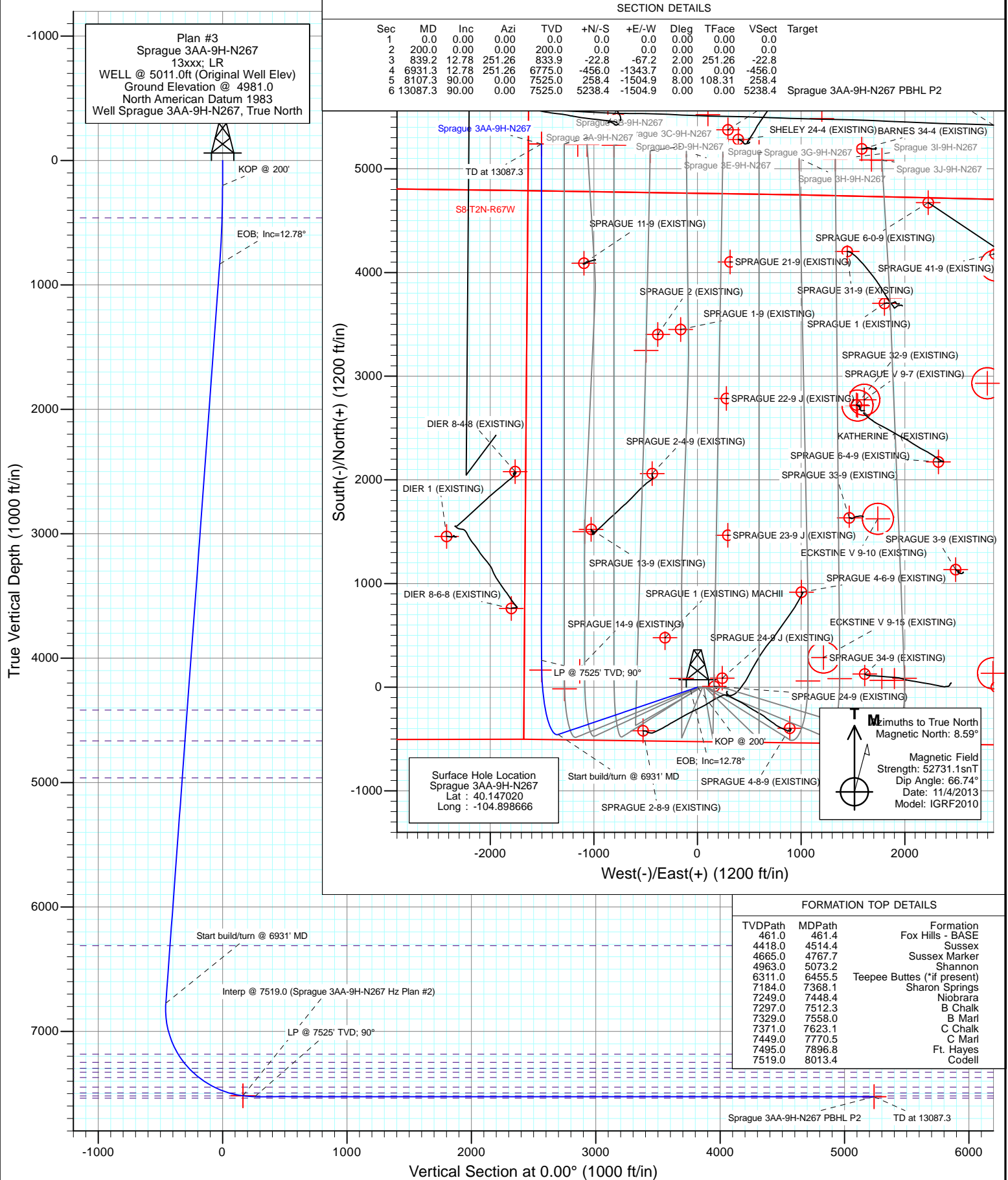




Project: DJ Wattenberg
Site: S9-T2N-R67W (Sprague)
Well: Sprague 3AA-9H-N267
Wellbore: Hz
Design: Plan #3



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-9H-N267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #3		

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 3AA-9H-N267					
Well Position	+N/-S	0.0 ft	Northing:	1,296,975.37 ft	Latitude:	40.147020
	+E/-W	0.0 ft	Easting:	3,168,107.84 ft	Longitude:	-104.898666
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	11/4/2013	8.59	66.74	52,731

Design	Plan #3			
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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
839.2	12.78	251.26	833.9	-22.8	-67.2	2.00	2.00	0.00	251.26	
6,931.3	12.78	251.26	6,775.0	-456.0	-1,343.7	0.00	0.00	0.00	0.00	
8,107.3	90.00	0.00	7,525.0	258.4	-1,504.9	8.00	6.57	9.25	108.31	
13,087.3	90.00	0.00	7,525.0	5,238.4	-1,504.9	0.00	0.00	0.00	0.00	Sprague 3AA-9H-N26

Cathedral Energy Services

Planning Report

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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 3AA-9H-N267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #3		

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	KOP @ 200'
300.0	2.00	251.26	300.0	-0.6	-1.7	-0.6	2.00	2.00	
400.0	4.00	251.26	399.8	-2.2	-6.6	-2.2	2.00	2.00	
461.4	5.23	251.26	461.0	-3.8	-11.3	-3.8	2.00	2.00	Fox Hills - BASE
500.0	6.00	251.26	499.5	-5.0	-14.9	-5.0	2.00	2.00	
600.0	8.00	251.26	598.7	-9.0	-26.4	-9.0	2.00	2.00	
700.0	10.00	251.26	697.5	-14.0	-41.2	-14.0	2.00	2.00	
800.0	12.00	251.26	795.6	-20.1	-59.3	-20.1	2.00	2.00	
839.2	12.78	251.26	833.9	-22.8	-67.2	-22.8	2.00	2.00	EOB; Inc=12.78°
900.0	12.78	251.26	893.2	-27.1	-80.0	-27.1	0.00	0.00	
1,000.0	12.78	251.26	990.7	-34.3	-100.9	-34.3	0.00	0.00	
1,100.0	12.78	251.26	1,088.2	-41.4	-121.9	-41.4	0.00	0.00	
1,200.0	12.78	251.26	1,185.8	-48.5	-142.8	-48.5	0.00	0.00	
1,300.0	12.78	251.26	1,283.3	-55.6	-163.8	-55.6	0.00	0.00	
1,400.0	12.78	251.26	1,380.8	-62.7	-184.8	-62.7	0.00	0.00	
1,500.0	12.78	251.26	1,478.3	-69.8	-205.7	-69.8	0.00	0.00	
1,600.0	12.78	251.26	1,575.9	-76.9	-226.7	-76.9	0.00	0.00	
1,700.0	12.78	251.26	1,673.4	-84.0	-247.6	-84.0	0.00	0.00	
1,800.0	12.78	251.26	1,770.9	-91.1	-268.6	-91.1	0.00	0.00	
1,900.0	12.78	251.26	1,868.4	-98.2	-289.5	-98.2	0.00	0.00	
2,000.0	12.78	251.26	1,965.9	-105.3	-310.5	-105.3	0.00	0.00	
2,100.0	12.78	251.26	2,063.5	-112.5	-331.4	-112.5	0.00	0.00	
2,200.0	12.78	251.26	2,161.0	-119.6	-352.4	-119.6	0.00	0.00	
2,300.0	12.78	251.26	2,258.5	-126.7	-373.3	-126.7	0.00	0.00	
2,400.0	12.78	251.26	2,356.0	-133.8	-394.3	-133.8	0.00	0.00	
2,500.0	12.78	251.26	2,453.5	-140.9	-415.2	-140.9	0.00	0.00	
2,600.0	12.78	251.26	2,551.1	-148.0	-436.2	-148.0	0.00	0.00	
2,700.0	12.78	251.26	2,648.6	-155.1	-457.1	-155.1	0.00	0.00	
2,800.0	12.78	251.26	2,746.1	-162.2	-478.1	-162.2	0.00	0.00	
2,900.0	12.78	251.26	2,843.6	-169.3	-499.1	-169.3	0.00	0.00	
3,000.0	12.78	251.26	2,941.2	-176.4	-520.0	-176.4	0.00	0.00	
3,100.0	12.78	251.26	3,038.7	-183.6	-541.0	-183.6	0.00	0.00	
3,200.0	12.78	251.26	3,136.2	-190.7	-561.9	-190.7	0.00	0.00	
3,300.0	12.78	251.26	3,233.7	-197.8	-582.9	-197.8	0.00	0.00	
3,400.0	12.78	251.26	3,331.2	-204.9	-603.8	-204.9	0.00	0.00	
3,500.0	12.78	251.26	3,428.8	-212.0	-624.8	-212.0	0.00	0.00	
3,600.0	12.78	251.26	3,526.3	-219.1	-645.7	-219.1	0.00	0.00	
3,700.0	12.78	251.26	3,623.8	-226.2	-666.7	-226.2	0.00	0.00	
3,800.0	12.78	251.26	3,721.3	-233.3	-687.6	-233.3	0.00	0.00	
3,900.0	12.78	251.26	3,818.8	-240.4	-708.6	-240.4	0.00	0.00	
4,000.0	12.78	251.26	3,916.4	-247.5	-729.5	-247.5	0.00	0.00	
4,100.0	12.78	251.26	4,013.9	-254.7	-750.5	-254.7	0.00	0.00	
4,200.0	12.78	251.26	4,111.4	-261.8	-771.4	-261.8	0.00	0.00	
4,300.0	12.78	251.26	4,208.9	-268.9	-792.4	-268.9	0.00	0.00	
4,400.0	12.78	251.26	4,306.5	-276.0	-813.3	-276.0	0.00	0.00	
4,500.0	12.78	251.26	4,404.0	-283.1	-834.3	-283.1	0.00	0.00	
4,514.4	12.78	251.26	4,418.0	-284.1	-837.3	-284.1	0.00	0.00	Sussex
4,600.0	12.78	251.26	4,501.5	-290.2	-855.3	-290.2	0.00	0.00	
4,700.0	12.78	251.26	4,599.0	-297.3	-876.2	-297.3	0.00	0.00	
4,767.7	12.78	251.26	4,665.0	-302.1	-890.4	-302.1	0.00	0.00	Sussex Marker

Cathedral Energy Services

Planning Report

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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 3AA-9H-N267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #3		

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
4,800.0	12.78	251.26	4,696.5	-304.4	-897.2	-304.4	0.00	0.00	
4,900.0	12.78	251.26	4,794.1	-311.5	-918.1	-311.5	0.00	0.00	
5,000.0	12.78	251.26	4,891.6	-318.6	-939.1	-318.6	0.00	0.00	
5,073.2	12.78	251.26	4,963.0	-323.9	-954.4	-323.9	0.00	0.00	Shannon
5,100.0	12.78	251.26	4,989.1	-325.8	-960.0	-325.8	0.00	0.00	
5,200.0	12.78	251.26	5,086.6	-332.9	-981.0	-332.9	0.00	0.00	
5,300.0	12.78	251.26	5,184.1	-340.0	-1,001.9	-340.0	0.00	0.00	
5,400.0	12.78	251.26	5,281.7	-347.1	-1,022.9	-347.1	0.00	0.00	
5,500.0	12.78	251.26	5,379.2	-354.2	-1,043.8	-354.2	0.00	0.00	
5,600.0	12.78	251.26	5,476.7	-361.3	-1,064.8	-361.3	0.00	0.00	
5,700.0	12.78	251.26	5,574.2	-368.4	-1,085.7	-368.4	0.00	0.00	
5,800.0	12.78	251.26	5,671.7	-375.5	-1,106.7	-375.5	0.00	0.00	
5,900.0	12.78	251.26	5,769.3	-382.6	-1,127.6	-382.6	0.00	0.00	
6,000.0	12.78	251.26	5,866.8	-389.7	-1,148.6	-389.7	0.00	0.00	
6,100.0	12.78	251.26	5,964.3	-396.9	-1,169.6	-396.9	0.00	0.00	
6,200.0	12.78	251.26	6,061.8	-404.0	-1,190.5	-404.0	0.00	0.00	
6,300.0	12.78	251.26	6,159.4	-411.1	-1,211.5	-411.1	0.00	0.00	
6,400.0	12.78	251.26	6,256.9	-418.2	-1,232.4	-418.2	0.00	0.00	
6,455.5	12.78	251.26	6,311.0	-422.1	-1,244.0	-422.1	0.00	0.00	Teepee Buttes (*if present)
6,500.0	12.78	251.26	6,354.4	-425.3	-1,253.4	-425.3	0.00	0.00	
6,600.0	12.78	251.26	6,451.9	-432.4	-1,274.3	-432.4	0.00	0.00	
6,700.0	12.78	251.26	6,549.4	-439.5	-1,295.3	-439.5	0.00	0.00	
6,800.0	12.78	251.26	6,647.0	-446.6	-1,316.2	-446.6	0.00	0.00	
6,900.0	12.78	251.26	6,744.5	-453.7	-1,337.2	-453.7	0.00	0.00	
6,931.3	12.78	251.26	6,775.0	-456.0	-1,343.7	-456.0	0.00	0.00	Start build/turn @ 6931' MD
6,950.0	12.39	257.89	6,793.3	-457.0	-1,347.7	-457.0	8.00	-2.08	
7,000.0	12.21	276.73	6,842.1	-457.5	-1,358.2	-457.5	8.00	-0.37	
7,050.0	13.27	294.31	6,890.9	-454.6	-1,368.6	-454.6	8.00	2.12	
7,100.0	15.31	308.30	6,939.4	-448.1	-1,379.1	-448.1	8.00	4.09	
7,150.0	18.01	318.64	6,987.3	-438.2	-1,389.3	-438.2	8.00	5.40	
7,200.0	21.12	326.20	7,034.4	-424.9	-1,399.5	-424.9	8.00	6.21	
7,250.0	24.47	331.83	7,080.5	-408.3	-1,409.4	-408.3	8.00	6.71	
7,300.0	27.99	336.15	7,125.3	-388.4	-1,419.0	-388.4	8.00	7.03	
7,350.0	31.61	339.57	7,168.7	-365.4	-1,428.3	-365.4	8.00	7.25	
7,368.1	32.94	340.63	7,184.0	-356.3	-1,431.6	-356.3	8.00	7.35	Sharon Springs
7,400.0	35.31	342.34	7,210.4	-339.4	-1,437.3	-339.4	8.00	7.42	
7,448.4	38.94	344.58	7,249.0	-311.4	-1,445.6	-311.4	8.00	7.50	Niobrara
7,450.0	39.06	344.65	7,250.3	-310.4	-1,445.8	-310.4	8.00	7.54	
7,500.0	42.85	346.61	7,288.0	-278.6	-1,454.0	-278.6	8.00	7.58	
7,512.3	43.79	347.05	7,297.0	-270.4	-1,455.9	-270.4	8.00	7.62	B Chalk
7,550.0	46.67	348.30	7,323.5	-244.3	-1,461.6	-244.3	8.00	7.64	
7,558.0	47.28	348.56	7,329.0	-238.5	-1,462.8	-238.5	8.00	7.66	B Marl
7,600.0	50.51	349.80	7,356.6	-207.5	-1,468.7	-207.5	8.00	7.68	
7,623.1	52.29	350.44	7,371.0	-189.7	-1,471.8	-189.7	8.00	7.71	C Chalk
7,650.0	54.36	351.14	7,387.1	-168.4	-1,475.2	-168.4	8.00	7.72	
7,700.0	58.23	352.35	7,414.8	-127.2	-1,481.2	-127.2	8.00	7.74	
7,750.0	62.11	353.47	7,439.7	-84.2	-1,486.5	-84.2	8.00	7.76	
7,770.5	63.71	353.91	7,449.0	-66.1	-1,488.5	-66.1	8.00	7.77	C Marl
7,800.0	66.00	354.51	7,461.5	-39.5	-1,491.2	-39.5	8.00	7.78	
7,850.0	69.90	355.49	7,480.3	6.7	-1,495.3	6.7	8.00	7.79	
7,896.8	73.55	356.36	7,495.0	51.0	-1,498.4	51.0	8.00	7.80	Ft. Hayes
7,900.0	73.80	356.42	7,495.9	54.1	-1,498.6	54.1	8.00	7.81	

Cathedral Energy Services

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Well:	Sprague 3AA-9H-N267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #3		

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
7,950.0	77.70	357.32	7,508.2	102.4	-1,501.3	102.4	8.00	7.81	
8,000.0	81.61	358.18	7,517.2	151.6	-1,503.2	151.6	8.00	7.82	
8,013.4	82.66	358.41	7,519.0	164.9	-1,503.6	164.9	8.00	7.82	Codell
8,050.0	85.52	359.04	7,522.8	201.2	-1,504.4	201.2	8.00	7.82	
8,100.0	89.43	359.88	7,525.0	251.2	-1,504.9	251.2	8.00	7.82	
8,107.3	90.00	0.00	7,525.0	258.4	-1,504.9	258.4	8.00	7.82	LP @ 7525' TVD; 90°
8,200.0	90.00	0.00	7,525.0	351.2	-1,504.9	351.2	0.00	0.00	
8,300.0	90.00	0.00	7,525.0	451.2	-1,504.9	451.2	0.00	0.00	
8,400.0	90.00	0.00	7,525.0	551.2	-1,504.9	551.2	0.00	0.00	
8,500.0	90.00	0.00	7,525.0	651.2	-1,504.9	651.2	0.00	0.00	
8,600.0	90.00	0.00	7,525.0	751.2	-1,504.9	751.2	0.00	0.00	
8,700.0	90.00	0.00	7,525.0	851.2	-1,504.9	851.2	0.00	0.00	
8,800.0	90.00	0.00	7,525.0	951.2	-1,504.9	951.2	0.00	0.00	
8,900.0	90.00	0.00	7,525.0	1,051.2	-1,504.9	1,051.2	0.00	0.00	
9,000.0	90.00	0.00	7,525.0	1,151.2	-1,504.9	1,151.2	0.00	0.00	
9,100.0	90.00	0.00	7,525.0	1,251.2	-1,504.9	1,251.2	0.00	0.00	
9,200.0	90.00	0.00	7,525.0	1,351.2	-1,504.9	1,351.2	0.00	0.00	
9,300.0	90.00	0.00	7,525.0	1,451.2	-1,504.9	1,451.2	0.00	0.00	
9,400.0	90.00	0.00	7,525.0	1,551.2	-1,504.9	1,551.2	0.00	0.00	
9,500.0	90.00	0.00	7,525.0	1,651.2	-1,504.9	1,651.2	0.00	0.00	
9,600.0	90.00	0.00	7,525.0	1,751.2	-1,504.9	1,751.2	0.00	0.00	
9,700.0	90.00	0.00	7,525.0	1,851.2	-1,504.9	1,851.2	0.00	0.00	
9,800.0	90.00	0.00	7,525.0	1,951.2	-1,504.9	1,951.2	0.00	0.00	
9,900.0	90.00	0.00	7,525.0	2,051.2	-1,504.9	2,051.2	0.00	0.00	
10,000.0	90.00	0.00	7,525.0	2,151.2	-1,504.9	2,151.2	0.00	0.00	
10,100.0	90.00	0.00	7,525.0	2,251.2	-1,504.9	2,251.2	0.00	0.00	
10,200.0	90.00	0.00	7,525.0	2,351.2	-1,504.9	2,351.2	0.00	0.00	
10,300.0	90.00	0.00	7,525.0	2,451.2	-1,504.9	2,451.2	0.00	0.00	
10,400.0	90.00	0.00	7,525.0	2,551.2	-1,504.9	2,551.2	0.00	0.00	
10,500.0	90.00	0.00	7,525.0	2,651.2	-1,504.9	2,651.2	0.00	0.00	
10,600.0	90.00	0.00	7,525.0	2,751.2	-1,504.9	2,751.2	0.00	0.00	
10,700.0	90.00	0.00	7,525.0	2,851.2	-1,504.9	2,851.2	0.00	0.00	
10,800.0	90.00	0.00	7,525.0	2,951.2	-1,504.9	2,951.2	0.00	0.00	
10,900.0	90.00	0.00	7,525.0	3,051.2	-1,504.9	3,051.2	0.00	0.00	
11,000.0	90.00	0.00	7,525.0	3,151.2	-1,504.9	3,151.2	0.00	0.00	
11,100.0	90.00	0.00	7,525.0	3,251.2	-1,504.9	3,251.2	0.00	0.00	
11,200.0	90.00	0.00	7,525.0	3,351.2	-1,504.9	3,351.2	0.00	0.00	
11,300.0	90.00	0.00	7,525.0	3,451.2	-1,504.9	3,451.2	0.00	0.00	
11,400.0	90.00	0.00	7,525.0	3,551.2	-1,504.9	3,551.2	0.00	0.00	
11,500.0	90.00	0.00	7,525.0	3,651.2	-1,504.9	3,651.2	0.00	0.00	
11,600.0	90.00	0.00	7,525.0	3,751.2	-1,504.9	3,751.2	0.00	0.00	
11,700.0	90.00	0.00	7,525.0	3,851.2	-1,504.9	3,851.2	0.00	0.00	
11,800.0	90.00	0.00	7,525.0	3,951.2	-1,504.9	3,951.2	0.00	0.00	
11,900.0	90.00	0.00	7,525.0	4,051.2	-1,504.9	4,051.2	0.00	0.00	
12,000.0	90.00	0.00	7,525.0	4,151.2	-1,504.9	4,151.2	0.00	0.00	
12,100.0	90.00	0.00	7,525.0	4,251.2	-1,504.9	4,251.2	0.00	0.00	
12,200.0	90.00	0.00	7,525.0	4,351.2	-1,504.9	4,351.2	0.00	0.00	
12,300.0	90.00	0.00	7,525.0	4,451.2	-1,504.9	4,451.2	0.00	0.00	
12,400.0	90.00	0.00	7,525.0	4,551.2	-1,504.9	4,551.2	0.00	0.00	
12,500.0	90.00	0.00	7,525.0	4,651.2	-1,504.9	4,651.2	0.00	0.00	
12,600.0	90.00	0.00	7,525.0	4,751.2	-1,504.9	4,751.2	0.00	0.00	
12,700.0	90.00	0.00	7,525.0	4,851.2	-1,504.9	4,851.2	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-9H-N267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #3		

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
12,800.0	90.00	0.00	7,525.0	4,951.2	-1,504.9	4,951.2	0.00	0.00	
12,900.0	90.00	0.00	7,525.0	5,051.2	-1,504.9	5,051.2	0.00	0.00	
13,000.0	90.00	0.00	7,525.0	5,151.2	-1,504.9	5,151.2	0.00	0.00	
13,087.3	90.00	0.00	7,525.0	5,238.4	-1,504.9	5,238.4	0.00	0.00	TD at 13087.3

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Sprague 3A-9H-N267 PI - plan misses target center by 309.7ft at 13087.3ft MD (7525.0 TVD, 5238.4 N, -1504.9 E) - Point	0.00	0.39	7,307.0	5,238.4	-1,284.9	1,302,204.97	3,166,787.45	40.161400	-104.903263
Sprague 3AA-9H-N267 I - plan hits target center - Point	0.00	0.39	7,525.0	5,238.4	-1,504.9	1,302,203.48	3,166,567.48	40.161400	-104.904050
Interp @ 7519.0 (Spragu - plan hits target center - Point	0.00	0.00	7,519.0	164.8	-1,503.6	1,297,130.02	3,166,603.17	40.147472	-104.904044
Sprague 3X-9H-N267 PI - plan misses target center by 218.0ft at 13087.3ft MD (7525.0 TVD, 5238.4 N, -1504.9 E) - Point	0.00	0.39	7,307.0	5,238.4	-1,504.9	1,302,203.48	3,166,567.48	40.161400	-104.904050

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
461.4	461.0	Fox Hills - BASE			
4,514.4	4,418.0	Sussex			
4,767.7	4,665.0	Sussex Marker			
5,073.2	4,963.0	Shannon			
6,455.5	6,311.0	Teepee Buttes (*if present)			
7,368.1	7,184.0	Sharon Springs			
7,448.4	7,249.0	Niobrara			
7,512.3	7,297.0	B Chalk			
7,558.0	7,329.0	B Marl			
7,623.1	7,371.0	C Chalk			
7,770.5	7,449.0	C Marl			
7,896.8	7,495.0	Ft. Hayes			
8,013.4	7,519.0	Codell			

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-9H-N267	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #3		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.0	200.0	0.0	0.0	KOP @ 200'
839.2	833.9	-22.8	-67.2	EOB; Inc=12.78°
6,931.3	6,775.0	-456.0	-1,343.7	Start build/turn @ 6931' MD
8,107.3	7,525.0	258.4	-1,504.9	LP @ 7525' TVD; 90°
13,087.3	7,525.0	5,238.4	-1,504.9	TD at 13087.3

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S9-T2N-R67W (Sprague)

Sprague 3AA-9H-N267

Hz

Plan #3

Anticollision Report

06 August, 2014

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Reference	Plan #3		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 500.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	8/6/2014		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	13,087.3	Plan #3 (Hz)	Geolink MWD	Geolink MWD	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance		Separation Factor	Warning
			Between Centres (ft)	Between Ellipses (ft)		
S9-T2N-R67W (Sprague)						
BARNES 34-4 (EXISTING) - ENCANA WELL - EXISTING						Out of range
DIER 1 (EXISTING) - ENCANA WELL - EXISTING - VES						Out of range
DIER 8-4-8 (EXISTING) - ENCANA WELL - SURVEYS	9,912.0	7,570.7	268.2	211.9	4.767	CC, ES, SF
DIER 8-6-8 (EXISTING) - ENCANA WELL - SURVEYS	8,613.7	7,573.7	273.9	234.5	6.952	CC, ES, SF
ECKSTINE V 9-15 (EXISTING) - NOBLE WELL - NO SU						Out of range
ECKSTINE V 9-16 (EXISTING) - ANADARKO WELL - E						Out of range
KATHERINE 1 (EXISTING) - MACEY-MERSHON WELL						Out of range
LUHMAN 1 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
LUHMAN 44-4 (EXISTING) - ENCANA WELL - SURVEY						Out of range
SATER 40N-5HZ (EXISTING) - KERR-MCGEE WELL - B						Out of range
SHELEY 1 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
SHELEY 14-4 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
SHELEY 24-4 (EXISTING MR) - MACHII-ROSS WELL -						Out of range
SHELEY 24-4 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
SHELEY 3A-4H (EXISTING) - ENCANA WELL - SURVE						Out of range
SHELEY 3B-4H (EXISTING) - ENCANA WELL - SURVE						Out of range
SHELEY 4-6-4 (EXISTING) - ENCANA WELL - SURVEY						Out of range
SPRAGUE 1 (EXISTING) - ENCANA WELL - EXISTING						Out of range
SPRAGUE 1 (EXISTING) MACHII - MACHII-ROSS WEL						Out of range
SPRAGUE 11-9 (EXISTING) - ENCANA WELL - SURVE	11,936.7	7,468.1	414.0	326.2	4.720	CC, ES
SPRAGUE 11-9 (EXISTING) - ENCANA WELL - SURVE	12,000.0	7,468.6	418.8	330.0	4.716	SF
SPRAGUE 13-9 (EXISTING) - ENCANA WELL - SURVE	9,368.5	7,493.1	479.0	434.5	10.758	CC, ES
SPRAGUE 13-9 (EXISTING) - ENCANA WELL - SURVE	9,500.0	7,495.3	496.7	450.1	10.653	SF
SPRAGUE 14-9 (EXISTING) - ENCANA WELL - EXISTIN	8,027.0	7,502.2	377.8	356.8	17.945	CC, ES
SPRAGUE 14-9 (EXISTING) - ENCANA WELL - EXISTIN	8,100.0	7,504.8	384.2	362.8	17.943	SF
SPRAGUE 1-9 (EXISTING) - MACHII-ROSS WELL - NO						Out of range
SPRAGUE 2 (EXISTING) - MACHII-ROSS WELL - NO S						Out of range
SPRAGUE 21-9 (EXISTING) - DD - Plan #1						Out of range
SPRAGUE 22-9 J (EXISTING) - MACHII-ROSS WELL -						Out of range
SPRAGUE 23-9 J (EXISTING) - MACHII-ROSS WELL -						Out of range
SPRAGUE 24-9 (EXISTING) - ENCANA WELL - EXISTIN	100.0	68.3	186.4	186.2	1,024.218	CC, ES
SPRAGUE 24-9 (EXISTING) - ENCANA WELL - EXISTIN	1,900.0	1,838.4	485.7	480.8	97.779	SF
SPRAGUE 2-4-9 (EXISTING) - ENCANA WELL - SURVE						Out of range
SPRAGUE 24-9 J (EXISTING) - MACHII-ROSS WELL -	200.0	176.0	254.0	253.4	420.517	CC, ES
SPRAGUE 24-9 J (EXISTING) - MACHII-ROSS WELL -	1,600.0	1,551.9	493.3	487.9	91.221	SF
SPRAGUE 2-8-9 (EXISTING) - ENCANA WELL - SURVE	206.0	188.9	292.2	291.6	470.849	CC, ES
SPRAGUE 2-8-9 (EXISTING) - ENCANA WELL - SURVE	4,000.0	4,017.8	387.2	362.3	15.555	SF
SPRAGUE 31-9 (EXISTING) - ENCANA WELL - SURVE						Out of range
SPRAGUE 32-9 (EXISTING) - ENCANA WELL - SURVE						Out of range
SPRAGUE 33-9 (EXISTING) - ENCANA WELL - SURVE						Out of range
SPRAGUE 34-9 (EXISTING) - ENCANA WELL - SURVE						Out of range
SPRAGUE 3-9 (EXISTING) - ENCANA WELL - SURVEY						Out of range
Sprague 3A-9H-N267 - Hz - Plan #3	200.0	200.0	10.0	9.4	16.796	CC, ES
Sprague 3A-9H-N267 - Hz - Plan #3	13,087.3	12,923.4	309.7	172.6	2.260	SF
Sprague 3B-9H-N267 - Hz - Plan #4	200.0	200.0	21.1	20.6	35.640	CC, ES
Sprague 3B-9H-N267 - Hz - Plan #4	13,087.3	13,100.2	439.7	250.5	2.324	SF
Sprague 3C-9H-N267 - Hz - Plan #2	200.0	200.0	29.5	28.9	49.773	CC, ES
Sprague 3C-9H-N267 - Hz - Plan #2	5,700.0	5,690.3	499.8	475.0	20.156	SF
Sprague 3D-9H-N267 - Hz - Plan #3	200.0	200.0	40.7	40.1	68.616	CC, ES
Sprague 3D-9H-N267 - Hz - Plan #3	5,000.0	4,991.7	491.6	472.1	25.200	SF
Sprague 3E-9H-N267 - Hz - Plan #3	200.0	200.0	49.1	48.5	82.749	CC, ES
Sprague 3E-9H-N267 - Hz - Plan #3	3,200.0	3,167.9	493.5	474.4	25.930	SF
Sprague 3F-9H-N267 - Hz - Plan #3	200.0	200.0	60.3	59.7	101.592	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 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance		Separation Factor	Warning
			Between Centres (ft)	Between Ellipses (ft)		
S9-T2N-R67W (Sprague)						
Sprague 3F-9H-N267 - Hz - Plan #3	600.0	598.6	87.2	85.2	43.839	SF
Sprague 3G-9H-N267 - Hz - Plan #2	200.0	200.0	71.5	70.9	120.436	CC, ES
Sprague 3G-9H-N267 - Hz - Plan #2	600.0	596.4	100.5	98.5	50.527	SF
Sprague 3H-9H-N267 - Hz - Plan #3	200.0	200.0	79.9	79.3	134.569	CC, ES
Sprague 3H-9H-N267 - Hz - Plan #3	600.0	592.7	112.1	110.1	56.381	SF
Sprague 3I-9H-N267 - Hz - Plan #3	200.0	200.0	91.1	90.5	153.535	CC, ES
Sprague 3I-9H-N267 - Hz - Plan #3	600.0	587.0	131.3	129.3	66.093	SF
Sprague 3J-9H-N267 - Hz - Plan #3	200.0	200.0	99.5	98.9	167.657	CC, ES
Sprague 3J-9H-N267 - Hz - Plan #3	600.0	579.7	152.4	150.4	77.782	SF
SPRAGUE 41-9 (EXISTING) - ENCANA WELL - SURVE						Out of range
SPRAGUE 42-9 (EXISTING) - ENCANA WELL - EXISTIN						Out of range
SPRAGUE 43-9 (EXISTING) - ENCANA WELL - GYRO						Out of range
SPRAGUE 44-9 (EXISTING) - ENCANA WELL - SURVE						Out of range
SPRAGUE 4-6-9 (EXISTING) - ENCANA WELL - SURVE	169.1	151.5	293.5	293.0	598.861	CC
SPRAGUE 4-6-9 (EXISTING) - ENCANA WELL - SURVE	200.0	181.5	293.5	292.9	492.162	ES
SPRAGUE 4-6-9 (EXISTING) - ENCANA WELL - SURVE	1,100.0	993.2	486.0	482.1	126.152	SF
SPRAGUE 4-8-9 (EXISTING) - ENCANA WELL - SURVE	205.5	188.4	288.4	287.8	466.297	CC, ES
SPRAGUE 4-8-9 (EXISTING) - ENCANA WELL - SURVE	1,400.0	1,316.0	481.7	476.7	95.626	SF
SPRAGUE 6-0-9 (EXISTING) - ENCANA WELL - PLAN O						Out of range
SPRAGUE 6-4-9 (EXISTING) - ENCANA WELL - SURVE						Out of range
SPRAGUE 8-6-9 (EXISTING) - ENCANA WELL - NO SU						Out of range
SPRAGUE V 9-1 (EXISTING) - ANADARKO WELL - EXI						Out of range
SPRAGUE V 9-7 (EXISTING) - NOBLE WELL - NO SUR						Out of range
SPRAGUE V 9-8 (EXISTING) - ANADARKO WELL - EXI						Out of range

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - DIER 8-4-8 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 78-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		
9,500.0	7,525.0	7,558.8	7,468.9	42.8	18.8	-88.78	2,062.9	-1,773.2	491.5	442.0	49.52	9.926		
9,600.0	7,525.0	7,561.7	7,471.8	44.1	18.8	-89.39	2,063.0	-1,773.2	411.3	360.2	51.14	8.044		
9,700.0	7,525.0	7,564.6	7,474.6	45.4	18.8	-90.00	2,063.0	-1,773.1	341.8	289.0	52.77	6.477		
9,800.0	7,525.0	7,567.4	7,477.5	46.7	18.8	-90.62	2,063.1	-1,773.1	290.6	236.2	54.41	5.341		
9,900.0	7,525.0	7,570.3	7,480.4	48.1	18.8	-91.23	2,063.2	-1,773.0	268.4	212.4	56.05	4.789		
9,912.0	7,525.0	7,570.7	7,480.7	48.2	18.8	-91.30	2,063.2	-1,773.0	268.2	211.9	56.25	4.767	CC, ES, SF	
10,000.0	7,525.0	7,573.2	7,483.2	49.5	18.8	-91.84	2,063.3	-1,772.9	282.2	224.5	57.70	4.891		
10,100.0	7,525.0	7,576.1	7,486.1	50.9	18.8	-92.46	2,063.4	-1,772.9	327.4	268.1	59.35	5.517		
10,200.0	7,525.0	7,578.9	7,489.0	52.3	18.8	-93.07	2,063.4	-1,772.8	393.4	332.4	61.00	6.450		
10,300.0	7,525.0	7,581.8	7,491.8	53.7	18.8	-93.68	2,063.5	-1,772.7	471.5	408.9	62.64	7.527		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - DIER 8-6-8 (EXISTING) - ENCANA WELL - SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 52-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		
8,200.0	7,525.0	7,574.8	7,465.7	31.1	21.5	-88.13	764.8	-1,778.6	496.1	461.4	34.73	14.284		
8,300.0	7,525.0	7,574.5	7,465.4	31.6	21.5	-88.08	764.8	-1,778.6	416.4	380.7	35.69	11.668		
8,400.0	7,525.0	7,574.3	7,465.1	32.1	21.5	-88.02	764.8	-1,778.6	347.3	310.6	36.77	9.447		
8,500.0	7,525.0	7,574.0	7,464.9	32.8	21.5	-87.96	764.8	-1,778.6	296.5	258.6	37.95	7.814		
8,600.0	7,525.0	7,573.7	7,464.6	33.5	21.4	-87.90	764.8	-1,778.6	274.2	235.0	39.21	6.993		
8,613.7	7,525.0	7,573.7	7,464.5	33.6	21.4	-87.90	764.8	-1,778.6	273.9	234.5	39.39	6.952	CC, ES, SF	
8,700.0	7,525.0	7,573.4	7,464.3	34.3	21.4	-87.85	764.8	-1,778.5	287.1	246.6	40.54	7.083		
8,800.0	7,525.0	7,573.2	7,464.0	35.2	21.4	-87.79	764.8	-1,778.5	331.2	289.3	41.93	7.900		
8,900.0	7,525.0	7,572.9	7,463.8	36.1	21.4	-87.73	764.8	-1,778.5	396.2	352.9	43.36	9.137		
9,000.0	7,525.0	7,572.6	7,463.5	37.1	21.4	-87.67	764.8	-1,778.5	473.6	428.7	44.84	10.562		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 11-9 (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		
11,700.0	7,525.0	7,466.1	7,463.8	75.4	13.2	91.08	4,087.9	-1,091.0	476.9	393.2	83.63	5.702		
11,800.0	7,525.0	7,466.9	7,464.6	77.0	13.2	91.19	4,087.9	-1,091.0	436.0	350.6	85.35	5.108		
11,900.0	7,525.0	7,467.8	7,465.4	78.6	13.2	91.31	4,087.9	-1,091.0	415.6	328.5	87.08	4.773		
11,936.7	7,525.0	7,468.1	7,465.7	79.2	13.2	91.35	4,087.9	-1,091.0	414.0	326.2	87.71	4.720 CC, ES		
12,000.0	7,525.0	7,468.6	7,466.3	80.3	13.2	91.42	4,087.9	-1,091.0	418.8	330.0	88.80	4.716 SF		
12,100.0	7,525.0	7,469.4	7,467.1	81.9	13.2	91.53	4,087.9	-1,091.1	445.0	354.5	90.52	4.916		
12,200.0	7,525.0	7,470.2	7,467.9	83.5	13.2	91.65	4,087.9	-1,091.1	490.6	398.3	92.25	5.318		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 13-9 (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	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		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)				
9,300.0	7,525.0	7,491.9	7,490.9	40.4	13.1	90.59	1,519.6	-1,025.9	483.8	440.4	43.44	11.139		
9,368.5	7,525.0	7,493.1	7,492.1	41.2	13.1	90.73	1,519.6	-1,025.9	479.0	434.5	44.52	10.758 CC, ES		
9,400.0	7,525.0	7,493.6	7,492.6	41.6	13.1	90.79	1,519.7	-1,025.9	480.0	435.0	45.02	10.662		
9,500.0	7,525.0	7,495.3	7,494.3	42.8	13.1	90.99	1,519.7	-1,026.0	496.7	450.1	46.62	10.653 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 14-9 (EXISTING) - ENCANA WELL - EXISTING - VES GYRO														Offset Site Error:	0.0 ft
Survey Program: 100-Gyro														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		
4,300.0	4,208.9	4,157.3	4,156.9	16.8	3.6	79.68	167.9	-1,034.9	499.7	479.4	20.25	24.676			
4,400.0	4,306.5	4,255.9	4,255.5	17.3	3.7	82.04	169.3	-1,036.8	498.3	477.4	20.85	23.896			
4,500.0	4,404.0	4,354.0	4,353.6	17.7	3.8	84.32	170.2	-1,039.1	497.5	476.1	21.43	23.213			
4,529.8	4,433.1	4,382.9	4,382.5	17.8	3.8	85.00	170.5	-1,039.9	497.5	475.9	21.60	23.029			
4,600.0	4,501.5	4,451.6	4,451.1	18.1	3.9	86.59	171.2	-1,041.6	497.7	475.7	21.99	22.629			
4,700.0	4,599.0	4,549.4	4,548.9	18.6	4.0	88.84	172.1	-1,044.2	498.7	476.1	22.53	22.129			
7,700.0	7,414.8	7,397.1	7,395.4	29.8	6.5	73.20	186.9	-1,121.3	478.2	457.9	20.31	23.547			
7,800.0	7,461.5	7,445.4	7,443.6	29.9	6.6	81.77	186.2	-1,123.7	431.9	411.7	20.19	21.395			
7,900.0	7,495.9	7,479.5	7,477.7	30.1	6.6	88.77	185.5	-1,125.5	396.2	375.8	20.47	19.353			
8,000.0	7,517.2	7,499.3	7,497.5	30.4	6.6	92.72	185.1	-1,126.6	378.7	357.8	20.90	18.116			
8,027.0	7,520.6	7,502.2	7,500.3	30.5	6.6	93.16	185.0	-1,126.7	377.8	356.8	21.05	17.945 CC, ES			
8,100.0	7,525.0	7,504.8	7,502.9	30.7	6.6	92.97	184.9	-1,126.9	384.2	362.8	21.41	17.943 SF			
8,200.0	7,525.0	7,502.4	7,500.6	31.1	6.6	92.51	185.0	-1,126.8	413.4	391.2	22.20	18.623			
8,300.0	7,525.0	7,500.0	7,498.1	31.6	6.6	92.14	185.1	-1,126.6	462.7	439.6	23.14	19.995			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - SPRAGUE 24-9 (EXISTING) - ENCANA WELL - EXISTING - VES GYRO														Offset Site Error:	0.0 ft
Survey Program: 100-Gyro														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)							
0.0	0.0	0.0	0.0	0.0	0.0	92.24	-7.3	186.1	188.8						
100.0	100.0	68.3	68.3	0.1	0.1	92.24	-7.3	186.2	186.4	186.2	0.18	1,024.218 CC, ES			
200.0	200.0	167.6	167.6	0.3	0.1	92.25	-7.3	186.8	186.9	186.5	0.44	421.703			
300.0	300.0	268.5	268.5	0.5	0.2	-159.25	-7.1	187.4	189.2	188.5	0.71	267.972			
400.0	399.8	369.4	369.4	0.7	0.3	-159.93	-6.6	187.4	194.0	193.1	0.97	199.814			
500.0	499.5	468.9	468.9	0.9	0.4	-160.90	-6.0	187.0	201.9	200.7	1.24	163.111			
600.0	598.7	568.0	567.9	1.2	0.5	-161.96	-5.7	186.9	213.3	211.8	1.51	141.502			
700.0	697.5	666.8	666.8	1.5	0.6	-163.15	-5.5	186.8	228.1	226.4	1.78	128.159			
800.0	795.6	765.9	765.9	1.9	0.7	-164.48	-5.0	186.4	246.2	244.1	2.05	119.844			
900.0	893.2	863.2	863.2	2.3	0.8	-165.75	-4.7	185.9	266.8	264.5	2.33	114.665			
1,000.0	990.7	960.2	960.2	2.7	0.8	-166.88	-4.5	185.7	288.1	285.5	2.60	110.938			
1,100.0	1,088.2	1,056.5	1,056.5	3.1	0.9	-167.86	-4.2	185.6	309.7	306.9	2.86	108.126			
1,200.0	1,185.8	1,152.8	1,152.8	3.5	1.0	-168.67	-4.0	186.1	331.9	328.8	3.13	106.026			
1,300.0	1,283.3	1,250.4	1,250.4	3.9	1.1	-169.41	-3.7	186.6	354.3	350.9	3.40	104.324			
1,400.0	1,380.8	1,349.5	1,349.5	4.4	1.2	-170.17	-2.8	186.9	376.4	372.8	3.66	102.864			
1,500.0	1,478.3	1,447.3	1,447.3	4.8	1.3	-170.80	-2.3	186.7	398.1	394.2	3.92	101.524			
1,600.0	1,575.9	1,544.1	1,544.1	5.2	1.3	-171.33	-1.9	186.8	420.2	416.0	4.18	100.458			
1,700.0	1,673.4	1,642.7	1,642.7	5.6	1.4	-171.84	-1.3	186.7	442.2	437.7	4.44	99.483			
1,800.0	1,770.9	1,740.7	1,740.7	6.1	1.5	-172.21	-1.5	186.6	463.9	459.2	4.71	98.561			
1,900.0	1,868.4	1,838.4	1,838.4	6.5	1.6	-172.61	-1.1	186.4	485.7	480.8	4.97	97.779 SF			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	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									
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		
0.0	0.0	0.0	0.0	0.0	0.0	69.96	87.1	238.6	255.2						
100.0	100.0	76.0	76.0	0.1	0.1	69.96	87.1	238.6	254.0	253.8	0.26	996.116			
200.0	200.0	176.0	176.0	0.3	0.3	69.96	87.1	238.6	254.0	253.4	0.60	420.517 CC, ES			
300.0	300.0	276.0	276.0	0.5	0.5	178.71	87.1	238.6	255.8	254.8	0.95	268.450			
400.0	399.8	375.8	375.8	0.7	0.7	178.73	87.1	238.6	261.0	259.7	1.30	200.729			
500.0	499.5	475.5	475.5	0.9	0.8	178.77	87.1	238.6	269.7	268.1	1.65	163.870			
600.0	598.7	574.7	574.7	1.2	1.0	178.82	87.1	238.6	281.9	279.9	1.99	141.730			
700.0	697.5	673.5	673.5	1.5	1.2	178.87	87.1	238.6	297.5	295.2	2.33	127.762			
800.0	795.6	771.6	771.6	1.9	1.3	178.93	87.1	238.6	316.6	314.0	2.66	118.814			
900.0	893.2	869.2	869.2	2.3	1.5	179.00	87.1	238.6	338.5	335.5	3.00	112.662			
1,000.0	990.7	966.7	966.7	2.7	1.7	179.06	87.1	238.6	360.6	357.3	3.35	107.704			
1,100.0	1,088.2	1,064.2	1,064.2	3.1	1.9	179.11	87.1	238.6	382.7	379.0	3.69	103.674			
1,200.0	1,185.8	1,161.8	1,161.8	3.5	2.0	179.16	87.1	238.6	404.8	400.8	4.04	100.332			
1,300.0	1,283.3	1,259.3	1,259.3	3.9	2.2	179.21	87.1	238.6	427.0	422.6	4.38	97.517			
1,400.0	1,380.8	1,356.8	1,356.8	4.4	2.4	179.25	87.1	238.6	449.1	444.4	4.72	95.112			
1,500.0	1,478.3	1,454.3	1,454.3	4.8	2.5	179.28	87.1	238.6	471.2	466.2	5.07	93.034			
1,600.0	1,575.9	1,551.9	1,551.9	5.2	2.7	179.31	87.1	238.6	493.3	487.9	5.41	91.221 SF			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	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		
0.0	0.0	0.0	0.0	0.0	0.0	104.49	-73.2	283.4	293.2						
100.0	100.0	83.8	83.8	0.1	0.1	104.53	-73.4	283.1	292.5	292.2	0.25	1,163.708			
200.0	200.0	182.8	182.8	0.3	0.3	104.65	-73.9	282.7	292.2	291.6	0.60	488.005			
206.0	206.0	188.9	188.9	0.3	0.3	-146.60	-73.9	282.7	292.2	291.6	0.62	470.849 CC, ES			
300.0	300.0	284.5	284.5	0.5	0.5	-146.55	-75.0	282.0	293.3	292.3	0.95	307.480			
400.0	399.8	390.9	390.8	0.7	0.7	-146.85	-75.9	280.1	296.1	294.8	1.32	224.240			
500.0	499.5	503.4	503.2	0.9	0.9	-147.71	-75.2	274.5	298.5	296.8	1.71	175.016			
600.0	598.7	613.5	612.9	1.2	1.1	-148.78	-74.4	264.5	299.8	297.7	2.10	142.834			
700.0	697.5	721.8	720.3	1.5	1.4	-149.54	-76.2	250.8	301.3	298.8	2.51	119.863			
800.0	795.6	823.5	820.6	1.9	1.7	-149.71	-82.0	235.4	304.1	301.2	2.96	102.886			
900.0	893.2	930.4	925.6	2.3	2.1	-149.61	-90.8	217.3	308.1	304.6	3.46	89.165			
1,000.0	990.7	1,036.7	1,029.3	2.7	2.5	-149.17	-101.0	196.3	309.8	305.8	4.00	77.466			
1,100.0	1,088.2	1,137.5	1,127.3	3.1	3.0	-148.60	-111.4	175.3	310.5	306.0	4.56	68.071			
1,200.0	1,185.8	1,236.5	1,223.5	3.5	3.4	-147.82	-122.7	154.4	311.3	306.1	5.16	60.300			
1,300.0	1,283.3	1,335.5	1,319.4	3.9	3.8	-146.84	-135.2	133.6	312.5	306.7	5.81	53.819			
1,400.0	1,380.8	1,434.3	1,415.1	4.4	4.3	-145.78	-148.1	113.0	314.1	307.6	6.48	48.449			
1,500.0	1,478.3	1,532.4	1,510.4	4.8	4.7	-144.77	-161.0	92.9	316.2	309.0	7.17	44.080			
1,600.0	1,575.9	1,635.1	1,610.2	5.2	5.2	-143.99	-173.1	72.2	318.3	310.4	7.85	40.520			
1,700.0	1,673.4	1,737.6	1,709.8	5.6	5.6	-143.40	-183.8	50.9	319.4	310.9	8.53	37.424			
1,800.0	1,770.9	1,836.3	1,805.8	6.1	6.1	-142.77	-194.4	30.1	320.3	311.1	9.22	34.738			
1,900.0	1,868.4	1,934.6	1,901.4	6.5	6.5	-142.19	-205.0	10.0	322.0	312.1	9.91	32.500			
2,000.0	1,965.9	2,037.9	2,002.0	6.9	7.0	-141.65	-215.7	-11.2	323.5	312.9	10.62	30.474			
2,100.0	2,063.5	2,134.6	2,096.0	7.4	7.4	-141.16	-225.5	-31.4	324.5	313.2	11.30	28.719			
2,200.0	2,161.0	2,230.0	2,189.2	7.8	7.8	-140.82	-235.0	-49.8	327.0	315.1	11.95	27.359			
2,300.0	2,258.5	2,334.5	2,291.2	8.2	8.2	-140.50	-245.1	-69.9	329.6	317.0	12.65	26.060			
2,400.0	2,356.0	2,434.2	2,388.4	8.7	8.6	-140.15	-254.7	-89.7	331.5	318.1	13.33	24.859			
2,500.0	2,453.5	2,533.1	2,484.9	9.1	9.1	-139.86	-264.1	-109.1	333.6	319.6	14.02	23.800			
2,600.0	2,551.1	2,631.2	2,580.5	9.5	9.5	-139.33	-274.8	-128.5	336.1	321.3	14.76	22.764			
2,700.0	2,648.6	2,733.3	2,680.0	9.9	10.0	-138.69	-286.7	-148.6	339.0	323.4	15.56	21.791			
2,800.0	2,746.1	2,833.1	2,776.8	10.4	10.4	-137.97	-298.4	-169.2	341.0	324.6	16.37	20.834			
2,900.0	2,843.6	2,930.7	2,871.8	10.8	10.8	-137.35	-309.9	-188.7	343.7	326.5	17.16	20.029			
3,000.0	2,941.2	3,030.7	2,969.1	11.2	11.3	-136.78	-321.3	-208.3	346.8	328.8	17.95	19.317			
3,100.0	3,038.7	3,131.6	3,067.6	11.7	11.7	-136.36	-332.1	-227.7	349.8	331.1	18.71	18.693			
3,200.0	3,136.2	3,231.9	3,165.2	12.1	12.1	-135.88	-342.9	-247.9	352.1	332.6	19.50	18.053			
3,300.0	3,233.7	3,325.2	3,256.4	12.5	12.5	-135.48	-353.2	-265.3	355.8	335.6	20.24	17.577			
3,400.0	3,331.2	3,426.6	3,355.6	13.0	12.9	-135.24	-363.9	-282.9	360.6	339.6	20.97	17.198			
3,500.0	3,428.8	3,527.2	3,454.1	13.4	13.3	-135.06	-373.7	-301.1	364.4	342.7	21.68	16.805			
3,600.0	3,526.3	3,623.6	3,548.4	13.8	13.7	-134.89	-383.5	-318.0	368.8	346.4	22.38	16.479			
3,700.0	3,623.8	3,727.3	3,649.9	14.2	14.1	-134.64	-394.4	-336.2	373.3	350.2	23.14	16.135			
3,800.0	3,721.3	3,827.9	3,748.4	14.7	14.5	-134.47	-404.2	-354.6	377.0	353.2	23.84	15.812			
3,900.0	3,818.8	3,922.6	3,841.5	15.1	14.9	-134.63	-411.9	-370.3	381.4	357.0	24.42	15.622			
4,000.0	3,916.4	4,017.8	3,935.4	15.5	15.2	-135.07	-418.5	-384.1	387.2	362.3	24.89	15.555 SF			
4,100.0	4,013.9	4,112.6	4,029.3	16.0	15.4	-135.75	-424.0	-396.1	394.1	368.8	25.27	15.596			
4,200.0	4,111.4	4,206.7	4,122.6	16.4	15.7	-136.55	-429.0	-406.5	402.4	376.8	25.59	15.726			
4,300.0	4,208.9	4,301.8	4,217.3	16.8	15.9	-137.53	-433.3	-415.4	412.1	386.3	25.83	15.957			
4,400.0	4,306.5	4,395.3	4,310.5	17.3	16.1	-138.71	-436.1	-422.4	423.0	397.0	25.96	16.290			
4,500.0	4,404.0	4,485.0	4,400.0	17.7	16.2	-139.94	-438.2	-427.4	435.7	409.7	26.04	16.732			
4,600.0	4,501.5	4,581.5	4,496.4	18.1	16.3	-141.39	-439.7	-430.7	450.3	424.3	26.04	17.292			
4,700.0	4,599.0	4,679.2	4,594.1	18.6	16.5	-142.81	-440.8	-433.9	465.2	439.1	26.03	17.872			
4,800.0	4,696.5	4,777.3	4,692.1	19.0	16.6	-144.18	-441.6	-437.0	480.4	454.4	26.01	18.470			
4,900.0	4,794.1	4,878.0	4,792.7	19.4	16.8	-145.52	-442.3	-440.3	495.7	469.7	25.99	19.070			

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 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3A-9H-N267 - Hz - Plan #3													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)				
0.0	0.0	0.0	0.0	0.0	0.0	89.95	0.0	10.0	10.0					
100.0	100.0	100.0	100.0	0.1	0.1	89.95	0.0	10.0	10.0	9.7	0.24	40.791		
200.0	200.0	200.0	200.0	0.3	0.3	89.95	0.0	10.0	10.0	9.4	0.59	16.796 CC, ES		
300.0	300.0	300.2	300.2	0.5	0.5	-163.31	-0.2	9.6	11.2	10.3	0.94	11.903		
400.0	399.8	400.6	400.5	0.7	0.7	-164.60	-1.5	6.3	13.0	11.7	1.29	10.011		
500.0	499.5	501.0	500.7	0.9	0.9	-164.77	-4.2	-0.2	14.7	13.1	1.65	8.936		
600.0	598.7	601.5	600.6	1.2	1.1	-164.16	-8.2	-10.0	16.6	14.6	2.01	8.231		
700.0	697.5	702.1	700.2	1.5	1.4	-163.02	-13.5	-23.0	18.5	16.1	2.39	7.711		
800.0	795.6	802.7	799.2	1.9	1.7	-161.51	-20.1	-39.2	20.4	17.6	2.80	7.282		
900.0	893.2	902.9	897.4	2.3	2.1	-160.01	-27.8	-57.8	22.6	19.3	3.24	6.961		
1,000.0	990.7	1,002.8	995.3	2.7	2.5	-158.85	-35.4	-76.6	24.8	21.1	3.70	6.708		
1,100.0	1,088.2	1,102.8	1,093.2	3.1	2.9	-157.87	-43.1	-95.3	27.1	22.9	4.17	6.491		
1,200.0	1,185.8	1,202.8	1,191.1	3.5	3.3	-157.05	-50.8	-114.1	29.4	24.7	4.66	6.304		
1,300.0	1,283.3	1,302.8	1,289.0	3.9	3.6	-156.35	-58.5	-132.8	31.7	26.5	5.15	6.142		
1,400.0	1,380.8	1,402.7	1,386.9	4.4	4.0	-155.74	-66.1	-151.5	33.9	28.3	5.66	6.001		
1,500.0	1,478.3	1,502.7	1,484.8	4.8	4.4	-155.20	-73.8	-170.3	36.2	30.1	6.16	5.878		
1,600.0	1,575.9	1,602.7	1,582.7	5.2	4.8	-154.74	-81.5	-189.0	38.5	31.8	6.68	5.770		
1,700.0	1,673.4	1,702.6	1,680.6	5.6	5.2	-154.32	-89.2	-207.8	40.8	33.6	7.19	5.674		
1,800.0	1,770.9	1,802.6	1,778.5	6.1	5.6	-153.95	-96.9	-226.5	43.1	35.4	7.72	5.588		
1,900.0	1,868.4	1,902.6	1,876.4	6.5	6.0	-153.61	-104.5	-245.3	45.4	37.2	8.24	5.512		
2,000.0	1,965.9	2,002.6	1,974.3	6.9	6.4	-153.31	-112.2	-264.0	47.7	38.9	8.77	5.443		
2,100.0	2,063.5	2,102.5	2,072.2	7.4	6.8	-153.04	-119.9	-282.7	50.0	40.7	9.30	5.381		
2,200.0	2,161.0	2,202.5	2,170.1	7.8	7.2	-152.79	-127.6	-301.5	52.3	42.5	9.83	5.325		
2,300.0	2,258.5	2,302.5	2,268.0	8.2	7.6	-152.56	-135.2	-320.2	54.6	44.3	10.36	5.273		
2,400.0	2,356.0	2,402.5	2,365.9	8.7	8.0	-152.35	-142.9	-339.0	56.9	46.0	10.89	5.226		
2,500.0	2,453.5	2,502.4	2,463.8	9.1	8.4	-152.15	-150.6	-357.7	59.2	47.8	11.43	5.183		
2,600.0	2,551.1	2,602.4	2,561.7	9.5	8.8	-151.97	-158.3	-376.5	61.5	49.6	11.96	5.143		
2,700.0	2,648.6	2,702.4	2,659.6	9.9	9.2	-151.81	-165.9	-395.2	63.8	51.3	12.50	5.107		
2,800.0	2,746.1	2,802.4	2,757.5	10.4	9.6	-151.65	-173.6	-413.9	66.2	53.1	13.04	5.073		
2,900.0	2,843.6	2,902.3	2,855.4	10.8	10.0	-151.51	-181.3	-432.7	68.5	54.9	13.58	5.041		
3,000.0	2,941.2	3,002.3	2,953.3	11.2	10.4	-151.37	-189.0	-451.4	70.8	56.6	14.12	5.012		
3,100.0	3,038.7	3,102.3	3,051.2	11.7	10.8	-151.25	-196.6	-470.2	73.1	58.4	14.66	4.984		
3,200.0	3,136.2	3,202.2	3,149.1	12.1	11.2	-151.13	-204.3	-488.9	75.4	60.2	15.20	4.959		
3,300.0	3,233.7	3,302.2	3,247.0	12.5	11.6	-151.02	-212.0	-507.6	77.7	61.9	15.74	4.935		
3,400.0	3,331.2	3,402.2	3,344.9	13.0	12.0	-150.91	-219.7	-526.4	80.0	63.7	16.29	4.912		
3,500.0	3,428.8	3,502.2	3,442.8	13.4	12.4	-150.81	-227.4	-545.1	82.3	65.5	16.83	4.891		
3,600.0	3,526.3	3,602.1	3,540.7	13.8	12.8	-150.72	-235.0	-563.9	84.6	67.2	17.37	4.871		
3,700.0	3,623.8	3,702.1	3,638.6	14.2	13.2	-150.63	-242.7	-582.6	86.9	69.0	17.92	4.852		
3,800.0	3,721.3	3,802.1	3,736.5	14.7	13.6	-150.54	-250.4	-601.4	89.2	70.8	18.46	4.834		
3,900.0	3,818.8	3,902.1	3,834.4	15.1	14.0	-150.46	-258.1	-620.1	91.6	72.5	19.01	4.817		
4,000.0	3,916.4	4,002.0	3,932.3	15.5	14.4	-150.39	-265.7	-638.8	93.9	74.3	19.55	4.801		
4,100.0	4,013.9	4,102.0	4,030.2	16.0	14.8	-150.32	-273.4	-657.6	96.2	76.1	20.09	4.786		
4,200.0	4,111.4	4,202.0	4,128.1	16.4	15.2	-150.25	-281.1	-676.3	98.5	77.8	20.64	4.772		
4,300.0	4,208.9	4,301.9	4,226.0	16.8	15.6	-150.18	-288.8	-695.1	100.8	79.6	21.19	4.758		
4,400.0	4,306.5	4,401.9	4,323.9	17.3	16.0	-150.12	-296.4	-713.8	103.1	81.4	21.73	4.745		
4,500.0	4,404.0	4,501.9	4,421.8	17.7	16.4	-150.06	-304.1	-732.6	105.4	83.1	22.28	4.732		
4,600.0	4,501.5	4,601.9	4,519.7	18.1	16.8	-150.00	-311.8	-751.3	107.7	84.9	22.82	4.720		
4,700.0	4,599.0	4,701.8	4,617.6	18.6	17.2	-149.95	-319.5	-770.0	110.0	86.7	23.37	4.709		
4,800.0	4,696.5	4,801.8	4,715.5	19.0	17.6	-149.89	-327.1	-788.8	112.4	88.4	23.92	4.698		
4,900.0	4,794.1	4,901.8	4,813.4	19.4	18.0	-149.84	-334.8	-807.5	114.7	90.2	24.46	4.687		
5,000.0	4,891.6	5,001.8	4,911.3	19.9	18.4	-149.79	-342.5	-826.3	117.0	92.0	25.01	4.677		
5,100.0	4,989.1	5,101.7	5,009.2	20.3	18.8	-149.75	-350.2	-845.0	119.3	93.7	25.56	4.668		

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 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3A-9H-N267 - Hz - Plan #3													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)				
5,200.0	5,086.6	5,201.7	5,107.1	20.7	19.2	-149.70	-357.9	-863.7	121.6	95.5	26.10	4.658		
5,300.0	5,184.1	5,301.7	5,205.0	21.1	19.6	-149.66	-365.5	-882.5	123.9	97.3	26.65	4.650		
5,400.0	5,281.7	5,401.7	5,302.9	21.6	20.0	-149.62	-373.2	-901.2	126.2	99.0	27.20	4.641		
5,500.0	5,379.2	5,501.6	5,400.8	22.0	20.4	-149.58	-380.9	-920.0	128.5	100.8	27.74	4.633		
5,600.0	5,476.7	5,601.6	5,498.7	22.4	20.8	-149.54	-388.6	-938.7	130.8	102.6	28.29	4.625		
5,700.0	5,574.2	5,701.6	5,596.6	22.9	21.2	-149.50	-396.2	-957.5	133.2	104.3	28.84	4.617		
5,800.0	5,671.7	5,801.5	5,694.5	23.3	21.6	-149.46	-403.9	-976.2	135.5	106.1	29.39	4.610		
5,900.0	5,769.3	5,901.5	5,792.4	23.7	22.0	-149.43	-411.6	-994.9	137.8	107.8	29.94	4.603		
6,000.0	5,866.8	6,001.5	5,890.3	24.2	22.4	-149.39	-419.3	-1,013.7	140.1	109.6	30.48	4.596		
6,100.0	5,964.3	6,101.5	5,988.2	24.6	22.8	-149.36	-426.9	-1,032.4	142.4	111.4	31.03	4.589		
6,200.0	6,061.8	6,201.4	6,086.1	25.0	23.2	-149.33	-434.6	-1,051.2	144.7	113.1	31.58	4.583		
6,300.0	6,159.4	6,301.4	6,184.0	25.5	23.6	-149.30	-442.3	-1,069.9	147.0	114.9	32.13	4.577		
6,400.0	6,256.9	6,401.4	6,281.9	25.9	24.0	-149.27	-450.0	-1,088.7	149.3	116.7	32.68	4.571		
6,500.0	6,354.4	6,501.4	6,379.8	26.3	24.4	-149.24	-457.6	-1,107.4	151.7	118.4	33.22	4.565		
6,600.0	6,451.9	6,601.3	6,477.7	26.8	24.8	-149.21	-465.3	-1,126.1	154.0	120.2	33.77	4.559		
6,700.0	6,549.4	6,701.3	6,575.6	27.2	25.2	-149.18	-473.0	-1,144.9	156.3	122.0	34.32	4.554		
6,800.0	6,647.0	6,801.3	6,673.5	27.6	25.6	-149.16	-480.7	-1,163.6	158.6	123.7	34.87	4.548		
6,900.0	6,744.5	6,905.4	6,775.7	28.0	25.9	-150.89	-483.6	-1,183.2	159.9	125.5	34.41	4.648		
6,974.4	6,817.2	6,982.2	6,850.4	28.3	26.1	-173.64	-474.2	-1,197.5	159.8	127.6	32.27	4.952		
7,000.0	6,842.1	7,007.5	6,874.8	28.4	26.2	177.49	-468.9	-1,202.1	159.8	128.7	31.13	5.133		
7,100.0	6,939.4	7,105.1	6,965.7	28.8	26.3	138.83	-438.3	-1,219.6	161.9	134.3	27.61	5.866		
7,200.0	7,034.4	7,198.2	7,046.4	29.0	26.4	113.42	-394.9	-1,235.0	167.6	142.1	25.48	6.578		
7,300.0	7,125.3	7,287.0	7,116.1	29.2	26.4	96.13	-341.6	-1,248.3	177.2	151.7	25.50	6.948		
7,400.0	7,210.4	7,371.8	7,174.3	29.4	26.4	83.25	-281.2	-1,259.5	190.5	163.6	26.91	7.081		
7,500.0	7,288.0	7,450.0	7,219.7	29.5	26.5	73.39	-218.1	-1,268.2	207.0	178.7	28.30	7.315		
7,600.0	7,356.6	7,530.7	7,257.3	29.6	26.5	65.24	-147.1	-1,275.4	225.6	196.5	29.07	7.759		
7,700.0	7,414.8	7,600.0	7,281.4	29.8	26.5	59.14	-82.4	-1,280.0	245.5	216.9	28.66	8.567		
7,800.0	7,461.5	7,678.3	7,299.3	29.9	26.6	53.82	-6.2	-1,283.4	265.8	238.3	27.47	9.675		
7,900.0	7,495.9	7,750.0	7,306.5	30.1	26.7	49.76	65.0	-1,284.8	285.8	260.1	25.73	11.110		
8,000.0	7,517.2	7,836.6	7,307.0	30.4	26.9	46.52	151.6	-1,284.9	303.0	279.1	23.90	12.681		
8,100.0	7,525.0	7,936.2	7,307.0	30.7	27.2	45.26	251.2	-1,284.9	309.7	287.0	22.72	13.630		
8,200.0	7,525.0	8,036.2	7,307.0	31.1	27.7	45.26	351.2	-1,284.9	309.7	285.8	23.86	12.979		
8,300.0	7,525.0	8,136.2	7,307.0	31.6	28.2	45.26	451.2	-1,284.9	309.7	284.4	25.32	12.231		
8,400.0	7,525.0	8,236.2	7,307.0	32.1	28.8	45.26	551.2	-1,284.9	309.7	282.8	26.94	11.498		
8,500.0	7,525.0	8,336.2	7,307.0	32.8	29.6	45.26	651.2	-1,284.9	309.7	281.0	28.68	10.799		
8,600.0	7,525.0	8,436.2	7,307.0	33.5	30.4	45.26	751.2	-1,284.9	309.7	279.2	30.53	10.145		
8,700.0	7,525.0	8,536.2	7,307.0	34.3	31.3	45.26	851.2	-1,284.9	309.7	277.2	32.47	9.539		
8,800.0	7,525.0	8,636.2	7,307.0	35.2	32.2	45.26	951.2	-1,284.9	309.7	275.2	34.48	8.983		
8,900.0	7,525.0	8,736.2	7,307.0	36.1	33.2	45.26	1,051.2	-1,284.9	309.7	273.2	36.55	8.473		
9,000.0	7,525.0	8,836.2	7,307.0	37.1	34.3	45.26	1,151.2	-1,284.9	309.7	271.0	38.67	8.008		
9,100.0	7,525.0	8,936.2	7,307.0	38.1	35.4	45.26	1,251.2	-1,284.9	309.7	268.9	40.84	7.583		
9,200.0	7,525.0	9,036.2	7,307.0	39.2	36.6	45.26	1,351.2	-1,284.9	309.7	266.7	43.05	7.194		
9,300.0	7,525.0	9,136.2	7,307.0	40.4	37.9	45.26	1,451.2	-1,284.9	309.7	264.4	45.28	6.839		
9,400.0	7,525.0	9,236.2	7,307.0	41.6	39.1	45.26	1,551.2	-1,284.9	309.7	262.2	47.55	6.514		
9,500.0	7,525.0	9,336.2	7,307.0	42.8	40.4	45.26	1,651.2	-1,284.9	309.7	259.9	49.83	6.215		
9,600.0	7,525.0	9,436.2	7,307.0	44.1	41.8	45.26	1,751.2	-1,284.9	309.7	257.6	52.14	5.940		
9,700.0	7,525.0	9,536.2	7,307.0	45.4	43.2	45.26	1,851.2	-1,284.9	309.7	255.2	54.46	5.686		
9,800.0	7,525.0	9,636.2	7,307.0	46.7	44.6	45.26	1,951.2	-1,284.9	309.7	252.9	56.80	5.452		
9,900.0	7,525.0	9,736.2	7,307.0	48.1	46.0	45.26	2,051.2	-1,284.9	309.7	250.5	59.16	5.235		
10,000.0	7,525.0	9,836.2	7,307.0	49.5	47.4	45.26	2,151.2	-1,284.9	309.7	248.2	61.52	5.034		
10,100.0	7,525.0	9,936.2	7,307.0	50.9	48.9	45.26	2,251.2	-1,284.9	309.7	245.8	63.90	4.847		
10,200.0	7,525.0	10,036.2	7,307.0	52.3	50.4	45.26	2,351.2	-1,284.9	309.7	243.4	66.29	4.672		

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 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3A-9H-N267 - Hz - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-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	
10,300.0	7,525.0	10,136.2	7,307.0	53.7	51.9	45.26	2,451.2	-1,284.9	309.7	241.0	68.68	4.509		
10,400.0	7,525.0	10,236.2	7,307.0	55.2	53.4	45.26	2,551.2	-1,284.9	309.7	238.6	71.08	4.357		
10,500.0	7,525.0	10,336.2	7,307.0	56.7	54.9	45.26	2,651.2	-1,284.9	309.7	236.2	73.49	4.214		
10,600.0	7,525.0	10,436.2	7,307.0	58.2	56.5	45.26	2,751.2	-1,284.9	309.7	233.8	75.91	4.080		
10,700.0	7,525.0	10,536.2	7,307.0	59.7	58.0	45.26	2,851.2	-1,284.9	309.7	231.4	78.33	3.954		
10,800.0	7,525.0	10,636.2	7,307.0	61.2	59.6	45.26	2,951.2	-1,284.9	309.7	228.9	80.76	3.835		
10,900.0	7,525.0	10,736.2	7,307.0	62.8	61.2	45.26	3,051.2	-1,284.9	309.7	226.5	83.19	3.723		
11,000.0	7,525.0	10,836.2	7,307.0	64.3	62.8	45.26	3,151.2	-1,284.9	309.7	224.1	85.62	3.617		
11,100.0	7,525.0	10,936.2	7,307.0	65.9	64.4	45.26	3,251.2	-1,284.9	309.7	221.6	88.06	3.517		
11,200.0	7,525.0	11,036.2	7,307.0	67.4	66.0	45.26	3,351.2	-1,284.9	309.7	219.2	90.51	3.422		
11,300.0	7,525.0	11,136.2	7,307.0	69.0	67.6	45.26	3,451.2	-1,284.9	309.7	216.7	92.95	3.332		
11,400.0	7,525.0	11,236.2	7,307.0	70.6	69.2	45.26	3,551.2	-1,284.9	309.7	214.3	95.40	3.246		
11,500.0	7,525.0	11,336.2	7,307.0	72.2	70.8	45.26	3,651.2	-1,284.9	309.7	211.8	97.86	3.165		
11,600.0	7,525.0	11,436.2	7,307.0	73.8	72.5	45.26	3,751.2	-1,284.9	309.7	209.4	100.31	3.087		
11,700.0	7,525.0	11,536.2	7,307.0	75.4	74.1	45.26	3,851.2	-1,284.9	309.7	206.9	102.77	3.014		
11,800.0	7,525.0	11,636.2	7,307.0	77.0	75.7	45.26	3,951.2	-1,284.9	309.7	204.5	105.23	2.943		
11,900.0	7,525.0	11,736.2	7,307.0	78.6	77.4	45.26	4,051.2	-1,284.9	309.7	202.0	107.69	2.876		
12,000.0	7,525.0	11,836.2	7,307.0	80.3	79.0	45.26	4,151.2	-1,284.9	309.7	199.5	110.16	2.811		
12,100.0	7,525.0	11,936.2	7,307.0	81.9	80.7	45.26	4,251.2	-1,284.9	309.7	197.1	112.62	2.750		
12,200.0	7,525.0	12,036.2	7,307.0	83.5	82.3	45.26	4,351.2	-1,284.9	309.7	194.6	115.09	2.691		
12,300.0	7,525.0	12,136.2	7,307.0	85.2	84.0	45.26	4,451.2	-1,284.9	309.7	192.1	117.56	2.634		
12,400.0	7,525.0	12,236.2	7,307.0	86.8	85.7	45.26	4,551.2	-1,284.9	309.7	189.7	120.03	2.580		
12,500.0	7,525.0	12,336.2	7,307.0	88.5	87.4	45.26	4,651.2	-1,284.9	309.7	187.2	122.51	2.528		
12,600.0	7,525.0	12,436.2	7,307.0	90.1	89.0	45.26	4,751.2	-1,284.9	309.7	184.7	124.98	2.478		
12,700.0	7,525.0	12,536.2	7,307.0	91.8	90.7	45.26	4,851.2	-1,284.9	309.7	182.2	127.45	2.430		
12,800.0	7,525.0	12,636.2	7,307.0	93.4	92.4	45.26	4,951.2	-1,284.9	309.7	179.8	129.93	2.384		
12,900.0	7,525.0	12,736.2	7,307.0	95.1	94.1	45.26	5,051.2	-1,284.9	309.7	177.3	132.41	2.339		
13,000.0	7,525.0	12,836.2	7,307.0	96.8	95.8	45.26	5,151.2	-1,284.9	309.7	174.8	134.89	2.296		
13,087.3	7,525.0	12,923.4	7,307.0	98.2	97.2	45.26	5,238.4	-1,284.9	309.7	172.6	137.05	2.260 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3B-9H-N267 - Hz - Plan #4													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	90.00	0.0	21.1	21.1					
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	21.1	21.1	20.9	0.24	86.554	CC, ES	
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	21.1	21.1	20.6	0.59	35.640		
300.0	300.0	300.0	300.0	0.5	0.5	-162.65	0.0	21.1	22.8	21.9	0.94	24.201		
400.0	399.8	400.7	400.7	0.7	0.6	-164.53	-0.7	19.5	26.2	24.9	1.29	20.261		
500.0	499.5	501.6	501.4	0.9	0.8	-165.24	-3.0	14.7	29.7	28.1	1.65	18.036		
600.0	598.7	602.5	602.0	1.2	1.1	-165.15	-6.7	6.7	33.3	31.3	2.01	16.587		
700.0	697.5	703.6	702.3	1.5	1.3	-164.49	-12.0	-4.6	37.0	34.6	2.38	15.533		
800.0	795.6	804.7	802.1	1.9	1.6	-163.43	-18.7	-19.0	40.8	38.0	2.78	14.690		
900.0	893.2	904.6	900.5	2.3	2.0	-162.87	-26.0	-34.7	45.9	42.7	3.18	14.419		
1,000.0	990.7	1,004.5	998.8	2.7	2.3	-162.52	-33.3	-50.3	51.3	47.7	3.60	14.245		
1,100.0	1,088.2	1,104.3	1,097.2	3.1	2.6	-162.23	-40.6	-66.0	56.6	52.6	4.02	14.090		
1,200.0	1,185.8	1,204.2	1,195.5	3.5	3.0	-162.00	-47.9	-81.6	62.0	57.6	4.45	13.952		
1,300.0	1,283.3	1,304.0	1,293.9	3.9	3.3	-161.80	-55.2	-97.2	67.4	62.5	4.87	13.829		
1,400.0	1,380.8	1,403.9	1,392.3	4.4	3.7	-161.63	-62.5	-112.9	72.8	67.5	5.30	13.720		
1,500.0	1,478.3	1,503.7	1,490.6	4.8	4.0	-161.49	-69.8	-128.5	78.1	72.4	5.74	13.624		
1,600.0	1,575.9	1,603.6	1,589.0	5.2	4.3	-161.36	-77.1	-144.2	83.5	77.4	6.17	13.537		
1,700.0	1,673.4	1,703.4	1,687.3	5.6	4.7	-161.25	-84.4	-159.8	88.9	82.3	6.61	13.459		
1,800.0	1,770.9	1,803.3	1,785.7	6.1	5.0	-161.15	-91.7	-175.5	94.3	87.2	7.04	13.389		
1,900.0	1,868.4	1,903.2	1,884.0	6.5	5.4	-161.06	-98.9	-191.1	99.7	92.2	7.48	13.325		
2,000.0	1,965.9	2,003.0	1,982.4	6.9	5.7	-160.99	-106.2	-206.7	105.0	97.1	7.92	13.267		
2,100.0	2,063.5	2,102.9	2,080.7	7.4	6.1	-160.91	-113.5	-222.4	110.4	102.1	8.36	13.214		
2,200.0	2,161.0	2,202.7	2,179.1	7.8	6.4	-160.85	-120.8	-238.0	115.8	107.0	8.79	13.166		
2,300.0	2,258.5	2,302.6	2,277.4	8.2	6.8	-160.79	-128.1	-253.7	121.2	111.9	9.23	13.121		
2,400.0	2,356.0	2,402.4	2,375.8	8.7	7.1	-160.74	-135.4	-269.3	126.5	116.9	9.67	13.080		
2,500.0	2,453.5	2,502.3	2,474.1	9.1	7.5	-160.69	-142.7	-284.9	131.9	121.8	10.11	13.043		
2,600.0	2,551.1	2,602.1	2,572.5	9.5	7.8	-160.64	-150.0	-300.6	137.3	126.7	10.56	13.007		
2,700.0	2,648.6	2,702.0	2,670.8	9.9	8.2	-160.60	-157.3	-316.2	142.7	131.7	11.00	12.975		
2,800.0	2,746.1	2,801.8	2,769.2	10.4	8.5	-160.56	-164.6	-331.9	148.1	136.6	11.44	12.944		
2,900.0	2,843.6	2,901.7	2,867.5	10.8	8.9	-160.53	-171.9	-347.5	153.4	141.6	11.88	12.916		
3,000.0	2,941.2	3,001.6	2,965.9	11.2	9.2	-160.49	-179.1	-363.2	158.8	146.5	12.32	12.889		
3,100.0	3,038.7	3,101.4	3,064.2	11.7	9.6	-160.46	-186.4	-378.8	164.2	151.4	12.76	12.864		
3,200.0	3,136.2	3,201.3	3,162.6	12.1	9.9	-160.43	-193.7	-394.4	169.6	156.4	13.21	12.841		
3,300.0	3,233.7	3,301.1	3,261.0	12.5	10.3	-160.40	-201.0	-410.1	174.9	161.3	13.65	12.819		
3,400.0	3,331.2	3,401.0	3,359.3	13.0	10.6	-160.38	-208.3	-425.7	180.3	166.2	14.09	12.798		
3,500.0	3,428.8	3,500.8	3,457.7	13.4	11.0	-160.35	-215.6	-441.4	185.7	171.2	14.53	12.778		
3,600.0	3,526.3	3,600.7	3,556.0	13.8	11.3	-160.33	-222.9	-457.0	191.1	176.1	14.98	12.759		
3,700.0	3,623.8	3,700.5	3,654.4	14.2	11.7	-160.31	-230.2	-472.6	196.5	181.0	15.42	12.742		
3,800.0	3,721.3	3,800.4	3,752.7	14.7	12.0	-160.29	-237.5	-488.3	201.8	186.0	15.86	12.725		
3,900.0	3,818.8	3,900.3	3,851.1	15.1	12.4	-160.27	-244.8	-503.9	207.2	190.9	16.30	12.709		
4,000.0	3,916.4	4,000.1	3,949.4	15.5	12.7	-160.25	-252.1	-519.6	212.6	195.9	16.75	12.694		
4,100.0	4,013.9	4,100.0	4,047.8	16.0	13.1	-160.23	-259.4	-535.2	218.0	200.8	17.19	12.680		
4,200.0	4,111.4	4,199.8	4,146.1	16.4	13.4	-160.21	-266.6	-550.9	223.4	205.7	17.63	12.666		
4,300.0	4,208.9	4,299.7	4,244.5	16.8	13.8	-160.20	-273.9	-566.5	228.7	210.7	18.08	12.653		
4,400.0	4,306.5	4,399.5	4,342.8	17.3	14.1	-160.18	-281.2	-582.1	234.1	215.6	18.52	12.640		
4,500.0	4,404.0	4,499.4	4,441.2	17.7	14.5	-160.17	-288.5	-597.8	239.5	220.5	18.96	12.628		
4,600.0	4,501.5	4,599.2	4,539.5	18.1	14.8	-160.15	-295.8	-613.4	244.9	225.5	19.41	12.617		
4,700.0	4,599.0	4,699.1	4,637.9	18.6	15.2	-160.14	-303.1	-629.1	250.3	230.4	19.85	12.606		
4,800.0	4,696.5	4,799.0	4,736.2	19.0	15.5	-160.13	-310.4	-644.7	255.6	235.3	20.30	12.595		
4,900.0	4,794.1	4,898.8	4,834.6	19.4	15.9	-160.11	-317.7	-660.3	261.0	240.3	20.74	12.585		
5,000.0	4,891.6	4,998.7	4,932.9	19.9	16.2	-160.10	-325.0	-676.0	266.4	245.2	21.18	12.576		
5,100.0	4,989.1	5,098.5	5,031.3	20.3	16.6	-160.09	-332.3	-691.6	271.8	250.1	21.63	12.566		

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 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3B-9H-N267 - Hz - Plan #4													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		
5,200.0	5,086.6	5,198.4	5,129.7	20.7	16.9	-160.08	-339.6	-707.3	277.1	255.1	22.07	12.557		
5,300.0	5,184.1	5,298.2	5,228.0	21.1	17.3	-160.07	-346.9	-722.9	282.5	260.0	22.51	12.549		
5,400.0	5,281.7	5,398.1	5,326.4	21.6	17.6	-160.06	-354.1	-738.6	287.9	264.9	22.96	12.540		
5,500.0	5,379.2	5,497.9	5,424.7	22.0	18.0	-160.05	-361.4	-754.2	293.3	269.9	23.40	12.532		
5,600.0	5,476.7	5,597.8	5,523.1	22.4	18.3	-160.04	-368.7	-769.8	298.7	274.8	23.85	12.525		
5,700.0	5,574.2	5,697.6	5,621.4	22.9	18.7	-160.03	-376.0	-785.5	304.0	279.8	24.29	12.517		
5,800.0	5,671.7	5,797.5	5,719.8	23.3	19.0	-160.02	-383.3	-801.1	309.4	284.7	24.73	12.510		
5,900.0	5,769.3	5,897.4	5,818.1	23.7	19.4	-160.01	-390.6	-816.8	314.8	289.6	25.18	12.503		
6,000.0	5,866.8	5,997.2	5,916.5	24.2	19.8	-160.01	-397.9	-832.4	320.2	294.6	25.62	12.496		
6,100.0	5,964.3	6,097.1	6,014.8	24.6	20.1	-160.00	-405.2	-848.0	325.6	299.5	26.07	12.490		
6,200.0	6,061.8	6,196.9	6,113.2	25.0	20.5	-159.99	-412.5	-863.7	330.9	304.4	26.51	12.483		
6,300.0	6,159.4	6,296.8	6,211.5	25.5	20.8	-159.98	-419.8	-879.3	336.3	309.4	26.95	12.477		
6,400.0	6,256.9	6,396.6	6,309.9	25.9	21.2	-159.98	-427.1	-895.0	341.7	314.3	27.40	12.471		
6,500.0	6,354.4	6,496.5	6,408.2	26.3	21.5	-159.97	-434.4	-910.6	347.1	319.2	27.84	12.465		
6,600.0	6,451.9	6,596.3	6,506.6	26.8	21.9	-159.96	-441.6	-926.3	352.5	324.2	28.29	12.460		
6,700.0	6,549.4	6,696.2	6,604.9	27.2	22.2	-159.95	-448.9	-941.9	357.8	329.1	28.73	12.454		
6,800.0	6,647.0	6,796.1	6,703.3	27.6	22.6	-159.95	-456.2	-957.5	363.2	334.0	29.18	12.449		
6,900.0	6,744.5	6,895.9	6,801.6	28.0	22.9	-159.94	-463.5	-973.2	368.6	339.0	29.62	12.444		
7,000.0	6,842.1	6,995.7	6,899.9	28.4	23.3	175.37	-470.8	-988.8	374.1	344.0	30.09	12.433		
7,100.0	6,939.4	7,097.7	7,000.6	28.8	23.6	145.90	-472.7	-1,004.8	380.0	349.3	30.74	12.361		
7,200.0	7,034.4	7,202.5	7,102.7	29.0	23.8	129.55	-456.3	-1,021.0	385.8	355.0	30.78	12.534		
7,300.0	7,125.3	7,308.7	7,201.3	29.2	23.8	120.49	-420.7	-1,036.7	391.1	360.9	30.23	12.936		
7,400.0	7,210.4	7,415.2	7,292.0	29.4	23.8	114.58	-367.3	-1,051.2	395.6	366.3	29.30	13.505		
7,500.0	7,288.0	7,520.7	7,370.8	29.5	23.8	110.02	-298.3	-1,063.7	399.4	371.2	28.26	14.135		
7,600.0	7,356.6	7,624.4	7,434.8	29.6	23.8	106.03	-217.6	-1,073.9	402.6	375.2	27.44	14.671		
7,700.0	7,414.8	7,725.4	7,482.3	29.8	23.8	102.29	-128.9	-1,081.4	405.4	378.3	27.09	14.964		
7,800.0	7,461.5	7,823.1	7,513.0	29.9	23.9	98.67	-36.4	-1,086.3	408.2	380.9	27.30	14.955		
7,900.0	7,495.9	7,917.3	7,527.4	30.1	24.0	95.13	56.5	-1,088.6	411.2	383.3	27.89	14.744		
8,000.0	7,517.2	8,012.4	7,529.0	30.4	24.3	91.88	151.6	-1,088.9	414.5	385.8	28.73	14.430		
8,100.0	7,525.0	8,112.0	7,529.0	30.7	24.6	90.56	251.2	-1,088.9	416.0	386.4	29.69	14.015		
8,200.0	7,525.0	8,212.0	7,529.0	31.1	25.1	90.55	351.2	-1,088.9	416.0	384.8	31.27	13.303		
8,300.0	7,525.0	8,312.0	7,529.0	31.6	25.7	90.55	451.2	-1,088.9	416.0	382.9	33.19	12.537		
8,400.0	7,525.0	8,412.0	7,529.0	32.1	26.4	90.55	551.2	-1,088.9	416.0	380.7	35.34	11.771		
8,500.0	7,525.0	8,512.0	7,529.0	32.8	27.2	90.55	651.2	-1,088.9	416.0	378.3	37.70	11.034		
8,600.0	7,525.0	8,612.0	7,529.0	33.5	28.1	90.55	751.2	-1,088.9	416.0	375.8	40.23	10.341		
8,700.0	7,525.0	8,712.0	7,529.0	34.3	29.1	90.55	851.2	-1,088.9	416.0	373.1	42.90	9.698		
8,800.0	7,525.0	8,812.0	7,529.0	35.2	30.1	90.55	951.2	-1,088.9	416.0	370.4	45.68	9.108		
8,900.0	7,525.0	8,912.0	7,529.0	36.1	31.2	90.55	1,051.2	-1,088.9	416.0	367.5	48.56	8.568		
9,000.0	7,525.0	9,012.0	7,529.0	37.1	32.4	90.55	1,151.2	-1,088.9	416.0	364.5	51.51	8.077		
9,100.0	7,525.0	9,112.0	7,529.0	38.1	33.6	90.55	1,251.2	-1,088.9	416.0	361.5	54.53	7.630		
9,200.0	7,525.0	9,212.0	7,529.0	39.2	34.8	90.55	1,351.2	-1,088.9	416.0	358.4	57.60	7.223		
9,300.0	7,525.0	9,312.0	7,529.0	40.4	36.1	90.55	1,451.2	-1,088.9	416.0	355.3	60.72	6.851		
9,348.4	7,525.0	9,360.4	7,529.0	41.0	36.8	90.55	1,499.5	-1,088.9	416.0	353.8	62.25	6.683		
9,400.0	7,525.0	9,400.0	7,529.0	41.6	37.3	90.55	1,539.2	-1,088.6	416.5	352.8	63.70	6.539		
9,500.0	7,525.0	9,492.8	7,529.0	42.8	38.5	90.55	1,632.0	-1,085.8	419.5	352.8	66.77	6.283		
9,600.0	7,525.0	9,592.7	7,529.0	44.1	39.9	90.54	1,731.8	-1,081.2	424.1	354.1	69.99	6.059		
9,700.0	7,525.0	9,692.6	7,529.0	45.4	41.3	90.54	1,831.5	-1,076.7	428.7	355.4	73.24	5.853		
9,800.0	7,525.0	9,792.5	7,529.0	46.7	42.7	90.53	1,931.3	-1,072.1	433.3	356.8	76.51	5.663		
9,900.0	7,525.0	9,892.4	7,529.0	48.1	44.1	90.52	2,031.1	-1,067.5	437.8	358.0	79.80	5.487		
10,000.0	7,525.0	9,992.3	7,529.0	49.5	45.6	90.52	2,130.9	-1,062.9	442.4	359.3	83.10	5.324		
10,100.0	7,525.0	10,092.2	7,529.0	50.9	47.0	90.51	2,230.7	-1,058.4	447.0	360.6	86.42	5.172		
10,200.0	7,525.0	10,192.1	7,529.0	52.3	48.5	90.51	2,330.5	-1,053.8	451.6	361.8	89.76	5.031		

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 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3B-9H-N267 - Hz - Plan #4													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		
10,300.0	7,525.0	10,292.0	7,529.0	53.7	50.1	90.50	2,430.3	-1,049.2	456.2	363.0	93.11	4.899		
10,400.0	7,525.0	10,391.9	7,529.0	55.2	51.6	90.50	2,530.1	-1,044.6	460.7	364.3	96.47	4.776		
10,500.0	7,525.0	10,491.8	7,529.0	56.7	53.1	90.49	2,629.9	-1,040.1	465.3	365.5	99.84	4.661		
10,600.0	7,525.0	10,591.7	7,529.0	58.2	54.7	90.49	2,729.7	-1,035.5	469.9	366.7	103.22	4.552		
10,700.0	7,525.0	10,691.6	7,529.0	59.7	56.3	90.48	2,829.5	-1,030.9	474.5	367.9	106.61	4.451		
10,800.0	7,525.0	10,791.5	7,529.0	61.2	57.8	90.48	2,929.2	-1,026.3	479.0	369.0	110.00	4.355		
10,900.0	7,525.0	10,891.4	7,529.0	62.8	59.4	90.47	3,029.0	-1,021.8	483.6	370.2	113.40	4.265		
11,000.0	7,525.0	10,991.3	7,529.0	64.3	61.0	90.47	3,128.8	-1,017.2	488.2	371.4	116.81	4.179		
11,100.0	7,525.0	11,091.1	7,529.0	65.9	62.6	90.47	3,228.6	-1,012.6	492.8	372.6	120.22	4.099		
11,200.0	7,525.0	11,191.0	7,529.0	67.4	64.2	90.46	3,328.4	-1,008.1	497.4	373.7	123.64	4.023		
12,100.0	7,525.0	12,145.3	7,529.0	81.9	80.1	90.46	4,281.6	-1,006.9	498.9	343.4	155.54	3.208		
12,200.0	7,525.0	12,245.1	7,529.0	83.5	81.8	90.47	4,381.3	-1,013.0	492.8	333.8	158.99	3.100		
12,300.0	7,525.0	12,344.9	7,529.0	85.2	83.5	90.47	4,480.9	-1,019.1	486.7	324.3	162.44	2.996		
12,400.0	7,525.0	12,444.7	7,529.0	86.8	85.3	90.48	4,580.5	-1,025.2	480.6	314.7	165.90	2.897		
12,500.0	7,525.0	12,544.6	7,529.0	88.5	87.0	90.48	4,680.1	-1,031.3	474.5	305.1	169.36	2.802		
12,600.0	7,525.0	12,644.4	7,529.0	90.1	88.7	90.49	4,779.8	-1,037.4	468.4	295.6	172.82	2.710		
12,700.0	7,525.0	12,744.2	7,529.0	91.8	90.4	90.50	4,879.4	-1,043.5	462.3	286.0	176.28	2.623		
12,800.0	7,525.0	12,844.0	7,529.0	93.4	92.1	90.50	4,979.0	-1,049.6	456.2	276.4	179.74	2.538		
12,900.0	7,525.0	12,943.8	7,529.0	95.1	93.8	90.51	5,078.7	-1,055.7	450.1	266.9	183.20	2.457		
13,000.0	7,525.0	13,043.6	7,529.0	96.8	95.5	90.52	5,178.3	-1,061.7	444.0	257.3	186.67	2.378		
13,083.6	7,525.0	13,100.2	7,529.0	98.2	96.5	90.52	5,234.8	-1,065.2	439.7	250.6	189.10	2.325		
13,087.3	7,525.0	13,100.2	7,529.0	98.2	96.5	90.52	5,234.8	-1,065.2	439.7	250.5	189.17	2.324 SF		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3C-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		
0.0	0.0	0.0	0.0	0.0	0.0	90.02	0.0	29.5	29.5					
100.0	100.0	100.0	100.0	0.1	0.1	90.02	0.0	29.5	29.5	29.3	0.24	120.876	CC, ES	
200.0	200.0	200.0	200.0	0.3	0.3	90.02	0.0	29.5	29.5	28.9	0.59	49.773		
300.0	300.0	300.0	300.0	0.5	0.5	-162.26	0.0	29.5	31.2	30.3	0.94	33.096		
400.0	399.8	399.8	399.8	0.7	0.6	-164.76	0.0	29.5	36.2	34.9	1.29	28.039		
500.0	499.5	500.1	500.1	0.9	0.8	-167.18	-0.5	28.8	43.9	42.3	1.64	26.755		
600.0	598.7	600.4	600.4	1.2	1.0	-168.81	-1.9	26.6	53.5	51.5	1.99	26.872		
700.0	697.5	700.7	700.6	1.5	1.2	-169.85	-4.2	22.9	64.9	62.6	2.34	27.745		
800.0	795.6	801.0	800.7	1.9	1.4	-170.48	-7.5	17.7	78.2	75.5	2.69	29.066		
900.0	893.2	901.3	900.7	2.3	1.6	-170.81	-11.7	11.0	92.6	89.6	3.05	30.393		
1,000.0	990.7	1,002.1	1,001.0	2.7	1.8	-170.72	-16.9	2.8	105.7	102.3	3.42	30.952		
1,100.0	1,088.2	1,103.2	1,101.4	3.1	2.1	-170.31	-23.1	-6.9	117.2	113.4	3.79	30.904		
1,200.0	1,185.8	1,204.7	1,202.0	3.5	2.3	-169.65	-30.2	-18.1	127.1	122.9	4.18	30.393		
1,300.0	1,283.3	1,305.6	1,301.9	3.9	2.6	-168.79	-38.1	-30.7	135.5	130.9	4.58	29.563		
1,400.0	1,380.8	1,405.3	1,400.4	4.4	2.9	-167.99	-46.2	-43.4	143.6	138.6	4.99	28.774		
1,500.0	1,478.3	1,504.9	1,498.9	4.8	3.2	-167.28	-54.2	-56.2	151.8	146.3	5.41	28.073		
1,600.0	1,575.9	1,604.6	1,597.4	5.2	3.5	-166.63	-62.3	-68.9	159.9	154.1	5.83	27.447		
1,700.0	1,673.4	1,704.3	1,695.9	5.6	3.8	-166.05	-70.3	-81.6	168.1	161.8	6.25	26.885		
1,800.0	1,770.9	1,803.9	1,794.4	6.1	4.1	-165.52	-78.4	-94.3	176.3	169.6	6.68	26.378		
1,900.0	1,868.4	1,903.6	1,892.9	6.5	4.4	-165.04	-86.4	-107.0	184.5	177.4	7.12	25.918		
2,000.0	1,965.9	2,003.2	1,991.5	6.9	4.7	-164.61	-94.5	-119.8	192.7	185.2	7.56	25.501		
2,100.0	2,063.5	2,102.9	2,090.0	7.4	5.0	-164.20	-102.5	-132.5	200.9	192.9	8.00	25.119		
2,200.0	2,161.0	2,202.5	2,188.5	7.8	5.3	-163.83	-110.6	-145.2	209.2	200.7	8.44	24.770		
2,300.0	2,258.5	2,302.2	2,287.0	8.2	5.7	-163.49	-118.6	-157.9	217.4	208.5	8.89	24.450		
2,400.0	2,356.0	2,401.8	2,385.5	8.7	6.0	-163.17	-126.7	-170.6	225.7	216.3	9.34	24.155		
2,500.0	2,453.5	2,501.5	2,484.0	9.1	6.3	-162.87	-134.7	-183.4	233.9	224.2	9.80	23.882		
2,600.0	2,551.1	2,601.1	2,582.5	9.5	6.6	-162.60	-142.8	-196.1	242.2	232.0	10.25	23.629		
2,700.0	2,648.6	2,700.8	2,681.0	9.9	6.9	-162.34	-150.8	-208.8	250.5	239.8	10.71	23.394		
2,800.0	2,746.1	2,800.4	2,779.5	10.4	7.2	-162.10	-158.9	-221.5	258.8	247.6	11.17	23.176		
2,900.0	2,843.6	2,900.1	2,878.0	10.8	7.5	-161.87	-166.9	-234.2	267.0	255.4	11.62	22.972		
3,000.0	2,941.2	2,999.7	2,976.5	11.2	7.8	-161.66	-175.0	-247.0	275.3	263.2	12.09	22.782		
3,100.0	3,038.7	3,099.4	3,075.0	11.7	8.2	-161.46	-183.0	-259.7	283.6	271.1	12.55	22.603		
3,200.0	3,136.2	3,199.0	3,173.5	12.1	8.5	-161.27	-191.1	-272.4	291.9	278.9	13.01	22.436		
3,300.0	3,233.7	3,298.7	3,272.1	12.5	8.8	-161.09	-199.1	-285.1	300.2	286.7	13.48	22.278		
3,400.0	3,331.2	3,398.3	3,370.6	13.0	9.1	-160.92	-207.2	-297.8	308.5	294.6	13.94	22.130		
3,500.0	3,428.8	3,498.0	3,469.1	13.4	9.4	-160.77	-215.2	-310.6	316.8	302.4	14.41	21.990		
3,600.0	3,526.3	3,597.6	3,567.6	13.8	9.7	-160.61	-223.3	-323.3	325.1	310.2	14.87	21.858		
3,700.0	3,623.8	3,697.3	3,666.1	14.2	10.0	-160.47	-231.3	-336.0	333.4	318.1	15.34	21.733		
3,800.0	3,721.3	3,796.9	3,764.6	14.7	10.4	-160.33	-239.4	-348.7	341.7	325.9	15.81	21.614		
3,900.0	3,818.8	3,896.6	3,863.1	15.1	10.7	-160.20	-247.4	-361.4	350.0	333.7	16.28	21.502		
4,000.0	3,916.4	3,996.2	3,961.6	15.5	11.0	-160.08	-255.5	-374.2	358.3	341.6	16.75	21.395		
4,100.0	4,013.9	4,095.9	4,060.1	16.0	11.3	-159.96	-263.5	-386.9	366.6	349.4	17.22	21.294		
4,200.0	4,111.4	4,195.5	4,158.6	16.4	11.6	-159.84	-271.6	-399.6	375.0	357.3	17.69	21.197		
4,300.0	4,208.9	4,295.2	4,257.1	16.8	11.9	-159.74	-279.6	-412.3	383.3	365.1	18.16	21.105		
4,400.0	4,306.5	4,394.8	4,355.6	17.3	12.2	-159.63	-287.7	-425.0	391.6	373.0	18.63	21.017		
4,500.0	4,404.0	4,494.5	4,454.1	17.7	12.6	-159.53	-295.7	-437.8	399.9	380.8	19.10	20.933		
4,600.0	4,501.5	4,594.1	4,552.7	18.1	12.9	-159.44	-303.7	-450.5	408.2	388.6	19.58	20.852		
4,700.0	4,599.0	4,693.8	4,651.2	18.6	13.2	-159.34	-311.8	-463.2	416.5	396.5	20.05	20.775		
4,800.0	4,696.5	4,793.4	4,749.7	19.0	13.5	-159.26	-319.8	-475.9	424.9	404.3	20.52	20.702		
4,900.0	4,794.1	4,893.1	4,848.2	19.4	13.8	-159.17	-327.9	-488.6	433.2	412.2	21.00	20.631		
5,000.0	4,891.6	4,992.7	4,946.7	19.9	14.1	-159.09	-335.9	-501.4	441.5	420.0	21.47	20.563		
5,100.0	4,989.1	5,092.4	5,045.2	20.3	14.5	-159.01	-344.0	-514.1	449.8	427.9	21.94	20.498		

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 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design													S9-T2N-R67W (Sprague) - Sprague 3C-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	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						
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)								
5,200.0	5,086.6	5,192.0	5,143.7	20.7	14.8	-158.94	-352.0	-526.8	458.1	435.7	22.42	20.436						
5,300.0	5,184.1	5,291.7	5,242.2	21.1	15.1	-158.86	-360.1	-539.5	466.5	443.6	22.89	20.376						
5,400.0	5,281.7	5,391.3	5,340.7	21.6	15.4	-158.79	-368.1	-552.2	474.8	451.4	23.37	20.318						
5,500.0	5,379.2	5,491.0	5,439.2	22.0	15.7	-158.72	-376.2	-565.0	483.1	459.3	23.84	20.262						
5,600.0	5,476.7	5,590.6	5,537.7	22.4	16.0	-158.66	-384.2	-577.7	491.4	467.1	24.32	20.208						
5,700.0	5,574.2	5,690.3	5,636.2	22.9	16.4	-158.59	-392.3	-590.4	499.8	475.0	24.79	20.156 SF						

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3D-9H-N267 - Hz - Plan #3													Offset Site Error:	0.0 ft
Survey Program: O-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	90.02	0.0	40.7	40.7					
100.0	100.0	100.0	100.0	0.1	0.1	90.02	0.0	40.7	40.7	40.5	0.24	166.639		
200.0	200.0	200.0	200.0	0.3	0.3	90.02	0.0	40.7	40.7	40.1	0.59	68.616 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-161.98	0.0	40.7	42.4	41.4	0.94	44.958		
400.0	399.8	399.8	399.8	0.7	0.6	-163.91	0.0	40.7	47.4	46.1	1.29	36.678		
500.0	499.5	499.5	499.5	0.9	0.8	-166.35	0.0	40.7	55.8	54.2	1.64	34.027		
600.0	598.7	599.8	599.8	1.2	1.0	-168.48	-0.5	40.0	66.9	64.9	1.99	33.658		
700.0	697.5	700.1	700.1	1.5	1.2	-169.97	-1.8	37.7	79.9	77.6	2.34	34.213		
800.0	795.6	800.4	800.3	1.9	1.4	-170.99	-4.0	33.9	94.7	92.0	2.68	35.317		
900.0	893.2	900.8	900.5	2.3	1.6	-171.67	-7.0	28.6	110.7	107.6	3.03	36.483		
1,000.0	990.7	1,001.7	1,001.1	2.7	1.8	-171.94	-11.0	21.7	125.3	121.9	3.39	36.917		
1,100.0	1,088.2	1,103.1	1,102.0	3.1	2.0	-171.92	-15.9	13.3	138.2	134.5	3.76	36.780		
1,200.0	1,185.8	1,204.8	1,203.1	3.5	2.2	-171.67	-21.7	3.2	149.5	145.4	4.13	36.209		
1,300.0	1,283.3	1,306.8	1,304.1	3.9	2.5	-171.23	-28.4	-8.4	159.1	154.6	4.51	35.303		
1,400.0	1,380.8	1,406.4	1,402.7	4.4	2.8	-170.76	-35.3	-20.4	168.1	163.2	4.89	34.385		
1,500.0	1,478.3	1,506.0	1,501.4	4.8	3.0	-170.34	-42.2	-32.4	177.0	171.7	5.27	33.580		
1,600.0	1,575.9	1,605.6	1,600.0	5.2	3.3	-169.96	-49.2	-44.4	185.9	180.3	5.66	32.868		
1,700.0	1,673.4	1,705.1	1,698.6	5.6	3.6	-169.61	-56.1	-56.4	194.9	188.8	6.05	32.234		
1,800.0	1,770.9	1,804.7	1,797.2	6.1	3.9	-169.30	-63.0	-68.4	203.8	197.4	6.44	31.665		
1,900.0	1,868.4	1,904.3	1,895.9	6.5	4.2	-169.01	-70.0	-80.4	212.8	206.0	6.83	31.152		
2,000.0	1,965.9	2,003.9	1,994.5	6.9	4.5	-168.74	-76.9	-92.4	221.8	214.5	7.23	30.687		
2,100.0	2,063.5	2,103.5	2,093.1	7.4	4.7	-168.50	-83.8	-104.4	230.7	223.1	7.62	30.264		
2,200.0	2,161.0	2,203.1	2,191.7	7.8	5.0	-168.27	-90.7	-116.4	239.7	231.7	8.02	29.878		
2,300.0	2,258.5	2,302.7	2,290.3	8.2	5.3	-168.06	-97.7	-128.4	248.7	240.2	8.42	29.523		
2,400.0	2,356.0	2,402.3	2,389.0	8.7	5.6	-167.87	-104.6	-140.4	257.6	248.8	8.82	29.197		
2,500.0	2,453.5	2,501.9	2,487.6	9.1	5.9	-167.69	-111.5	-152.4	266.6	257.4	9.23	28.895		
2,600.0	2,551.1	2,601.5	2,586.2	9.5	6.2	-167.51	-118.5	-164.4	275.6	266.0	9.63	28.616		
2,700.0	2,648.6	2,701.1	2,684.8	9.9	6.5	-167.35	-125.4	-176.4	284.6	274.6	10.04	28.356		
2,800.0	2,746.1	2,800.7	2,783.5	10.4	6.8	-167.20	-132.3	-188.4	293.6	283.1	10.44	28.114		
2,900.0	2,843.6	2,900.3	2,882.1	10.8	7.1	-167.06	-139.3	-200.4	302.6	291.7	10.85	27.889		
3,000.0	2,941.2	2,999.9	2,980.7	11.2	7.4	-166.93	-146.2	-212.5	311.6	300.3	11.26	27.678		
3,100.0	3,038.7	3,099.4	3,079.3	11.7	7.7	-166.81	-153.1	-224.5	320.6	308.9	11.66	27.480		
3,200.0	3,136.2	3,199.0	3,178.0	12.1	8.0	-166.69	-160.0	-236.5	329.5	317.5	12.07	27.294		
3,300.0	3,233.7	3,298.6	3,276.6	12.5	8.3	-166.57	-167.0	-248.5	338.5	326.1	12.48	27.119		
3,400.0	3,331.2	3,398.2	3,375.2	13.0	8.6	-166.47	-173.9	-260.5	347.5	334.6	12.89	26.955		
3,500.0	3,428.8	3,497.8	3,473.8	13.4	8.9	-166.37	-180.8	-272.5	356.5	343.2	13.30	26.799		
3,600.0	3,526.3	3,597.4	3,572.5	13.8	9.2	-166.27	-187.8	-284.5	365.5	351.8	13.72	26.652		
3,700.0	3,623.8	3,697.0	3,671.1	14.2	9.5	-166.18	-194.7	-296.5	374.5	360.4	14.13	26.512		
3,800.0	3,721.3	3,796.6	3,769.7	14.7	9.8	-166.09	-201.6	-308.5	383.5	369.0	14.54	26.380		
3,900.0	3,818.8	3,896.2	3,868.3	15.1	10.1	-166.01	-208.6	-320.5	392.5	377.6	14.95	26.255		
4,000.0	3,916.4	3,995.8	3,966.9	15.5	10.3	-165.93	-215.5	-332.5	401.5	386.2	15.36	26.135		
4,100.0	4,013.9	4,095.4	4,065.6	16.0	10.6	-165.85	-222.4	-344.5	410.5	394.8	15.78	26.021		
4,200.0	4,111.4	4,195.0	4,164.2	16.4	10.9	-165.78	-229.3	-356.5	419.5	403.4	16.19	25.913		
4,300.0	4,208.9	4,294.6	4,262.8	16.8	11.2	-165.71	-236.3	-368.5	428.6	411.9	16.60	25.810		
4,400.0	4,306.5	4,394.1	4,361.4	17.3	11.5	-165.64	-243.2	-380.5	437.6	420.5	17.02	25.711		
4,500.0	4,404.0	4,493.7	4,460.1	17.7	11.8	-165.58	-250.1	-392.5	446.6	429.1	17.43	25.616		
4,600.0	4,501.5	4,593.3	4,558.7	18.1	12.1	-165.52	-257.1	-404.5	455.6	437.7	17.85	25.526		
4,700.0	4,599.0	4,692.9	4,657.3	18.6	12.4	-165.46	-264.0	-416.5	464.6	446.3	18.26	25.439		
4,800.0	4,696.5	4,792.5	4,755.9	19.0	12.7	-165.40	-270.9	-428.5	473.6	454.9	18.68	25.356		
4,900.0	4,794.1	4,892.1	4,854.6	19.4	13.0	-165.35	-277.9	-440.5	482.6	463.5	19.09	25.277		
5,000.0	4,891.6	4,991.7	4,953.2	19.9	13.3	-165.30	-284.8	-452.5	491.6	472.1	19.51	25.200 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 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3E-9H-N267 - Hz - Plan #3														Offset Site Error:	0.0 ft
Survey Program: 0-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		
0.0	0.0	0.0	0.0	0.0	0.0	90.03	0.0	49.1	49.1						
100.0	100.0	100.0	100.0	0.1	0.1	90.03	0.0	49.1	49.1	48.9	0.24	200.961			
200.0	200.0	200.0	200.0	0.3	0.3	90.03	0.0	49.1	49.1	48.5	0.59	82.749 CC, ES			
300.0	300.0	300.3	300.3	0.5	0.5	-160.94	-0.8	48.8	50.4	49.5	0.94	53.414			
400.0	399.8	400.6	400.5	0.7	0.7	-160.15	-3.3	47.8	54.4	53.1	1.30	41.844			
500.0	499.5	500.7	500.6	0.9	0.8	-159.05	-7.3	46.1	61.0	59.3	1.67	36.611			
600.0	598.7	600.6	600.3	1.2	1.0	-157.86	-13.0	43.8	70.3	68.2	2.05	34.282			
700.0	697.5	700.3	699.7	1.5	1.3	-156.71	-20.2	40.8	82.3	79.8	2.46	33.449			
800.0	795.6	799.7	798.6	1.9	1.5	-155.67	-29.0	37.1	96.9	94.0	2.90	33.425			
900.0	893.2	898.8	897.1	2.3	1.7	-154.71	-39.4	32.9	113.6	110.2	3.37	33.656			
1,000.0	990.7	998.0	995.4	2.7	2.0	-153.35	-51.3	27.9	130.1	126.2	3.89	33.402			
1,100.0	1,088.2	1,097.2	1,093.5	3.1	2.3	-151.64	-64.8	22.4	146.3	141.8	4.46	32.787			
1,200.0	1,185.8	1,196.3	1,191.3	3.5	2.6	-149.67	-79.9	16.1	162.2	157.1	5.08	31.945			
1,300.0	1,283.3	1,295.2	1,288.5	3.9	3.0	-147.57	-96.3	9.4	178.0	172.2	5.73	31.048			
1,400.0	1,380.8	1,393.7	1,385.4	4.4	3.3	-145.75	-112.9	2.5	194.0	187.6	6.40	30.287			
1,500.0	1,478.3	1,492.3	1,482.3	4.8	3.6	-144.20	-129.5	-4.3	210.1	203.0	7.08	29.654			
1,600.0	1,575.9	1,590.8	1,579.2	5.2	4.0	-142.87	-146.1	-11.2	226.4	218.6	7.77	29.123			
1,700.0	1,673.4	1,689.3	1,676.1	5.6	4.3	-141.73	-162.7	-18.0	242.7	234.3	8.47	28.674			
1,800.0	1,770.9	1,787.9	1,773.0	6.1	4.7	-140.72	-179.3	-24.9	259.2	250.0	9.16	28.289			
1,900.0	1,868.4	1,886.4	1,869.9	6.5	5.0	-139.84	-195.9	-31.7	275.7	265.8	9.86	27.958			
2,000.0	1,965.9	1,985.0	1,966.8	6.9	5.4	-139.06	-212.5	-38.6	292.3	281.7	10.56	27.671			
2,100.0	2,063.5	2,083.5	2,063.7	7.4	5.7	-138.36	-229.1	-45.4	308.9	297.6	11.27	27.419			
2,200.0	2,161.0	2,182.1	2,160.6	7.8	6.1	-137.73	-245.7	-52.3	325.6	313.6	11.97	27.198			
2,300.0	2,258.5	2,280.6	2,257.5	8.2	6.5	-137.16	-262.3	-59.1	342.2	329.6	12.68	27.001			
2,400.0	2,356.0	2,379.1	2,354.4	8.7	6.8	-136.65	-278.9	-66.0	359.0	345.6	13.38	26.826			
2,500.0	2,453.5	2,477.7	2,451.3	9.1	7.2	-136.18	-295.5	-72.8	375.7	361.6	14.09	26.669			
2,600.0	2,551.1	2,576.2	2,548.1	9.5	7.5	-135.75	-312.1	-79.7	392.5	377.7	14.80	26.527			
2,700.0	2,648.6	2,674.8	2,645.0	9.9	7.9	-135.36	-328.7	-86.5	409.3	393.8	15.50	26.399			
2,800.0	2,746.1	2,773.3	2,741.9	10.4	8.2	-135.00	-345.3	-93.4	426.1	409.9	16.21	26.282			
2,900.0	2,843.6	2,871.9	2,838.8	10.8	8.6	-134.66	-361.9	-100.2	442.9	426.0	16.92	26.175			
3,000.0	2,941.2	2,970.4	2,935.7	11.2	8.9	-134.35	-378.5	-107.1	459.8	442.1	17.63	26.078			
3,100.0	3,038.7	3,068.9	3,032.6	11.7	9.3	-134.06	-395.1	-113.9	476.6	458.3	18.34	25.988			
3,200.0	3,136.2	3,167.9	3,130.0	12.1	9.6	-133.84	-411.4	-120.6	493.5	474.4	19.03	25.930 SF			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3F-9H-N267 - Hz - Plan #3													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	90.03	0.0	60.3	60.3					
100.0	100.0	100.0	100.0	0.1	0.1	90.03	0.0	60.3	60.3	60.0	0.24	246.724		
200.0	200.0	200.0	200.0	0.3	0.3	90.03	0.0	60.3	60.3	59.7	0.59	101.592 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-161.73	0.0	60.3	61.9	61.0	0.94	65.718		
400.0	399.8	399.8	399.8	0.7	0.6	-163.11	0.0	60.3	66.9	65.6	1.29	51.807		
500.0	499.5	499.5	499.5	0.9	0.8	-164.99	0.0	60.3	75.3	73.7	1.64	45.895		
600.0	598.7	598.6	598.6	1.2	1.0	-166.45	-0.9	60.4	87.2	85.2	1.99	43.839 SF		
700.0	697.5	697.3	697.2	1.5	1.2	-166.99	-3.4	60.9	102.6	100.3	2.34	43.861		
800.0	795.6	795.3	795.2	1.9	1.3	-166.92	-7.5	61.6	121.5	118.8	2.70	45.055		
900.0	893.2	892.7	892.4	2.3	1.5	-166.47	-13.3	62.6	143.3	140.2	3.07	46.636		
1,000.0	990.7	990.0	989.4	2.7	1.7	-165.60	-20.7	63.9	165.4	162.0	3.47	47.677		
1,100.0	1,088.2	1,087.1	1,086.1	3.1	1.9	-164.43	-29.6	65.5	187.8	183.9	3.89	48.264		
1,200.0	1,185.8	1,184.0	1,182.4	3.5	2.2	-163.06	-40.2	67.4	210.4	206.1	4.34	48.490		
1,300.0	1,283.3	1,280.6	1,278.2	3.9	2.4	-161.54	-52.3	69.5	233.4	228.6	4.82	48.464		
1,400.0	1,380.8	1,377.7	1,374.4	4.4	2.7	-160.11	-65.3	71.8	256.6	251.3	5.31	48.310		
1,500.0	1,478.3	1,474.7	1,470.5	4.8	2.9	-158.92	-78.3	74.1	280.0	274.2	5.82	48.132		
1,600.0	1,575.9	1,571.8	1,566.7	5.2	3.2	-157.91	-91.2	76.4	303.5	297.2	6.33	47.945		
1,700.0	1,673.4	1,668.9	1,662.9	5.6	3.5	-157.04	-104.2	78.7	327.1	320.2	6.85	47.759		
1,800.0	1,770.9	1,766.0	1,759.1	6.1	3.7	-156.30	-117.2	80.9	350.7	343.3	7.37	47.581		
1,900.0	1,868.4	1,863.0	1,855.2	6.5	4.0	-155.64	-130.2	83.2	374.3	366.5	7.90	47.413		
2,000.0	1,965.9	1,960.1	1,951.4	6.9	4.3	-155.06	-143.1	85.5	398.1	389.6	8.42	47.256		
2,100.0	2,063.5	2,057.2	2,047.6	7.4	4.6	-154.55	-156.1	87.8	421.8	412.8	8.95	47.110		
2,200.0	2,161.0	2,154.3	2,143.8	7.8	4.8	-154.10	-169.1	90.1	445.6	436.1	9.49	46.975		
2,300.0	2,258.5	2,251.3	2,240.0	8.2	5.1	-153.68	-182.1	92.4	469.4	459.3	10.02	46.850		
2,400.0	2,356.0	2,348.4	2,336.1	8.7	5.4	-153.31	-195.0	94.7	493.2	482.6	10.55	46.733		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3G-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							
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
0.0	0.0	0.0	0.0	0.0	0.0	90.03	0.0	71.5	71.5				
100.0	100.0	100.0	100.0	0.1	0.1	90.03	0.0	71.5	71.5	71.2	0.24	292.487	
200.0	200.0	200.0	200.0	0.3	0.3	90.03	0.0	71.5	71.5	70.9	0.59	120.436 CC, ES	
300.0	300.0	300.0	300.0	0.5	0.5	-161.65	0.0	71.5	73.1	72.2	0.94	77.581	
400.0	399.8	399.8	399.8	0.7	0.6	-162.83	0.0	71.5	78.1	76.8	1.29	60.454	
500.0	499.5	498.4	498.4	0.9	0.8	-164.06	-0.6	72.1	87.1	85.4	1.64	53.076	
600.0	598.7	596.4	596.4	1.2	1.0	-164.82	-2.4	73.9	100.5	98.5	1.99	50.527 SF	
700.0	697.5	693.5	693.4	1.5	1.2	-165.18	-5.3	76.9	118.5	116.1	2.34	50.583	
800.0	795.6	789.6	789.3	1.9	1.4	-165.24	-9.2	81.0	140.8	138.1	2.70	52.158	
900.0	893.2	884.4	883.8	2.3	1.6	-165.15	-14.3	86.2	166.9	163.9	3.07	54.366	
1,000.0	990.7	978.6	977.6	2.7	1.8	-164.79	-20.3	92.5	194.4	190.9	3.46	56.236	
1,100.0	1,088.2	1,072.1	1,070.6	3.1	2.0	-164.21	-27.4	99.8	222.8	219.0	3.85	57.820	
1,200.0	1,185.8	1,165.0	1,162.7	3.5	2.2	-163.50	-35.5	108.2	252.4	248.1	4.27	59.176	
1,300.0	1,283.3	1,259.1	1,255.9	3.9	2.5	-162.75	-44.5	117.5	282.8	278.2	4.69	60.317	
1,400.0	1,380.8	1,354.3	1,350.2	4.4	2.7	-162.11	-53.7	127.0	313.4	308.3	5.12	61.208	
1,500.0	1,478.3	1,449.4	1,444.4	4.8	3.0	-161.59	-62.9	136.5	344.0	338.4	5.55	61.928	
1,600.0	1,575.9	1,544.6	1,538.6	5.2	3.3	-161.15	-72.1	146.1	374.6	368.6	5.99	62.520	
1,700.0	1,673.4	1,639.8	1,632.9	5.6	3.6	-160.78	-81.3	155.6	405.3	398.8	6.43	63.015	
1,800.0	1,770.9	1,734.9	1,727.1	6.1	3.8	-160.46	-90.5	165.1	435.9	429.0	6.87	63.433	
1,900.0	1,868.4	1,830.1	1,821.3	6.5	4.1	-160.19	-99.7	174.7	466.6	459.2	7.31	63.791	
2,000.0	1,965.9	1,925.2	1,915.6	6.9	4.4	-159.94	-108.9	184.2	497.2	489.5	7.76	64.101	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3H-9H-N267 - Hz - Plan #3													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		Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
							+N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	90.04	-0.1	79.9	79.9					
100.0	100.0	100.0	100.0	0.1	0.1	90.04	-0.1	79.9	79.9	79.6	0.24	326.810		
200.0	200.0	200.0	200.0	0.3	0.3	90.04	-0.1	79.9	79.9	79.3	0.59	134.569	CC, ES	
300.0	300.0	300.0	300.0	0.5	0.5	-161.61	-0.1	79.9	81.5	80.6	0.94	86.479		
400.0	399.8	399.8	399.8	0.7	0.6	-162.67	-0.1	79.9	86.5	85.2	1.29	66.940		
500.0	499.5	496.8	496.8	0.9	0.8	-163.58	-0.9	81.2	96.2	94.6	1.64	58.744		
600.0	598.7	592.7	592.5	1.2	1.0	-163.79	-3.5	85.3	112.1	110.1	1.99	56.381	SF	
700.0	697.5	686.9	686.4	1.5	1.2	-163.50	-7.7	92.0	133.8	131.5	2.34	57.104		
800.0	795.6	779.1	778.0	1.9	1.4	-162.95	-13.3	101.1	161.5	158.8	2.71	59.564		
900.0	893.2	868.9	866.9	2.3	1.7	-162.34	-20.3	112.3	194.2	191.1	3.10	62.737		
1,000.0	990.7	960.8	957.3	2.7	2.0	-161.64	-28.7	125.7	229.2	225.7	3.50	65.472		
1,100.0	1,088.2	1,054.4	1,049.5	3.1	2.3	-161.10	-37.3	139.5	264.3	260.4	3.91	67.514		
1,200.0	1,185.8	1,148.0	1,141.7	3.5	2.6	-160.68	-45.9	153.3	299.4	295.1	4.33	69.101		
1,300.0	1,283.3	1,241.6	1,233.9	3.9	2.9	-160.35	-54.6	167.1	334.5	329.8	4.75	70.363		
1,400.0	1,380.8	1,335.2	1,326.1	4.4	3.2	-160.08	-63.2	180.9	369.7	364.5	5.18	71.389		
1,500.0	1,478.3	1,428.8	1,418.3	4.8	3.5	-159.86	-71.8	194.6	404.8	399.2	5.60	72.238		
1,600.0	1,575.9	1,522.5	1,510.5	5.2	3.8	-159.67	-80.4	208.4	440.0	434.0	6.03	72.950		
1,700.0	1,673.4	1,616.1	1,602.7	5.6	4.2	-159.51	-89.0	222.2	475.1	468.7	6.46	73.555		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3I-9H-N267 - Hz - Plan #3													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	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)				
0.0	0.0	0.0	0.0	0.0	0.0	92.29	-3.6	91.0	91.1					
100.0	100.0	100.0	100.0	0.1	0.1	92.29	-3.6	91.0	91.1	90.9	0.24	372.870		
200.0	200.0	200.0	200.0	0.3	0.3	92.29	-3.6	91.0	91.1	90.5	0.59	153.535	CC, ES	
300.0	300.0	300.0	300.0	0.5	0.5	-159.34	-3.6	91.0	92.7	91.8	0.94	98.384		
400.0	399.8	396.7	396.7	0.7	0.6	-160.00	-4.3	92.5	99.2	97.9	1.29	77.051		
500.0	499.5	492.6	492.5	0.9	0.8	-160.48	-6.1	97.0	112.1	110.5	1.64	68.559		
600.0	598.7	587.0	586.6	1.2	1.0	-160.75	-9.2	104.3	131.3	129.3	1.99	66.093	SF	
700.0	697.5	679.5	678.4	1.5	1.3	-160.84	-13.3	114.2	156.6	154.2	2.34	66.853		
800.0	795.6	769.5	767.4	1.9	1.5	-160.80	-18.4	126.5	187.9	185.2	2.71	69.462		
900.0	893.2	856.8	853.3	2.3	1.8	-160.78	-24.4	140.8	224.4	221.3	3.08	72.905		
1,000.0	990.7	947.0	941.7	2.7	2.2	-160.66	-31.3	157.6	263.1	259.7	3.47	75.864		
1,100.0	1,088.2	1,039.2	1,031.9	3.1	2.5	-160.56	-38.5	174.8	302.0	298.1	3.87	78.104		
1,200.0	1,185.8	1,131.3	1,122.2	3.5	2.9	-160.48	-45.7	192.0	340.8	336.5	4.27	79.871		
1,300.0	1,283.3	1,223.5	1,212.4	3.9	3.2	-160.42	-52.8	209.2	379.7	375.0	4.67	81.296		
1,400.0	1,380.8	1,315.6	1,302.6	4.4	3.6	-160.37	-60.0	226.4	418.5	413.4	5.07	82.469		
1,500.0	1,478.3	1,407.7	1,392.9	4.8	3.9	-160.33	-67.2	243.6	457.3	451.9	5.48	83.449		
1,600.0	1,575.9	1,499.9	1,483.1	5.2	4.3	-160.29	-74.3	260.8	496.2	490.3	5.89	84.279		

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	Offset TVD Reference:	Offset Datum

Offset Design S9-T2N-R67W (Sprague) - Sprague 3J-9H-N267 - Hz - Plan #3														Offset Site Error:	0.0 ft
Survey Program: 0-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		
0.0	0.0	0.0	0.0	0.0	0.0	92.10	-3.6	99.4	99.5						
100.0	100.0	100.0	100.0	0.1	0.1	92.10	-3.6	99.4	99.5	99.2	0.24	407.168			
200.0	200.0	200.0	200.0	0.3	0.3	92.10	-3.6	99.4	99.5	98.9	0.59	167.657 CC, ES			
300.0	300.0	296.5	296.5	0.5	0.5	-159.50	-3.6	101.0	102.8	101.9	0.94	109.765			
400.0	399.8	392.4	392.3	0.7	0.7	-160.41	-3.6	105.9	112.8	111.5	1.28	88.128			
500.0	499.5	487.0	486.5	0.9	0.9	-161.60	-3.6	113.8	129.3	127.7	1.62	79.780			
600.0	598.7	579.7	578.6	1.2	1.1	-162.80	-3.6	124.5	152.4	150.4	1.96	77.782 SF			
700.0	697.5	669.9	667.8	1.5	1.4	-163.87	-3.6	137.9	181.8	179.5	2.29	79.302			
800.0	795.6	757.2	753.7	1.9	1.7	-164.75	-3.6	153.4	217.4	214.8	2.62	82.953			
900.0	893.2	841.4	836.1	2.3	2.0	-165.54	-3.6	170.9	258.4	255.5	2.95	87.610			
1,000.0	990.7	923.3	915.6	2.7	2.4	-166.15	-3.6	190.2	302.3	299.0	3.28	92.199			
1,100.0	1,088.2	1,006.0	995.4	3.1	2.8	-166.56	-3.6	212.1	348.7	345.1	3.61	96.600			
1,200.0	1,185.8	1,093.3	1,079.4	3.5	3.3	-166.67	-5.0	236.1	396.0	392.1	3.96	100.096			
1,300.0	1,283.3	1,185.1	1,167.5	3.9	3.7	-166.35	-9.2	261.0	442.7	438.4	4.33	102.287			
1,400.0	1,380.8	1,275.8	1,254.7	4.4	4.2	-165.76	-16.0	285.2	488.8	484.1	4.71	103.771			

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	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	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)			
0.0	0.0	0.0	0.0	0.0	0.0	106.58	-83.8	281.4	294.1				
100.0	100.0	82.7	82.7	0.1	0.1	106.58	-83.8	281.4	293.6	293.3	0.26	1,146.354	
169.1	169.1	151.5	151.5	0.2	0.2	106.59	-83.8	281.3	293.5	293.0	0.49	598.861 CC	
200.0	200.0	181.5	181.5	0.3	0.3	106.60	-83.9	281.3	293.5	292.9	0.60	492.162 ES	
300.0	300.0	279.4	279.4	0.5	0.5	-144.79	-84.2	281.9	295.7	294.8	0.94	313.611	
400.0	399.8	377.3	377.3	0.7	0.6	-145.49	-83.6	283.4	301.3	300.0	1.30	232.583	
500.0	499.5	466.9	466.8	0.9	0.8	-146.69	-81.6	286.5	311.3	309.7	1.64	189.451	
600.0	598.7	551.3	551.0	1.2	1.0	-147.90	-81.0	292.8	328.6	326.6	1.99	165.088	
700.0	697.5	637.2	636.4	1.5	1.2	-149.10	-81.6	302.3	352.8	350.5	2.35	150.113	
800.0	795.6	727.5	725.8	1.9	1.4	-150.62	-81.3	314.5	382.4	379.6	2.73	140.162	
900.0	893.2	818.6	815.9	2.3	1.7	-152.64	-78.5	327.7	415.2	412.1	3.11	133.526	
1,000.0	990.7	905.7	901.9	2.7	2.0	-154.65	-74.3	341.3	449.8	446.3	3.48	129.232	
1,100.0	1,088.2	993.2	987.7	3.1	2.3	-156.80	-67.0	356.3	486.0	482.1	3.85	126.152 SF	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	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									
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		
0.0	0.0	0.0	0.0	0.0	0.0	98.20	-41.2	285.6	289.1						
100.0	100.0	82.5	82.5	0.1	0.1	98.22	-41.2	285.6	288.5	288.3	0.25	1,158.384			
200.0	200.0	182.9	182.9	0.3	0.3	98.32	-41.7	285.4	288.4	287.8	0.60	481.717			
205.5	205.5	188.4	188.4	0.3	0.3	-152.93	-41.8	285.4	288.4	287.8	0.62	466.297	CC, ES		
300.0	300.0	283.3	283.3	0.5	0.5	-152.88	-42.7	285.0	289.8	288.8	0.95	304.763			
400.0	399.8	383.6	383.5	0.7	0.7	-152.99	-44.3	284.4	294.1	292.8	1.31	225.106			
500.0	499.5	483.8	483.8	0.9	0.8	-153.22	-46.6	283.5	301.3	299.6	1.67	180.445			
600.0	598.7	582.9	582.8	1.2	1.0	-153.61	-49.3	282.5	311.6	309.5	2.04	152.889			
700.0	697.5	681.1	681.0	1.5	1.2	-154.37	-51.2	281.9	325.2	322.8	2.41	134.965			
800.0	795.6	779.6	779.4	1.9	1.4	-155.36	-52.6	281.4	342.2	339.4	2.79	122.805			
900.0	893.2	877.4	877.2	2.3	1.5	-156.58	-53.5	280.9	361.8	358.7	3.16	114.331			
1,000.0	990.7	975.5	975.4	2.7	1.7	-157.76	-54.4	280.2	381.7	378.2	3.54	107.732			
1,100.0	1,088.2	1,063.3	1,063.1	3.1	1.9	-158.50	-56.7	280.6	402.9	399.0	3.91	103.022			
1,200.0	1,185.8	1,146.9	1,146.6	3.5	2.0	-158.92	-60.6	283.5	427.0	422.8	4.28	99.826			
1,300.0	1,283.3	1,237.7	1,237.0	3.9	2.2	-159.11	-66.5	288.4	453.2	448.5	4.67	97.071			
1,400.0	1,380.8	1,316.0	1,314.9	4.4	2.4	-159.20	-72.1	294.4	481.7	476.7	5.04	95.626	SF		

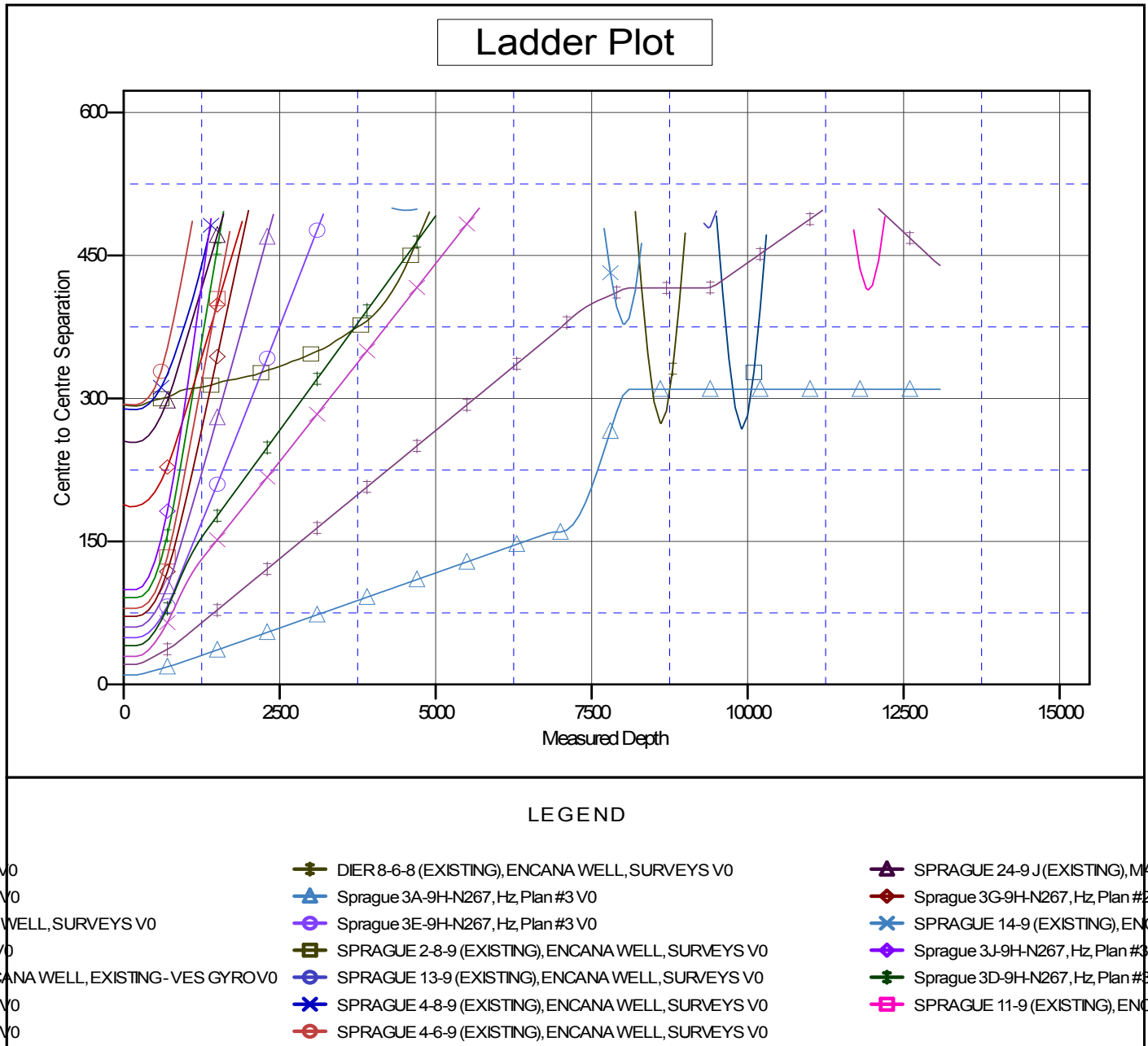
Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Sprague 3AA-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 3AA-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 #3	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 3AA-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