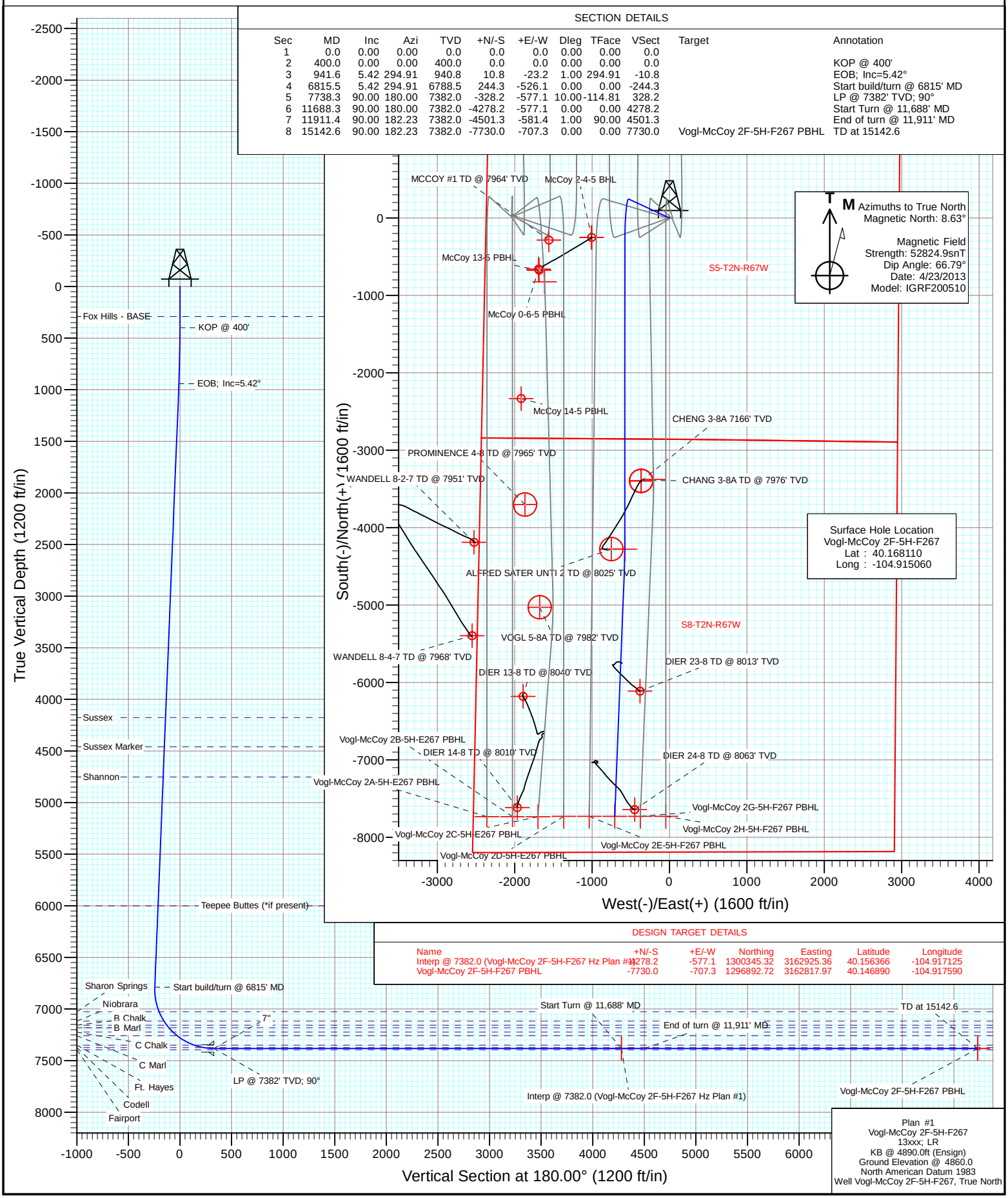
encana

Project: DJ Wattenberg
Site: S5-T2N-R67W (Vogl-McCoy)
Well: Vogl-McCoy 2F-5H-F267
Wellbore: Hz
Design: Plan #1

CATHEDRAL

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
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		KOP @ 400'
3	941.6	5.42	294.91	940.8	10.8	-23.2	1.00	294.91	-10.8		EOB; Inc=5.42°
4	6815.5	5.42	294.91	6788.5	244.3	-526.1	0.00	0.00	-244.3		Start build/turn @ 6815' MD
5	7738.3	90.00	180.00	7382.0	-328.2	-577.1	10.00	-114.81	328.2		LP @ 7382' TVD; 90°
6	11688.3	90.00	180.00	7382.0	-4278.2	-577.1	0.00	0.00	4278.2		Start Turn @ 11,688' MD
7	11911.4	90.00	182.23	7382.0	-4501.3	-581.4	1.00	90.00	4501.3		End of turn @ 11,911' MD
8	15142.6	90.00	182.23	7382.0	-7730.0	-707.3	0.00	0.00	7730.0	Vogl-McCoy 2F-5H-F267 PBHL	TD at 15142.6



DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Interp @ 7382.0 (Vogl-McCoy 2F-5H-F267 Hz Plan #1)	-4278.2	-577.1	1300345.32	3162925.36	40.156366	-104.917125
Vogl-McCoy 2F-5H-F267 PBHL	-7730.0	-707.3	1296892.72	3162817.97	40.146890	-104.917590

Plan #1
Vogl-McCoy 2F-5H-F267
13xxx; LR
KB @ 4890.0ft (Ensign)
Ground Elevation @ 4860.0
North American Datum 1983
Well Vogl-McCoy 2F-5H-F267, True North

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Vogl-McCoy 2F-5H-F267
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Project:	DJ Wattenberg	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	**North Reference:**	True
Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy)

Site Position:		**Northing:**	1,303,967.76 ft	**Latitude:**	40.166330
From:	Lat/Long	**Easting:**	3,161,787.74 ft	**Longitude:**	-104.921110
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.37 °

Well Vogl-McCoy 2F-5H-F267

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,304,627.24 ft	**Latitude:**	40.168110
	+E/-W	0.0 ft	**Easting:**	3,163,474.23 ft	**Longitude:**	-104.915060
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,860.0 ft

Wellbore Hz

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	4/23/2013	8.63	66.79	52,825

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	180.00

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	
941.6	5.42	294.91	940.8	10.8	-23.2	1.00	1.00	0.00	294.91	
6,815.5	5.42	294.91	6,788.5	244.3	-526.1	0.00	0.00	0.00	0.00	
7,738.3	90.00	180.00	7,382.0	-328.2	-577.1	10.00	9.17	-12.45	-114.81	
11,688.3	90.00	180.00	7,382.0	-4,278.2	-577.1	0.00	0.00	0.00	0.00	Interp @ 7382.0 (Vog
11,911.4	90.00	182.23	7,382.0	-4,501.3	-581.4	1.00	0.00	1.00	90.00	
15,142.6	90.00	182.23	7,382.0	-7,730.0	-707.3	0.00	0.00	0.00	0.00	Vogl-McCoy 2F-5H-F2

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Vogl-McCoy 2F-5H-F267
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Project:	DJ Wattenberg	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	**North Reference:**	True
Well:	Vogl-McCoy 2F-5H-F267	**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	
290.0	0.00	0.00	290.0	0.0	0.0	0.0	0.00	0.00	Fox Hills - BASE
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	294.91	500.0	0.4	-0.8	-0.4	1.00	1.00	
600.0	2.00	294.91	600.0	1.5	-3.2	-1.5	1.00	1.00	
700.0	3.00	294.91	699.9	3.3	-7.1	-3.3	1.00	1.00	
800.0	4.00	294.91	799.7	5.9	-12.7	-5.9	1.00	1.00	
900.0	5.00	294.91	899.4	9.2	-19.8	-9.2	1.00	1.00	
941.6	5.42	294.91	940.8	10.8	-23.2	-10.8	1.00	1.00	EOB; Inc=5.42°
1,000.0	5.42	294.91	998.9	13.1	-28.2	-13.1	0.00	0.00	
1,100.0	5.42	294.91	1,098.5	17.1	-36.8	-17.1	0.00	0.00	
1,200.0	5.42	294.91	1,198.0	21.0	-45.3	-21.0	0.00	0.00	
1,300.0	5.42	294.91	1,297.6	25.0	-53.9	-25.0	0.00	0.00	
1,400.0	5.42	294.91	1,397.1	29.0	-62.4	-29.0	0.00	0.00	
1,500.0	5.42	294.91	1,496.7	33.0	-71.0	-33.0	0.00	0.00	
1,600.0	5.42	294.91	1,596.3	37.0	-79.6	-37.0	0.00	0.00	
1,700.0	5.42	294.91	1,695.8	40.9	-88.1	-40.9	0.00	0.00	
1,800.0	5.42	294.91	1,795.4	44.9	-96.7	-44.9	0.00	0.00	
1,900.0	5.42	294.91	1,894.9	48.9	-105.2	-48.9	0.00	0.00	
2,000.0	5.42	294.91	1,994.5	52.9	-113.8	-52.9	0.00	0.00	
2,100.0	5.42	294.91	2,094.0	56.8	-122.4	-56.8	0.00	0.00	
2,200.0	5.42	294.91	2,193.6	60.8	-130.9	-60.8	0.00	0.00	
2,300.0	5.42	294.91	2,293.1	64.8	-139.5	-64.8	0.00	0.00	
2,400.0	5.42	294.91	2,392.7	68.8	-148.1	-68.8	0.00	0.00	
2,500.0	5.42	294.91	2,492.2	72.7	-156.6	-72.7	0.00	0.00	
2,600.0	5.42	294.91	2,591.8	76.7	-165.2	-76.7	0.00	0.00	
2,700.0	5.42	294.91	2,691.3	80.7	-173.7	-80.7	0.00	0.00	
2,800.0	5.42	294.91	2,790.9	84.7	-182.3	-84.7	0.00	0.00	
2,900.0	5.42	294.91	2,890.4	88.6	-190.9	-88.6	0.00	0.00	
3,000.0	5.42	294.91	2,990.0	92.6	-199.4	-92.6	0.00	0.00	
3,100.0	5.42	294.91	3,089.6	96.6	-208.0	-96.6	0.00	0.00	
3,200.0	5.42	294.91	3,189.1	100.6	-216.5	-100.6	0.00	0.00	
3,300.0	5.42	294.91	3,288.7	104.5	-225.1	-104.5	0.00	0.00	
3,400.0	5.42	294.91	3,388.2	108.5	-233.7	-108.5	0.00	0.00	
3,500.0	5.42	294.91	3,487.8	112.5	-242.2	-112.5	0.00	0.00	
3,600.0	5.42	294.91	3,587.3	116.5	-250.8	-116.5	0.00	0.00	
3,700.0	5.42	294.91	3,686.9	120.4	-259.3	-120.4	0.00	0.00	
3,800.0	5.42	294.91	3,786.4	124.4	-267.9	-124.4	0.00	0.00	
3,900.0	5.42	294.91	3,886.0	128.4	-276.5	-128.4	0.00	0.00	
4,000.0	5.42	294.91	3,985.5	132.4	-285.0	-132.4	0.00	0.00	
4,100.0	5.42	294.91	4,085.1	136.3	-293.6	-136.3	0.00	0.00	
4,191.3	5.42	294.91	4,176.0	140.0	-301.4	-140.0	0.00	0.00	Sussex
4,200.0	5.42	294.91	4,184.6	140.3	-302.1	-140.3	0.00	0.00	
4,300.0	5.42	294.91	4,284.2	144.3	-310.7	-144.3	0.00	0.00	
4,400.0	5.42	294.91	4,383.8	148.3	-319.3	-148.3	0.00	0.00	
4,476.6	5.42	294.91	4,460.0	151.3	-325.8	-151.3	0.00	0.00	Sussex Marker
4,500.0	5.42	294.91	4,483.3	152.2	-327.8	-152.2	0.00	0.00	
4,600.0	5.42	294.91	4,582.9	156.2	-336.4	-156.2	0.00	0.00	
4,700.0	5.42	294.91	4,682.4	160.2	-345.0	-160.2	0.00	0.00	

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Project:	DJ Wattenberg	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	**North Reference:**	True
Well:	Vogl-McCoy 2F-5H-F267	**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
4,769.9	5.42	294.91	4,752.0	163.0	-350.9	-163.0	0.00	0.00	Shannon
4,800.0	5.42	294.91	4,782.0	164.2	-353.5	-164.2	0.00	0.00	
4,900.0	5.42	294.91	4,881.5	168.2	-362.1	-168.2	0.00	0.00	
5,000.0	5.42	294.91	4,981.1	172.1	-370.6	-172.1	0.00	0.00	
5,100.0	5.42	294.91	5,080.6	176.1	-379.2	-176.1	0.00	0.00	
5,200.0	5.42	294.91	5,180.2	180.1	-387.8	-180.1	0.00	0.00	
5,300.0	5.42	294.91	5,279.7	184.1	-396.3	-184.1	0.00	0.00	
5,400.0	5.42	294.91	5,379.3	188.0	-404.9	-188.0	0.00	0.00	
5,500.0	5.42	294.91	5,478.8	192.0	-413.4	-192.0	0.00	0.00	
5,600.0	5.42	294.91	5,578.4	196.0	-422.0	-196.0	0.00	0.00	
5,700.0	5.42	294.91	5,677.9	200.0	-430.6	-200.0	0.00	0.00	
5,800.0	5.42	294.91	5,777.5	203.9	-439.1	-203.9	0.00	0.00	
5,900.0	5.42	294.91	5,877.1	207.9	-447.7	-207.9	0.00	0.00	
6,000.0	5.42	294.91	5,976.6	211.9	-456.2	-211.9	0.00	0.00	
6,023.5	5.42	294.91	6,000.0	212.8	-458.3	-212.8	0.00	0.00	Teepee Buttes (*if present)
6,100.0	5.42	294.91	6,076.2	215.9	-464.8	-215.9	0.00	0.00	
6,200.0	5.42	294.91	6,175.7	219.8	-473.4	-219.8	0.00	0.00	
6,300.0	5.42	294.91	6,275.3	223.8	-481.9	-223.8	0.00	0.00	
6,400.0	5.42	294.91	6,374.8	227.8	-490.5	-227.8	0.00	0.00	
6,500.0	5.42	294.91	6,474.4	231.8	-499.1	-231.8	0.00	0.00	
6,600.0	5.42	294.91	6,573.9	235.7	-507.6	-235.7	0.00	0.00	
6,700.0	5.42	294.91	6,673.5	239.7	-516.2	-239.7	0.00	0.00	
6,800.0	5.42	294.91	6,773.0	243.7	-524.7	-243.7	0.00	0.00	
6,815.5	5.42	294.91	6,788.5	244.3	-526.1	-244.3	0.00	0.00	Start build/turn @ 6815' MD
6,900.0	7.88	218.38	6,872.5	241.4	-533.3	-241.4	10.00	2.92	
7,000.0	16.88	196.46	6,970.2	222.1	-541.7	-222.1	10.00	9.00	
7,059.4	22.62	191.91	7,026.0	202.6	-546.5	-202.6	10.00	9.67	Sharon Springs
7,100.0	26.60	189.89	7,062.9	186.0	-549.7	-186.0	10.00	9.78	
7,162.2	32.73	187.69	7,117.0	155.6	-554.3	-155.6	10.00	9.85	Niobrara
7,200.0	36.46	186.68	7,148.1	134.3	-557.0	-134.3	10.00	9.89	
7,209.9	37.44	186.45	7,156.0	128.4	-557.7	-128.4	10.00	9.90	B Chalk
7,240.8	40.50	185.78	7,180.0	109.1	-559.7	-109.1	10.00	9.91	B Marl
7,300.0	46.37	184.70	7,223.0	68.5	-563.4	-68.5	10.00	9.92	C Chalk
7,353.4	51.68	183.90	7,258.0	28.4	-566.4	-28.4	10.01	9.94	C Marl
7,400.0	56.31	183.29	7,285.4	-9.2	-568.8	9.2	10.00	9.94	
7,500.0	66.27	182.17	7,333.3	-96.7	-572.9	96.7	10.00	9.95	
7,545.5	70.80	181.72	7,350.0	-139.1	-574.3	139.1	10.00	9.96	Ft. Hayes
7,600.0	76.22	181.21	7,365.5	-191.3	-575.7	191.3	10.00	9.96	
7,630.9	79.30	180.93	7,372.0	-221.4	-576.2	221.4	10.00	9.96	Codell
7,700.0	86.19	180.33	7,380.7	-290.0	-577.0	290.0	10.00	9.96	
7,738.3	90.00	180.00	7,382.0	-328.2	-577.1	328.2	9.99	9.96	LP @ 7382' TVD; 90° - 7"
7,800.0	90.00	180.00	7,382.0	-389.9	-577.1	389.9	0.00	0.00	
7,900.0	90.00	180.00	7,382.0	-489.9	-577.1	489.9	0.00	0.00	
8,000.0	90.00	180.00	7,382.0	-589.9	-577.1	589.9	0.00	0.00	
8,100.0	90.00	180.00	7,382.0	-689.9	-577.1	689.9	0.00	0.00	
8,200.0	90.00	180.00	7,382.0	-789.9	-577.1	789.9	0.00	0.00	
8,300.0	90.00	180.00	7,382.0	-889.9	-577.1	889.9	0.00	0.00	
8,400.0	90.00	180.00	7,382.0	-989.9	-577.1	989.9	0.00	0.00	
8,500.0	90.00	180.00	7,382.0	-1,089.9	-577.1	1,089.9	0.00	0.00	
8,600.0	90.00	180.00	7,382.0	-1,189.9	-577.1	1,189.9	0.00	0.00	
8,700.0	90.00	180.00	7,382.0	-1,289.9	-577.1	1,289.9	0.00	0.00	
8,800.0	90.00	180.00	7,382.0	-1,389.9	-577.1	1,389.9	0.00	0.00	

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Project:	DJ Wattenberg	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	**North Reference:**	True
Well:	Vogl-McCoy 2F-5H-F267	**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
8,900.0	90.00	180.00	7,382.0	-1,489.9	-577.1	1,489.9	0.00	0.00	
9,000.0	90.00	180.00	7,382.0	-1,589.9	-577.1	1,589.9	0.00	0.00	
9,100.0	90.00	180.00	7,382.0	-1,689.9	-577.1	1,689.9	0.00	0.00	
9,200.0	90.00	180.00	7,382.0	-1,789.9	-577.1	1,789.9	0.00	0.00	
9,300.0	90.00	180.00	7,382.0	-1,889.9	-577.1	1,889.9	0.00	0.00	
9,400.0	90.00	180.00	7,382.0	-1,989.9	-577.1	1,989.9	0.00	0.00	
9,500.0	90.00	180.00	7,382.0	-2,089.9	-577.1	2,089.9	0.00	0.00	
9,600.0	90.00	180.00	7,382.0	-2,189.9	-577.1	2,189.9	0.00	0.00	
9,700.0	90.00	180.00	7,382.0	-2,289.9	-577.1	2,289.9	0.00	0.00	
9,800.0	90.00	180.00	7,382.0	-2,389.9	-577.1	2,389.9	0.00	0.00	
9,900.0	90.00	180.00	7,382.0	-2,489.9	-577.1	2,489.9	0.00	0.00	
10,000.0	90.00	180.00	7,382.0	-2,589.9	-577.1	2,589.9	0.00	0.00	
10,100.0	90.00	180.00	7,382.0	-2,689.9	-577.1	2,689.9	0.00	0.00	
10,200.0	90.00	180.00	7,382.0	-2,789.9	-577.1	2,789.9	0.00	0.00	
10,300.0	90.00	180.00	7,382.0	-2,889.9	-577.1	2,889.9	0.00	0.00	
10,400.0	90.00	180.00	7,382.0	-2,989.9	-577.1	2,989.9	0.00	0.00	
10,500.0	90.00	180.00	7,382.0	-3,089.9	-577.1	3,089.9	0.00	0.00	
10,600.0	90.00	180.00	7,382.0	-3,189.9	-577.1	3,189.9	0.00	0.00	
10,700.0	90.00	180.00	7,382.0	-3,289.9	-577.1	3,289.9	0.00	0.00	
10,800.0	90.00	180.00	7,382.0	-3,389.9	-577.1	3,389.9	0.00	0.00	
10,900.0	90.00	180.00	7,382.0	-3,489.9	-577.1	3,489.9	0.00	0.00	
11,000.0	90.00	180.00	7,382.0	-3,589.9	-577.1	3,589.9	0.00	0.00	
11,100.0	90.00	180.00	7,382.0	-3,689.9	-577.1	3,689.9	0.00	0.00	
11,200.0	90.00	180.00	7,382.0	-3,789.9	-577.1	3,789.9	0.00	0.00	
11,300.0	90.00	180.00	7,382.0	-3,889.9	-577.1	3,889.9	0.00	0.00	
11,400.0	90.00	180.00	7,382.0	-3,989.9	-577.1	3,989.9	0.00	0.00	
11,500.0	90.00	180.00	7,382.0	-4,089.9	-577.1	4,089.9	0.00	0.00	
11,600.0	90.00	180.00	7,382.0	-4,189.9	-577.1	4,189.9	0.00	0.00	
11,688.3	90.00	180.00	7,382.0	-4,278.2	-577.1	4,278.2	0.00	0.00	Start Turn @ 11,688' MD - Interp @ 7382.0 (Vo
11,700.0	90.00	180.12	7,382.0	-4,289.9	-577.1	4,289.9	1.00	0.00	
11,800.0	90.00	181.12	7,382.0	-4,389.9	-578.2	4,389.9	1.00	0.00	
11,900.0	90.00	182.12	7,382.0	-4,489.9	-581.0	4,489.9	1.00	0.00	
11,911.4	90.00	182.23	7,382.0	-4,501.3	-581.4	4,501.3	1.00	0.00	End of turn @ 11,911' MD
12,000.0	90.00	182.23	7,382.0	-4,589.8	-584.9	4,589.8	0.00	0.00	
12,100.0	90.00	182.23	7,382.0	-4,689.7	-588.8	4,689.7	0.00	0.00	
12,200.0	90.00	182.23	7,382.0	-4,789.7	-592.7	4,789.7	0.00	0.00	
12,300.0	90.00	182.23	7,382.0	-4,889.6	-596.6	4,889.6	0.00	0.00	
12,400.0	90.00	182.23	7,382.0	-4,989.5	-600.5	4,989.5	0.00	0.00	
12,500.0	90.00	182.23	7,382.0	-5,089.4	-604.4	5,089.4	0.00	0.00	
12,600.0	90.00	182.23	7,382.0	-5,189.3	-608.3	5,189.3	0.00	0.00	
12,700.0	90.00	182.23	7,382.0	-5,289.3	-612.2	5,289.3	0.00	0.00	
12,800.0	90.00	182.23	7,382.0	-5,389.2	-616.0	5,389.2	0.00	0.00	
12,900.0	90.00	182.23	7,382.0	-5,489.1	-619.9	5,489.1	0.00	0.00	
13,000.0	90.00	182.23	7,382.0	-5,589.0	-623.8	5,589.0	0.00	0.00	
13,100.0	90.00	182.23	7,382.0	-5,689.0	-627.7	5,689.0	0.00	0.00	
13,200.0	90.00	182.23	7,382.0	-5,788.9	-631.6	5,788.9	0.00	0.00	
13,300.0	90.00	182.23	7,382.0	-5,888.8	-635.5	5,888.8	0.00	0.00	
13,400.0	90.00	182.23	7,382.0	-5,988.7	-639.4	5,988.7	0.00	0.00	
13,500.0	90.00	182.23	7,382.0	-6,088.7	-643.3	6,088.7	0.00	0.00	
13,600.0	90.00	182.23	7,382.0	-6,188.6	-647.2	6,188.6	0.00	0.00	
13,700.0	90.00	182.23	7,382.0	-6,288.5	-651.1	6,288.5	0.00	0.00	
13,800.0	90.00	182.23	7,382.0	-6,388.4	-655.0	6,388.4	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Vogl-McCoy 2F-5H-F267
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Project:	DJ Wattenberg	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	**North Reference:**	True
Well:	Vogl-McCoy 2F-5H-F267	**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
13,900.0	90.00	182.23	7,382.0	-6,488.4	-658.9	6,488.4	0.00	0.00	
14,000.0	90.00	182.23	7,382.0	-6,588.3	-662.8	6,588.3	0.00	0.00	
14,100.0	90.00	182.23	7,382.0	-6,688.2	-666.7	6,688.2	0.00	0.00	
14,200.0	90.00	182.23	7,382.0	-6,788.1	-670.6	6,788.1	0.00	0.00	
14,300.0	90.00	182.23	7,382.0	-6,888.1	-674.5	6,888.1	0.00	0.00	
14,400.0	90.00	182.23	7,382.0	-6,988.0	-678.3	6,988.0	0.00	0.00	
14,500.0	90.00	182.23	7,382.0	-7,087.9	-682.2	7,087.9	0.00	0.00	
14,600.0	90.00	182.23	7,382.0	-7,187.8	-686.1	7,187.8	0.00	0.00	
14,700.0	90.00	182.23	7,382.0	-7,287.8	-690.0	7,287.8	0.00	0.00	
14,800.0	90.00	182.23	7,382.0	-7,387.7	-693.9	7,387.7	0.00	0.00	
14,900.0	90.00	182.23	7,382.0	-7,487.6	-697.8	7,487.6	0.00	0.00	
15,000.0	90.00	182.23	7,382.0	-7,587.5	-701.7	7,587.5	0.00	0.00	
15,100.0	90.00	182.23	7,382.0	-7,687.5	-705.6	7,687.5	0.00	0.00	
15,142.6	90.00	182.23	7,382.0	-7,730.0	-707.3	7,730.0	0.00	0.00	TD at 15142.6 - Vogl-McCoy 2F-5H-F267 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
Vogl-McCoy 2F-5H-F267 - plan hits target center - Point	0.00	0.00	7,382.0	-7,730.0	-707.3	1,296,892.72	3,162,817.97	40.146890	-104.917590
Interp @ 7382.0 (Vogl-M - plan hits target center - Point	0.00	0.00	7,382.0	-4,278.2	-577.1	1,300,345.32	3,162,925.36	40.156366	-104.917125

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
7,738.3	7,382.0	7"	0.000	0.000

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Vogl-McCoy 2F-5H-F267
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Project:	DJ Wattenberg	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site:	S5-T2N-R67W (Vogl-McCoy)	**North Reference:**	True
Well:	Vogl-McCoy 2F-5H-F267	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
290.0	290.0	Fox Hills - BASE			
4,191.3	4,176.0	Sussex			
4,476.6	4,460.0	Sussex Marker			
4,769.9	4,752.0	Shannon			
6,023.5	6,000.0	Teepee Buttes (*if present)			
7,059.4	7,026.0	Sharon Springs			
7,162.2	7,117.0	Niobrara			
7,209.9	7,156.0	B Chalk			
7,240.8	7,180.0	B Marl			
7,300.0	7,223.0	C Chalk			
7,353.4	7,258.0	C Marl			
7,545.5	7,350.0	Ft. Hayes			
7,630.9	7,372.0	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'
941.6	940.8	10.8	-23.2	EOB; Inc=5.42°
6,815.5	6,788.5	244.3	-526.1	Start build/turn @ 6815' MD
7,738.3	7,382.0	-328.2	-577.1	LP @ 7382' TVD; 90°
11,688.3	7,382.0	-4,278.2	-577.1	Start Turn @ 11,688' MD
11,911.4	7,382.0	-4,501.3	-581.4	End of turn @ 11,911' MD
15,142.6	7,382.0	-7,730.0	-707.3	TD at 15142.6

EnCana Oil & Gas (USA) Inc

DJ Wattenberg
S5-T2N-R67W (Vogl-McCoy)
Vogl-McCoy 2F-5H-F267
Hz
Plan #1

Anticollision Report

10 May, 2013

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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** 5/10/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	15,142.6	Plan #1 (Hz)	MWD	Geolink MWD

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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
S5-T2N-R67W (Vogl-McCoy)						
ALFRED SATER UNIT 2 (EXISTING) - KMG WELL - NO	11,687.0	7,363.0	174.2	83.5	1.922	CC, ES, SF
CHENG 3-8A (EXISTING) - KMG WELL - SURVEYS	10,805.7	7,584.2	212.7	129.8	2.565	CC, ES, SF
DIER 13-8 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
DIER 14-8 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
DIER 23-8 (EXISTING) - ENCANA WELL - SURVEYS	13,483.0	7,447.5	224.4	101.9	1.831	CC, ES
DIER 23-8 (EXISTING) - ENCANA WELL - SURVEYS	13,500.0	7,449.1	225.1	102.1	1.830	SF
DIER 24-8 (EXISTING) - ENCANA WELL - SURVEYS	15,020.8	7,536.4	216.3	64.4	1.424	Level 3, CC, ES, SF
DIER 4-8 (EXISTING) - ENCANA WELL - SURVEYS						Out of range
MCCOY #1 (EXISTING) - ENCANA WELL - NO SURVEY						Out of range
MCCOY 0-6-5 (EXISTING) - ENCANA WELL - NO SURV						Out of range
MCCOY 13-5 (EXISTING) - ENCANA WELL - NO SURV						Out of range
MCCOY 14-5 (EXISTING) - ENCANA WELL - NO SURV						Out of range
MCCOY 2-4-5 (EXISTING) - ENCANA WELL - SURVEYS	7,666.9	7,400.8	431.2	402.4	14.953	CC, ES
MCCOY 2-4-5 (EXISTING) - ENCANA WELL - SURVEYS	7,700.0	7,403.9	432.6	403.5	14.890	SF
PROMINENCE 4-8 (EXISTING) - KMG WELL - NO SUR						Out of range
VOGL 5-8A (EXISTING) - KMG WELL - NO SURVEYS						Out of range
Vogl-Geist 2A-5H-E267 - Hz - Plan #1						Out of range
Vogl-Geist 2B-5H-E267 - Hz - Plan #1						Out of range
Vogl-Geist 2C-5H-E267 - Hz - Plan #1						Out of range
Vogl-Geist 2D-5H-F267 - Hz - Plan #1	300.0	300.0	8.4	7.4	8.896	CC, ES
Vogl-Geist 2D-5H-F267 - Hz - Plan #1	600.0	599.4	13.3	11.3	6.657	SF
Vogl-Geist 2E-5H-F267 - Hz - Plan #1	400.0	400.0	11.2	9.9	8.655	CC, ES
Vogl-Geist 2E-5H-F267 - Hz - Plan #1	7,334.2	7,382.9	154.2	128.6	6.009	SF
Vogl-Geist 2F-5H-F267 - Hz - Plan #1	400.0	399.0	30.7	29.5	23.834	CC, ES
Vogl-Geist 2F-5H-F267 - Hz - Plan #1	700.0	698.9	38.0	35.7	16.265	SF
Vogl-McCoy 2A-5H-E267 - Hz - Plan #1						Out of range
Vogl-McCoy 2B-5H-E267 - Hz - Plan #1						Out of range
Vogl-McCoy 2C-5H-E267 - Hz - Plan #1						Out of range
Vogl-McCoy 2D-5H-E267 - Hz - Plan #1						Out of range
Vogl-McCoy 2E-5H-F267 - Hz - Plan #1	200.0	200.0	19.6	19.0	32.966	CC, ES
Vogl-McCoy 2E-5H-F267 - Hz - Plan #1	15,142.6	14,929.4	415.1	193.1	1.870	SF
Vogl-McCoy 2G-5H-F267 - Hz - Plan #1	400.0	399.0	22.4	21.1	17.334	CC, ES
Vogl-McCoy 2G-5H-F267 - Hz - Plan #1	15,142.6	14,921.1	393.8	160.8	1.690	SF
Vogl-McCoy 2H-5H-F267 - Hz - Plan #1	400.0	399.0	41.9	40.6	32.501	CC, ES
Vogl-McCoy 2H-5H-F267 - Hz - Plan #1	6,800.0	6,784.0	485.4	460.2	19.267	SF
WANDELL 8-2-7 (EXISTING) - ENCANA WELL - SURVE						Out of range
WANDELL 8-4-7 (EXISTING) - ENCANA WELL - SURVE						Out of range

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - ALFRED SATER UNIT 2 (EXISTING) - KMG WELL - NO SURVEYS

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
11,300.0	7,382.0	7,363.0	7,363.0	71.8	12.8	90.00	-4,276.6	-751.3	424.2	340.3	83.90	5.055	
11,400.0	7,382.0	7,363.0	7,363.0	73.5	12.8	90.00	-4,276.6	-751.3	335.5	249.9	85.63	3.918	
11,500.0	7,382.0	7,363.0	7,363.0	75.2	12.8	90.00	-4,276.6	-751.3	255.4	168.0	87.36	2.923	
11,600.0	7,382.0	7,363.0	7,363.0	76.9	12.8	90.00	-4,276.6	-751.3	194.6	105.5	89.09	2.185	
11,687.0	7,382.0	7,363.0	7,363.0	78.4	12.8	90.00	-4,276.6	-751.3	174.2	83.5	90.61	1.922	CC, ES, SF
11,700.0	7,382.0	7,363.0	7,363.0	78.6	12.8	90.00	-4,276.6	-751.3	174.7	83.9	90.84	1.923	
11,800.0	7,382.0	7,363.0	7,363.0	80.4	12.8	90.00	-4,276.6	-751.3	206.9	114.2	92.73	2.231	
11,900.0	7,382.0	7,363.0	7,363.0	82.1	12.8	90.00	-4,276.6	-751.3	272.9	178.3	94.59	2.885	
12,000.0	7,382.0	7,363.0	7,363.0	83.8	12.8	90.00	-4,276.6	-751.3	354.6	258.3	96.34	3.681	
12,100.0	7,382.0	7,363.0	7,363.0	85.5	12.8	90.00	-4,276.6	-751.3	443.9	345.8	98.07	4.526	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - CHENG 3-8A (EXISTING) - KMG WELL - SURVEYS

Offset Site Error: 0.0 ft

Survey Program: 783-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
10,400.0	7,382.0	7,587.1	7,388.0	56.5	21.7	-90.28	-3,395.6	-364.4	458.1	382.1	75.96	6.031	
10,500.0	7,382.0	7,586.4	7,387.3	58.2	21.7	-90.09	-3,395.6	-364.4	372.4	294.8	77.67	4.795	
10,600.0	7,382.0	7,585.7	7,386.6	59.9	21.7	-89.89	-3,395.6	-364.4	295.9	216.5	79.38	3.728	
10,700.0	7,382.0	7,585.0	7,385.9	61.6	21.7	-89.70	-3,395.7	-364.4	237.5	156.4	81.09	2.929	
10,800.0	7,382.0	7,584.3	7,385.2	63.3	21.7	-89.51	-3,395.7	-364.4	212.8	129.9	82.80	2.569	
10,805.7	7,382.0	7,584.2	7,385.1	63.4	21.7	-89.50	-3,395.7	-364.4	212.7	129.8	82.90	2.565	CC, ES, SF
10,900.0	7,382.0	7,583.5	7,384.5	65.0	21.7	-89.31	-3,395.7	-364.4	232.6	148.1	84.52	2.752	
11,000.0	7,382.0	7,582.8	7,383.7	66.7	21.7	-89.12	-3,395.7	-364.4	288.0	201.8	86.23	3.340	
11,100.0	7,382.0	7,582.1	7,383.0	68.4	21.7	-88.92	-3,395.7	-364.5	363.1	275.1	87.95	4.128	
11,200.0	7,382.0	7,581.3	7,382.3	70.1	21.7	-88.73	-3,395.7	-364.5	448.0	358.3	89.67	4.996	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - DIER 23-8 (EXISTING) - ENCANA WELL - SURVEYS

Offset Site Error: 0.0 ft

Survey Program: 738-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
13,100.0	7,382.0	7,410.4	7,340.4	102.9	14.6	-73.37	-6,076.8	-424.9	442.5	330.2	112.22	3.943	
13,200.0	7,382.0	7,420.5	7,350.3	104.6	14.6	-75.87	-6,077.7	-423.6	360.2	245.0	115.18	3.127	
13,300.0	7,382.0	7,429.9	7,359.7	106.3	14.6	-78.26	-6,078.6	-422.4	289.1	171.1	117.93	2.451	
13,400.0	7,382.0	7,439.5	7,369.2	108.1	14.6	-80.69	-6,079.6	-421.2	239.2	118.6	120.53	1.984	
13,483.0	7,382.0	7,447.5	7,377.1	109.5	14.7	-82.72	-6,080.3	-420.2	224.4	101.9	122.56	1.831	CC, ES
13,500.0	7,382.0	7,449.1	7,378.6	109.8	14.7	-83.12	-6,080.5	-420.0	225.1	102.1	122.96	1.830	SF
13,600.0	7,382.0	7,458.4	7,387.9	111.6	14.7	-85.50	-6,081.4	-418.9	252.9	127.7	125.18	2.020	
13,700.0	7,382.0	7,467.9	7,397.2	113.3	14.7	-87.88	-6,082.3	-417.7	311.5	184.3	127.22	2.449	
13,800.0	7,382.0	7,477.4	7,406.6	115.0	14.8	-90.28	-6,083.3	-416.5	387.3	258.2	129.06	3.001	
13,900.0	7,382.0	7,487.1	7,416.2	116.8	14.8	-92.68	-6,084.2	-415.4	472.0	341.3	130.69	3.611	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - DIER 24-8 (EXISTING) - ENCANA WELL - SURVEYS

Offset Site Error: 0.0 ft

Survey Program: 740-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
14,600.0	7,382.0	7,466.7	7,333.8	129.0	18.5	-65.39	-7,606.9	-496.7	469.4	336.4	133.05	3.528	
14,700.0	7,382.0	7,486.4	7,353.1	130.7	18.5	-70.22	-7,609.9	-494.1	384.5	245.4	139.08	2.764	
14,800.0	7,382.0	7,504.5	7,370.8	132.5	18.6	-74.83	-7,612.5	-491.8	307.7	163.6	144.14	2.135	
14,900.0	7,382.0	7,519.6	7,385.7	134.2	18.7	-78.74	-7,614.5	-489.9	247.2	99.2	148.06	1.670	
15,000.0	7,382.0	7,533.5	7,399.4	136.0	18.7	-82.40	-7,616.3	-488.3	217.3	66.0	151.30	1.436	Level 3
15,020.8	7,382.0	7,536.4	7,402.2	136.3	18.7	-83.15	-7,616.7	-487.9	216.3	64.4	151.90	1.424	Level 3, CC, ES, SF
15,100.0	7,382.0	7,546.4	7,412.1	137.7	18.7	-85.80	-7,618.0	-486.8	230.1	76.2	153.94	1.495	Level 3
15,142.6	7,382.0	7,551.5	7,417.1	138.4	18.8	-87.11	-7,618.6	-486.3	247.7	92.9	154.89	1.599	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - MCCOY 2-4-5 (EXISTING) - ENCANA WELL - SURVEYS

Offset Site Error: 0.0 ft

Survey Program: 718-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
7,500.0	7,333.3	7,357.3	7,305.3	16.6	18.2	80.55	-252.8	-1,007.6	461.9	434.7	27.26	16.947	
7,600.0	7,365.5	7,388.9	7,336.9	17.1	18.3	87.43	-252.7	-1,007.8	436.5	408.2	28.31	15.419	
7,666.9	7,377.6	7,400.8	7,348.8	17.4	18.3	89.63	-252.7	-1,007.9	431.2	402.4	28.84	14.953	CC, ES
7,700.0	7,380.7	7,403.9	7,351.9	17.7	18.3	89.93	-252.7	-1,007.9	432.6	403.5	29.05	14.890	SF
7,800.0	7,382.0	7,404.9	7,352.9	18.4	18.3	89.59	-252.7	-1,007.9	452.2	422.3	29.90	15.122	
7,900.0	7,382.0	7,404.7	7,352.7	19.3	18.3	89.55	-252.7	-1,007.9	491.8	460.9	30.94	15.897	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-Geist 2D-5H-F267 - 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	0.1	0.1	-89.94	0.0	-8.4	8.4	8.1	0.24	34.312	
200.0	200.0	200.0	200.0	0.3	0.3	-89.94	0.0	-8.4	8.4	7.8	0.59	14.128	
300.0	300.0	300.0	300.0	0.5	0.5	-89.94	0.0	-8.4	8.4	7.4	0.94	8.896	CC, ES
400.0	400.0	399.9	399.8	0.6	0.6	-91.78	-0.3	-9.2	9.2	7.9	1.29	7.127	
500.0	500.0	499.7	499.6	0.8	0.8	-32.93	-1.2	-11.7	11.0	9.3	1.64	6.694	
600.0	600.0	599.4	599.3	1.0	1.0	-42.92	-2.6	-15.7	13.3	11.3	1.99	6.657	SF
700.0	699.9	699.1	698.7	1.2	1.2	-53.91	-4.7	-21.5	16.5	14.1	2.35	7.009	
800.0	799.7	798.6	798.0	1.4	1.4	-63.94	-7.3	-28.8	20.9	18.2	2.72	7.683	
900.0	899.4	898.0	896.9	1.6	1.6	-72.19	-10.5	-37.7	26.8	23.6	3.12	8.571	
1,000.0	998.9	997.2	995.5	1.8	1.9	-78.20	-14.3	-48.3	34.1	30.6	3.55	9.609	
1,100.0	1,098.5	1,096.7	1,094.2	2.0	2.1	-81.28	-18.5	-60.0	42.7	38.7	3.99	10.693	
1,200.0	1,198.0	1,196.3	1,193.0	2.3	2.4	-83.31	-22.7	-71.7	51.3	46.9	4.44	11.566	
1,300.0	1,297.6	1,295.9	1,291.9	2.5	2.7	-84.74	-26.9	-83.5	60.1	55.2	4.89	12.273	
1,400.0	1,397.1	1,395.5	1,390.7	2.7	2.9	-85.82	-31.1	-95.2	68.8	63.5	5.35	12.855	
1,500.0	1,496.7	1,495.1	1,489.5	2.9	3.2	-86.65	-35.4	-107.0	77.6	71.7	5.81	13.340	
1,600.0	1,596.3	1,594.8	1,588.3	3.2	3.5	-87.31	-39.6	-118.7	86.3	80.1	6.28	13.750	
1,700.0	1,695.8	1,694.4	1,687.2	3.4	3.8	-87.85	-43.8	-130.5	95.1	88.4	6.75	14.101	
1,800.0	1,795.4	1,794.0	1,786.0	3.7	4.0	-88.30	-48.0	-142.3	103.9	96.7	7.21	14.404	
1,900.0	1,894.9	1,893.6	1,884.8	3.9	4.3	-88.68	-52.2	-154.0	112.7	105.0	7.68	14.668	
2,000.0	1,994.5	1,993.2	1,983.6	4.1	4.6	-89.00	-56.4	-165.8	121.5	113.3	8.15	14.900	
2,100.0	2,094.0	2,092.8	2,082.4	4.4	4.9	-89.28	-60.7	-177.5	130.3	121.7	8.63	15.106	
2,200.0	2,193.6	2,192.4	2,181.3	4.6	5.1	-89.53	-64.9	-189.3	139.1	130.0	9.10	15.289	
2,300.0	2,293.1	2,292.0	2,280.1	4.8	5.4	-89.74	-69.1	-201.0	147.9	138.3	9.57	15.453	
2,400.0	2,392.7	2,391.6	2,378.9	5.1	5.7	-89.93	-73.3	-212.8	156.7	146.7	10.05	15.601	
2,500.0	2,492.2	2,491.2	2,477.7	5.3	6.0	-90.10	-77.5	-224.6	165.5	155.0	10.52	15.735	
2,600.0	2,591.8	2,590.9	2,576.6	5.5	6.2	-90.26	-81.7	-236.3	174.3	163.4	10.99	15.857	
2,700.0	2,691.3	2,690.5	2,675.4	5.8	6.5	-90.40	-86.0	-248.1	183.2	171.7	11.47	15.969	
2,800.0	2,790.9	2,790.1	2,774.2	6.0	6.8	-90.52	-90.2	-259.8	192.0	180.0	11.95	16.071	
2,900.0	2,890.4	2,889.7	2,873.0	6.3	7.1	-90.64	-94.4	-271.6	200.8	188.4	12.42	16.165	
3,000.0	2,990.0	2,989.3	2,971.9	6.5	7.4	-90.74	-98.6	-283.3	209.6	196.7	12.90	16.252	
3,100.0	3,089.6	3,088.9	3,070.7	6.7	7.6	-90.84	-102.8	-295.1	218.4	205.0	13.37	16.333	
3,200.0	3,189.1	3,188.5	3,169.5	7.0	7.9	-90.93	-107.0	-306.8	227.2	213.4	13.85	16.408	
3,300.0	3,288.7	3,288.1	3,268.3	7.2	8.2	-91.01	-111.3	-318.6	236.1	221.7	14.33	16.477	
3,400.0	3,388.2	3,387.7	3,367.2	7.5	8.5	-91.09	-115.5	-330.4	244.9	230.1	14.80	16.542	
3,500.0	3,487.8	3,487.3	3,466.0	7.7	8.7	-91.16	-119.7	-342.1	253.7	238.4	15.28	16.603	
3,600.0	3,587.3	3,587.0	3,564.8	7.9	9.0	-91.23	-123.9	-353.9	262.5	246.8	15.76	16.660	
3,700.0	3,686.9	3,686.6	3,663.6	8.2	9.3	-91.29	-128.1	-365.6	271.3	255.1	16.23	16.713	
3,800.0	3,786.4	3,786.2	3,762.5	8.4	9.6	-91.35	-132.3	-377.4	280.1	263.4	16.71	16.764	
3,900.0	3,886.0	3,885.8	3,861.3	8.7	9.9	-91.40	-136.6	-389.1	289.0	271.8	17.19	16.811	
4,000.0	3,985.5	3,985.4	3,960.1	8.9	10.1	-91.45	-140.8	-400.9	297.8	280.1	17.67	16.856	
4,100.0	4,085.1	4,085.0	4,058.9	9.1	10.4	-91.50	-145.0	-412.6	306.6	288.5	18.14	16.898	
4,200.0	4,184.6	4,184.6	4,157.7	9.4	10.7	-91.55	-149.2	-424.4	315.4	296.8	18.62	16.938	
4,300.0	4,284.2	4,284.2	4,256.6	9.6	11.0	-91.59	-153.4	-436.2	324.2	305.1	19.10	16.977	
4,400.0	4,383.8	4,383.8	4,355.4	9.9	11.3	-91.63	-157.6	-447.9	333.1	313.5	19.58	17.013	
4,500.0	4,483.3	4,483.4	4,454.2	10.1	11.5	-91.67	-161.9	-459.7	341.9	321.8	20.06	17.047	
4,600.0	4,582.9	4,583.1	4,553.0	10.3	11.8	-91.71	-166.1	-471.4	350.7	330.2	20.53	17.080	
4,700.0	4,682.4	4,682.7	4,651.9	10.6	12.1	-91.74	-170.3	-483.2	359.5	338.5	21.01	17.111	
4,800.0	4,782.0	4,782.3	4,750.7	10.8	12.4	-91.78	-174.5	-494.9	368.4	346.9	21.49	17.141	
4,900.0	4,881.5	4,881.9	4,849.5	11.1	12.7	-91.81	-178.7	-506.7	377.2	355.2	21.97	17.169	
5,000.0	4,981.1	4,981.5	4,948.3	11.3	12.9	-91.84	-182.9	-518.5	386.0	363.5	22.45	17.197	
5,100.0	5,080.6	5,081.1	5,047.2	11.5	13.2	-91.87	-187.2	-530.2	394.8	371.9	22.92	17.223	

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

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-Geist 2D-5H-F267 - 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	5,180.2	5,180.7	5,146.0	11.8	13.5	-91.89	-191.4	-542.0	403.6	380.2	23.40	17.248	
5,300.0	5,279.7	5,280.3	5,244.8	12.0	13.8	-91.92	-195.6	-553.7	412.5	388.6	23.88	17.271	
5,400.0	5,379.3	5,379.9	5,343.6	12.3	14.1	-91.95	-199.8	-565.5	421.3	396.9	24.36	17.294	
5,500.0	5,478.8	5,479.5	5,442.5	12.5	14.3	-91.97	-204.0	-577.2	430.1	405.3	24.84	17.317	
5,600.0	5,578.4	5,579.2	5,541.3	12.7	14.6	-91.99	-208.2	-589.0	438.9	413.6	25.32	17.338	
5,700.0	5,677.9	5,678.8	5,640.1	13.0	14.9	-92.02	-212.5	-600.7	447.7	422.0	25.79	17.358	
5,800.0	5,777.5	5,778.4	5,738.9	13.2	15.2	-92.04	-216.7	-612.5	456.6	430.3	26.27	17.378	
5,900.0	5,877.1	5,878.0	5,837.8	13.5	15.5	-92.06	-220.9	-624.3	465.4	438.6	26.75	17.397	
6,000.0	5,976.6	5,977.6	5,936.6	13.7	15.7	-92.08	-225.1	-636.0	474.2	447.0	27.23	17.415	
6,100.0	6,076.2	6,077.2	6,035.4	13.9	16.0	-92.10	-229.3	-647.8	483.0	455.3	27.71	17.433	
6,200.0	6,175.7	6,176.8	6,134.2	14.2	16.3	-92.12	-233.5	-659.5	491.9	463.7	28.19	17.450	
6,700.0	6,673.5	7,100.2	6,988.6	15.4	18.2	-78.52	-42.8	-761.2	489.0	457.6	31.42	15.566	
6,800.0	6,773.0	7,281.3	7,079.5	15.6	18.6	-58.02	112.5	-772.0	415.1	384.7	30.38	13.664	
6,900.0	6,872.5	7,345.0	7,099.4	15.8	18.9	40.70	173.0	-774.3	338.0	310.6	27.38	12.343	
7,000.0	6,970.2	7,354.5	7,101.8	15.9	18.9	73.83	182.2	-774.6	270.5	244.6	25.93	10.432	
7,100.0	7,062.9	7,340.8	7,098.3	16.0	18.9	81.21	168.9	-774.2	228.0	202.2	25.74	8.856	
7,159.1	7,114.4	7,326.7	7,094.4	16.0	18.8	80.24	155.4	-773.7	220.6	194.7	25.88	8.523	
7,200.0	7,148.1	7,315.3	7,090.9	16.0	18.8	77.96	144.5	-773.3	224.0	198.0	26.02	8.609	
7,300.0	7,223.0	7,283.1	7,080.2	16.1	18.6	68.41	114.2	-772.1	256.9	230.7	26.20	9.804	
7,400.0	7,285.4	7,250.0	7,067.4	16.3	18.5	56.60	83.7	-770.5	311.2	285.8	25.46	12.224	
7,500.0	7,333.3	7,200.0	7,044.8	16.6	18.4	43.26	39.2	-767.8	373.8	350.6	23.29	16.051	
7,600.0	7,365.5	7,167.0	7,027.8	17.1	18.3	34.70	11.0	-765.8	437.2	416.1	21.05	20.769	
7,700.0	7,380.7	7,124.9	7,003.8	17.7	18.2	27.62	-23.5	-763.0	497.7	478.3	19.42	25.631	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-Geist 2E-5H-F267 - 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	90.04	0.0	11.2	11.2				
100.0	100.0	100.0	100.0	0.1	0.1	90.04	0.0	11.2	11.2	10.9	0.24	45.749	
200.0	200.0	200.0	200.0	0.3	0.3	90.04	0.0	11.2	11.2	10.6	0.59	18.838	
300.0	300.0	300.0	300.0	0.5	0.5	90.04	0.0	11.2	11.2	10.2	0.94	11.861	
400.0	400.0	400.0	400.0	0.6	0.6	90.04	0.0	11.2	11.2	9.9	1.29	8.655	CC, ES
500.0	500.0	500.0	500.0	0.8	0.8	156.88	0.0	11.2	12.0	10.3	1.64	7.300	
600.0	600.0	600.1	600.1	1.0	1.0	163.25	-0.5	10.4	13.7	11.8	1.99	6.909	
700.0	699.9	700.3	700.2	1.2	1.2	173.81	-1.9	8.2	16.2	13.9	2.34	6.930	
800.0	799.7	800.3	800.1	1.4	1.4	-174.42	-4.3	4.6	20.0	17.3	2.70	7.413	
900.0	899.4	900.2	899.9	1.6	1.5	-163.80	-7.5	-0.6	25.5	22.4	3.07	8.308	
1,000.0	998.9	999.9	999.3	1.8	1.7	-155.56	-11.6	-6.9	32.6	29.2	3.45	9.439	
1,100.0	1,098.5	1,099.5	1,098.6	2.0	2.0	-150.25	-15.8	-13.4	40.3	36.4	3.85	10.453	
1,200.0	1,198.0	1,199.2	1,198.0	2.3	2.2	-146.66	-19.9	-19.9	48.2	44.0	4.26	11.313	
1,300.0	1,297.6	1,298.8	1,297.3	2.5	2.4	-144.08	-24.1	-26.3	56.3	51.6	4.67	12.040	
1,400.0	1,397.1	1,398.5	1,396.7	2.7	2.6	-142.16	-28.2	-32.8	64.4	59.3	5.09	12.657	
1,500.0	1,496.7	1,498.1	1,496.0	2.9	2.8	-140.67	-32.3	-39.3	72.6	67.1	5.51	13.184	
1,600.0	1,596.3	1,597.8	1,595.4	3.2	3.0	-139.48	-36.5	-45.7	80.9	74.9	5.93	13.639	
1,700.0	1,695.8	1,697.4	1,694.7	3.4	3.2	-138.51	-40.6	-52.2	89.1	82.8	6.35	14.035	
1,800.0	1,795.4	1,797.1	1,794.1	3.7	3.4	-137.71	-44.8	-58.7	97.4	90.6	6.77	14.382	
1,900.0	1,894.9	1,896.7	1,893.4	3.9	3.7	-137.03	-48.9	-65.1	105.7	98.5	7.20	14.688	
2,000.0	1,994.5	1,996.4	1,992.8	4.1	3.9	-136.45	-53.1	-71.6	114.0	106.4	7.62	14.960	
2,100.0	2,094.0	2,096.0	2,092.1	4.4	4.1	-135.95	-57.2	-78.1	122.4	114.3	8.05	15.203	
2,200.0	2,193.6	2,195.7	2,191.5	4.6	4.3	-135.51	-61.4	-84.5	130.7	122.2	8.48	15.421	
2,300.0	2,293.1	2,295.3	2,290.8	4.8	4.5	-135.13	-65.5	-91.0	139.0	130.1	8.90	15.619	
2,400.0	2,392.7	2,395.0	2,390.2	5.1	4.7	-134.79	-69.7	-97.5	147.4	138.1	9.33	15.798	
2,500.0	2,492.2	2,494.6	2,489.5	5.3	5.0	-134.48	-73.8	-103.9	155.7	146.0	9.76	15.961	
2,600.0	2,591.8	2,594.3	2,588.9	5.5	5.2	-134.21	-78.0	-110.4	164.1	153.9	10.19	16.110	
2,700.0	2,691.3	2,693.9	2,688.3	5.8	5.4	-133.96	-82.1	-116.9	172.5	161.8	10.61	16.248	
2,800.0	2,790.9	2,793.6	2,787.6	6.0	5.6	-133.74	-86.2	-123.4	180.8	169.8	11.04	16.374	
2,900.0	2,890.4	2,893.2	2,887.0	6.3	5.8	-133.54	-90.4	-129.8	189.2	177.7	11.47	16.491	
3,000.0	2,990.0	2,992.8	2,986.3	6.5	6.0	-133.35	-94.5	-136.3	197.5	185.6	11.90	16.599	
3,100.0	3,089.6	3,092.5	3,085.7	6.7	6.3	-133.18	-98.7	-142.8	205.9	193.6	12.33	16.700	
3,200.0	3,189.1	3,192.1	3,185.0	7.0	6.5	-133.02	-102.8	-149.2	214.3	201.5	12.76	16.794	
3,300.0	3,288.7	3,291.8	3,284.4	7.2	6.7	-132.87	-107.0	-155.7	222.7	209.5	13.19	16.882	
3,400.0	3,388.2	3,391.4	3,383.7	7.5	6.9	-132.74	-111.1	-162.2	231.0	217.4	13.62	16.964	
3,500.0	3,487.8	3,491.1	3,483.1	7.7	7.1	-132.61	-115.3	-168.6	239.4	225.4	14.05	17.041	
3,600.0	3,587.3	3,590.7	3,582.4	7.9	7.4	-132.49	-119.4	-175.1	247.8	233.3	14.48	17.113	
3,700.0	3,686.9	3,690.4	3,681.8	8.2	7.6	-132.38	-123.6	-181.6	256.2	241.2	14.91	17.181	
3,800.0	3,786.4	3,790.0	3,781.1	8.4	7.8	-132.28	-127.7	-188.0	264.5	249.2	15.34	17.245	
3,900.0	3,886.0	3,889.7	3,880.5	8.7	8.0	-132.18	-131.9	-194.5	272.9	257.1	15.77	17.306	
4,000.0	3,985.5	3,989.3	3,979.8	8.9	8.2	-132.09	-136.0	-201.0	281.3	265.1	16.20	17.363	
4,100.0	4,085.1	4,089.0	4,079.2	9.1	8.4	-132.01	-140.2	-207.4	289.7	273.0	16.63	17.418	
4,200.0	4,184.6	4,188.6	4,178.5	9.4	8.7	-131.93	-144.3	-213.9	298.0	281.0	17.06	17.469	
4,300.0	4,284.2	4,288.3	4,277.9	9.6	8.9	-131.85	-148.4	-220.4	306.4	288.9	17.49	17.519	
4,400.0	4,383.8	4,387.9	4,377.2	9.9	9.1	-131.78	-152.6	-226.8	314.8	296.9	17.92	17.565	
4,500.0	4,483.3	4,487.6	4,476.6	10.1	9.3	-131.71	-156.7	-233.3	323.2	304.8	18.35	17.610	
4,600.0	4,582.9	4,587.2	4,575.9	10.3	9.5	-131.64	-160.9	-239.8	331.6	312.8	18.78	17.652	
4,700.0	4,682.4	4,686.9	4,675.3	10.6	9.8	-131.58	-165.0	-246.2	340.0	320.7	19.21	17.693	
4,800.0	4,782.0	4,786.5	4,774.6	10.8	10.0	-131.52	-169.2	-252.7	348.3	328.7	19.65	17.731	
4,900.0	4,881.5	4,886.1	4,874.0	11.1	10.2	-131.47	-173.3	-259.2	356.7	336.6	20.08	17.768	
5,000.0	4,981.1	4,985.8	4,973.3	11.3	10.4	-131.41	-177.5	-265.7	365.1	344.6	20.51	17.804	
5,100.0	5,080.6	5,085.4	5,072.7	11.5	10.6	-131.36	-181.6	-272.1	373.5	352.5	20.94	17.838	

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 Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-Geist 2E-5H-F267 - 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	5,180.2	5,185.1	5,172.0	11.8	10.9	-131.31	-185.8	-278.6	381.9	360.5	21.37	17.870	
5,300.0	5,279.7	5,284.7	5,271.4	12.0	11.1	-131.26	-189.9	-285.1	390.3	368.5	21.80	17.902	
5,400.0	5,379.3	5,384.4	5,370.7	12.3	11.3	-131.22	-194.1	-291.5	398.6	376.4	22.23	17.932	
5,500.0	5,478.8	5,484.0	5,470.1	12.5	11.5	-131.18	-198.2	-298.0	407.0	384.4	22.66	17.960	
5,600.0	5,578.4	5,583.7	5,569.4	12.7	11.7	-131.14	-202.3	-304.5	415.4	392.3	23.09	17.988	
5,700.0	5,677.9	5,683.3	5,668.8	13.0	12.0	-131.10	-206.5	-310.9	423.8	400.3	23.52	18.015	
5,800.0	5,777.5	5,783.0	5,768.1	13.2	12.2	-131.06	-210.6	-317.4	432.2	408.2	23.96	18.041	
5,900.0	5,877.1	5,882.6	5,867.5	13.5	12.4	-131.02	-214.8	-323.9	440.6	416.2	24.39	18.066	
6,000.0	5,976.6	5,982.3	5,966.8	13.7	12.6	-130.99	-218.9	-330.3	448.9	424.1	24.82	18.090	
6,100.0	6,076.2	6,081.9	6,066.2	13.9	12.8	-130.95	-223.1	-336.8	457.3	432.1	25.25	18.113	
6,200.0	6,175.7	6,181.6	6,165.5	14.2	13.1	-130.92	-227.2	-343.3	465.7	440.0	25.68	18.135	
6,300.0	6,275.3	6,281.2	6,264.9	14.4	13.3	-130.89	-231.4	-349.7	474.1	448.0	26.11	18.157	
6,400.0	6,374.8	6,380.9	6,364.2	14.7	13.5	-130.86	-235.5	-356.2	482.5	455.9	26.54	18.178	
6,500.0	6,474.4	6,480.5	6,463.6	14.9	13.7	-130.83	-239.7	-362.7	490.9	463.9	26.97	18.198	
6,600.0	6,573.9	6,580.2	6,562.9	15.1	13.9	-130.80	-243.8	-369.1	499.3	471.9	27.41	18.218	
6,900.0	6,872.5	7,343.4	7,236.3	15.8	14.8	-76.89	7.5	-410.5	449.6	422.8	26.76	16.799	
7,000.0	6,970.2	7,431.8	7,278.8	15.9	15.0	-89.56	84.9	-412.6	361.6	336.5	25.10	14.408	
7,100.0	7,062.9	7,441.1	7,282.6	16.0	15.1	-104.08	93.4	-412.8	274.9	248.9	25.98	10.579	
7,200.0	7,148.1	7,423.7	7,275.5	16.0	15.0	-106.30	77.6	-412.5	200.8	174.8	26.00	7.725	
7,300.0	7,223.0	7,394.5	7,262.4	16.1	14.9	-99.43	51.5	-411.8	157.5	131.9	25.68	6.134	
7,334.2	7,245.8	7,382.9	7,256.8	16.2	14.9	-95.35	41.3	-411.6	154.2	128.6	25.66	6.009	SF
7,400.0	7,285.4	7,359.1	7,244.7	16.3	14.8	-85.52	20.7	-411.0	165.7	140.1	25.61	6.470	
7,500.0	7,333.3	7,319.9	7,223.1	16.6	14.7	-68.07	-11.8	-409.9	214.4	189.3	25.01	8.570	
7,600.0	7,365.5	7,278.5	7,197.8	17.1	14.7	-52.24	-44.7	-408.5	278.5	255.4	23.12	12.045	
7,700.0	7,380.7	7,235.5	7,169.2	17.7	14.6	-40.62	-76.7	-406.9	345.2	324.4	20.80	16.597	
7,800.0	7,382.0	7,200.0	7,143.8	18.4	14.6	-35.76	-101.4	-405.5	411.6	391.6	20.09	20.492	
7,900.0	7,382.0	7,150.0	7,105.5	19.3	14.6	-32.15	-133.5	-403.3	483.4	463.5	19.89	24.307	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-Geist 2F-5H-F267 - 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	90.05	0.0	30.7	30.8				
100.0	100.0	99.0	99.0	0.1	0.1	90.05	0.0	30.7	30.7	30.5	0.24	126.441	
200.0	200.0	199.0	199.0	0.3	0.3	90.05	0.0	30.7	30.7	30.1	0.59	51.957	
300.0	300.0	299.0	299.0	0.5	0.5	90.05	0.0	30.7	30.7	29.8	0.94	32.678	
400.0	400.0	399.0	399.0	0.6	0.6	90.05	0.0	30.7	30.7	29.5	1.29	23.834	CC, ES
500.0	500.0	499.0	499.0	0.8	0.8	155.80	0.0	30.7	31.5	29.9	1.64	19.242	
600.0	600.0	599.0	599.0	1.0	1.0	157.60	0.0	30.7	33.9	32.0	1.99	17.073	
700.0	699.9	698.9	698.9	1.2	1.2	160.09	0.0	30.7	38.0	35.7	2.34	16.265	SF
800.0	799.7	798.7	798.7	1.4	1.3	162.80	0.0	30.7	43.8	41.1	2.69	16.310	
900.0	899.4	898.4	898.4	1.6	1.5	165.37	0.0	30.7	51.3	48.3	3.03	16.930	
1,000.0	998.9	997.9	997.9	1.8	1.7	167.59	0.0	30.7	60.4	57.0	3.38	17.860	
1,100.0	1,098.5	1,097.5	1,097.5	2.0	1.9	169.26	0.0	30.7	69.6	65.9	3.73	18.671	
1,200.0	1,198.0	1,197.0	1,197.0	2.3	2.0	170.53	0.0	30.7	78.9	74.8	4.08	19.356	
1,300.0	1,297.6	1,296.6	1,296.6	2.5	2.2	171.54	0.0	30.7	88.3	83.8	4.43	19.941	
1,400.0	1,397.1	1,396.1	1,396.1	2.7	2.4	172.36	0.0	30.7	97.6	92.8	4.77	20.445	
1,500.0	1,496.7	1,495.7	1,495.7	2.9	2.6	173.03	0.0	30.7	107.0	101.8	5.12	20.884	
1,600.0	1,596.3	1,595.3	1,595.3	3.2	2.7	173.59	0.0	30.7	116.3	110.9	5.47	21.270	
1,700.0	1,695.8	1,694.8	1,694.8	3.4	2.9	174.07	0.0	30.7	125.7	119.9	5.82	21.611	
1,800.0	1,795.4	1,794.4	1,794.4	3.7	3.1	174.49	0.0	30.7	135.1	128.9	6.17	21.915	
1,900.0	1,894.9	1,893.9	1,893.9	3.9	3.3	174.85	0.0	30.7	144.5	138.0	6.51	22.188	
2,000.0	1,994.5	1,993.5	1,993.5	4.1	3.4	175.16	0.0	30.7	153.9	147.1	6.86	22.434	
2,100.0	2,094.0	2,093.0	2,093.0	4.4	3.6	175.44	0.0	30.7	163.3	156.1	7.21	22.656	
2,200.0	2,193.6	2,192.6	2,192.6	4.6	3.8	175.69	0.0	30.7	172.7	165.2	7.56	22.859	
2,300.0	2,293.1	2,292.1	2,292.1	4.8	3.9	175.91	0.0	30.7	182.2	174.2	7.90	23.044	
2,400.0	2,392.7	2,391.7	2,391.7	5.1	4.1	176.11	0.0	30.7	191.6	183.3	8.25	23.213	
2,500.0	2,492.2	2,491.2	2,491.2	5.3	4.3	176.30	0.0	30.7	201.0	192.4	8.60	23.370	
2,600.0	2,591.8	2,590.8	2,590.8	5.5	4.5	176.46	0.0	30.7	210.4	201.5	8.95	23.514	
2,700.0	2,691.3	2,690.3	2,690.3	5.8	4.6	176.61	0.0	30.7	219.8	210.5	9.30	23.648	
2,800.0	2,790.9	2,789.9	2,789.9	6.0	4.8	176.75	0.0	30.7	229.3	219.6	9.64	23.772	
2,900.0	2,890.4	2,889.4	2,889.4	6.3	5.0	176.88	0.0	30.7	238.7	228.7	9.99	23.887	
3,000.0	2,990.0	2,989.0	2,989.0	6.5	5.2	177.00	0.0	30.7	248.1	237.8	10.34	23.995	
3,100.0	3,089.6	3,088.6	3,088.6	6.7	5.3	177.11	0.0	30.7	257.5	246.8	10.69	24.096	
3,200.0	3,189.1	3,188.1	3,188.1	7.0	5.5	177.21	0.0	30.7	267.0	255.9	11.04	24.191	
3,300.0	3,288.7	3,287.7	3,287.7	7.2	5.7	177.31	0.0	30.7	276.4	265.0	11.38	24.280	
3,400.0	3,388.2	3,387.2	3,387.2	7.5	5.9	177.40	0.0	30.7	285.8	274.1	11.73	24.364	
3,500.0	3,487.8	3,486.8	3,486.8	7.7	6.0	177.48	0.0	30.7	295.2	283.2	12.08	24.443	
3,600.0	3,587.3	3,586.3	3,586.3	7.9	6.2	177.56	0.0	30.7	304.7	292.2	12.43	24.517	
3,700.0	3,686.9	3,685.9	3,685.9	8.2	6.4	177.63	0.0	30.7	314.1	301.3	12.77	24.588	
3,800.0	3,786.4	3,785.4	3,785.4	8.4	6.6	177.70	0.0	30.7	323.5	310.4	13.12	24.655	
3,900.0	3,886.0	3,885.0	3,885.0	8.7	6.7	177.77	0.0	30.7	333.0	319.5	13.47	24.718	
4,000.0	3,985.5	3,984.5	3,984.5	8.9	6.9	177.83	0.0	30.7	342.4	328.6	13.82	24.778	
4,100.0	4,085.1	4,080.6	4,080.6	9.1	7.1	177.95	-0.5	31.0	352.3	338.1	14.16	24.877	
4,200.0	4,184.6	4,175.7	4,175.7	9.4	7.2	178.24	-2.5	31.8	363.3	348.8	14.50	25.054	
4,300.0	4,284.2	4,270.5	4,270.4	9.6	7.4	178.67	-5.9	33.2	375.5	360.7	14.84	25.306	
4,400.0	4,383.8	4,364.9	4,364.7	9.9	7.6	179.24	-10.7	35.2	388.9	373.8	15.18	25.626	
4,500.0	4,483.3	4,458.9	4,458.5	10.1	7.7	179.92	-17.0	37.8	403.6	388.1	15.52	26.010	
4,600.0	4,582.9	4,552.5	4,551.6	10.3	7.9	-179.30	-24.6	41.0	419.6	403.7	15.86	26.456	
4,700.0	4,682.4	4,645.5	4,644.2	10.6	8.1	-178.46	-33.5	44.8	436.8	420.6	16.20	26.959	
4,800.0	4,782.0	4,739.1	4,737.1	10.8	8.3	-177.54	-43.9	49.1	455.3	438.8	16.55	27.513	
4,900.0	4,881.5	4,837.0	4,834.2	11.1	8.5	-176.62	-55.2	53.8	474.4	457.5	16.91	28.056	
5,000.0	4,981.1	4,934.9	4,931.3	11.3	8.7	-175.77	-66.6	58.6	493.5	476.3	17.27	28.580	

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 Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2E-5H-F267 - 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	0.1	0.1	-89.95	0.0	-19.6	19.6	19.3	0.24	80.060	
200.0	200.0	200.0	200.0	0.3	0.3	-89.95	0.0	-19.6	19.6	19.0	0.59	32.966	CC, ES
300.0	300.0	299.7	299.7	0.5	0.5	-89.26	0.3	-20.4	20.4	19.5	0.94	21.643	
400.0	400.0	399.3	399.2	0.6	0.7	-87.49	1.0	-22.9	22.9	21.6	1.29	17.709	
500.0	500.0	498.8	498.7	0.8	0.8	-20.82	2.2	-27.0	26.3	24.7	1.64	16.064	
600.0	600.0	598.3	597.9	1.0	1.0	-20.07	4.0	-32.8	29.8	27.8	1.99	14.999	
700.0	699.9	697.7	697.0	1.2	1.3	-19.90	6.2	-40.3	33.4	31.0	2.34	14.272	
800.0	799.7	797.0	795.9	1.4	1.5	-20.14	8.9	-49.3	37.0	34.3	2.69	13.746	
900.0	899.4	896.3	894.5	1.6	1.7	-20.68	12.1	-60.1	40.7	37.6	3.05	13.345	
1,000.0	998.9	995.5	992.9	1.8	2.0	-21.31	15.7	-72.4	44.7	41.3	3.41	13.109	
1,100.0	1,098.5	1,095.0	1,091.4	2.0	2.3	-21.52	19.8	-86.2	50.0	46.2	3.77	13.248	
1,200.0	1,198.0	1,194.8	1,190.2	2.3	2.6	-21.64	24.0	-100.1	55.4	51.3	4.14	13.396	
1,300.0	1,297.6	1,294.7	1,289.0	2.5	2.9	-21.75	28.1	-114.1	60.9	56.4	4.50	13.516	
1,400.0	1,397.1	1,394.5	1,387.7	2.7	3.2	-21.84	32.3	-128.0	66.3	61.5	4.87	13.617	
1,500.0	1,496.7	1,494.4	1,486.5	2.9	3.5	-21.91	36.4	-142.0	71.8	66.6	5.24	13.701	
1,600.0	1,596.3	1,594.2	1,585.3	3.2	3.8	-21.98	40.6	-155.9	77.2	71.6	5.61	13.773	
1,700.0	1,695.8	1,694.1	1,684.1	3.4	4.1	-22.03	44.7	-169.9	82.7	76.7	5.98	13.836	
1,800.0	1,795.4	1,793.9	1,782.9	3.7	4.4	-22.08	48.9	-183.9	88.2	81.8	6.35	13.890	
1,900.0	1,894.9	1,893.8	1,881.7	3.9	4.7	-22.13	53.1	-197.8	93.6	86.9	6.72	13.938	
2,000.0	1,994.5	1,993.6	1,980.4	4.1	5.0	-22.16	57.2	-211.8	99.1	92.0	7.09	13.980	
2,100.0	2,094.0	2,093.5	2,079.2	4.4	5.3	-22.20	61.4	-225.7	104.5	97.1	7.46	14.017	
2,200.0	2,193.6	2,193.3	2,178.0	4.6	5.6	-22.23	65.5	-239.7	110.0	102.1	7.83	14.051	
2,300.0	2,293.1	2,293.2	2,276.8	4.8	5.9	-22.26	69.7	-253.6	115.4	107.2	8.20	14.081	
2,400.0	2,392.7	2,393.1	2,375.6	5.1	6.2	-22.28	73.8	-267.6	120.9	112.3	8.57	14.109	
2,500.0	2,492.2	2,492.9	2,474.4	5.3	6.5	-22.31	78.0	-281.6	126.3	117.4	8.94	14.134	
2,600.0	2,591.8	2,592.8	2,573.1	5.5	6.9	-22.33	82.1	-295.5	131.8	122.5	9.31	14.157	
2,700.0	2,691.3	2,692.6	2,671.9	5.8	7.2	-22.35	86.3	-309.5	137.2	127.6	9.68	14.178	
2,800.0	2,790.9	2,792.5	2,770.7	6.0	7.5	-22.37	90.4	-323.4	142.7	132.6	10.05	14.197	
2,900.0	2,890.4	2,892.3	2,869.5	6.3	7.8	-22.38	94.6	-337.4	148.1	137.7	10.42	14.215	
3,000.0	2,990.0	2,992.2	2,968.3	6.5	8.1	-22.40	98.7	-351.3	153.6	142.8	10.79	14.231	
3,100.0	3,089.6	3,092.0	3,067.1	6.7	8.4	-22.41	102.9	-365.3	159.0	147.9	11.16	14.247	
3,200.0	3,189.1	3,191.9	3,165.8	7.0	8.7	-22.43	107.0	-379.3	164.5	153.0	11.53	14.261	
3,300.0	3,288.7	3,291.7	3,264.6	7.2	9.0	-22.44	111.2	-393.2	170.0	158.0	11.91	14.274	
3,400.0	3,388.2	3,391.6	3,363.4	7.5	9.3	-22.45	115.3	-407.2	175.4	163.1	12.28	14.287	
3,500.0	3,487.8	3,491.4	3,462.2	7.7	9.6	-22.46	119.5	-421.1	180.9	168.2	12.65	14.298	
3,600.0	3,587.3	3,591.3	3,561.0	7.9	9.9	-22.47	123.6	-435.1	186.3	173.3	13.02	14.309	
3,700.0	3,686.9	3,691.1	3,659.8	8.2	10.3	-22.48	127.8	-449.0	191.8	178.4	13.39	14.320	
3,800.0	3,786.4	3,791.0	3,758.6	8.4	10.6	-22.49	132.0	-463.0	197.2	183.5	13.76	14.329	
3,900.0	3,886.0	3,890.8	3,857.3	8.7	10.9	-22.50	136.1	-477.0	202.7	188.5	14.13	14.339	
4,000.0	3,985.5	3,990.7	3,956.1	8.9	11.2	-22.51	140.3	-490.9	208.1	193.6	14.51	14.347	
4,100.0	4,085.1	4,090.5	4,054.9	9.1	11.5	-22.52	144.4	-504.9	213.6	198.7	14.88	14.355	
4,200.0	4,184.6	4,190.4	4,153.7	9.4	11.8	-22.53	148.6	-518.8	219.0	203.8	15.25	14.363	
4,300.0	4,284.2	4,290.2	4,252.5	9.6	12.1	-22.53	152.7	-532.8	224.5	208.9	15.62	14.371	
4,400.0	4,383.8	4,390.1	4,351.3	9.9	12.4	-22.54	156.9	-546.7	229.9	213.9	15.99	14.378	
4,500.0	4,483.3	4,489.9	4,450.0	10.1	12.7	-22.55	161.0	-560.7	235.4	219.0	16.36	14.384	
4,600.0	4,582.9	4,589.8	4,548.8	10.3	13.0	-22.55	165.2	-574.7	240.8	224.1	16.74	14.391	
4,700.0	4,682.4	4,689.6	4,647.6	10.6	13.3	-22.56	169.3	-588.6	246.3	229.2	17.11	14.397	
4,800.0	4,782.0	4,789.5	4,746.4	10.8	13.7	-22.57	173.5	-602.6	251.8	234.3	17.48	14.403	
4,900.0	4,881.5	4,889.3	4,845.2	11.1	14.0	-22.57	177.6	-616.5	257.2	239.4	17.85	14.408	
5,000.0	4,981.1	4,989.2	4,944.0	11.3	14.3	-22.58	181.8	-630.5	262.7	244.4	18.22	14.414	
5,100.0	5,080.6	5,089.0	5,042.7	11.5	14.6	-22.58	185.9	-644.4	268.1	249.5	18.59	14.419	

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 Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2E-5H-F267 - 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	5,180.2	5,188.9	5,141.5	11.8	14.9	-22.59	190.1	-658.4	273.6	254.6	18.97	14.424	
5,300.0	5,279.7	5,288.7	5,240.3	12.0	15.2	-22.59	194.2	-672.3	279.0	259.7	19.34	14.428	
5,400.0	5,379.3	5,388.6	5,339.1	12.3	15.5	-22.60	198.4	-686.3	284.5	264.8	19.71	14.433	
5,500.0	5,478.8	5,488.4	5,437.9	12.5	15.8	-22.60	202.5	-700.3	289.9	269.8	20.08	14.437	
5,600.0	5,578.4	5,588.3	5,536.7	12.7	16.1	-22.60	206.7	-714.2	295.4	274.9	20.45	14.441	
5,700.0	5,677.9	5,688.1	5,635.4	13.0	16.4	-22.61	210.9	-728.2	300.8	280.0	20.83	14.445	
5,800.0	5,777.5	5,788.0	5,734.2	13.2	16.8	-22.61	215.0	-742.1	306.3	285.1	21.20	14.449	
5,900.0	5,877.1	5,887.8	5,833.0	13.5	17.1	-22.62	219.2	-756.1	311.7	290.2	21.57	14.453	
6,000.0	5,976.6	5,987.7	5,931.8	13.7	17.4	-22.62	223.3	-770.0	317.2	295.3	21.94	14.456	
6,100.0	6,076.2	6,087.5	6,030.6	13.9	17.7	-22.62	227.5	-784.0	322.6	300.3	22.31	14.460	
6,200.0	6,175.7	6,187.4	6,129.4	14.2	18.0	-22.63	231.6	-798.0	328.1	305.4	22.68	14.463	
6,300.0	6,275.3	6,287.2	6,228.1	14.4	18.3	-22.63	235.8	-811.9	333.6	310.5	23.06	14.467	
6,400.0	6,374.8	6,387.1	6,326.9	14.7	18.6	-22.63	239.9	-825.9	339.0	315.6	23.43	14.470	
6,500.0	6,474.4	6,486.9	6,425.7	14.9	18.9	-22.64	244.1	-839.8	344.5	320.7	23.80	14.473	
6,600.0	6,573.9	6,586.8	6,524.5	15.1	19.2	-22.64	248.2	-853.8	349.9	325.7	24.17	14.476	
6,700.0	6,673.5	6,687.3	6,623.8	15.4	19.5	-23.65	246.1	-867.9	355.3	330.6	24.63	14.427	
6,800.0	6,773.0	6,783.1	6,716.8	15.6	19.7	-27.13	228.1	-881.3	361.3	336.0	25.34	14.256	
6,900.0	6,872.5	6,871.8	6,799.2	15.8	19.8	43.84	197.6	-893.4	370.1	343.8	26.22	14.114	
7,000.0	6,970.2	6,956.8	6,872.8	15.9	20.0	60.46	156.7	-904.3	381.1	354.3	26.77	14.234	
7,100.0	7,062.9	7,038.9	6,937.4	16.0	20.1	62.28	107.2	-914.1	393.4	366.5	26.86	14.648	
7,200.0	7,148.1	7,118.6	6,992.9	16.0	20.2	61.33	50.7	-922.6	405.9	379.5	26.44	15.350	
7,300.0	7,223.0	7,200.0	7,040.9	16.1	20.4	59.70	-14.5	-930.2	417.8	392.1	25.72	16.245	
7,400.0	7,285.4	7,273.0	7,075.8	16.3	20.6	58.26	-78.3	-936.0	428.4	403.4	24.94	17.175	
7,500.0	7,333.3	7,350.0	7,103.6	16.6	20.9	57.01	-149.9	-940.8	436.9	412.5	24.46	17.863	
7,600.0	7,365.5	7,423.3	7,121.0	17.1	21.3	56.18	-221.0	-944.1	443.1	418.4	24.72	17.930	
7,700.0	7,380.7	7,500.0	7,129.4	17.7	21.7	55.75	-297.1	-946.2	446.7	420.8	25.94	17.222	
7,800.0	7,382.0	7,588.3	7,130.0	18.4	22.2	55.76	-385.4	-947.4	447.9	420.3	27.60	16.228	
7,900.0	7,382.0	7,688.3	7,130.0	19.3	23.0	55.85	-485.4	-948.6	448.9	419.6	29.31	15.319	
8,000.0	7,382.0	7,788.3	7,130.0	20.3	23.8	55.94	-585.4	-949.8	450.0	418.8	31.20	14.424	
8,100.0	7,382.0	7,888.3	7,130.0	21.4	24.7	56.02	-685.4	-951.1	451.0	417.7	33.24	13.568	
8,200.0	7,382.0	7,988.2	7,130.0	22.5	25.7	56.11	-785.3	-952.3	452.0	416.6	35.41	12.764	
8,300.0	7,382.0	8,088.2	7,130.0	23.8	26.8	56.20	-885.3	-953.5	453.0	415.3	37.69	12.018	
8,400.0	7,382.0	8,188.2	7,130.0	25.1	28.0	56.28	-985.3	-954.7	454.0	413.9	40.06	11.332	
8,500.0	7,382.0	8,288.2	7,130.0	26.4	29.2	56.37	-1,085.3	-955.9	455.0	412.5	42.51	10.703	
8,600.0	7,382.0	8,388.2	7,130.0	27.8	30.5	56.45	-1,185.3	-957.2	456.0	411.0	45.03	10.128	
8,700.0	7,382.0	8,488.2	7,130.0	29.3	31.8	56.54	-1,285.3	-958.4	457.1	409.5	47.60	9.603	
8,800.0	7,382.0	8,588.2	7,130.0	30.7	33.2	56.62	-1,385.3	-959.6	458.1	407.9	50.22	9.122	
8,900.0	7,382.0	8,688.2	7,130.0	32.2	34.6	56.71	-1,485.2	-960.8	459.1	406.2	52.88	8.683	
9,000.0	7,382.0	8,788.2	7,130.0	33.8	36.0	56.79	-1,585.2	-962.1	460.1	404.6	55.57	8.280	
9,100.0	7,382.0	8,888.2	7,130.0	35.3	37.5	56.87	-1,685.2	-963.3	461.1	402.8	58.30	7.909	
9,200.0	7,382.0	8,988.2	7,130.0	36.9	39.0	56.96	-1,785.2	-964.5	462.2	401.1	61.06	7.569	
9,300.0	7,382.0	9,088.2	7,130.0	38.5	40.5	57.04	-1,885.2	-965.7	463.2	399.3	63.85	7.255	
9,400.0	7,382.0	9,188.2	7,130.0	40.1	42.0	57.12	-1,985.2	-966.9	464.2	397.6	66.65	6.965	
9,500.0	7,382.0	9,288.1	7,130.0	41.7	43.5	57.20	-2,085.1	-968.2	465.2	395.8	69.48	6.696	
9,600.0	7,382.0	9,388.1	7,130.0	43.3	45.1	57.28	-2,185.1	-969.4	466.3	393.9	72.33	6.446	
9,700.0	7,382.0	9,488.1	7,130.0	44.9	46.7	57.36	-2,285.1	-970.6	467.3	392.1	75.20	6.214	
9,800.0	7,382.0	9,588.1	7,130.0	46.6	48.2	57.45	-2,385.1	-971.8	468.3	390.3	78.08	5.998	
9,900.0	7,382.0	9,688.1	7,130.0	48.2	49.8	57.53	-2,485.1	-973.0	469.4	388.4	80.97	5.796	
10,000.0	7,382.0	9,788.1	7,130.0	49.9	51.4	57.61	-2,585.1	-974.3	470.4	386.5	83.88	5.608	
10,100.0	7,382.0	9,888.1	7,130.0	51.5	53.0	57.68	-2,685.1	-975.5	471.4	384.6	86.81	5.431	
10,200.0	7,382.0	9,988.1	7,130.0	53.2	54.7	57.76	-2,785.0	-976.7	472.5	382.7	89.74	5.265	
10,300.0	7,382.0	10,088.1	7,130.0	54.9	56.3	57.84	-2,885.0	-977.9	473.5	380.8	92.69	5.108	

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 Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2E-5H-F267 - 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
10,400.0	7,382.0	10,188.1	7,130.0	56.5	57.9	57.92	-2,985.0	-979.2	474.5	378.9	95.64	4.961	
10,500.0	7,382.0	10,288.1	7,130.0	58.2	59.6	58.00	-3,085.0	-980.4	475.6	377.0	98.61	4.823	
10,600.0	7,382.0	10,388.1	7,130.0	59.9	61.2	58.08	-3,185.0	-981.6	476.6	375.0	101.59	4.691	
10,700.0	7,382.0	10,488.1	7,130.0	61.6	62.9	58.15	-3,285.0	-982.8	477.6	373.1	104.57	4.567	
10,800.0	7,382.0	10,588.0	7,130.0	63.3	64.5	58.23	-3,385.0	-984.0	478.7	371.1	107.57	4.450	
10,900.0	7,382.0	10,688.0	7,130.0	65.0	66.2	58.31	-3,484.9	-985.3	479.7	369.1	110.57	4.339	
11,000.0	7,382.0	10,788.0	7,130.0	66.7	67.9	58.39	-3,584.9	-986.5	480.8	367.2	113.58	4.233	
11,100.0	7,382.0	10,888.0	7,130.0	68.4	69.6	58.46	-3,684.9	-987.7	481.8	365.2	116.60	4.132	
11,200.0	7,382.0	10,988.0	7,130.0	70.1	71.2	58.54	-3,784.9	-988.9	482.8	363.2	119.63	4.036	
11,300.0	7,382.0	11,088.0	7,130.0	71.8	72.9	58.61	-3,884.9	-990.2	483.9	361.2	122.66	3.945	
11,400.0	7,382.0	11,188.0	7,130.0	73.5	74.6	58.69	-3,984.9	-991.4	484.9	359.2	125.70	3.858	
11,500.0	7,382.0	11,288.0	7,130.0	75.2	76.3	58.76	-4,084.9	-992.6	486.0	357.2	128.74	3.775	
11,600.0	7,382.0	11,388.0	7,130.0	76.9	78.0	58.84	-4,184.8	-993.8	487.0	355.2	131.80	3.695	
11,700.0	7,382.0	11,488.0	7,130.0	78.6	79.7	58.91	-4,284.8	-995.0	488.0	353.2	134.90	3.618	
11,800.0	7,382.0	11,588.0	7,130.0	80.4	81.4	58.92	-4,384.8	-996.3	488.2	349.9	138.23	3.532	
11,900.0	7,382.0	11,688.0	7,130.0	82.1	83.1	58.82	-4,484.8	-997.5	486.8	345.4	141.37	3.443	
12,000.0	7,382.0	11,787.9	7,130.0	83.8	84.8	58.65	-4,584.7	-998.7	484.5	340.4	144.14	3.362	
12,100.0	7,382.0	11,887.9	7,130.0	85.5	86.5	58.49	-4,684.7	-999.9	482.2	335.4	146.86	3.284	
12,200.0	7,382.0	11,987.9	7,130.0	87.3	88.2	58.32	-4,784.7	-1,001.1	480.0	330.4	149.57	3.209	
12,300.0	7,382.0	12,087.8	7,130.0	89.0	89.9	58.15	-4,884.6	-1,002.4	477.7	325.4	152.27	3.137	
12,400.0	7,382.0	12,187.8	7,130.0	90.7	91.6	57.98	-4,984.6	-1,003.6	475.4	320.5	154.95	3.068	
12,500.0	7,382.0	12,287.8	7,130.0	92.5	93.3	57.81	-5,084.5	-1,004.8	473.2	315.5	157.62	3.002	
12,600.0	7,382.0	12,387.7	7,130.0	94.2	95.0	57.64	-5,184.5	-1,006.0	470.9	310.6	160.28	2.938	
12,700.0	7,382.0	12,487.7	7,130.0	95.9	96.7	57.46	-5,284.4	-1,007.3	468.6	305.7	162.92	2.877	
12,800.0	7,382.0	12,587.6	7,130.0	97.7	98.5	57.29	-5,384.4	-1,008.5	466.4	300.9	165.55	2.817	
12,900.0	7,382.0	12,687.6	7,130.0	99.4	100.2	57.11	-5,484.4	-1,009.7	464.2	296.0	168.16	2.760	
13,000.0	7,382.0	12,787.6	7,130.0	101.1	101.9	56.93	-5,584.3	-1,010.9	461.9	291.2	170.76	2.705	
13,100.0	7,382.0	12,887.5	7,130.0	102.9	103.6	56.75	-5,684.3	-1,012.1	459.7	286.3	173.34	2.652	
13,200.0	7,382.0	12,987.5	7,130.0	104.6	105.3	56.56	-5,784.2	-1,013.4	457.4	281.5	175.91	2.600	
13,300.0	7,382.0	13,087.5	7,130.0	106.3	107.0	56.38	-5,884.2	-1,014.6	455.2	276.8	178.46	2.551	
13,400.0	7,382.0	13,187.4	7,130.0	108.1	108.8	56.19	-5,984.1	-1,015.8	453.0	272.0	180.99	2.503	
13,500.0	7,382.0	13,287.4	7,130.0	109.8	110.5	56.00	-6,084.1	-1,017.0	450.8	267.3	183.50	2.456	
13,600.0	7,382.0	13,387.4	7,130.0	111.6	112.2	55.81	-6,184.1	-1,018.2	448.6	262.6	186.00	2.412	
13,700.0	7,382.0	13,487.3	7,130.0	113.3	113.9	55.62	-6,284.0	-1,019.5	446.3	257.9	188.48	2.368	
13,800.0	7,382.0	13,587.3	7,130.0	115.0	115.7	55.42	-6,384.0	-1,020.7	444.1	253.2	190.94	2.326	
13,900.0	7,382.0	13,687.3	7,130.0	116.8	117.4	55.23	-6,483.9	-1,021.9	441.9	248.6	193.38	2.285	
14,000.0	7,382.0	13,787.2	7,130.0	118.5	119.1	55.03	-6,583.9	-1,023.1	439.8	243.9	195.81	2.246	
14,100.0	7,382.0	13,887.2	7,130.0	120.3	120.8	54.83	-6,683.8	-1,024.4	437.6	239.4	198.21	2.208	
14,200.0	7,382.0	13,987.1	7,130.0	122.0	122.6	54.62	-6,783.8	-1,025.6	435.4	234.8	200.59	2.170	
14,300.0	7,382.0	14,087.1	7,130.0	123.8	124.3	54.42	-6,883.8	-1,026.8	433.2	230.3	202.95	2.135	
14,400.0	7,382.0	14,187.1	7,130.0	125.5	126.0	54.21	-6,983.7	-1,028.0	431.0	225.7	205.29	2.100	
14,500.0	7,382.0	14,287.0	7,130.0	127.2	127.8	54.00	-7,083.7	-1,029.2	428.9	221.3	207.61	2.066	
14,600.0	7,382.0	14,387.0	7,130.0	129.0	129.5	53.79	-7,183.6	-1,030.5	426.7	216.8	209.91	2.033	
14,700.0	7,382.0	14,487.0	7,130.0	130.7	131.2	53.58	-7,283.6	-1,031.7	424.6	212.4	212.18	2.001	
14,800.0	7,382.0	14,586.9	7,130.0	132.5	133.0	53.36	-7,383.5	-1,032.9	422.4	208.0	214.43	1.970	
14,900.0	7,382.0	14,686.9	7,130.0	134.2	134.7	53.15	-7,483.5	-1,034.1	420.3	203.6	216.66	1.940	
15,000.0	7,382.0	14,786.9	7,130.0	136.0	136.4	52.93	-7,583.5	-1,035.3	418.1	199.3	218.86	1.910	
15,100.0	7,382.0	14,886.8	7,130.0	137.7	138.2	52.71	-7,683.4	-1,036.6	416.0	195.0	221.04	1.882	
15,142.6	7,382.0	14,929.4	7,130.0	138.4	138.9	52.61	-7,726.0	-1,037.1	415.1	193.1	221.96	1.870	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2G-5H-F267 - 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	90.04	0.0	22.4	22.4				
100.0	100.0	99.0	99.0	0.1	0.1	90.04	0.0	22.4	22.4	22.1	0.24	91.957	
200.0	200.0	199.0	199.0	0.3	0.3	90.04	0.0	22.4	22.4	21.8	0.59	37.787	
300.0	300.0	299.0	299.0	0.5	0.5	90.04	0.0	22.4	22.4	21.4	0.94	23.766	
400.0	400.0	399.0	399.0	0.6	0.6	90.04	0.0	22.4	22.4	21.1	1.29	17.334	CC, ES
500.0	500.0	499.0	499.0	0.8	0.8	156.04	0.0	22.4	23.2	21.5	1.64	14.127	
600.0	600.0	599.0	599.0	1.0	1.0	158.41	0.0	22.4	25.6	23.6	1.99	12.861	
700.0	699.9	699.3	699.3	1.2	1.2	160.48	0.6	21.7	29.0	26.7	2.34	12.401	
800.0	799.7	799.6	799.6	1.4	1.3	161.22	2.4	19.8	32.7	30.0	2.69	12.162	
900.0	899.4	900.0	899.9	1.6	1.5	161.00	5.4	16.7	36.7	33.6	3.04	12.052	
1,000.0	998.9	1,000.3	1,000.0	1.8	1.7	160.08	9.6	12.3	40.7	37.3	3.40	11.967	
1,100.0	1,098.5	1,100.2	1,099.7	2.0	1.9	159.11	14.0	7.7	44.7	40.9	3.77	11.851	
1,200.0	1,198.0	1,200.1	1,199.4	2.3	2.1	158.29	18.3	3.2	48.6	44.5	4.14	11.749	
1,300.0	1,297.6	1,300.0	1,299.1	2.5	2.3	157.60	22.7	-1.4	52.6	48.0	4.51	11.660	
1,400.0	1,397.1	1,400.0	1,398.8	2.7	2.5	157.00	27.1	-6.0	56.5	51.6	4.88	11.580	
1,500.0	1,496.7	1,499.9	1,498.5	2.9	2.7	156.49	31.5	-10.6	60.5	55.2	5.25	11.509	
1,600.0	1,596.3	1,599.8	1,598.3	3.2	2.9	156.03	35.9	-15.2	64.4	58.8	5.63	11.445	
1,700.0	1,695.8	1,699.7	1,698.0	3.4	3.1	155.63	40.3	-19.8	68.4	62.4	6.01	11.388	
1,800.0	1,795.4	1,799.6	1,797.7	3.7	3.3	155.27	44.7	-24.4	72.4	66.0	6.39	11.335	
1,900.0	1,894.9	1,899.6	1,897.4	3.9	3.5	154.95	49.1	-29.0	76.4	69.6	6.76	11.288	
2,000.0	1,994.5	1,999.5	1,997.1	4.1	3.7	154.67	53.5	-33.6	80.3	73.2	7.14	11.244	
2,100.0	2,094.0	2,099.4	2,096.9	4.4	3.9	154.40	57.8	-38.2	84.3	76.8	7.52	11.204	
2,200.0	2,193.6	2,199.3	2,196.6	4.6	4.1	154.17	62.2	-42.7	88.3	80.4	7.91	11.167	
2,300.0	2,293.1	2,299.2	2,296.3	4.8	4.3	153.95	66.6	-47.3	92.3	84.0	8.29	11.133	
2,400.0	2,392.7	2,399.2	2,396.0	5.1	4.5	153.75	71.0	-51.9	96.2	87.6	8.67	11.102	
2,500.0	2,492.2	2,499.1	2,495.7	5.3	4.7	153.57	75.4	-56.5	100.2	91.2	9.05	11.073	
2,600.0	2,591.8	2,599.0	2,595.4	5.5	4.9	153.40	79.8	-61.1	104.2	94.8	9.44	11.045	
2,700.0	2,691.3	2,698.9	2,695.2	5.8	5.1	153.24	84.2	-65.7	108.2	98.4	9.82	11.020	
2,800.0	2,790.9	2,798.8	2,794.9	6.0	5.3	153.09	88.6	-70.3	112.2	102.0	10.20	10.996	
2,900.0	2,890.4	2,898.8	2,894.6	6.3	5.6	152.96	93.0	-74.9	116.2	105.6	10.59	10.974	
3,000.0	2,990.0	2,998.7	2,994.3	6.5	5.8	152.83	97.4	-79.5	120.2	109.2	10.97	10.953	
3,100.0	3,089.6	3,098.6	3,094.0	6.7	6.0	152.71	101.7	-84.1	124.1	112.8	11.35	10.933	
3,200.0	3,189.1	3,198.5	3,193.8	7.0	6.2	152.60	106.1	-88.7	128.1	116.4	11.74	10.915	
3,300.0	3,288.7	3,298.4	3,293.5	7.2	6.4	152.50	110.5	-93.2	132.1	120.0	12.12	10.898	
3,400.0	3,388.2	3,398.4	3,393.2	7.5	6.6	152.40	114.9	-97.8	136.1	123.6	12.51	10.881	
3,500.0	3,487.8	3,498.3	3,492.9	7.7	6.8	152.31	119.3	-102.4	140.1	127.2	12.89	10.865	
3,600.0	3,587.3	3,598.2	3,592.6	7.9	7.0	152.22	123.7	-107.0	144.1	130.8	13.28	10.851	
3,700.0	3,686.9	3,698.1	3,692.3	8.2	7.2	152.14	128.1	-111.6	148.1	134.4	13.66	10.837	
3,800.0	3,786.4	3,798.0	3,792.1	8.4	7.4	152.06	132.5	-116.2	152.1	138.0	14.05	10.823	
3,900.0	3,886.0	3,898.0	3,891.8	8.7	7.6	151.98	136.9	-120.8	156.1	141.6	14.44	10.810	
4,000.0	3,985.5	3,997.9	3,991.5	8.9	7.8	151.91	141.2	-125.4	160.1	145.2	14.82	10.798	
4,100.0	4,085.1	4,097.8	4,091.2	9.1	8.0	151.85	145.6	-130.0	164.0	148.8	15.21	10.787	
4,200.0	4,184.6	4,197.7	4,190.9	9.4	8.2	151.78	150.0	-134.6	168.0	152.4	15.59	10.776	
4,300.0	4,284.2	4,297.6	4,290.7	9.6	8.4	151.72	154.4	-139.1	172.0	156.0	15.98	10.765	
4,400.0	4,383.8	4,397.6	4,390.4	9.9	8.6	151.66	158.8	-143.7	176.0	159.7	16.37	10.755	
4,500.0	4,483.3	4,497.5	4,490.1	10.1	8.8	151.61	163.2	-148.3	180.0	163.3	16.75	10.745	
4,600.0	4,582.9	4,597.4	4,589.8	10.3	9.1	151.55	167.6	-152.9	184.0	166.9	17.14	10.736	
4,700.0	4,682.4	4,697.3	4,689.5	10.6	9.3	151.50	172.0	-157.5	188.0	170.5	17.52	10.727	
4,800.0	4,782.0	4,797.2	4,789.2	10.8	9.5	151.45	176.4	-162.1	192.0	174.1	17.91	10.719	
4,900.0	4,881.5	4,897.2	4,889.0	11.1	9.7	151.41	180.7	-166.7	196.0	177.7	18.30	10.710	
5,000.0	4,981.1	4,997.1	4,988.7	11.3	9.9	151.36	185.1	-171.3	200.0	181.3	18.68	10.703	
5,100.0	5,080.6	5,097.0	5,088.4	11.5	10.1	151.32	189.5	-175.9	204.0	184.9	19.07	10.695	

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 Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2G-5H-F267 - 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	5,180.2	5,196.9	5,188.1	11.8	10.3	151.28	193.9	-180.5	208.0	188.5	19.46	10.688	
5,300.0	5,279.7	5,296.8	5,287.8	12.0	10.5	151.24	198.3	-185.0	211.9	192.1	19.84	10.681	
5,400.0	5,379.3	5,396.8	5,387.6	12.3	10.7	151.20	202.7	-189.6	215.9	195.7	20.23	10.674	
5,500.0	5,478.8	5,496.7	5,487.3	12.5	10.9	151.16	207.1	-194.2	219.9	199.3	20.62	10.667	
5,600.0	5,578.4	5,596.6	5,587.0	12.7	11.1	151.12	211.5	-198.8	223.9	202.9	21.00	10.661	
5,700.0	5,677.9	5,696.5	5,686.7	13.0	11.3	151.09	215.9	-203.4	227.9	206.5	21.39	10.655	
5,800.0	5,777.5	5,796.4	5,786.4	13.2	11.5	151.06	220.2	-208.0	231.9	210.1	21.78	10.649	
5,900.0	5,877.1	5,896.4	5,886.1	13.5	11.7	151.02	224.6	-212.6	235.9	213.7	22.17	10.643	
6,000.0	5,976.6	5,996.3	5,985.9	13.7	11.9	150.99	229.0	-217.2	239.9	217.3	22.55	10.638	
6,100.0	6,076.2	6,096.2	6,085.6	13.9	12.1	150.96	233.4	-221.8	243.9	221.0	22.94	10.632	
6,200.0	6,175.7	6,196.1	6,185.3	14.2	12.4	150.93	237.8	-226.4	247.9	224.6	23.33	10.627	
6,300.0	6,275.3	6,296.0	6,285.0	14.4	12.6	150.90	242.2	-231.0	251.9	228.2	23.71	10.622	
6,400.0	6,374.8	6,396.0	6,384.7	14.7	12.8	150.88	246.6	-235.5	255.9	231.8	24.10	10.617	
6,500.0	6,474.4	6,495.9	6,484.4	14.9	13.0	150.85	251.0	-240.1	259.9	235.4	24.49	10.612	
6,600.0	6,573.9	6,596.2	6,584.6	15.1	13.2	150.88	255.1	-244.7	263.8	239.0	24.87	10.611	
6,700.0	6,673.5	6,697.2	6,685.1	15.4	13.3	153.37	247.8	-249.2	267.4	242.5	24.93	10.727	
6,800.0	6,773.0	6,791.5	6,776.4	15.6	13.3	158.96	225.1	-252.9	272.5	247.8	24.68	11.043	
6,900.0	6,872.5	6,877.8	6,855.7	15.8	13.3	-117.54	191.4	-255.9	282.3	257.9	24.37	11.584	
7,000.0	6,970.2	6,960.1	6,925.9	15.9	13.3	-89.37	148.5	-258.3	295.9	271.6	24.29	12.182	
7,100.0	7,062.9	7,039.4	6,987.0	16.0	13.3	-77.51	98.2	-260.2	311.6	287.2	24.40	12.771	
7,200.0	7,148.1	7,116.3	7,039.1	16.0	13.3	-70.03	41.7	-261.6	327.9	303.3	24.59	13.335	
7,300.0	7,223.0	7,191.3	7,082.2	16.1	13.5	-64.76	-19.6	-262.5	343.4	318.7	24.65	13.927	
7,400.0	7,285.4	7,265.0	7,116.4	16.3	13.7	-60.97	-84.8	-262.9	357.1	332.4	24.69	14.460	
7,500.0	7,333.3	7,337.7	7,141.7	16.6	14.0	-58.34	-152.9	-262.8	368.3	343.6	24.72	14.902	
7,600.0	7,365.5	7,409.6	7,158.0	17.1	14.5	-56.67	-222.9	-262.3	376.5	351.7	24.83	15.164	
7,700.0	7,380.7	7,481.2	7,165.5	17.7	15.0	-55.87	-294.0	-261.4	381.4	356.3	25.15	15.165	
7,800.0	7,382.0	7,571.5	7,166.0	18.4	15.8	-55.87	-384.4	-259.9	383.2	356.9	26.36	14.539	
7,900.0	7,382.0	7,671.5	7,166.0	19.3	16.8	-56.02	-484.4	-258.1	384.7	356.5	28.15	13.667	
8,000.0	7,382.0	7,771.5	7,166.0	20.3	17.9	-56.16	-584.3	-256.4	386.1	356.0	30.12	12.819	
8,100.0	7,382.0	7,871.5	7,166.0	21.4	19.1	-56.31	-684.3	-254.7	387.6	355.3	32.25	12.018	
8,200.0	7,382.0	7,971.5	7,166.0	22.5	20.4	-56.45	-784.3	-252.9	389.0	354.5	34.51	11.274	
8,300.0	7,382.0	8,071.5	7,166.0	23.8	21.7	-56.59	-884.2	-251.2	390.5	353.6	36.87	10.591	
8,400.0	7,382.0	8,171.5	7,166.0	25.1	23.1	-56.73	-984.2	-249.4	392.0	352.6	39.33	9.967	
8,500.0	7,382.0	8,271.4	7,166.0	26.4	24.6	-56.87	-1,084.2	-247.7	393.4	351.6	41.85	9.400	
8,600.0	7,382.0	8,371.4	7,166.0	27.8	26.0	-57.01	-1,184.1	-245.9	394.9	350.4	44.45	8.884	
8,700.0	7,382.0	8,471.4	7,166.0	29.3	27.6	-57.15	-1,284.1	-244.2	396.3	349.3	47.10	8.416	
8,800.0	7,382.0	8,571.4	7,166.0	30.7	29.1	-57.28	-1,384.1	-242.4	397.8	348.0	49.79	7.989	
8,900.0	7,382.0	8,671.4	7,166.0	32.2	30.7	-57.42	-1,484.1	-240.7	399.3	346.8	52.53	7.601	
9,000.0	7,382.0	8,771.4	7,166.0	33.8	32.3	-57.55	-1,584.0	-238.9	400.8	345.4	55.31	7.246	
9,100.0	7,382.0	8,871.3	7,166.0	35.3	33.9	-57.68	-1,684.0	-237.2	402.2	344.1	58.12	6.921	
9,200.0	7,382.0	8,971.3	7,166.0	36.9	35.5	-57.82	-1,784.0	-235.5	403.7	342.8	60.95	6.623	
9,300.0	7,382.0	9,071.3	7,166.0	38.5	37.1	-57.95	-1,883.9	-233.7	405.2	341.4	63.82	6.349	
9,400.0	7,382.0	9,171.3	7,166.0	40.1	38.8	-58.08	-1,983.9	-232.0	406.7	340.0	66.70	6.097	
9,500.0	7,382.0	9,271.3	7,166.0	41.7	40.4	-58.21	-2,083.9	-230.2	408.1	338.5	69.61	5.863	
9,600.0	7,382.0	9,371.3	7,166.0	43.3	42.1	-58.34	-2,183.8	-228.5	409.6	337.1	72.54	5.647	
9,700.0	7,382.0	9,471.3	7,166.0	44.9	43.7	-58.46	-2,283.8	-226.7	411.1	335.6	75.49	5.446	
9,800.0	7,382.0	9,571.2	7,166.0	46.6	45.4	-58.59	-2,383.8	-225.0	412.6	334.2	78.45	5.259	
9,900.0	7,382.0	9,671.2	7,166.0	48.2	47.1	-58.72	-2,483.8	-223.2	414.1	332.7	81.43	5.085	
10,000.0	7,382.0	9,771.2	7,166.0	49.9	48.8	-58.84	-2,583.7	-221.5	415.6	331.2	84.43	4.922	
10,100.0	7,382.0	9,871.2	7,166.0	51.5	50.5	-58.97	-2,683.7	-219.8	417.1	329.6	87.44	4.770	
10,200.0	7,382.0	9,971.2	7,166.0	53.2	52.1	-59.09	-2,783.7	-218.0	418.6	328.1	90.46	4.627	
10,300.0	7,382.0	10,071.2	7,166.0	54.9	53.8	-59.21	-2,883.6	-216.3	420.1	326.6	93.49	4.493	

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 Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2G-5H-F267 - 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
10,400.0	7,382.0	10,171.2	7,166.0	56.5	55.5	-59.33	-2,983.6	-214.5	421.6	325.0	96.54	4.367	
10,500.0	7,382.0	10,271.1	7,166.0	58.2	57.2	-59.45	-3,083.6	-212.8	423.1	323.5	99.60	4.248	
10,600.0	7,382.0	10,371.1	7,166.0	59.9	59.0	-59.57	-3,183.5	-211.0	424.6	321.9	102.67	4.136	
10,700.0	7,382.0	10,471.1	7,166.0	61.6	60.7	-59.69	-3,283.5	-209.3	426.1	320.3	105.75	4.029	
10,800.0	7,382.0	10,571.5	7,166.0	63.3	62.4	-59.81	-3,383.9	-207.5	427.6	318.8	108.84	3.929	
10,900.0	7,382.0	10,678.4	7,166.0	65.0	64.2	-59.86	-3,490.8	-206.8	428.2	316.2	111.97	3.824	
11,000.0	7,382.0	10,785.3	7,166.0	66.7	66.1	-59.78	-3,597.7	-208.0	427.2	312.2	114.97	3.716	
11,100.0	7,382.0	10,892.1	7,166.0	68.4	67.9	-59.56	-3,704.4	-211.3	424.6	306.8	117.80	3.604	
11,200.0	7,382.0	10,992.6	7,166.0	70.1	69.6	-59.27	-3,804.9	-215.4	421.0	300.6	120.46	3.495	
11,300.0	7,382.0	11,092.5	7,166.0	71.8	71.4	-58.98	-3,904.7	-219.5	417.5	294.4	123.08	3.392	
11,400.0	7,382.0	11,192.4	7,166.0	73.5	73.1	-58.69	-4,004.5	-223.6	414.0	288.3	125.68	3.294	
11,500.0	7,382.0	11,292.4	7,166.0	75.2	74.8	-58.39	-4,104.3	-227.8	410.5	282.2	128.25	3.200	
11,600.0	7,382.0	11,392.3	7,166.0	76.9	76.5	-58.09	-4,204.2	-231.9	407.0	276.1	130.80	3.111	
11,700.0	7,382.0	11,492.2	7,166.0	78.6	78.3	-57.78	-4,304.0	-236.0	403.5	270.1	133.35	3.026	
11,800.0	7,382.0	11,592.1	7,166.0	80.4	80.0	-57.56	-4,403.9	-240.1	400.9	264.7	136.18	2.944	
11,900.0	7,382.0	11,692.1	7,166.0	82.1	81.7	-57.47	-4,503.8	-244.2	399.8	260.7	139.14	2.873	
12,000.0	7,382.0	11,792.1	7,166.0	83.8	83.5	-57.45	-4,603.7	-248.4	399.6	257.5	142.06	2.813	
12,100.0	7,382.0	11,892.1	7,166.0	85.5	85.2	-57.43	-4,703.6	-252.5	399.4	254.4	144.96	2.755	
12,200.0	7,382.0	11,992.1	7,166.0	87.3	86.9	-57.41	-4,803.5	-256.6	399.2	251.3	147.86	2.700	
12,300.0	7,382.0	12,092.1	7,166.0	89.0	88.7	-57.40	-4,903.4	-260.7	399.0	248.2	150.77	2.647	
12,400.0	7,382.0	12,192.1	7,166.0	90.7	90.4	-57.38	-5,003.4	-264.9	398.8	245.1	153.67	2.595	
12,500.0	7,382.0	12,292.1	7,166.0	92.5	92.2	-57.36	-5,103.3	-269.0	398.6	242.0	156.57	2.546	
12,600.0	7,382.0	12,392.1	7,166.0	94.2	93.9	-57.34	-5,203.2	-273.1	398.4	238.9	159.48	2.498	
12,700.0	7,382.0	12,492.1	7,166.0	95.9	95.6	-57.32	-5,303.1	-277.2	398.2	235.9	162.38	2.452	
12,800.0	7,382.0	12,592.1	7,166.0	97.7	97.4	-57.31	-5,403.0	-281.4	398.0	232.8	165.29	2.408	
12,900.0	7,382.0	12,692.1	7,166.0	99.4	99.1	-57.29	-5,502.9	-285.5	397.8	229.7	168.19	2.365	
13,000.0	7,382.0	12,792.1	7,166.0	101.1	100.9	-57.27	-5,602.8	-289.6	397.7	226.6	171.09	2.324	
13,100.0	7,382.0	12,892.1	7,166.0	102.9	102.6	-57.25	-5,702.8	-293.7	397.5	223.5	173.99	2.284	
13,200.0	7,382.0	12,992.1	7,166.0	104.6	104.3	-57.23	-5,802.7	-297.8	397.3	220.4	176.90	2.246	
13,300.0	7,382.0	13,092.1	7,166.0	106.3	106.1	-57.22	-5,902.6	-302.0	397.1	217.3	179.80	2.208	
13,400.0	7,382.0	13,192.1	7,166.0	108.1	107.8	-57.20	-6,002.5	-306.1	396.9	214.2	182.70	2.172	
13,500.0	7,382.0	13,292.1	7,166.0	109.8	109.6	-57.18	-6,102.4	-310.2	396.7	211.1	185.60	2.137	
13,600.0	7,382.0	13,392.1	7,166.0	111.6	111.3	-57.16	-6,202.3	-314.3	396.5	208.0	188.50	2.103	
13,700.0	7,382.0	13,492.1	7,166.0	113.3	113.1	-57.14	-6,302.2	-318.5	396.3	204.9	191.40	2.071	
13,800.0	7,382.0	13,592.1	7,166.0	115.0	114.8	-57.13	-6,402.2	-322.6	396.1	201.8	194.30	2.039	
13,900.0	7,382.0	13,692.1	7,166.0	116.8	116.6	-57.11	-6,502.1	-326.7	395.9	198.7	197.20	2.008	
14,000.0	7,382.0	13,792.1	7,166.0	118.5	118.3	-57.09	-6,602.0	-330.8	395.7	195.6	200.10	1.978	
14,100.0	7,382.0	13,892.1	7,166.0	120.3	120.0	-57.07	-6,701.9	-335.0	395.5	192.5	202.99	1.948	
14,200.0	7,382.0	13,992.1	7,166.0	122.0	121.8	-57.05	-6,801.8	-339.1	395.3	189.4	205.89	1.920	
14,300.0	7,382.0	14,092.1	7,166.0	123.8	123.5	-57.04	-6,901.7	-343.2	395.1	186.4	208.79	1.893	
14,400.0	7,382.0	14,192.1	7,166.0	125.5	125.3	-57.02	-7,001.6	-347.3	394.9	183.3	211.68	1.866	
14,500.0	7,382.0	14,292.1	7,166.0	127.2	127.0	-57.00	-7,101.6	-351.5	394.8	180.2	214.57	1.840	
14,600.0	7,382.0	14,392.1	7,166.0	129.0	128.8	-56.98	-7,201.5	-355.6	394.6	177.1	217.47	1.814	
14,700.0	7,382.0	14,492.1	7,166.0	130.7	130.5	-56.96	-7,301.4	-359.7	394.4	174.0	220.36	1.790	
14,800.0	7,382.0	14,592.1	7,166.0	132.5	132.3	-56.95	-7,401.3	-363.8	394.2	170.9	223.25	1.766	
14,900.0	7,382.0	14,692.1	7,166.0	134.2	134.0	-56.93	-7,501.2	-368.0	394.0	167.8	226.14	1.742	
15,000.0	7,382.0	14,792.1	7,166.0	136.0	135.8	-56.91	-7,601.1	-372.1	393.8	164.8	229.03	1.719	
15,100.0	7,382.0	14,892.1	7,166.0	137.7	137.5	-56.89	-7,701.0	-376.2	393.6	161.7	231.92	1.697	
15,128.8	7,382.0	14,920.9	7,166.0	138.2	138.0	-56.88	-7,729.8	-377.4	393.5	160.8	232.75	1.691	
15,142.6	7,382.0	14,921.1	7,166.0	138.4	138.0	-56.88	-7,730.0	-377.4	393.8	160.8	232.96	1.690	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2H-5H-F267 - 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	90.05	0.0	41.9	41.9				
100.0	100.0	99.0	99.0	0.1	0.1	90.05	0.0	41.9	41.9	41.7	0.24	172.420	
200.0	200.0	199.0	199.0	0.3	0.3	90.05	0.0	41.9	41.9	41.3	0.59	70.850	
300.0	300.0	299.0	299.0	0.5	0.5	90.05	0.0	41.9	41.9	41.0	0.94	44.561	
400.0	400.0	399.0	399.0	0.6	0.6	90.05	0.0	41.9	41.9	40.6	1.29	32.501	CC, ES
500.0	500.0	499.0	499.0	0.8	0.8	155.62	0.0	41.9	42.7	41.1	1.64	26.063	
600.0	600.0	599.0	599.0	1.0	1.0	156.99	0.0	41.9	45.1	43.1	1.99	22.692	
700.0	699.9	699.2	699.2	1.2	1.2	158.03	0.8	41.7	48.8	46.5	2.34	20.889	
800.0	799.7	799.4	799.3	1.4	1.3	157.86	3.3	40.8	53.6	50.9	2.69	19.905	
900.0	899.4	899.4	899.2	1.6	1.5	156.96	7.2	39.6	59.4	56.3	3.05	19.473	
1,000.0	998.9	999.1	998.9	1.8	1.7	156.57	11.3	38.2	66.5	63.0	3.41	19.478	
1,100.0	1,098.5	1,098.9	1,098.5	2.0	1.9	156.31	15.4	36.9	73.7	69.9	3.78	19.502	
1,200.0	1,198.0	1,198.6	1,198.2	2.3	2.1	156.09	19.5	35.6	80.9	76.8	4.15	19.513	
1,300.0	1,297.6	1,298.3	1,297.8	2.5	2.3	155.91	23.7	34.2	88.1	83.6	4.51	19.516	
1,400.0	1,397.1	1,398.1	1,397.5	2.7	2.4	155.76	27.8	32.9	95.3	90.5	4.89	19.514	
1,500.0	1,496.7	1,497.8	1,497.1	2.9	2.6	155.63	31.9	31.5	102.6	97.3	5.26	19.509	
1,600.0	1,596.3	1,597.6	1,596.8	3.2	2.8	155.51	36.0	30.2	109.8	104.1	5.63	19.502	
1,700.0	1,695.8	1,697.3	1,696.4	3.4	3.0	155.41	40.1	28.9	117.0	111.0	6.00	19.494	
1,800.0	1,795.4	1,797.0	1,796.1	3.7	3.2	155.32	44.3	27.5	124.2	117.8	6.37	19.486	
1,900.0	1,894.9	1,896.8	1,895.7	3.9	3.4	155.24	48.4	26.2	131.4	124.7	6.75	19.477	
2,000.0	1,994.5	1,996.5	1,995.3	4.1	3.6	155.17	52.5	24.8	138.7	131.5	7.12	19.468	
2,100.0	2,094.0	2,096.2	2,095.0	4.4	3.8	155.11	56.6	23.5	145.9	138.4	7.50	19.459	
2,200.0	2,193.6	2,196.0	2,194.6	4.6	4.0	155.05	60.7	22.2	153.1	145.2	7.87	19.450	
2,300.0	2,293.1	2,295.7	2,294.3	4.8	4.1	155.00	64.8	20.8	160.3	152.1	8.25	19.442	
2,400.0	2,392.7	2,395.5	2,393.9	5.1	4.3	154.95	69.0	19.5	167.6	158.9	8.62	19.434	
2,500.0	2,492.2	2,495.2	2,493.6	5.3	4.5	154.91	73.1	18.1	174.8	165.8	9.00	19.426	
2,600.0	2,591.8	2,594.9	2,593.2	5.5	4.7	154.87	77.2	16.8	182.0	172.6	9.37	19.418	
2,700.0	2,691.3	2,694.7	2,692.9	5.8	4.9	154.83	81.3	15.5	189.2	179.5	9.75	19.411	
2,800.0	2,790.9	2,794.4	2,792.5	6.0	5.1	154.80	85.4	14.1	196.4	186.3	10.12	19.404	
2,900.0	2,890.4	2,894.2	2,892.1	6.3	5.3	154.76	89.5	12.8	203.7	193.2	10.50	19.397	
3,000.0	2,990.0	2,993.9	2,991.8	6.5	5.5	154.73	93.7	11.5	210.9	200.0	10.88	19.391	
3,100.0	3,089.6	3,093.6	3,091.4	6.7	5.7	154.71	97.8	10.1	218.1	206.9	11.25	19.385	
3,200.0	3,189.1	3,193.4	3,191.1	7.0	5.8	154.68	101.9	8.8	225.3	213.7	11.63	19.379	
3,300.0	3,288.7	3,293.1	3,290.7	7.2	6.0	154.66	106.0	7.4	232.6	220.6	12.00	19.373	
3,400.0	3,388.2	3,392.8	3,390.4	7.5	6.2	154.63	110.1	6.1	239.8	227.4	12.38	19.368	
3,500.0	3,487.8	3,492.6	3,490.0	7.7	6.4	154.61	114.3	4.8	247.0	234.3	12.76	19.363	
3,600.0	3,587.3	3,592.3	3,589.7	7.9	6.6	154.59	118.4	3.4	254.2	241.1	13.13	19.358	
3,700.0	3,686.9	3,692.1	3,689.3	8.2	6.8	154.57	122.5	2.1	261.5	247.9	13.51	19.353	
3,800.0	3,786.4	3,791.8	3,789.0	8.4	7.0	154.55	126.6	0.7	268.7	254.8	13.89	19.349	
3,900.0	3,886.0	3,891.5	3,888.6	8.7	7.2	154.54	130.7	-0.6	275.9	261.6	14.26	19.344	
4,000.0	3,985.5	3,991.3	3,988.2	8.9	7.4	154.52	134.8	-1.9	283.1	268.5	14.64	19.340	
4,100.0	4,085.1	4,091.0	4,087.9	9.1	7.5	154.50	139.0	-3.3	290.3	275.3	15.02	19.336	
4,200.0	4,184.6	4,190.8	4,187.5	9.4	7.7	154.49	143.1	-4.6	297.6	282.2	15.39	19.332	
4,300.0	4,284.2	4,290.5	4,287.2	9.6	7.9	154.47	147.2	-6.0	304.8	289.0	15.77	19.328	
4,400.0	4,383.8	4,390.2	4,386.8	9.9	8.1	154.46	151.3	-7.3	312.0	295.9	16.15	19.325	
4,500.0	4,483.3	4,490.0	4,486.5	10.1	8.3	154.45	155.4	-8.6	319.2	302.7	16.52	19.321	
4,600.0	4,582.9	4,589.7	4,586.1	10.3	8.5	154.44	159.6	-10.0	326.5	309.6	16.90	19.318	
4,700.0	4,682.4	4,689.5	4,685.8	10.6	8.7	154.42	163.7	-11.3	333.7	316.4	17.28	19.315	
4,800.0	4,782.0	4,789.2	4,785.4	10.8	8.9	154.41	167.8	-12.6	340.9	323.3	17.65	19.312	
4,900.0	4,881.5	4,888.9	4,885.0	11.1	9.1	154.40	171.9	-14.0	348.1	330.1	18.03	19.309	
5,000.0	4,981.1	4,988.7	4,984.7	11.3	9.3	154.39	176.0	-15.3	355.4	337.0	18.41	19.306	
5,100.0	5,080.6	5,088.4	5,084.3	11.5	9.4	154.38	180.1	-16.7	362.6	343.8	18.78	19.303	

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 Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 S5-T2N-R67W (Vogl-McCoy) - Vogl-McCoy 2H-5H-F267 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

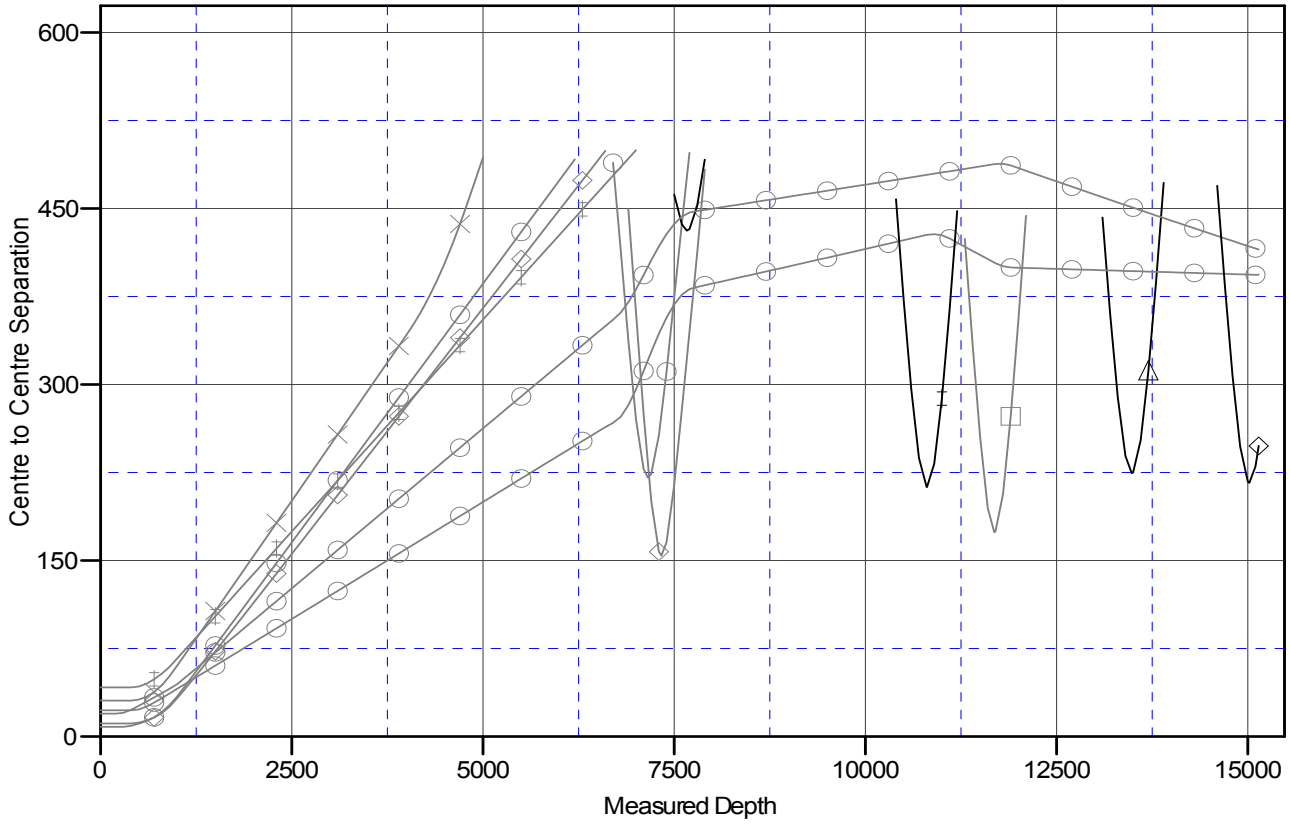
Offset Well Error: 0.0 ft

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	5,180.2	5,188.1	5,184.0	11.8	9.6	154.37	184.3	-18.0	369.8	350.6	19.16	19.300	
5,300.0	5,279.7	5,287.9	5,283.6	12.0	9.8	154.36	188.4	-19.3	377.0	357.5	19.54	19.298	
5,400.0	5,379.3	5,387.6	5,383.3	12.3	10.0	154.35	192.5	-20.7	384.3	364.3	19.91	19.295	
5,500.0	5,478.8	5,487.4	5,482.9	12.5	10.2	154.35	196.6	-22.0	391.5	371.2	20.29	19.293	
5,600.0	5,578.4	5,587.1	5,582.6	12.7	10.4	154.34	200.7	-23.4	398.7	378.0	20.67	19.290	
5,700.0	5,677.9	5,686.8	5,682.2	13.0	10.6	154.33	204.8	-24.7	405.9	384.9	21.05	19.288	
5,800.0	5,777.5	5,786.6	5,781.8	13.2	10.8	154.32	209.0	-26.0	413.2	391.7	21.42	19.286	
5,900.0	5,877.1	5,886.3	5,881.5	13.5	11.0	154.31	213.1	-27.4	420.4	398.6	21.80	19.284	
6,000.0	5,976.6	5,986.1	5,981.1	13.7	11.1	154.31	217.2	-28.7	427.6	405.4	22.18	19.281	
6,100.0	6,076.2	6,085.8	6,080.8	13.9	11.3	154.30	221.3	-30.1	434.8	412.3	22.55	19.279	
6,200.0	6,175.7	6,185.5	6,180.4	14.2	11.5	154.29	225.4	-31.4	442.0	419.1	22.93	19.277	
6,300.0	6,275.3	6,285.3	6,280.1	14.4	11.7	154.29	229.6	-32.7	449.3	426.0	23.31	19.275	
6,400.0	6,374.8	6,385.0	6,379.7	14.7	11.9	154.28	233.7	-34.1	456.5	432.8	23.69	19.274	
6,500.0	6,474.4	6,484.7	6,479.4	14.9	12.1	154.27	237.8	-35.4	463.7	439.7	24.06	19.272	
6,600.0	6,573.9	6,584.5	6,579.0	15.1	12.3	154.27	241.9	-36.7	470.9	446.5	24.44	19.270	
6,700.0	6,673.5	6,684.2	6,678.6	15.4	12.5	154.26	246.0	-38.1	478.2	453.4	24.82	19.268	
6,800.0	6,773.0	6,784.0	6,778.3	15.6	12.7	154.26	250.1	-39.4	485.4	460.2	25.19	19.267	SF
6,900.0	6,872.5	6,884.7	6,878.8	15.8	12.8	-128.82	246.7	-40.8	492.6	467.2	25.40	19.397	
7,000.0	6,970.2	6,985.2	6,977.0	15.9	12.8	-106.44	225.8	-42.1	499.7	474.2	25.41	19.661	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Vogl-McCoy 2F-5H-F267
Project:	DJ Wattenberg	**TVD Reference:**	KB @ 4890.0ft (Ensign)
Reference Site:	S5-T2N-R67W (Vogl-McCoy)	**MD Reference:**	KB @ 4890.0ft (Ensign)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Vogl-McCoy 2F-5H-F267	**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 KB @ 4890.0ft (Ensign)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Vogl-McCoy 2F-5H-F267
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.38°



L E G E N D

, Plan #1 V0
XISTING), KMG WELL, NO SURVEYS V0
-Hz, Plan #1 V0
CANA WELL, SURVEYS V0
Vogl-Geist 2F-5H-F267, Hz, Plan #1 V0
MCCOY 2-4-5 (EXISTING), ENCANA WELL, SURVEYS V0
Vogl-McCoy 2E-5H-F267, Hz, Plan #1 V0
Vogl-McCoy 2G-5H-F267, Hz, Plan #1 V0
Vogl-Geist 2E-5H-F267, Hz, Plan #1 V
DIER 24-8 (EXISTING), ENCANA WE
CHENG 3-8A (EXISTING), KMG WEI