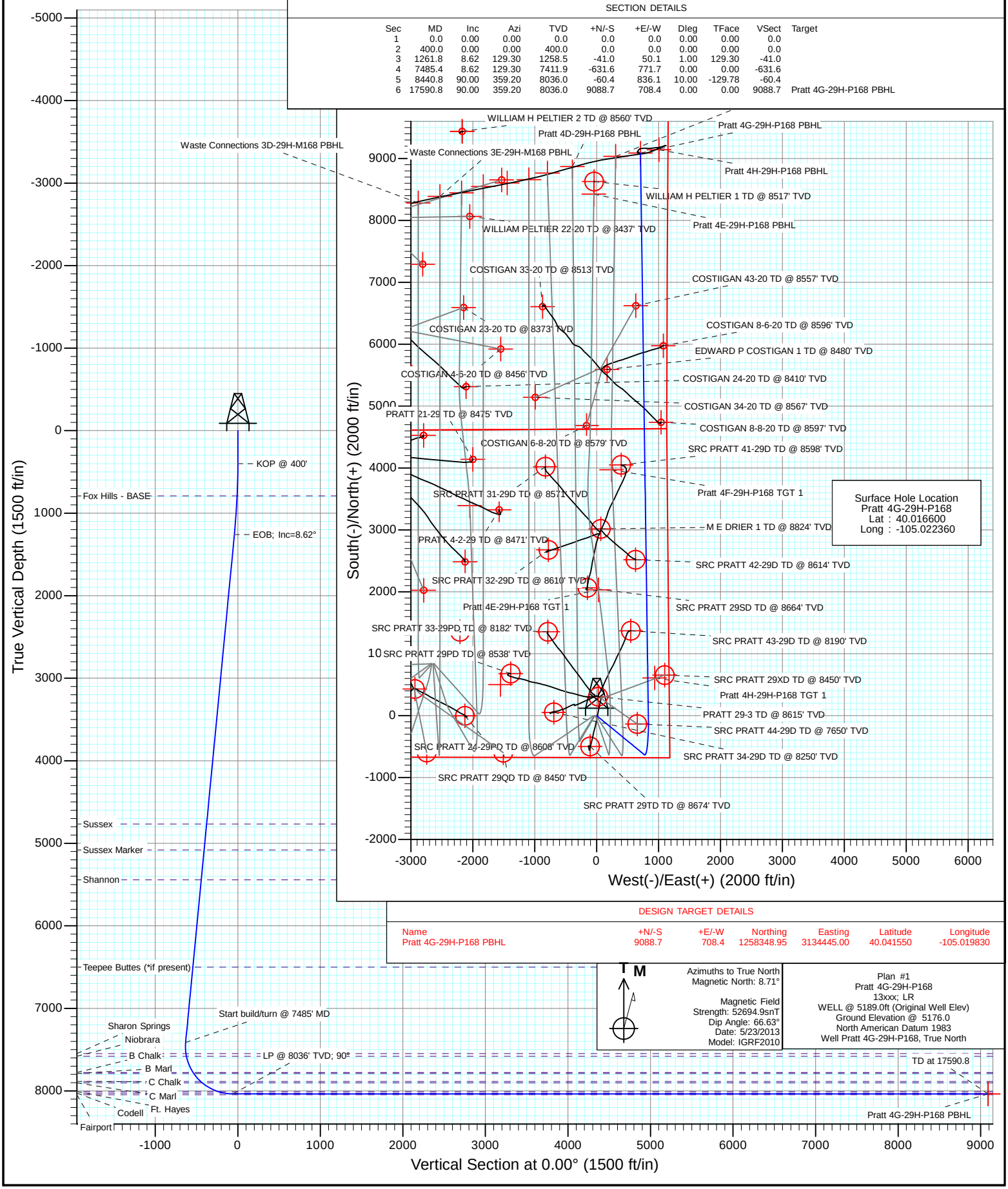
encana

Project: DJ Wattenberg
Site: S29-T1N-R68W (Pratt/Waste Connections)
Well: Pratt 4G-29H-P168
Wellbore: Hz
Design: Plan #1

CATHEDRAL

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	1261.8	8.62	129.30	1258.5	-41.0	50.1	1.00	129.30	-41.0	
4	7485.4	8.62	129.30	7411.9	-631.6	771.7	0.00	0.00	-631.6	
5	8440.8	90.00	359.20	8036.0	-60.4	836.1	10.00	-129.78	-60.4	
6	17590.8	90.00	359.20	8036.0	9088.7	708.4	0.00	0.00	9088.7	Pratt 4G-29H-P168 PBHL



Surface Hole Location
Pratt 4G-29H-P168
Lat : 40.016600
Long : -105.022360

DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Pratt 4G-29H-P168 PBHL	9088.7	708.4	1258348.95	3134445.00	40.041550	-105.019830

Azimuths to True North
Magnetic North: 8.71°

Magnetic Field
Strength: 52694.9snT
Dip Angle: 66.63°
Date: 5/23/2013
Model: IGRF2010

Plan #1
Pratt 4G-29H-P168
13xxx; LR
WELL @ 5189.0ft (Original Well Elev)
Ground Elevation @ 5176.0
North American Datum 1983
Well Pratt 4G-29H-P168, True North

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site:	S29-T1N-R68W (Pratt/Waste Connections)	**North Reference:**	True
Well:	Pratt 4G-29H-P168	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

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	S29-T1N-R68W (Pratt/Waste Connections)				
Site Position:		**Northing:**	1,249,256.24 ft	**Latitude:**	40.016600
From:	Lat/Long	**Easting:**	3,133,726.79 ft	**Longitude:**	-105.022570
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.31 °

Well	Pratt 4G-29H-P168				
Well Position	**+N/-S**	0.0 ft	**Northing:**	1,249,256.52 ft	**Latitude:**	40.016600
	+E/-W	0.0 ft	**Easting:**	3,133,785.61 ft	**Longitude:**	-105.022360
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,176.0 ft

Wellbore	Hz			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	5/23/2013	8.71	66.63	52,695

Design	Plan #1			
Audit Notes:				
Version:	**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**
	0.0	0.0	0.0	0.00

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,261.8	8.62	129.30	1,258.5	-41.0	50.1	1.00	1.00	0.00	129.30	
7,485.4	8.62	129.30	7,411.9	-631.6	771.7	0.00	0.00	0.00	0.00	
8,440.8	90.00	359.20	8,036.0	-60.4	836.1	10.00	8.52	-13.62	-129.78	
17,590.8	90.00	359.20	8,036.0	9,088.7	708.4	0.00	0.00	0.00	0.00	Pratt 4G-29H-P168 P

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site:	S29-T1N-R68W (Pratt/Waste Connections)	**North Reference:**	True
Well:	Pratt 4G-29H-P168	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	KOP @ 400'
500.0	1.00	129.30	500.0	-0.6	0.7	-0.6	1.00	1.00	
600.0	2.00	129.30	600.0	-2.2	2.7	-2.2	1.00	1.00	
700.0	3.00	129.30	699.9	-5.0	6.1	-5.0	1.00	1.00	
789.3	3.89	129.30	789.0	-8.4	10.2	-8.4	1.00	1.00	Fox Hills - BASE
800.0	4.00	129.30	799.7	-8.8	10.8	-8.8	1.00	1.00	
900.0	5.00	129.30	899.4	-13.8	16.9	-13.8	1.00	1.00	
1,000.0	6.00	129.30	998.9	-19.9	24.3	-19.9	1.00	1.00	
1,100.0	7.00	129.30	1,098.3	-27.0	33.0	-27.0	1.00	1.00	
1,200.0	8.00	129.30	1,197.4	-35.3	43.2	-35.3	1.00	1.00	
1,261.8	8.62	129.30	1,258.5	-41.0	50.1	-41.0	1.00	1.00	EOB; Inc=8.62°
1,300.0	8.62	129.30	1,296.3	-44.6	54.5	-44.6	0.00	0.00	
1,400.0	8.62	129.30	1,395.2	-54.1	66.1	-54.1	0.00	0.00	
1,500.0	8.62	129.30	1,494.1	-63.6	77.7	-63.6	0.00	0.00	
1,600.0	8.62	129.30	1,592.9	-73.1	89.3	-73.1	0.00	0.00	
1,700.0	8.62	129.30	1,691.8	-82.6	100.9	-82.6	0.00	0.00	
1,800.0	8.62	129.30	1,790.7	-92.0	112.5	-92.0	0.00	0.00	
1,900.0	8.62	129.30	1,889.5	-101.5	124.1	-101.5	0.00	0.00	
2,000.0	8.62	129.30	1,988.4	-111.0	135.7	-111.0	0.00	0.00	
2,100.0	8.62	129.30	2,087.3	-120.5	147.3	-120.5	0.00	0.00	
2,200.0	8.62	129.30	2,186.2	-130.0	158.9	-130.0	0.00	0.00	
2,300.0	8.62	129.30	2,285.0	-139.5	170.4	-139.5	0.00	0.00	
2,400.0	8.62	129.30	2,383.9	-149.0	182.0	-149.0	0.00	0.00	
2,500.0	8.62	129.30	2,482.8	-158.5	193.6	-158.5	0.00	0.00	
2,600.0	8.62	129.30	2,581.6	-168.0	205.2	-168.0	0.00	0.00	
2,700.0	8.62	129.30	2,680.5	-177.5	216.8	-177.5	0.00	0.00	
2,800.0	8.62	129.30	2,779.4	-186.9	228.4	-186.9	0.00	0.00	
2,900.0	8.62	129.30	2,878.3	-196.4	240.0	-196.4	0.00	0.00	
3,000.0	8.62	129.30	2,977.1	-205.9	251.6	-205.9	0.00	0.00	
3,100.0	8.62	129.30	3,076.0	-215.4	263.2	-215.4	0.00	0.00	
3,200.0	8.62	129.30	3,174.9	-224.9	274.8	-224.9	0.00	0.00	
3,300.0	8.62	129.30	3,273.7	-234.4	286.4	-234.4	0.00	0.00	
3,400.0	8.62	129.30	3,372.6	-243.9	298.0	-243.9	0.00	0.00	
3,500.0	8.62	129.30	3,471.5	-253.4	309.6	-253.4	0.00	0.00	
3,600.0	8.62	129.30	3,570.4	-262.9	321.2	-262.9	0.00	0.00	
3,700.0	8.62	129.30	3,669.2	-272.4	332.8	-272.4	0.00	0.00	
3,800.0	8.62	129.30	3,768.1	-281.9	344.4	-281.9	0.00	0.00	
3,900.0	8.62	129.30	3,867.0	-291.3	356.0	-291.3	0.00	0.00	
4,000.0	8.62	129.30	3,965.8	-300.8	367.6	-300.8	0.00	0.00	
4,100.0	8.62	129.30	4,064.7	-310.3	379.2	-310.3	0.00	0.00	
4,200.0	8.62	129.30	4,163.6	-319.8	390.8	-319.8	0.00	0.00	
4,300.0	8.62	129.30	4,262.5	-329.3	402.4	-329.3	0.00	0.00	
4,400.0	8.62	129.30	4,361.3	-338.8	414.0	-338.8	0.00	0.00	
4,500.0	8.62	129.30	4,460.2	-348.3	425.6	-348.3	0.00	0.00	
4,600.0	8.62	129.30	4,559.1	-357.8	437.1	-357.8	0.00	0.00	
4,700.0	8.62	129.30	4,657.9	-367.3	448.7	-367.3	0.00	0.00	
4,800.0	8.62	129.30	4,756.8	-376.8	460.3	-376.8	0.00	0.00	
4,809.3	8.62	129.30	4,766.0	-377.6	461.4	-377.6	0.00	0.00	Sussex

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site:	S29-T1N-R68W (Pratt/Waste Connections)	**North Reference:**	True
Well:	Pratt 4G-29H-P168	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

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
4,900.0	8.62	129.30	4,855.7	-386.2	471.9	-386.2	0.00	0.00	
5,000.0	8.62	129.30	4,954.6	-395.7	483.5	-395.7	0.00	0.00	
5,100.0	8.62	129.30	5,053.4	-405.2	495.1	-405.2	0.00	0.00	
5,125.9	8.62	129.30	5,079.0	-407.7	498.1	-407.7	0.00	0.00	Sussex Marker
5,200.0	8.62	129.30	5,152.3	-414.7	506.7	-414.7	0.00	0.00	
5,300.0	8.62	129.30	5,251.2	-424.2	518.3	-424.2	0.00	0.00	
5,400.0	8.62	129.30	5,350.0	-433.7	529.9	-433.7	0.00	0.00	
5,494.0	8.62	129.30	5,443.0	-442.6	540.8	-442.6	0.00	0.00	Shannon
5,500.0	8.62	129.30	5,448.9	-443.2	541.5	-443.2	0.00	0.00	
5,600.0	8.62	129.30	5,547.8	-452.7	553.1	-452.7	0.00	0.00	
5,700.0	8.62	129.30	5,646.6	-462.2	564.7	-462.2	0.00	0.00	
5,800.0	8.62	129.30	5,745.5	-471.7	576.3	-471.7	0.00	0.00	
5,900.0	8.62	129.30	5,844.4	-481.1	587.9	-481.1	0.00	0.00	
6,000.0	8.62	129.30	5,943.3	-490.6	599.5	-490.6	0.00	0.00	
6,100.0	8.62	129.30	6,042.1	-500.1	611.1	-500.1	0.00	0.00	
6,200.0	8.62	129.30	6,141.0	-509.6	622.7	-509.6	0.00	0.00	
6,300.0	8.62	129.30	6,239.9	-519.1	634.3	-519.1	0.00	0.00	
6,400.0	8.62	129.30	6,338.7	-528.6	645.9	-528.6	0.00	0.00	
6,500.0	8.62	129.30	6,437.6	-538.1	657.5	-538.1	0.00	0.00	
6,563.1	8.62	129.30	6,500.0	-544.1	664.8	-544.1	0.00	0.00	Teepee Buttes (*if present)
6,600.0	8.62	129.30	6,536.5	-547.6	669.1	-547.6	0.00	0.00	
6,700.0	8.62	129.30	6,635.4	-557.1	680.7	-557.1	0.00	0.00	
6,800.0	8.62	129.30	6,734.2	-566.6	692.3	-566.6	0.00	0.00	
6,900.0	8.62	129.30	6,833.1	-576.0	703.8	-576.0	0.00	0.00	
7,000.0	8.62	129.30	6,932.0	-585.5	715.4	-585.5	0.00	0.00	
7,100.0	8.62	129.30	7,030.8	-595.0	727.0	-595.0	0.00	0.00	
7,200.0	8.62	129.30	7,129.7	-604.5	738.6	-604.5	0.00	0.00	
7,300.0	8.62	129.30	7,228.6	-614.0	750.2	-614.0	0.00	0.00	
7,400.0	8.62	129.30	7,327.5	-623.5	761.8	-623.5	0.00	0.00	
7,485.4	8.62	129.30	7,411.9	-631.6	771.7	-631.6	0.00	0.00	Start build/turn @ 7485' MD
7,500.0	7.77	120.99	7,426.3	-632.8	773.4	-632.8	10.00	-5.85	
7,600.0	8.87	47.21	7,525.5	-631.0	784.9	-631.0	10.00	1.10	
7,621.8	10.44	38.19	7,547.0	-628.3	787.3	-628.3	10.00	7.23	Sharon Springs
7,655.5	13.21	28.78	7,580.0	-622.6	791.1	-622.6	10.00	8.23	Niobrara
7,700.0	17.20	21.19	7,623.0	-612.0	795.9	-612.0	10.00	8.96	
7,800.0	26.69	12.53	7,715.6	-576.2	806.2	-576.2	10.00	9.49	
7,869.8	33.48	9.29	7,776.0	-541.8	812.7	-541.8	10.00	9.73	B Chalk
7,884.3	34.90	8.76	7,788.0	-533.8	814.0	-533.8	10.00	9.79	B Marl
7,900.0	36.44	8.23	7,800.7	-524.7	815.3	-524.7	10.00	9.80	
8,000.0	46.29	5.56	7,875.7	-459.2	823.1	-459.2	10.00	9.85	
8,012.1	47.49	5.30	7,884.0	-450.4	823.9	-450.4	10.00	9.87	C Chalk
8,039.5	50.19	4.75	7,902.0	-429.8	825.7	-429.8	10.00	9.88	C Marl
8,100.0	56.18	3.66	7,938.2	-381.6	829.3	-381.6	10.00	9.90	
8,200.0	66.09	2.15	7,986.5	-294.2	833.6	-294.2	10.00	9.91	
8,257.1	71.76	1.39	8,007.0	-241.0	835.3	-241.0	10.00	9.92	Ft. Hayes
8,300.0	76.01	0.85	8,018.9	-199.8	836.1	-199.8	10.00	9.93	
8,333.3	79.32	0.45	8,026.0	-167.3	836.4	-167.3	10.00	9.93	Codell
8,400.0	85.95	359.67	8,034.6	-101.1	836.5	-101.1	10.00	9.93	
8,440.8	90.00	359.20	8,036.0	-60.4	836.1	-60.4	10.00	9.93	LP @ 8036' TVD; 90°
8,500.0	90.00	359.20	8,036.0	-1.2	835.3	-1.2	0.00	0.00	
8,600.0	90.00	359.20	8,036.0	98.8	833.9	98.8	0.00	0.00	
8,700.0	90.00	359.20	8,036.0	198.8	832.5	198.8	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site:	S29-T1N-R68W (Pratt/Waste Connections)	**North Reference:**	True
Well:	Pratt 4G-29H-P168	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

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
8,800.0	90.00	359.20	8,036.0	298.8	831.1	298.8	0.00	0.00	
8,900.0	90.00	359.20	8,036.0	398.8	829.7	398.8	0.00	0.00	
9,000.0	90.00	359.20	8,036.0	498.8	828.3	498.8	0.00	0.00	
9,100.0	90.00	359.20	8,036.0	598.8	826.9	598.8	0.00	0.00	
9,200.0	90.00	359.20	8,036.0	698.7	825.5	698.7	0.00	0.00	
9,300.0	90.00	359.20	8,036.0	798.7	824.1	798.7	0.00	0.00	
9,400.0	90.00	359.20	8,036.0	898.7	822.7	898.7	0.00	0.00	
9,500.0	90.00	359.20	8,036.0	998.7	821.3	998.7	0.00	0.00	
9,600.0	90.00	359.20	8,036.0	1,098.7	819.9	1,098.7	0.00	0.00	
9,700.0	90.00	359.20	8,036.0	1,198.7	818.5	1,198.7	0.00	0.00	
9,800.0	90.00	359.20	8,036.0	1,298.7	817.1	1,298.7	0.00	0.00	
9,900.0	90.00	359.20	8,036.0	1,398.7	815.7	1,398.7	0.00	0.00	
10,000.0	90.00	359.20	8,036.0	1,498.7	814.3	1,498.7	0.00	0.00	
10,100.0	90.00	359.20	8,036.0	1,598.7	812.9	1,598.7	0.00	0.00	
10,200.0	90.00	359.20	8,036.0	1,698.6	811.6	1,698.6	0.00	0.00	
10,300.0	90.00	359.20	8,036.0	1,798.6	810.2	1,798.6	0.00	0.00	
10,400.0	90.00	359.20	8,036.0	1,898.6	808.8	1,898.6	0.00	0.00	
10,500.0	90.00	359.20	8,036.0	1,998.6	807.4	1,998.6	0.00	0.00	
10,600.0	90.00	359.20	8,036.0	2,098.6	806.0	2,098.6	0.00	0.00	
10,700.0	90.00	359.20	8,036.0	2,198.6	804.6	2,198.6	0.00	0.00	
10,800.0	90.00	359.20	8,036.0	2,298.6	803.2	2,298.6	0.00	0.00	
10,900.0	90.00	359.20	8,036.0	2,398.6	801.8	2,398.6	0.00	0.00	
11,000.0	90.00	359.20	8,036.0	2,498.6	800.4	2,498.6	0.00	0.00	
11,100.0	90.00	359.20	8,036.0	2,598.6	799.0	2,598.6	0.00	0.00	
11,200.0	90.00	359.20	8,036.0	2,698.5	797.6	2,698.5	0.00	0.00	
11,300.0	90.00	359.20	8,036.0	2,798.5	796.2	2,798.5	0.00	0.00	
11,400.0	90.00	359.20	8,036.0	2,898.5	794.8	2,898.5	0.00	0.00	
11,500.0	90.00	359.20	8,036.0	2,998.5	793.4	2,998.5	0.00	0.00	
11,600.0	90.00	359.20	8,036.0	3,098.5	792.0	3,098.5	0.00	0.00	
11,700.0	90.00	359.20	8,036.0	3,198.5	790.6	3,198.5	0.00	0.00	
11,800.0	90.00	359.20	8,036.0	3,298.5	789.2	3,298.5	0.00	0.00	
11,900.0	90.00	359.20	8,036.0	3,398.5	787.8	3,398.5	0.00	0.00	
12,000.0	90.00	359.20	8,036.0	3,498.5	786.4	3,498.5	0.00	0.00	
12,100.0	90.00	359.20	8,036.0	3,598.5	785.0	3,598.5	0.00	0.00	
12,200.0	90.00	359.20	8,036.0	3,698.5	783.6	3,698.5	0.00	0.00	
12,300.0	90.00	359.20	8,036.0	3,798.4	782.2	3,798.4	0.00	0.00	
12,400.0	90.00	359.20	8,036.0	3,898.4	780.8	3,898.4	0.00	0.00	
12,500.0	90.00	359.20	8,036.0	3,998.4	779.4	3,998.4	0.00	0.00	
12,600.0	90.00	359.20	8,036.0	4,098.4	778.0	4,098.4	0.00	0.00	
12,700.0	90.00	359.20	8,036.0	4,198.4	776.6	4,198.4	0.00	0.00	
12,800.0	90.00	359.20	8,036.0	4,298.4	775.2	4,298.4	0.00	0.00	
12,900.0	90.00	359.20	8,036.0	4,398.4	773.9	4,398.4	0.00	0.00	
13,000.0	90.00	359.20	8,036.0	4,498.4	772.5	4,498.4	0.00	0.00	
13,100.0	90.00	359.20	8,036.0	4,598.4	771.1	4,598.4	0.00	0.00	
13,200.0	90.00	359.20	8,036.0	4,698.4	769.7	4,698.4	0.00	0.00	
13,300.0	90.00	359.20	8,036.0	4,798.3	768.3	4,798.3	0.00	0.00	
13,400.0	90.00	359.20	8,036.0	4,898.3	766.9	4,898.3	0.00	0.00	
13,500.0	90.00	359.20	8,036.0	4,998.3	765.5	4,998.3	0.00	0.00	
13,600.0	90.00	359.20	8,036.0	5,098.3	764.1	5,098.3	0.00	0.00	
13,700.0	90.00	359.20	8,036.0	5,198.3	762.7	5,198.3	0.00	0.00	
13,800.0	90.00	359.20	8,036.0	5,298.3	761.3	5,298.3	0.00	0.00	
13,900.0	90.00	359.20	8,036.0	5,398.3	759.9	5,398.3	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site:	S29-T1N-R68W (Pratt/Waste Connections)	**North Reference:**	True
Well:	Pratt 4G-29H-P168	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

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
14,000.0	90.00	359.20	8,036.0	5,498.3	758.5	5,498.3	0.00	0.00	
14,100.0	90.00	359.20	8,036.0	5,598.3	757.1	5,598.3	0.00	0.00	
14,200.0	90.00	359.20	8,036.0	5,698.3	755.7	5,698.3	0.00	0.00	
14,300.0	90.00	359.20	8,036.0	5,798.2	754.3	5,798.2	0.00	0.00	
14,400.0	90.00	359.20	8,036.0	5,898.2	752.9	5,898.2	0.00	0.00	
14,500.0	90.00	359.20	8,036.0	5,998.2	751.5	5,998.2	0.00	0.00	
14,600.0	90.00	359.20	8,036.0	6,098.2	750.1	6,098.2	0.00	0.00	
14,700.0	90.00	359.20	8,036.0	6,198.2	748.7	6,198.2	0.00	0.00	
14,800.0	90.00	359.20	8,036.0	6,298.2	747.3	6,298.2	0.00	0.00	
14,900.0	90.00	359.20	8,036.0	6,398.2	745.9	6,398.2	0.00	0.00	
15,000.0	90.00	359.20	8,036.0	6,498.2	744.5	6,498.2	0.00	0.00	
15,100.0	90.00	359.20	8,036.0	6,598.2	743.1	6,598.2	0.00	0.00	
15,200.0	90.00	359.20	8,036.0	6,698.2	741.7	6,698.2	0.00	0.00	
15,300.0	90.00	359.20	8,036.0	6,798.1	740.3	6,798.1	0.00	0.00	
15,400.0	90.00	359.20	8,036.0	6,898.1	738.9	6,898.1	0.00	0.00	
15,500.0	90.00	359.20	8,036.0	6,998.1	737.6	6,998.1	0.00	0.00	
15,600.0	90.00	359.20	8,036.0	7,098.1	736.2	7,098.1	0.00	0.00	
15,700.0	90.00	359.20	8,036.0	7,198.1	734.8	7,198.1	0.00	0.00	
15,800.0	90.00	359.20	8,036.0	7,298.1	733.4	7,298.1	0.00	0.00	
15,900.0	90.00	359.20	8,036.0	7,398.1	732.0	7,398.1	0.00	0.00	
16,000.0	90.00	359.20	8,036.0	7,498.1	730.6	7,498.1	0.00	0.00	
16,100.0	90.00	359.20	8,036.0	7,598.1	729.2	7,598.1	0.00	0.00	
16,200.0	90.00	359.20	8,036.0	7,698.1	727.8	7,698.1	0.00	0.00	
16,300.0	90.00	359.20	8,036.0	7,798.1	726.4	7,798.1	0.00	0.00	
16,400.0	90.00	359.20	8,036.0	7,898.0	725.0	7,898.0	0.00	0.00	
16,500.0	90.00	359.20	8,036.0	7,998.0	723.6	7,998.0	0.00	0.00	
16,600.0	90.00	359.20	8,036.0	8,098.0	722.2	8,098.0	0.00	0.00	
16,700.0	90.00	359.20	8,036.0	8,198.0	720.8	8,198.0	0.00	0.00	
16,800.0	90.00	359.20	8,036.0	8,298.0	719.4	8,298.0	0.00	0.00	
16,900.0	90.00	359.20	8,036.0	8,398.0	718.0	8,398.0	0.00	0.00	
17,000.0	90.00	359.20	8,036.0	8,498.0	716.6	8,498.0	0.00	0.00	
17,100.0	90.00	359.20	8,036.0	8,598.0	715.2	8,598.0	0.00	0.00	
17,200.0	90.00	359.20	8,036.0	8,698.0	713.8	8,698.0	0.00	0.00	
17,300.0	90.00	359.20	8,036.0	8,798.0	712.4	8,798.0	0.00	0.00	
17,400.0	90.00	359.20	8,036.0	8,897.9	711.0	8,897.9	0.00	0.00	
17,500.0	90.00	359.20	8,036.0	8,997.9	709.6	8,997.9	0.00	0.00	
17,590.8	90.00	359.20	8,036.0	9,088.7	708.4	9,088.7	0.00	0.00	TD at 17590.8 - Pratt 4G-29H-P168 PBHL

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
Pratt 4G-29H-P168 PBH - plan hits target center - Point	0.00	0.00	8,036.0	9,088.7	708.4	1,258,348.95	3,134,445.00	40.041550	-105.019830

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site:	S29-T1N-R68W (Pratt/Waste Connections)	**North Reference:**	True
Well:	Pratt 4G-29H-P168	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
789.3	789.0	Fox Hills - BASE			
4,809.3	4,766.0	Sussex			
5,125.9	5,079.0	Sussex Marker			
5,494.0	5,443.0	Shannon			
6,563.1	6,500.0	Teepee Buttes (*if present)			
7,621.8	7,547.0	Sharon Springs			
7,655.5	7,580.0	Niobrara			
7,869.8	7,776.0	B Chalk			
7,884.3	7,788.0	B Marl			
8,012.1	7,884.0	C Chalk			
8,039.5	7,902.0	C Marl			
8,257.1	8,007.0	Ft. Hayes			
8,333.3	8,026.0	Codell			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
400.0	400.0	0.0	0.0	KOP @ 400'
1,261.8	1,258.5	-41.0	50.1	EOB; Inc=8.62°
7,485.4	7,411.9	-631.6	771.7	Start build/turn @ 7485' MD
8,440.8	8,036.0	-60.4	836.1	LP @ 8036' TVD; 90°
17,590.8	8,036.0	9,088.7	708.4	TD at 17590.8

EnCana Oil & Gas (USA) Inc

DJ Wattenberg
S29-T1N-R68W (Pratt/Waste Connections)
Pratt 4G-29H-P168
Hz
Plan #1

Anticollision Report

31 May, 2013

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	**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** 5/31/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	17,590.8	Plan #1 (Hz)	MWD	Geolink MWD

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
S29-T1N-R68W (Pratt/Waste Connections)						
COSTIGAN 0-6-20 (EXISTING) - ENCANA WELL - PLAN						Out of range
COSTIGAN 0-8-20 (EXISTING) - ENCANA WELL - PLAN						Out of range
COSTIGAN 13-20 (EXISTING) - ENCANA WELL - PLAN						Out of range
COSTIGAN 14-20 (EXISTING) - ENCANA WELL - PLAN						Out of range
COSTIGAN 23-20 (EXISTING) - ENCANA WELL - PLAN						Out of range
COSTIGAN 24-20 (EXISTING) - ENCANA WELL - ENCA						Out of range
COSTIGAN 33-20 (EXISTING) - ENCANA WELL - ENCA						Out of range
COSTIGAN 34-20 (EXISTING) - ENCANA WELL - PLAN						Out of range
COSTIGAN 43-20 (EXISTING) - ENCANA WELL - PLAN	15,126.0	8,169.3	109.4	-32.1	0.773	Level 1, CC, ES, SF
COSTIGAN 4-6-20 (EXISTING) - ENCANA WELL - PLAN						Out of range
COSTIGAN 6-8-20 (EXISTING) - ENCANA WELL - PLAN						Out of range
COSTIGAN 8-6-20 (EXISTING) - ENCANA WELL - SUR	14,471.1	8,176.5	315.2	192.2	2.562	CC, ES, SF
COSTIGAN 8-8-20 (EXISTING) - ENCANA WELL - SUR	13,234.5	8,271.9	265.3	158.4	2.482	CC, ES, SF
COSTIGAN E UNIT 1 (EXISTING) - ENCANA WELL - NO						Out of range
COSTIGAN H UNIT 1 (EXISTING) - VESSELS WELL - N						Out of range
EDWARD P COSTIGAN 1 (EXISTING) - ENCANA WELL						Out of range
M E DRIER 1 (EXISTING) - SYNERGY WELL - NO SUR						Out of range
PRATT 0-2-29 (EXISTING) - ENCANA WELL - SURVEY						Out of range
PRATT 1 (EXISTING) - SYNERGY WELL - NO SURVEY						Out of range
PRATT 12-29 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
PRATT 2 (EXISTING) - SYNERGY WELL - NO SURVEY						Out of range
PRATT 2-0-29 (EXISTING) - ENCANA WELL - SURVEY						Out of range
PRATT 21-29 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
PRATT 22-29 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
PRATT 2-4-29 (EXISTING) - ENCANA WELL - PLAN ON						Out of range
PRATT 29-3 (EXISTING) - SYNERGY WELL - NO SURV	400.0	388.0	307.1	305.7	226.988	CC, ES
PRATT 29-3 (EXISTING) - SYNERGY WELL - NO SURV	2,500.0	2,470.8	494.1	484.9	53.608	SF
PRATT 4-2-29 (EXISTING) - ENCANA WELL - SURVEY						Out of range
Pratt 4B-29H-P168 - Hz - Plan #1	300.0	300.0	47.6	46.6	47.528	CC, ES
Pratt 4B-29H-P168 - Hz - Plan #1	700.0	696.3	65.2	62.8	27.087	SF
Pratt 4C-29H-P168 - Hz - Plan #1	400.0	400.0	39.2	37.9	29.027	CC, ES
Pratt 4C-29H-P168 - Hz - Plan #1	700.0	698.6	49.4	47.0	20.490	SF
Pratt 4D-29H-P168 - Hz - Plan #1	400.0	400.0	28.0	26.7	20.734	CC, ES
Pratt 4D-29H-P168 - Hz - Plan #1	700.0	699.3	35.9	33.5	14.943	SF
Pratt 4E-29H-P168 - Hz - Plan #1	400.0	400.0	19.6	18.3	14.513	CC, ES
Pratt 4E-29H-P168 - Hz - Plan #1	700.0	699.9	26.2	23.8	10.903	SF
Pratt 4F-29H-P168 - Hz - Plan #1	400.0	400.0	8.4	7.1	6.220	CC, ES
Pratt 4F-29H-P168 - Hz - Plan #1	600.0	600.1	10.7	8.7	5.237	SF
PRATT F UNIT 1 (EXISTING) - ENCANA WELL - NO SU						Out of range
SRC PRATT 13-29D (EXISTING) - SYNERGY WELL - S						Out of range
SRC PRATT 14-29D (EXISTING) - SYNERGY WELL - S						Out of range
SRC PRATT 24-29 PD (EXISTING) - SYNERGY WELL -						Out of range
SRC PRATT 29HD (EXISTING) - SYNERGY WELL - PL						Out of range
SRC PRATT 29LD (EXISTING) - SYNERGY WELL - PLA						Out of range
SRC PRATT 29PD (EXISTING) - SYNERGY WELL - SU	565.7	578.5	316.0	313.9	148.987	CC, ES
SRC PRATT 29PD (EXISTING) - SYNERGY WELL - SU	1,300.0	1,228.1	451.6	445.7	77.339	SF
SRC PRATT 29QD (EXISTING) - SYNERGY WELL - PL						Out of range
SRC PRATT 29SD (EXISTING) - SYNERGY WELL - SU						Out of range
SRC PRATT 29TD (EXISTING) - SYNERGY WELL - SU	2,328.6	2,380.0	228.8	219.2	23.822	CC, ES
SRC PRATT 29TD (EXISTING) - SYNERGY WELL - SU	3,200.0	3,225.5	302.5	285.9	18.195	SF
SRC PRATT 29XD (EXISTING) - SYNERGY WELL - PLA	9,152.7	8,148.3	273.5	238.2	7.753	CC, ES
SRC PRATT 29XD (EXISTING) - SYNERGY WELL - PLA	9,200.0	8,148.3	277.6	241.7	7.747	SF
SRC PRATT 31-29D (EXISTING) - SYNERGY WELL - S						Out of range

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
S29-T1N-R68W (Pratt/Waste Connections)						
SRC PRATT 32-29D (EXISTING) - SYNERGY WELL - S						Out of range
SRC PRATT 33-29PD (EXISTING) - SYNERGY WELL -	0.0	3.0	342.1			
SRC PRATT 33-29PD (EXISTING) - SYNERGY WELL -	100.0	102.5	342.2	341.9	1,095.143	ES
SRC PRATT 33-29PD (EXISTING) - SYNERGY WELL -	1,500.0	1,415.5	494.4	489.1	93.580	SF
SRC PRATT 34-29D (EXISTING) - SYNERGY WELL - S	482.5	475.5	316.6	314.9	191.858	CC
SRC PRATT 34-29D (EXISTING) - SYNERGY WELL - S	500.0	493.1	316.6	314.9	185.034	ES
SRC PRATT 34-29D (EXISTING) - SYNERGY WELL - S	2,200.0	2,162.8	484.1	475.7	57.774	SF
SRC PRATT 41-29D (EXISTING) - SYNERGY WELL - S	12,550.1	8,201.7	373.5	276.6	3.855	CC, ES
SRC PRATT 41-29D (EXISTING) - SYNERGY WELL - S	12,600.0	8,202.7	376.8	279.1	3.855	SF
SRC PRATT 42-29D (EXISTING) - SYNERGY WELL - S	11,028.2	8,146.9	175.2	110.4	2.704	CC, ES, SF
SRC PRATT 43-29D (EXISTING) - SYNERGY WELL - S	9,876.2	8,198.7	267.9	214.9	5.051	CC, ES
SRC PRATT 43-29D (EXISTING) - SYNERGY WELL - S	9,900.0	8,198.7	269.0	215.6	5.037	SF
SRC PRATT 44-29D (EXISTING) - SYNERGY WELL - P	400.0	392.0	276.3	275.0	203.235	CC
SRC PRATT 44-29D (EXISTING) - SYNERGY WELL - P	500.0	492.0	276.6	274.9	161.824	ES
SRC PRATT 44-29D (EXISTING) - SYNERGY WELL - P	5,200.0	5,206.9	316.4	286.9	10.719	SF
Waste Connections 3A-29H-M168 - Hz - Plan #1						Out of range
Waste Connections 3B-29H-M168 - Hz - Plan #1						Out of range
Waste Connections 3C-29H-M168 - Hz - Plan #1						Out of range
Waste Connections 3D-29H-M168 - Hz - Plan #1						Out of range
Waste Connections 3E-29H-M168 - Hz - Plan #1						Out of range
Waste Connections 3F-29H-M168 - Hz - Plan #1						Out of range
Waste Connections 3G-29H-M168 - Hz - Plan #1						Out of range
WILLIAM H PELTIER 1 (EXISTING) - VESSELS WELL -						Out of range
WILLIAM H PELTIER 2 (EXISTING) - ENCANA WELL - P						Out of range
WILLIAM H PELTIER 2 (EXISTING) - ENCANA WELL - S						Out of range
WILLIAM PELTIER 11-20 (EXISTING) - ENCANA WELL						Out of range
WILLIAM PELTIER 12-20 (EXISTING) - ENCANA WELL						Out of range
WILLIAM PELTIER 12-20 (EXISTING) - ENCANA WELL						Out of range
WILLIAM PELTIER 1A-20H (EXISTING) - ENCANA WEL	17,500.0	7,988.0	349.8	298.2	6.777	SF
WILLIAM PELTIER 1A-20H (EXISTING) - ENCANA WEL	17,565.6	7,980.0	343.7	294.4	6.976	CC, ES
WILLIAM PELTIER 2-0-20 (EXISTING) - ENCANA WELL						Out of range
WILLIAM PELTIER 22-20 (EXISTING) - ENCANA WELL						Out of range
WILLIAM PELTIER 2-4-20 (EXISTING) - ENCANA WELL						Out of range
WILLIAM PELTIER 4-2-20 (EXISTING) - ENCANA WELL						Out of range

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - COSTIGAN 43-20 (EXISTING) - ENCANA WELL - PLAN O

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
14,700.0	8,036.0	8,169.3	8,060.0	112.3	25.0	-90.00	6,622.6	633.4	439.8	305.7	134.10	3.280	
14,800.0	8,036.0	8,169.3	8,060.0	114.0	25.0	-90.00	6,622.6	633.4	343.8	208.0	135.84	2.531	
14,900.0	8,036.0	8,169.3	8,060.0	115.8	25.0	-90.00	6,622.6	633.4	251.1	113.5	137.58	1.825	
15,000.0	8,036.0	8,169.3	8,060.0	117.5	25.0	-90.00	6,622.6	633.4	166.9	27.5	139.32	1.198	Level 2
15,100.0	8,036.0	8,169.3	8,060.0	119.2	25.0	-90.00	6,622.6	633.4	112.5	-28.6	141.06	0.797	Level 1
15,126.0	8,036.0	8,169.3	8,060.0	119.7	25.0	-90.00	6,622.6	633.4	109.4	-32.1	141.52	0.773	Level 1, CC, ES, SF
15,200.0	8,036.0	8,169.3	8,060.0	121.0	25.0	-90.00	6,622.6	633.4	132.1	-10.7	142.80	0.925	Level 1
15,300.0	8,036.0	8,169.3	8,060.0	122.7	25.0	-90.00	6,622.6	633.4	205.6	61.0	144.55	1.422	Level 3
15,400.0	8,036.0	8,169.3	8,060.0	124.4	25.0	-90.00	6,622.6	633.4	295.1	148.8	146.29	2.017	
15,500.0	8,036.0	8,169.3	8,060.0	126.1	25.0	-90.00	6,622.6	633.4	389.7	241.7	148.03	2.633	
15,600.0	8,036.0	8,169.3	8,060.0	127.9	25.0	-90.00	6,622.6	633.4	486.5	336.7	149.77	3.248	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - COSTIGAN 8-6-20 (EXISTING) - ENCANA WELL - SURV

Survey Program: 134-MWD

Offset Site Error: 0.0 ft

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
14,100.0	8,036.0	8,173.7	8,050.3	102.0	23.9	88.24	5,973.7	1,066.9	486.9	370.3	116.56	4.177	
14,200.0	8,036.0	8,174.5	8,051.0	103.7	23.9	88.37	5,973.7	1,067.0	415.8	297.5	118.30	3.514	
14,300.0	8,036.0	8,175.2	8,051.8	105.4	23.9	88.50	5,973.7	1,067.0	358.7	238.6	120.04	2.988	
14,400.0	8,036.0	8,175.9	8,052.5	107.2	23.9	88.64	5,973.7	1,067.0	323.1	201.3	121.78	2.653	
14,471.1	8,036.0	8,176.5	8,053.0	108.4	23.9	88.73	5,973.8	1,067.0	315.2	192.2	123.02	2.562	CC, ES, SF
14,500.0	8,036.0	8,176.7	8,053.2	108.9	23.9	88.77	5,973.8	1,067.0	316.5	193.0	123.52	2.562	
14,600.0	8,036.0	8,177.4	8,054.0	110.6	23.9	88.90	5,973.8	1,067.0	340.5	215.3	125.27	2.718	
14,700.0	8,036.0	8,178.1	8,054.7	112.3	23.9	89.03	5,973.8	1,067.0	389.5	262.5	127.01	3.067	
14,800.0	8,036.0	8,178.8	8,055.4	114.0	23.9	89.17	5,973.8	1,067.1	455.5	326.8	128.75	3.538	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - COSTIGAN 8-8-20 (EXISTING) - ENCANA WELL - SURV

Offset Site Error: 0.0 ft

Survey Program: 104-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
12,900.0	8,036.0	8,271.4	8,068.6	81.5	26.8	89.05	4,736.5	1,034.4	426.9	325.8	101.11	4.222	
13,000.0	8,036.0	8,271.6	8,068.7	83.2	26.8	89.08	4,736.5	1,034.4	354.0	251.2	102.84	3.443	
13,100.0	8,036.0	8,271.7	8,068.9	84.9	26.8	89.11	4,736.5	1,034.4	297.4	192.8	104.57	2.844	
13,200.0	8,036.0	8,271.9	8,069.0	86.6	26.8	89.15	4,736.5	1,034.4	267.5	161.2	106.29	2.517	
13,234.5	8,036.0	8,271.9	8,069.1	87.2	26.8	89.16	4,736.5	1,034.4	265.3	158.4	106.89	2.482	CC, ES, SF
13,300.0	8,036.0	8,272.0	8,069.2	88.3	26.8	89.18	4,736.5	1,034.4	273.2	165.2	108.02	2.529	
13,400.0	8,036.0	8,272.2	8,069.3	90.0	26.8	89.21	4,736.5	1,034.4	312.7	202.9	109.75	2.849	
13,500.0	8,036.0	8,272.3	8,069.5	91.7	26.8	89.24	4,736.5	1,034.4	375.3	263.8	111.48	3.367	
13,600.0	8,036.0	8,272.5	8,069.6	93.4	26.8	89.28	4,736.5	1,034.4	451.6	338.4	113.21	3.989	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - PRATT 29-3 (EXISTING) - SYNERGY WELL - NO SURVE

Offset Site Error: 0.0 ft

Survey Program: 8615-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	4.71	306.0	25.2	307.3				
100.0	100.0	88.0	88.0	0.2	0.2	4.71	306.0	25.2	307.1	306.8	0.31	1,004.722	
200.0	200.0	188.0	188.0	0.3	0.3	4.71	306.0	25.2	307.1	306.4	0.65	469.034	
300.0	300.0	288.0	288.0	0.5	0.5	4.71	306.0	25.2	307.1	306.1	1.00	305.924	
400.0	400.0	388.0	388.0	0.7	0.7	4.71	306.0	25.2	307.1	305.7	1.35	226.988	CC, ES
500.0	500.0	488.0	488.0	0.9	0.9	-124.72	306.0	25.2	307.6	305.9	1.70	180.691	
600.0	600.0	588.0	588.0	1.0	1.0	-125.11	306.0	25.2	309.1	307.0	2.05	150.518	
700.0	699.9	687.9	687.9	1.2	1.2	-125.74	306.0	25.2	311.6	309.2	2.41	129.385	
800.0	799.7	787.7	787.7	1.4	1.4	-126.61	306.0	25.2	315.2	312.4	2.77	113.839	
900.0	899.4	887.4	887.4	1.6	1.5	-127.70	306.0	25.2	320.0	316.8	3.14	102.010	
1,000.0	998.9	986.9	986.9	1.8	1.7	-128.98	306.0	25.2	325.9	322.4	3.51	92.799	
1,100.0	1,098.3	1,086.3	1,086.3	2.1	1.9	-130.43	306.0	25.2	333.2	329.3	3.90	85.523	
1,200.0	1,197.4	1,185.4	1,185.4	2.3	2.1	-132.03	306.0	25.2	341.8	337.5	4.29	79.732	
1,300.0	1,296.3	1,284.3	1,284.3	2.6	2.2	-133.75	306.0	25.2	351.9	347.2	4.68	75.137	
1,400.0	1,395.2	1,383.2	1,383.2	2.9	2.4	-135.45	306.0	25.2	362.4	357.4	5.08	71.373	
1,500.0	1,494.1	1,482.1	1,482.1	3.2	2.6	-137.05	306.0	25.2	373.3	367.9	5.47	68.242	
1,600.0	1,592.9	1,580.9	1,580.9	3.5	2.8	-138.57	306.0	25.2	384.5	378.6	5.86	65.613	
1,700.0	1,691.8	1,679.8	1,679.8	3.8	2.9	-140.00	306.0	25.2	395.9	389.6	6.25	63.388	
1,800.0	1,790.7	1,778.7	1,778.7	4.1	3.1	-141.34	306.0	25.2	407.5	400.9	6.63	61.489	
1,900.0	1,889.5	1,877.5	1,877.5	4.4	3.3	-142.62	306.0	25.2	419.4	412.4	7.01	59.857	
2,000.0	1,988.4	1,976.4	1,976.4	4.7	3.4	-143.82	306.0	25.2	431.4	424.1	7.38	58.445	
2,100.0	2,087.3	2,075.3	2,075.3	5.0	3.6	-144.96	306.0	25.2	443.7	435.9	7.75	57.215	
2,200.0	2,186.2	2,174.2	2,174.2	5.3	3.8	-146.04	306.0	25.2	456.1	447.9	8.12	56.138	
2,300.0	2,285.0	2,273.0	2,273.0	5.6	4.0	-147.06	306.0	25.2	468.6	460.1	8.49	55.191	
2,400.0	2,383.9	2,371.9	2,371.9	6.0	4.1	-148.02	306.0	25.2	481.3	472.4	8.86	54.352	
2,500.0	2,482.8	2,470.8	2,470.8	6.3	4.3	-148.94	306.0	25.2	494.1	484.9	9.22	53.608	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - Pratt 4B-29H-P168 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-89.95	0.0	-47.6	47.6				
100.0	100.0	100.0	100.0	0.2	0.2	-89.95	0.0	-47.6	47.6	47.3	0.30	156.788	
200.0	200.0	200.0	200.0	0.3	0.3	-89.95	0.0	-47.6	47.6	47.0	0.65	72.944	
300.0	300.0	300.0	300.0	0.5	0.5	-89.95	0.0	-47.6	47.6	46.6	1.00	47.528	CC, ES
400.0	400.0	399.3	399.3	0.7	0.7	-90.52	-0.4	-48.3	48.3	47.0	1.35	35.793	
500.0	500.0	498.5	498.5	0.9	0.9	139.18	-1.9	-50.5	51.2	49.5	1.70	30.121	
600.0	600.0	597.6	597.5	1.0	1.0	138.52	-4.3	-54.0	56.8	54.7	2.05	27.700	
700.0	699.9	696.3	696.0	1.2	1.2	138.18	-7.7	-58.9	65.2	62.8	2.41	27.087	SF
800.0	799.7	794.7	794.1	1.4	1.4	138.09	-12.0	-65.3	76.3	73.6	2.77	27.558	
900.0	899.4	892.5	891.5	1.6	1.7	138.16	-17.2	-72.9	90.2	87.1	3.14	28.709	
1,000.0	998.9	989.7	988.0	1.8	1.9	138.31	-23.3	-81.9	106.8	103.3	3.53	30.291	
1,100.0	1,098.3	1,086.2	1,083.7	2.1	2.2	138.49	-30.2	-92.2	126.1	122.2	3.92	32.145	
1,200.0	1,197.4	1,181.8	1,178.3	2.3	2.4	138.68	-38.0	-103.6	148.0	143.7	4.33	34.161	
1,300.0	1,296.3	1,276.5	1,271.8	2.6	2.7	138.89	-46.6	-116.3	172.5	167.8	4.76	36.247	
1,400.0	1,395.2	1,370.8	1,364.6	2.9	3.0	138.93	-56.0	-130.1	198.6	193.4	5.20	38.208	
1,500.0	1,494.1	1,467.2	1,459.4	3.2	3.4	138.87	-66.0	-144.8	225.2	219.5	5.65	39.875	
1,600.0	1,592.9	1,563.6	1,554.1	3.5	3.7	138.82	-76.0	-159.5	251.8	245.7	6.10	41.268	
1,700.0	1,691.8	1,660.0	1,648.9	3.8	4.0	138.78	-86.0	-174.1	278.4	271.8	6.56	42.444	
1,800.0	1,790.7	1,756.4	1,743.6	4.1	4.4	138.75	-95.9	-188.8	305.0	297.9	7.02	43.450	
1,900.0	1,889.5	1,852.8	1,838.4	4.4	4.7	138.73	-105.9	-203.5	331.5	324.1	7.48	44.318	
2,000.0	1,988.4	1,949.2	1,933.1	4.7	5.1	138.71	-115.9	-218.1	358.1	350.2	7.95	45.074	
2,100.0	2,087.3	2,045.6	2,027.9	5.0	5.4	138.69	-125.8	-232.8	384.7	376.3	8.41	45.737	
2,200.0	2,186.2	2,142.0	2,122.6	5.3	5.8	138.67	-135.8	-247.5	411.3	402.4	8.88	46.324	
2,300.0	2,285.0	2,238.4	2,217.4	5.6	6.1	138.66	-145.8	-262.2	437.9	428.6	9.35	46.846	
2,400.0	2,383.9	2,334.8	2,312.1	6.0	6.5	138.64	-155.8	-276.8	464.5	454.7	9.82	47.314	
2,500.0	2,482.8	2,431.2	2,406.9	6.3	6.8	138.63	-165.7	-291.5	491.1	480.8	10.29	47.735	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - Pratt 4C-29H-P168 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-89.95	0.0	-39.2	39.2				
100.0	100.0	100.0	100.0	0.2	0.2	-89.95	0.0	-39.2	39.2	38.9	0.30	129.120	
200.0	200.0	200.0	200.0	0.3	0.3	-89.95	0.0	-39.2	39.2	38.6	0.65	60.072	
300.0	300.0	300.0	300.0	0.5	0.5	-89.95	0.0	-39.2	39.2	38.2	1.00	39.141	
400.0	400.0	400.0	400.0	0.7	0.7	-89.95	0.0	-39.2	39.2	37.9	1.35	29.027	CC, ES
500.0	500.0	499.6	499.6	0.9	0.8	140.47	-0.7	-39.7	40.3	38.6	1.70	23.732	
600.0	600.0	599.2	599.1	1.0	1.0	139.73	-2.9	-41.0	43.7	41.7	2.05	21.313	
700.0	699.9	698.6	698.5	1.2	1.2	138.71	-6.6	-43.3	49.4	47.0	2.41	20.490	SF
800.0	799.7	797.8	797.4	1.4	1.4	137.61	-11.8	-46.4	57.3	54.5	2.78	20.626	
900.0	899.4	896.6	896.0	1.6	1.6	136.57	-18.3	-50.4	67.5	64.3	3.16	21.357	
1,000.0	998.9	995.1	994.0	1.8	1.8	135.65	-26.3	-55.3	80.0	76.4	3.56	22.459	
1,100.0	1,098.3	1,093.6	1,092.0	2.1	2.1	134.99	-35.6	-60.9	94.5	90.6	3.98	23.766	
1,200.0	1,197.4	1,192.4	1,190.1	2.3	2.3	135.05	-44.9	-66.6	110.4	106.0	4.41	25.040	
1,300.0	1,296.3	1,290.9	1,288.0	2.6	2.5	135.62	-54.3	-72.3	127.4	122.6	4.85	26.259	
1,400.0	1,395.2	1,389.4	1,385.9	2.9	2.8	136.21	-63.6	-78.0	144.7	139.4	5.30	27.281	
1,500.0	1,494.1	1,487.9	1,483.8	3.2	3.0	136.67	-73.0	-83.7	162.0	156.2	5.76	28.124	
1,600.0	1,592.9	1,586.4	1,581.7	3.5	3.3	137.05	-82.3	-89.4	179.2	173.0	6.22	28.830	
1,700.0	1,691.8	1,684.9	1,679.5	3.8	3.5	137.36	-91.6	-95.1	196.5	189.8	6.68	29.428	
1,800.0	1,790.7	1,783.4	1,777.4	4.1	3.8	137.61	-101.0	-100.7	213.8	206.7	7.14	29.941	
1,900.0	1,889.5	1,881.8	1,875.3	4.4	4.0	137.83	-110.3	-106.4	231.1	223.5	7.61	30.385	
2,000.0	1,988.4	1,980.3	1,973.2	4.7	4.3	138.02	-119.7	-112.1	248.4	240.3	8.07	30.773	
2,100.0	2,087.3	2,078.8	2,071.1	5.0	4.5	138.19	-129.0	-117.8	265.7	257.2	8.54	31.115	
2,200.0	2,186.2	2,177.3	2,168.9	5.3	4.8	138.33	-138.4	-123.5	283.0	274.0	9.01	31.418	
2,300.0	2,285.0	2,275.8	2,266.8	5.6	5.0	138.46	-147.7	-129.2	300.3	290.8	9.48	31.689	
2,400.0	2,383.9	2,374.3	2,364.7	6.0	5.3	138.57	-157.1	-134.9	317.6	307.7	9.95	31.931	
2,500.0	2,482.8	2,472.8	2,462.6	6.3	5.5	138.68	-166.4	-140.6	334.9	324.5	10.42	32.150	
2,600.0	2,581.6	2,571.3	2,560.5	6.6	5.8	138.77	-175.8	-146.3	352.2	341.4	10.89	32.349	
2,700.0	2,680.5	2,669.8	2,658.3	6.9	6.0	138.85	-185.1	-152.0	369.6	358.2	11.36	32.530	
2,800.0	2,779.4	2,768.2	2,756.2	7.2	6.3	138.93	-194.4	-157.7	386.9	375.0	11.83	32.696	
2,900.0	2,878.3	2,866.7	2,854.1	7.5	6.6	139.00	-203.8	-163.4	404.2	391.9	12.30	32.847	
3,000.0	2,977.1	2,965.2	2,952.0	7.8	6.8	139.06	-213.1	-169.1	421.5	408.7	12.78	32.987	
3,100.0	3,076.0	3,063.7	3,049.9	8.1	7.1	139.12	-222.5	-174.7	438.8	425.5	13.25	33.117	
3,200.0	3,174.9	3,162.2	3,147.7	8.5	7.3	139.17	-231.8	-180.4	456.1	442.4	13.72	33.236	
3,300.0	3,273.7	3,260.7	3,245.6	8.8	7.6	139.22	-241.2	-186.1	473.4	459.2	14.20	33.347	
3,400.0	3,372.6	3,359.2	3,343.5	9.1	7.8	139.27	-250.5	-191.8	490.7	476.1	14.67	33.451	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - Pratt 4D-29H-P168 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-89.95	0.0	-28.0	28.0				
100.0	100.0	100.0	100.0	0.2	0.2	-89.95	0.0	-28.0	28.0	27.7	0.30	92.228	
200.0	200.0	200.0	200.0	0.3	0.3	-89.95	0.0	-28.0	28.0	27.4	0.65	42.908	
300.0	300.0	300.0	300.0	0.5	0.5	-89.95	0.0	-28.0	28.0	27.0	1.00	27.958	
400.0	400.0	400.0	400.0	0.7	0.7	-89.95	0.0	-28.0	28.0	26.7	1.35	20.734	CC, ES
500.0	500.0	500.0	500.0	0.9	0.8	141.85	0.0	-28.0	28.7	27.0	1.70	16.876	
600.0	600.0	599.7	599.7	1.0	1.0	143.40	-0.7	-28.5	31.2	29.1	2.05	15.215	
700.0	699.9	699.3	699.3	1.2	1.2	143.79	-3.0	-29.8	35.9	33.5	2.40	14.943	SF
800.0	799.7	798.8	798.6	1.4	1.4	143.36	-6.8	-32.0	42.8	40.1	2.76	15.500	
900.0	899.4	898.0	897.6	1.6	1.6	142.47	-12.0	-35.1	52.0	48.9	3.14	16.576	
1,000.0	998.9	997.2	996.6	1.8	1.8	141.70	-18.5	-38.8	63.2	59.7	3.52	17.946	
1,100.0	1,098.3	1,096.4	1,095.5	2.1	2.0	141.88	-25.0	-42.7	75.8	71.9	3.91	19.364	
1,200.0	1,197.4	1,195.4	1,194.2	2.3	2.2	142.67	-31.5	-46.5	89.8	85.5	4.32	20.804	
1,300.0	1,296.3	1,294.2	1,292.7	2.6	2.4	143.79	-38.1	-50.3	105.1	100.3	4.72	22.246	
1,400.0	1,395.2	1,392.9	1,391.2	2.9	2.6	144.75	-44.6	-54.1	120.6	115.5	5.13	23.496	
1,500.0	1,494.1	1,491.7	1,489.6	3.2	2.8	145.50	-51.1	-57.9	136.2	130.7	5.55	24.554	
1,600.0	1,592.9	1,590.5	1,588.1	3.5	3.0	146.09	-57.6	-61.7	151.9	145.9	5.96	25.462	
1,700.0	1,691.8	1,689.2	1,686.6	3.8	3.2	146.58	-64.1	-65.5	167.5	161.1	6.38	26.247	
1,800.0	1,790.7	1,788.0	1,785.1	4.1	3.4	146.98	-70.6	-69.4	183.2	176.4	6.80	26.932	
1,900.0	1,889.5	1,886.7	1,883.5	4.4	3.7	147.31	-77.2	-73.2	198.8	191.6	7.22	27.536	
2,000.0	1,988.4	1,985.5	1,982.0	4.7	3.9	147.60	-83.7	-77.0	214.5	206.9	7.64	28.071	
2,100.0	2,087.3	2,084.3	2,080.5	5.0	4.1	147.85	-90.2	-80.8	230.2	222.1	8.06	28.549	
2,200.0	2,186.2	2,183.0	2,178.9	5.3	4.3	148.07	-96.7	-84.6	245.8	237.4	8.48	28.978	
2,300.0	2,285.0	2,281.8	2,277.4	5.6	4.5	148.26	-103.2	-88.4	261.5	252.6	8.91	29.365	
2,400.0	2,383.9	2,380.5	2,375.9	6.0	4.7	148.43	-109.7	-92.2	277.2	267.9	9.33	29.716	
2,500.0	2,482.8	2,479.3	2,474.4	6.3	4.9	148.58	-116.3	-96.1	292.9	283.1	9.75	30.036	
2,600.0	2,581.6	2,578.1	2,572.8	6.6	5.2	148.71	-122.8	-99.9	308.6	298.4	10.17	30.328	
2,700.0	2,680.5	2,676.8	2,671.3	6.9	5.4	148.84	-129.3	-103.7	324.2	313.6	10.60	30.596	
2,800.0	2,779.4	2,775.6	2,769.8	7.2	5.6	148.95	-135.8	-107.5	339.9	328.9	11.02	30.844	
2,900.0	2,878.3	2,874.3	2,868.2	7.5	5.8	149.05	-142.3	-111.3	355.6	344.2	11.44	31.072	
3,000.0	2,977.1	2,973.1	2,966.7	7.8	6.0	149.14	-148.8	-115.1	371.3	359.4	11.87	31.284	
3,100.0	3,076.0	3,071.9	3,065.2	8.1	6.2	149.23	-155.4	-118.9	387.0	374.7	12.29	31.481	
3,200.0	3,174.9	3,170.6	3,163.6	8.5	6.4	149.31	-161.9	-122.7	402.7	390.0	12.72	31.664	
3,300.0	3,273.7	3,269.4	3,262.1	8.8	6.7	149.38	-168.4	-126.6	418.4	405.2	13.14	31.835	
3,400.0	3,372.6	3,368.1	3,360.6	9.1	6.9	149.45	-174.9	-130.4	434.1	420.5	13.57	31.996	
3,500.0	3,471.5	3,466.9	3,459.1	9.4	7.1	149.51	-181.4	-134.2	449.7	435.8	13.99	32.146	
3,600.0	3,570.4	3,565.7	3,557.5	9.7	7.3	149.57	-187.9	-138.0	465.4	451.0	14.42	32.287	
3,700.0	3,669.2	3,664.4	3,656.0	10.0	7.5	149.62	-194.4	-141.8	481.1	466.3	14.84	32.420	
3,800.0	3,768.1	3,763.2	3,754.5	10.3	7.7	149.67	-201.0	-145.6	496.8	481.6	15.27	32.546	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - Pratt 4E-29H-P168 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-89.95	0.0	-19.6	19.6				
100.0	100.0	100.0	100.0	0.2	0.2	-89.95	0.0	-19.6	19.6	19.3	0.30	64.560	
200.0	200.0	200.0	200.0	0.3	0.3	-89.95	0.0	-19.6	19.6	19.0	0.65	30.036	
300.0	300.0	300.0	300.0	0.5	0.5	-89.95	0.0	-19.6	19.6	18.6	1.00	19.570	
400.0	400.0	400.0	400.0	0.7	0.7	-89.95	0.0	-19.6	19.6	18.3	1.35	14.513	CC, ES
500.0	500.0	500.0	500.0	0.9	0.8	142.31	0.0	-19.6	20.3	18.6	1.70	11.935	
600.0	600.0	600.0	600.0	1.0	1.0	146.39	0.0	-19.6	22.4	20.4	2.05	10.937	
700.0	699.9	699.9	699.9	1.2	1.2	151.66	0.0	-19.6	26.2	23.8	2.40	10.903	SF
800.0	799.7	799.7	799.7	1.4	1.4	156.89	0.0	-19.6	31.7	28.9	2.75	11.521	
900.0	899.4	899.4	899.4	1.6	1.5	161.39	0.0	-19.6	39.0	35.9	3.10	12.598	
1,000.0	998.9	998.9	998.9	1.8	1.7	165.01	0.0	-19.6	48.2	44.8	3.44	13.999	
1,100.0	1,098.3	1,098.3	1,098.3	2.1	1.9	167.82	0.0	-19.6	59.2	55.4	3.79	15.634	
1,200.0	1,197.4	1,197.4	1,197.4	2.3	2.1	169.99	0.0	-19.6	72.0	67.9	4.13	17.442	
1,300.0	1,296.3	1,296.3	1,296.3	2.6	2.2	171.66	0.0	-19.6	86.5	82.0	4.47	19.341	
1,400.0	1,395.2	1,395.2	1,395.2	2.9	2.4	172.89	0.0	-19.6	101.3	96.5	4.82	21.033	
1,500.0	1,494.1	1,494.1	1,494.1	3.2	2.6	173.80	0.0	-19.6	116.2	111.1	5.16	22.506	
1,600.0	1,592.9	1,592.9	1,592.9	3.5	2.8	174.51	0.0	-19.6	131.1	125.6	5.51	23.798	
1,700.0	1,691.8	1,691.8	1,691.8	3.8	2.9	175.07	0.0	-19.6	146.1	140.2	5.86	24.939	
1,800.0	1,790.7	1,790.7	1,790.7	4.1	3.1	175.53	0.0	-19.6	161.0	154.8	6.20	25.955	
1,900.0	1,889.5	1,889.5	1,889.5	4.4	3.3	175.91	0.0	-19.6	175.9	169.4	6.55	26.865	
2,000.0	1,988.4	1,988.4	1,988.4	4.7	3.4	176.23	0.0	-19.6	190.9	184.0	6.90	27.685	
2,100.0	2,087.3	2,089.9	2,089.9	5.0	3.6	176.40	-0.7	-19.4	205.3	198.0	7.25	28.330	
2,200.0	2,186.2	2,192.1	2,192.1	5.3	3.8	176.27	-3.0	-18.6	218.3	210.7	7.60	28.717	
2,300.0	2,285.0	2,294.7	2,294.6	5.6	4.0	175.88	-7.2	-17.2	229.8	221.8	7.96	28.878	
2,400.0	2,383.9	2,397.6	2,397.3	6.0	4.2	175.27	-13.0	-15.2	239.9	231.6	8.32	28.839	
2,500.0	2,482.8	2,500.7	2,500.0	6.3	4.4	174.45	-20.7	-12.6	248.6	239.9	8.69	28.624	
2,600.0	2,581.6	2,603.9	2,602.8	6.6	4.6	173.43	-30.1	-9.4	255.9	246.9	9.06	28.248	
2,700.0	2,680.5	2,707.2	2,705.4	6.9	4.8	172.21	-41.2	-5.6	262.0	252.5	9.45	27.730	
2,800.0	2,779.4	2,808.6	2,806.0	7.2	5.0	170.85	-53.7	-1.3	266.9	257.1	9.84	27.117	
2,900.0	2,878.3	2,908.3	2,904.8	7.5	5.2	169.54	-66.1	2.9	271.9	261.6	10.25	26.534	
3,000.0	2,977.1	3,008.0	3,003.6	7.8	5.5	168.27	-78.5	7.1	277.0	266.3	10.66	25.985	
3,100.0	3,076.0	3,107.7	3,102.4	8.1	5.7	167.04	-90.9	11.4	282.2	271.1	11.08	25.466	
3,200.0	3,174.9	3,207.3	3,201.2	8.5	5.9	165.87	-103.3	15.6	287.5	276.0	11.51	24.975	
3,300.0	3,273.7	3,307.0	3,300.1	8.8	6.2	164.73	-115.8	19.8	293.0	281.0	11.95	24.511	
3,400.0	3,372.6	3,406.7	3,398.9	9.1	6.4	163.64	-128.2	24.0	298.6	286.2	12.40	24.072	
3,500.0	3,471.5	3,506.4	3,497.7	9.4	6.7	162.59	-140.6	28.3	304.2	291.4	12.86	23.656	
3,600.0	3,570.4	3,606.1	3,596.5	9.7	6.9	161.57	-153.0	32.5	310.0	296.7	13.33	23.262	
3,700.0	3,669.2	3,705.8	3,695.3	10.0	7.2	160.60	-165.4	36.7	315.9	302.1	13.80	22.889	
3,800.0	3,768.1	3,805.5	3,794.1	10.3	7.4	159.65	-177.8	40.9	321.8	307.6	14.28	22.535	
3,900.0	3,867.0	3,905.1	3,893.0	10.6	7.7	158.75	-190.3	45.2	327.9	313.1	14.77	22.200	
4,000.0	3,965.8	4,004.8	3,991.8	11.0	8.0	157.87	-202.7	49.4	334.0	318.7	15.26	21.883	
4,100.0	4,064.7	4,104.5	4,090.6	11.3	8.2	157.03	-215.1	53.6	340.2	324.4	15.76	21.582	
4,200.0	4,163.6	4,204.2	4,189.4	11.6	8.5	156.22	-227.5	57.8	346.4	330.2	16.27	21.296	
4,300.0	4,262.5	4,303.9	4,288.2	11.9	8.8	155.44	-239.9	62.1	352.8	336.0	16.78	21.026	
4,400.0	4,361.3	4,403.6	4,387.1	12.2	9.0	154.68	-252.3	66.3	359.2	341.9	17.29	20.769	
4,500.0	4,460.2	4,503.3	4,485.9	12.5	9.3	153.95	-264.7	70.5	365.6	347.8	17.81	20.525	
4,600.0	4,559.1	4,602.9	4,584.7	12.8	9.6	153.25	-277.2	74.8	372.1	353.8	18.34	20.293	
4,700.0	4,657.9	4,702.6	4,683.5	13.2	9.8	152.57	-289.6	79.0	378.7	359.8	18.87	20.073	
4,800.0	4,756.8	4,802.3	4,782.3	13.5	10.1	151.91	-302.0	83.2	385.3	365.9	19.40	19.864	
4,900.0	4,855.7	4,902.0	4,881.2	13.8	10.4	151.28	-314.4	87.4	392.0	372.1	19.93	19.665	
5,000.0	4,954.6	5,001.7	4,980.0	14.1	10.7	150.67	-326.8	91.7	398.7	378.2	20.47	19.476	
5,100.0	5,053.4	5,101.4	5,078.8	14.4	10.9	150.08	-339.2	95.9	405.5	384.4	21.01	19.296	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - Pratt 4E-29H-P168 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,152.3	5,201.1	5,177.6	14.7	11.2	149.50	-351.6	100.1	412.3	390.7	21.56	19.125	
5,300.0	5,251.2	5,300.7	5,276.4	15.1	11.5	148.95	-364.1	104.3	419.1	397.0	22.10	18.962	
5,400.0	5,350.0	5,400.4	5,375.2	15.4	11.8	148.41	-376.5	108.6	426.0	403.3	22.65	18.806	
5,500.0	5,448.9	5,500.1	5,474.1	15.7	12.0	147.89	-388.9	112.8	432.9	409.7	23.20	18.658	
5,600.0	5,547.8	5,599.8	5,572.9	16.0	12.3	147.39	-401.3	117.0	439.8	416.1	23.75	18.516	
5,700.0	5,646.6	5,699.5	5,671.7	16.3	12.6	146.90	-413.7	121.2	446.8	422.5	24.31	18.381	
5,800.0	5,745.5	5,799.2	5,770.5	16.6	12.9	146.43	-426.1	125.5	453.8	428.9	24.86	18.252	
5,900.0	5,844.4	5,898.8	5,869.3	16.9	13.1	145.97	-438.6	129.7	460.8	435.4	25.42	18.128	
6,000.0	5,943.3	5,998.5	5,968.2	17.3	13.4	145.53	-451.0	133.9	467.9	441.9	25.98	18.010	
6,100.0	6,042.1	6,098.2	6,067.0	17.6	13.7	145.10	-463.4	138.1	475.0	448.5	26.54	17.897	
6,200.0	6,141.0	6,197.9	6,165.8	17.9	14.0	144.68	-475.8	142.4	482.1	455.0	27.10	17.789	
6,300.0	6,239.9	6,297.6	6,264.6	18.2	14.3	144.27	-488.2	146.6	489.3	461.6	27.67	17.685	
6,400.0	6,338.7	6,397.3	6,363.4	18.5	14.5	143.88	-500.6	150.8	496.4	468.2	28.23	17.585	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - Pratt 4F-29H-P168 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-89.94	0.0	-8.4	8.4				
100.0	100.0	100.0	100.0	0.2	0.2	-89.94	0.0	-8.4	8.4	8.1	0.30	27.669	
200.0	200.0	200.0	200.0	0.3	0.3	-89.94	0.0	-8.4	8.4	7.7	0.65	12.873	
300.0	300.0	300.0	300.0	0.5	0.5	-89.94	0.0	-8.4	8.4	7.4	1.00	8.387	
400.0	400.0	400.0	400.0	0.7	0.7	-89.94	0.0	-8.4	8.4	7.1	1.35	6.220	CC, ES
500.0	500.0	500.0	500.0	0.9	0.8	144.24	0.0	-8.4	9.1	7.4	1.70	5.350	
600.0	600.0	600.1	600.1	1.0	1.0	148.64	-0.7	-7.9	10.7	8.7	2.05	5.237	SF
700.0	699.9	700.2	700.2	1.2	1.2	149.88	-2.9	-6.5	12.8	10.4	2.40	5.312	
800.0	799.7	800.3	800.2	1.4	1.4	149.13	-6.6	-4.2	15.1	12.4	2.76	5.483	
900.0	899.4	900.5	900.2	1.6	1.6	147.24	-11.8	-0.9	17.9	14.7	3.13	5.709	
1,000.0	998.9	1,000.6	1,000.0	1.8	1.8	144.75	-18.4	3.4	21.0	17.5	3.52	5.968	
1,100.0	1,098.3	1,100.8	1,099.7	2.1	2.0	142.00	-26.5	8.5	24.6	20.6	3.93	6.243	
1,200.0	1,197.4	1,201.0	1,199.2	2.3	2.2	139.22	-36.1	14.7	28.6	24.2	4.38	6.518	
1,300.0	1,296.3	1,300.9	1,298.4	2.6	2.5	137.39	-46.5	21.3	33.3	28.4	4.85	6.857	
1,400.0	1,395.2	1,400.7	1,397.5	2.9	2.7	136.36	-57.0	28.0	38.2	32.9	5.33	7.171	
1,500.0	1,494.1	1,500.6	1,496.6	3.2	3.0	135.56	-67.5	34.7	43.2	37.4	5.82	7.422	
1,600.0	1,592.9	1,600.5	1,595.7	3.5	3.3	134.93	-77.9	41.4	48.2	41.9	6.32	7.627	
1,700.0	1,691.8	1,700.4	1,694.8	3.8	3.5	134.41	-88.4	48.1	53.2	46.4	6.82	7.796	
1,800.0	1,790.7	1,800.2	1,793.9	4.1	3.8	133.99	-98.9	54.8	58.2	50.9	7.33	7.938	
1,900.0	1,889.5	1,900.1	1,893.0	4.4	4.1	133.63	-109.3	61.4	63.2	55.4	7.84	8.058	
2,000.0	1,988.4	2,000.0	1,992.1	4.7	4.3	133.33	-119.8	68.1	68.2	59.8	8.36	8.161	
2,100.0	2,087.3	2,099.9	2,091.2	5.0	4.6	133.06	-130.2	74.8	73.2	64.3	8.87	8.249	
2,200.0	2,186.2	2,199.7	2,190.3	5.3	4.9	132.83	-140.7	81.5	78.2	68.8	9.39	8.327	
2,300.0	2,285.0	2,299.6	2,289.3	5.6	5.1	132.63	-151.2	88.2	83.2	73.3	9.91	8.395	
2,400.0	2,383.9	2,399.5	2,388.4	6.0	5.4	132.45	-161.6	94.9	88.2	77.8	10.43	8.455	
2,500.0	2,482.8	2,499.4	2,487.5	6.3	5.7	132.29	-172.1	101.6	93.2	82.3	10.96	8.508	
2,600.0	2,581.6	2,599.2	2,586.6	6.6	6.0	132.15	-182.6	108.2	98.2	86.7	11.48	8.556	
2,700.0	2,680.5	2,699.1	2,685.7	6.9	6.2	132.02	-193.0	114.9	103.2	91.2	12.00	8.599	
2,800.0	2,779.4	2,799.0	2,784.8	7.2	6.5	131.90	-203.5	121.6	108.2	95.7	12.53	8.637	
2,900.0	2,878.3	2,898.9	2,883.9	7.5	6.8	131.79	-214.0	128.3	113.2	100.2	13.06	8.673	
3,000.0	2,977.1	2,998.7	2,983.0	7.8	7.1	131.69	-224.4	135.0	118.2	104.7	13.58	8.705	
3,100.0	3,076.0	3,098.6	3,082.1	8.1	7.3	131.60	-234.9	141.7	123.2	109.1	14.11	8.734	
3,200.0	3,174.9	3,198.5	3,181.2	8.5	7.6	131.52	-245.3	148.4	128.3	113.6	14.64	8.761	
3,300.0	3,273.7	3,298.4	3,280.3	8.8	7.9	131.44	-255.8	155.0	133.3	118.1	15.17	8.786	
3,400.0	3,372.6	3,398.2	3,379.4	9.1	8.2	131.37	-266.3	161.7	138.3	122.6	15.70	8.809	
3,500.0	3,471.5	3,498.1	3,478.5	9.4	8.4	131.30	-276.7	168.4	143.3	127.1	16.23	8.830	
3,600.0	3,570.4	3,598.0	3,577.6	9.7	8.7	131.24	-287.2	175.1	148.3	131.5	16.76	8.850	
3,700.0	3,669.2	3,697.9	3,676.7	10.0	9.0	131.18	-297.7	181.8	153.3	136.0	17.29	8.869	
3,800.0	3,768.1	3,797.7	3,775.8	10.3	9.3	131.13	-308.1	188.5	158.3	140.5	17.82	8.886	
3,900.0	3,867.0	3,897.6	3,874.9	10.6	9.5	131.08	-318.6	195.1	163.3	145.0	18.35	8.902	
4,000.0	3,965.8	3,997.5	3,974.0	11.0	9.8	131.03	-329.1	201.8	168.3	149.5	18.88	8.917	
4,100.0	4,064.7	4,097.4	4,073.1	11.3	10.1	130.99	-339.5	208.5	173.3	153.9	19.41	8.931	
4,200.0	4,163.6	4,197.2	4,172.2	11.6	10.4	130.94	-350.0	215.2	178.3	158.4	19.94	8.944	
4,300.0	4,262.5	4,297.1	4,271.3	11.9	10.7	130.90	-360.5	221.9	183.4	162.9	20.47	8.957	
4,400.0	4,361.3	4,397.0	4,370.4	12.2	10.9	130.87	-370.9	228.6	188.4	167.4	21.00	8.969	
4,500.0	4,460.2	4,496.9	4,469.5	12.5	11.2	130.83	-381.4	235.3	193.4	171.8	21.53	8.980	
4,600.0	4,559.1	4,596.7	4,568.6	12.8	11.5	130.80	-391.8	241.9	198.4	176.3	22.07	8.991	
4,700.0	4,657.9	4,696.6	4,667.7	13.2	11.8	130.76	-402.3	248.6	203.4	180.8	22.60	9.001	
4,800.0	4,756.8	4,796.5	4,766.8	13.5	12.0	130.73	-412.8	255.3	208.4	185.3	23.13	9.010	
4,900.0	4,855.7	4,896.4	4,865.9	13.8	12.3	130.70	-423.2	262.0	213.4	189.8	23.66	9.019	
5,000.0	4,954.6	4,996.2	4,965.0	14.1	12.6	130.67	-433.7	268.7	218.4	194.2	24.19	9.028	
5,100.0	5,053.4	5,096.1	5,064.1	14.4	12.9	130.65	-444.2	275.4	223.4	198.7	24.73	9.036	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - Pratt 4F-29H-P168 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,152.3	5,196.0	5,163.2	14.7	13.1	130.62	-454.6	282.1	228.4	203.2	25.26	9.044	
5,300.0	5,251.2	5,295.8	5,262.3	15.1	13.4	130.60	-465.1	288.7	233.5	207.7	25.79	9.052	
5,400.0	5,350.0	5,395.7	5,361.4	15.4	13.7	130.57	-475.6	295.4	238.5	212.1	26.32	9.059	
5,500.0	5,448.9	5,495.6	5,460.5	15.7	14.0	130.55	-486.0	302.1	243.5	216.6	26.86	9.066	
5,600.0	5,547.8	5,595.5	5,559.6	16.0	14.3	130.53	-496.5	308.8	248.5	221.1	27.39	9.072	
5,700.0	5,646.6	5,695.3	5,658.7	16.3	14.5	130.51	-506.9	315.5	253.5	225.6	27.92	9.079	
5,800.0	5,745.5	5,795.2	5,757.8	16.6	14.8	130.49	-517.4	322.2	258.5	230.1	28.46	9.085	
5,900.0	5,844.4	5,895.1	5,856.9	16.9	15.1	130.47	-527.9	328.8	263.5	234.5	28.99	9.090	
6,000.0	5,943.3	5,995.0	5,956.0	17.3	15.4	130.45	-538.3	335.5	268.5	239.0	29.52	9.096	
6,100.0	6,042.1	6,094.8	6,055.1	17.6	15.6	130.43	-548.8	342.2	273.5	243.5	30.06	9.101	
6,200.0	6,141.0	6,194.7	6,154.2	17.9	15.9	130.41	-559.3	348.9	278.6	248.0	30.59	9.107	
6,300.0	6,239.9	6,294.6	6,253.3	18.2	16.2	130.40	-569.7	355.6	283.6	252.4	31.12	9.112	
6,400.0	6,338.7	6,394.5	6,352.4	18.5	16.5	130.38	-580.2	362.3	288.6	256.9	31.65	9.116	
6,500.0	6,437.6	6,494.3	6,451.5	18.8	16.8	130.37	-590.7	369.0	293.6	261.4	32.19	9.121	
6,600.0	6,536.5	6,594.2	6,550.6	19.1	17.0	130.35	-601.1	375.6	298.6	265.9	32.72	9.125	
6,700.0	6,635.4	6,694.1	6,649.7	19.5	17.3	130.34	-611.6	382.3	303.6	270.4	33.25	9.130	
6,800.0	6,734.2	6,794.0	6,748.8	19.8	17.6	130.32	-622.0	389.0	308.6	274.8	33.79	9.134	
6,900.0	6,833.1	6,893.8	6,847.9	20.1	17.9	130.31	-632.5	395.7	313.6	279.3	34.32	9.138	
7,000.0	6,932.0	6,993.7	6,947.0	20.4	18.1	130.30	-643.0	402.4	318.6	283.8	34.86	9.142	
7,100.0	7,030.8	7,100.0	7,052.9	20.7	18.3	131.57	-646.8	409.2	322.8	287.8	35.01	9.219	
7,200.0	7,129.7	7,201.7	7,153.3	21.0	18.3	135.91	-632.3	414.9	325.8	291.5	34.26	9.511	
7,300.0	7,228.6	7,292.5	7,239.5	21.4	18.1	142.20	-604.5	419.1	331.5	298.6	32.82	10.100	
7,400.0	7,327.5	7,370.3	7,309.2	21.7	17.8	149.10	-570.1	422.0	344.5	313.4	31.14	11.064	
7,500.0	7,426.3	7,435.6	7,363.6	22.0	17.6	164.26	-534.3	423.8	368.6	339.1	29.55	12.473	
7,600.0	7,525.5	7,500.0	7,413.0	22.2	17.3	-113.57	-493.0	425.1	401.5	373.6	27.85	14.416	
7,700.0	7,623.0	7,550.0	7,448.0	22.2	17.1	-81.25	-457.3	425.8	437.7	410.7	26.94	16.247	
7,800.0	7,715.6	7,611.0	7,486.2	22.1	16.8	-66.81	-409.8	426.1	474.1	447.8	26.28	18.037	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - SRC PRATT 29PD (EXISTING) - SYNERGY WELL - SUR

Offset Site Error: 0.0 ft

Survey Program: 218-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	4.2	4.2	0.0	0.0	-5.04	328.3	-29.0	329.6				
100.0	100.0	108.3	108.3	0.2	0.2	-4.96	327.7	-28.4	328.9	328.6	0.34	973.119	
200.0	200.0	212.3	212.3	0.3	0.4	-4.72	325.8	-26.9	327.0	326.3	0.69	472.913	
300.0	300.0	316.1	316.0	0.5	0.6	-4.81	322.5	-27.1	323.9	322.8	1.05	309.920	
400.0	400.0	417.3	416.9	0.7	0.8	-5.92	318.0	-33.0	320.0	318.6	1.39	230.613	
500.0	500.0	516.1	515.0	0.9	1.0	-137.37	312.8	-43.7	316.7	314.9	1.82	174.283	
565.7	565.7	578.5	576.6	1.0	1.2	-139.27	309.6	-52.8	316.0	313.9	2.12	148.987	CC, ES
600.0	600.0	610.5	608.2	1.0	1.3	-140.39	308.0	-58.2	316.2	313.9	2.29	137.992	
700.0	699.9	702.5	698.3	1.2	1.6	-144.06	304.1	-75.8	319.8	317.0	2.82	113.494	
800.0	799.7	790.8	784.4	1.4	2.0	-148.02	301.4	-95.5	328.5	325.1	3.37	97.548	
900.0	899.4	872.0	863.1	1.6	2.3	-151.72	301.1	-115.4	343.9	340.1	3.89	88.447	
1,000.0	998.9	965.4	953.4	1.8	2.8	-155.72	302.7	-139.2	365.0	360.6	4.43	82.451	
1,100.0	1,098.3	1,057.4	1,042.4	2.1	3.2	-159.25	304.8	-162.3	389.8	384.8	4.93	79.035	
1,200.0	1,197.4	1,143.7	1,125.7	2.3	3.6	-162.30	307.5	-184.7	418.5	413.1	5.40	77.489	
1,300.0	1,296.3	1,228.1	1,206.9	2.6	4.0	-165.07	311.0	-207.7	451.6	445.7	5.84	77.339	SF
1,400.0	1,395.2	1,305.7	1,281.1	2.9	4.4	-167.34	315.7	-229.6	487.9	481.7	6.23	78.301	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - SRC PRATT 29TD (EXISTING) - SYNERGY WELL - SUR

Offset Site Error: 0.0 ft

Survey Program: 1020-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	3.0	3.0	0.0	0.0	12.74	280.1	63.3	287.2				
100.0	100.0	103.1	103.1	0.2	0.2	12.76	280.1	63.4	287.2	286.9	0.33	867.243	
200.0	200.0	203.1	203.1	0.3	0.4	12.82	280.0	63.7	287.2	286.5	0.68	422.433	
300.0	300.0	303.2	303.2	0.5	0.5	12.91	279.8	64.1	287.1	286.1	1.03	279.180	
400.0	400.0	403.3	403.3	0.7	0.7	13.04	279.6	64.8	287.0	285.6	1.38	208.447	
411.9	411.9	415.2	415.1	0.7	0.7	-116.24	279.6	64.9	287.0	285.6	1.42	201.489	
500.0	500.0	503.3	503.3	0.9	0.9	-116.24	279.3	65.6	287.3	285.6	1.73	165.759	
600.0	600.0	603.4	603.4	1.0	1.1	-116.49	279.0	66.6	288.3	286.3	2.09	138.229	
700.0	699.9	703.4	703.4	1.2	1.2	-117.01	278.6	67.7	290.2	287.7	2.44	118.749	
800.0	799.7	803.3	803.3	1.4	1.4	-117.77	278.1	69.0	292.8	290.0	2.81	104.263	
900.0	899.4	903.2	903.2	1.6	1.6	-118.78	277.5	70.6	296.2	293.1	3.18	93.110	
1,000.0	998.9	1,003.0	1,003.0	1.8	1.8	-120.00	276.9	72.2	300.7	297.1	3.57	84.311	
1,100.0	1,098.3	1,110.4	1,110.4	2.1	1.9	-121.67	275.1	73.5	305.0	301.1	3.97	76.774	
1,200.0	1,197.4	1,223.3	1,223.1	2.3	2.2	-124.14	269.6	71.9	307.1	302.7	4.39	69.959	
1,300.0	1,296.3	1,340.1	1,339.2	2.6	2.4	-127.15	257.4	69.0	304.9	300.1	4.82	63.310	
1,400.0	1,395.2	1,448.7	1,446.5	2.9	2.7	-130.10	241.6	65.8	299.6	294.4	5.22	57.343	
1,500.0	1,494.1	1,558.0	1,554.0	3.2	3.0	-133.58	222.0	60.9	291.7	286.1	5.62	51.867	
1,600.0	1,592.9	1,662.6	1,656.1	3.5	3.3	-137.22	200.0	55.9	281.6	275.6	6.01	46.814	
1,700.0	1,691.8	1,762.8	1,753.5	3.8	3.7	-141.29	177.2	49.9	271.1	264.7	6.41	42.301	
1,800.0	1,790.7	1,866.2	1,853.4	4.1	4.1	-146.06	152.0	42.8	260.7	253.9	6.83	38.192	
1,900.0	1,889.5	1,961.8	1,946.0	4.4	4.5	-150.52	128.3	37.8	251.2	244.0	7.25	34.645	
2,000.0	1,988.4	2,062.1	2,043.0	4.7	4.9	-155.42	103.3	33.0	243.2	235.4	7.73	31.464	
2,100.0	2,087.3	2,161.1	2,138.5	5.0	5.4	-160.58	77.7	28.7	236.0	227.7	8.25	28.610	
2,200.0	2,186.2	2,256.8	2,231.0	5.3	5.8	-165.70	53.3	24.8	230.9	222.1	8.81	26.220	
2,300.0	2,285.0	2,352.1	2,323.3	5.6	6.2	-170.93	29.8	20.5	228.9	219.5	9.42	24.302	
2,328.6	2,313.4	2,380.0	2,350.3	5.7	6.3	-172.46	23.1	19.2	228.8	219.2	9.60	23.822	CC, ES
2,400.0	2,383.9	2,449.9	2,418.1	6.0	6.6	-176.21	6.3	16.3	229.3	219.2	10.09	22.726	
2,500.0	2,482.8	2,548.2	2,513.2	6.3	7.1	178.40	-17.9	11.7	231.6	220.7	10.83	21.375	
2,600.0	2,581.6	2,645.1	2,607.0	6.6	7.5	173.12	-42.3	7.1	235.7	224.0	11.62	20.277	
2,700.0	2,680.5	2,740.0	2,698.8	6.9	7.9	168.23	-65.4	2.0	242.7	230.3	12.42	19.545	
2,800.0	2,779.4	2,838.7	2,794.6	7.2	8.4	163.64	-88.6	-3.2	252.0	238.7	13.24	19.023	
2,900.0	2,878.3	2,936.3	2,889.3	7.5	8.8	159.36	-112.2	-7.8	261.9	247.8	14.09	18.588	
3,000.0	2,977.1	3,031.7	2,981.3	7.8	9.3	155.21	-136.1	-13.6	274.3	259.3	14.94	18.351	
3,100.0	3,076.0	3,130.4	3,076.5	8.1	9.8	151.16	-161.6	-19.6	287.9	272.1	15.82	18.203	
3,200.0	3,174.9	3,225.5	3,168.4	8.5	10.2	147.75	-185.5	-25.0	302.5	285.9	16.63	18.195	SF
3,300.0	3,273.7	3,320.6	3,260.4	8.8	10.6	144.75	-208.8	-31.5	319.4	302.0	17.41	18.346	
3,400.0	3,372.6	3,420.2	3,356.7	9.1	11.1	141.87	-233.4	-38.2	336.8	318.6	18.22	18.489	
3,500.0	3,471.5	3,517.2	3,450.0	9.4	11.6	139.04	-259.2	-44.0	354.5	335.5	19.01	18.646	
3,600.0	3,570.4	3,618.3	3,547.4	9.7	12.1	136.47	-285.5	-50.1	372.8	353.1	19.79	18.843	
3,700.0	3,669.2	3,716.6	3,642.6	10.0	12.5	134.40	-309.7	-54.9	390.6	370.1	20.51	19.047	
3,800.0	3,768.1	3,810.9	3,734.0	10.3	13.0	132.67	-332.5	-60.0	409.3	388.1	21.20	19.304	
3,900.0	3,867.0	3,904.2	3,824.1	10.6	13.4	131.03	-355.5	-65.9	429.2	407.3	21.88	19.612	
4,000.0	3,965.8	4,000.8	3,917.5	11.0	13.9	129.44	-379.8	-72.4	450.0	427.4	22.58	19.933	
4,100.0	4,064.7	4,101.3	4,014.4	11.3	14.4	127.90	-405.3	-78.9	470.8	447.5	23.27	20.231	
4,200.0	4,163.6	4,202.3	4,112.1	11.6	14.8	126.51	-430.4	-84.6	491.1	467.1	23.96	20.497	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - SRC PRATT 29XD (EXISTING) - SYNERGY WELL - PLAN

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	14.04	276.5	69.2	285.2				
100.0	100.0	90.0	90.0	0.2	0.2	14.04	276.5	69.2	285.0	284.7	0.31	922.533	
200.0	200.0	190.0	190.0	0.3	0.3	14.04	276.5	69.2	285.0	284.4	0.66	433.154	
300.0	300.0	285.2	285.2	0.5	0.5	14.25	276.9	70.4	285.8	284.8	1.00	286.110	
400.0	400.0	379.7	379.6	0.7	0.7	14.97	278.4	74.5	288.4	287.1	1.34	215.470	
500.0	500.0	473.8	473.4	0.9	0.9	-113.24	281.0	81.4	293.4	291.7	1.72	170.816	
600.0	600.0	567.5	566.5	1.0	1.1	-111.98	284.6	91.3	301.1	299.0	2.11	142.989	
700.0	699.9	660.5	658.5	1.2	1.4	-110.61	289.2	103.8	311.6	309.1	2.52	123.591	
800.0	799.7	752.8	749.3	1.4	1.7	-109.16	294.8	119.1	324.9	321.9	2.97	109.491	
900.0	899.4	844.2	838.7	1.6	2.1	-107.68	301.4	136.9	341.0	337.6	3.44	99.098	
1,000.0	998.9	940.3	932.3	1.8	2.5	-106.23	309.0	157.6	359.3	355.4	3.96	90.857	
1,100.0	1,098.3	1,038.3	1,027.7	2.1	2.9	-105.11	316.8	178.8	378.3	373.9	4.49	84.200	
1,200.0	1,197.4	1,136.3	1,123.0	2.3	3.3	-104.33	324.6	200.0	397.9	392.8	5.05	78.708	
1,300.0	1,296.3	1,234.3	1,218.4	2.6	3.8	-103.89	332.4	221.3	417.8	412.2	5.64	74.092	
1,400.0	1,395.2	1,332.2	1,313.7	2.9	4.2	-103.65	340.2	242.5	437.8	431.6	6.23	70.220	
1,500.0	1,494.1	1,430.2	1,409.0	3.2	4.6	-103.43	348.0	263.7	457.8	451.0	6.84	66.972	
1,600.0	1,592.9	1,528.2	1,504.3	3.5	5.0	-103.22	355.8	284.9	477.9	470.4	7.44	64.215	
1,700.0	1,691.8	1,626.1	1,599.6	3.8	5.5	-103.04	363.6	306.1	497.9	489.9	8.05	61.851	
8,800.0	8,036.0	8,148.3	8,026.0	21.9	24.2	90.00	655.3	1,099.7	446.4	414.5	31.83	14.021	
8,900.0	8,036.0	8,148.3	8,026.0	22.5	24.2	90.00	655.3	1,099.7	372.4	339.8	32.65	11.405	
9,000.0	8,036.0	8,148.3	8,026.0	23.2	24.2	90.00	655.3	1,099.7	313.3	279.7	33.60	9.323	
9,100.0	8,036.0	8,148.3	8,026.0	24.1	24.2	90.00	655.3	1,099.7	278.6	243.9	34.67	8.035	
9,152.7	8,036.0	8,148.3	8,026.0	24.6	24.2	90.00	655.3	1,099.7	273.5	238.2	35.28	7.753	CC, ES
9,200.0	8,036.0	8,148.3	8,026.0	25.0	24.2	90.00	655.3	1,099.7	277.6	241.7	35.83	7.747	SF
9,300.0	8,036.0	8,148.3	8,026.0	26.0	24.2	90.00	655.3	1,099.7	310.6	273.6	37.07	8.379	
9,400.0	8,036.0	8,148.3	8,026.0	27.1	24.2	90.00	655.3	1,099.7	368.7	330.3	38.38	9.606	
9,500.0	8,036.0	8,148.3	8,026.0	28.3	24.2	90.00	655.3	1,099.7	442.1	402.3	39.75	11.121	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - SRC PRATT 33-29PD (EXISTING) - SYNERGY WELL - S

Offset Site Error: 0.0 ft

Survey Program: 127-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	3.0	3.0	0.0	0.0	-6.53	339.9	-38.9	342.1				
100.0	100.0	102.5	102.5	0.2	0.2	-6.54	340.0	-38.9	342.2	341.9	0.31	1,095.143	ES
200.0	200.0	199.3	199.3	0.3	0.3	-6.56	340.5	-39.1	342.7	342.1	0.65	525.612	
300.0	300.0	298.8	298.8	0.5	0.5	-6.68	341.6	-40.0	344.0	343.0	1.00	343.271	
400.0	400.0	400.0	400.0	0.7	0.7	-6.88	342.5	-41.3	345.0	343.7	1.35	254.684	
500.0	500.0	497.3	497.3	0.9	0.9	-136.53	343.5	-43.1	346.9	345.2	1.70	204.131	
600.0	600.0	596.4	596.2	1.0	1.0	-137.36	344.8	-46.7	350.6	348.6	2.06	170.485	
700.0	699.9	696.3	696.0	1.2	1.2	-138.60	345.9	-51.9	355.7	353.3	2.42	146.839	
800.0	799.7	792.6	792.2	1.4	1.4	-140.02	347.2	-57.5	362.7	359.9	2.79	130.169	
900.0	899.4	887.9	887.3	1.6	1.6	-141.37	349.6	-62.4	372.3	369.1	3.15	118.299	
1,000.0	998.9	982.2	981.4	1.8	1.8	-142.65	353.1	-66.7	384.5	381.0	3.51	109.657	
1,100.0	1,098.3	1,075.5	1,074.5	2.1	2.0	-143.93	357.8	-70.9	399.5	395.7	3.87	103.341	
1,200.0	1,197.4	1,165.4	1,164.1	2.3	2.2	-145.11	363.7	-74.9	417.7	413.5	4.22	98.903	
1,300.0	1,296.3	1,249.0	1,247.2	2.6	2.4	-146.40	371.0	-80.3	440.0	435.5	4.58	96.122	
1,400.0	1,395.2	1,335.0	1,332.4	2.9	2.6	-147.85	380.6	-87.8	465.8	460.9	4.94	94.371	
1,500.0	1,494.1	1,415.5	1,411.7	3.2	2.9	-149.14	391.3	-96.1	494.4	489.1	5.28	93.580	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - SRC PRATT 34-29D (EXISTING) - SYNERGY WELL - SU

Offset Site Error: 0.0 ft

Survey Program: 217-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-0.95	319.9	-5.3	320.1				
100.0	100.0	91.1	91.1	0.2	0.2	-0.86	319.7	-4.8	319.8	319.4	0.32	1,013.971	
200.0	200.0	192.4	192.4	0.3	0.3	-0.55	319.2	-3.0	319.2	318.5	0.67	475.559	
300.0	300.0	294.7	294.6	0.5	0.5	-0.22	318.1	-1.2	318.2	317.1	1.03	310.128	
400.0	400.0	392.7	392.7	0.7	0.7	-0.36	316.9	-2.0	316.9	315.5	1.37	231.733	
482.5	482.5	475.5	475.4	0.8	0.8	-130.13	316.2	-4.2	316.6	314.9	1.65	191.858	CC
500.0	500.0	493.1	493.0	0.9	0.9	-130.27	316.0	-4.7	316.6	314.9	1.71	185.034	ES
600.0	600.0	594.8	594.6	1.0	1.0	-131.34	314.6	-8.6	317.1	315.0	2.07	153.406	
700.0	699.9	692.4	692.2	1.2	1.2	-132.57	313.4	-12.3	318.9	316.5	2.42	131.744	
800.0	799.7	792.2	791.9	1.4	1.4	-133.77	312.5	-14.6	322.4	319.6	2.78	115.905	
900.0	899.4	890.3	890.0	1.6	1.6	-135.03	312.0	-16.4	327.5	324.3	3.14	104.131	
1,000.0	998.9	990.0	989.7	1.8	1.7	-136.47	311.6	-18.3	334.2	330.7	3.52	95.009	
1,100.0	1,098.3	1,089.4	1,089.1	2.1	1.9	-138.10	311.0	-20.5	342.2	338.3	3.90	87.851	
1,200.0	1,197.4	1,188.2	1,187.8	2.3	2.1	-139.82	310.4	-22.8	352.0	347.7	4.28	82.287	
1,300.0	1,296.3	1,286.8	1,286.4	2.6	2.3	-141.64	309.8	-25.1	363.3	358.6	4.66	77.917	
1,400.0	1,395.2	1,387.1	1,386.6	2.9	2.5	-143.44	309.2	-27.4	375.2	370.1	5.05	74.332	
1,500.0	1,494.1	1,489.5	1,489.0	3.2	2.6	-145.17	307.7	-29.6	386.5	381.1	5.44	71.073	
1,600.0	1,592.9	1,588.2	1,587.6	3.5	2.8	-147.27	304.6	-35.0	397.7	391.8	5.83	68.241	
1,700.0	1,691.8	1,686.2	1,685.0	3.8	3.1	-149.72	300.6	-43.7	409.5	403.3	6.22	65.806	
1,800.0	1,790.7	1,782.2	1,780.2	4.1	3.3	-152.46	295.4	-55.4	422.3	415.6	6.63	63.734	
1,900.0	1,889.5	1,879.1	1,875.9	4.4	3.6	-155.37	289.4	-69.6	436.3	429.2	7.04	61.956	
2,000.0	1,988.4	1,979.6	1,974.8	4.7	3.8	-158.47	281.8	-85.8	451.0	443.5	7.48	60.275	
2,100.0	2,087.3	2,073.6	2,066.9	5.0	4.2	-161.41	273.4	-102.4	466.5	458.5	7.92	58.866	
2,200.0	2,186.2	2,162.8	2,153.9	5.3	4.5	-164.27	264.9	-120.2	484.1	475.7	8.38	57.774	SF

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - SRC PRATT 41-29D (EXISTING) - SYNERGY WELL - SU

Offset Site Error: 0.0 ft

Survey Program: 248-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
12,300.0	8,036.0	8,196.8	8,062.4	71.4	23.5	-87.91	4,043.3	405.5	449.5	357.0	92.54	4.857	
12,400.0	8,036.0	8,198.7	8,064.4	73.1	23.5	-88.21	4,043.3	405.4	402.6	308.3	94.28	4.270	
12,500.0	8,036.0	8,200.7	8,066.3	74.7	23.5	-88.52	4,043.3	405.4	376.9	280.8	96.01	3.925	
12,550.1	8,036.0	8,201.7	8,067.3	75.6	23.5	-88.67	4,043.4	405.4	373.5	276.6	96.88	3.855	CC, ES
12,600.0	8,036.0	8,202.7	8,068.3	76.4	23.5	-88.82	4,043.4	405.3	376.8	279.1	97.75	3.855	SF
12,700.0	8,036.0	8,204.7	8,070.3	78.1	23.5	-89.12	4,043.4	405.3	402.4	303.0	99.48	4.045	
12,800.0	8,036.0	8,206.6	8,072.3	79.8	23.5	-89.43	4,043.4	405.2	449.3	348.1	101.22	4.439	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - SRC PRATT 42-29D (EXISTING) - SYNERGY WELL - SU

Offset Site Error: 0.0 ft

Survey Program: 125-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,600.0	8,036.0	8,155.2	8,084.9	43.7	19.2	-93.25	2,524.2	624.9	462.6	404.9	57.67	8.020	
10,700.0	8,036.0	8,153.3	8,083.1	45.3	19.2	-92.64	2,524.2	624.9	372.0	312.6	59.33	6.270	
10,800.0	8,036.0	8,151.4	8,081.2	46.8	19.2	-92.01	2,524.2	624.9	287.6	226.7	60.99	4.716	
10,900.0	8,036.0	8,149.5	8,079.2	48.4	19.2	-91.38	2,524.3	624.9	217.1	154.4	62.65	3.465	
11,000.0	8,036.0	8,147.5	8,077.2	50.0	19.2	-90.73	2,524.3	624.8	177.4	113.1	64.31	2.759	
11,028.2	8,036.0	8,146.9	8,076.7	50.5	19.2	-90.54	2,524.3	624.8	175.2	110.4	64.78	2.704	CC, ES, SF
11,100.0	8,036.0	8,145.5	8,075.2	51.6	19.2	-90.07	2,524.4	624.8	189.3	123.3	65.98	2.869	
11,200.0	8,036.0	8,143.4	8,073.2	53.2	19.2	-89.40	2,524.4	624.8	245.3	177.7	67.64	3.627	
11,300.0	8,036.0	8,141.3	8,071.1	54.8	19.2	-88.72	2,524.4	624.8	323.3	254.0	69.29	4.666	
11,400.0	8,036.0	8,139.2	8,068.9	56.5	19.2	-88.02	2,524.5	624.8	410.9	340.0	70.95	5.792	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - SRC PRATT 43-29D (EXISTING) - SYNERGY WELL - SU

Offset Site Error: 0.0 ft

Survey Program: 211-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	4.0	4.0	0.0	0.0	2.17	310.4	11.7	310.6				
100.0	100.0	103.9	103.9	0.2	0.2	2.23	310.4	12.1	310.6	310.3	0.32	963.056	
200.0	200.0	203.9	203.9	0.3	0.3	2.39	310.4	13.0	310.7	310.0	0.66	469.848	
300.0	300.0	299.7	299.7	0.5	0.5	2.66	311.0	14.5	311.3	310.3	1.00	310.685	
400.0	400.0	390.9	390.8	0.7	0.7	3.08	313.4	16.9	314.1	312.8	1.34	235.235	
500.0	500.0	483.3	483.1	0.9	0.9	-125.73	318.2	20.2	320.0	318.3	1.69	189.298	
600.0	600.0	572.8	572.1	1.0	1.1	-125.35	325.1	24.3	329.6	327.5	2.03	161.971	
700.0	699.9	659.2	657.9	1.2	1.3	-125.01	334.7	29.3	343.6	341.2	2.38	144.194	
800.0	799.7	746.2	743.7	1.4	1.6	-124.69	347.4	35.7	362.1	359.3	2.74	131.969	
900.0	899.4	832.5	828.3	1.6	1.9	-124.35	362.4	43.3	384.5	381.4	3.12	123.179	
1,000.0	998.9	921.0	914.6	1.8	2.3	-123.97	380.0	52.9	410.5	407.0	3.52	116.559	
1,100.0	1,098.3	1,016.0	1,006.7	2.1	2.7	-123.64	399.9	64.1	438.6	434.7	3.96	110.813	
1,200.0	1,197.4	1,103.2	1,091.2	2.3	3.1	-123.37	418.4	75.2	468.0	463.6	4.40	106.405	
9,500.0	8,036.0	8,197.7	8,045.5	28.3	25.3	-91.17	1,371.1	548.2	461.8	414.3	47.53	9.716	
9,600.0	8,036.0	8,197.9	8,045.8	29.5	25.3	-91.23	1,371.1	548.2	384.8	335.8	48.94	7.861	
9,700.0	8,036.0	8,198.2	8,046.0	30.8	25.3	-91.29	1,371.1	548.2	320.6	270.2	50.40	6.362	
9,800.0	8,036.0	8,198.5	8,046.3	32.1	25.3	-91.34	1,371.1	548.3	278.5	226.6	51.88	5.368	
9,876.2	8,036.0	8,198.7	8,046.5	33.1	25.3	-91.39	1,371.1	548.3	267.9	214.9	53.04	5.051	CC, ES
9,900.0	8,036.0	8,198.7	8,046.5	33.4	25.3	-91.40	1,371.1	548.3	269.0	215.6	53.40	5.037	SF
10,000.0	8,036.0	8,199.0	8,046.8	34.8	25.3	-91.45	1,371.1	548.3	295.1	240.2	54.94	5.372	
10,100.0	8,036.0	8,199.2	8,047.1	36.2	25.3	-91.51	1,371.1	548.3	349.1	292.6	56.50	6.179	
10,200.0	8,036.0	8,199.5	8,047.3	37.7	25.3	-91.57	1,371.1	548.3	420.3	362.2	58.08	7.237	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - SRC PRATT 44-29D (EXISTING) - SYNERGY WELL - PL

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	22.03	256.2	103.6	276.4				
100.0	100.0	92.0	92.0	0.2	0.2	22.03	256.2	103.6	276.3	276.0	0.31	884.425	
200.0	200.0	192.0	192.0	0.3	0.3	22.03	256.2	103.6	276.3	275.7	0.66	417.732	
300.0	300.0	292.0	292.0	0.5	0.5	22.03	256.2	103.6	276.3	275.3	1.01	273.437	
400.0	400.0	392.0	392.0	0.7	0.7	22.03	256.2	103.6	276.3	275.0	1.36	203.235	CC
500.0	500.0	492.0	492.0	0.9	0.9	-107.44	256.2	103.6	276.6	274.9	1.71	161.824	ES
600.0	600.0	592.0	592.0	1.0	1.0	-107.95	256.2	103.6	277.4	275.3	2.06	134.565	
700.0	699.9	691.9	691.9	1.2	1.2	-108.79	256.2	103.6	278.8	276.3	2.42	115.244	
800.0	799.7	791.7	791.7	1.4	1.4	-109.95	256.2	103.6	280.8	278.0	2.78	100.839	
900.0	899.4	891.4	891.4	1.6	1.6	-111.41	256.2	103.6	283.6	280.4	3.16	89.720	
1,000.0	998.9	990.9	990.9	1.8	1.7	-113.15	256.2	103.6	287.2	283.7	3.55	80.939	
1,100.0	1,098.3	1,093.7	1,093.7	2.1	1.9	-114.93	255.3	104.9	291.3	287.4	3.96	73.637	
1,200.0	1,197.4	1,197.3	1,197.2	2.3	2.1	-116.33	252.2	109.2	295.1	290.7	4.39	67.283	
1,300.0	1,296.3	1,301.3	1,300.8	2.6	2.3	-117.34	247.0	116.5	298.4	293.5	4.84	61.610	
1,400.0	1,395.2	1,405.7	1,404.3	2.9	2.5	-117.74	239.6	127.0	300.4	295.1	5.33	56.345	
1,500.0	1,494.1	1,510.1	1,507.4	3.2	2.8	-117.48	229.9	140.6	300.9	295.1	5.86	51.347	
1,600.0	1,592.9	1,612.0	1,607.4	3.5	3.1	-116.68	218.8	156.3	300.3	293.9	6.43	46.730	
1,700.0	1,691.8	1,711.9	1,705.4	3.8	3.4	-115.82	207.6	172.1	299.6	292.5	7.01	42.735	
1,800.0	1,790.7	1,811.8	1,803.4	4.1	3.7	-114.96	196.4	187.8	298.9	291.3	7.61	39.262	
1,900.0	1,889.5	1,911.6	1,901.5	4.4	4.1	-114.09	185.3	203.6	298.3	290.1	8.23	36.236	
2,000.0	1,988.4	2,011.5	1,999.5	4.7	4.4	-113.22	174.1	219.3	297.8	288.9	8.86	33.589	
2,100.0	2,087.3	2,111.4	2,097.5	5.0	4.8	-112.35	162.9	235.0	297.3	287.8	9.51	31.263	
2,200.0	2,186.2	2,211.3	2,195.5	5.3	5.1	-111.48	151.8	250.8	296.9	286.7	10.16	29.211	
2,300.0	2,285.0	2,311.2	2,293.5	5.6	5.5	-110.60	140.6	266.5	296.6	285.8	10.83	27.390	
2,400.0	2,383.9	2,411.1	2,391.5	6.0	5.8	-109.72	129.4	282.3	296.3	284.8	11.50	25.769	
2,500.0	2,482.8	2,511.0	2,489.5	6.3	6.2	-108.84	118.3	298.0	296.1	284.0	12.18	24.319	
2,600.0	2,581.6	2,610.9	2,587.6	6.6	6.6	-107.96	107.1	313.8	296.0	283.2	12.86	23.017	
2,700.0	2,680.5	2,710.8	2,685.6	6.9	6.9	-107.08	95.9	329.5	296.0	282.4	13.55	21.844	
2,711.0	2,691.4	2,721.8	2,696.4	6.9	7.0	-106.98	94.7	331.3	296.0	282.4	13.63	21.721	
2,800.0	2,779.4	2,810.7	2,783.6	7.2	7.3	-106.20	84.8	345.3	296.0	281.8	14.24	20.782	
2,900.0	2,878.3	2,910.6	2,881.6	7.5	7.7	-105.32	73.6	361.0	296.1	281.2	14.94	19.819	
3,000.0	2,977.1	3,010.5	2,979.6	7.8	8.0	-104.44	62.4	376.8	296.3	280.6	15.64	18.942	
3,100.0	3,076.0	3,110.4	3,077.6	8.1	8.4	-103.56	51.3	392.5	296.5	280.2	16.34	18.142	
3,200.0	3,174.9	3,210.3	3,175.6	8.5	8.8	-102.68	40.1	408.2	296.8	279.8	17.05	17.409	
3,300.0	3,273.7	3,310.2	3,273.6	8.8	9.2	-101.81	28.9	424.0	297.2	279.4	17.76	16.738	
3,400.0	3,372.6	3,410.1	3,371.7	9.1	9.5	-100.93	17.8	439.7	297.7	279.2	18.46	16.120	
3,500.0	3,471.5	3,510.0	3,469.7	9.4	9.9	-100.06	6.6	455.5	298.2	279.0	19.17	15.552	
3,600.0	3,570.4	3,609.9	3,567.7	9.7	10.3	-99.20	-4.6	471.2	298.8	278.9	19.88	15.027	
3,700.0	3,669.2	3,709.8	3,665.7	10.0	10.7	-98.33	-15.7	487.0	299.4	278.8	20.59	14.542	
3,800.0	3,768.1	3,809.7	3,763.7	10.3	11.0	-97.47	-26.9	502.7	300.1	278.8	21.30	14.092	
3,900.0	3,867.0	3,909.6	3,861.7	10.6	11.4	-96.62	-38.1	518.5	300.9	278.9	22.00	13.676	
4,000.0	3,965.8	4,009.5	3,959.7	11.0	11.8	-95.77	-49.3	534.2	301.8	279.1	22.71	13.289	
4,100.0	4,064.7	4,109.4	4,057.8	11.3	12.2	-94.92	-60.4	550.0	302.7	279.3	23.41	12.929	
4,200.0	4,163.6	4,209.3	4,155.8	11.6	12.5	-94.08	-71.6	565.7	303.7	279.6	24.11	12.594	
4,300.0	4,262.5	4,309.2	4,253.8	11.9	12.9	-93.25	-82.8	581.4	304.7	279.9	24.81	12.281	
4,400.0	4,361.3	4,409.0	4,351.8	12.2	13.3	-92.42	-93.9	597.2	305.8	280.3	25.51	11.990	
4,500.0	4,460.2	4,509.0	4,449.8	12.5	13.7	-91.60	-105.1	612.9	307.0	280.8	26.20	11.719	
4,600.0	4,559.1	4,609.4	4,548.7	12.8	14.0	-91.13	-115.3	627.3	308.2	281.3	26.84	11.481	
4,700.0	4,657.9	4,709.9	4,648.2	13.2	14.3	-91.31	-123.4	638.7	309.1	281.7	27.43	11.269	
4,800.0	4,756.8	4,810.2	4,748.0	13.5	14.5	-92.14	-129.5	647.4	310.0	282.0	27.98	11.081	
4,900.0	4,855.7	4,910.1	4,847.6	13.8	14.7	-93.61	-133.6	653.1	310.9	282.4	28.46	10.924	
5,000.0	4,954.6	5,009.3	4,946.7	14.1	14.8	-95.68	-135.7	656.0	312.1	283.2	28.87	10.808	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - SRC PRATT 44-29D (EXISTING) - SYNERGY WELL - PL

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	5,053.4	5,108.0	5,045.4	14.4	14.9	-98.28	-135.9	656.4	313.9	284.7	29.22	10.743	
5,200.0	5,152.3	5,206.9	5,144.3	14.7	15.0	-100.94	-135.9	656.4	316.4	286.9	29.52	10.719	SF
5,300.0	5,251.2	5,305.7	5,243.2	15.1	15.1	-103.55	-135.9	656.4	319.6	289.9	29.79	10.731	
5,400.0	5,350.0	5,404.6	5,342.0	15.4	15.2	-106.10	-135.9	656.4	323.5	293.5	30.01	10.778	
5,500.0	5,448.9	5,503.5	5,440.9	15.7	15.3	-108.59	-135.9	656.4	328.0	297.8	30.21	10.857	
5,600.0	5,547.8	5,602.4	5,539.8	16.0	15.4	-111.01	-135.9	656.4	333.2	302.8	30.38	10.966	
5,700.0	5,646.6	5,701.2	5,638.6	16.3	15.6	-113.35	-135.9	656.4	338.9	308.3	30.53	11.101	
5,800.0	5,745.5	5,800.1	5,737.5	16.6	15.7	-115.62	-135.9	656.4	345.1	314.5	30.65	11.261	
5,900.0	5,844.4	5,899.0	5,836.4	16.9	15.8	-117.80	-135.9	656.4	351.9	321.2	30.76	11.442	
6,000.0	5,943.3	5,997.8	5,935.3	17.3	15.9	-119.89	-135.9	656.4	359.2	328.4	30.85	11.644	
6,100.0	6,042.1	6,096.7	6,034.1	17.6	16.0	-121.91	-135.9	656.4	367.0	336.1	30.94	11.863	
6,200.0	6,141.0	6,195.6	6,133.0	17.9	16.1	-123.83	-135.9	656.4	375.2	344.2	31.01	12.098	
6,300.0	6,239.9	6,294.5	6,231.9	18.2	16.2	-125.68	-135.9	656.4	383.8	352.7	31.09	12.346	
6,400.0	6,338.7	6,393.3	6,330.7	18.5	16.4	-127.44	-135.9	656.4	392.8	361.6	31.16	12.606	
6,500.0	6,437.6	6,492.2	6,429.6	18.8	16.5	-129.13	-135.9	656.4	402.1	370.9	31.23	12.876	
6,600.0	6,536.5	6,591.1	6,528.5	19.1	16.6	-130.73	-135.9	656.4	411.8	380.5	31.31	13.154	
6,700.0	6,635.4	6,689.9	6,627.4	19.5	16.7	-132.27	-135.9	656.4	421.8	390.4	31.39	13.439	
6,800.0	6,734.2	6,788.8	6,726.2	19.8	16.8	-133.73	-135.9	656.4	432.1	400.6	31.47	13.729	
6,900.0	6,833.1	6,887.7	6,825.1	20.1	17.0	-135.12	-135.9	656.4	442.6	411.1	31.56	14.023	
7,000.0	6,932.0	6,986.6	6,924.0	20.4	17.1	-136.45	-135.9	656.4	453.4	421.8	31.66	14.321	
7,100.0	7,030.8	7,085.4	7,022.8	20.7	17.2	-137.72	-135.9	656.4	464.5	432.7	31.77	14.621	
7,200.0	7,129.7	7,184.3	7,121.7	21.0	17.3	-138.93	-135.9	656.4	475.7	443.8	31.88	14.921	
7,300.0	7,228.6	7,283.2	7,220.6	21.4	17.5	-140.08	-135.9	656.4	487.2	455.2	32.00	15.222	
7,400.0	7,327.5	7,382.0	7,319.5	21.7	17.6	-141.18	-135.9	656.4	498.8	466.7	32.13	15.523	
7,700.0	7,623.0	7,677.5	7,615.0	22.2	18.0	-38.79	-135.9	656.4	496.0	465.3	30.77	16.123	
7,800.0	7,715.6	7,712.6	7,650.0	22.1	18.0	-32.40	-135.9	656.4	468.5	439.5	29.01	16.153	
7,900.0	7,800.7	7,712.6	7,650.0	21.9	18.0	-29.52	-135.9	656.4	443.6	416.7	26.92	16.479	
8,000.0	7,875.7	7,712.6	7,650.0	21.6	18.0	-28.15	-135.9	656.4	423.9	399.3	24.60	17.233	
8,100.0	7,938.2	7,712.6	7,650.0	21.3	18.0	-27.39	-135.9	656.4	410.8	388.5	22.30	18.420	
8,200.0	7,986.5	7,712.6	7,650.0	21.1	18.0	-26.84	-135.9	656.4	405.4	385.0	20.35	19.917	
8,216.1	7,992.8	7,712.6	7,650.0	21.0	18.0	-26.76	-135.9	656.4	405.3	385.2	20.11	20.155	
8,300.0	8,018.9	7,712.6	7,650.0	20.9	18.0	-26.32	-135.9	656.4	408.2	389.0	19.12	21.343	
8,400.0	8,034.6	7,712.6	7,650.0	20.8	18.0	-25.78	-135.9	656.4	418.8	399.9	18.94	22.120	
8,500.0	8,036.0	7,712.6	7,650.0	20.9	18.0	-25.55	-135.9	656.4	439.4	420.0	19.34	22.716	
8,600.0	8,036.0	7,712.6	7,650.0	21.1	18.0	-25.55	-135.9	656.4	479.0	459.4	19.63	24.403	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Offset Design S29-T1N-R68W (Pratt/Waste Connections) - WILLIAM PELTIER 1A-20H (EXISTING) - ENCANA WELL

Offset Site Error: 0.0 ft

Survey Program: 911-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
17,300.0	8,036.0	8,004.8	7,687.8	157.4	15.1	-14.16	9,059.5	624.5	433.4	376.9	56.53	7.666	
17,400.0	8,036.0	7,996.5	7,686.4	159.1	15.0	-12.79	9,060.5	632.6	381.0	326.9	54.10	7.044	
17,500.0	8,036.0	7,988.0	7,685.0	160.8	14.9	-11.38	9,061.6	640.9	349.8	298.2	51.61	6.777	SF
17,565.6	8,036.0	7,980.0	7,683.6	162.0	14.9	-10.07	9,062.7	648.6	343.7	294.4	49.27	6.976	CC, ES
17,590.8	8,036.0	7,980.0	7,683.6	162.4	14.9	-10.07	9,062.7	648.6	344.6	295.3	49.36	6.982	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Pratt 4G-29H-P168
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Reference Site:	S29-T1N-R68W (Pratt/Waste Connections)	**MD Reference:**	WELL @ 5189.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Pratt 4G-29H-P168	**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 #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 5189.0ft (Original Well Elev)	Coordinates are relative to: Pratt 4G-29H-P168
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 °	Grid Convergence at Surface is: 0.31°