9	1,060.0	78.87	14.440	
11,400.0	7,307.0	7,250.0	7,250.0	71.6	12.6	-90.00	4,105.5	223.6	1,098.6	1,018.1	80.59	13.632	
11,500.0	7,307.0	7,250.0	7,250.0	73.3	12.6	-90.00	4,105.5	223.6	1,066.3	984.0	82.31	12.954	
11,600.0	7,307.0	7,250.0	7,250.0	74.9	12.6	-90.00	4,105.5	223.6	1,042.6	958.5	84.04	12.406	
11,700.0	7,307.0	7,250.0	7,250.0	76.5	12.6	-90.00	4,105.5	223.6	1,028.1	942.3	85.76	11.988	
11,800.0	7,307.0	7,250.0	7,250.0	78.2	12.6	-90.00	4,105.5	223.6	1,023.2	935.7	87.49	11.695	
11,800.1	7,307.0	7,250.0	7,250.0	78.2	12.6	-90.00	4,105.5	223.6	1,023.2	935.7	87.49	11.695 CC, ES	
11,900.0	7,307.0	7,250.0	7,250.0	79.8	12.6	-90.00	4,105.5	223.6	1,028.1	938.8	89.21	11.523	
12,000.0	7,307.0	7,250.0	7,250.0	81.5	12.6	-90.00	4,105.5	223.6	1,042.5	951.6	90.94	11.464 SF	
12,100.0	7,307.0	7,250.0	7,250.0	83.2	12.6	-90.00	4,105.5	223.6	1,066.2	973.6	92.67	11.505	
12,200.0	7,307.0	7,250.0	7,250.0	84.8	12.6	-90.00	4,105.5	223.6	1,098.6	1,004.1	94.40	11.637	
12,300.0	7,307.0	7,250.0	7,250.0	86.5	12.6	-90.00	4,105.5	223.6	1,138.8	1,042.6	96.13	11.846	
12,400.0	7,307.0	7,250.0	7,250.0	88.2	12.6	-90.00	4,105.5	223.6	1,186.1	1,088.2	97.87	12.119	
12,500.0	7,307.0	7,250.0	7,250.0	89.9	12.6	-90.00	4,105.5	223.6	1,239.7	1,140.1	99.60	12.446	
12,600.0	7,307.0	7,250.0	7,250.0	91.5	12.6	-90.00	4,105.5	223.6	1,298.7	1,197.4	101.33	12.816	
12,700.0	7,307.0	7,250.0	7,250.0	93.2	12.6	-90.00	4,105.5	223.6	1,362.6	1,259.5	103.07	13.220	
12,782.1	7,307.0	7,250.0	7,250.0	94.6	12.6	-90.00	4,105.5	223.6	1,418.2	1,313.7	104.49	13.572	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 22-9 J (EXISTING) - MACHII-ROSS WELL - NO SURVEYS													Offset Site Error: 0.0 ft
Survey Program: 8120-Geolink MWD													Offset Well Error: 0.0 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)	Total Uncertainty Axis	Separation Factor	
9,400.0	7,307.0	7,252.0	7,252.0	41.0	12.7	-90.00	2,788.2	187.6	1,523.1	1,476.2	46.90	32.479	
9,500.0	7,307.0	7,252.0	7,252.0	42.4	12.7	-90.00	2,788.2	187.6	1,453.7	1,405.2	48.52	29.961	
9,600.0	7,307.0	7,252.0	7,252.0	43.8	12.7	-90.00	2,788.2	187.6	1,388.0	1,337.9	50.16	27.674	
9,700.0	7,307.0	7,252.0	7,252.0	45.2	12.7	-90.00	2,788.2	187.6	1,326.7	1,274.9	51.80	25.609	
9,800.0	7,307.0	7,252.0	7,252.0	46.6	12.7	-90.00	2,788.2	187.6	1,270.2	1,216.7	53.46	23.760	
9,900.0	7,307.0	7,252.0	7,252.0	48.1	12.7	-90.00	2,788.2	187.6	1,219.3	1,164.2	55.12	22.120	
10,000.0	7,307.0	7,252.0	7,252.0	49.6	12.7	-90.00	2,788.2	187.6	1,174.8	1,118.0	56.79	20.685	
10,100.0	7,307.0	7,252.0	7,252.0	51.1	12.7	-90.00	2,788.2	187.6	1,137.3	1,078.8	58.47	19.451	
10,200.0	7,307.0	7,252.0	7,252.0	52.6	12.7	-90.00	2,788.2	187.6	1,107.6	1,047.4	60.15	18.413	
10,300.0	7,307.0	7,252.0	7,252.0	54.1	12.7	-90.00	2,788.2	187.6	1,086.3	1,024.5	61.84	17.567	
10,400.0	7,307.0	7,252.0	7,252.0	55.7	12.7	-90.00	2,788.2	187.6	1,074.0	1,010.5	63.53	16.905	
10,483.2	7,307.0	7,252.0	7,252.0	57.0	12.7	-90.00	2,788.2	187.6	1,070.8	1,005.8	64.94	16.488 CC	
10,500.0	7,307.0	7,252.0	7,252.0	57.2	12.7	-90.00	2,788.2	187.6	1,070.9	1,005.7	65.23	16.418 ES	
10,600.0	7,307.0	7,252.0	7,252.0	58.8	12.7	-90.00	2,788.2	187.6	1,077.1	1,010.2	66.93	16.094	
10,700.0	7,307.0	7,252.0	7,252.0	60.4	12.7	-90.00	2,788.2	187.6	1,092.5	1,023.9	68.63	15.919	
10,800.0	7,307.0	7,252.0	7,252.0	61.9	12.7	-90.00	2,788.2	187.6	1,116.6	1,046.3	70.34	15.876 SF	
10,900.0	7,307.0	7,252.0	7,252.0	63.5	12.7	-90.00	2,788.2	187.6	1,149.0	1,077.0	72.04	15.949	
11,000.0	7,307.0	7,252.0	7,252.0	65.1	12.7	-90.00	2,788.2	187.6	1,188.9	1,115.2	73.76	16.120	
11,100.0	7,307.0	7,252.0	7,252.0	66.7	12.7	-90.00	2,788.2	187.6	1,235.7	1,160.2	75.47	16.373	
11,200.0	7,307.0	7,252.0	7,252.0	68.4	12.7	-90.00	2,788.2	187.6	1,288.5	1,211.3	77.19	16.694	
11,300.0	7,307.0	7,252.0	7,252.0	70.0	12.7	-90.00	2,788.2	187.6	1,346.7	1,267.8	78.90	17.068	
11,400.0	7,307.0	7,252.0	7,252.0	71.6	12.7	-90.00	2,788.2	187.6	1,409.6	1,329.0	80.62	17.484	
11,500.0	7,307.0	7,252.0	7,252.0	73.3	12.7	-90.00	2,788.2	187.6	1,476.6	1,394.3	82.34	17.932	
11,600.0	7,307.0	7,252.0	7,252.0	74.9	12.7	-90.00	2,788.2	187.6	1,547.2	1,463.1	84.07	18.404	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 23-9 J (EXISTING) - MACHII-ROSS WELL - NO SURVEYS														Offset Site Error:	0.0 ft
Survey Program: 8120-Geolink MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)					
0.0	0.0	0.0	0.0	0.0	0.0	7.82	1,469.1	201.8	1,483.3						
100.0	100.0	68.0	68.0	0.1	0.1	7.82	1,469.1	201.8	1,482.9	1,482.7	0.24	6,151.902			
200.0	200.0	168.0	168.0	0.3	0.3	7.82	1,469.1	201.8	1,482.9	1,482.4	0.59	2,512.958			
300.0	300.0	268.0	268.0	0.5	0.5	7.82	1,469.1	201.8	1,482.9	1,482.0	0.94	1,578.972			
400.0	400.0	368.0	368.0	0.6	0.6	-104.84	1,469.1	201.8	1,483.4	1,482.1	1.29	1,149.147			
500.0	499.8	467.8	467.8	0.8	0.8	-105.01	1,469.1	201.8	1,484.7	1,483.1	1.66	896.750			
600.0	599.5	567.5	567.5	1.1	1.0	-105.29	1,469.1	201.8	1,487.0	1,485.0	2.05	726.848			
700.0	698.7	666.7	666.7	1.3	1.2	-105.68	1,469.1	201.8	1,490.3	1,487.8	2.47	602.891			
800.0	797.5	765.5	765.5	1.6	1.3	-106.17	1,469.1	201.8	1,494.6	1,491.7	2.94	508.086			
883.4	879.4	847.4	847.4	1.9	1.5	-106.65	1,469.1	201.8	1,499.1	1,495.8	3.37	445.096			
900.0	895.6	863.6	863.6	2.0	1.5	-106.77	1,469.1	201.8	1,500.1	1,496.7	3.45	434.304			
1,000.0	993.6	961.6	961.6	2.4	1.7	-107.49	1,469.1	201.8	1,506.2	1,502.2	3.98	378.691			
1,100.0	1,091.5	1,059.5	1,059.5	2.7	1.8	-108.21	1,469.1	201.8	1,512.5	1,508.0	4.51	335.656			
1,200.0	1,189.4	1,157.4	1,157.4	3.1	2.0	-108.92	1,469.1	201.8	1,519.1	1,514.0	5.04	301.561			
1,300.0	1,287.4	1,255.4	1,255.4	3.5	2.2	-109.62	1,469.1	201.8	1,525.9	1,520.3	5.57	273.980			
1,400.0	1,385.3	1,353.3	1,353.3	3.9	2.4	-110.32	1,469.1	201.8	1,532.9	1,526.8	6.10	251.264			
1,500.0	1,483.2	1,451.2	1,451.2	4.3	2.5	-111.01	1,469.1	201.8	1,540.2	1,533.5	6.63	232.266			
1,600.0	1,581.2	1,549.2	1,549.2	4.7	2.7	-111.70	1,469.1	201.8	1,547.7	1,540.5	7.16	216.164			
8,100.0	7,307.0	7,275.0	7,275.0	27.8	12.7	-90.00	1,469.1	201.8	1,507.7	1,479.1	28.56	52.783			
8,200.0	7,307.0	7,275.0	7,275.0	28.4	12.7	-90.00	1,469.1	201.8	1,438.8	1,409.2	29.60	48.613			
8,300.0	7,307.0	7,275.0	7,275.0	29.1	12.7	-90.00	1,469.1	201.8	1,373.8	1,343.1	30.74	44.686			
8,400.0	7,307.0	7,275.0	7,275.0	29.8	12.7	-90.00	1,469.1	201.8	1,313.2	1,281.3	31.98	41.063			
8,500.0	7,307.0	7,275.0	7,275.0	30.7	12.7	-90.00	1,469.1	201.8	1,257.7	1,224.4	33.29	37.775			
8,600.0	7,307.0	7,275.0	7,275.0	31.6	12.7	-90.00	1,469.1	201.8	1,207.9	1,173.2	34.67	34.841			
8,700.0	7,307.0	7,275.0	7,275.0	32.6	12.7	-90.00	1,469.1	201.8	1,164.5	1,128.4	36.09	32.264			
8,800.0	7,307.0	7,275.0	7,275.0	33.7	12.7	-90.00	1,469.1	201.8	1,128.4	1,090.9	37.56	30.042			
8,900.0	7,307.0	7,275.0	7,275.0	34.8	12.7	-90.00	1,469.1	201.8	1,100.2	1,061.2	39.06	28.165			
9,000.0	7,307.0	7,275.0	7,275.0	35.9	12.7	-90.00	1,469.1	201.8	1,080.6	1,040.0	40.60	26.619			
9,100.0	7,307.0	7,275.0	7,275.0	37.2	12.7	-90.00	1,469.1	201.8	1,070.0	1,027.8	42.15	25.384			
9,164.1	7,307.0	7,275.0	7,275.0	38.0	12.7	-90.00	1,469.1	201.8	1,068.1	1,024.9	43.16	24.745 CC, ES			
9,200.0	7,307.0	7,275.0	7,275.0	38.4	12.7	-90.00	1,469.1	201.8	1,068.7	1,024.9	43.73	24.438			
9,300.0	7,307.0	7,275.0	7,275.0	39.7	12.7	-90.00	1,469.1	201.8	1,076.7	1,031.3	45.33	23.754			
9,400.0	7,307.0	7,275.0	7,275.0	41.0	12.7	-90.00	1,469.1	201.8	1,093.8	1,046.9	46.94	23.304			
9,500.0	7,307.0	7,275.0	7,275.0	42.4	12.7	-90.00	1,469.1	201.8	1,119.6	1,071.1	48.56	23.056			
9,600.0	7,307.0	7,275.0	7,275.0	43.8	12.7	-90.00	1,469.1	201.8	1,153.6	1,103.4	50.20	22.981 SF			
9,700.0	7,307.0	7,275.0	7,275.0	45.2	12.7	-90.00	1,469.1	201.8	1,195.0	1,143.1	51.84	23.049			
9,800.0	7,307.0	7,275.0	7,275.0	46.6	12.7	-90.00	1,469.1	201.8	1,243.0	1,189.5	53.50	23.234			
9,900.0	7,307.0	7,275.0	7,275.0	48.1	12.7	-90.00	1,469.1	201.8	1,297.0	1,241.9	55.16	23.513			
10,000.0	7,307.0	7,275.0	7,275.0	49.6	12.7	-90.00	1,469.1	201.8	1,356.3	1,299.4	56.83	23.864			
10,100.0	7,307.0	7,275.0	7,275.0	51.1	12.7	-90.00	1,469.1	201.8	1,420.1	1,361.6	58.51	24.271			
10,200.0	7,307.0	7,275.0	7,275.0	52.6	12.7	-90.00	1,469.1	201.8	1,487.9	1,427.7	60.19	24.719			

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 24-9 (EXISTING) - ENCANA WELL - NO SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 8116-Geolink MWD													Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	100.92	-37.5	194.6	200.6					
100.0	100.0	69.0	69.0	0.1	0.1	100.92	-37.5	194.6	198.2	197.9	0.24	816.117		
200.0	200.0	169.0	169.0	0.3	0.3	100.92	-37.5	194.6	198.2	197.6	0.59	334.795		
300.0	300.0	269.0	269.0	0.5	0.5	100.92	-37.5	194.6	198.2	197.2	0.94	210.593		
400.0	400.0	369.0	369.0	0.6	0.6	-11.80	-37.5	194.6	196.4	195.2	1.29	152.328		
500.0	499.8	468.8	468.8	0.8	0.8	-12.15	-37.5	194.6	191.3	189.7	1.64	116.836		
600.0	599.5	568.5	568.5	1.1	1.0	-12.76	-37.5	194.6	182.8	180.8	1.99	92.095		
700.0	698.7	667.7	667.7	1.3	1.2	-13.72	-37.5	194.6	170.9	168.6	2.33	73.267		
800.0	797.5	766.5	766.5	1.6	1.3	-15.16	-37.5	194.6	155.8	153.1	2.68	58.023		
883.4	879.4	848.4	848.4	1.9	1.5	-16.92	-37.5	194.6	140.7	137.7	2.99	47.124		
900.0	895.6	864.6	864.6	2.0	1.5	-17.32	-37.5	194.6	137.5	134.4	3.05	45.102		
1,000.0	993.6	962.6	962.6	2.4	1.7	-20.23	-37.5	194.6	118.3	114.8	3.44	34.395		
1,100.0	1,091.5	1,060.5	1,060.5	2.7	1.9	-24.25	-37.5	194.6	99.5	95.6	3.87	25.744		
1,200.0	1,189.4	1,158.4	1,158.4	3.1	2.0	-30.08	-37.5	194.6	81.4	77.1	4.36	18.686		
1,300.0	1,287.4	1,256.4	1,256.4	3.5	2.2	-39.03	-37.5	194.6	64.6	59.6	4.97	12.992		
1,400.0	1,385.3	1,354.3	1,354.3	3.9	2.4	-53.49	-37.5	194.6	50.3	44.6	5.79	8.699		
1,500.0	1,483.2	1,452.2	1,452.2	4.3	2.5	-76.11	-37.5	194.6	41.4	34.7	6.74	6.150		
1,550.1	1,532.3	1,501.3	1,501.3	4.5	2.6	-90.00	-37.5	194.6	40.2	33.1	7.10	5.657	CC, ES, SF	
1,600.0	1,581.2	1,550.2	1,550.2	4.7	2.7	-103.82	-37.5	194.6	41.4	34.1	7.29	5.680		
1,700.0	1,679.1	1,648.1	1,648.1	5.1	2.9	-126.47	-37.5	194.6	50.3	43.0	7.29	6.900		
1,800.0	1,777.0	1,746.0	1,746.0	5.5	3.0	-140.94	-37.5	194.6	64.6	57.3	7.22	8.941		
1,900.0	1,875.0	1,844.0	1,844.0	5.9	3.2	-149.90	-37.5	194.6	81.4	74.1	7.26	11.203		
2,000.0	1,972.9	1,941.9	1,941.9	6.3	3.4	-155.74	-37.5	194.6	99.5	92.0	7.41	13.425		
2,100.0	2,070.8	2,039.8	2,039.8	6.7	3.6	-159.76	-37.5	194.6	118.2	110.6	7.62	15.519		
2,200.0	2,168.8	2,137.8	2,137.8	7.0	3.7	-162.67	-37.5	194.6	137.4	129.6	7.87	17.460		
2,300.0	2,266.7	2,235.7	2,235.7	7.4	3.9	-164.87	-37.5	194.6	156.9	148.7	8.15	19.252		
2,400.0	2,364.6	2,333.6	2,333.6	7.8	4.1	-166.58	-37.5	194.6	176.5	168.1	8.44	20.903		
2,500.0	2,462.6	2,431.6	2,431.6	8.2	4.2	-167.95	-37.5	194.6	196.3	187.5	8.75	22.428		
2,600.0	2,560.5	2,529.5	2,529.5	8.6	4.4	-169.07	-37.5	194.6	216.1	207.0	9.07	23.837		
2,700.0	2,658.4	2,627.4	2,627.4	9.0	4.6	-170.00	-37.5	194.6	236.0	226.6	9.39	25.144		
2,800.0	2,756.4	2,725.4	2,725.4	9.4	4.8	-170.78	-37.5	194.6	255.9	246.2	9.71	26.357		
2,900.0	2,854.3	2,823.3	2,823.3	9.8	4.9	-171.46	-37.5	194.6	275.9	265.9	10.04	27.487		
3,000.0	2,952.2	2,921.2	2,921.2	10.2	5.1	-172.04	-37.5	194.6	296.0	285.6	10.37	28.541		
3,100.0	3,050.2	3,019.2	3,019.2	10.6	5.3	-172.55	-37.5	194.6	316.0	305.3	10.70	29.528		
3,200.0	3,148.1	3,117.1	3,117.1	11.0	5.4	-172.99	-37.5	194.6	336.1	325.0	11.04	30.452		
3,300.0	3,246.0	3,215.0	3,215.0	11.4	5.6	-173.39	-37.5	194.6	356.2	344.8	11.37	31.320		
3,400.0	3,344.0	3,313.0	3,313.0	11.8	5.8	-173.74	-37.5	194.6	376.3	364.6	11.71	32.136		
3,500.0	3,441.9	3,410.9	3,410.9	12.2	6.0	-174.06	-37.5	194.6	396.4	384.3	12.05	32.905		
3,600.0	3,539.8	3,508.8	3,508.8	12.6	6.1	-174.35	-37.5	194.6	416.5	404.1	12.38	33.632		
3,700.0	3,637.8	3,606.8	3,606.8	13.0	6.3	-174.61	-37.5	194.6	436.6	423.9	12.72	34.319		
3,800.0	3,735.7	3,704.7	3,704.7	13.4	6.5	-174.85	-37.5	194.6	456.8	443.7	13.06	34.969		
3,900.0	3,833.6	3,802.6	3,802.6	13.8	6.6	-175.07	-37.5	194.6	476.9	463.5	13.40	35.586		
4,000.0	3,931.6	3,900.6	3,900.6	14.2	6.8	-175.27	-37.5	194.6	497.1	483.4	13.74	36.171		
4,100.0	4,029.5	3,998.5	3,998.5	14.6	7.0	-175.45	-37.5	194.6	517.3	503.2	14.08	36.728		
4,200.0	4,127.4	4,096.4	4,096.4	15.0	7.1	-175.62	-37.5	194.6	537.4	523.0	14.42	37.258		
4,300.0	4,225.4	4,194.4	4,194.4	15.4	7.3	-175.78	-37.5	194.6	557.6	542.8	14.77	37.764		
4,400.0	4,323.3	4,292.3	4,292.3	15.8	7.5	-175.93	-37.5	194.6	577.8	562.7	15.11	38.246		
4,500.0	4,421.2	4,390.2	4,390.2	16.2	7.7	-176.07	-37.5	194.6	597.9	582.5	15.45	38.706		
4,600.0	4,519.2	4,488.2	4,488.2	16.6	7.8	-176.20	-37.5	194.6	618.1	602.3	15.79	39.147		
4,700.0	4,617.1	4,586.1	4,586.1	17.0	8.0	-176.32	-37.5	194.6	638.3	622.2	16.13	39.568		
4,800.0	4,715.0	4,684.0	4,684.0	17.4	8.2	-176.43	-37.5	194.6	658.5	642.0	16.47	39.972		
4,900.0	4,813.0	4,782.0	4,782.0	17.8	8.3	-176.54	-37.5	194.6	678.7	661.9	16.82	40.359		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 24-9 (EXISTING) - ENCANA WELL - NO SURVEYS													Offset Site Error: 0.0 ft	
Survey Program: 8116-Geolink MWD													Offset Well Error: 0.0 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)	Total Uncertainty Axis	Separation Factor		
5,000.0	4,910.9	4,879.9	4,879.9	18.2	8.5	-176.64	-37.5	194.6	698.9	681.7	17.16	40.731		
5,100.0	5,008.8	4,977.8	4,977.8	18.6	8.7	-176.73	-37.5	194.6	719.1	701.6	17.50	41.088		
5,200.0	5,106.8	5,075.8	5,075.8	19.0	8.9	-176.82	-37.5	194.6	739.3	721.4	17.84	41.431		
5,300.0	5,204.7	5,173.7	5,173.7	19.4	9.0	-176.90	-37.5	194.6	759.4	741.3	18.19	41.761		
5,400.0	5,302.6	5,271.6	5,271.6	19.8	9.2	-176.98	-37.5	194.6	779.6	761.1	18.53	42.078		
5,500.0	5,400.6	5,369.6	5,369.6	20.2	9.4	-177.06	-37.5	194.6	799.8	781.0	18.87	42.385		
5,600.0	5,498.5	5,467.5	5,467.5	20.6	9.5	-177.13	-37.5	194.6	820.0	800.8	19.21	42.680		
5,700.0	5,596.4	5,565.4	5,565.4	21.0	9.7	-177.20	-37.5	194.6	840.2	820.7	19.56	42.964		
5,800.0	5,694.4	5,663.4	5,663.4	21.4	9.9	-177.27	-37.5	194.6	860.4	840.5	19.90	43.239		
5,900.0	5,792.3	5,761.3	5,761.3	21.8	10.1	-177.33	-37.5	194.6	880.6	860.4	20.24	43.505		
6,000.0	5,890.2	5,859.2	5,859.2	22.2	10.2	-177.39	-37.5	194.6	900.9	880.3	20.59	43.761		
6,100.0	5,988.2	5,957.2	5,957.2	22.6	10.4	-177.45	-37.5	194.6	921.1	900.1	20.93	44.009		
6,200.0	6,086.1	6,055.1	6,055.1	23.0	10.6	-177.50	-37.5	194.6	941.3	920.0	21.27	44.249		
6,300.0	6,184.0	6,153.0	6,153.0	23.4	10.7	-177.56	-37.5	194.6	961.5	939.9	21.62	44.481		
6,400.0	6,282.0	6,251.0	6,251.0	23.8	10.9	-177.61	-37.5	194.6	981.7	959.7	21.96	44.706		
6,500.0	6,379.9	6,348.9	6,348.9	24.2	11.1	-177.65	-37.5	194.6	1,001.9	979.6	22.30	44.925		
6,600.0	6,477.8	6,446.8	6,446.8	24.6	11.3	-177.70	-37.5	194.6	1,022.1	999.4	22.64	45.136		
6,700.0	6,575.8	6,544.8	6,544.8	25.0	11.4	-177.75	-37.5	194.6	1,042.3	1,019.3	22.99	45.341		
6,800.0	6,673.7	6,642.7	6,642.7	25.4	11.6	-177.79	-37.5	194.6	1,062.5	1,039.2	23.33	45.540		
6,827.3	6,700.4	6,669.4	6,669.4	25.5	11.6	-177.80	-37.5	194.6	1,068.0	1,044.6	23.42	45.593		
6,850.0	6,722.7	6,691.7	6,691.7	25.6	11.7	-166.55	-37.5	194.6	1,072.4	1,048.9	23.54	45.554		
6,900.0	6,771.8	6,740.8	6,740.8	25.7	11.8	-140.25	-37.5	194.6	1,080.8	1,057.0	23.78	45.446		
6,950.0	6,820.7	6,789.7	6,789.7	25.9	11.9	-119.01	-37.5	194.6	1,087.4	1,063.4	23.99	45.330		
7,000.0	6,869.0	6,838.0	6,838.0	26.0	11.9	-105.36	-37.5	194.6	1,092.2	1,068.1	24.16	45.213		
7,050.0	6,916.4	6,885.4	6,885.4	26.1	12.0	-97.11	-37.5	194.6	1,095.4	1,071.1	24.29	45.088		
7,100.0	6,962.4	6,931.4	6,931.4	26.1	12.1	-92.15	-37.5	194.6	1,097.0	1,072.6	24.41	44.936		
7,150.0	7,006.8	6,975.8	6,975.8	26.2	12.2	-89.23	-37.5	194.6	1,097.2	1,072.7	24.52	44.741		
7,200.0	7,049.2	7,018.2	7,018.2	26.2	12.2	-87.65	-37.5	194.6	1,096.3	1,071.6	24.64	44.489		
7,250.0	7,089.2	7,058.2	7,058.2	26.2	12.3	-86.96	-37.5	194.6	1,094.5	1,069.7	24.77	44.179		
7,300.0	7,126.7	7,095.7	7,095.7	26.2	12.4	-86.88	-37.5	194.6	1,092.1	1,067.2	24.92	43.821		
7,350.0	7,161.2	7,130.2	7,130.2	26.2	12.4	-87.21	-37.5	194.6	1,089.4	1,064.3	25.08	43.437		
7,400.0	7,192.6	7,161.6	7,161.6	26.2	12.5	-87.78	-37.5	194.6	1,086.6	1,061.4	25.24	43.053		
7,450.0	7,220.5	7,189.5	7,189.5	26.2	12.5	-88.48	-37.5	194.6	1,084.2	1,058.8	25.39	42.697		
7,500.0	7,244.8	7,213.8	7,213.8	26.3	12.6	-89.18	-37.5	194.6	1,082.4	1,056.9	25.54	42.384		
7,550.0	7,265.3	7,234.3	7,234.3	26.3	12.6	-89.80	-37.5	194.6	1,081.5	1,055.8	25.67	42.125		
7,569.3	7,272.2	7,241.2	7,241.2	26.3	12.6	-90.00	-37.5	194.6	1,081.4	1,055.6	25.73	42.024		
7,600.0	7,281.9	7,250.9	7,250.9	26.3	12.7	-90.26	-37.5	194.6	1,081.6	1,055.8	25.80	41.920		
7,650.0	7,294.3	7,263.3	7,263.3	26.4	12.7	-90.51	-37.5	194.6	1,083.0	1,057.1	25.93	41.763		
7,700.0	7,302.6	7,271.6	7,271.6	26.4	12.7	-90.51	-37.5	194.6	1,085.8	1,059.8	26.07	41.652		
7,750.0	7,306.6	7,275.6	7,275.6	26.5	12.7	-90.22	-37.5	194.6	1,090.1	1,063.9	26.21	41.586		
7,771.9	7,307.0	7,276.0	7,276.0	26.5	12.7	-90.00	-37.5	194.6	1,092.5	1,066.2	26.28	41.574		
7,800.0	7,307.0	7,276.0	7,276.0	26.6	12.7	-90.00	-37.5	194.6	1,096.0	1,069.6	26.40	41.510		
7,900.0	7,307.0	7,276.0	7,276.0	26.9	12.7	-90.00	-37.5	194.6	1,114.3	1,087.3	26.98	41.300		
7,991.9	7,307.0	7,276.0	7,276.0	27.3	12.7	-90.00	-37.5	194.6	1,138.6	1,110.9	27.67	41.145		
8,000.0	7,307.0	7,276.0	7,276.0	27.3	12.7	-90.00	-37.5	194.6	1,141.1	1,113.3	27.72	41.169		
8,017.0	7,307.0	7,276.0	7,276.0	27.4	12.7	-90.00	-37.5	194.6	1,146.3	1,118.5	27.81	41.222		
8,100.0	7,307.0	7,276.0	7,276.0	27.8	12.7	-90.00	-37.5	194.6	1,175.0	1,146.4	28.57	41.133		
8,200.0	7,307.0	7,276.0	7,276.0	28.4	12.7	-90.00	-37.5	194.6	1,216.2	1,186.6	29.60	41.088		
8,300.0	7,307.0	7,276.0	7,276.0	29.1	12.7	-90.00	-37.5	194.6	1,264.0	1,233.2	30.75	41.110		
8,400.0	7,307.0	7,276.0	7,276.0	29.8	12.7	-90.00	-37.5	194.6	1,317.6	1,285.6	31.98	41.197		
8,500.0	7,307.0	7,276.0	7,276.0	30.7	12.7	-90.00	-37.5	194.6	1,376.4	1,343.1	33.30	41.339		
8,600.0	7,307.0	7,276.0	7,276.0	31.6	12.7	-90.00	-37.5	194.6	1,439.8	1,405.1	34.67	41.529		

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



Cathedral Energy Services
Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design											S9-T2N-R67W (Sprague) - SPRAGUE 24-9 (EXISTING) - ENCANA WELL - NO SURVEYS		Offset Site Error:		0.0 ft	
Survey Program: 8116-Geolink MWD													Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance									
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S	+E/-W	Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	Warning			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)						
8,700.0	7,307.0	7,276.0	7,276.0	32.6	12.7	-90.00	-37.5	194.6	1,507.2	1,471.1	36.10	41.755				



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 24-9 J (EXISTING) - MACHII-ROSS WELL - NO SURVEYS													Offset Site Error:	0.0 ft
Survey Program:		8120-Geolink MWD											Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	58.43	90.7	147.6	174.9					
100.0	100.0	76.0	76.0	0.1	0.1	58.43	90.7	147.6	173.2	173.0	0.26	679.342		
200.0	200.0	176.0	176.0	0.3	0.3	58.43	90.7	147.6	173.2	172.6	0.60	286.789		
300.0	300.0	276.0	276.0	0.5	0.5	58.43	90.7	147.6	173.2	172.3	0.95	181.760		
400.0	400.0	376.0	376.0	0.6	0.7	-54.67	90.7	147.6	172.2	170.9	1.30	132.085		
500.0	499.8	475.8	475.8	0.8	0.8	-56.16	90.7	147.6	169.3	167.6	1.66	101.700		
600.0	599.5	575.5	575.5	1.1	1.0	-58.76	90.7	147.6	164.6	162.5	2.05	80.428		
700.0	698.7	674.7	674.7	1.3	1.2	-62.61	90.7	147.6	158.5	156.1	2.46	64.334		
800.0	797.5	773.5	773.5	1.6	1.4	-67.92	90.7	147.6	151.9	149.0	2.94	51.717		
883.4	879.4	855.4	855.4	1.9	1.5	-73.61	90.7	147.6	146.7	143.3	3.38	43.355		
900.0	895.6	871.6	871.6	2.0	1.5	-74.85	90.7	147.6	145.7	142.3	3.47	41.945		
1,000.0	993.6	969.6	969.6	2.4	1.7	-82.61	90.7	147.6	141.7	137.7	4.04	35.112		
1,092.0	1,083.7	1,059.7	1,059.7	2.7	1.8	-90.00	90.7	147.6	140.5	135.9	4.55	30.868 CC		
1,100.0	1,091.5	1,067.5	1,067.5	2.7	1.9	-90.65	90.7	147.6	140.5	135.9	4.59	30.575 ES		
1,200.0	1,189.4	1,165.4	1,165.4	3.1	2.0	-98.66	90.7	147.6	142.2	137.0	5.13	27.721		
1,300.0	1,287.4	1,263.4	1,263.4	3.5	2.2	-106.34	90.7	147.6	146.6	141.0	5.62	26.090		
1,400.0	1,385.3	1,361.3	1,361.3	3.9	2.4	-113.47	90.7	147.6	153.7	147.6	6.07	25.336		
1,500.0	1,483.2	1,459.2	1,459.2	4.3	2.5	-119.91	90.7	147.6	162.9	156.5	6.46	25.200 SF		
1,600.0	1,581.2	1,557.2	1,557.2	4.7	2.7	-125.61	90.7	147.6	174.0	167.2	6.83	25.489		
1,700.0	1,679.1	1,655.1	1,655.1	5.1	2.9	-130.60	90.7	147.6	186.7	179.5	7.16	26.062		
1,800.0	1,777.0	1,753.0	1,753.0	5.5	3.1	-134.95	90.7	147.6	200.6	193.1	7.48	26.817		
1,900.0	1,875.0	1,851.0	1,851.0	5.9	3.2	-138.72	90.7	147.6	215.5	207.7	7.78	27.681		
2,000.0	1,972.9	1,948.9	1,948.9	6.3	3.4	-142.01	90.7	147.6	231.2	223.1	8.08	28.604		
2,100.0	2,070.8	2,046.8	2,046.8	6.7	3.6	-144.87	90.7	147.6	247.6	239.2	8.38	29.551		
2,200.0	2,168.8	2,144.8	2,144.8	7.0	3.7	-147.38	90.7	147.6	264.5	255.8	8.67	30.499		
2,300.0	2,266.7	2,242.7	2,242.7	7.4	3.9	-149.58	90.7	147.6	281.8	272.9	8.97	31.432		
2,400.0	2,364.6	2,340.6	2,340.6	7.8	4.1	-151.53	90.7	147.6	299.5	290.3	9.26	32.338		
2,500.0	2,462.6	2,438.6	2,438.6	8.2	4.3	-153.26	90.7	147.6	317.5	308.0	9.56	33.214		
2,600.0	2,560.5	2,536.5	2,536.5	8.6	4.4	-154.81	90.7	147.6	335.8	325.9	9.86	34.053		
2,700.0	2,658.4	2,634.4	2,634.4	9.0	4.6	-156.20	90.7	147.6	354.3	344.1	10.16	34.856		
2,800.0	2,756.4	2,732.4	2,732.4	9.4	4.8	-157.45	90.7	147.6	372.9	362.4	10.47	35.622		
2,900.0	2,854.3	2,830.3	2,830.3	9.8	4.9	-158.58	90.7	147.6	391.7	380.9	10.78	36.351		
3,000.0	2,952.2	2,928.2	2,928.2	10.2	5.1	-159.61	90.7	147.6	410.7	399.6	11.09	37.044		
3,100.0	3,050.2	3,026.2	3,026.2	10.6	5.3	-160.55	90.7	147.6	429.7	418.3	11.40	37.702		
3,200.0	3,148.1	3,124.1	3,124.1	11.0	5.5	-161.40	90.7	147.6	448.9	437.2	11.71	38.328		
3,300.0	3,246.0	3,222.0	3,222.0	11.4	5.6	-162.19	90.7	147.6	468.1	456.1	12.03	38.922		
3,400.0	3,344.0	3,320.0	3,320.0	11.8	5.8	-162.92	90.7	147.6	487.5	475.1	12.34	39.487		
3,500.0	3,441.9	3,417.9	3,417.9	12.2	6.0	-163.59	90.7	147.6	506.9	494.2	12.66	40.024		
3,600.0	3,539.8	3,515.8	3,515.8	12.6	6.1	-164.21	90.7	147.6	526.3	513.3	12.98	40.535		
3,700.0	3,637.8	3,613.8	3,613.8	13.0	6.3	-164.79	90.7	147.6	545.8	532.5	13.31	41.021		
3,800.0	3,735.7	3,711.7	3,711.7	13.4	6.5	-165.32	90.7	147.6	565.4	551.8	13.63	41.484		
3,900.0	3,833.6	3,809.6	3,809.6	13.8	6.6	-165.82	90.7	147.6	585.0	571.1	13.95	41.925		
4,000.0	3,931.6	3,907.6	3,907.6	14.2	6.8	-166.29	90.7	147.6	604.7	590.4	14.28	42.346		
4,100.0	4,029.5	4,005.5	4,005.5	14.6	7.0	-166.73	90.7	147.6	624.4	609.8	14.61	42.747		
4,200.0	4,127.4	4,103.4	4,103.4	15.0	7.2	-167.15	90.7	147.6	644.1	629.1	14.93	43.131		
4,300.0	4,225.4	4,201.4	4,201.4	15.4	7.3	-167.53	90.7	147.6	663.8	648.6	15.26	43.497		
4,400.0	4,323.3	4,299.3	4,299.3	15.8	7.5	-167.90	90.7	147.6	683.6	668.0	15.59	43.848		
4,500.0	4,421.2	4,397.2	4,397.2	16.2	7.7	-168.24	90.7	147.6	703.4	687.5	15.92	44.183		
4,600.0	4,519.2	4,495.2	4,495.2	16.6	7.8	-168.57	90.7	147.6	723.2	707.0	16.25	44.505		
4,700.0	4,617.1	4,593.1	4,593.1	17.0	8.0	-168.88	90.7	147.6	743.1	726.5	16.58	44.813		
4,800.0	4,715.0	4,691.0	4,691.0	17.4	8.2	-169.17	90.7	147.6	763.0	746.0	16.91	45.109		
4,900.0	4,813.0	4,789.0	4,789.0	17.8	8.4	-169.45	90.7	147.6	782.8	765.6	17.25	45.393		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 24-9 J (EXISTING) - MACHII-ROSS WELL - NO SURVEYS												Offset Site Error:	0.0 ft
Survey Program: 8120-Geolink MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		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)	Uncertainty Axis		
5,000.0	4,910.9	4,886.9	4,886.9	18.2	8.5	-169.71	90.7	147.6	802.8	785.2	17.58	45.666	
5,100.0	5,008.8	4,984.8	4,984.8	18.6	8.7	-169.96	90.7	147.6	822.7	804.8	17.91	45.928	
5,200.0	5,106.8	5,082.8	5,082.8	19.0	8.9	-170.20	90.7	147.6	842.6	824.4	18.25	46.180	
5,300.0	5,204.7	5,180.7	5,180.7	19.4	9.0	-170.43	90.7	147.6	862.6	844.0	18.58	46.423	
5,400.0	5,302.6	5,278.6	5,278.6	19.8	9.2	-170.65	90.7	147.6	882.5	863.6	18.91	46.657	
5,500.0	5,400.6	5,376.6	5,376.6	20.2	9.4	-170.86	90.7	147.6	902.5	883.2	19.25	46.882	
5,600.0	5,498.5	5,474.5	5,474.5	20.6	9.6	-171.06	90.7	147.6	922.5	902.9	19.59	47.100	
5,700.0	5,596.4	5,572.4	5,572.4	21.0	9.7	-171.25	90.7	147.6	942.5	922.5	19.92	47.310	
5,800.0	5,694.4	5,670.4	5,670.4	21.4	9.9	-171.43	90.7	147.6	962.5	942.2	20.26	47.512	
5,900.0	5,792.3	5,768.3	5,768.3	21.8	10.1	-171.61	90.7	147.6	982.5	961.9	20.59	47.708	
6,000.0	5,890.2	5,866.2	5,866.2	22.2	10.2	-171.78	90.7	147.6	1,002.5	981.6	20.93	47.897	
6,100.0	5,988.2	5,964.2	5,964.2	22.6	10.4	-171.94	90.7	147.6	1,022.5	1,001.3	21.27	48.080	
6,200.0	6,086.1	6,062.1	6,062.1	23.0	10.6	-172.09	90.7	147.6	1,042.6	1,021.0	21.60	48.257	
6,300.0	6,184.0	6,160.0	6,160.0	23.4	10.8	-172.24	90.7	147.6	1,062.6	1,040.7	21.94	48.428	
6,400.0	6,282.0	6,258.0	6,258.0	23.8	10.9	-172.39	90.7	147.6	1,082.7	1,060.4	22.28	48.594	
6,500.0	6,379.9	6,355.9	6,355.9	24.2	11.1	-172.53	90.7	147.6	1,102.7	1,080.1	22.62	48.755	
6,600.0	6,477.8	6,453.8	6,453.8	24.6	11.3	-172.66	90.7	147.6	1,122.8	1,099.8	22.96	48.911	
6,700.0	6,575.8	6,551.8	6,551.8	25.0	11.4	-172.79	90.7	147.6	1,142.8	1,119.6	23.29	49.062	
6,800.0	6,673.7	6,649.7	6,649.7	25.4	11.6	-172.92	90.7	147.6	1,162.9	1,139.3	23.63	49.209	
6,827.3	6,700.4	6,676.4	6,676.4	25.5	11.7	-172.95	90.7	147.6	1,168.4	1,144.7	23.72	49.248	
6,850.0	6,722.7	6,698.7	6,698.7	25.6	11.7	-161.74	90.7	147.6	1,172.7	1,148.9	23.87	49.138	
6,900.0	6,771.8	6,747.8	6,747.8	25.7	11.8	-135.51	90.7	147.6	1,180.8	1,156.6	24.14	48.916	
6,950.0	6,820.7	6,796.7	6,796.7	25.9	11.9	-114.36	90.7	147.6	1,186.7	1,162.3	24.34	48.748	
7,000.0	6,869.0	6,845.0	6,845.0	26.0	11.9	-100.78	90.7	147.6	1,190.5	1,166.0	24.48	48.630	
7,050.0	6,916.4	6,892.4	6,892.4	26.1	12.0	-92.59	90.7	147.6	1,192.3	1,167.7	24.56	48.540	
7,100.0	6,962.4	6,938.4	6,938.4	26.1	12.1	-87.71	90.7	147.6	1,192.2	1,167.6	24.61	48.446	
7,150.0	7,006.8	6,982.8	6,982.8	26.2	12.2	-84.88	90.7	147.6	1,190.5	1,165.9	24.64	48.311	
7,200.0	7,049.2	7,025.2	7,025.2	26.2	12.3	-83.41	90.7	147.6	1,187.2	1,162.6	24.68	48.102	
7,250.0	7,089.2	7,065.2	7,065.2	26.2	12.3	-82.86	90.7	147.6	1,182.8	1,158.0	24.75	47.796	
7,300.0	7,126.7	7,102.7	7,102.7	26.2	12.4	-82.96	90.7	147.6	1,177.3	1,152.5	24.84	47.391	
7,350.0	7,161.2	7,137.2	7,137.2	26.2	12.5	-83.52	90.7	147.6	1,171.2	1,146.2	24.97	46.902	
7,400.0	7,192.6	7,168.6	7,168.6	26.2	12.5	-84.36	90.7	147.6	1,164.6	1,139.5	25.12	46.358	
7,450.0	7,220.5	7,196.5	7,196.5	26.2	12.6	-85.38	90.7	147.6	1,158.1	1,132.8	25.29	45.796	
7,500.0	7,244.8	7,220.8	7,220.8	26.3	12.6	-86.45	90.7	147.6	1,151.7	1,126.3	25.45	45.249	
7,550.0	7,265.3	7,241.3	7,241.3	26.3	12.6	-87.49	90.7	147.6	1,145.9	1,120.3	25.61	44.740	
7,600.0	7,281.9	7,257.9	7,257.9	26.3	12.7	-88.42	90.7	147.6	1,140.9	1,115.1	25.77	44.280	
7,650.0	7,294.3	7,270.3	7,270.3	26.4	12.7	-89.17	90.7	147.6	1,136.9	1,111.0	25.91	43.871	
7,700.0	7,302.6	7,278.6	7,278.6	26.4	12.7	-89.69	90.7	147.6	1,134.1	1,108.0	26.06	43.511	
7,750.0	7,306.6	7,282.6	7,282.6	26.5	12.7	-89.97	90.7	147.6	1,132.6	1,106.4	26.22	43.196	
7,771.9	7,307.0	7,283.0	7,283.0	26.5	12.7	-90.00	90.7	147.6	1,132.4	1,106.1	26.29	43.073	
7,776.3	7,307.0	7,283.0	7,283.0	26.6	12.7	-90.00	90.7	147.6	1,132.4	1,106.1	26.31	43.041	
7,800.0	7,307.0	7,283.0	7,283.0	26.6	12.7	-90.00	90.7	147.6	1,132.6	1,106.2	26.42	42.877	
7,900.0	7,307.0	7,283.0	7,283.0	26.9	12.7	-90.00	90.7	147.6	1,139.1	1,112.1	26.99	42.202	
7,991.9	7,307.0	7,283.0	7,283.0	27.3	12.7	-90.00	90.7	147.6	1,152.7	1,125.1	27.68	41.638	
8,000.0	7,307.0	7,283.0	7,283.0	27.3	12.7	-90.00	90.7	147.6	1,154.3	1,126.5	27.73	41.628	
8,017.0	7,307.0	7,283.0	7,283.0	27.4	12.7	-90.00	90.7	147.6	1,157.6	1,129.8	27.82	41.610	
8,100.0	7,307.0	7,283.0	7,283.0	27.8	12.7	-90.00	90.7	147.6	1,177.0	1,148.4	28.58	41.184	
8,200.0	7,307.0	7,283.0	7,283.0	28.4	12.7	-90.00	90.7	147.6	1,207.5	1,177.9	29.61	40.776	
8,300.0	7,307.0	7,283.0	7,283.0	29.1	12.7	-90.00	90.7	147.6	1,245.3	1,214.5	30.76	40.487	
8,400.0	7,307.0	7,283.0	7,283.0	29.8	12.7	-90.00	90.7	147.6	1,289.8	1,257.8	32.00	40.311	
8,500.0	7,307.0	7,283.0	7,283.0	30.7	12.7	-90.00	90.7	147.6	1,340.3	1,306.9	33.31	40.238	
8,600.0	7,307.0	7,283.0	7,283.0	31.6	12.7	-90.00	90.7	147.6	1,396.1	1,361.4	34.68	40.253	

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



Cathedral Energy Services
Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													S9-T2N-R67W (Sprague) - SPRAGUE 24-9 J (EXISTING) - MACHII-ROSS WELL - NO SURVEYS		Offset Site Error:		0.0 ft
Survey Program: 8120-Geolink MWD														Offset Well Error:		0.0 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	Total Uncertainty Axis	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)							
8,700.0	7,307.0	7,283.0	7,283.0	32.6	12.7	-90.00	90.7	147.6	1,456.6	1,420.5	36.11	40.341					
8,800.0	7,307.0	7,283.0	7,283.0	33.7	12.7	-90.00	90.7	147.6	1,521.4	1,483.8	37.58	40.489					



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 2-8-9 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error: 0.0 ft	
Survey Program: 79-Geolink MWD													Offset Well Error: 0.0 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)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	109.89	-69.6	192.3	205.3					
100.0	100.0	83.3	83.3	0.1	0.1	109.96	-69.7	192.1	204.3	204.1	0.25	815.392		
200.0	200.0	182.6	182.6	0.3	0.3	110.13	-70.3	191.7	204.1	203.5	0.60	341.035		
300.0	300.0	283.6	283.5	0.5	0.5	110.48	-71.3	191.0	203.9	202.9	0.95	214.574		
400.0	400.0	387.7	387.7	0.6	0.7	-1.73	-72.2	189.1	200.8	199.5	1.31	153.432		
500.0	499.8	495.1	495.0	0.8	0.9	-1.39	-71.7	184.0	190.9	189.3	1.67	114.296		
600.0	599.5	599.4	598.8	1.1	1.1	-0.65	-70.8	174.9	173.8	171.8	2.03	85.647		
700.0	698.7	699.7	698.3	1.3	1.4	1.44	-71.8	162.9	151.1	148.7	2.40	62.984		
800.0	797.5	795.4	792.9	1.6	1.6	6.40	-76.4	148.8	124.6	121.8	2.81	44.374		
883.4	879.4	874.5	870.8	1.9	1.9	14.09	-82.3	136.1	101.3	98.1	3.24	31.288		
900.0	895.6	890.3	886.2	2.0	2.0	16.20	-83.6	133.4	96.6	93.3	3.34	28.908		
1,000.0	993.6	984.0	978.0	2.4	2.3	34.89	-92.2	116.0	72.2	68.0	4.19	17.251		
1,095.2	1,086.8	1,071.9	1,063.6	2.7	2.7	63.40	-101.0	98.0	62.1	56.9	5.19	11.972 CC		
1,100.0	1,091.5	1,076.3	1,067.9	2.7	2.7	64.98	-101.4	97.1	62.1	56.9	5.23	11.883 ES, SF		
1,200.0	1,189.4	1,167.8	1,156.7	3.1	3.1	94.28	-111.1	77.9	74.6	69.0	5.68	13.147		
1,300.0	1,287.4	1,259.0	1,245.2	3.5	3.5	112.19	-121.8	58.6	102.4	96.7	5.77	17.746		
1,400.0	1,385.3	1,350.6	1,334.1	3.9	3.9	122.02	-133.5	39.4	136.4	130.4	5.94	22.954		
1,500.0	1,483.2	1,442.9	1,423.5	4.3	4.3	127.87	-145.6	20.2	172.5	166.3	6.21	27.783		
1,600.0	1,581.2	1,536.5	1,514.3	4.7	4.7	131.70	-157.9	1.1	209.4	202.8	6.55	31.980		
1,700.0	1,679.1	1,630.4	1,605.7	5.1	5.1	134.67	-168.9	-17.8	246.1	239.2	6.91	35.599		
1,800.0	1,777.0	1,720.7	1,693.4	5.5	5.6	137.05	-178.4	-36.5	283.3	276.0	7.29	38.875		
1,900.0	1,875.0	1,812.3	1,782.5	5.9	6.0	138.91	-188.2	-55.9	321.4	313.7	7.68	41.832		
2,000.0	1,972.9	1,907.5	1,875.0	6.3	6.4	140.38	-198.5	-75.5	359.2	351.1	8.10	44.368		
2,100.0	2,070.8	1,999.1	1,964.2	6.7	6.8	141.56	-208.1	-94.1	396.8	388.3	8.51	46.625		
2,200.0	2,168.8	2,089.6	2,052.2	7.0	7.2	142.59	-217.3	-113.2	435.2	426.3	8.92	48.768		
2,300.0	2,266.7	2,190.9	2,150.9	7.4	7.6	143.54	-227.5	-133.5	472.7	463.3	9.36	50.489		
2,400.0	2,364.6	2,283.5	2,241.4	7.8	8.0	144.28	-236.5	-150.9	509.1	499.3	9.79	52.005		
2,500.0	2,462.6	2,372.3	2,328.1	8.2	8.4	144.93	-245.1	-168.4	546.4	536.2	10.21	53.520		
2,600.0	2,560.5	2,467.3	2,420.7	8.6	8.8	145.54	-254.2	-187.3	583.8	573.2	10.64	54.869		
2,700.0	2,658.4	2,557.0	2,508.2	9.0	9.2	146.03	-262.9	-204.8	621.1	610.0	11.07	56.099		
2,800.0	2,756.4	2,651.7	2,600.5	9.4	9.6	146.36	-273.5	-223.6	658.8	647.3	11.52	57.179		
2,900.0	2,854.3	2,735.9	2,682.4	9.8	10.0	146.60	-283.3	-240.1	696.5	684.6	11.95	58.264		
3,000.0	2,952.2	2,829.0	2,772.9	10.2	10.4	146.83	-294.3	-259.4	735.3	722.9	12.41	59.268		
3,100.0	3,050.2	2,927.1	2,868.2	10.6	10.8	147.04	-305.8	-279.1	773.4	760.5	12.87	60.092		
3,200.0	3,148.1	3,021.7	2,960.4	11.0	11.2	147.24	-316.7	-297.6	811.0	797.6	13.32	60.864		
3,300.0	3,246.0	3,118.1	3,054.5	11.4	11.6	147.48	-327.0	-316.1	848.2	834.4	13.78	61.573		
3,400.0	3,344.0	3,197.2	3,131.4	11.8	12.0	147.67	-335.4	-331.9	886.0	871.8	14.19	62.424		
3,500.0	3,441.9	3,314.3	3,245.6	12.2	12.5	147.88	-348.4	-354.4	923.3	908.6	14.70	62.825		
3,600.0	3,539.8	3,413.0	3,342.3	12.6	12.9	148.06	-358.9	-371.5	958.7	943.6	15.16	63.259		
3,700.0	3,637.8	3,501.0	3,428.5	13.0	13.2	148.25	-367.5	-387.4	994.7	979.1	15.59	63.809		
3,800.0	3,735.7	3,603.2	3,528.5	13.4	13.6	148.44	-377.8	-405.5	1,030.5	1,014.4	16.05	64.189		
3,900.0	3,833.6	3,688.9	3,612.5	13.8	14.0	148.58	-386.6	-420.3	1,065.8	1,049.3	16.49	64.635		
4,000.0	3,931.6	3,779.4	3,700.9	14.2	14.4	148.71	-396.1	-436.8	1,102.1	1,085.2	16.93	65.111		
4,100.0	4,029.5	3,901.7	3,820.9	14.6	14.8	148.99	-406.7	-458.0	1,137.4	1,119.9	17.41	65.322		
4,200.0	4,127.4	4,028.2	3,945.7	15.0	15.2	149.34	-415.5	-476.5	1,169.9	1,152.0	17.89	65.395		
4,300.0	4,225.4	4,149.9	4,066.3	15.4	15.5	149.72	-422.4	-491.5	1,199.9	1,181.6	18.35	65.390		
4,400.0	4,323.3	4,276.1	4,191.6	15.8	15.8	150.11	-428.7	-504.2	1,227.9	1,209.1	18.81	65.276		
4,500.0	4,421.2	4,403.8	4,318.9	16.2	16.1	150.59	-432.7	-514.0	1,253.4	1,234.1	19.26	65.089		
4,600.0	4,519.2	4,542.1	4,457.0	16.6	16.3	151.12	-435.5	-520.4	1,275.7	1,256.0	19.71	64.735		
4,700.0	4,617.1	4,640.8	4,555.7	17.0	16.4	151.51	-436.8	-523.7	1,297.0	1,276.9	20.09	64.551		
4,800.0	4,715.0	4,741.2	4,656.0	17.4	16.6	151.92	-437.7	-526.9	1,318.1	1,297.6	20.48	64.373		
4,900.0	4,813.0	4,835.3	4,750.1	17.8	16.7	152.29	-438.4	-529.9	1,339.2	1,318.3	20.85	64.241		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 2-8-9 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 79-Geolink MWD													Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor	Warning	
5,000.0	4,910.9	4,927.5	4,842.3	18.2	16.8	152.66	-438.8	-533.1	1,360.7	1,339.5	21.21	64.167		
5,100.0	5,008.8	5,023.8	4,938.5	18.6	17.0	153.06	-438.6	-536.8	1,382.5	1,361.0	21.57	64.107		
5,200.0	5,106.8	5,128.9	5,043.4	19.0	17.1	153.48	-438.3	-540.6	1,404.2	1,382.2	21.93	64.027		
5,300.0	5,204.7	5,232.2	5,146.7	19.4	17.2	153.90	-437.6	-543.7	1,425.3	1,403.0	22.29	63.942		
5,400.0	5,302.6	5,329.1	5,243.5	19.8	17.3	154.28	-437.0	-546.5	1,446.4	1,423.7	22.64	63.878		
5,500.0	5,400.6	5,426.4	5,340.8	20.2	17.5	154.65	-436.4	-549.3	1,467.5	1,444.5	22.99	63.826		
5,600.0	5,498.5	5,524.1	5,438.5	20.6	17.6	155.01	-435.7	-552.2	1,488.7	1,465.4	23.34	63.782		
5,700.0	5,596.4	5,621.3	5,535.7	21.0	17.7	155.37	-435.0	-554.9	1,509.9	1,486.2	23.69	63.745		
5,800.0	5,694.4	5,718.3	5,632.6	21.4	17.8	155.71	-434.3	-557.7	1,531.2	1,507.2	24.03	63.716		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design		S9-T2N-R67W (Sprague) - SPRAGUE 31-9 (EXISTING) - ENCANA WELL - Plan #1											Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 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)	Total Uncertainty Axis	Separation Factor		
10,100.0	7,307.0	6,985.7	6,964.2	51.1	12.6	61.55	3,798.2	1,778.0	1,504.5	1,452.1	52.42	28.701	CC, ES, SF	
10,200.0	7,307.0	7,007.6	6,984.2	52.6	12.6	62.99	3,804.6	1,772.0	1,413.2	1,358.7	54.52	25.918		
10,300.0	7,307.0	7,030.7	7,005.2	54.1	12.7	64.57	3,811.6	1,765.5	1,322.6	1,265.9	56.71	23.323		
10,400.0	7,307.0	7,059.5	7,031.3	55.7	12.8	66.66	3,820.5	1,757.2	1,232.8	1,173.7	59.11	20.857		
10,500.0	7,307.0	7,090.7	7,059.6	57.2	13.0	69.06	3,830.2	1,748.2	1,143.9	1,082.3	61.62	18.564		
10,600.0	7,307.0	7,121.9	7,087.9	58.8	13.1	71.64	3,839.8	1,739.2	1,056.0	991.9	64.16	16.460		
10,700.0	7,307.0	7,153.1	7,116.1	60.4	13.2	74.39	3,849.5	1,730.2	969.5	902.8	66.69	14.537		
10,800.0	7,307.0	7,184.3	7,144.4	61.9	13.4	77.33	3,859.1	1,721.2	884.8	815.6	69.19	12.788		
10,900.0	7,307.0	7,215.4	7,172.6	63.5	13.5	80.46	3,868.7	1,712.3	802.3	730.7	71.61	11.204		
11,000.0	7,307.0	7,246.6	7,200.9	65.1	13.6	83.77	3,878.4	1,703.3	723.0	649.1	73.91	9.782		
11,100.0	7,307.0	7,277.8	7,229.1	66.7	13.8	87.26	3,888.0	1,694.3	647.8	571.8	76.02	8.522		
11,200.0	7,307.0	7,309.0	7,257.4	68.4	13.9	90.90	3,897.7	1,685.3	578.6	500.7	77.90	7.427		
11,300.0	7,307.0	7,339.3	7,284.9	70.0	14.1	94.60	3,907.0	1,676.7	517.6	438.1	79.49	6.511		
11,400.0	7,307.0	7,368.3	7,311.4	71.6	14.2	98.25	3,915.6	1,668.6	468.2	387.5	80.78	5.797		
11,500.0	7,307.0	7,396.0	7,336.8	73.3	14.3	101.81	3,923.7	1,661.0	434.6	352.8	81.76	5.316		
11,600.0	7,307.0	7,422.5	7,361.2	74.9	14.4	105.26	3,931.3	1,654.0	420.7	338.2	82.45	5.102		
11,614.5	7,307.0	7,426.3	7,364.7	75.1	14.4	105.76	3,932.4	1,653.0	420.4	337.9	82.53			
11,700.0	7,307.0	7,447.9	7,384.7	76.5	14.5	108.58	3,938.4	1,647.4	428.4	345.5	82.88	5.169		
11,800.0	7,307.0	7,472.2	7,407.2	78.2	14.7	111.75	3,945.1	1,641.1	456.9	373.8	83.07	5.500		
11,900.0	7,307.0	7,500.0	7,433.1	79.8	14.8	115.31	3,952.5	1,634.2	502.6	419.9	82.74	6.074		
12,000.0	7,307.0	7,518.0	7,449.8	81.5	14.9	117.58	3,957.3	1,629.8	561.5	478.6	82.90	6.773		
12,100.0	7,307.0	7,539.5	7,470.0	83.2	15.0	120.24	3,962.8	1,624.6	629.9	547.3	82.60	7.626		
12,200.0	7,307.0	7,560.2	7,489.4	84.8	15.0	122.73	3,968.0	1,619.8	705.1	622.9	82.20	8.578		
12,300.0	7,307.0	7,580.1	7,508.1	86.5	15.1	125.06	3,973.0	1,615.2	785.3	703.5	81.74	9.607		
12,400.0	7,307.0	7,600.0	7,526.9	88.2	15.2	127.31	3,977.8	1,610.7	868.9	787.8	81.14	10.709		
12,500.0	7,307.0	7,617.7	7,543.6	89.9	15.3	129.25	3,982.0	1,606.7	955.3	874.6	80.67	11.841		
12,600.0	7,307.0	7,635.5	7,560.5	91.5	15.4	131.13	3,986.2	1,602.9	1,043.7	963.5	80.11	13.027		
12,700.0	7,307.0	7,652.6	7,576.7	93.2	15.4	132.88	3,990.1	1,599.2	1,133.6	1,054.1	79.55	14.249		
12,782.1	7,307.0	7,666.2	7,589.7	94.6	15.5	134.22	3,993.2	1,596.3	1,208.4	1,129.3	79.10	15.276		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 31-9 (EXISTING) - ENCANA WELL - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	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)	Uncertainty Axis	Factor		
10,200.0	7,307.0	6,993.0	6,943.4	52.6	13.3	54.70	3,882.3	1,682.6	1,464.1	1,413.1	51.02	28.698		
10,300.0	7,307.0	7,022.9	6,970.5	54.1	13.5	56.61	3,891.2	1,673.5	1,371.1	1,317.6	53.44	25.658		
10,400.0	7,307.0	7,052.8	6,997.6	55.7	13.6	58.70	3,900.1	1,664.5	1,278.4	1,222.4	55.97	22.841		
10,500.0	7,307.0	7,082.7	7,024.7	57.2	13.8	60.98	3,908.9	1,655.5	1,186.2	1,127.6	58.61	20.238		
10,600.0	7,307.0	7,112.6	7,051.8	58.8	13.9	63.47	3,917.8	1,646.5	1,094.5	1,033.1	61.35	17.840		
10,700.0	7,307.0	7,142.5	7,078.9	60.4	14.1	66.20	3,926.6	1,637.5	1,003.5	939.3	64.17	15.638		
10,800.0	7,307.0	7,172.4	7,106.0	61.9	14.2	69.19	3,935.5	1,628.5	913.4	846.4	67.04	13.624		
10,900.0	7,307.0	7,202.3	7,133.1	63.5	14.4	72.45	3,944.4	1,619.5	824.5	754.6	69.93	11.791		
11,000.0	7,307.0	7,232.2	7,160.2	65.1	14.6	76.01	3,953.2	1,610.5	737.3	664.5	72.77	10.132		
11,100.0	7,307.0	7,262.1	7,187.3	66.7	14.7	79.86	3,962.1	1,601.5	652.3	576.9	75.48	8.642		
11,200.0	7,307.0	7,292.0	7,214.4	68.4	14.9	84.02	3,970.9	1,592.5	570.7	492.7	77.99	7.318		
11,300.0	7,307.0	7,321.9	7,241.5	70.0	15.1	88.46	3,979.8	1,583.5	494.1	413.9	80.17	6.163		
11,400.0	7,307.0	7,351.8	7,268.6	71.6	15.2	93.17	3,988.7	1,574.5	425.1	343.2	81.91	5.189		
11,500.0	7,307.0	7,381.7	7,295.7	73.3	15.4	98.09	3,997.5	1,565.4	368.1	285.0	83.11	4.429		
11,600.0	7,307.0	7,411.5	7,322.8	74.9	15.6	103.18	4,006.4	1,556.4	329.4	245.8	83.67	3.937		
11,698.1	7,307.0	7,440.9	7,349.4	76.5	15.7	108.24	4,015.1	1,547.6	315.8	232.3	83.55	3.780 CC, ES, SF		
11,700.0	7,307.0	7,441.4	7,349.9	76.5	15.7	108.34	4,015.2	1,547.4	315.8	232.3	83.54	3.781		
11,800.0	7,307.0	7,471.3	7,377.0	78.2	15.9	113.50	4,024.1	1,538.4	330.5	247.7	82.71	3.995		
11,900.0	7,307.0	7,501.2	7,404.1	79.8	16.1	118.58	4,032.9	1,529.4	369.9	288.7	81.23	4.554		
12,000.0	7,307.0	7,531.1	7,431.2	81.5	16.3	123.49	4,041.8	1,520.4	427.5	348.3	79.17	5.399		
12,100.0	7,307.0	7,560.5	7,457.8	83.2	16.4	128.11	4,050.5	1,511.6	496.8	420.1	76.73	6.475		
12,200.0	7,307.0	7,585.5	7,480.5	84.8	16.6	131.84	4,057.8	1,504.1	573.8	499.2	74.59	7.693		
12,300.0	7,307.0	7,609.5	7,502.4	86.5	16.7	135.23	4,064.7	1,497.1	656.0	583.6	72.40	9.060		
12,400.0	7,307.0	7,632.7	7,523.6	88.2	16.9	138.30	4,071.3	1,490.4	741.6	671.4	70.25	10.558		
12,500.0	7,307.0	7,655.0	7,544.1	89.9	17.0	141.09	4,077.5	1,484.2	829.7	761.5	68.16	12.173		
12,600.0	7,307.0	7,676.6	7,564.0	91.5	17.1	143.60	4,083.3	1,478.2	919.6	853.4	66.18	13.896		
12,700.0	7,307.0	7,700.0	7,585.6	93.2	17.2	146.14	4,089.6	1,471.8	1,010.8	946.8	63.96	15.803		
12,782.1	7,307.0	7,713.9	7,598.6	94.6	17.3	147.57	4,093.2	1,468.1	1,086.4	1,023.5	62.88	17.278		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 3I-9 (EXISTING) - ENCANA WELL - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		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)	Uncertainty Axis	Separation Factor		
10,300.0	7,307.0	7,050.2	6,929.9	54.1	16.2	35.88	4,082.5	1,479.0	1,518.7	1,477.1	41.60	36.508		
10,400.0	7,307.0	7,085.1	6,962.7	55.7	16.4	37.85	4,090.8	1,470.6	1,422.1	1,378.0	44.07	32.265		
10,500.0	7,307.0	7,117.7	6,993.6	57.2	16.6	40.06	4,098.3	1,462.9	1,325.4	1,278.6	46.81	28.316		
10,600.0	7,307.0	7,148.4	7,022.6	58.8	16.7	42.54	4,105.1	1,456.0	1,228.6	1,178.8	49.81	24.666		
10,700.0	7,307.0	7,177.1	7,049.9	60.4	16.9	45.33	4,111.3	1,449.7	1,131.8	1,078.7	53.10	21.317		
10,800.0	7,307.0	7,204.1	7,075.7	61.9	17.0	48.45	4,117.0	1,444.0	1,035.1	978.4	56.66	18.269		
10,900.0	7,307.0	7,229.6	7,100.1	63.5	17.1	51.93	4,122.2	1,438.7	938.4	878.0	60.48	15.517		
11,000.0	7,307.0	7,253.6	7,123.2	65.1	17.2	55.78	4,126.9	1,433.9	842.0	777.5	64.51	13.053		
11,100.0	7,307.0	7,276.3	7,145.0	66.7	17.3	60.02	4,131.2	1,429.5	745.9	677.2	68.67	10.861		
11,200.0	7,307.0	7,297.8	7,165.7	68.4	17.4	64.64	4,135.3	1,425.4	650.2	577.4	72.86	8.924		
11,300.0	7,307.0	7,318.2	7,185.4	70.0	17.5	69.61	4,139.0	1,421.6	555.5	478.6	76.93	7.221		
11,400.0	7,307.0	7,337.5	7,204.1	71.6	17.6	74.88	4,142.4	1,418.2	462.1	381.5	80.69	5.727		
11,500.0	7,307.0	7,355.9	7,221.9	73.3	17.6	80.37	4,145.5	1,414.9	371.4	287.4	83.99	4.422		
11,600.0	7,307.0	7,373.4	7,238.9	74.9	17.7	85.98	4,148.5	1,411.9	285.8	199.1	86.67	3.298		
11,700.0	7,307.0	7,390.0	7,255.1	76.5	17.8	91.60	4,151.2	1,409.2	211.8	123.2	88.62	2.390		
11,800.0	7,307.0	7,405.9	7,270.5	78.2	17.8	97.12	4,153.7	1,406.6	165.8	76.0	89.80	1.847		
11,839.0	7,307.0	7,411.9	7,276.3	78.8	17.9	99.22	4,154.7	1,405.6	161.3	71.2	90.06	1.791 CC, ES, SF		
11,900.0	7,307.0	7,421.0	7,285.3	79.8	17.9	102.42	4,156.1	1,404.2	172.2	81.9	90.26	1.908		
12,000.0	7,307.0	7,435.5	7,299.4	81.5	17.9	107.44	4,158.3	1,401.9	226.6	136.5	90.07	2.516		
12,100.0	7,307.0	7,449.3	7,312.9	83.2	18.0	112.12	4,160.4	1,399.8	304.3	214.9	89.36	3.405		
12,200.0	7,307.0	7,462.5	7,325.8	84.8	18.0	116.44	4,162.3	1,397.9	391.7	303.4	88.27	4.438		
12,300.0	7,307.0	7,475.2	7,338.2	86.5	18.1	120.38	4,164.2	1,396.0	483.6	396.7	86.92	5.564		
12,400.0	7,307.0	7,487.4	7,350.2	88.2	18.1	123.96	4,165.9	1,394.3	577.9	492.5	85.41	6.767		
12,500.0	7,307.0	7,500.0	7,362.5	89.9	18.2	127.46	4,167.6	1,392.5	673.7	590.1	83.58	8.060		
12,600.0	7,307.0	7,510.3	7,372.6	91.5	18.2	130.14	4,169.0	1,391.1	770.2	688.0	82.23	9.366		
12,700.0	7,307.0	7,521.0	7,383.2	93.2	18.2	132.78	4,170.4	1,389.7	867.4	786.8	80.67	10.752		
12,782.1	7,307.0	7,529.6	7,391.6	94.6	18.3	134.76	4,171.5	1,388.5	947.5	868.1	79.44	11.928		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design		S9-T2N-R67W (Sprague) - SPRAGUE 31-9 (EXISTING) - ENCANA WELL - SURVEYS											Offset Site Error: 0.0 ft	
Survey Program: 515-MWD													Offset Well Error: 0.0 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)	Total Uncertainty Axis	Separation Factor		
10,200.0	7,307.0	6,855.8	6,803.4	52.6	13.7	39.65	3,945.3	1,618.7	1,541.3	1,499.0	42.26	36.468		
10,300.0	7,307.0	6,882.3	6,827.2	54.1	13.9	40.66	3,954.5	1,611.7	1,448.8	1,404.7	44.06	32.883		
10,400.0	7,307.0	6,908.4	6,850.5	55.7	14.0	41.72	3,963.8	1,604.7	1,356.7	1,310.8	45.93	29.535		
10,500.0	7,307.0	6,936.2	6,875.3	57.2	14.2	42.93	3,974.0	1,597.0	1,265.1	1,217.1	47.97	26.373		
10,600.0	7,307.0	6,972.5	6,907.4	58.8	14.4	44.65	3,987.4	1,586.8	1,173.8	1,123.4	50.43	23.277		
10,700.0	7,307.0	7,038.5	6,966.1	60.4	14.8	48.39	4,010.9	1,567.9	1,082.2	1,027.8	54.43	19.882		
10,800.0	7,307.0	7,070.9	6,995.1	61.9	15.0	50.61	4,022.2	1,558.6	990.6	933.2	57.33	17.278		
10,900.0	7,307.0	7,102.5	7,023.3	63.5	15.2	53.04	4,033.2	1,549.5	899.5	839.1	60.40	14.892		
11,000.0	7,307.0	7,131.2	7,048.8	65.1	15.3	55.53	4,043.4	1,541.2	809.2	745.7	63.51	12.741		
11,100.0	7,307.0	7,170.0	7,083.1	66.7	15.6	59.36	4,057.3	1,529.9	719.8	652.3	67.49	10.666		
11,200.0	7,307.0	7,206.3	7,115.2	68.4	15.8	63.53	4,070.4	1,518.9	631.5	560.0	71.53	8.829		
11,300.0	7,307.0	7,251.1	7,155.0	70.0	16.1	69.71	4,086.2	1,505.5	544.5	468.2	76.33	7.134		
11,400.0	7,307.0	7,296.4	7,195.6	71.6	16.4	77.38	4,100.9	1,492.1	459.3	378.4	80.93	5.675		
11,500.0	7,307.0	7,328.8	7,224.9	73.3	16.6	83.82	4,110.9	1,482.7	378.2	294.1	84.16	4.494		
11,600.0	7,307.0	7,356.7	7,250.4	74.9	16.8	89.98	4,119.2	1,475.1	305.5	219.0	86.45	3.533		
11,700.0	7,307.0	7,386.0	7,277.5	76.5	16.9	96.97	4,127.5	1,467.5	248.7	161.0	87.71	2.836		
11,800.0	7,307.0	7,412.2	7,301.9	78.2	17.1	103.50	4,134.4	1,460.9	221.1	133.2	87.88	2.516		
11,819.4	7,307.0	7,416.8	7,306.2	78.5	17.1	104.65	4,135.6	1,459.7	220.3	132.5	87.83	2.508	CC, ES, SF	
11,900.0	7,307.0	7,435.4	7,323.6	79.8	17.2	109.31	4,140.2	1,455.2	233.8	146.5	87.27	2.679		
12,000.0	7,307.0	7,456.0	7,343.1	81.5	17.3	114.43	4,145.1	1,450.3	281.6	195.5	86.16	3.269		
12,100.0	7,307.0	7,474.2	7,360.2	83.2	17.4	118.80	4,149.2	1,446.0	350.8	266.0	84.85	4.135		
12,200.0	7,307.0	7,490.5	7,375.8	84.8	17.5	122.59	4,152.7	1,442.4	431.4	347.9	83.46	5.169		
12,300.0	7,307.0	7,505.3	7,389.9	86.5	17.5	125.88	4,155.7	1,439.1	518.1	436.0	82.08	6.312		
12,400.0	7,307.0	7,518.7	7,402.7	88.2	17.6	128.71	4,158.3	1,436.3	608.5	527.6	80.82	7.528		
12,500.0	7,307.0	7,530.7	7,414.2	89.9	17.7	131.15	4,160.5	1,433.7	701.1	621.4	79.70	8.797		
12,600.0	7,307.0	7,542.4	7,425.6	91.5	17.7	133.41	4,162.6	1,431.4	795.2	716.7	78.55	10.123		
12,700.0	7,307.0	7,553.3	7,436.0	93.2	17.8	135.41	4,164.4	1,429.2	890.5	812.9	77.54	11.483		
12,782.1	7,307.0	7,562.3	7,444.7	94.6	17.8	136.99	4,165.9	1,427.5	969.2	892.5	76.66	12.643		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design		S9-T2N-R67W (Sprague) - SPRAGUE 32-9 (EXISTING) - ENCANA WELL - NO SURVEYS										Offset Site Error:		0.0 ft
Survey Program:		8100-Geolink MWD										Offset Well Error:		0.0 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)	Total Uncertainty Axis	Separation Factor		
8,900.0	7,307.0	7,251.0	7,251.0	34.8	12.7	90.00	2,671.7	1,519.2	1,478.1	1,439.0	39.02	37.878		
9,000.0	7,307.0	7,251.0	7,251.0	35.9	12.7	90.00	2,671.7	1,519.2	1,379.7	1,339.2	40.55	34.023		
9,100.0	7,307.0	7,251.0	7,251.0	37.2	12.7	90.00	2,671.7	1,519.2	1,281.7	1,239.6	42.11	30.436		
9,200.0	7,307.0	7,251.0	7,251.0	38.4	12.7	90.00	2,671.7	1,519.2	1,183.9	1,140.2	43.69	27.099		
9,300.0	7,307.0	7,251.0	7,251.0	39.7	12.7	90.00	2,671.7	1,519.2	1,086.6	1,041.3	45.28	23.995		
9,400.0	7,307.0	7,251.0	7,251.0	41.0	12.7	90.00	2,671.7	1,519.2	989.8	942.9	46.89	21.106		
9,500.0	7,307.0	7,251.0	7,251.0	42.4	12.7	90.00	2,671.7	1,519.2	893.7	845.1	48.52	18.419		
9,600.0	7,307.0	7,251.0	7,251.0	43.8	12.7	90.00	2,671.7	1,519.2	798.5	748.3	50.16	15.921		
9,700.0	7,307.0	7,251.0	7,251.0	45.2	12.7	90.00	2,671.7	1,519.2	704.7	652.9	51.80	13.604		
9,800.0	7,307.0	7,251.0	7,251.0	46.6	12.7	90.00	2,671.7	1,519.2	612.8	559.4	53.46	11.464		
9,900.0	7,307.0	7,251.0	7,251.0	48.1	12.7	90.00	2,671.7	1,519.2	524.0	468.9	55.12	9.506		
10,000.0	7,307.0	7,251.0	7,251.0	49.6	12.7	90.00	2,671.7	1,519.2	440.0	383.2	56.79	7.747		
10,100.0	7,307.0	7,251.0	7,251.0	51.1	12.7	90.00	2,671.7	1,519.2	364.1	305.6	58.47	6.227		
10,200.0	7,307.0	7,251.0	7,251.0	52.6	12.7	90.00	2,671.7	1,519.2	302.5	242.4	60.15	5.030		
10,300.0	7,307.0	7,251.0	7,251.0	54.1	12.7	90.00	2,671.7	1,519.2	265.6	203.7	61.84	4.295		
10,355.1	7,307.0	7,251.0	7,251.0	55.0	12.7	90.00	2,671.7	1,519.2	259.8	197.0	62.77	4.139 CC, ES, SF		
10,400.0	7,307.0	7,251.0	7,251.0	55.7	12.7	90.00	2,671.7	1,519.2	263.6	200.1	63.53	4.150		
10,500.0	7,307.0	7,251.0	7,251.0	57.2	12.7	90.00	2,671.7	1,519.2	297.5	232.3	65.23	4.561		
10,600.0	7,307.0	7,251.0	7,251.0	58.8	12.7	90.00	2,671.7	1,519.2	357.1	290.1	66.92	5.335		
10,700.0	7,307.0	7,251.0	7,251.0	60.4	12.7	90.00	2,671.7	1,519.2	431.8	363.2	68.63	6.292		
10,800.0	7,307.0	7,251.0	7,251.0	61.9	12.7	90.00	2,671.7	1,519.2	515.2	444.9	70.33	7.326		
10,900.0	7,307.0	7,251.0	7,251.0	63.5	12.7	90.00	2,671.7	1,519.2	603.7	531.7	72.04	8.380		
11,000.0	7,307.0	7,251.0	7,251.0	65.1	12.7	90.00	2,671.7	1,519.2	695.3	621.5	73.75	9.427		
11,100.0	7,307.0	7,251.0	7,251.0	66.7	12.7	90.00	2,671.7	1,519.2	788.9	713.5	75.47	10.454		
11,200.0	7,307.0	7,251.0	7,251.0	68.4	12.7	90.00	2,671.7	1,519.2	884.0	806.8	77.18	11.453		
11,300.0	7,307.0	7,251.0	7,251.0	70.0	12.7	90.00	2,671.7	1,519.2	980.0	901.1	78.90	12.421		
11,400.0	7,307.0	7,251.0	7,251.0	71.6	12.7	90.00	2,671.7	1,519.2	1,076.8	996.1	80.62	13.356		
11,500.0	7,307.0	7,251.0	7,251.0	73.3	12.7	90.00	2,671.7	1,519.2	1,174.0	1,091.7	82.34	14.258		
11,600.0	7,307.0	7,251.0	7,251.0	74.9	12.7	90.00	2,671.7	1,519.2	1,271.8	1,187.7	84.07	15.128		
11,700.0	7,307.0	7,251.0	7,251.0	76.5	12.7	90.00	2,671.7	1,519.2	1,369.8	1,284.0	85.79	15.967		
11,800.0	7,307.0	7,251.0	7,251.0	78.2	12.7	90.00	2,671.7	1,519.2	1,468.1	1,380.6	87.52	16.775		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 33-9 (EXISTING) - ENCANA WELL - NO SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 8150-Geolink MWD													Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor		
7,800.0	7,307.0	7,261.0	7,261.0	26.6	12.7	90.00	1,647.0	1,507.0	1,549.2	1,522.9	26.38	58.733		
7,900.0	7,307.0	7,261.0	7,261.0	26.9	12.7	90.00	1,647.0	1,507.0	1,450.4	1,423.4	26.95	53.809		
7,991.9	7,307.0	7,261.0	7,261.0	27.3	12.7	90.00	1,647.0	1,507.0	1,359.7	1,332.1	27.65	49.183		
8,000.0	7,307.0	7,261.0	7,261.0	27.3	12.7	90.00	1,647.0	1,507.0	1,351.7	1,324.0	27.69	48.816		
8,017.0	7,307.0	7,261.0	7,261.0	27.4	12.7	90.00	1,647.0	1,507.0	1,335.0	1,307.2	27.78	48.054		
8,100.0	7,307.0	7,261.0	7,261.0	27.8	12.7	90.00	1,647.0	1,507.0	1,253.4	1,224.9	28.54	43.918		
8,200.0	7,307.0	7,261.0	7,261.0	28.4	12.7	90.00	1,647.0	1,507.0	1,155.4	1,125.8	29.57	39.068		
8,300.0	7,307.0	7,261.0	7,261.0	29.1	12.7	90.00	1,647.0	1,507.0	1,057.7	1,027.0	30.72	34.432		
8,400.0	7,307.0	7,261.0	7,261.0	29.8	12.7	90.00	1,647.0	1,507.0	960.6	928.6	31.96	30.058		
8,500.0	7,307.0	7,261.0	7,261.0	30.7	12.7	90.00	1,647.0	1,507.0	864.1	830.8	33.27	25.972		
8,600.0	7,307.0	7,261.0	7,261.0	31.6	12.7	90.00	1,647.0	1,507.0	768.5	733.8	34.64	22.181		
8,700.0	7,307.0	7,261.0	7,261.0	32.6	12.7	90.00	1,647.0	1,507.0	674.1	638.0	36.07	18.689		
8,800.0	7,307.0	7,261.0	7,261.0	33.7	12.7	90.00	1,647.0	1,507.0	581.7	544.1	37.54	15.496		
8,900.0	7,307.0	7,261.0	7,261.0	34.8	12.7	90.00	1,647.0	1,507.0	492.2	453.1	39.04	12.607		
9,000.0	7,307.0	7,261.0	7,261.0	35.9	12.7	90.00	1,647.0	1,507.0	407.6	367.0	40.57	10.047		
9,100.0	7,307.0	7,261.0	7,261.0	37.2	12.7	90.00	1,647.0	1,507.0	331.7	289.6	42.13	7.874		
9,200.0	7,307.0	7,261.0	7,261.0	38.4	12.7	90.00	1,647.0	1,507.0	271.9	228.2	43.71	6.222		
9,300.0	7,307.0	7,261.0	7,261.0	39.7	12.7	90.00	1,647.0	1,507.0	240.5	195.2	45.30	5.309		
9,330.5	7,307.0	7,261.0	7,261.0	40.1	12.7	90.00	1,647.0	1,507.0	238.6	192.8	45.79	5.210 CC, ES, SF		
9,400.0	7,307.0	7,261.0	7,261.0	41.0	12.7	90.00	1,647.0	1,507.0	248.5	201.6	46.91	5.297		
9,500.0	7,307.0	7,261.0	7,261.0	42.4	12.7	90.00	1,647.0	1,507.0	292.7	244.1	48.54	6.030		
9,600.0	7,307.0	7,261.0	7,261.0	43.8	12.7	90.00	1,647.0	1,507.0	359.9	309.8	50.17	7.174		
9,700.0	7,307.0	7,261.0	7,261.0	45.2	12.7	90.00	1,647.0	1,507.0	439.8	388.0	51.82	8.488		
9,800.0	7,307.0	7,261.0	7,261.0	46.6	12.7	90.00	1,647.0	1,507.0	526.7	473.2	53.47	9.849		
9,900.0	7,307.0	7,261.0	7,261.0	48.1	12.7	90.00	1,647.0	1,507.0	617.5	562.3	55.14	11.199		
10,000.0	7,307.0	7,261.0	7,261.0	49.6	12.7	90.00	1,647.0	1,507.0	710.8	653.9	56.81	12.511		
10,100.0	7,307.0	7,261.0	7,261.0	51.1	12.7	90.00	1,647.0	1,507.0	805.7	747.2	58.49	13.775		
10,200.0	7,307.0	7,261.0	7,261.0	52.6	12.7	90.00	1,647.0	1,507.0	901.7	841.5	60.17	14.986		
10,300.0	7,307.0	7,261.0	7,261.0	54.1	12.7	90.00	1,647.0	1,507.0	998.4	936.6	61.85	16.142		
10,400.0	7,307.0	7,261.0	7,261.0	55.7	12.7	90.00	1,647.0	1,507.0	1,095.8	1,032.3	63.55	17.244		
10,500.0	7,307.0	7,261.0	7,261.0	57.2	12.7	90.00	1,647.0	1,507.0	1,193.6	1,128.4	65.24	18.295		
10,600.0	7,307.0	7,261.0	7,261.0	58.8	12.7	90.00	1,647.0	1,507.0	1,291.7	1,224.8	66.94	19.296		
10,700.0	7,307.0	7,261.0	7,261.0	60.4	12.7	90.00	1,647.0	1,507.0	1,390.1	1,321.5	68.65	20.251		
10,800.0	7,307.0	7,261.0	7,261.0	61.9	12.7	90.00	1,647.0	1,507.0	1,488.8	1,418.4	70.35	21.162		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 34-9 (EXISTING) - ENCANA WELL - NO SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 8127-Geolink MWD													Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor		
5,200.0	5,106.8	5,075.8	5,075.8	19.0	8.9	-38.25	43.8	2,355.2	1,547.8	1,525.3	22.53	68.706		
5,300.0	5,204.7	5,173.7	5,173.7	19.4	9.0	-38.72	43.8	2,355.2	1,531.9	1,508.8	23.06	66.421		
5,400.0	5,302.6	5,271.6	5,271.6	19.8	9.2	-39.19	43.8	2,355.2	1,516.0	1,492.4	23.60	64.230		
5,500.0	5,400.6	5,369.6	5,369.6	20.2	9.4	-39.67	43.8	2,355.2	1,500.3	1,476.1	24.15	62.128		
5,600.0	5,498.5	5,467.5	5,467.5	20.6	9.5	-40.17	43.8	2,355.2	1,484.6	1,459.9	24.70	60.109		
5,700.0	5,596.4	5,565.4	5,565.4	21.0	9.7	-40.67	43.8	2,355.2	1,469.1	1,443.8	25.25	58.171		
5,800.0	5,694.4	5,663.4	5,663.4	21.4	9.9	-41.19	43.8	2,355.2	1,453.7	1,427.9	25.82	56.308		
5,900.0	5,792.3	5,761.3	5,761.3	21.8	10.1	-41.71	43.8	2,355.2	1,438.4	1,412.0	26.38	54.517		
6,000.0	5,890.2	5,859.2	5,859.2	22.2	10.2	-42.25	43.8	2,355.2	1,423.2	1,396.2	26.96	52.795		
6,100.0	5,988.2	5,957.2	5,957.2	22.6	10.4	-42.80	43.8	2,355.2	1,408.2	1,380.6	27.54	51.138		
6,200.0	6,086.1	6,055.1	6,055.1	23.0	10.6	-43.36	43.8	2,355.2	1,393.2	1,365.1	28.12	49.544		
6,300.0	6,184.0	6,153.0	6,153.0	23.4	10.7	-43.93	43.8	2,355.2	1,378.5	1,349.7	28.71	48.009		
6,400.0	6,282.0	6,251.0	6,251.0	23.8	10.9	-44.51	43.8	2,355.2	1,363.8	1,334.5	29.31	46.531		
6,500.0	6,379.9	6,348.9	6,348.9	24.2	11.1	-45.11	43.8	2,355.2	1,349.3	1,319.4	29.91	45.107		
6,600.0	6,477.8	6,446.8	6,446.8	24.6	11.3	-45.72	43.8	2,355.2	1,335.0	1,304.5	30.52	43.736		
6,700.0	6,575.8	6,544.8	6,544.8	25.0	11.4	-46.34	43.8	2,355.2	1,320.8	1,289.6	31.14	42.415		
6,800.0	6,673.7	6,642.7	6,642.7	25.4	11.6	-46.97	43.8	2,355.2	1,306.7	1,275.0	31.76	41.142		
6,827.3	6,700.4	6,669.4	6,669.4	25.5	11.6	-47.15	43.8	2,355.2	1,303.0	1,271.0	31.93	40.803		
6,850.0	6,722.7	6,691.7	6,691.7	25.6	11.7	-36.10	43.8	2,355.2	1,299.6	1,267.6	31.97	40.655		
6,900.0	6,771.8	6,740.8	6,740.8	25.7	11.8	-9.70	43.8	2,355.2	1,291.0	1,259.1	31.88	40.496		
6,950.0	6,820.7	6,789.7	6,789.7	25.9	11.9	12.34	43.8	2,355.2	1,280.6	1,249.0	31.60	40.530		
7,000.0	6,869.0	6,838.0	6,838.0	26.0	11.9	27.52	43.8	2,355.2	1,268.5	1,237.4	31.13	40.748		
7,050.0	6,916.4	6,885.4	6,885.4	26.1	12.0	37.98	43.8	2,355.2	1,254.9	1,224.4	30.51	41.127		
7,100.0	6,962.4	6,931.4	6,931.4	26.1	12.1	45.79	43.8	2,355.2	1,240.0	1,210.2	29.78	41.637		
7,150.0	7,006.8	6,975.8	6,975.8	26.2	12.2	52.12	43.8	2,355.2	1,223.9	1,194.9	28.98	42.227		
7,200.0	7,049.2	7,018.2	7,018.2	26.2	12.2	57.62	43.8	2,355.2	1,207.0	1,178.9	28.18	42.828		
7,250.0	7,089.2	7,058.2	7,058.2	26.2	12.3	62.61	43.8	2,355.2	1,189.7	1,162.2	27.44	43.357		
7,300.0	7,126.7	7,095.7	7,095.7	26.2	12.4	67.22	43.8	2,355.2	1,172.1	1,145.3	26.81	43.728		
7,350.0	7,161.2	7,130.2	7,130.2	26.2	12.4	71.52	43.8	2,355.2	1,154.9	1,128.6	26.32	43.878		
7,400.0	7,192.6	7,161.6	7,161.6	26.2	12.5	75.48	43.8	2,355.2	1,138.3	1,112.3	26.00	43.787		
7,450.0	7,220.5	7,189.5	7,189.5	26.2	12.5	79.07	43.8	2,355.2	1,122.9	1,097.0	25.82	43.487		
7,500.0	7,244.8	7,213.8	7,213.8	26.3	12.6	82.24	43.8	2,355.2	1,109.0	1,083.2	25.76	43.048		
7,550.0	7,265.3	7,234.3	7,234.3	26.3	12.6	84.92	43.8	2,355.2	1,097.0	1,071.2	25.78	42.552		
7,600.0	7,281.9	7,250.9	7,250.9	26.3	12.7	87.07	43.8	2,355.2	1,087.4	1,061.6	25.85	42.068		
7,650.0	7,294.3	7,263.3	7,263.3	26.4	12.7	88.65	43.8	2,355.2	1,080.5	1,054.5	25.95	41.642		
7,700.0	7,302.6	7,271.6	7,271.6	26.4	12.7	89.64	43.8	2,355.2	1,076.4	1,050.4	26.07	41.296		
7,740.4	7,306.2	7,275.2	7,275.2	26.5	12.7	90.00	43.8	2,355.2	1,075.4	1,049.2	26.18	41.073 CC, ES		
7,750.0	7,306.6	7,275.6	7,275.6	26.5	12.7	90.03	43.8	2,355.2	1,075.5	1,049.3	26.21	41.036		
7,771.9	7,307.0	7,276.0	7,276.0	26.5	12.7	90.00	43.8	2,355.2	1,076.0	1,049.8	26.28	40.948		
7,800.0	7,307.0	7,276.0	7,276.0	26.6	12.7	90.00	43.8	2,355.2	1,077.5	1,051.1	26.40	40.809		
7,900.0	7,307.0	7,276.0	7,276.0	26.9	12.7	90.00	43.8	2,355.2	1,088.7	1,061.7	26.98	40.350		
7,991.9	7,307.0	7,276.0	7,276.0	27.3	12.7	90.00	43.8	2,355.2	1,106.8	1,079.1	27.67	39.996		
8,000.0	7,307.0	7,276.0	7,276.0	27.3	12.7	90.00	43.8	2,355.2	1,108.7	1,081.0	27.72	40.004		
8,017.0	7,307.0	7,276.0	7,276.0	27.4	12.7	90.00	43.8	2,355.2	1,113.1	1,085.3	27.81	40.028		
8,100.0	7,307.0	7,276.0	7,276.0	27.8	12.7	90.00	43.8	2,355.2	1,138.1	1,109.5	28.57	39.841		
8,200.0	7,307.0	7,276.0	7,276.0	28.4	12.7	90.00	43.8	2,355.2	1,175.3	1,145.7	29.60	39.705		
8,300.0	7,307.0	7,276.0	7,276.0	29.1	12.7	90.00	43.8	2,355.2	1,219.5	1,188.8	30.75	39.665 SF		
8,400.0	7,307.0	7,276.0	7,276.0	29.8	12.7	90.00	43.8	2,355.2	1,270.1	1,238.1	31.98	39.712		
8,500.0	7,307.0	7,276.0	7,276.0	30.7	12.7	90.00	43.8	2,355.2	1,326.4	1,293.1	33.30	39.836		
8,600.0	7,307.0	7,276.0	7,276.0	31.6	12.7	90.00	43.8	2,355.2	1,387.5	1,352.9	34.67	40.021		
8,700.0	7,307.0	7,276.0	7,276.0	32.6	12.7	90.00	43.8	2,355.2	1,453.0	1,416.9	36.10	40.255		
8,800.0	7,307.0	7,276.0	7,276.0	33.7	12.7	90.00	43.8	2,355.2	1,522.3	1,484.7	37.56	40.525		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 3-9 (EXISTING) - ENCANA WELL - NO SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 8190-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Between Centres (ft)	Between Ellipses (ft)						
7,900.0	7,307.0	7,269.0	7,269.0	26.9	12.7	90.00	1,111.5	2,474.5	1,493.8	1,466.9	26.97	55.392		
7,991.9	7,307.0	7,269.0	7,269.0	27.3	12.7	90.00	1,111.5	2,474.5	1,440.5	1,412.9	27.66	52.080		
8,000.0	7,307.0	7,269.0	7,269.0	27.3	12.7	90.00	1,111.5	2,474.5	1,436.0	1,408.3	27.70	51.835		
8,017.0	7,307.0	7,269.0	7,269.0	27.4	12.7	90.00	1,111.5	2,474.5	1,426.8	1,399.0	27.80	51.330		
8,100.0	7,307.0	7,269.0	7,269.0	27.8	12.7	90.00	1,111.5	2,474.5	1,383.7	1,355.2	28.55	48.461		
8,200.0	7,307.0	7,269.0	7,269.0	28.4	12.7	90.00	1,111.5	2,474.5	1,336.9	1,307.3	29.59	45.186		
8,300.0	7,307.0	7,269.0	7,269.0	29.1	12.7	90.00	1,111.5	2,474.5	1,296.2	1,265.4	30.73	42.175		
8,400.0	7,307.0	7,269.0	7,269.0	29.8	12.7	90.00	1,111.5	2,474.5	1,262.0	1,230.1	31.97	39.475		
8,500.0	7,307.0	7,269.0	7,269.0	30.7	12.7	90.00	1,111.5	2,474.5	1,235.1	1,201.8	33.28	37.108		
8,600.0	7,307.0	7,269.0	7,269.0	31.6	12.7	90.00	1,111.5	2,474.5	1,215.8	1,181.1	34.66	35.079		
8,700.0	7,307.0	7,269.0	7,269.0	32.6	12.7	90.00	1,111.5	2,474.5	1,204.5	1,168.4	36.08	33.381		
8,786.6	7,307.0	7,269.0	7,269.0	33.5	12.7	90.00	1,111.5	2,474.5	1,201.4	1,164.0	37.35	32.161 CC		
8,800.0	7,307.0	7,269.0	7,269.0	33.7	12.7	90.00	1,111.5	2,474.5	1,201.4	1,163.9	37.55	31.995 ES		
8,900.0	7,307.0	7,269.0	7,269.0	34.8	12.7	90.00	1,111.5	2,474.5	1,206.7	1,167.7	39.05	30.899		
9,000.0	7,307.0	7,269.0	7,269.0	35.9	12.7	90.00	1,111.5	2,474.5	1,220.2	1,179.6	40.58	30.065		
9,100.0	7,307.0	7,269.0	7,269.0	37.2	12.7	90.00	1,111.5	2,474.5	1,241.6	1,199.4	42.14	29.462		
9,200.0	7,307.0	7,269.0	7,269.0	38.4	12.7	90.00	1,111.5	2,474.5	1,270.5	1,226.8	43.72	29.060		
9,300.0	7,307.0	7,269.0	7,269.0	39.7	12.7	90.00	1,111.5	2,474.5	1,306.5	1,261.1	45.31	28.831		
9,400.0	7,307.0	7,269.0	7,269.0	41.0	12.7	90.00	1,111.5	2,474.5	1,348.9	1,302.0	46.93	28.745 SF		
9,500.0	7,307.0	7,269.0	7,269.0	42.4	12.7	90.00	1,111.5	2,474.5	1,397.2	1,348.7	48.55	28.778		
9,600.0	7,307.0	7,269.0	7,269.0	43.8	12.7	90.00	1,111.5	2,474.5	1,450.8	1,400.6	50.19	28.908		
9,700.0	7,307.0	7,269.0	7,269.0	45.2	12.7	90.00	1,111.5	2,474.5	1,509.2	1,457.3	51.83	29.116		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3A-9H-N267 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Separation Factor	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)	Total Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	-87.43	3.6	-81.1	81.2					
100.0	100.0	100.0	100.0	0.1	0.1	-87.43	3.6	-81.1	81.2	80.9	0.24	332.116		
200.0	200.0	200.0	200.0	0.3	0.3	-87.43	3.6	-81.1	81.2	80.6	0.59	136.754 CC, ES		
300.0	300.0	297.4	297.4	0.5	0.5	-87.85	3.1	-82.6	82.7	81.8	0.94	87.849		
400.0	400.0	394.5	394.3	0.6	0.7	158.71	1.5	-87.3	89.1	87.8	1.28	69.363		
500.0	499.8	490.6	490.1	0.8	0.9	158.02	-1.2	-95.0	101.9	100.3	1.63	62.388		
600.0	599.5	585.3	584.2	1.1	1.1	157.53	-4.9	-105.5	121.0	119.0	1.99	60.930 SF		
700.0	698.7	678.0	675.8	1.3	1.4	157.18	-9.5	-118.6	146.2	143.8	2.34	62.403		
800.0	797.5	768.2	764.5	1.6	1.7	156.94	-14.9	-134.1	177.4	174.7	2.71	65.542		
883.4	879.4	841.3	835.9	1.9	2.0	156.77	-20.0	-148.5	207.8	204.8	3.01	68.956		
900.0	895.6	855.6	849.9	2.0	2.1	156.79	-21.0	-151.6	214.3	211.2	3.08	69.643		
1,000.0	993.6	946.6	938.4	2.4	2.5	156.84	-27.9	-171.4	253.9	250.4	3.47	73.121		
1,100.0	1,091.5	1,038.4	1,027.8	2.7	2.9	156.88	-34.9	-191.3	293.5	289.6	3.87	75.784		
1,200.0	1,189.4	1,130.2	1,117.1	3.1	3.3	156.91	-41.9	-211.3	333.1	328.8	4.28	77.890		
1,300.0	1,287.4	1,222.1	1,206.5	3.5	3.7	156.93	-48.9	-231.3	372.7	368.0	4.68	79.593		
1,400.0	1,385.3	1,313.9	1,295.8	3.9	4.1	156.95	-55.9	-251.3	412.3	407.2	5.09	80.995		
1,500.0	1,483.2	1,405.7	1,385.2	4.3	4.5	156.96	-62.9	-271.3	451.9	446.4	5.50	82.169		
1,600.0	1,581.2	1,497.5	1,474.5	4.7	4.9	156.98	-69.9	-291.3	491.5	485.6	5.91	83.165		
1,700.0	1,679.1	1,589.4	1,563.9	5.1	5.3	156.99	-76.9	-311.3	531.1	524.8	6.32	84.019		
1,800.0	1,777.0	1,681.2	1,653.2	5.5	5.7	157.00	-83.9	-331.2	570.7	564.0	6.73	84.760		
1,900.0	1,875.0	1,773.0	1,742.6	5.9	6.1	157.01	-90.9	-351.2	610.3	603.2	7.15	85.409		
2,000.0	1,972.9	1,864.8	1,831.9	6.3	6.5	157.01	-97.9	-371.2	649.9	642.4	7.56	85.981		
2,100.0	2,070.8	1,956.7	1,921.3	6.7	6.9	157.02	-104.9	-391.2	689.5	681.5	7.97	86.489		
2,200.0	2,168.8	2,048.5	2,010.6	7.0	7.3	157.02	-111.8	-411.2	729.1	720.7	8.39	86.943		
2,300.0	2,266.7	2,140.3	2,100.0	7.4	7.7	157.03	-118.8	-431.2	768.7	759.9	8.80	87.352		
2,400.0	2,364.6	2,232.1	2,189.3	7.8	8.1	157.03	-125.8	-451.2	808.3	799.1	9.21	87.722		
2,500.0	2,462.6	2,323.9	2,278.7	8.2	8.6	157.04	-132.8	-471.1	847.9	838.3	9.63	88.057		
2,600.0	2,560.5	2,415.8	2,368.0	8.6	9.0	157.04	-139.8	-491.1	887.5	877.5	10.04	88.363		
2,700.0	2,658.4	2,507.6	2,457.4	9.0	9.4	157.05	-146.8	-511.1	927.2	916.7	10.46	88.644		
2,800.0	2,756.4	2,599.4	2,546.7	9.4	9.8	157.05	-153.8	-531.1	966.8	955.9	10.87	88.901		
2,900.0	2,854.3	2,691.2	2,636.1	9.8	10.2	157.05	-160.8	-551.1	1,006.4	995.1	11.29	89.139		
3,000.0	2,952.2	2,783.1	2,725.4	10.2	10.6	157.05	-167.8	-571.1	1,046.0	1,034.3	11.71	89.358		
3,100.0	3,050.2	2,874.9	2,814.8	10.6	11.0	157.06	-174.8	-591.1	1,085.6	1,073.5	12.12	89.562		
3,200.0	3,148.1	2,966.7	2,904.1	11.0	11.4	157.06	-181.8	-611.0	1,125.2	1,112.6	12.54	89.752		
3,300.0	3,246.0	3,058.5	2,993.5	11.4	11.8	157.06	-188.8	-631.0	1,164.8	1,151.8	12.95	89.929		
3,400.0	3,344.0	3,150.3	3,082.8	11.8	12.2	157.06	-195.7	-651.0	1,204.4	1,191.0	13.37	90.094		
3,500.0	3,441.9	3,242.2	3,172.1	12.2	12.7	157.06	-202.7	-671.0	1,244.0	1,230.2	13.78	90.249		
3,600.0	3,539.8	3,334.0	3,261.5	12.6	13.1	157.07	-209.7	-691.0	1,283.6	1,269.4	14.20	90.394		
3,700.0	3,637.8	3,425.8	3,350.8	13.0	13.5	157.07	-216.7	-711.0	1,323.2	1,308.6	14.62	90.530		
3,800.0	3,735.7	3,517.6	3,440.2	13.4	13.9	157.07	-223.7	-731.0	1,362.8	1,347.8	15.03	90.659		
3,900.0	3,833.6	3,609.5	3,529.5	13.8	14.3	157.07	-230.7	-750.9	1,402.4	1,387.0	15.45	90.781		
4,000.0	3,931.6	3,701.3	3,618.9	14.2	14.7	157.07	-237.7	-770.9	1,442.0	1,426.2	15.86	90.895		
4,100.0	4,029.5	3,793.1	3,708.2	14.6	15.1	157.07	-244.7	-790.9	1,481.6	1,465.3	16.28	91.004		
4,200.0	4,127.4	3,884.9	3,797.6	15.0	15.5	157.08	-251.7	-810.9	1,521.2	1,504.5	16.70	91.107		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3B-9H-N267 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)				
0.0	0.0	0.0	0.0	0.0	0.0	-87.02	3.6	-69.9	70.0					
100.0	100.0	100.0	100.0	0.1	0.1	-87.02	3.6	-69.9	70.0	69.7	0.24	286.405		
200.0	200.0	200.0	200.0	0.3	0.3	-87.02	3.6	-69.9	70.0	69.4	0.59	117.931		
300.0	300.0	300.0	300.0	0.5	0.5	-87.02	3.6	-69.9	70.0	69.0	0.94	74.253 CC, ES		
400.0	400.0	397.8	397.7	0.6	0.6	160.21	3.0	-71.4	73.2	71.9	1.29	56.790		
500.0	499.8	494.9	494.8	0.8	0.8	159.80	1.0	-76.0	82.6	81.0	1.64	50.520		
600.0	599.5	591.0	590.5	1.1	1.0	159.28	-2.3	-83.4	98.4	96.4	1.99	49.493 SF		
700.0	698.7	685.3	684.1	1.3	1.3	158.75	-6.8	-93.6	120.3	117.9	2.35	51.257		
800.0	797.5	777.4	775.2	1.6	1.6	158.25	-12.3	-106.2	148.2	145.4	2.71	54.600		
883.4	879.4	853.9	850.5	1.9	1.8	157.90	-17.8	-118.6	175.7	172.7	3.03	58.055		
900.0	895.6	869.5	865.8	2.0	1.9	157.90	-18.9	-121.2	181.5	178.4	3.09	58.690		
1,000.0	993.6	963.2	958.0	2.4	2.2	157.88	-25.7	-136.8	216.2	212.7	3.49	61.952		
1,100.0	1,091.5	1,057.0	1,050.2	2.7	2.5	157.87	-32.6	-152.3	250.9	247.1	3.89	64.475		
1,200.0	1,189.4	1,150.8	1,142.5	3.1	2.8	157.87	-39.4	-167.9	285.7	281.4	4.30	66.476		
1,300.0	1,287.4	1,244.6	1,234.7	3.5	3.2	157.86	-46.2	-183.5	320.4	315.7	4.71	68.097		
1,400.0	1,385.3	1,338.3	1,326.9	3.9	3.5	157.86	-53.1	-199.1	355.1	350.0	5.11	69.436		
1,500.0	1,483.2	1,432.1	1,419.1	4.3	3.8	157.85	-59.9	-214.6	389.9	384.3	5.53	70.558		
1,600.0	1,581.2	1,525.9	1,511.3	4.7	4.2	157.85	-66.8	-230.2	424.6	418.7	5.94	71.511		
1,700.0	1,679.1	1,619.7	1,603.5	5.1	4.5	157.84	-73.6	-245.8	459.3	453.0	6.35	72.330		
1,800.0	1,777.0	1,713.4	1,695.8	5.5	4.8	157.84	-80.4	-261.4	494.1	487.3	6.76	73.041		
1,900.0	1,875.0	1,807.2	1,788.0	5.9	5.2	157.84	-87.3	-276.9	528.8	521.6	7.18	73.665		
2,000.0	1,972.9	1,901.0	1,880.2	6.3	5.5	157.84	-94.1	-292.5	563.5	555.9	7.59	74.215		
2,100.0	2,070.8	1,994.8	1,972.4	6.7	5.9	157.84	-100.9	-308.1	598.3	590.3	8.01	74.704		
2,200.0	2,168.8	2,088.5	2,064.6	7.0	6.2	157.84	-107.8	-323.7	633.0	624.6	8.42	75.142		
2,300.0	2,266.7	2,182.3	2,156.9	7.4	6.5	157.83	-114.6	-339.2	667.7	658.9	8.84	75.535		
2,400.0	2,364.6	2,276.1	2,249.1	7.8	6.9	157.83	-121.5	-354.8	702.5	693.2	9.26	75.892		
2,500.0	2,462.6	2,369.9	2,341.3	8.2	7.2	157.83	-128.3	-370.4	737.2	727.5	9.67	76.216		
2,600.0	2,560.5	2,463.6	2,433.5	8.6	7.6	157.83	-135.1	-386.0	771.9	761.8	10.09	76.511		
2,700.0	2,658.4	2,557.4	2,525.7	9.0	7.9	157.83	-142.0	-401.5	806.6	796.1	10.51	76.782		
2,800.0	2,756.4	2,651.2	2,618.0	9.4	8.2	157.83	-148.8	-417.1	841.4	830.5	10.92	77.031		
2,900.0	2,854.3	2,745.0	2,710.2	9.8	8.6	157.83	-155.7	-432.7	876.1	864.8	11.34	77.260		
3,000.0	2,952.2	2,838.7	2,802.4	10.2	8.9	157.83	-162.5	-448.3	910.8	899.1	11.76	77.473		
3,100.0	3,050.2	2,932.5	2,894.6	10.6	9.3	157.83	-169.3	-463.8	945.6	933.4	12.17	77.670		
3,200.0	3,148.1	3,026.3	2,986.8	11.0	9.6	157.83	-176.2	-479.4	980.3	967.7	12.59	77.854		
3,300.0	3,246.0	3,120.1	3,079.1	11.4	10.0	157.83	-183.0	-495.0	1,015.0	1,002.0	13.01	78.025		
3,400.0	3,344.0	3,213.8	3,171.3	11.8	10.3	157.83	-189.8	-510.6	1,049.8	1,036.3	13.43	78.185		
3,500.0	3,441.9	3,307.6	3,263.5	12.2	10.6	157.82	-196.7	-526.1	1,084.5	1,070.6	13.84	78.335		
3,600.0	3,539.8	3,401.4	3,355.7	12.6	11.0	157.82	-203.5	-541.7	1,119.2	1,105.0	14.26	78.476		
3,700.0	3,637.8	3,495.2	3,447.9	13.0	11.3	157.82	-210.4	-557.3	1,154.0	1,139.3	14.68	78.608		
3,800.0	3,735.7	3,588.9	3,540.2	13.4	11.7	157.82	-217.2	-572.9	1,188.7	1,173.6	15.10	78.733		
3,900.0	3,833.6	3,682.7	3,632.4	13.8	12.0	157.82	-224.0	-588.4	1,223.4	1,207.9	15.52	78.851		
4,000.0	3,931.6	3,776.5	3,724.6	14.2	12.3	157.82	-230.9	-604.0	1,258.1	1,242.2	15.93	78.962		
4,100.0	4,029.5	3,870.3	3,816.8	14.6	12.7	157.82	-237.7	-619.6	1,292.9	1,276.5	16.35	79.068		
4,200.0	4,127.4	3,964.0	3,909.0	15.0	13.0	157.82	-244.6	-635.2	1,327.6	1,310.8	16.77	79.167		
4,300.0	4,225.4	4,057.8	4,001.3	15.4	13.4	157.82	-251.4	-650.7	1,362.3	1,345.2	17.19	79.262		
4,400.0	4,323.3	4,151.6	4,093.5	15.8	13.7	157.82	-258.2	-666.3	1,397.1	1,379.5	17.61	79.353		
4,500.0	4,421.2	4,245.4	4,185.7	16.2	14.1	157.82	-265.1	-681.9	1,431.8	1,413.8	18.02	79.439		
4,600.0	4,519.2	4,339.1	4,277.9	16.6	14.4	157.82	-271.9	-697.5	1,466.5	1,448.1	18.44	79.521		
4,700.0	4,617.1	4,432.9	4,370.1	17.0	14.7	157.82	-278.7	-713.0	1,501.3	1,482.4	18.86	79.599		
4,800.0	4,715.0	4,526.7	4,462.4	17.4	15.1	157.82	-285.6	-728.6	1,536.0	1,516.7	19.28	79.673		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3C-9H-N267 - Hz - Plan #1												Offset Site Error:	0.0 ft
Survey Program: O-Geolink MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)			
0.0	0.0	0.0	0.0	0.0	0.0	-86.63	3.6	-61.5	61.6				
100.0	100.0	100.0	100.0	0.1	0.1	-86.63	3.6	-61.5	61.6	61.4	0.24	252.133	
200.0	200.0	200.0	200.0	0.3	0.3	-86.63	3.6	-61.5	61.6	61.0	0.59	103.820	
300.0	300.0	300.0	300.0	0.5	0.5	-86.63	3.6	-61.5	61.6	60.7	0.94	65.368 CC, ES	
400.0	400.0	400.0	400.0	0.6	0.6	161.27	3.6	-61.5	63.3	62.0	1.29	48.985	
500.0	499.8	498.9	498.9	0.8	0.8	162.20	3.2	-62.2	68.9	67.3	1.64	42.056	
600.0	599.5	597.3	597.3	1.1	1.0	162.93	1.8	-64.4	79.3	77.3	1.99	39.900 SF	
700.0	698.7	695.0	694.9	1.3	1.2	163.41	-0.4	-67.9	94.3	92.0	2.34	40.347	
800.0	797.5	791.7	791.4	1.6	1.4	163.67	-3.5	-72.8	113.9	111.2	2.69	42.341	
883.4	879.4	871.4	870.9	1.9	1.5	163.76	-6.7	-77.9	133.8	130.8	2.99	44.754	
900.0	895.6	887.1	886.5	2.0	1.6	163.78	-7.4	-79.0	138.0	135.0	3.05	45.260	
1,000.0	993.6	981.6	980.6	2.4	1.8	163.70	-12.1	-86.4	164.5	161.1	3.42	48.050	
1,100.0	1,091.5	1,075.4	1,073.9	2.7	2.0	163.35	-17.6	-95.1	192.3	188.5	3.81	50.497	
1,200.0	1,189.4	1,168.5	1,166.2	3.1	2.2	162.82	-23.9	-105.0	221.2	217.0	4.20	52.674	
1,300.0	1,287.4	1,260.8	1,257.5	3.5	2.5	162.20	-30.9	-116.0	251.4	246.8	4.60	54.652	
1,400.0	1,385.3	1,355.6	1,351.2	3.9	2.8	161.58	-38.5	-128.1	282.4	277.3	5.01	56.324	
1,500.0	1,483.2	1,450.6	1,445.2	4.3	3.0	161.08	-46.2	-140.3	313.3	307.9	5.43	57.711	
1,600.0	1,581.2	1,545.7	1,539.2	4.7	3.3	160.67	-53.9	-152.4	344.3	338.4	5.85	58.879	
1,700.0	1,679.1	1,640.7	1,633.1	5.1	3.6	160.33	-61.6	-164.5	375.3	369.0	6.27	59.875	
1,800.0	1,777.0	1,735.8	1,727.1	5.5	3.9	160.04	-69.2	-176.7	406.3	399.6	6.69	60.735	
1,900.0	1,875.0	1,830.8	1,821.1	5.9	4.2	159.79	-76.9	-188.8	437.3	430.2	7.11	61.482	
2,000.0	1,972.9	1,925.9	1,915.0	6.3	4.5	159.58	-84.6	-200.9	468.3	460.8	7.54	62.138	
2,100.0	2,070.8	2,020.9	2,009.0	6.7	4.8	159.39	-92.3	-213.1	499.3	491.4	7.96	62.719	
2,200.0	2,168.8	2,116.0	2,102.9	7.0	5.1	159.22	-100.0	-225.2	530.4	522.0	8.39	63.235	
2,300.0	2,266.7	2,211.1	2,196.9	7.4	5.4	159.07	-107.6	-237.3	561.4	552.6	8.81	63.698	
2,400.0	2,364.6	2,306.1	2,290.9	7.8	5.7	158.94	-115.3	-249.5	592.4	583.2	9.24	64.115	
2,500.0	2,462.6	2,401.2	2,384.8	8.2	6.0	158.82	-123.0	-261.6	623.5	613.8	9.67	64.492	
2,600.0	2,560.5	2,496.2	2,478.8	8.6	6.3	158.71	-130.7	-273.7	654.5	644.4	10.09	64.835	
2,700.0	2,658.4	2,591.3	2,572.8	9.0	6.6	158.62	-138.3	-285.9	685.5	675.0	10.52	65.148	
2,800.0	2,756.4	2,686.3	2,666.7	9.4	6.9	158.53	-146.0	-298.0	716.6	705.6	10.95	65.436	
2,900.0	2,854.3	2,781.4	2,760.7	9.8	7.2	158.44	-153.7	-310.1	747.6	736.2	11.38	65.700	
3,000.0	2,952.2	2,876.4	2,854.7	10.2	7.5	158.37	-161.4	-322.3	778.7	766.8	11.81	65.943	
3,100.0	3,050.2	2,971.5	2,948.6	10.6	7.8	158.30	-169.1	-334.4	809.7	797.5	12.24	66.169	
3,200.0	3,148.1	3,066.5	3,042.6	11.0	8.0	158.23	-176.7	-346.5	840.7	828.1	12.67	66.378	
3,300.0	3,246.0	3,161.6	3,136.6	11.4	8.3	158.17	-184.4	-358.7	871.8	858.7	13.10	66.573	
3,400.0	3,344.0	3,256.7	3,230.5	11.8	8.6	158.12	-192.1	-370.8	902.8	889.3	13.52	66.755	
3,500.0	3,441.9	3,351.7	3,324.5	12.2	8.9	158.06	-199.8	-382.9	933.9	919.9	13.95	66.925	
3,600.0	3,539.8	3,446.8	3,418.4	12.6	9.2	158.01	-207.4	-395.1	964.9	950.5	14.38	67.084	
3,700.0	3,637.8	3,541.8	3,512.4	13.0	9.5	157.97	-215.1	-407.2	996.0	981.2	14.81	67.234	
3,800.0	3,735.7	3,636.9	3,606.4	13.4	9.8	157.93	-222.8	-419.3	1,027.0	1,011.8	15.24	67.374	
3,900.0	3,833.6	3,731.9	3,700.3	13.8	10.1	157.89	-230.5	-431.5	1,058.1	1,042.4	15.67	67.507	
4,000.0	3,931.6	3,827.0	3,794.3	14.2	10.4	157.85	-238.1	-443.6	1,089.1	1,073.0	16.10	67.632	
4,100.0	4,029.5	3,922.0	3,888.3	14.6	10.8	157.81	-245.8	-455.7	1,120.2	1,103.6	16.53	67.751	
4,200.0	4,127.4	4,017.1	3,982.2	15.0	11.1	157.78	-253.5	-467.9	1,151.2	1,134.3	16.96	67.863	
4,300.0	4,225.4	4,112.1	4,076.2	15.4	11.4	157.74	-261.2	-480.0	1,182.3	1,164.9	17.39	67.969	
4,400.0	4,323.3	4,207.2	4,170.2	15.8	11.7	157.71	-268.9	-492.1	1,213.3	1,195.5	17.82	68.070	
4,500.0	4,421.2	4,302.3	4,264.1	16.2	12.0	157.68	-276.5	-504.3	1,244.4	1,226.1	18.26	68.166	
4,600.0	4,519.2	4,397.3	4,358.1	16.6	12.3	157.66	-284.2	-516.4	1,275.4	1,256.8	18.69	68.257	
4,700.0	4,617.1	4,492.4	4,452.1	17.0	12.6	157.63	-291.9	-528.5	1,306.5	1,287.4	19.12	68.344	
4,800.0	4,715.0	4,587.4	4,546.0	17.4	12.9	157.60	-299.6	-540.7	1,337.5	1,318.0	19.55	68.427	
4,900.0	4,813.0	4,682.5	4,640.0	17.8	13.2	157.58	-307.2	-552.8	1,368.6	1,348.6	19.98	68.506	
5,000.0	4,910.9	4,777.5	4,733.9	18.2	13.5	157.56	-314.9	-564.9	1,399.7	1,379.2	20.41	68.582	

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3C-9H-N267 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor		
5,100.0	5,008.8	4,872.6	4,827.9	18.6	13.8	157.54	-322.6	-577.1	1,430.7	1,409.9	20.84	68.655		
5,200.0	5,106.8	4,967.6	4,921.9	19.0	14.1	157.51	-330.3	-589.2	1,461.8	1,440.5	21.27	68.724		
5,300.0	5,204.7	5,062.7	5,015.8	19.4	14.4	157.49	-338.0	-601.3	1,492.8	1,471.1	21.70	68.791		
5,400.0	5,302.6	5,157.7	5,109.8	19.8	14.7	157.47	-345.6	-613.5	1,523.9	1,501.7	22.13	68.855		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3D-9H-N267 - Hz - Plan #1														Offset Site Error:	0.0 ft
Survey Program: O-Geolink MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		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)	Uncertainty Axis	Separation Factor			
0.0	0.0	0.0	0.0	0.0	0.0	-85.89	3.6	-50.3	50.4						
100.0	100.0	100.0	100.0	0.1	0.1	-85.89	3.6	-50.3	50.4	50.2	0.24	206.465			
200.0	200.0	200.0	200.0	0.3	0.3	-85.89	3.6	-50.3	50.4	49.9	0.59	85.015			
300.0	300.0	300.0	300.0	0.5	0.5	-85.89	3.6	-50.3	50.4	49.5	0.94	53.528 CC, ES			
400.0	400.0	400.0	400.0	0.6	0.6	162.10	3.6	-50.3	52.1	50.8	1.29	40.351			
500.0	499.8	499.8	499.8	0.8	0.8	163.69	3.6	-50.3	57.1	55.5	1.64	34.825			
600.0	599.5	598.6	598.6	1.1	1.0	165.31	3.2	-51.1	66.2	64.2	1.99	33.325 SF			
700.0	698.7	696.6	696.6	1.3	1.2	166.31	1.9	-53.2	80.0	77.7	2.33	34.309			
800.0	797.5	793.7	793.6	1.6	1.3	166.81	-0.1	-56.8	98.5	95.8	2.68	36.778			
883.4	879.4	873.8	873.5	1.9	1.5	166.96	-2.5	-60.9	117.4	114.5	2.97	39.566			
900.0	895.6	889.6	889.3	2.0	1.5	166.98	-3.0	-61.8	121.5	118.5	3.03	40.145			
1,000.0	993.6	984.6	984.0	2.4	1.7	166.85	-6.6	-68.1	147.0	143.6	3.39	43.350			
1,100.0	1,091.5	1,078.9	1,078.0	2.7	1.9	166.42	-11.0	-75.6	173.6	169.9	3.76	46.174			
1,200.0	1,189.4	1,172.6	1,171.0	3.1	2.1	165.81	-16.1	-84.5	201.5	197.4	4.14	48.693			
1,300.0	1,287.4	1,265.5	1,263.2	3.5	2.4	165.11	-21.9	-94.5	230.7	226.1	4.53	50.966			
1,400.0	1,385.3	1,359.6	1,356.5	3.9	2.6	164.39	-28.4	-105.8	260.8	255.9	4.92	52.983			
1,500.0	1,483.2	1,454.9	1,450.8	4.3	2.9	163.79	-35.0	-117.3	291.1	285.7	5.32	54.664			
1,600.0	1,581.2	1,550.2	1,545.1	4.7	3.2	163.31	-41.7	-128.8	321.4	315.6	5.73	56.089			
1,700.0	1,679.1	1,645.5	1,639.5	5.1	3.4	162.91	-48.3	-140.2	351.7	345.5	6.14	57.311			
1,800.0	1,777.0	1,740.7	1,733.8	5.5	3.7	162.57	-54.9	-151.7	382.0	375.4	6.54	58.369			
1,900.0	1,875.0	1,836.0	1,828.2	5.9	4.0	162.28	-61.6	-163.2	412.3	405.3	6.95	59.294			
2,000.0	1,972.9	1,931.3	1,922.5	6.3	4.2	162.03	-68.2	-174.7	442.6	435.3	7.36	60.108			
2,100.0	2,070.8	2,026.5	2,016.9	6.7	4.5	161.82	-74.8	-186.2	473.0	465.2	7.78	60.831			
2,200.0	2,168.8	2,121.8	2,111.2	7.0	4.8	161.63	-81.4	-197.7	503.3	495.1	8.19	61.476			
2,300.0	2,266.7	2,217.1	2,205.6	7.4	5.1	161.46	-88.1	-209.1	533.7	525.1	8.60	62.056			
2,400.0	2,364.6	2,312.3	2,299.9	7.8	5.4	161.31	-94.7	-220.6	564.0	555.0	9.01	62.579			
2,500.0	2,462.6	2,407.6	2,394.2	8.2	5.6	161.17	-101.3	-232.1	594.4	585.0	9.43	63.054			
2,600.0	2,560.5	2,502.9	2,488.6	8.6	5.9	161.05	-108.0	-243.6	624.8	614.9	9.84	63.487			
2,700.0	2,658.4	2,598.2	2,582.9	9.0	6.2	160.94	-114.6	-255.1	655.1	644.9	10.26	63.882			
2,800.0	2,756.4	2,693.4	2,677.3	9.4	6.5	160.84	-121.2	-266.6	685.5	674.8	10.67	64.246			
2,900.0	2,854.3	2,788.7	2,771.6	9.8	6.8	160.74	-127.9	-278.0	715.9	704.8	11.08	64.580			
3,000.0	2,952.2	2,884.0	2,866.0	10.2	7.0	160.66	-134.5	-289.5	746.2	734.7	11.50	64.890			
3,100.0	3,050.2	2,979.2	2,960.3	10.6	7.3	160.58	-141.1	-301.0	776.6	764.7	11.92	65.176			
3,200.0	3,148.1	3,074.5	3,054.7	11.0	7.6	160.51	-147.7	-312.5	807.0	794.6	12.33	65.443			
3,300.0	3,246.0	3,169.8	3,149.0	11.4	7.9	160.44	-154.4	-324.0	837.3	824.6	12.75	65.691			
3,400.0	3,344.0	3,265.1	3,243.3	11.8	8.2	160.38	-161.0	-335.5	867.7	854.6	13.16	65.923			
3,500.0	3,441.9	3,360.3	3,337.7	12.2	8.5	160.32	-167.6	-346.9	898.1	884.5	13.58	66.140			
3,600.0	3,539.8	3,455.6	3,432.0	12.6	8.7	160.27	-174.3	-358.4	928.5	914.5	13.99	66.344			
3,700.0	3,637.8	3,550.9	3,526.4	13.0	9.0	160.22	-180.9	-369.9	958.8	944.4	14.41	66.535			
3,800.0	3,735.7	3,646.1	3,620.7	13.4	9.3	160.17	-187.5	-381.4	989.2	974.4	14.83	66.715			
3,900.0	3,833.6	3,741.4	3,715.1	13.8	9.6	160.12	-194.2	-392.9	1,019.6	1,004.4	15.24	66.885			
4,000.0	3,931.6	3,836.7	3,809.4	14.2	9.9	160.08	-200.8	-404.3	1,050.0	1,034.3	15.66	67.046			
4,100.0	4,029.5	3,932.0	3,903.7	14.6	10.2	160.04	-207.4	-415.8	1,080.4	1,064.3	16.08	67.198			
4,200.0	4,127.4	4,027.2	3,998.1	15.0	10.4	160.00	-214.0	-427.3	1,110.7	1,094.2	16.49	67.342			
4,300.0	4,225.4	4,122.5	4,092.4	15.4	10.7	159.97	-220.7	-438.8	1,141.1	1,124.2	16.91	67.478			
4,400.0	4,323.3	4,217.8	4,186.8	15.8	11.0	159.93	-227.3	-450.3	1,171.5	1,154.2	17.33	67.608			
4,500.0	4,421.2	4,313.0	4,281.1	16.2	11.3	159.90	-233.9	-461.8	1,201.9	1,184.1	17.74	67.732			
4,600.0	4,519.2	4,408.3	4,375.5	16.6	11.6	159.87	-240.6	-473.2	1,232.3	1,214.1	18.16	67.849			
4,700.0	4,617.1	4,503.6	4,469.8	17.0	11.9	159.84	-247.2	-484.7	1,262.6	1,244.1	18.58	67.961			
4,800.0	4,715.0	4,598.9	4,564.2	17.4	12.2	159.81	-253.8	-496.2	1,293.0	1,274.0	19.00	68.069			
4,900.0	4,813.0	4,694.1	4,658.5	17.8	12.4	159.79	-260.4	-507.7	1,323.4	1,304.0	19.41	68.171			
5,000.0	4,910.9	4,789.4	4,752.8	18.2	12.7	159.76	-267.1	-519.2	1,353.8	1,334.0	19.83	68.269			

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3D-9H-N267 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor		
5,100.0	5,008.8	4,884.7	4,847.2	18.6	13.0	159.74	-273.7	-530.7	1,384.2	1,363.9	20.25	68.362		
5,200.0	5,106.8	4,979.9	4,941.5	19.0	13.3	159.72	-280.3	-542.1	1,414.6	1,393.9	20.66	68.452		
5,300.0	5,204.7	5,075.2	5,035.9	19.4	13.6	159.69	-287.0	-553.6	1,444.9	1,423.9	21.08	68.538		
5,400.0	5,302.6	5,170.5	5,130.2	19.8	13.9	159.67	-293.6	-565.1	1,475.3	1,453.8	21.50	68.621		
5,500.0	5,400.6	5,265.8	5,224.6	20.2	14.1	159.65	-300.2	-576.6	1,505.7	1,483.8	21.92	68.701		
5,600.0	5,498.5	5,361.0	5,318.9	20.6	14.4	159.63	-306.9	-588.1	1,536.1	1,513.7	22.33	68.777		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3E-9H-N267 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program:		0-Geolink MWD											Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-85.08	3.6	-41.9	42.1					
100.0	100.0	100.0	100.0	0.1	0.1	-85.08	3.6	-41.9	42.1	41.8	0.24	172.246		
200.0	200.0	200.0	200.0	0.3	0.3	-85.08	3.6	-41.9	42.1	41.5	0.59	70.925 CC		
300.0	300.0	299.8	299.8	0.5	0.5	-86.20	2.8	-42.3	42.4	41.4	0.94	44.942 ES		
400.0	400.0	399.5	399.4	0.6	0.7	158.74	0.4	-43.3	44.9	43.6	1.30	34.630		
500.0	499.8	498.9	498.8	0.8	0.8	156.29	-3.6	-44.9	51.4	49.7	1.66	31.006		
600.0	599.5	597.9	597.6	1.1	1.0	154.29	-9.2	-47.2	61.8	59.8	2.03	30.440		
700.0	698.7	696.4	695.7	1.3	1.2	152.85	-16.3	-50.1	76.1	73.7	2.42	31.433		
800.0	797.5	794.0	793.0	1.6	1.5	151.87	-24.8	-53.7	94.3	91.5	2.84	33.243		
883.4	879.4	874.8	873.2	1.9	1.7	151.30	-33.1	-57.1	112.4	109.2	3.20	35.075		
900.0	895.6	890.8	889.1	2.0	1.7	151.24	-34.8	-57.8	116.2	112.9	3.28	35.451		
1,000.0	993.6	986.9	984.4	2.4	2.0	150.57	-46.3	-62.5	140.0	136.2	3.75	37.316		
1,100.0	1,091.5	1,082.5	1,079.1	2.7	2.3	149.60	-59.1	-67.8	164.5	160.3	4.25	38.727		
1,200.0	1,189.4	1,177.7	1,173.0	3.1	2.6	148.45	-73.3	-73.7	189.9	185.2	4.77	39.818		
1,300.0	1,287.4	1,272.8	1,266.6	3.5	2.9	147.21	-88.9	-80.1	216.2	210.9	5.31	40.715		
1,400.0	1,385.3	1,369.1	1,361.3	3.9	3.2	146.13	-105.1	-86.8	242.8	236.9	5.86	41.410		
1,500.0	1,483.2	1,465.4	1,455.9	4.3	3.6	145.26	-121.4	-93.5	269.5	263.1	6.42	41.970		
1,600.0	1,581.2	1,561.7	1,550.6	4.7	3.9	144.55	-137.6	-100.2	296.2	289.2	6.98	42.427		
1,700.0	1,679.1	1,658.0	1,645.3	5.1	4.2	143.96	-153.8	-106.9	322.9	315.4	7.54	42.808		
1,800.0	1,777.0	1,754.3	1,740.0	5.5	4.6	143.45	-170.0	-113.6	349.7	341.6	8.11	43.129		
1,900.0	1,875.0	1,850.6	1,834.7	5.9	4.9	143.02	-186.3	-120.3	376.5	367.9	8.68	43.403		
2,000.0	1,972.9	1,946.9	1,929.4	6.3	5.3	142.65	-202.5	-127.0	403.3	394.1	9.24	43.639		
2,100.0	2,070.8	2,043.3	2,024.1	6.7	5.6	142.32	-218.7	-133.7	430.2	420.4	9.81	43.845		
2,200.0	2,168.8	2,139.6	2,118.8	7.0	5.9	142.03	-234.9	-140.4	457.0	446.6	10.38	44.027		
2,300.0	2,266.7	2,235.9	2,213.5	7.4	6.3	141.78	-251.2	-147.0	483.9	472.9	10.95	44.187		
2,400.0	2,364.6	2,332.2	2,308.2	7.8	6.6	141.55	-267.4	-153.7	510.7	499.2	11.52	44.330		
2,500.0	2,462.6	2,428.5	2,402.9	8.2	7.0	141.34	-283.6	-160.4	537.6	525.5	12.09	44.458		
2,600.0	2,560.5	2,524.8	2,497.6	8.6	7.3	141.15	-299.8	-167.1	564.5	551.8	12.66	44.574		
2,700.0	2,658.4	2,621.1	2,592.3	9.0	7.7	140.98	-316.1	-173.8	591.4	578.1	13.24	44.679		
2,800.0	2,756.4	2,717.4	2,687.0	9.4	8.0	140.83	-332.3	-180.5	618.2	604.4	13.81	44.774		
2,900.0	2,854.3	2,813.7	2,781.6	9.8	8.4	140.68	-348.5	-187.2	645.1	630.7	14.38	44.861		
3,000.0	2,952.2	2,910.0	2,876.3	10.2	8.7	140.55	-364.7	-193.9	672.0	657.1	14.95	44.941		
3,100.0	3,050.2	3,006.3	2,971.0	10.6	9.1	140.43	-381.0	-200.6	698.9	683.4	15.53	45.015		
3,200.0	3,148.1	3,102.8	3,065.9	11.0	9.4	140.32	-397.2	-207.3	725.8	709.7	16.10	45.082		
3,300.0	3,246.0	3,207.7	3,169.3	11.4	9.8	140.27	-414.0	-214.2	752.1	735.4	16.68	45.099		
3,400.0	3,344.0	3,313.3	3,273.5	11.8	10.1	140.34	-429.0	-220.4	777.3	760.1	17.23	45.105		
3,500.0	3,441.9	3,419.4	3,378.7	12.2	10.4	140.51	-442.4	-226.0	801.4	783.7	17.77	45.103		
3,600.0	3,539.8	3,526.0	3,484.5	12.6	10.7	140.79	-454.0	-230.8	824.4	806.1	18.28	45.097		
3,700.0	3,637.8	3,633.1	3,591.1	13.0	10.9	141.16	-463.9	-234.8	846.3	827.5	18.77	45.089		
3,800.0	3,735.7	3,740.5	3,698.1	13.4	11.1	141.62	-471.9	-238.1	867.1	847.9	19.23	45.085		
3,900.0	3,833.6	3,848.2	3,805.6	13.8	11.3	142.16	-478.1	-240.7	886.9	867.2	19.67	45.088		
4,000.0	3,931.6	3,956.1	3,913.4	14.2	11.5	142.79	-482.4	-242.4	905.6	885.5	20.08	45.102		
4,100.0	4,029.5	4,064.1	4,021.4	14.6	11.6	143.49	-484.8	-243.5	923.3	902.9	20.46	45.131		
4,200.0	4,127.4	4,170.2	4,127.4	15.0	11.7	144.24	-485.4	-243.7	940.1	919.3	20.81	45.169		
4,300.0	4,225.4	4,268.1	4,225.4	15.4	11.8	144.95	-485.4	-243.7	956.7	935.6	21.15	45.229		
4,400.0	4,323.3	4,366.0	4,323.3	15.8	12.0	145.63	-485.4	-243.7	973.5	952.0	21.49	45.302		
4,500.0	4,421.2	4,464.0	4,421.2	16.2	12.1	146.28	-485.4	-243.7	990.3	968.5	21.82	45.385		
4,600.0	4,519.2	4,561.9	4,519.2	16.6	12.2	146.92	-485.4	-243.7	1,007.3	985.2	22.15	45.479		
4,700.0	4,617.1	4,659.8	4,617.1	17.0	12.3	147.53	-485.4	-243.7	1,024.4	1,001.9	22.48	45.581		
4,800.0	4,715.0	4,757.8	4,715.0	17.4	12.4	148.12	-485.4	-243.7	1,041.6	1,018.8	22.80	45.690		
4,900.0	4,813.0	4,855.7	4,813.0	17.8	12.5	148.70	-485.4	-243.7	1,059.0	1,035.9	23.12	45.805		
5,000.0	4,910.9	4,953.6	4,910.9	18.2	12.6	149.25	-485.4	-243.7	1,076.4	1,053.0	23.44	45.926		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3E-9H-N267 - Hz - Plan #1												Offset Site Error:	0.0 ft
Survey Program: O-Geolink MWD												Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	5,008.8	5,051.6	5,008.8	18.6	12.7	149.79	-485.4	-243.7	1,093.9	1,070.2	23.75	46.051	
5,200.0	5,106.8	5,149.5	5,106.8	19.0	12.9	150.32	-485.4	-243.7	1,111.5	1,087.5	24.07	46.180	
5,300.0	5,204.7	5,247.4	5,204.7	19.4	13.0	150.82	-485.4	-243.7	1,129.2	1,104.9	24.38	46.313	
5,400.0	5,302.6	5,345.4	5,302.6	19.8	13.1	151.31	-485.4	-243.7	1,147.0	1,122.3	24.69	46.448	
5,500.0	5,400.6	5,443.3	5,400.6	20.2	13.2	151.79	-485.4	-243.7	1,164.9	1,139.9	25.01	46.585	
5,600.0	5,498.5	5,541.2	5,498.5	20.6	13.3	152.25	-485.4	-243.7	1,182.8	1,157.5	25.32	46.724	
5,700.0	5,596.4	5,639.2	5,596.4	21.0	13.5	152.70	-485.4	-243.7	1,200.8	1,175.2	25.62	46.864	
5,800.0	5,694.4	5,737.1	5,694.4	21.4	13.6	153.13	-485.4	-243.7	1,218.9	1,193.0	25.93	47.006	
5,900.0	5,792.3	5,835.0	5,792.3	21.8	13.7	153.55	-485.4	-243.7	1,237.1	1,210.8	26.24	47.147	
6,000.0	5,890.2	5,933.0	5,890.2	22.2	13.8	153.96	-485.4	-243.7	1,255.3	1,228.7	26.54	47.289	
6,100.0	5,988.2	6,030.9	5,988.2	22.6	14.0	154.36	-485.4	-243.7	1,273.6	1,246.7	26.85	47.432	
6,200.0	6,086.1	6,128.8	6,086.1	23.0	14.1	154.75	-485.4	-243.7	1,291.9	1,264.7	27.16	47.573	
6,300.0	6,184.0	6,226.8	6,184.0	23.4	14.2	155.12	-485.4	-243.7	1,310.3	1,282.8	27.46	47.715	
6,400.0	6,282.0	6,324.7	6,282.0	23.8	14.4	155.49	-485.4	-243.7	1,328.7	1,301.0	27.77	47.856	
6,500.0	6,379.9	6,422.6	6,379.9	24.2	14.5	155.84	-485.4	-243.7	1,347.2	1,319.1	28.07	47.996	
6,600.0	6,477.8	6,520.6	6,477.8	24.6	14.6	156.19	-485.4	-243.7	1,365.8	1,337.4	28.37	48.135	
6,700.0	6,575.8	6,618.5	6,575.8	25.0	14.8	156.53	-485.4	-243.7	1,384.3	1,355.7	28.68	48.273	
6,800.0	6,673.7	6,716.4	6,673.7	25.4	14.9	156.85	-485.4	-243.7	1,403.0	1,374.0	28.98	48.410	
6,827.3	6,700.4	6,743.1	6,700.4	25.5	14.9	156.94	-485.4	-243.7	1,408.1	1,379.0	29.06	48.447	
6,850.0	6,722.7	6,765.4	6,722.7	25.6	15.0	168.30	-485.4	-243.7	1,412.3	1,383.3	29.05	48.619	
6,900.0	6,771.8	6,814.4	6,771.7	25.7	15.0	-164.95	-484.2	-243.7	1,421.7	1,392.7	28.97	49.082	
6,950.0	6,820.7	6,863.4	6,820.3	25.9	15.0	-142.92	-478.9	-243.7	1,431.0	1,402.2	28.81	49.664	
7,000.0	6,869.0	6,912.3	6,868.3	26.0	15.0	-128.14	-469.5	-243.7	1,440.2	1,411.6	28.61	50.339	
7,050.0	6,916.4	6,961.2	6,915.3	26.1	14.9	-118.46	-456.0	-243.7	1,449.2	1,420.9	28.37	51.089	
7,100.0	6,962.4	7,010.2	6,961.1	26.1	14.8	-111.81	-438.5	-243.7	1,458.0	1,429.9	28.10	51.895	
7,150.0	7,006.8	7,059.2	7,005.1	26.2	14.6	-107.00	-417.2	-243.7	1,466.5	1,438.7	27.81	52.734	
7,200.0	7,049.2	7,108.2	7,047.3	26.2	14.5	-103.34	-392.2	-243.7	1,474.5	1,447.0	27.52	53.586	
7,250.0	7,089.2	7,157.3	7,087.2	26.2	14.3	-100.47	-363.6	-243.7	1,482.2	1,454.9	27.23	54.427	
7,300.0	7,126.7	7,206.5	7,124.6	26.2	14.2	-98.17	-331.6	-243.7	1,489.3	1,462.3	26.96	55.232	
7,350.0	7,161.2	7,255.9	7,159.2	26.2	14.0	-96.28	-296.5	-243.7	1,495.9	1,469.2	26.72	55.976	
7,400.0	7,192.6	7,305.3	7,190.7	26.2	13.9	-94.73	-258.4	-243.7	1,501.9	1,475.3	26.52	56.631	
7,450.0	7,220.5	7,354.8	7,218.9	26.2	13.7	-93.45	-217.7	-243.7	1,507.2	1,480.8	26.36	57.169	
7,500.0	7,244.8	7,404.5	7,243.5	26.3	13.6	-92.41	-174.6	-243.7	1,511.8	1,485.5	26.26	57.560	
7,550.0	7,265.3	7,454.2	7,264.3	26.3	13.6	-91.58	-129.5	-243.7	1,515.7	1,489.5	26.23	57.779	
7,600.0	7,281.9	7,504.0	7,281.2	26.3	13.6	-90.93	-82.6	-243.7	1,518.9	1,492.6	26.28	57.804	
7,650.0	7,294.3	7,553.9	7,293.9	26.4	13.6	-90.46	-34.4	-243.6	1,521.2	1,494.8	26.40	57.622	
7,700.0	7,302.6	7,603.9	7,302.4	26.4	13.7	-90.16	14.8	-243.6	1,522.8	1,496.2	26.61	57.225	
7,750.0	7,306.6	7,653.8	7,306.5	26.5	13.8	-90.01	64.6	-243.6	1,523.6	1,496.7	26.91	56.625	
7,771.9	7,307.0	7,675.7	7,307.0	26.5	13.9	-90.00	86.5	-243.6	1,523.6	1,496.6	27.06	56.302	
7,800.0	7,307.0	7,703.8	7,307.0	26.6	14.1	-90.00	114.6	-243.6	1,523.6	1,496.3	27.32	55.778	
7,900.0	7,307.0	7,803.8	7,307.0	26.9	14.6	-90.00	214.6	-243.6	1,523.6	1,495.2	28.47	53.522	
7,991.9	7,307.0	7,895.7	7,307.0	27.3	15.3	-90.00	306.5	-243.6	1,523.6	1,493.8	29.85	51.040	
8,000.0	7,307.0	7,903.8	7,307.0	27.3	15.4	-90.00	314.6	-243.6	1,523.6	1,493.6	29.97	50.844	
8,017.0	7,307.0	7,920.8	7,307.0	27.4	15.5	-90.00	331.6	-243.6	1,523.5	1,493.3	30.22	50.411	
8,100.0	7,307.0	8,003.8	7,307.0	27.8	16.2	-90.00	414.6	-243.6	1,522.8	1,491.0	31.74	47.970	
8,200.0	7,307.0	8,103.8	7,307.0	28.4	17.3	-90.00	514.6	-243.6	1,521.9	1,488.0	33.83	44.984	
8,300.0	7,307.0	8,203.8	7,307.0	29.1	18.4	-90.00	614.6	-243.6	1,521.0	1,484.8	36.14	42.087	
8,400.0	7,307.0	8,303.8	7,307.0	29.8	19.6	-90.00	714.6	-243.6	1,520.1	1,481.5	38.63	39.352	
8,500.0	7,307.0	8,403.8	7,307.0	30.7	20.9	-90.00	814.6	-243.5	1,519.2	1,477.9	41.27	36.816	
8,600.0	7,307.0	8,503.8	7,307.0	31.6	22.3	-90.00	914.6	-243.5	1,518.3	1,474.3	44.02	34.488	
8,700.0	7,307.0	8,603.8	7,307.0	32.6	23.7	-90.00	1,014.6	-243.5	1,517.4	1,470.6	46.88	32.366	
8,800.0	7,307.0	8,703.8	7,307.0	33.7	25.2	-90.00	1,114.6	-243.5	1,516.5	1,466.7	49.83	30.437	

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3E-9H-N267 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)				
8,900.0	7,307.0	8,803.8	7,307.0	34.8	26.7	-90.00	1,214.6	-243.5	1,515.7	1,462.8	52.84	28.686		
9,000.0	7,307.0	8,903.8	7,307.0	35.9	28.2	-90.00	1,314.6	-243.5	1,514.8	1,458.9	55.91	27.095		
9,100.0	7,307.0	9,003.8	7,307.0	37.2	29.8	-90.00	1,414.6	-243.5	1,513.9	1,454.9	59.02	25.648		
9,200.0	7,307.0	9,103.8	7,307.0	38.4	31.3	-90.00	1,514.6	-243.5	1,513.0	1,450.8	62.18	24.331		
9,300.0	7,307.0	9,213.2	7,307.0	39.7	33.1	-90.00	1,623.9	-243.3	1,512.0	1,446.5	65.53	23.074		
9,400.0	7,307.0	9,348.9	7,307.0	41.0	35.2	-90.00	1,759.7	-240.9	1,509.3	1,440.0	69.34	21.768		
9,500.0	7,307.0	9,484.4	7,307.0	42.4	37.4	-90.00	1,895.1	-235.2	1,504.3	1,431.1	73.17	20.558		
9,600.0	7,307.0	9,619.5	7,307.0	43.8	39.6	-90.00	2,029.9	-226.4	1,496.9	1,419.8	77.03	19.433		
9,700.0	7,307.0	9,754.1	7,307.0	45.2	41.8	-90.00	2,163.9	-214.4	1,487.1	1,406.2	80.90	18.383		
9,800.0	7,307.0	9,859.4	7,307.0	46.6	43.6	-90.00	2,268.6	-203.5	1,475.8	1,391.5	84.30	17.507		
9,900.0	7,307.0	9,958.8	7,307.0	48.1	45.2	-90.00	2,367.4	-193.1	1,464.5	1,376.9	87.62	16.714		
10,000.0	7,307.0	10,058.1	7,307.0	49.6	46.9	-90.00	2,466.3	-182.7	1,453.2	1,362.2	90.95	15.977		
10,100.0	7,307.0	10,157.5	7,307.0	51.1	48.5	-90.00	2,565.1	-172.3	1,441.8	1,347.5	94.30	15.291		
10,200.0	7,307.0	10,256.8	7,307.0	52.6	50.2	-90.00	2,663.9	-161.9	1,430.5	1,332.9	97.65	14.649		
10,300.0	7,307.0	10,356.2	7,307.0	54.1	51.9	-90.00	2,762.7	-151.5	1,419.2	1,318.2	101.02	14.049		
10,400.0	7,307.0	10,455.5	7,307.0	55.7	53.5	-90.00	2,861.5	-141.1	1,407.9	1,303.5	104.39	13.487		
10,500.0	7,307.0	10,554.9	7,307.0	57.2	55.2	-90.00	2,960.3	-130.8	1,396.5	1,288.8	107.77	12.959		
10,600.0	7,307.0	10,643.1	7,307.0	58.8	56.7	-90.00	3,048.1	-121.7	1,385.5	1,274.5	110.97	12.485		
10,700.0	7,307.0	10,723.3	7,307.0	60.4	58.1	-90.00	3,127.9	-114.5	1,375.6	1,261.6	114.04	12.063		
10,800.0	7,307.0	10,800.0	7,307.0	61.9	59.4	-90.00	3,204.4	-108.7	1,367.2	1,250.1	117.05	11.680		
10,900.0	7,307.0	10,884.3	7,307.0	63.5	60.8	-90.00	3,288.5	-103.5	1,360.2	1,240.0	120.20	11.315		
11,000.0	7,307.0	10,965.0	7,307.0	65.1	62.2	-90.00	3,369.2	-99.7	1,354.5	1,231.2	123.30	10.986		
11,100.0	7,307.0	11,045.8	7,307.0	66.7	63.6	-90.00	3,449.9	-97.0	1,350.3	1,223.9	126.40	10.683		
11,200.0	7,307.0	11,126.7	7,307.0	68.4	65.0	-90.00	3,530.8	-95.4	1,347.5	1,218.0	129.50	10.405		
11,300.0	7,307.0	11,200.0	7,307.0	70.0	66.2	-90.00	3,604.1	-95.0	1,346.1	1,213.7	132.48	10.161		
11,359.3	7,307.0	11,255.7	7,307.0	71.0	67.2	-90.00	3,659.8	-95.3	1,346.0	1,211.5	134.46	10.010		
11,400.0	7,307.0	11,288.7	7,307.0	71.6	67.8	-90.00	3,692.8	-95.7	1,346.1	1,210.4	135.73	9.918		
11,500.0	7,307.0	11,369.6	7,307.0	73.3	69.2	-90.00	3,773.7	-97.6	1,347.6	1,208.7	138.84	9.706		
11,600.0	7,307.0	11,450.5	7,307.0	74.9	70.5	-90.00	3,854.6	-100.6	1,350.4	1,208.4	141.96	9.513		
11,700.0	7,307.0	11,531.4	7,307.0	76.5	71.9	-90.00	3,935.3	-104.7	1,354.7	1,209.6	145.08	9.338		
11,800.0	7,307.0	11,612.1	7,307.0	78.2	73.3	-90.00	4,015.8	-110.0	1,360.3	1,212.1	148.19	9.179		
11,900.0	7,307.0	11,706.6	7,307.0	79.8	75.0	-90.00	4,110.0	-117.2	1,367.0	1,215.5	151.55	9.020		
12,000.0	7,307.0	11,806.4	7,307.0	81.5	76.7	-90.00	4,209.5	-124.8	1,373.8	1,218.8	155.00	8.863		
12,100.0	7,307.0	11,906.1	7,307.0	83.2	78.4	-90.00	4,309.0	-132.4	1,380.5	1,222.1	158.46	8.712		
12,200.0	7,307.0	12,005.9	7,307.0	84.8	80.1	-90.00	4,408.5	-140.0	1,387.3	1,225.4	161.91	8.568		
12,300.0	7,307.0	12,105.7	7,307.0	86.5	81.9	-90.00	4,508.0	-147.6	1,394.0	1,228.7	165.37	8.430		
12,400.0	7,307.0	12,205.4	7,307.0	88.2	83.6	-90.00	4,607.5	-155.2	1,400.8	1,231.9	168.83	8.297		
12,500.0	7,307.0	12,305.2	7,307.0	89.9	85.3	-90.00	4,706.9	-162.8	1,407.5	1,235.2	172.30	8.169		
12,600.0	7,307.0	12,405.0	7,307.0	91.5	87.1	-90.00	4,806.4	-170.4	1,414.3	1,238.5	175.76	8.047		
12,700.0	7,307.0	12,504.8	7,307.0	93.2	88.8	-90.00	4,905.9	-178.0	1,421.0	1,241.8	179.22	7.929		
12,782.1	7,307.0	12,586.7	7,307.0	94.6	90.2	-90.00	4,987.6	-184.3	1,426.6	1,244.5	182.07	7.835 SF		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3F-9H-N267 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program:		0-Geolink MWD											Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-83.32	3.6	-30.8	31.0					
100.0	100.0	100.0	100.0	0.1	0.1	-83.32	3.6	-30.8	31.0	30.7	0.24	126.708		
200.0	200.0	200.0	200.0	0.3	0.3	-83.32	3.6	-30.8	31.0	30.4	0.59	52.174		
300.0	300.0	300.0	300.0	0.5	0.5	-83.32	3.6	-30.8	31.0	30.0	0.94	32.850	CC, ES	
400.0	400.0	400.0	400.0	0.6	0.6	164.90	3.6	-30.8	32.6	31.4	1.29	25.280		
500.0	499.8	499.8	499.8	0.8	0.8	166.95	3.6	-30.8	37.7	36.1	1.64	23.010		
600.0	599.5	599.9	599.9	1.1	1.0	168.45	2.8	-30.4	45.8	43.8	1.99	23.044		
700.0	698.7	699.8	699.7	1.3	1.2	168.63	0.3	-29.5	56.4	54.0	2.34	24.124		
800.0	797.5	799.5	799.4	1.6	1.4	168.08	-3.7	-28.0	69.4	66.7	2.69	25.797		
883.4	879.4	882.5	882.2	1.9	1.5	167.33	-8.3	-26.2	82.2	79.2	2.99	27.454		
900.0	895.6	899.0	898.7	2.0	1.5	167.17	-9.4	-25.8	84.9	81.9	3.06	27.779		
1,000.0	993.6	998.5	997.9	2.4	1.8	165.89	-16.7	-23.1	100.7	97.3	3.45	29.213		
1,100.0	1,091.5	1,098.2	1,097.1	2.7	2.0	164.19	-25.6	-19.7	115.8	111.9	3.87	29.956		
1,200.0	1,189.4	1,198.1	1,196.3	3.1	2.2	162.20	-36.1	-15.7	130.2	125.9	4.31	30.167		
1,300.0	1,287.4	1,298.0	1,295.4	3.5	2.5	159.96	-48.3	-11.1	144.0	139.2	4.80	29.968		
1,400.0	1,385.3	1,396.9	1,393.3	3.9	2.7	157.84	-61.2	-6.3	157.6	152.3	5.32	29.643		
1,500.0	1,483.2	1,495.8	1,491.3	4.3	3.0	156.05	-74.1	-1.4	171.4	165.6	5.84	29.327		
1,600.0	1,581.2	1,594.7	1,589.2	4.7	3.3	154.53	-86.9	3.5	185.3	179.0	6.38	29.030		
1,700.0	1,679.1	1,693.6	1,687.2	5.1	3.6	153.22	-99.8	8.3	199.4	192.5	6.93	28.756		
1,800.0	1,777.0	1,792.5	1,785.1	5.5	3.8	152.09	-112.7	13.2	213.6	206.1	7.49	28.506		
1,900.0	1,875.0	1,891.4	1,883.1	5.9	4.1	151.10	-125.6	18.1	227.8	219.7	8.05	28.279		
2,000.0	1,972.9	1,990.4	1,981.0	6.3	4.4	150.22	-138.4	22.9	242.1	233.4	8.62	28.072		
2,100.0	2,070.8	2,089.3	2,079.0	6.7	4.7	149.44	-151.3	27.8	256.4	247.2	9.19	27.885		
2,200.0	2,168.8	2,188.2	2,176.9	7.0	5.0	148.75	-164.2	32.7	270.8	261.0	9.77	27.715		
2,300.0	2,266.7	2,287.1	2,274.9	7.4	5.3	148.12	-177.1	37.5	285.2	274.8	10.35	27.561		
2,400.0	2,364.6	2,386.0	2,372.8	7.8	5.6	147.55	-189.9	42.4	299.6	288.7	10.93	27.420		
2,500.0	2,462.6	2,484.9	2,470.8	8.2	5.8	147.04	-202.8	47.2	314.1	302.6	11.51	27.291		
2,600.0	2,560.5	2,583.8	2,568.7	8.6	6.1	146.57	-215.7	52.1	328.6	316.5	12.09	27.173		
2,700.0	2,658.4	2,682.7	2,666.7	9.0	6.4	146.14	-228.6	57.0	343.1	330.4	12.68	27.065		
2,800.0	2,756.4	2,781.6	2,764.6	9.4	6.7	145.75	-241.5	61.8	357.6	344.3	13.26	26.965		
2,900.0	2,854.3	2,880.6	2,862.6	9.8	7.0	145.39	-254.3	66.7	372.1	358.3	13.85	26.873		
3,000.0	2,952.2	2,979.5	2,960.5	10.2	7.3	145.05	-267.2	71.6	386.7	372.2	14.43	26.787		
3,100.0	3,050.2	3,078.4	3,058.5	10.6	7.6	144.74	-280.1	76.4	401.2	386.2	15.02	26.708		
3,200.0	3,148.1	3,177.3	3,156.4	11.0	7.9	144.45	-293.0	81.3	415.8	400.2	15.61	26.634		
3,300.0	3,246.0	3,276.2	3,254.4	11.4	8.2	144.18	-305.8	86.2	430.4	414.2	16.20	26.565		
3,400.0	3,344.0	3,375.1	3,352.3	11.8	8.5	143.92	-318.7	91.0	445.0	428.2	16.79	26.501		
3,500.0	3,441.9	3,474.0	3,450.3	12.2	8.8	143.69	-331.6	95.9	459.6	442.2	17.38	26.441		
3,600.0	3,539.8	3,572.9	3,548.2	12.6	9.1	143.47	-344.5	100.8	474.2	456.2	17.97	26.385		
3,700.0	3,637.8	3,671.8	3,646.2	13.0	9.4	143.26	-357.3	105.6	488.8	470.2	18.56	26.332		
3,800.0	3,735.7	3,770.8	3,744.1	13.4	9.6	143.06	-370.2	110.5	503.4	484.3	19.15	26.282		
3,900.0	3,833.6	3,869.7	3,842.1	13.8	9.9	142.88	-383.1	115.4	518.0	498.3	19.75	26.235		
4,000.0	3,931.6	3,968.6	3,940.0	14.2	10.2	142.70	-396.0	120.2	532.7	512.3	20.34	26.191		
4,100.0	4,029.5	4,067.5	4,038.0	14.6	10.5	142.53	-408.9	125.1	547.3	526.4	20.93	26.149		
4,200.0	4,127.4	4,166.4	4,135.9	15.0	10.8	142.38	-421.7	130.0	562.0	540.4	21.52	26.109		
4,300.0	4,225.4	4,265.2	4,233.7	15.4	11.1	142.23	-434.6	134.8	576.6	554.5	22.11	26.075		
4,400.0	4,323.3	4,363.0	4,330.7	15.8	11.4	142.20	-446.3	139.3	591.4	568.7	22.66	26.095		
4,500.0	4,421.2	4,460.8	4,427.9	16.2	11.6	142.32	-456.5	143.1	606.3	583.1	23.16	26.175		
4,600.0	4,519.2	4,558.4	4,525.1	16.6	11.8	142.60	-465.1	146.3	621.4	597.8	23.62	26.311		
4,700.0	4,617.1	4,655.9	4,622.3	17.0	12.0	143.01	-472.1	149.0	636.8	612.7	24.03	26.501		
4,800.0	4,715.0	4,753.2	4,719.4	17.4	12.2	143.55	-477.6	151.1	652.4	628.0	24.39	26.747		
4,900.0	4,813.0	4,850.1	4,816.2	17.8	12.4	144.20	-481.5	152.6	668.2	643.5	24.71	27.047		
5,000.0	4,910.9	4,946.7	4,912.8	18.2	12.5	144.95	-483.9	153.5	684.4	659.5	24.98	27.402		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3F-9H-N267 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-Geolink MWD													Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor	Warning	
5,100.0	5,008.8	5,042.9	5,009.0	18.6	12.6	145.80	-484.8	153.8	701.0	675.8	25.21	27.809		
5,200.0	5,106.8	5,140.7	5,106.8	19.0	12.8	146.70	-484.8	153.8	718.0	692.6	25.42	28.243		
5,300.0	5,204.7	5,238.6	5,204.7	19.4	12.9	147.57	-484.8	153.8	735.1	709.4	25.63	28.675		
5,400.0	5,302.6	5,336.5	5,302.6	19.8	13.0	148.39	-484.8	153.8	752.3	726.5	25.85	29.104		
5,500.0	5,400.6	5,434.5	5,400.6	20.2	13.1	149.17	-484.8	153.8	769.7	743.6	26.07	29.530		
5,600.0	5,498.5	5,532.4	5,498.5	20.6	13.3	149.92	-484.8	153.8	787.2	760.9	26.28	29.951		
5,700.0	5,596.4	5,630.3	5,596.4	21.0	13.4	150.64	-484.8	153.8	804.9	778.4	26.50	30.367		
5,800.0	5,694.4	5,728.3	5,694.4	21.4	13.5	151.33	-484.8	153.8	822.7	795.9	26.73	30.779		
5,900.0	5,792.3	5,826.2	5,792.3	21.8	13.6	151.99	-484.8	153.8	840.5	813.6	26.95	31.185		
6,000.0	5,890.2	5,924.1	5,890.2	22.2	13.8	152.62	-484.8	153.8	858.5	831.3	27.18	31.585		
6,100.0	5,988.2	6,022.1	5,988.2	22.6	13.9	153.22	-484.8	153.8	876.6	849.2	27.41	31.979		
6,200.0	6,086.1	6,120.0	6,086.1	23.0	14.0	153.80	-484.8	153.8	894.8	867.1	27.65	32.366		
6,300.0	6,184.0	6,217.9	6,184.0	23.4	14.1	154.36	-484.8	153.8	913.0	885.2	27.88	32.748		
6,400.0	6,282.0	6,315.9	6,282.0	23.8	14.3	154.90	-484.8	153.8	931.4	903.3	28.12	33.123		
6,500.0	6,379.9	6,413.8	6,379.9	24.2	14.4	155.41	-484.8	153.8	949.8	921.4	28.36	33.491		
6,600.0	6,477.8	6,511.7	6,477.8	24.6	14.5	155.91	-484.8	153.8	968.3	939.7	28.60	33.852		
6,700.0	6,575.8	6,609.7	6,575.8	25.0	14.7	156.39	-484.8	153.8	986.9	958.0	28.85	34.207		
6,800.0	6,673.7	6,707.6	6,673.7	25.4	14.8	156.85	-484.8	153.8	1,005.5	976.4	29.10	34.555		
6,827.3	6,700.4	6,734.3	6,700.4	25.5	14.8	156.97	-484.8	153.8	1,010.6	981.4	29.17	34.649		
6,850.0	6,722.7	6,756.6	6,722.7	25.6	14.9	168.35	-484.8	153.8	1,014.8	985.7	29.11	34.859		
6,900.0	6,771.8	6,805.7	6,771.8	25.7	14.9	-164.96	-484.8	153.8	1,024.2	995.2	29.00	35.315		
6,950.0	6,820.7	6,854.6	6,820.7	25.9	15.0	-143.21	-484.8	153.8	1,033.5	1,004.6	28.92	35.735		
7,000.0	6,869.0	6,902.9	6,869.0	26.0	15.1	-128.94	-484.8	153.8	1,042.8	1,013.9	28.87	36.121		
7,050.0	6,916.4	6,950.3	6,916.4	26.1	15.1	-119.94	-484.8	153.8	1,052.0	1,023.2	28.84	36.481		
7,100.0	6,962.4	6,996.8	6,962.9	26.1	15.2	-114.13	-484.7	153.8	1,061.4	1,032.6	28.82	36.830		
7,150.0	7,006.8	7,046.9	7,012.9	26.2	15.2	-110.25	-481.9	153.8	1,070.8	1,042.0	28.76	37.230		
7,200.0	7,049.2	7,099.0	7,064.4	26.2	15.2	-107.51	-474.4	153.8	1,080.1	1,051.4	28.65	37.704		
7,250.0	7,089.2	7,153.3	7,117.2	26.2	15.1	-105.54	-461.7	153.8	1,089.2	1,060.8	28.48	38.248		
7,300.0	7,126.7	7,210.0	7,170.7	26.2	15.0	-104.10	-443.0	153.8	1,098.1	1,069.9	28.26	38.858		
7,350.0	7,161.2	7,269.5	7,224.6	26.2	14.9	-103.06	-417.9	153.8	1,106.7	1,078.7	28.00	39.522		
7,400.0	7,192.6	7,331.8	7,278.0	26.2	14.7	-102.32	-385.8	153.8	1,114.8	1,087.1	27.72	40.222		
7,450.0	7,220.5	7,397.3	7,329.9	26.2	14.5	-101.81	-346.0	153.8	1,122.3	1,094.9	27.42	40.934		
7,500.0	7,244.8	7,466.0	7,379.2	26.3	14.3	-101.47	-298.1	153.8	1,129.1	1,102.0	27.13	41.615		
7,550.0	7,265.3	7,537.8	7,424.2	26.3	14.1	-101.27	-242.2	153.8	1,135.0	1,108.2	26.89	42.207		
7,600.0	7,281.9	7,612.8	7,463.3	26.3	13.9	-101.17	-178.3	153.8	1,140.0	1,113.2	26.74	42.632		
7,650.0	7,294.3	7,690.4	7,494.6	26.4	13.8	-101.13	-107.4	153.8	1,143.8	1,117.1	26.72	42.811		
7,700.0	7,302.6	7,770.1	7,516.5	26.4	13.9	-101.13	-30.8	153.8	1,146.4	1,119.6	26.87	42.666		
7,750.0	7,306.6	7,851.2	7,527.7	26.5	14.1	-101.14	49.4	153.8	1,147.7	1,120.5	27.21	42.183		
7,771.9	7,307.0	7,886.9	7,529.0	26.5	14.2	-101.15	85.1	153.8	1,147.9	1,120.5	27.42	41.859		
7,800.0	7,307.0	7,916.2	7,529.0	26.6	14.3	-101.15	114.4	153.8	1,147.9	1,120.2	27.68	41.466		
7,900.0	7,307.0	8,016.2	7,529.0	26.9	14.9	-101.15	214.4	153.8	1,147.9	1,119.1	28.79	39.865		
7,991.9	7,307.0	8,108.0	7,529.0	27.3	15.6	-101.15	306.3	153.8	1,147.9	1,117.8	30.12	38.106		
8,000.0	7,307.0	8,116.2	7,529.0	27.3	15.6	-101.15	314.4	153.8	1,147.9	1,117.6	30.23	37.968		
8,017.0	7,307.0	8,133.1	7,529.0	27.4	15.8	-101.15	331.4	153.8	1,147.8	1,117.3	30.46	37.681		
8,100.0	7,307.0	8,216.2	7,529.0	27.8	16.5	-101.16	414.4	153.8	1,147.1	1,115.1	31.93	35.928		
8,200.0	7,307.0	8,316.2	7,529.0	28.4	17.5	-101.17	514.4	153.8	1,146.2	1,112.3	33.94	33.776		
8,300.0	7,307.0	8,416.2	7,529.0	29.1	18.6	-101.18	614.4	153.8	1,145.4	1,109.2	36.16	31.673		
8,400.0	7,307.0	8,516.2	7,529.0	29.8	19.9	-101.19	714.4	153.8	1,144.5	1,105.9	38.57	29.676		
8,500.0	7,307.0	8,616.2	7,529.0	30.7	21.2	-101.19	814.4	153.8	1,143.6	1,102.5	41.12	27.813		
8,600.0	7,307.0	8,716.2	7,529.0	31.6	22.5	-101.20	914.4	153.8	1,142.8	1,099.0	43.79	26.095		
8,700.0	7,307.0	8,816.2	7,529.0	32.6	23.9	-101.21	1,014.4	153.8	1,141.9	1,095.4	46.57	24.522		
8,800.0	7,307.0	8,916.2	7,529.0	33.7	25.4	-101.22	1,114.4	153.8	1,141.1	1,091.6	49.43	23.086		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3F-9H-N267 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		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)	Uncertainty Axis	Separation Factor		
8,900.0	7,307.0	9,016.2	7,529.0	34.8	26.9	-101.23	1,214.4	153.8	1,140.2	1,087.9	52.35	21.778		
9,000.0	7,307.0	9,116.1	7,529.0	35.9	28.4	-101.24	1,314.4	153.8	1,139.3	1,084.0	55.34	20.587		
9,100.0	7,307.0	9,216.1	7,529.0	37.2	29.9	-101.24	1,414.4	153.8	1,138.5	1,080.1	58.38	19.502		
9,200.0	7,307.0	9,316.1	7,529.0	38.4	31.5	-101.25	1,514.4	153.8	1,137.6	1,076.2	61.46	18.510		
9,300.0	7,307.0	9,416.1	7,529.0	39.7	33.1	-101.26	1,614.4	153.8	1,136.8	1,072.2	64.57	17.604		
9,400.0	7,307.0	9,516.1	7,529.0	41.0	34.7	-101.27	1,714.4	153.8	1,135.9	1,068.2	67.72	16.773		
9,500.0	7,307.0	9,616.1	7,529.0	42.4	36.3	-101.28	1,814.4	153.8	1,135.1	1,064.2	70.90	16.010		
9,600.0	7,307.0	9,716.1	7,529.0	43.8	37.9	-101.29	1,914.4	153.8	1,134.2	1,060.1	74.09	15.308		
9,700.0	7,307.0	9,816.1	7,529.0	45.2	39.5	-101.30	2,014.4	153.8	1,133.3	1,056.0	77.31	14.660		
9,800.0	7,307.0	9,916.1	7,529.0	46.6	41.2	-101.31	2,114.4	153.8	1,132.5	1,051.9	80.55	14.060		
9,900.0	7,307.0	10,016.1	7,529.0	48.1	42.8	-101.31	2,214.4	153.8	1,131.6	1,047.8	83.80	13.504		
10,000.0	7,307.0	10,116.1	7,529.0	49.6	44.5	-101.32	2,314.3	153.8	1,130.8	1,043.7	87.07	12.988		
10,100.0	7,307.0	10,216.1	7,529.0	51.1	46.2	-101.33	2,414.3	153.8	1,129.9	1,039.6	90.34	12.507		
10,200.0	7,307.0	10,316.1	7,529.0	52.6	47.9	-101.34	2,514.3	153.8	1,129.1	1,035.4	93.63	12.058		
10,300.0	7,307.0	10,416.1	7,529.0	54.1	49.5	-101.35	2,614.3	153.8	1,128.2	1,031.3	96.93	11.639		
10,400.0	7,307.0	10,516.1	7,529.0	55.7	51.2	-101.36	2,714.3	153.8	1,127.3	1,027.1	100.24	11.246		
10,500.0	7,307.0	10,616.1	7,529.0	57.2	52.9	-101.37	2,814.3	153.7	1,126.5	1,022.9	103.56	10.878		
10,600.0	7,307.0	10,716.1	7,529.0	58.8	54.6	-101.38	2,914.3	153.7	1,125.6	1,018.7	106.88	10.531		
10,700.0	7,307.0	10,816.1	7,529.0	60.4	56.3	-101.38	3,014.3	153.7	1,124.8	1,014.6	110.22	10.205		
10,800.0	7,307.0	10,916.1	7,529.0	61.9	58.0	-101.39	3,114.3	153.7	1,123.9	1,010.4	113.55	9.898		
10,900.0	7,307.0	11,016.1	7,529.0	63.5	59.7	-101.40	3,214.3	153.7	1,123.1	1,006.2	116.90	9.607		
11,000.0	7,307.0	11,116.1	7,529.0	65.1	61.4	-101.41	3,314.3	153.7	1,122.2	1,002.0	120.24	9.333		
11,100.0	7,307.0	11,216.1	7,529.0	66.7	63.1	-101.42	3,414.3	153.7	1,121.3	997.7	123.60	9.073		
11,200.0	7,307.0	11,316.1	7,529.0	68.4	64.8	-101.43	3,514.3	153.7	1,120.5	993.5	126.95	8.826		
11,300.0	7,307.0	11,416.1	7,529.0	70.0	66.6	-101.44	3,614.3	153.7	1,119.6	989.3	130.31	8.592		
11,400.0	7,307.0	11,516.1	7,529.0	71.6	68.3	-101.45	3,714.3	153.7	1,118.8	985.1	133.68	8.369		
11,500.0	7,307.0	11,616.1	7,529.0	73.3	70.0	-101.45	3,814.3	153.7	1,117.9	980.9	137.05	8.157		
11,600.0	7,307.0	11,716.0	7,529.0	74.9	71.7	-101.46	3,914.3	153.7	1,117.1	976.6	140.42	7.955		
11,700.0	7,307.0	11,816.0	7,529.0	76.5	73.4	-101.47	4,014.3	153.7	1,116.2	972.4	143.79	7.763		
11,800.0	7,307.0	11,916.0	7,529.0	78.2	75.2	-101.48	4,114.3	153.7	1,115.3	968.2	147.17	7.579		
11,900.0	7,307.0	12,016.0	7,529.0	79.8	76.9	-101.49	4,214.3	153.7	1,114.5	963.9	150.55	7.403		
12,000.0	7,307.0	12,116.0	7,529.0	81.5	78.6	-101.50	4,314.3	153.7	1,113.6	959.7	153.93	7.235		
12,100.0	7,307.0	12,216.0	7,529.0	83.2	80.3	-101.51	4,414.3	153.7	1,112.8	955.5	157.31	7.074		
12,200.0	7,307.0	12,316.0	7,529.0	84.8	82.1	-101.52	4,514.3	153.7	1,111.9	951.2	160.69	6.919		
12,300.0	7,307.0	12,416.0	7,529.0	86.5	83.8	-101.53	4,614.3	153.7	1,111.1	947.0	164.08	6.771		
12,400.0	7,307.0	12,516.0	7,529.0	88.2	85.5	-101.54	4,714.3	153.7	1,110.2	942.7	167.47	6.629		
12,500.0	7,307.0	12,616.0	7,529.0	89.9	87.3	-101.54	4,814.3	153.7	1,109.3	938.5	170.86	6.493		
12,600.0	7,307.0	12,716.0	7,529.0	91.5	89.0	-101.55	4,914.2	153.7	1,108.5	934.2	174.25	6.361		
12,700.0	7,307.0	12,816.0	7,529.0	93.2	90.7	-101.56	5,014.2	153.7	1,107.6	930.0	177.64	6.235		
12,782.1	7,307.0	12,898.1	7,529.0	94.6	92.1	-101.57	5,096.3	153.7	1,106.9	926.5	180.43	6.135 SF		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3G-9H-N267 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)				
0.0	0.0	0.0	0.0	0.0	0.0	-79.60	3.6	-19.6	19.9					
100.0	100.0	100.0	100.0	0.1	0.1	-79.60	3.6	-19.6	19.9	19.7	0.24	81.424		
200.0	200.0	200.0	200.0	0.3	0.3	-79.60	3.6	-19.6	19.9	19.3	0.59	33.527		
300.0	300.0	300.0	300.0	0.5	0.5	-79.60	3.6	-19.6	19.9	19.0	0.94	21.110 CC, ES		
400.0	400.0	400.0	400.0	0.6	0.6	168.77	3.6	-19.6	21.6	20.3	1.29	16.733		
500.0	499.8	500.2	500.2	0.8	0.8	169.96	3.0	-18.9	26.0	24.4	1.64	15.862		
600.0	599.5	600.5	600.4	1.1	1.0	170.21	1.2	-17.0	32.4	30.4	1.99	16.274		
700.0	698.7	700.7	700.5	1.3	1.2	169.92	-1.9	-13.9	40.6	38.3	2.34	17.381		
800.0	797.5	800.8	800.5	1.6	1.4	169.38	-6.1	-9.5	50.9	48.2	2.69	18.894		
883.4	879.4	884.3	883.7	1.9	1.6	168.86	-10.6	-4.9	60.9	57.9	2.99	20.345		
900.0	895.6	900.9	900.3	2.0	1.6	168.75	-11.6	-3.8	63.0	59.9	3.05	20.624		
1,000.0	993.6	1,001.2	1,000.1	2.4	1.8	167.81	-18.3	3.1	74.8	71.4	3.44	21.781		
1,100.0	1,091.5	1,101.8	1,100.1	2.7	2.1	166.46	-26.2	11.3	85.3	81.4	3.84	22.227		
1,200.0	1,189.4	1,202.6	1,200.0	3.1	2.3	164.78	-35.4	20.8	94.3	90.1	4.26	22.133		
1,300.0	1,287.4	1,302.2	1,298.6	3.5	2.6	163.12	-45.0	30.8	102.8	98.1	4.70	21.853		
1,400.0	1,385.3	1,401.8	1,397.3	3.9	2.9	161.72	-54.7	40.7	111.3	106.1	5.16	21.581		
1,500.0	1,483.2	1,501.4	1,495.9	4.3	3.2	160.51	-64.3	50.7	119.9	114.3	5.62	21.322		
1,600.0	1,581.2	1,601.0	1,594.5	4.7	3.4	159.47	-73.9	60.7	128.5	122.4	6.10	21.079		
1,700.0	1,679.1	1,700.6	1,693.2	5.1	3.7	158.56	-83.5	70.7	137.2	130.6	6.58	20.852		
1,800.0	1,777.0	1,800.2	1,791.8	5.5	4.0	157.76	-93.2	80.6	145.9	138.8	7.07	20.643		
1,900.0	1,875.0	1,899.8	1,890.4	5.9	4.3	157.05	-102.8	90.6	154.6	147.1	7.56	20.449		
2,000.0	1,972.9	1,999.4	1,989.1	6.3	4.6	156.41	-112.4	100.6	163.4	155.3	8.06	20.271		
2,100.0	2,070.8	2,099.0	2,087.7	6.7	4.9	155.84	-122.1	110.5	172.1	163.6	8.56	20.106		
2,200.0	2,168.8	2,198.6	2,186.3	7.0	5.2	155.33	-131.7	120.5	180.9	171.8	9.07	19.954		
2,300.0	2,266.7	2,298.2	2,285.0	7.4	5.5	154.86	-141.3	130.5	189.7	180.1	9.57	19.814		
2,400.0	2,364.6	2,397.8	2,383.6	7.8	5.8	154.43	-150.9	140.5	198.5	188.4	10.08	19.684		
2,500.0	2,462.6	2,497.4	2,482.2	8.2	6.1	154.04	-160.6	150.4	207.3	196.7	10.60	19.564		
2,600.0	2,560.5	2,597.0	2,580.8	8.6	6.4	153.68	-170.2	160.4	216.1	205.0	11.11	19.453		
2,700.0	2,658.4	2,696.6	2,679.5	9.0	6.7	153.35	-179.8	170.4	225.0	213.3	11.63	19.349		
2,800.0	2,756.4	2,796.2	2,778.1	9.4	6.9	153.05	-189.5	180.3	233.8	221.7	12.14	19.252		
2,900.0	2,854.3	2,895.8	2,876.7	9.8	7.2	152.76	-199.1	190.3	242.7	230.0	12.66	19.162		
3,000.0	2,952.2	2,995.4	2,975.4	10.2	7.5	152.50	-208.7	200.3	251.5	238.3	13.18	19.078		
3,100.0	3,050.2	3,095.0	3,074.0	10.6	7.8	152.26	-218.4	210.3	260.4	246.7	13.70	18.999		
3,200.0	3,148.1	3,194.6	3,172.6	11.0	8.1	152.03	-228.0	220.2	269.2	255.0	14.23	18.925		
3,300.0	3,246.0	3,294.2	3,271.3	11.4	8.4	151.81	-237.6	230.2	278.1	263.3	14.75	18.855		
3,400.0	3,344.0	3,393.9	3,369.9	11.8	8.7	151.61	-247.2	240.2	286.9	271.7	15.27	18.789		
3,500.0	3,441.9	3,493.5	3,468.5	12.2	9.0	151.42	-256.9	250.1	295.8	280.0	15.80	18.728		
3,600.0	3,539.8	3,593.1	3,567.2	12.6	9.3	151.24	-266.5	260.1	304.7	288.4	16.32	18.669		
3,700.0	3,637.8	3,692.7	3,665.8	13.0	9.6	151.07	-276.1	270.1	313.6	296.7	16.85	18.614		
3,800.0	3,735.7	3,792.3	3,764.4	13.4	9.9	150.92	-285.8	280.1	322.4	305.1	17.37	18.562		
3,900.0	3,833.6	3,891.9	3,863.1	13.8	10.2	150.77	-295.4	290.0	331.3	313.4	17.90	18.512		
4,000.0	3,931.6	3,991.5	3,961.7	14.2	10.5	150.62	-305.0	300.0	340.2	321.8	18.42	18.465		
4,100.0	4,029.5	4,091.1	4,060.3	14.6	10.8	150.49	-314.6	310.0	349.1	330.1	18.95	18.420		
4,200.0	4,127.4	4,190.7	4,159.0	15.0	11.1	150.36	-324.3	319.9	358.0	338.5	19.48	18.378		
4,300.0	4,225.4	4,290.3	4,257.6	15.4	11.4	150.24	-333.9	329.9	366.9	346.9	20.01	18.337		
4,400.0	4,323.3	4,389.9	4,356.2	15.8	11.7	150.12	-343.5	339.9	375.8	355.2	20.53	18.299		
4,500.0	4,421.2	4,489.5	4,454.9	16.2	12.0	150.01	-353.2	349.9	384.6	363.6	21.06	18.262		
4,600.0	4,519.2	4,589.1	4,553.5	16.6	12.3	149.90	-362.8	359.8	393.5	371.9	21.59	18.227		
4,700.0	4,617.1	4,688.7	4,652.1	17.0	12.6	149.80	-372.4	369.8	402.4	380.3	22.12	18.193		
4,800.0	4,715.0	4,788.3	4,750.8	17.4	12.9	149.70	-382.0	379.8	411.3	388.7	22.65	18.161		
4,900.0	4,813.0	4,887.9	4,849.4	17.8	13.2	149.61	-391.7	389.7	420.2	397.0	23.18	18.130		
5,000.0	4,910.9	4,987.5	4,948.0	18.2	13.5	149.52	-401.3	399.7	429.1	405.4	23.71	18.100		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3G-9H-N267 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)				
5,100.0	5,008.8	5,087.1	5,046.6	18.6	13.8	149.44	-410.9	409.7	438.0	413.8	24.24	18.072		
5,200.0	5,106.8	5,186.7	5,145.3	19.0	14.1	149.36	-420.6	419.7	446.9	422.1	24.77	18.044		
5,300.0	5,204.7	5,286.3	5,243.9	19.4	14.4	149.28	-430.2	429.6	455.8	430.5	25.30	18.018		
5,400.0	5,302.6	5,385.9	5,342.5	19.8	14.7	149.20	-439.8	439.6	464.7	438.9	25.83	17.993		
5,500.0	5,400.6	5,485.5	5,441.2	20.2	15.0	149.13	-449.5	449.6	473.6	447.3	26.36	17.968		
5,600.0	5,498.5	5,585.1	5,539.8	20.6	15.3	149.06	-459.1	459.5	482.5	455.6	26.89	17.945		
5,700.0	5,596.4	5,681.4	5,635.3	21.0	15.6	149.02	-468.2	469.0	491.6	464.2	27.39	17.947		
5,800.0	5,694.4	5,775.9	5,729.0	21.4	15.8	149.12	-476.1	477.1	501.7	473.9	27.84	18.022		
5,900.0	5,792.3	5,870.1	5,822.7	21.8	16.0	149.35	-482.9	484.2	512.8	484.6	28.23	18.166		
6,000.0	5,890.2	5,964.0	5,916.3	22.2	16.2	149.71	-488.6	490.1	524.9	496.3	28.56	18.376		
6,100.0	5,988.2	6,057.6	6,009.6	22.6	16.4	150.18	-493.2	494.9	538.0	509.2	28.85	18.650		
6,200.0	6,086.1	6,150.8	6,102.7	23.0	16.6	150.75	-496.8	498.6	552.2	523.2	29.08	18.987		
6,300.0	6,184.0	6,243.6	6,195.4	23.4	16.7	151.40	-499.3	501.2	567.5	538.3	29.28	19.386		
6,400.0	6,282.0	6,335.8	6,287.6	23.8	16.8	152.13	-500.8	502.7	584.0	554.6	29.43	19.846		
6,500.0	6,379.9	6,428.1	6,379.9	24.2	16.9	152.93	-501.2	503.2	601.6	572.0	29.54	20.364		
6,600.0	6,477.8	6,526.1	6,477.8	24.6	17.1	153.78	-501.2	503.2	619.7	590.1	29.64	20.906		
6,700.0	6,575.8	6,624.0	6,575.8	25.0	17.2	154.58	-501.2	503.2	638.0	608.2	29.76	21.439		
6,800.0	6,673.7	6,721.9	6,673.7	25.4	17.3	155.33	-501.2	503.2	656.4	626.5	29.88	21.964		
6,827.3	6,700.4	6,748.6	6,700.4	25.5	17.3	155.53	-501.2	503.2	661.4	631.5	29.92	22.106		
6,850.0	6,722.7	6,770.9	6,722.7	25.6	17.3	166.96	-501.2	503.2	665.6	635.8	29.82	22.324		
6,900.0	6,771.8	6,821.0	6,772.7	25.7	17.4	-166.23	-499.9	503.2	675.0	645.4	29.57	22.826		
6,950.0	6,820.7	6,871.3	6,822.7	25.9	17.4	-144.14	-494.3	503.1	684.3	655.0	29.26	23.389		
7,000.0	6,869.0	6,921.5	6,872.0	26.0	17.3	-129.30	-484.3	503.1	693.5	664.6	28.90	23.998		
7,050.0	6,916.4	6,971.8	6,920.1	26.1	17.3	-119.55	-470.1	503.1	702.5	674.0	28.51	24.640		
7,100.0	6,962.4	7,022.0	6,966.8	26.1	17.1	-112.84	-451.8	503.1	711.2	683.1	28.11	25.299		
7,150.0	7,006.8	7,072.2	7,011.7	26.2	17.0	-107.96	-429.4	503.1	719.7	692.0	27.73	25.958		
7,200.0	7,049.2	7,122.4	7,054.5	26.2	16.9	-104.25	-403.2	503.1	727.8	700.4	27.36	26.600		
7,250.0	7,089.2	7,172.6	7,094.9	26.2	16.7	-101.31	-373.3	503.1	735.4	708.4	27.03	27.208		
7,300.0	7,126.7	7,222.8	7,132.5	26.2	16.6	-98.94	-340.0	503.1	742.5	715.8	26.74	27.766		
7,350.0	7,161.2	7,273.1	7,167.0	26.2	16.4	-96.98	-303.5	503.1	749.1	722.6	26.51	28.259		
7,400.0	7,192.6	7,323.4	7,198.2	26.2	16.3	-95.36	-264.1	503.1	755.1	728.7	26.33	28.672		
7,450.0	7,220.5	7,373.7	7,225.9	26.2	16.2	-94.00	-222.1	503.1	760.4	734.2	26.22	28.996		
7,500.0	7,244.8	7,424.0	7,249.8	26.3	16.1	-92.88	-177.9	503.1	765.0	738.8	26.18	29.222		
7,550.0	7,265.3	7,474.2	7,269.7	26.3	16.0	-91.97	-131.7	503.1	768.9	742.7	26.20	29.345		
7,600.0	7,281.9	7,524.5	7,285.4	26.3	16.0	-91.24	-84.0	503.1	772.1	745.8	26.29	29.362		
7,650.0	7,294.3	7,574.7	7,296.9	26.4	16.0	-90.68	-35.2	503.1	774.4	748.0	26.46	29.270		
7,700.0	7,302.6	7,624.8	7,304.1	26.4	16.1	-90.28	14.5	503.1	776.0	749.3	26.67	29.092		
7,750.0	7,306.6	7,674.9	7,307.0	26.5	16.3	-90.04	64.4	503.1	776.8	749.8	26.96	28.814		
7,771.9	7,307.0	7,696.8	7,307.0	26.5	16.3	-90.00	86.3	503.1	776.9	749.8	27.10	28.664		
7,800.0	7,307.0	7,724.9	7,307.0	26.6	16.4	-90.00	114.4	503.1	776.9	749.5	27.37	28.382		
7,900.0	7,307.0	7,824.9	7,307.0	26.9	16.9	-90.00	214.4	503.1	776.9	748.3	28.52	27.240		
7,991.9	7,307.0	7,916.8	7,307.0	27.3	17.5	-90.00	306.3	503.1	776.9	747.0	29.89	25.986		
8,000.0	7,307.0	7,924.9	7,307.0	27.3	17.5	-90.00	314.4	503.1	776.8	746.8	30.00	25.895		
8,017.0	7,307.0	7,941.9	7,307.0	27.4	17.7	-90.00	331.4	503.1	776.7	746.5	30.22	25.704		
8,100.0	7,307.0	8,024.9	7,307.0	27.8	18.3	-90.00	414.4	503.1	776.0	744.3	31.74	24.453		
8,200.0	7,307.0	8,124.9	7,307.0	28.4	19.2	-90.00	514.4	503.1	775.1	741.3	33.81	22.927		
8,300.0	7,307.0	8,224.9	7,307.0	29.1	20.3	-90.00	614.4	503.1	774.3	738.2	36.11	21.444		
8,400.0	7,307.0	8,324.9	7,307.0	29.8	21.4	-90.00	714.4	503.1	773.4	734.8	38.59	20.043		
8,500.0	7,307.0	8,424.9	7,307.0	30.7	22.6	-90.00	814.4	503.1	772.5	731.3	41.22	18.743		
8,600.0	7,307.0	8,524.9	7,307.0	31.6	23.9	-90.00	914.4	503.1	771.6	727.7	43.97	17.550		
8,700.0	7,307.0	8,624.9	7,307.0	32.6	25.2	-90.00	1,014.4	503.1	770.8	724.0	46.82	16.461		
8,800.0	7,307.0	8,724.9	7,307.0	33.7	26.6	-90.00	1,114.4	503.1	769.9	720.1	49.76	15.472		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3G-9H-N267 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)				
8,900.0	7,307.0	8,824.9	7,307.0	34.8	28.0	-90.00	1,214.4	503.1	769.0	716.3	52.77	14.574		
9,000.0	7,307.0	8,924.9	7,307.0	35.9	29.5	-90.00	1,314.4	503.1	768.2	712.3	55.83	13.758		
9,100.0	7,307.0	9,024.9	7,307.0	37.2	30.9	-90.00	1,414.4	503.1	767.3	708.3	58.95	13.016		
9,200.0	7,307.0	9,124.9	7,307.0	38.4	32.5	-90.00	1,514.4	503.1	766.4	704.3	62.11	12.340		
9,300.0	7,307.0	9,224.9	7,307.0	39.7	34.0	-90.00	1,614.4	503.1	765.5	700.2	65.30	11.723		
9,400.0	7,307.0	9,324.9	7,307.0	41.0	35.5	-90.00	1,714.4	503.1	764.7	696.1	68.52	11.159		
9,500.0	7,307.0	9,424.9	7,307.0	42.4	37.1	-90.00	1,814.4	503.1	763.8	692.0	71.77	10.642		
9,600.0	7,307.0	9,524.9	7,307.0	43.8	38.7	-90.00	1,914.4	503.1	762.9	687.9	75.05	10.166		
9,700.0	7,307.0	9,624.8	7,307.0	45.2	40.3	-90.00	2,014.4	503.1	762.0	683.7	78.34	9.727		
9,800.0	7,307.0	9,724.8	7,307.0	46.6	41.9	-90.00	2,114.4	503.1	761.2	679.5	81.65	9.322		
9,900.0	7,307.0	9,824.8	7,307.0	48.1	43.6	-90.00	2,214.4	503.1	760.3	675.3	84.98	8.947		
10,000.0	7,307.0	9,924.8	7,307.0	49.6	45.2	-90.00	2,314.4	503.1	759.4	671.1	88.32	8.598		
10,100.0	7,307.0	10,024.8	7,307.0	51.1	46.8	-90.00	2,414.3	503.1	758.5	666.9	91.68	8.274		
10,200.0	7,307.0	10,124.8	7,307.0	52.6	48.5	-90.00	2,514.3	503.1	757.7	662.6	95.04	7.972		
10,300.0	7,307.0	10,224.8	7,307.0	54.1	50.2	-90.00	2,614.3	503.1	756.8	658.4	98.42	7.690		
10,400.0	7,307.0	10,324.8	7,307.0	55.7	51.8	-90.00	2,714.3	503.1	755.9	654.1	101.80	7.425		
10,500.0	7,307.0	10,424.8	7,307.0	57.2	53.5	-90.00	2,814.3	503.1	755.0	649.8	105.19	7.178		
10,600.0	7,307.0	10,524.8	7,307.0	58.8	55.2	-90.00	2,914.3	503.1	754.2	645.6	108.59	6.945		
10,700.0	7,307.0	10,624.8	7,307.0	60.4	56.8	-90.00	3,014.3	503.1	753.3	641.3	112.00	6.726		
10,800.0	7,307.0	10,724.8	7,307.0	61.9	58.5	-90.00	3,114.3	503.1	752.4	637.0	115.41	6.519		
10,900.0	7,307.0	10,824.8	7,307.0	63.5	60.2	-90.00	3,214.3	503.1	751.5	632.7	118.83	6.325		
11,000.0	7,307.0	10,924.8	7,307.0	65.1	61.9	-90.00	3,314.3	503.1	750.7	628.4	122.25	6.140		
11,100.0	7,307.0	11,024.8	7,307.0	66.7	63.6	-90.00	3,414.3	503.1	749.8	624.1	125.68	5.966		
11,200.0	7,307.0	11,124.8	7,307.0	68.4	65.3	-90.00	3,514.3	503.1	748.9	619.8	129.11	5.800		
11,300.0	7,307.0	11,224.8	7,307.0	70.0	67.0	-90.00	3,614.3	503.1	748.0	615.5	132.55	5.644		
11,400.0	7,307.0	11,324.8	7,307.0	71.6	68.7	-90.00	3,714.3	503.1	747.2	611.2	135.99	5.494		
11,500.0	7,307.0	11,424.8	7,307.0	73.3	70.4	-90.00	3,814.3	503.1	746.3	606.9	139.43	5.352		
11,600.0	7,307.0	11,524.8	7,307.0	74.9	72.1	-90.00	3,914.3	503.1	745.4	602.5	142.88	5.217		
11,700.0	7,307.0	11,624.8	7,307.0	76.5	73.8	-90.00	4,014.3	503.1	744.5	598.2	146.33	5.088		
11,800.0	7,307.0	11,724.8	7,307.0	78.2	75.6	-90.00	4,114.3	503.1	743.7	593.9	149.78	4.965		
11,900.0	7,307.0	11,824.8	7,307.0	79.8	77.3	-90.00	4,214.3	503.1	742.8	589.6	153.23	4.847		
12,000.0	7,307.0	11,924.8	7,307.0	81.5	79.0	-90.00	4,314.3	503.1	741.9	585.2	156.69	4.735		
12,100.0	7,307.0	12,024.8	7,307.0	83.2	80.7	-90.00	4,414.3	503.1	741.0	580.9	160.15	4.627		
12,200.0	7,307.0	12,124.8	7,307.0	84.8	82.4	-90.00	4,514.3	503.1	740.2	576.5	163.61	4.524		
12,300.0	7,307.0	12,224.7	7,307.0	86.5	84.1	-90.00	4,614.3	503.1	739.3	572.2	167.07	4.425		
12,400.0	7,307.0	12,324.7	7,307.0	88.2	85.9	-90.00	4,714.3	503.1	738.4	567.9	170.54	4.330		
12,500.0	7,307.0	12,424.7	7,307.0	89.9	87.6	-90.00	4,814.3	503.1	737.5	563.5	174.00	4.239		
12,600.0	7,307.0	12,524.7	7,307.0	91.5	89.3	-90.00	4,914.3	503.1	736.7	559.2	177.47	4.151		
12,700.0	7,307.0	12,624.7	7,307.0	93.2	91.0	-90.00	5,014.2	503.1	735.8	554.8	180.94	4.066		
12,782.1	7,307.0	12,706.8	7,307.0	94.6	92.5	-90.00	5,096.3	503.1	735.1	551.3	183.79	3.999 SF		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3H-9H-N267 - Hz - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)				
0.0	0.0	0.0	0.0	0.0	0.0	-72.23	3.6	-11.2	11.7					
100.0	100.0	100.0	100.0	0.1	0.1	-72.23	3.6	-11.2	11.7	11.5	0.24	48.057		
200.0	200.0	200.0	200.0	0.3	0.3	-72.23	3.6	-11.2	11.7	11.1	0.59	19.788		
300.0	300.0	300.0	300.0	0.5	0.5	-72.23	3.6	-11.2	11.7	10.8	0.94	12.459	CC, ES	
400.0	400.0	400.0	400.0	0.6	0.6	175.79	3.6	-11.2	13.5	12.2	1.29	10.443		
500.0	499.8	500.4	500.4	0.8	0.8	175.69	2.7	-9.7	17.0	15.4	1.64	10.369		
600.0	599.5	601.0	600.8	1.1	1.0	174.03	-0.2	-5.2	20.6	18.6	1.99	10.359		
700.0	698.7	701.7	701.1	1.3	1.2	171.53	-4.8	2.3	24.3	22.0	2.34	10.382		
800.0	797.5	802.5	801.2	1.6	1.5	168.54	-11.4	12.8	28.2	25.5	2.71	10.408		
883.4	879.4	886.6	884.3	1.9	1.7	165.84	-18.3	23.8	31.6	28.5	3.03	10.404		
900.0	895.6	903.3	900.7	2.0	1.8	165.28	-19.8	26.2	32.2	29.1	3.10	10.382		
1,000.0	993.6	1,003.2	999.1	2.4	2.1	162.19	-29.0	40.9	36.0	32.5	3.54	10.184		
1,100.0	1,091.5	1,103.2	1,097.5	2.7	2.4	159.69	-38.2	55.6	39.9	35.9	4.00	9.984		
1,200.0	1,189.4	1,203.1	1,195.9	3.1	2.8	157.65	-47.4	70.4	43.9	39.4	4.48	9.791		
1,300.0	1,287.4	1,303.0	1,294.3	3.5	3.1	155.94	-56.6	85.1	47.9	42.9	4.98	9.609		
1,400.0	1,385.3	1,402.9	1,392.7	3.9	3.4	154.50	-65.8	99.8	51.9	46.4	5.50	9.442		
1,500.0	1,483.2	1,502.8	1,491.1	4.3	3.8	153.26	-74.9	114.5	56.0	50.0	6.03	9.290		
1,600.0	1,581.2	1,602.7	1,589.5	4.7	4.1	152.20	-84.1	129.2	60.1	53.5	6.56	9.153		
1,700.0	1,679.1	1,702.6	1,687.9	5.1	4.5	151.27	-93.3	143.9	64.2	57.1	7.11	9.029		
1,800.0	1,777.0	1,802.5	1,786.3	5.5	4.8	150.45	-102.5	158.6	68.3	60.6	7.66	8.917		
1,900.0	1,875.0	1,902.4	1,884.7	5.9	5.2	149.72	-111.7	173.3	72.4	64.2	8.22	8.816		
2,000.0	1,972.9	2,002.3	1,983.1	6.3	5.5	149.08	-120.9	188.1	76.6	67.8	8.78	8.725		
2,100.0	2,070.8	2,102.3	2,081.5	6.7	5.9	148.50	-130.1	202.8	80.7	71.4	9.34	8.643		
2,200.0	2,168.8	2,202.2	2,179.9	7.0	6.2	147.97	-139.3	217.5	84.9	75.0	9.91	8.567		
2,300.0	2,266.7	2,302.1	2,278.2	7.4	6.5	147.50	-148.5	232.2	89.1	78.6	10.48	8.499		
2,400.0	2,364.6	2,402.0	2,376.6	7.8	6.9	147.07	-157.7	246.9	93.2	82.2	11.05	8.436		
2,500.0	2,462.6	2,501.9	2,475.0	8.2	7.2	146.67	-166.9	261.6	97.4	85.8	11.63	8.379		
2,600.0	2,560.5	2,601.8	2,573.4	8.6	7.6	146.31	-176.1	276.3	101.6	89.4	12.20	8.326		
2,700.0	2,658.4	2,701.7	2,671.8	9.0	7.9	145.98	-185.3	291.1	105.8	93.0	12.78	8.277		
2,800.0	2,756.4	2,801.6	2,770.2	9.4	8.3	145.67	-194.5	305.8	110.0	96.6	13.36	8.232		
2,900.0	2,854.3	2,901.5	2,868.6	9.8	8.6	145.38	-203.7	320.5	114.2	100.2	13.94	8.190		
3,000.0	2,952.2	3,001.5	2,967.0	10.2	9.0	145.12	-212.9	335.2	118.4	103.8	14.52	8.151		
3,100.0	3,050.2	3,101.4	3,065.4	10.6	9.3	144.87	-222.0	349.9	122.5	107.4	15.10	8.115		
3,200.0	3,148.1	3,201.3	3,163.8	11.0	9.7	144.64	-231.2	364.6	126.7	111.1	15.68	8.081		
3,300.0	3,246.0	3,301.2	3,262.2	11.4	10.1	144.42	-240.4	379.3	130.9	114.7	16.27	8.050		
3,400.0	3,344.0	3,401.1	3,360.6	11.8	10.4	144.22	-249.6	394.0	135.2	118.3	16.85	8.020		
3,500.0	3,441.9	3,501.0	3,459.0	12.2	10.8	144.03	-258.8	408.8	139.4	121.9	17.44	7.992		
3,600.0	3,539.8	3,600.9	3,557.3	12.6	11.1	143.85	-268.0	423.5	143.6	125.5	18.02	7.966		
3,700.0	3,637.8	3,700.8	3,655.7	13.0	11.5	143.68	-277.2	438.2	147.8	129.2	18.61	7.941		
3,800.0	3,735.7	3,800.7	3,754.1	13.4	11.8	143.52	-286.4	452.9	152.0	132.8	19.19	7.918		
3,900.0	3,833.6	3,900.6	3,852.5	13.8	12.2	143.37	-295.6	467.6	156.2	136.4	19.78	7.896		
4,000.0	3,931.6	4,000.6	3,950.9	14.2	12.5	143.23	-304.8	482.3	160.4	140.0	20.37	7.875		
4,100.0	4,029.5	4,100.5	4,049.3	14.6	12.9	143.09	-314.0	497.0	164.6	143.6	20.95	7.855		
4,200.0	4,127.4	4,200.4	4,147.7	15.0	13.2	142.96	-323.2	511.7	168.8	147.3	21.54	7.836		
4,300.0	4,225.4	4,300.3	4,246.1	15.4	13.6	142.84	-332.4	526.5	173.0	150.9	22.13	7.819		
4,400.0	4,323.3	4,400.2	4,344.5	15.8	13.9	142.72	-341.6	541.2	177.2	154.5	22.72	7.802		
4,500.0	4,421.2	4,500.1	4,442.9	16.2	14.3	142.61	-350.8	555.9	181.5	158.1	23.31	7.785		
4,600.0	4,519.2	4,600.0	4,541.3	16.6	14.6	142.51	-360.0	570.6	185.7	161.8	23.90	7.770		
4,700.0	4,617.1	4,699.9	4,639.7	17.0	15.0	142.40	-369.1	585.3	189.9	165.4	24.48	7.755		
4,800.0	4,715.0	4,799.8	4,738.1	17.4	15.3	142.31	-378.3	600.0	194.1	169.0	25.07	7.741		
4,900.0	4,813.0	4,899.8	4,836.5	17.8	15.7	142.21	-387.5	614.7	198.3	172.7	25.66	7.728		
5,000.0	4,910.9	4,999.7	4,934.8	18.2	16.0	142.12	-396.7	629.5	202.5	176.3	26.25	7.715		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3H-9H-N267 - Hz - Plan #2													Offset Site Error: 0.0 ft	
Survey Program: 0-Geolink MWD													Offset Well Error: 0.0 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)	Total Uncertainty Axis	Separation Factor		
5,100.0	5,008.8	5,099.6	5,033.2	18.6	16.4	142.04	-405.9	644.2	206.8	179.9	26.84	7.703		
5,200.0	5,106.8	5,199.5	5,131.6	19.0	16.7	141.96	-415.1	658.9	211.0	183.5	27.43	7.691		
5,300.0	5,204.7	5,299.4	5,230.0	19.4	17.1	141.88	-424.3	673.6	215.2	187.2	28.02	7.679		
5,400.0	5,302.6	5,399.3	5,328.4	19.8	17.4	141.80	-433.5	688.3	219.4	190.8	28.61	7.668		
5,500.0	5,400.6	5,499.2	5,426.8	20.2	17.8	141.73	-442.7	703.0	223.6	194.4	29.20	7.658		
5,600.0	5,498.5	5,599.1	5,525.2	20.6	18.1	141.66	-451.9	717.7	227.8	198.1	29.79	7.648		
5,700.0	5,596.4	5,699.0	5,623.6	21.0	18.5	141.59	-461.1	732.4	232.1	201.7	30.38	7.638		
5,800.0	5,694.4	5,793.7	5,717.1	21.4	18.8	141.80	-469.0	745.1	237.4	206.5	30.83	7.699		
5,900.0	5,792.3	5,888.0	5,810.6	21.8	19.0	142.54	-475.2	755.1	244.9	213.9	31.07	7.884		
6,000.0	5,890.2	5,981.7	5,903.9	22.2	19.2	143.73	-479.8	762.4	254.8	223.7	31.10	8.193		
6,100.0	5,988.2	6,074.6	5,996.6	22.6	19.3	145.29	-482.8	767.2	267.2	236.2	30.97	8.626		
6,200.0	6,086.1	6,166.6	6,088.6	23.0	19.4	147.11	-484.1	769.3	282.0	251.3	30.70	9.187		
6,300.0	6,184.0	6,262.0	6,184.0	23.4	19.5	149.12	-484.2	769.5	299.2	268.8	30.34	9.858		
6,400.0	6,282.0	6,360.0	6,282.0	23.8	19.6	150.99	-484.2	769.5	316.8	286.7	30.04	10.546		
6,500.0	6,379.9	6,457.9	6,379.9	24.2	19.7	152.66	-484.2	769.5	334.7	304.9	29.80	11.232		
6,600.0	6,477.8	6,555.8	6,477.8	24.6	19.8	154.16	-484.2	769.5	352.8	323.2	29.62	11.913		
6,700.0	6,575.8	6,653.8	6,575.8	25.0	19.9	155.52	-484.2	769.5	371.2	341.7	29.49	12.587		
6,800.0	6,673.7	6,751.7	6,673.7	25.4	20.0	156.75	-484.2	769.5	389.8	360.4	29.41	13.251		
6,827.3	6,700.4	6,779.0	6,701.0	25.5	20.1	157.07	-484.2	769.5	394.9	365.5	29.40	13.431		
6,850.0	6,722.7	6,832.3	6,754.2	25.6	20.2	168.53	-485.7	771.6	398.2	368.9	29.33	13.575		
6,900.0	6,771.8	6,950.5	6,869.9	25.7	20.7	-167.52	-498.5	791.0	399.4	369.1	30.35	13.158		
6,950.0	6,820.7	7,007.2	6,924.0	25.9	21.0	-148.72	-506.5	805.9	395.9	364.6	31.31	12.644		
7,000.0	6,869.0	7,058.5	6,973.4	26.0	21.2	-136.97	-509.2	819.6	392.8	360.8	32.05	12.254		
7,050.0	6,916.4	7,110.9	7,023.8	26.1	21.4	-130.29	-507.1	833.6	390.1	357.5	32.63	11.953		
7,100.0	6,962.4	7,164.6	7,075.0	26.1	21.6	-126.59	-500.1	847.8	387.8	354.8	33.02	11.746		
7,150.0	7,006.8	7,219.4	7,126.5	26.2	21.7	-124.64	-487.8	862.1	385.9	352.8	33.17	11.634		
7,200.0	7,049.2	7,275.6	7,177.8	26.2	21.8	-123.74	-470.0	876.4	384.5	351.4	33.08	11.621		
7,250.0	7,089.2	7,333.1	7,228.3	26.2	21.9	-123.49	-446.4	890.4	383.3	350.6	32.74	11.708		
7,300.0	7,126.7	7,391.9	7,277.4	26.2	21.9	-123.64	-417.0	904.0	382.5	350.4	32.16	11.896		
7,350.0	7,161.2	7,451.9	7,324.2	26.2	21.9	-124.01	-381.8	917.0	381.9	350.6	31.35	12.184		
7,400.0	7,192.6	7,513.2	7,368.0	26.2	21.9	-124.50	-340.8	929.1	381.5	351.2	30.36	12.567		
7,450.0	7,220.5	7,575.5	7,408.0	26.2	21.9	-125.02	-294.3	940.2	381.2	352.0	29.26	13.028		
7,500.0	7,244.8	7,638.9	7,443.4	26.3	22.0	-125.49	-242.8	950.1	381.0	352.8	28.14	13.541		
7,550.0	7,265.3	7,703.0	7,473.5	26.3	22.0	-125.89	-186.8	958.4	380.7	353.6	27.08	14.058		
7,600.0	7,281.9	7,767.7	7,497.5	26.3	22.0	-126.15	-127.1	965.1	380.3	354.1	26.21	14.511		
7,650.0	7,294.3	7,832.8	7,515.0	26.4	22.1	-126.27	-64.6	969.9	379.8	354.2	25.63	14.819		
7,700.0	7,302.6	7,898.1	7,525.6	26.4	22.2	-126.22	-0.3	972.9	379.2	353.7	25.44	14.905		
7,750.0	7,306.6	7,962.9	7,529.0	26.5	22.3	-125.99	64.4	973.8	378.4	352.7	25.67	14.740		
7,771.9	7,307.0	7,984.8	7,529.0	26.5	22.3	-125.94	86.3	973.8	378.2	352.3	25.87	14.618		
7,800.0	7,307.0	8,012.9	7,529.0	26.6	22.4	-125.94	114.4	973.8	378.2	352.1	26.09	14.496		
7,900.0	7,307.0	8,112.9	7,529.0	26.9	22.8	-125.94	214.4	973.8	378.2	351.2	27.02	13.996		
7,991.9	7,307.0	8,204.8	7,529.0	27.3	23.2	-125.94	306.3	973.8	378.2	350.1	28.10	13.458		
8,000.0	7,307.0	8,212.9	7,529.0	27.3	23.2	-125.95	314.4	973.8	378.2	350.0	28.18	13.419		
8,017.0	7,307.0	8,229.9	7,529.0	27.4	23.3	-125.96	331.4	973.8	378.1	349.8	28.35	13.339		
8,100.0	7,307.0	8,312.9	7,529.0	27.8	23.8	-126.02	414.4	973.8	377.5	348.0	29.50	12.796		
8,200.0	7,307.0	8,412.9	7,529.0	28.4	24.5	-126.10	514.4	973.8	376.8	345.7	31.08	12.124		
8,300.0	7,307.0	8,512.9	7,529.0	29.1	25.4	-126.18	614.4	973.8	376.1	343.3	32.82	11.459		
8,400.0	7,307.0	8,612.9	7,529.0	29.8	26.3	-126.26	714.4	973.8	375.4	340.7	34.70	10.817		
8,500.0	7,307.0	8,712.9	7,529.0	30.7	27.2	-126.34	814.4	973.8	374.7	338.0	36.70	10.209		
8,600.0	7,307.0	8,812.9	7,529.0	31.6	28.3	-126.41	914.4	973.8	374.0	335.2	38.80	9.639		
8,636.8	7,307.0	8,847.1	7,529.0	32.0	28.7	-126.43	948.6	973.7	373.8	334.2	39.57	9.447		
8,700.0	7,307.0	8,906.8	7,529.0	32.6	29.3	-126.39	1,008.2	972.7	374.2	333.3	40.94	9.140		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3H-9H-N267 - Hz - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)				
8,800.0	7,307.0	9,006.7	7,529.0	33.7	30.5	-126.28	1,108.2	970.6	375.2	331.9	43.26	8.673		
8,900.0	7,307.0	9,106.7	7,529.0	34.8	31.7	-126.17	1,208.2	968.6	376.1	330.5	45.65	8.240		
9,000.0	7,307.0	9,206.7	7,529.0	35.9	33.0	-126.07	1,308.2	966.5	377.1	329.0	48.09	7.841		
9,100.0	7,307.0	9,306.7	7,529.0	37.2	34.3	-125.96	1,408.1	964.5	378.0	327.4	50.59	7.473		
9,200.0	7,307.0	9,406.7	7,529.0	38.4	35.7	-125.86	1,508.1	962.4	379.0	325.8	53.13	7.133		
9,300.0	7,307.0	9,506.7	7,529.0	39.7	37.0	-125.76	1,608.1	960.4	379.9	324.2	55.72	6.819		
9,400.0	7,307.0	9,606.7	7,529.0	41.0	38.5	-125.65	1,708.0	958.3	380.9	322.5	58.34	6.529		
9,500.0	7,307.0	9,706.7	7,529.0	42.4	39.9	-125.55	1,808.0	956.3	381.8	320.8	60.99	6.260		
9,600.0	7,307.0	9,806.7	7,529.0	43.8	41.4	-125.45	1,908.0	954.3	382.8	319.1	63.68	6.011		
9,700.0	7,307.0	9,906.7	7,529.0	45.2	42.9	-125.35	2,008.0	952.2	383.7	317.4	66.39	5.780		
9,800.0	7,307.0	10,006.7	7,529.0	46.6	44.4	-125.25	2,107.9	950.2	384.7	315.6	69.12	5.565		
9,900.0	7,307.0	10,106.7	7,529.0	48.1	45.9	-125.15	2,207.9	948.1	385.7	313.8	71.88	5.365		
10,000.0	7,307.0	10,206.7	7,529.0	49.6	47.4	-125.05	2,307.9	946.1	386.6	312.0	74.66	5.179		
10,100.0	7,307.0	10,306.7	7,529.0	51.1	49.0	-124.95	2,407.8	944.0	387.6	310.1	77.45	5.004		
10,200.0	7,307.0	10,406.7	7,529.0	52.6	50.5	-124.85	2,507.8	942.0	388.5	308.3	80.27	4.841		
10,300.0	7,307.0	10,506.6	7,529.0	54.1	52.1	-124.75	2,607.8	939.9	389.5	306.4	83.10	4.687		
10,400.0	7,307.0	10,606.6	7,529.0	55.7	53.7	-124.65	2,707.8	937.9	390.5	304.5	85.95	4.543		
10,500.0	7,307.0	10,706.6	7,529.0	57.2	55.3	-124.55	2,807.7	935.8	391.4	302.6	88.81	4.408		
10,600.0	7,307.0	10,806.6	7,529.0	58.8	56.9	-124.46	2,907.7	933.8	392.4	300.7	91.68	4.280		
10,700.0	7,307.0	10,906.6	7,529.0	60.4	58.5	-124.36	3,007.7	931.7	393.4	298.8	94.57	4.160		
10,800.0	7,307.0	11,006.6	7,529.0	61.9	60.2	-124.26	3,107.7	929.7	394.3	296.9	97.47	4.046		
10,900.0	7,307.0	11,106.6	7,529.0	63.5	61.8	-124.17	3,207.6	927.6	395.3	294.9	100.38	3.938		
11,000.0	7,307.0	11,206.6	7,529.0	65.1	63.4	-124.07	3,307.6	925.6	396.3	293.0	103.30	3.836		
11,100.0	7,307.0	11,306.6	7,529.0	66.7	65.1	-123.98	3,407.6	923.5	397.2	291.0	106.23	3.739		
11,200.0	7,307.0	11,406.6	7,529.0	68.4	66.7	-123.88	3,507.5	921.5	398.2	289.0	109.18	3.647		
11,300.0	7,307.0	11,506.6	7,529.0	70.0	68.4	-123.79	3,607.5	919.4	399.2	287.1	112.13	3.560		
11,400.0	7,307.0	11,606.6	7,529.0	71.6	70.1	-123.70	3,707.5	917.4	400.2	285.1	115.09	3.477		
11,500.0	7,307.0	11,706.6	7,529.0	73.3	71.7	-123.60	3,807.5	915.3	401.1	283.1	118.06	3.398		
11,600.0	7,307.0	11,806.6	7,529.0	74.9	73.4	-123.51	3,907.4	913.3	402.1	281.1	121.04	3.322		
11,700.0	7,307.0	11,906.5	7,529.0	76.5	75.1	-123.42	4,007.4	911.2	403.1	279.1	124.03	3.250		
11,800.0	7,307.0	12,006.5	7,529.0	78.2	76.7	-123.33	4,107.4	909.2	404.1	277.0	127.03	3.181		
11,900.0	7,307.0	12,106.5	7,529.0	79.8	78.4	-123.24	4,207.3	907.1	405.1	275.0	130.03	3.115		
12,000.0	7,307.0	12,206.5	7,529.0	81.5	80.1	-123.15	4,307.3	905.1	406.0	273.0	133.05	3.052		
12,100.0	7,307.0	12,306.5	7,529.0	83.2	81.8	-123.06	4,407.3	903.1	407.0	271.0	136.07	2.991		
12,200.0	7,307.0	12,406.5	7,529.0	84.8	83.5	-122.97	4,507.3	901.0	408.0	268.9	139.09	2.933		
12,300.0	7,307.0	12,506.5	7,529.0	86.5	85.2	-122.88	4,607.2	899.0	409.0	266.9	142.13	2.878		
12,400.0	7,307.0	12,606.5	7,529.0	88.2	86.9	-122.79	4,707.2	896.9	410.0	264.8	145.17	2.824		
12,500.0	7,307.0	12,706.5	7,529.0	89.9	88.6	-122.70	4,807.2	894.9	411.0	262.7	148.21	2.773		
12,600.0	7,307.0	12,806.5	7,529.0	91.5	90.3	-122.61	4,907.2	892.8	411.9	260.7	151.27	2.723		
12,700.0	7,307.0	12,906.5	7,529.0	93.2	92.0	-122.52	5,007.1	890.8	412.9	258.6	154.33	2.676		
12,782.1	7,307.0	12,988.6	7,529.0	94.6	93.4	-122.45	5,089.2	889.1	413.7	256.9	156.85	2.638 SF		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3J-9H-N267 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program:		0-Geolink MWD											Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	90.06	0.0	8.4	8.4					
100.0	100.0	100.0	100.0	0.1	0.1	90.06	0.0	8.4	8.4	8.1	0.24	34.322		
200.0	200.0	200.0	200.0	0.3	0.3	90.06	0.0	8.4	8.4	7.8	0.59	14.133	CC, ES	
300.0	300.0	299.7	299.7	0.5	0.5	93.30	-0.6	10.0	10.0	9.1	0.94	10.639		
400.0	400.0	399.2	399.1	0.6	0.7	-15.68	-2.3	14.9	13.4	12.2	1.29	10.411		
500.0	499.8	498.7	498.1	0.8	0.9	-14.21	-5.1	23.1	16.9	15.3	1.64	10.297		
600.0	599.5	598.0	596.7	1.1	1.2	-13.82	-9.1	34.4	20.4	18.4	1.99	10.225		
700.0	698.7	697.1	694.6	1.3	1.5	-14.03	-14.1	49.0	23.9	21.5	2.35	10.163		
800.0	797.5	796.2	791.9	1.6	1.8	-14.61	-20.3	66.8	27.4	24.7	2.72	10.090		
883.4	879.4	878.8	872.5	1.9	2.2	-15.29	-26.3	84.0	30.3	27.3	3.03	10.011		
900.0	895.6	895.4	888.6	2.0	2.3	-15.45	-27.6	87.6	30.9	27.8	3.10	9.978		
1,000.0	993.6	995.3	985.8	2.4	2.7	-16.33	-35.2	109.6	34.2	30.7	3.50	9.789		
1,100.0	1,091.5	1,095.3	1,083.0	2.7	3.1	-17.04	-42.9	131.5	37.6	33.7	3.90	9.621		
1,200.0	1,189.4	1,195.2	1,180.2	3.1	3.6	-17.64	-50.5	153.5	40.9	36.6	4.32	9.471		
1,300.0	1,287.4	1,295.2	1,277.4	3.5	4.0	-18.15	-58.1	175.4	44.3	39.5	4.74	9.336		
1,400.0	1,385.3	1,395.1	1,374.6	3.9	4.4	-18.59	-65.8	197.4	47.6	42.4	5.17	9.215		
1,500.0	1,483.2	1,495.1	1,471.8	4.3	4.9	-18.97	-73.4	219.4	51.0	45.4	5.60	9.107		
1,600.0	1,581.2	1,595.0	1,569.0	4.7	5.3	-19.31	-81.1	241.3	54.3	48.3	6.03	9.009		
1,700.0	1,679.1	1,694.9	1,666.2	5.1	5.8	-19.60	-88.7	263.3	57.7	51.2	6.46	8.921		
1,800.0	1,777.0	1,794.9	1,763.4	5.5	6.2	-19.86	-96.3	285.2	61.0	54.1	6.90	8.841		
1,900.0	1,875.0	1,894.8	1,860.6	5.9	6.7	-20.10	-104.0	307.2	64.4	57.0	7.34	8.769		
2,000.0	1,972.9	1,994.8	1,957.8	6.3	7.1	-20.31	-111.6	329.1	67.7	60.0	7.79	8.702		
2,100.0	2,070.8	2,094.7	2,055.0	6.7	7.6	-20.50	-119.3	351.1	71.1	62.9	8.23	8.641		
2,200.0	2,168.8	2,194.7	2,152.2	7.0	8.0	-20.67	-126.9	373.0	74.5	65.8	8.67	8.585		
2,300.0	2,266.7	2,294.6	2,249.4	7.4	8.5	-20.83	-134.5	395.0	77.8	68.7	9.12	8.534		
2,400.0	2,364.6	2,394.5	2,346.6	7.8	8.9	-20.98	-142.2	417.0	81.2	71.6	9.57	8.486		
2,500.0	2,462.6	2,494.5	2,443.8	8.2	9.4	-21.11	-149.8	438.9	84.6	74.5	10.02	8.442		
2,600.0	2,560.5	2,594.4	2,541.0	8.6	9.8	-21.24	-157.5	460.9	87.9	77.5	10.46	8.402		
2,700.0	2,658.4	2,694.4	2,638.2	9.0	10.3	-21.35	-165.1	482.8	91.3	80.4	10.91	8.363		
2,800.0	2,756.4	2,794.3	2,735.4	9.4	10.7	-21.46	-172.7	504.8	94.6	83.3	11.37	8.328		
2,900.0	2,854.3	2,894.3	2,832.6	9.8	11.2	-21.56	-180.4	526.7	98.0	86.2	11.82	8.295		
3,000.0	2,952.2	2,994.2	2,929.9	10.2	11.6	-21.65	-188.0	548.7	101.4	89.1	12.27	8.264		
3,100.0	3,050.2	3,094.1	3,027.1	10.6	12.1	-21.74	-195.7	570.6	104.7	92.0	12.72	8.234		
3,200.0	3,148.1	3,194.1	3,124.3	11.0	12.5	-21.82	-203.3	592.6	108.1	94.9	13.17	8.207		
3,300.0	3,246.0	3,294.0	3,221.5	11.4	13.0	-21.90	-210.9	614.6	111.5	97.8	13.63	8.181		
3,400.0	3,344.0	3,394.0	3,318.7	11.8	13.4	-21.97	-218.6	636.5	114.8	100.8	14.08	8.157		
3,500.0	3,441.9	3,493.9	3,415.9	12.2	13.9	-22.04	-226.2	658.5	118.2	103.7	14.53	8.134		
3,600.0	3,539.8	3,593.9	3,513.1	12.6	14.3	-22.10	-233.9	680.4	121.6	106.6	14.99	8.112		
3,700.0	3,637.8	3,693.8	3,610.3	13.0	14.8	-22.16	-241.5	702.4	124.9	109.5	15.44	8.091		
3,800.0	3,735.7	3,793.7	3,707.5	13.4	15.2	-22.22	-249.1	724.3	128.3	112.4	15.90	8.072		
3,900.0	3,833.6	3,893.7	3,804.7	13.8	15.7	-22.27	-256.8	746.3	131.7	115.3	16.35	8.053		
4,000.0	3,931.6	3,993.6	3,901.9	14.2	16.1	-22.33	-264.4	768.2	135.0	118.2	16.81	8.035		
4,100.0	4,029.5	4,093.6	3,999.1	14.6	16.6	-22.38	-272.1	790.2	138.4	121.1	17.26	8.018		
4,200.0	4,127.4	4,193.5	4,096.3	15.0	17.0	-22.42	-279.7	812.2	141.8	124.1	17.72	8.002		
4,300.0	4,225.4	4,293.5	4,193.5	15.4	17.5	-22.47	-287.3	834.1	145.1	127.0	18.17	7.987		
4,400.0	4,323.3	4,393.4	4,290.7	15.8	17.9	-22.51	-295.0	856.1	148.5	129.9	18.63	7.972		
4,500.0	4,421.2	4,493.4	4,387.9	16.2	18.4	-22.55	-302.6	878.0	151.9	132.8	19.08	7.958		
4,600.0	4,519.2	4,593.3	4,485.1	16.6	18.8	-22.59	-310.3	900.0	155.2	135.7	19.54	7.945		
4,700.0	4,617.1	4,693.2	4,582.3	17.0	19.3	-22.63	-317.9	921.9	158.6	138.6	20.00	7.932		
4,800.0	4,715.0	4,793.2	4,679.5	17.4	19.7	-22.66	-325.5	943.9	162.0	141.5	20.45	7.919		
4,900.0	4,813.0	4,893.1	4,776.7	17.8	20.2	-22.70	-333.2	965.8	165.3	144.4	20.91	7.907		
5,000.0	4,910.9	4,993.1	4,873.9	18.2	20.6	-22.73	-340.8	987.8	168.7	147.3	21.37	7.896		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3J-9H-N267 - Hz - Plan #1													Offset Site Error: 0.0 ft	
Survey Program: 0-Geolink MWD													Offset Well Error: 0.0 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)	Total Uncertainty Axis	Separation Factor		
5,100.0	5,008.8	5,093.0	4,971.1	18.6	21.1	-22.76	-348.5	1,009.8	172.1	150.3	21.82	7.885		
5,200.0	5,106.8	5,193.0	5,068.3	19.0	21.5	-22.79	-356.1	1,031.7	175.4	153.2	22.28	7.874		
5,300.0	5,204.7	5,292.9	5,165.5	19.4	22.0	-22.82	-363.7	1,053.7	178.8	156.1	22.74	7.864		
5,400.0	5,302.6	5,392.8	5,262.7	19.8	22.4	-22.85	-371.4	1,075.6	182.2	159.0	23.19	7.855		
5,500.0	5,400.6	5,492.8	5,359.9	20.2	22.9	-22.88	-379.0	1,097.6	185.5	161.9	23.65	7.845		
5,600.0	5,498.5	5,592.7	5,457.1	20.6	23.3	-22.90	-386.7	1,119.5	188.9	164.8	24.11	7.836		
5,700.0	5,596.4	5,692.7	5,554.3	21.0	23.8	-22.93	-394.3	1,141.5	192.3	167.7	24.57	7.827		
5,800.0	5,694.4	5,792.6	5,651.5	21.4	24.2	-22.95	-401.9	1,163.4	195.7	170.6	25.02	7.819		
5,900.0	5,792.3	5,892.6	5,748.7	21.8	24.7	-22.98	-409.6	1,185.4	199.0	173.5	25.48	7.811		
6,000.0	5,890.2	5,992.5	5,845.9	22.2	25.1	-23.00	-417.2	1,207.4	202.4	176.4	25.94	7.803		
6,100.0	5,988.2	6,092.4	5,943.1	22.6	25.6	-23.02	-424.8	1,229.3	205.8	179.4	26.40	7.795		
6,200.0	6,086.1	6,192.4	6,040.3	23.0	26.0	-23.04	-432.5	1,251.3	209.1	182.3	26.85	7.787		
6,300.0	6,184.0	6,292.3	6,137.5	23.4	26.5	-23.07	-440.1	1,273.2	212.5	185.2	27.31	7.780		
6,400.0	6,282.0	6,392.3	6,234.7	23.8	26.9	-23.09	-447.8	1,295.2	215.9	188.1	27.77	7.773		
6,500.0	6,379.9	6,492.2	6,331.9	24.2	27.4	-23.11	-455.4	1,317.1	219.2	191.0	28.23	7.767		
6,600.0	6,477.8	6,592.2	6,429.1	24.6	27.8	-23.12	-463.0	1,339.1	222.6	193.9	28.68	7.760		
6,700.0	6,575.8	6,692.1	6,526.3	25.0	28.3	-23.14	-470.7	1,361.0	226.0	196.8	29.14	7.754		
6,800.0	6,673.7	6,792.0	6,623.5	25.4	28.7	-23.16	-478.3	1,383.0	229.3	199.7	29.60	7.747		
6,827.3	6,700.4	6,819.3	6,650.0	25.5	28.8	-23.17	-480.4	1,389.0	230.2	200.5	29.73	7.746		
6,850.0	6,722.7	6,842.0	6,672.1	25.6	29.0	-12.26	-482.1	1,394.0	231.0	201.2	29.80	7.751		
6,900.0	6,771.8	6,891.8	6,720.5	25.7	29.2	14.34	-486.0	1,404.9	232.7	203.1	29.56	7.870		
6,950.0	6,820.7	6,941.0	6,768.4	25.9	29.4	37.24	-489.7	1,415.7	234.5	205.6	28.85	8.128		
7,000.0	6,869.0	6,989.4	6,815.4	26.0	29.6	53.77	-493.4	1,426.3	236.9	209.1	27.83	8.513		
7,050.0	6,916.4	7,036.4	6,861.2	26.1	29.8	65.90	-497.0	1,436.7	240.6	213.9	26.74	8.998		
7,100.0	6,962.4	7,081.8	6,905.3	26.1	30.0	75.45	-500.5	1,446.6	246.3	220.5	25.81	9.544		
7,150.0	7,006.8	7,128.7	6,951.0	26.2	30.2	83.65	-503.6	1,457.0	254.7	229.6	25.13	10.134		
7,200.0	7,049.2	7,180.8	7,001.8	26.2	30.4	90.88	-503.0	1,468.4	265.1	240.4	24.79	10.695		
7,250.0	7,089.2	7,235.9	7,055.3	26.2	30.6	97.12	-497.2	1,480.5	277.2	252.5	24.73	11.211		
7,300.0	7,126.7	7,294.6	7,111.3	26.2	30.8	102.58	-485.3	1,493.2	290.5	265.7	24.78	11.723		
7,350.0	7,161.2	7,357.3	7,169.5	26.2	30.9	107.39	-466.2	1,506.3	304.6	279.8	24.83	12.267		
7,400.0	7,192.6	7,424.6	7,229.3	26.2	31.0	111.63	-438.6	1,519.8	318.9	294.1	24.78	12.869		
7,450.0	7,220.5	7,497.0	7,289.6	26.2	31.1	115.33	-401.0	1,533.5	332.9	308.3	24.59	13.539		
7,500.0	7,244.8	7,575.0	7,348.9	26.3	31.2	118.53	-352.2	1,546.8	346.0	321.8	24.28	14.255		
7,550.0	7,265.3	7,658.7	7,404.7	26.3	31.2	121.19	-291.2	1,559.4	357.7	333.9	23.87	14.990		
7,600.0	7,281.9	7,748.0	7,454.0	26.3	31.3	123.29	-217.7	1,570.6	367.4	344.0	23.43	15.680		
7,650.0	7,294.3	7,842.2	7,493.2	26.4	31.4	124.80	-132.6	1,579.4	374.5	351.5	23.08	16.231		
7,700.0	7,302.6	7,939.9	7,519.0	26.4	31.4	125.66	-38.7	1,585.3	378.7	355.8	22.88	16.553		
7,750.0	7,306.6	8,039.1	7,528.9	26.5	31.6	125.85	59.9	1,587.5	379.6	356.7	22.89	16.585		
7,771.9	7,307.0	8,065.6	7,529.0	26.5	31.6	125.83	86.3	1,587.5	379.3	356.4	22.89	16.570		
7,800.0	7,307.0	8,093.7	7,529.0	26.6	31.7	125.83	114.4	1,587.5	379.3	356.2	23.12	16.402		
7,900.0	7,307.0	8,193.7	7,529.0	26.9	31.9	125.83	214.4	1,587.5	379.3	355.1	24.17	15.695		
7,991.9	7,307.0	8,285.6	7,529.0	27.3	32.2	125.83	306.3	1,587.5	379.3	353.9	25.37	14.950		
7,991.9	7,307.0	8,285.6	7,529.0	27.3	32.2	125.83	306.3	1,587.5	379.3	353.9	25.37	14.950		
8,000.0	7,307.0	8,293.7	7,529.0	27.3	32.2	125.82	314.4	1,587.5	379.3	353.8	25.44	14.909		
8,017.0	7,307.0	8,310.6	7,529.0	27.4	32.3	125.82	331.4	1,587.5	379.4	353.8	25.60	14.820		
8,100.0	7,307.0	8,393.7	7,529.0	27.8	32.6	125.75	414.4	1,587.5	380.0	353.1	26.89	14.129		
8,200.0	7,307.0	8,493.7	7,529.0	28.4	33.2	125.68	514.4	1,587.5	380.7	352.0	28.64	13.291		
8,300.0	7,307.0	8,593.7	7,529.0	29.1	33.7	125.60	614.4	1,587.5	381.4	350.8	30.56	12.479		
8,400.0	7,307.0	8,693.7	7,529.0	29.8	34.4	125.52	714.4	1,587.5	382.1	349.5	32.63	11.711		
8,500.0	7,307.0	8,793.7	7,529.0	30.7	35.2	125.45	814.4	1,587.5	382.8	348.0	34.81	10.996		
8,600.0	7,307.0	8,893.7	7,529.0	31.6	36.0	125.37	914.4	1,587.5	383.5	346.4	37.10	10.338		
8,700.0	7,307.0	8,993.7	7,529.0	32.6	36.8	125.29	1,014.4	1,587.5	384.2	344.8	39.47	9.736		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3J-9H-N267 - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)				
8,800.0	7,307.0	9,093.7	7,529.0	33.7	37.8	125.22	1,114.4	1,587.5	385.0	343.0	41.91	9.186		
8,900.0	7,307.0	9,193.7	7,529.0	34.8	38.8	125.14	1,214.4	1,587.5	385.7	341.3	44.40	8.686		
9,000.0	7,307.0	9,293.7	7,529.0	35.9	39.8	125.07	1,314.4	1,587.5	386.4	339.4	46.95	8.229		
9,100.0	7,307.0	9,393.7	7,529.0	37.2	40.9	125.00	1,414.4	1,587.5	387.1	337.6	49.55	7.813		
9,200.0	7,307.0	9,493.6	7,529.0	38.4	42.1	124.92	1,514.4	1,587.5	387.8	335.6	52.18	7.433		
9,300.0	7,307.0	9,593.6	7,529.0	39.7	43.3	124.85	1,614.4	1,587.5	388.5	333.7	54.84	7.085		
9,400.0	7,307.0	9,693.6	7,529.0	41.0	44.5	124.77	1,714.4	1,587.5	389.3	331.7	57.54	6.765		
9,500.0	7,307.0	9,793.6	7,529.0	42.4	45.8	124.70	1,814.4	1,587.5	390.0	329.7	60.26	6.472		
9,600.0	7,307.0	9,893.6	7,529.0	43.8	47.1	124.63	1,914.4	1,587.5	390.7	327.7	63.00	6.201		
9,700.0	7,307.0	9,993.6	7,529.0	45.2	48.4	124.55	2,014.4	1,587.5	391.4	325.6	65.77	5.951		
9,800.0	7,307.0	10,093.6	7,529.0	46.6	49.7	124.48	2,114.4	1,587.5	392.1	323.6	68.55	5.720		
9,900.0	7,307.0	10,193.6	7,529.0	48.1	51.1	124.41	2,214.4	1,587.5	392.9	321.5	71.36	5.506		
10,000.0	7,307.0	10,293.6	7,529.0	49.6	52.5	124.34	2,314.4	1,587.5	393.6	319.4	74.18	5.306		
10,100.0	7,307.0	10,393.6	7,529.0	51.1	53.9	124.27	2,414.4	1,587.5	394.3	317.3	77.01	5.120		
10,200.0	7,307.0	10,493.6	7,529.0	52.6	55.4	124.19	2,514.4	1,587.5	395.0	315.2	79.86	4.947		
10,300.0	7,307.0	10,593.6	7,529.0	54.1	56.8	124.12	2,614.3	1,587.5	395.8	313.0	82.72	4.785		
10,400.0	7,307.0	10,693.6	7,529.0	55.7	58.3	124.05	2,714.3	1,587.5	396.5	310.9	85.59	4.633		
10,500.0	7,307.0	10,793.6	7,529.0	57.2	59.8	123.98	2,814.3	1,587.5	397.2	308.7	88.47	4.490		
10,600.0	7,307.0	10,893.6	7,529.0	58.8	61.3	123.91	2,914.3	1,587.5	397.9	306.6	91.36	4.356		
10,700.0	7,307.0	10,993.6	7,529.0	60.4	62.8	123.84	3,014.3	1,587.5	398.7	304.4	94.27	4.229		
10,800.0	7,307.0	11,093.6	7,529.0	61.9	64.3	123.77	3,114.3	1,587.5	399.4	302.2	97.18	4.110		
10,900.0	7,307.0	11,193.6	7,529.0	63.5	65.9	123.70	3,214.3	1,587.5	400.1	300.0	100.10	3.997		
11,000.0	7,307.0	11,293.6	7,529.0	65.1	67.4	123.63	3,314.3	1,587.5	400.8	297.8	103.03	3.891		
11,100.0	7,307.0	11,393.6	7,529.0	66.7	69.0	123.56	3,414.3	1,587.5	401.6	295.6	105.97	3.790		
11,200.0	7,307.0	11,493.6	7,529.0	68.4	70.6	123.49	3,514.3	1,587.5	402.3	293.4	108.91	3.694		
11,300.0	7,307.0	11,593.6	7,529.0	70.0	72.1	123.42	3,614.3	1,587.5	403.0	291.2	111.87	3.603		
11,400.0	7,307.0	11,693.6	7,529.0	71.6	73.7	123.36	3,714.3	1,587.5	403.8	288.9	114.83	3.516		
11,500.0	7,307.0	11,793.6	7,529.0	73.3	75.3	123.29	3,814.3	1,587.5	404.5	286.7	117.79	3.434		
11,600.0	7,307.0	11,893.6	7,529.0	74.9	76.9	123.22	3,914.3	1,587.5	405.2	284.5	120.77	3.355		
11,700.0	7,307.0	11,993.6	7,529.0	76.5	78.5	123.15	4,014.3	1,587.5	406.0	282.2	123.75	3.281		
11,800.0	7,307.0	12,093.5	7,529.0	78.2	80.2	123.08	4,114.3	1,587.5	406.7	280.0	126.73	3.209		
11,900.0	7,307.0	12,193.5	7,529.0	79.8	81.8	123.02	4,214.3	1,587.5	407.4	277.7	129.73	3.141		
12,000.0	7,307.0	12,293.5	7,529.0	81.5	83.4	122.95	4,314.3	1,587.5	408.2	275.4	132.73	3.075		
12,100.0	7,307.0	12,393.5	7,529.0	83.2	85.0	122.88	4,414.3	1,587.5	408.9	273.2	135.73	3.013		
12,200.0	7,307.0	12,493.5	7,529.0	84.8	86.7	122.82	4,514.3	1,587.5	409.6	270.9	138.74	2.953		
12,300.0	7,307.0	12,593.5	7,529.0	86.5	88.3	122.75	4,614.3	1,587.5	410.4	268.6	141.76	2.895		
12,400.0	7,307.0	12,693.5	7,529.0	88.2	90.0	122.68	4,714.3	1,587.5	411.1	266.3	144.78	2.840		
12,500.0	7,307.0	12,793.5	7,529.0	89.9	91.6	122.62	4,814.3	1,587.5	411.9	264.0	147.80	2.786		
12,600.0	7,307.0	12,893.5	7,529.0	91.5	93.3	122.55	4,914.3	1,587.5	412.6	261.8	150.83	2.735		
12,700.0	7,307.0	12,993.5	7,529.0	93.2	94.9	122.49	5,014.3	1,587.5	413.3	259.5	153.87	2.686		
12,782.1	7,307.0	13,068.3	7,529.0	94.6	96.1	122.44	5,089.1	1,587.5	414.0	257.7	156.25	2.650 SF		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 41-9 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error: 0.0 ft
Survey Program: 100-Geolink MWD													Offset Well Error: 0.0 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)	Total Uncertainty Axis	Separation Factor	
11,600.0	7,307.0	7,221.9	7,220.8	74.9	12.7	89.54	4,179.6	2,775.4	1,549.8	1,465.8	84.02	18.446	
11,700.0	7,307.0	7,221.7	7,220.6	76.5	12.7	89.54	4,179.6	2,775.4	1,536.7	1,451.0	85.74	17.923	
11,800.0	7,307.0	7,221.6	7,220.4	78.2	12.7	89.53	4,179.6	2,775.4	1,530.1	1,442.6	87.47	17.493	
11,851.9	7,307.0	7,221.5	7,220.4	79.0	12.7	89.53	4,179.6	2,775.4	1,529.2	1,440.8	88.36	17.306 CC	
11,900.0	7,307.0	7,221.4	7,220.3	79.8	12.7	89.52	4,179.6	2,775.4	1,530.0	1,440.8	89.20	17.153 ES	
12,000.0	7,307.0	7,221.2	7,220.1	81.5	12.7	89.52	4,179.6	2,775.4	1,536.4	1,445.4	90.92	16.897	
12,100.0	7,307.0	7,221.0	7,219.9	83.2	12.7	89.51	4,179.6	2,775.4	1,549.2	1,456.6	92.65	16.721 SF	



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 4-6-9 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error:	0.0 ft
Survey Program:		136-Geolink MWD											Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	112.83	-80.1	190.4	207.3					
100.0	100.0	82.6	82.6	0.1	0.1	112.84	-80.2	190.3	206.5	206.3	0.26	806.868		
167.9	167.9	150.3	150.3	0.2	0.2	112.85	-80.2	190.2	206.4	206.0	0.49	424.927		
200.0	200.0	181.7	181.7	0.3	0.3	112.86	-80.2	190.3	206.5	205.9	0.60	346.006		
300.0	300.0	280.4	280.4	0.5	0.5	112.89	-80.6	190.9	207.2	206.3	0.94	219.555		
400.0	400.0	379.6	379.5	0.6	0.6	-0.06	-79.9	192.4	206.7	205.4	1.29	159.928		
500.0	499.8	472.7	472.6	0.8	0.8	-0.94	-77.9	195.8	204.0	202.3	1.63	124.935		
600.0	599.5	563.3	562.9	1.1	1.0	-1.87	-77.4	202.9	202.4	200.4	1.97	102.849		
700.0	698.7	657.4	656.3	1.3	1.2	-2.90	-78.0	213.9	201.3	199.0	2.31	87.098		
800.0	797.5	756.5	754.5	1.6	1.5	-4.75	-77.0	227.6	198.5	195.8	2.67	74.284		
883.4	879.4	838.3	835.4	1.9	1.8	-7.06	-74.0	239.6	193.7	190.8	2.98	65.025		
900.0	895.6	854.4	851.3	2.0	1.8	-7.59	-73.3	242.1	192.7	189.6	3.04	63.333		
1,000.0	993.6	952.0	947.4	2.4	2.1	-11.43	-67.3	258.1	187.3	183.8	3.44	54.421		
1,100.0	1,091.5	1,050.3	1,043.5	2.7	2.5	-16.96	-56.7	275.3	183.5	179.6	3.88	47.321		
1,200.0	1,189.4	1,150.5	1,141.1	3.1	2.9	-24.18	-41.3	292.4	181.3	177.0	4.38	41.418		
1,224.2	1,213.1	1,172.7	1,162.6	3.2	3.0	-25.98	-37.3	296.0	181.1	176.6	4.51	40.198 CC, ES		
1,300.0	1,287.4	1,240.0	1,227.5	3.5	3.3	-31.74	-24.1	307.9	183.2	178.3	4.91	37.311		
1,400.0	1,385.3	1,332.8	1,315.9	3.9	3.8	-40.24	-2.3	325.5	191.7	186.2	5.52	34.717		
1,500.0	1,483.2	1,420.2	1,398.2	4.3	4.3	-48.06	21.0	343.4	207.7	201.5	6.14	33.794		
1,600.0	1,581.2	1,513.7	1,485.6	4.7	4.9	-55.63	48.1	362.9	229.2	222.4	6.81	33.658		
1,700.0	1,679.1	1,606.9	1,572.5	5.1	5.4	-62.38	76.7	380.7	254.2	246.7	7.49	33.952		
1,800.0	1,777.0	1,697.7	1,657.0	5.5	6.0	-68.14	105.7	397.0	282.3	274.1	8.16	34.586		
1,900.0	1,875.0	1,787.9	1,740.6	5.9	6.6	-73.04	135.4	412.8	313.5	304.6	8.84	35.455		
2,000.0	1,972.9	1,881.7	1,827.6	6.3	7.2	-77.25	166.4	429.2	346.4	336.9	9.53	36.334		
2,100.0	2,070.8	1,977.0	1,916.5	6.7	7.8	-80.75	196.9	445.6	379.9	369.6	10.24	37.109		
2,200.0	2,168.8	2,069.8	2,003.1	7.0	8.3	-83.53	225.9	462.0	413.8	402.9	10.93	37.856		
2,300.0	2,266.7	2,166.7	2,093.5	7.4	9.0	-85.89	255.7	479.6	448.3	436.6	11.64	38.502		
2,400.0	2,364.6	2,263.7	2,184.6	7.8	9.6	-87.83	284.1	497.4	482.0	469.6	12.35	39.013		
2,500.0	2,462.6	2,363.5	2,278.5	8.2	10.2	-89.56	312.7	515.4	515.4	502.3	13.08	39.397		
2,600.0	2,560.5	2,458.5	2,368.1	8.6	10.7	-90.92	338.7	533.0	548.1	534.4	13.80	39.732		
2,700.0	2,658.4	2,557.1	2,461.3	9.0	11.3	-92.19	365.4	550.9	580.7	566.2	14.51	40.009		
2,800.0	2,756.4	2,651.6	2,550.8	9.4	11.9	-93.33	391.0	567.6	613.3	598.0	15.23	40.259		
2,900.0	2,854.3	2,753.2	2,647.1	9.8	12.5	-94.17	416.3	587.7	644.6	628.6	15.99	40.315		
3,000.0	2,952.2	2,834.5	2,723.7	10.2	13.0	-94.65	437.0	605.4	677.2	660.5	16.67	40.629		
3,100.0	3,050.2	2,922.6	2,806.3	10.6	13.6	-95.13	460.6	624.9	711.1	693.7	17.37	40.947		
3,200.0	3,148.1	3,010.0	2,888.1	11.0	14.1	-95.56	484.3	644.3	745.4	727.3	18.06	41.271		
3,300.0	3,246.0	3,082.4	2,955.5	11.4	14.6	-95.93	505.5	660.3	781.8	763.1	18.70	41.806		
3,400.0	3,344.0	3,167.4	3,034.2	11.8	15.2	-96.40	532.1	678.4	820.0	800.6	19.38	42.314		
3,500.0	3,441.9	3,266.4	3,126.0	12.2	15.9	-96.97	563.2	698.6	858.1	838.0	20.11	42.664		
3,600.0	3,539.8	3,362.6	3,215.2	12.6	16.6	-97.39	592.7	719.2	895.8	875.0	20.85	42.973		
3,700.0	3,637.8	3,472.2	3,317.1	13.0	17.3	-97.79	625.1	743.1	932.6	911.0	21.61	43.153		
3,800.0	3,735.7	3,567.5	3,406.5	13.4	17.9	-98.21	652.3	762.1	968.0	945.6	22.33	43.344		
3,900.0	3,833.6	3,667.9	3,500.6	13.8	18.5	-98.63	681.1	782.0	1,003.6	980.5	23.08	43.487		
4,000.0	3,931.6	3,778.0	3,604.2	14.2	19.2	-99.03	711.1	804.0	1,037.8	1,013.9	23.85	43.510		
4,100.0	4,029.5	3,870.0	3,691.0	14.6	19.8	-99.37	735.7	821.8	1,071.4	1,046.8	24.56	43.625		
4,200.0	4,127.4	3,960.7	3,776.7	15.0	20.3	-99.75	760.5	838.2	1,105.5	1,080.2	25.25	43.775		
4,300.0	4,225.4	4,097.7	3,907.2	15.4	21.1	-100.43	796.3	860.0	1,138.0	1,111.9	26.10	43.607		
4,400.0	4,323.3	4,223.2	4,028.1	15.8	21.7	-101.14	825.3	876.9	1,167.2	1,140.3	26.90	43.395		
4,500.0	4,421.2	4,359.0	4,160.0	16.2	22.2	-101.99	853.6	891.9	1,194.0	1,166.2	27.72	43.067		
4,600.0	4,519.2	4,509.3	4,307.5	16.6	22.8	-102.92	878.8	906.5	1,216.6	1,188.0	28.60	42.542		
4,700.0	4,617.1	4,670.9	4,467.3	17.0	23.2	-104.04	899.3	917.9	1,235.1	1,205.7	29.47	41.906		
4,800.0	4,715.0	4,804.7	4,600.5	17.4	23.5	-105.11	911.3	922.9	1,250.0	1,219.7	30.25	41.323		

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



Cathedral Energy Services

Anticollision Report

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Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 4-6-9 (EXISTING) - ENCANA WELL - SURVEYS												Offset Site Error:	0.0 ft
Survey Program: 136-Geolink MWD												Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor	Warning
4,900.0	4,813.0	4,969.8	4,765.4	17.8	23.7	-106.50	918.5	925.4	1,259.8	1,228.6	31.10	40.502	
5,000.0	4,910.9	5,099.8	4,895.4	18.2	23.8	-107.58	919.8	927.1	1,266.9	1,235.0	31.84	39.792	
5,100.0	5,008.8	5,203.6	4,999.1	18.6	23.8	-108.49	919.4	926.9	1,272.9	1,240.4	32.48	39.193	
5,200.0	5,106.8	5,303.1	5,098.6	19.0	23.9	-109.38	918.7	925.9	1,278.9	1,245.7	33.11	38.628	
5,300.0	5,204.7	5,400.6	5,196.1	19.4	23.9	-110.25	918.1	925.2	1,285.1	1,251.4	33.72	38.110	
5,400.0	5,302.6	5,497.2	5,292.7	19.8	24.0	-111.09	917.5	924.6	1,291.7	1,257.4	34.32	37.636	
5,500.0	5,400.6	5,594.8	5,390.3	20.2	24.0	-111.93	916.9	923.9	1,298.7	1,263.7	34.91	37.195	
5,600.0	5,498.5	5,691.9	5,487.4	20.6	24.1	-112.76	916.4	923.2	1,305.9	1,270.5	35.50	36.791	
5,700.0	5,596.4	5,786.9	5,582.4	21.0	24.1	-113.57	916.0	922.5	1,313.6	1,277.6	36.06	36.426	
5,800.0	5,694.4	5,880.1	5,675.6	21.4	24.2	-114.35	915.9	921.8	1,321.9	1,285.3	36.62	36.101	
5,900.0	5,792.3	5,972.1	5,767.6	21.8	24.3	-115.12	916.1	920.9	1,330.8	1,293.7	37.16	35.816	
6,000.0	5,890.2	6,065.7	5,861.2	22.2	24.3	-115.90	916.7	919.9	1,340.4	1,302.7	37.69	35.562	
6,100.0	5,988.2	6,160.7	5,956.2	22.6	24.4	-116.67	917.6	918.9	1,350.5	1,312.3	38.22	35.332	
6,200.0	6,086.1	6,257.2	6,052.7	23.0	24.5	-117.43	918.6	918.3	1,361.0	1,322.2	38.75	35.121	
6,300.0	6,184.0	6,360.5	6,156.0	23.4	24.6	-118.23	919.6	917.8	1,371.5	1,332.3	39.28	34.916	
6,400.0	6,282.0	6,462.2	6,257.7	23.8	24.7	-118.99	920.1	917.5	1,382.0	1,342.2	39.80	34.722	
6,500.0	6,379.9	6,562.8	6,358.3	24.2	24.7	-119.73	920.5	917.5	1,392.4	1,352.1	40.31	34.540	
6,600.0	6,477.8	6,662.3	6,457.8	24.6	24.8	-120.43	920.8	917.8	1,403.0	1,362.1	40.82	34.370	
6,700.0	6,575.8	6,756.6	6,552.1	25.0	24.9	-121.09	921.1	918.1	1,413.8	1,372.5	41.31	34.227	
6,800.0	6,673.7	6,857.8	6,653.3	25.4	25.0	-121.80	921.5	918.1	1,424.9	1,383.1	41.79	34.094	
6,827.3	6,700.4	6,886.2	6,681.7	25.5	25.0	-121.99	921.6	918.1	1,427.9	1,385.9	41.92	34.058	
6,850.0	6,722.7	6,910.0	6,705.4	25.6	25.0	-111.25	921.6	918.2	1,429.9	1,387.7	42.19	33.895	
6,900.0	6,771.8	6,959.9	6,755.3	25.7	25.1	-85.84	921.5	918.1	1,431.3	1,388.7	42.57	33.622	
6,950.0	6,820.7	7,009.3	6,804.8	25.9	25.1	-65.25	921.4	918.0	1,428.4	1,385.7	42.69	33.461	
7,000.0	6,869.0	7,057.7	6,853.1	26.0	25.2	-52.00	921.3	917.7	1,421.3	1,378.8	42.55	33.404	
7,050.0	6,916.4	7,103.9	6,899.3	26.1	25.2	-43.94	921.2	917.4	1,410.2	1,368.0	42.16	33.450	
7,100.0	6,962.4	7,148.8	6,944.3	26.1	25.2	-39.04	921.2	917.2	1,395.0	1,353.5	41.53	33.595	
7,150.0	7,006.8	7,192.7	6,988.1	26.2	25.3	-36.12	921.2	916.9	1,376.0	1,335.4	40.67	33.833	
7,200.0	7,049.2	7,235.3	7,030.7	26.2	25.3	-34.54	921.1	916.7	1,353.3	1,313.7	39.62	34.155	
7,250.0	7,089.2	7,275.5	7,071.0	26.2	25.3	-33.97	921.1	916.4	1,327.1	1,288.7	38.42	34.547	
7,300.0	7,126.7	7,313.1	7,108.6	26.2	25.4	-34.25	921.0	916.1	1,297.6	1,260.5	37.10	34.978	
7,350.0	7,161.2	7,348.3	7,143.7	26.2	25.4	-35.33	920.9	915.8	1,265.0	1,229.2	35.74	35.398	
7,400.0	7,192.6	7,380.2	7,175.6	26.2	25.4	-37.23	920.9	915.5	1,229.6	1,195.2	34.42	35.720	
7,450.0	7,220.5	7,408.5	7,204.0	26.2	25.4	-40.05	920.8	915.3	1,191.7	1,158.4	33.28	35.806	
7,500.0	7,244.8	7,433.2	7,228.6	26.3	25.5	-43.95	920.7	915.2	1,151.6	1,119.1	32.47	35.464	
7,550.0	7,265.3	7,453.6	7,249.0	26.3	25.5	-49.12	920.6	915.1	1,109.7	1,077.5	32.17	34.499	
7,600.0	7,281.9	7,469.9	7,265.3	26.3	25.5	-55.81	920.6	915.0	1,066.3	1,033.8	32.48	32.826	
7,650.0	7,294.3	7,482.1	7,277.6	26.4	25.5	-64.18	920.6	914.9	1,021.7	988.4	33.37	30.622	
7,700.0	7,302.6	7,490.2	7,285.7	26.4	25.5	-74.14	920.5	914.8	976.4	941.9	34.49	28.308	
7,750.0	7,306.6	7,494.1	7,289.5	26.5	25.5	-85.16	920.5	914.8	930.7	895.3	35.38	26.305	
7,771.9	7,307.0	7,494.4	7,289.9	26.5	25.5	-90.07	920.5	914.8	910.6	875.0	35.60	25.581	
7,800.0	7,307.0	7,494.3	7,289.8	26.6	25.5	-90.06	920.5	914.8	884.9	849.2	35.72	24.772	
7,900.0	7,307.0	7,494.0	7,289.4	26.9	25.5	-90.01	920.5	914.8	794.9	758.6	36.30	21.900	
7,991.9	7,307.0	7,493.7	7,289.1	27.3	25.5	-89.96	920.5	914.8	714.6	677.6	36.99	19.319	
8,000.0	7,307.0	7,493.7	7,289.1	27.3	25.5	-89.95	920.5	914.8	707.6	670.6	37.00	19.123	
8,017.0	7,307.0	7,493.6	7,289.1	27.4	25.5	-89.95	920.5	914.8	693.1	656.0	37.03	18.715	
8,100.0	7,307.0	7,493.3	7,288.8	27.8	25.5	-89.90	920.5	914.8	623.6	585.8	37.79	16.502	
8,200.0	7,307.0	7,493.0	7,288.5	28.4	25.5	-89.85	920.5	914.8	545.0	506.2	38.82	14.039	
8,300.0	7,307.0	7,492.7	7,288.2	29.1	25.5	-89.80	920.5	914.8	474.5	434.6	39.96	11.873	
8,400.0	7,307.0	7,492.4	7,287.8	29.8	25.5	-89.75	920.5	914.8	416.3	375.1	41.20	10.105	
8,500.0	7,307.0	7,492.1	7,287.5	30.7	25.5	-89.70	920.5	914.8	376.1	333.6	42.51	8.847	
8,600.0	7,307.0	7,491.7	7,287.2	31.6	25.5	-89.65	920.5	914.8	360.0	316.1	43.88	8.204	

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Cathedral Energy Services

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Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 4-6-9 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 136-Geolink MWD													Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor		
8,609.3	7,307.0	7,491.7	7,287.2	31.7	25.5	-89.64	920.5	914.8	359.9	315.9	44.02	8.176 SF		
8,700.0	7,307.0	7,491.4	7,286.9	32.6	25.5	-89.60	920.5	914.8	371.2	325.9	45.31	8.192		
8,800.0	7,307.0	7,491.1	7,286.6	33.7	25.5	-89.55	920.5	914.8	407.3	360.5	46.77	8.708		
8,900.0	7,307.0	7,490.8	7,286.2	34.8	25.5	-89.50	920.5	914.8	462.7	414.4	48.28	9.584		
9,000.0	7,307.0	7,490.5	7,285.9	35.9	25.5	-89.45	920.5	914.8	531.2	481.4	49.81	10.666		
9,100.0	7,307.0	7,490.1	7,285.6	37.2	25.5	-89.39	920.5	914.8	608.6	557.2	51.36	11.849		
9,200.0	7,307.0	7,489.8	7,285.3	38.4	25.5	-89.34	920.5	914.8	691.7	638.8	52.94	13.067		
9,300.0	7,307.0	7,489.5	7,285.0	39.7	25.5	-89.29	920.5	914.8	778.9	724.3	54.53	14.283		
9,400.0	7,307.0	7,489.2	7,284.6	41.0	25.5	-89.24	920.5	914.8	868.8	812.6	56.14	15.475		
9,500.0	7,307.0	7,488.9	7,284.3	42.4	25.5	-89.19	920.5	914.8	960.7	902.9	57.76	16.632		
9,600.0	7,307.0	7,488.5	7,284.0	43.8	25.5	-89.14	920.5	914.8	1,054.1	994.7	59.40	17.746		
9,700.0	7,307.0	7,488.2	7,283.7	45.2	25.5	-89.09	920.5	914.8	1,148.6	1,087.5	61.04	18.816		
9,800.0	7,307.0	7,487.9	7,283.4	46.6	25.5	-89.04	920.5	914.8	1,243.9	1,181.2	62.70	19.841		
9,900.0	7,307.0	7,487.6	7,283.0	48.1	25.5	-88.99	920.5	914.8	1,340.0	1,275.6	64.36	20.821		
10,000.0	7,307.0	7,487.3	7,282.7	49.6	25.5	-88.94	920.5	914.9	1,436.5	1,370.5	66.03	21.757		
10,100.0	7,307.0	7,486.9	7,282.4	51.1	25.5	-88.88	920.5	914.9	1,533.6	1,465.9	67.70	22.652		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 4-8-9 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error:	0.0 ft
Survey Program:		74-Geolink MWD											Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	100.92	-37.5	194.6	198.9					
100.0	100.0	82.5	82.5	0.1	0.1	100.94	-37.6	194.5	198.1	197.9	0.25	795.764		
200.0	200.0	182.6	182.6	0.3	0.3	101.08	-38.1	194.4	198.1	197.5	0.60	330.937		
300.0	300.0	282.9	282.9	0.5	0.5	101.39	-39.1	194.0	197.9	196.9	0.95	208.660		
400.0	400.0	383.0	383.0	0.6	0.7	-10.85	-40.6	193.4	195.9	194.6	1.30	150.579		
500.0	499.8	483.1	483.1	0.8	0.8	-10.43	-42.9	192.5	190.4	188.7	1.65	115.092		
600.0	599.5	582.5	582.4	1.1	1.0	-10.05	-45.7	191.5	181.4	179.4	2.00	90.489		
700.0	698.7	681.5	681.4	1.3	1.2	-10.14	-47.5	190.8	169.2	166.8	2.35	71.929		
800.0	797.5	780.4	780.3	1.6	1.4	-10.67	-48.9	190.4	153.6	150.9	2.70	56.933		
883.4	879.4	862.4	862.2	1.9	1.5	-11.56	-49.8	189.9	138.0	135.0	2.99	46.187		
900.0	895.6	878.6	878.5	2.0	1.5	-11.78	-49.9	189.8	134.6	131.6	3.05	44.185		
1,000.0	993.6	976.6	976.5	2.4	1.7	-13.33	-50.8	189.2	114.3	110.9	3.41	33.515		
1,100.0	1,091.5	1,071.6	1,071.4	2.7	1.9	-14.52	-53.4	189.8	95.7	91.9	3.78	25.298		
1,200.0	1,189.4	1,167.5	1,167.1	3.1	2.1	-15.04	-58.1	193.5	80.6	76.4	4.16	19.357		
1,300.0	1,287.4	1,265.0	1,264.2	3.5	2.3	-14.36	-64.9	199.2	67.7	63.1	4.53	14.922		
1,400.0	1,385.3	1,362.4	1,361.0	3.9	2.5	-13.38	-72.1	208.0	58.0	53.1	4.91	11.827		
1,500.0	1,483.2	1,459.7	1,457.0	4.3	2.7	-9.53	-82.2	219.6	51.8	46.6	5.23	9.904		
1,555.3	1,537.4	1,513.3	1,509.6	4.5	2.9	-6.59	-88.7	228.1	50.9	45.5	5.40	9.433 CC, ES		
1,600.0	1,581.2	1,556.8	1,551.9	4.7	3.0	-4.50	-94.0	236.1	51.5	45.9	5.53	9.301		
1,700.0	1,679.1	1,656.4	1,648.7	5.1	3.4	-1.64	-105.3	256.9	54.8	49.0	5.86	9.357		
1,800.0	1,777.0	1,757.2	1,746.9	5.5	3.7	-0.22	-115.3	277.5	57.3	51.1	6.20	9.237		
1,900.0	1,875.0	1,857.1	1,844.2	5.9	4.1	1.58	-125.6	297.2	59.3	52.8	6.55	9.064		
2,000.0	1,972.9	1,958.2	1,943.0	6.3	4.5	3.36	-135.5	316.2	60.3	53.4	6.90	8.750		
2,100.0	2,070.8	2,058.4	2,041.2	6.7	4.8	5.26	-145.0	333.7	60.1	52.8	7.25	8.279		
2,200.0	2,168.8	2,158.8	2,139.6	7.0	5.2	7.62	-154.9	351.2	60.0	52.4	7.63	7.860		
2,300.0	2,266.7	2,258.5	2,237.5	7.4	5.6	10.83	-165.1	367.4	59.2	51.1	8.06	7.339		
2,317.7	2,284.0	2,276.0	2,254.6	7.5	5.6	11.56	-167.0	370.3	59.2	51.0	8.15	7.262		
2,400.0	2,364.6	2,358.5	2,335.5	7.8	5.9	15.13	-176.5	383.5	59.2	50.6	8.59	6.892		
2,500.0	2,462.6	2,459.0	2,434.2	8.2	6.3	18.98	-187.0	399.4	58.7	49.6	9.18	6.397		
2,600.0	2,560.5	2,558.8	2,532.2	8.6	6.7	21.83	-196.5	415.6	58.1	48.3	9.78	5.940		
2,626.4	2,586.3	2,585.0	2,557.9	8.7	6.8	22.59	-199.1	420.0	58.1	48.1	9.95	5.835		
2,700.0	2,658.4	2,658.2	2,629.7	9.0	7.0	24.99	-206.7	432.1	58.4	47.9	10.46	5.578		
2,800.0	2,756.4	2,758.0	2,727.5	9.4	7.4	27.63	-216.9	449.3	59.3	48.1	11.16	5.313		
2,900.0	2,854.3	2,857.9	2,825.3	9.8	7.8	29.65	-226.9	467.0	60.5	48.7	11.84	5.111		
3,000.0	2,952.2	2,958.4	2,923.7	10.2	8.2	31.84	-237.0	484.6	61.6	49.0	12.58	4.900		
3,100.0	3,050.2	3,058.8	3,022.2	10.6	8.6	34.17	-246.5	501.4	61.9	48.5	13.37	4.628		
3,200.0	3,148.1	3,158.9	3,120.5	11.0	8.9	36.27	-255.4	518.1	61.8	47.6	14.18	4.354		
3,209.4	3,157.3	3,168.2	3,129.7	11.1	9.0	36.45	-256.2	519.7	61.7	47.5	14.26	4.331		
3,300.0	3,246.0	3,257.8	3,217.6	11.4	9.3	38.52	-264.8	534.8	62.4	47.3	15.04	4.148		
3,400.0	3,344.0	3,356.7	3,314.4	11.8	9.7	41.93	-276.8	551.2	65.3	49.2	16.11	4.052		
3,500.0	3,441.9	3,457.1	3,412.7	12.2	10.1	46.12	-289.4	566.7	68.4	51.1	17.36	3.943		
3,600.0	3,539.8	3,556.8	3,510.5	12.6	10.5	49.54	-301.3	582.4	71.4	52.9	18.52	3.854		
3,700.0	3,637.8	3,656.6	3,608.2	13.0	10.9	52.36	-313.7	598.6	75.1	55.5	19.62	3.826		
3,800.0	3,735.7	3,757.6	3,707.0	13.4	11.3	54.21	-325.1	615.8	78.2	57.6	20.59	3.799		
3,900.0	3,833.6	3,857.3	3,804.7	13.8	11.6	56.41	-336.0	631.9	80.8	59.2	21.61	3.738		
4,000.0	3,931.6	3,956.5	3,902.1	14.2	12.0	58.91	-347.6	647.5	84.1	61.4	22.69	3.706		
4,100.0	4,029.5	4,056.1	3,999.7	14.6	12.4	61.10	-359.8	663.3	88.2	64.5	23.75	3.715		
4,200.0	4,127.4	4,156.6	4,097.8	15.0	12.8	61.96	-371.7	681.1	92.2	67.6	24.61	3.745		
4,300.0	4,225.4	4,257.7	4,196.3	15.4	13.3	61.35	-382.6	701.3	95.3	70.0	25.23	3.776		
4,400.0	4,323.3	4,360.4	4,296.7	15.8	13.7	61.13	-391.7	720.9	96.4	70.5	25.90	3.722		
4,500.0	4,421.2	4,460.7	4,395.3	16.2	14.0	61.99	-398.9	738.1	95.7	68.9	26.76	3.575		
4,600.0	4,519.2	4,562.0	4,495.2	16.6	14.4	64.06	-405.6	753.6	94.2	66.4	27.82	3.385		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 4-8-9 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error: 0.0 ft			
Survey Program: 74-Geolink MWD															Offset Well Error: 0.0 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)	Total Uncertainty Axis	Separation Factor				
4,700.0	4,617.1	4,662.4	4,594.5	17.0	14.6	67.69	-411.2	766.5	91.8	62.7	29.12	3.152	2.430 SF			
4,800.0	4,715.0	4,763.0	4,694.4	17.4	14.9	72.66	-416.5	777.6	89.7	59.1	30.56	2.935				
4,900.0	4,813.0	4,864.7	4,795.6	17.8	15.1	79.60	-419.4	786.7	86.2	54.2	32.05	2.691				
5,000.0	4,910.9	4,964.1	4,894.8	18.2	15.3	89.04	-419.9	793.0	82.8	49.5	33.28	2.487				
5,074.3	4,983.7	5,037.6	4,968.2	18.5	15.4	97.47	-419.6	796.2	82.0	48.2	33.74	2.430 SF				
5,100.0	5,008.8	5,063.0	4,993.6	18.6	15.4	100.46	-419.5	797.3	82.1	48.3	33.76	2.431				
5,200.0	5,106.8	5,160.0	5,090.5	19.0	15.6	111.54	-419.4	800.8	85.4	52.1	33.29	2.566				
5,300.0	5,204.7	5,258.2	5,188.8	19.4	15.7	121.99	-419.5	803.2	92.9	60.9	32.03	2.900				
5,400.0	5,302.6	5,356.2	5,286.7	19.8	15.8	131.18	-418.9	804.8	103.4	73.0	30.39	3.402				
5,500.0	5,400.6	5,453.6	5,384.2	20.2	15.9	138.68	-418.1	805.8	116.6	87.8	28.80	4.048				
5,600.0	5,498.5	5,551.2	5,481.7	20.6	16.0	144.68	-417.3	806.4	131.8	104.3	27.45	4.800				
5,700.0	5,596.4	5,648.7	5,579.2	21.0	16.1	149.44	-416.5	806.7	148.4	122.0	26.41	5.621				
5,800.0	5,694.4	5,746.2	5,676.7	21.4	16.2	153.28	-415.6	806.7	166.2	140.5	25.63	6.483				
5,900.0	5,792.3	5,843.7	5,774.2	21.8	16.3	156.38	-414.6	806.5	184.7	159.6	25.09	7.363				
6,000.0	5,890.2	5,941.2	5,871.7	22.2	16.4	158.88	-413.8	806.2	203.8	179.1	24.74	8.240				
6,100.0	5,988.2	6,039.3	5,969.8	22.6	16.5	160.96	-413.0	805.8	223.3	198.8	24.52	9.107				
6,200.0	6,086.1	6,137.5	6,068.0	23.0	16.6	162.77	-411.9	805.6	242.9	218.5	24.40	9.954				
6,300.0	6,184.0	6,236.3	6,166.8	23.4	16.7	164.35	-410.8	805.7	262.4	238.0	24.35	10.775				
6,400.0	6,282.0	6,335.2	6,265.7	23.8	16.8	165.71	-409.6	806.1	281.6	257.2	24.37	11.556				
6,500.0	6,379.9	6,433.9	6,364.4	24.2	16.9	166.95	-408.3	806.9	300.7	276.3	24.43	12.310				
6,600.0	6,477.8	6,533.3	6,463.7	24.6	17.0	168.09	-406.7	808.1	319.6	295.1	24.52	13.034				
6,700.0	6,575.8	6,633.1	6,563.5	25.0	17.2	169.12	-405.2	809.7	338.2	313.5	24.66	13.716				
6,800.0	6,673.7	6,729.5	6,659.9	25.4	17.3	169.96	-404.0	811.3	356.7	331.9	24.83	14.365				
6,827.3	6,700.4	6,755.7	6,686.1	25.5	17.3	170.16	-403.8	811.7	361.9	337.0	24.89	14.541				
6,850.0	6,722.7	6,777.6	6,707.9	25.6	17.3	-178.46	-403.6	811.9	366.2	341.3	24.88	14.717				
6,900.0	6,771.8	6,825.7	6,756.0	25.7	17.4	-152.14	-403.3	812.3	374.9	350.0	24.95	15.026				
6,950.0	6,820.7	6,873.5	6,803.9	25.9	17.4	-131.22	-403.1	812.5	382.9	357.7	25.13	15.234				
7,000.0	6,869.0	6,920.7	6,851.1	26.0	17.5	-118.14	-402.8	812.6	390.2	364.8	25.40	15.358				
7,050.0	6,916.4	6,967.0	6,897.4	26.1	17.6	-110.66	-402.5	812.5	397.1	371.3	25.75	15.417				
7,100.0	6,962.4	7,012.3	6,942.7	26.1	17.6	-106.62	-402.3	812.4	403.9	377.7	26.17	15.434				
7,150.0	7,006.8	7,056.2	6,986.5	26.2	17.7	-104.68	-402.1	812.1	411.1	384.5	26.62	15.441				
7,200.0	7,049.2	7,098.1	7,028.5	26.2	17.7	-104.01	-401.9	811.8	419.1	392.0	27.06	15.486				
7,250.0	7,089.2	7,137.7	7,068.0	26.2	17.7	-104.09	-401.7	811.5	428.5	401.0	27.44	15.613				
7,300.0	7,126.7	7,174.8	7,105.1	26.2	17.8	-104.54	-401.5	811.2	439.7	412.0	27.72	15.864				
7,350.0	7,161.2	7,209.3	7,139.6	26.2	17.8	-105.09	-401.4	810.8	453.2	425.4	27.86	16.266				
7,400.0	7,192.6	7,240.7	7,171.0	26.2	17.9	-105.48	-401.2	810.5	469.4	441.6	27.88	16.836				
7,450.0	7,220.5	7,268.7	7,199.0	26.2	17.9	-105.52	-401.1	810.2	488.6	460.8	27.81	17.571				
7,500.0	7,244.8	7,293.1	7,223.4	26.3	17.9	-105.08	-401.0	810.0	510.7	483.0	27.68	18.447				
7,550.0	7,265.3	7,313.7	7,244.1	26.3	17.9	-104.00	-400.9	809.7	535.8	508.2	27.58	19.427				
7,600.0	7,281.9	7,330.4	7,260.8	26.3	18.0	-102.20	-400.8	809.5	563.8	536.2	27.55	20.465				
7,650.0	7,294.3	7,343.1	7,273.4	26.4	18.0	-99.59	-400.7	809.4	594.3	566.7	27.61	21.529				
7,700.0	7,302.6	7,351.7	7,282.0	26.4	18.0	-96.14	-400.7	809.3	627.1	599.4	27.73	22.613				
7,750.0	7,306.6	7,356.0	7,286.4	26.5	18.0	-91.83	-400.7	809.3	661.7	633.8	27.86	23.753				
7,771.9	7,307.0	7,356.5	7,286.9	26.5	18.0	-89.69	-400.7	809.3	677.3	649.4	27.89	24.285				
7,800.0	7,307.0	7,356.7	7,287.0	26.6	18.0	-89.71	-400.7	809.3	697.8	669.8	28.02	24.907				
7,900.0	7,307.0	7,357.2	7,287.6	26.9	18.0	-89.78	-400.7	809.3	774.6	746.0	28.60	27.086				
7,991.9	7,307.0	7,357.7	7,288.1	27.3	18.0	-89.84	-400.7	809.2	849.4	820.1	29.29	28.996				
8,000.0	7,307.0	7,357.8	7,288.1	27.3	18.0	-89.85	-400.7	809.2	856.1	826.8	29.35	29.170				
8,017.0	7,307.0	7,357.9	7,288.2	27.4	18.0	-89.86	-400.7	809.2	870.3	840.8	29.47	29.530				
8,100.0	7,307.0	7,358.4	7,288.7	27.8	18.0	-89.92	-400.7	809.2	940.8	910.6	30.23	31.122				
8,200.0	7,307.0	7,358.9	7,289.3	28.4	18.0	-89.98	-400.7	809.2	1,028.3	997.0	31.27	32.885				
8,300.0	7,307.0	7,359.5	7,289.8	29.1	18.0	-90.05	-400.7	809.2	1,117.8	1,085.4	32.42	34.482				

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 4-8-9 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 74-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth 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)	Total Uncertainty Axis	Separation Factor		
8,400.0	7,307.0	7,360.0	7,290.4	29.8	18.0	-90.12	-400.6	809.2	1,209.0	1,175.4	33.66	35.921		
8,500.0	7,307.0	7,360.6	7,291.0	30.7	18.0	-90.19	-400.6	809.2	1,301.5	1,266.5	34.97	37.215		
8,600.0	7,307.0	7,361.2	7,291.5	31.6	18.0	-90.26	-400.6	809.2	1,395.0	1,358.7	36.35	38.378		
8,700.0	7,307.0	7,361.8	7,292.1	32.6	18.0	-90.33	-400.6	809.2	1,489.4	1,451.6	37.78	39.425		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 6-0-9 (EXISTING) - ENCANA WELL - PLAN ONLY													Offset Site Error:	0.0 ft
Survey Program: 800-Geolink MWD													Offset Well Error:	0.0 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)	Total Uncertainty Axis	Separation Factor		
11,100.0	7,307.0	7,299.6	7,237.0	66.7	19.8	90.00	4,677.5	2,135.3	1,540.9	1,462.8	78.12	19.724		
11,200.0	7,307.0	7,299.6	7,237.0	68.4	19.8	90.00	4,677.5	2,135.3	1,460.6	1,380.7	79.84	18.294		
11,300.0	7,307.0	7,299.6	7,237.0	70.0	19.8	90.00	4,677.5	2,135.3	1,382.8	1,301.3	81.56	16.955		
11,400.0	7,307.0	7,299.6	7,237.0	71.6	19.8	90.00	4,677.5	2,135.3	1,308.1	1,224.8	83.28	15.708		
11,500.0	7,307.0	7,299.6	7,237.0	73.3	19.8	90.00	4,677.5	2,135.3	1,236.9	1,151.9	85.00	14.552		
11,600.0	7,307.0	7,299.6	7,237.0	74.9	19.8	90.00	4,677.5	2,135.3	1,170.0	1,083.3	86.72	13.492		
11,700.0	7,307.0	7,299.6	7,237.0	76.5	19.8	90.00	4,677.5	2,135.3	1,108.1	1,019.6	88.45	12.528		
11,800.0	7,307.0	7,299.6	7,237.0	78.2	19.8	90.00	4,677.5	2,135.3	1,052.0	961.9	90.17	11.667		
11,900.0	7,307.0	7,299.6	7,237.0	79.8	19.8	90.00	4,677.5	2,135.3	1,002.8	910.9	91.90	10.912		
12,000.0	7,307.0	7,299.6	7,237.0	81.5	19.8	90.00	4,677.5	2,135.3	961.6	867.9	93.63	10.270		
12,100.0	7,307.0	7,299.6	7,237.0	83.2	19.8	90.00	4,677.5	2,135.3	929.3	833.9	95.36	9.745		
12,200.0	7,307.0	7,299.6	7,237.0	84.8	19.8	90.00	4,677.5	2,135.3	906.9	809.8	97.09	9.341		
12,300.0	7,307.0	7,299.6	7,237.0	86.5	19.8	90.00	4,677.5	2,135.3	895.2	796.4	98.82	9.059		
12,355.4	7,307.0	7,299.6	7,237.0	87.4	19.8	90.00	4,677.5	2,135.3	893.5	793.7	99.78	8.955 CC, ES		
12,400.0	7,307.0	7,299.6	7,237.0	88.2	19.8	90.00	4,677.5	2,135.3	894.6	794.0	100.55	8.897		
12,500.0	7,307.0	7,299.6	7,237.0	89.9	19.8	90.00	4,677.5	2,135.3	905.1	802.8	102.29	8.849 SF		
12,600.0	7,307.0	7,299.6	7,237.0	91.5	19.8	90.00	4,677.5	2,135.3	926.4	822.3	104.02	8.906		
12,700.0	7,307.0	7,299.6	7,237.0	93.2	19.8	90.00	4,677.5	2,135.3	957.6	851.9	105.75	9.055		
12,782.1	7,307.0	7,299.6	7,237.0	94.6	19.8	90.00	4,677.5	2,135.3	990.1	883.0	107.18	9.238		



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 6-4-9 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 642-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)				
8,700.0	7,307.0	7,398.9	7,290.4	32.6	20.2	92.44	2,182.4	2,258.2	1,528.0	1,489.3	38.69	39.489		
8,800.0	7,307.0	7,398.1	7,289.6	33.7	20.2	92.40	2,182.4	2,258.2	1,453.6	1,413.5	40.16	36.192		
8,900.0	7,307.0	7,397.3	7,288.9	34.8	20.2	92.35	2,182.4	2,258.2	1,382.4	1,340.8	41.67	33.178		
9,000.0	7,307.0	7,396.5	7,288.1	35.9	20.2	92.31	2,182.4	2,258.3	1,315.0	1,271.8	43.20	30.439		
9,100.0	7,307.0	7,395.8	7,287.3	37.2	20.2	92.26	2,182.4	2,258.3	1,252.0	1,207.2	44.76	27.971		
9,200.0	7,307.0	7,395.0	7,286.6	38.4	20.2	92.22	2,182.5	2,258.3	1,193.9	1,147.6	46.34	25.766		
9,300.0	7,307.0	7,394.2	7,285.8	39.7	20.2	92.18	2,182.5	2,258.3	1,141.8	1,093.8	47.93	23.819		
9,400.0	7,307.0	7,393.5	7,285.0	41.0	20.2	92.13	2,182.5	2,258.4	1,096.2	1,046.7	49.55	22.126		
9,500.0	7,307.0	7,392.7	7,284.3	42.4	20.2	92.09	2,182.5	2,258.4	1,058.2	1,007.1	51.17	20.680		
9,600.0	7,307.0	7,391.9	7,283.5	43.8	20.2	92.04	2,182.5	2,258.4	1,028.6	975.8	52.81	19.478		
9,700.0	7,307.0	7,391.2	7,282.7	45.2	20.2	92.00	2,182.5	2,258.5	1,008.0	953.6	54.46	18.511		
9,800.0	7,307.0	7,390.4	7,282.0	46.6	20.2	91.95	2,182.5	2,258.5	997.1	941.0	56.11	17.770		
9,859.4	7,307.0	7,389.9	7,281.5	47.5	20.2	91.93	2,182.5	2,258.5	995.3	938.2	57.10	17.431 CC, ES		
9,900.0	7,307.0	7,389.6	7,281.2	48.1	20.2	91.91	2,182.5	2,258.5	996.2	938.4	57.78	17.242		
10,000.0	7,307.0	7,388.9	7,280.4	49.6	20.2	91.87	2,182.5	2,258.5	1,005.2	945.8	59.45	16.909		
10,100.0	7,307.0	7,388.1	7,279.7	51.1	20.2	91.82	2,182.5	2,258.6	1,024.0	962.9	61.12	16.753		
10,200.0	7,307.0	7,387.3	7,278.9	52.6	20.2	91.78	2,182.5	2,258.6	1,052.0	989.2	62.81	16.749 SF		
10,300.0	7,307.0	7,386.6	7,278.1	54.1	20.2	91.73	2,182.5	2,258.6	1,088.5	1,024.0	64.50	16.877		
10,400.0	7,307.0	7,385.8	7,277.4	55.7	20.2	91.69	2,182.5	2,258.6	1,132.7	1,066.5	66.19	17.113		
10,500.0	7,307.0	7,385.0	7,276.6	57.2	20.2	91.65	2,182.5	2,258.7	1,183.7	1,115.8	67.88	17.436		
10,600.0	7,307.0	7,384.3	7,275.8	58.8	20.2	91.60	2,182.5	2,258.7	1,240.6	1,171.0	69.59	17.829		
10,700.0	7,307.0	7,383.5	7,275.1	60.4	20.2	91.56	2,182.5	2,258.7	1,302.8	1,231.5	71.29	18.275		
10,800.0	7,307.0	7,382.7	7,274.3	61.9	20.2	91.51	2,182.6	2,258.7	1,369.4	1,296.4	73.00	18.761		
10,900.0	7,307.0	7,382.0	7,273.5	63.5	20.2	91.47	2,182.6	2,258.8	1,440.0	1,365.2	74.70	19.275		
11,000.0	7,307.0	7,381.2	7,272.8	65.1	20.2	91.43	2,182.6	2,258.8	1,513.8	1,437.4	76.42	19.810		

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



Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design		S9-T2N-R67W (Sprague) - SPRAGUE V 9-7 (EXISTING) - NOBLE WELL - NO SURVEYS										Offset Site Error:		0.0 ft
Survey Program:		7700-Geolink MWD										Offset Well Error:		0.0 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)	Total Uncertainty Axis	Separation Factor		
9,000.0	7,307.0	7,256.0	7,256.0	35.9	12.7	90.00	2,775.9	1,517.8	1,482.1	1,441.5	40.56	36.539		
9,100.0	7,307.0	7,256.0	7,256.0	37.2	12.7	90.00	2,775.9	1,517.8	1,383.8	1,341.6	42.12	32.854		
9,200.0	7,307.0	7,256.0	7,256.0	38.4	12.7	90.00	2,775.9	1,517.8	1,285.7	1,242.0	43.70	29.423		
9,300.0	7,307.0	7,256.0	7,256.0	39.7	12.7	90.00	2,775.9	1,517.8	1,187.9	1,142.6	45.29	26.227		
9,400.0	7,307.0	7,256.0	7,256.0	41.0	12.7	90.00	2,775.9	1,517.8	1,090.5	1,043.6	46.90	23.251		
9,500.0	7,307.0	7,256.0	7,256.0	42.4	12.7	90.00	2,775.9	1,517.8	993.7	945.2	48.53	20.476		
9,600.0	7,307.0	7,256.0	7,256.0	43.8	12.7	90.00	2,775.9	1,517.8	897.5	847.4	50.16	17.892		
9,700.0	7,307.0	7,256.0	7,256.0	45.2	12.7	90.00	2,775.9	1,517.8	802.3	750.5	51.81	15.485		
9,800.0	7,307.0	7,256.0	7,256.0	46.6	12.7	90.00	2,775.9	1,517.8	708.4	654.9	53.47	13.250		
9,900.0	7,307.0	7,256.0	7,256.0	48.1	12.7	90.00	2,775.9	1,517.8	616.4	561.3	55.13	11.182		
10,000.0	7,307.0	7,256.0	7,256.0	49.6	12.7	90.00	2,775.9	1,517.8	527.4	470.6	56.80	9.285		
10,100.0	7,307.0	7,256.0	7,256.0	51.1	12.7	90.00	2,775.9	1,517.8	443.1	384.6	58.48	7.577		
10,200.0	7,307.0	7,256.0	7,256.0	52.6	12.7	90.00	2,775.9	1,517.8	366.7	306.5	60.16	6.095		
10,300.0	7,307.0	7,256.0	7,256.0	54.1	12.7	90.00	2,775.9	1,517.8	304.3	242.5	61.85	4.920		
10,400.0	7,307.0	7,256.0	7,256.0	55.7	12.7	90.00	2,775.9	1,517.8	266.0	202.4	63.54	4.186		
10,459.3	7,307.0	7,256.0	7,256.0	56.6	12.7	90.00	2,775.9	1,517.8	259.3	194.8	64.54	4.017 CC, ES, SF		
10,500.0	7,307.0	7,256.0	7,256.0	57.2	12.7	90.00	2,775.9	1,517.8	262.5	197.2	65.23	4.024		
10,600.0	7,307.0	7,256.0	7,256.0	58.8	12.7	90.00	2,775.9	1,517.8	295.0	228.1	66.93	4.408		
10,700.0	7,307.0	7,256.0	7,256.0	60.4	12.7	90.00	2,775.9	1,517.8	353.8	285.2	68.64	5.155		
10,800.0	7,307.0	7,256.0	7,256.0	61.9	12.7	90.00	2,775.9	1,517.8	428.2	357.8	70.34	6.087		
10,900.0	7,307.0	7,256.0	7,256.0	63.5	12.7	90.00	2,775.9	1,517.8	511.4	439.3	72.05	7.097		
11,000.0	7,307.0	7,256.0	7,256.0	65.1	12.7	90.00	2,775.9	1,517.8	599.7	525.9	73.76	8.130		
11,100.0	7,307.0	7,256.0	7,256.0	66.7	12.7	90.00	2,775.9	1,517.8	691.2	615.8	75.48	9.158		
11,200.0	7,307.0	7,256.0	7,256.0	68.4	12.7	90.00	2,775.9	1,517.8	784.8	707.6	77.19	10.167		
11,300.0	7,307.0	7,256.0	7,256.0	70.0	12.7	90.00	2,775.9	1,517.8	879.8	800.9	78.91	11.150		
11,400.0	7,307.0	7,256.0	7,256.0	71.6	12.7	90.00	2,775.9	1,517.8	975.8	895.2	80.63	12.103		
11,500.0	7,307.0	7,256.0	7,256.0	73.3	12.7	90.00	2,775.9	1,517.8	1,072.6	990.2	82.35	13.024		
11,600.0	7,307.0	7,256.0	7,256.0	74.9	12.7	90.00	2,775.9	1,517.8	1,169.8	1,085.8	84.07	13.914		
11,700.0	7,307.0	7,256.0	7,256.0	76.5	12.7	90.00	2,775.9	1,517.8	1,267.6	1,181.8	85.80	14.774		
11,800.0	7,307.0	7,256.0	7,256.0	78.2	12.7	90.00	2,775.9	1,517.8	1,365.6	1,278.1	87.52	15.602		
11,900.0	7,307.0	7,256.0	7,256.0	79.8	12.7	90.00	2,775.9	1,517.8	1,463.9	1,374.6	89.25	16.402		



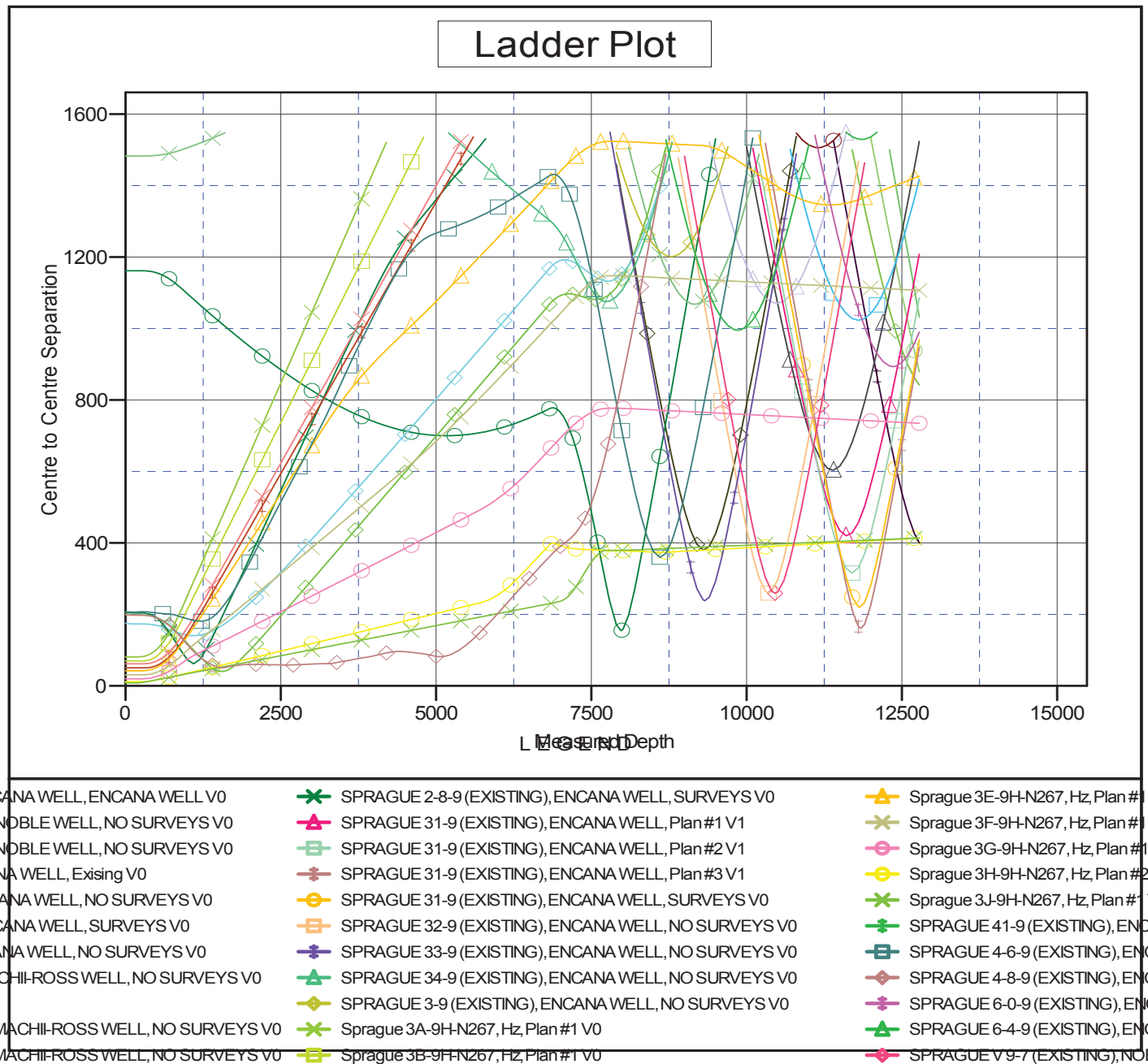
Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3I-9H-N267
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5011.0ft (Original Well Elev)
Reference Site:	S9-T2N-R67W (Sprague)	MD Reference:	WELL @ 5011.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Sprague 3I-9H-N267	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5011.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

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



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