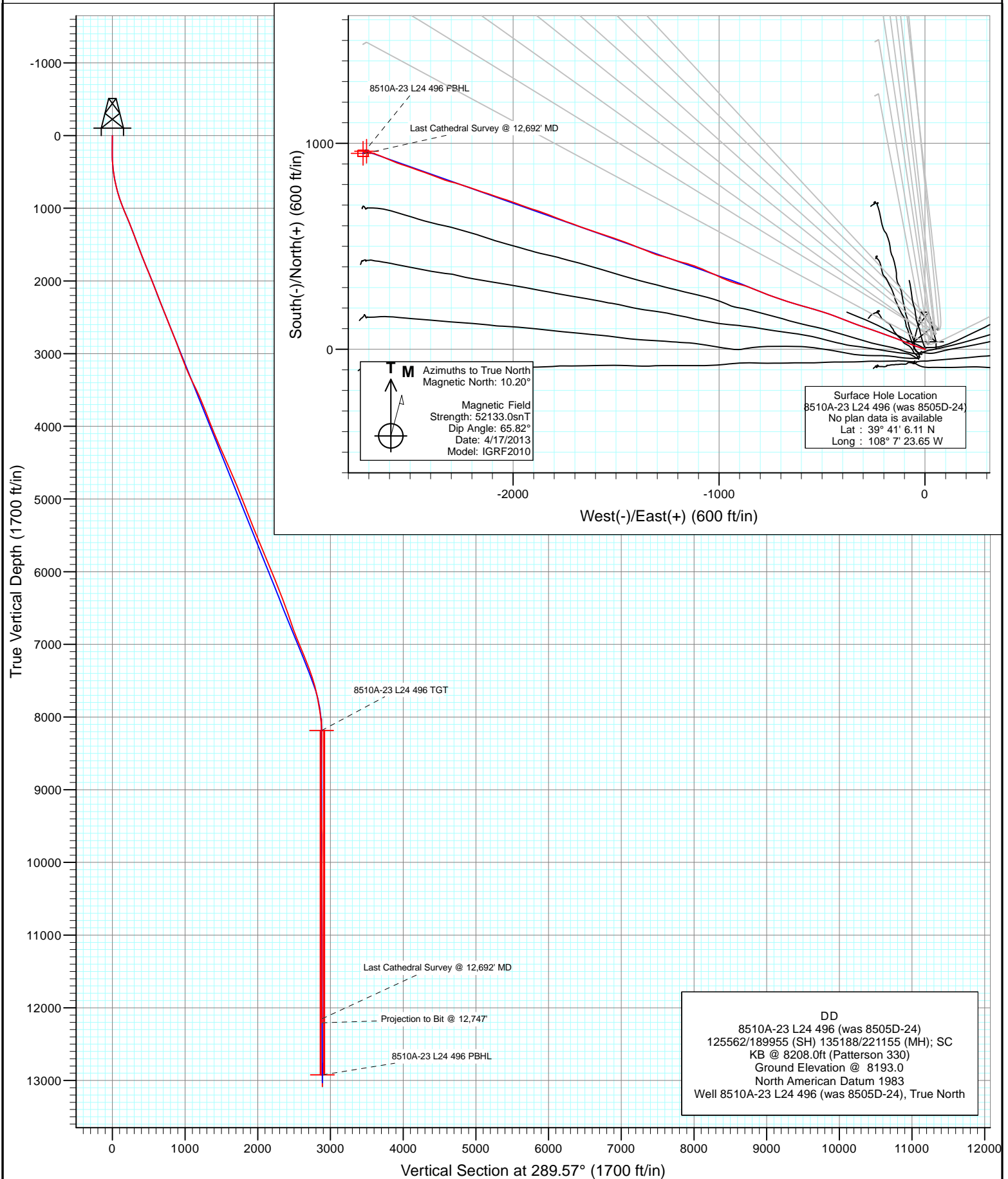


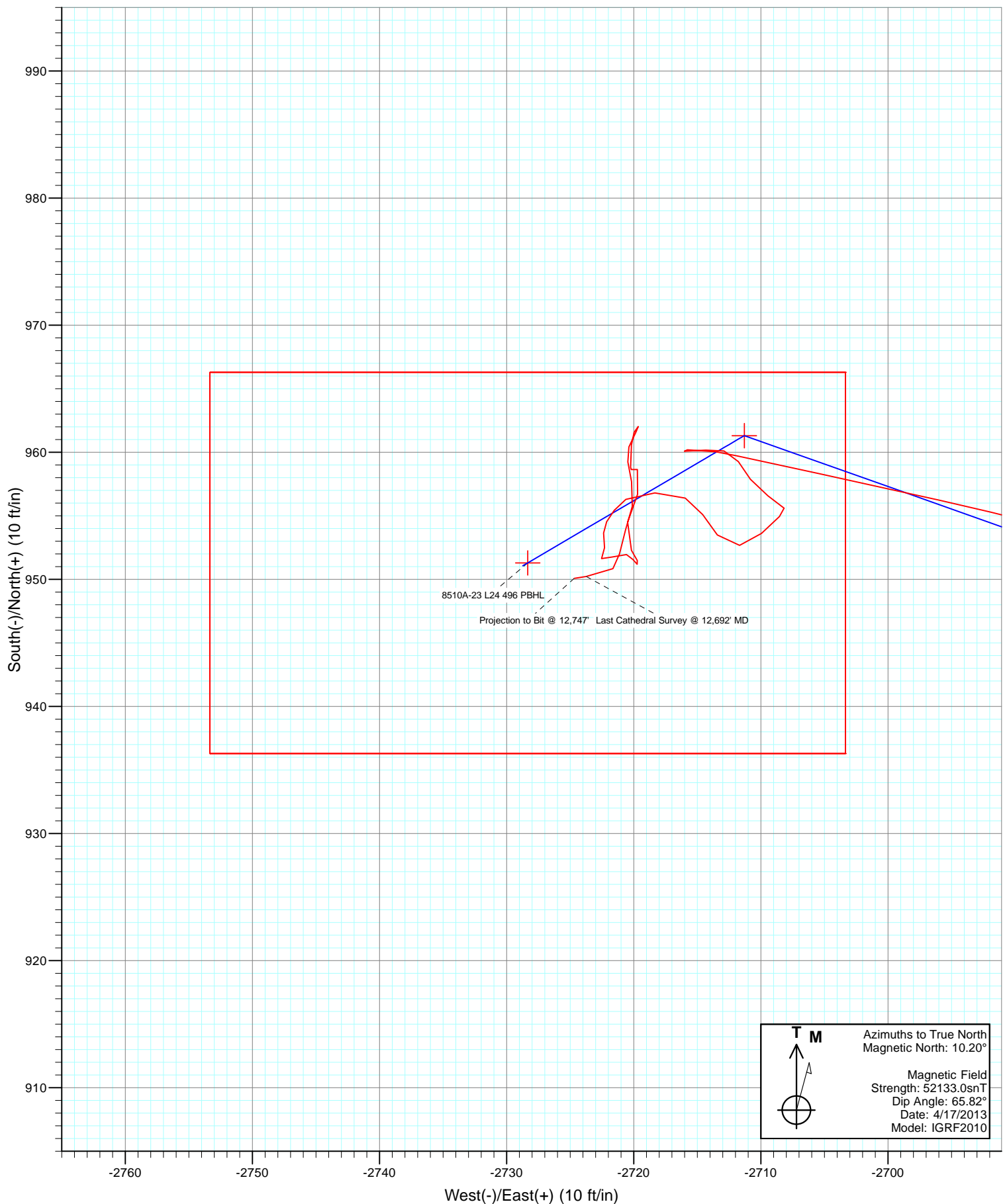


Project: Story Gulch
Site: L24 496
Well: 8510A-23 L24 496 (was 8505D-24)
Wellbore: DD
Design: FINAL





Project: Story Gulch
Site: L24 496
Well: 8510A-23 L24 496 (was 8505D-24)
Wellbore: DD
Design: FINAL



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8510A-23 L24 496 (was 8505D-24)
Project:	Story Gulch	TVD Reference:	KB @ 8208.0ft (Patterson 330)
Site:	L24 496	MD Reference:	KB @ 8208.0ft (Patterson 330)
Well:	8510A-23 L24 496 (was 8505D-24)	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 Multi Users DB

Project	Story Gulch		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	L24 496			
Site Position:		Northing:	1,685,024.52 ft	Latitude: 39° 41' 5.72 N
From:	Lat/Long	Easting:	2,261,789.15 ft	Longitude: 108° 7' 23.99 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence: -1.65 °

Well	8510A-23 L24 496 (was 8505D-24)			
Well Position	+N/-S	0.0 ft	Northing:	1,685,063.18 ft
	+E/-W	0.0 ft	Easting:	2,261,816.86 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level: 8,193.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/17/2013	10.20	65.82	52,133

Design	DD			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	289.57

Survey Program	Date	4/28/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
176.0	12,747.0	Survey #1 (DD)	MWD	Geolink MWD

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
176.0	0.40	130.30	176.0	-0.4	0.5	-0.6	0.23	0.23	
207.0	0.30	100.30	207.0	-0.5	0.6	-0.8	0.66	-0.32	
237.0	0.00	129.50	237.0	-0.5	0.7	-0.8	1.00	-1.00	
268.0	0.50	280.30	268.0	-0.5	0.6	-0.7	1.61	1.61	
299.0	1.20	287.80	299.0	-0.3	0.1	-0.2	2.28	2.26	
330.0	1.90	287.00	330.0	-0.1	-0.7	0.6	2.26	2.26	
360.0	2.90	291.10	360.0	0.3	-1.9	1.9	3.38	3.33	
391.0	4.00	288.40	390.9	0.9	-3.6	3.7	3.59	3.55	
421.0	4.80	288.00	420.8	1.7	-5.8	6.0	2.67	2.67	
466.0	6.50	289.70	465.6	3.1	-10.0	10.4	3.80	3.78	
513.0	8.30	289.50	512.2	5.1	-15.7	16.5	3.83	3.83	
561.0	9.80	290.10	559.6	7.7	-22.8	24.0	3.13	3.12	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8510A-23 L24 496 (was 8505D-24)
Project:	Story Gulch	TVD Reference:	KB @ 8208.0ft (Patterson 330)
Site:	L24 496	MD Reference:	KB @ 8208.0ft (Patterson 330)
Well:	8510A-23 L24 496 (was 8505D-24)	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
607.0	10.80	287.10	604.9	10.3	-30.6	32.3	2.47	2.17	
653.0	12.20	289.30	649.9	13.2	-39.3	41.4	3.19	3.04	
699.0	13.20	290.20	694.8	16.6	-48.8	51.5	2.22	2.17	
745.0	14.50	291.30	739.5	20.5	-59.1	62.6	2.88	2.83	
790.0	15.90	290.70	782.9	24.7	-70.1	74.4	3.13	3.11	
836.0	17.10	291.70	827.0	29.5	-82.3	87.4	2.68	2.61	
882.0	18.10	291.40	870.8	34.6	-95.2	101.3	2.18	2.17	
974.0	21.20	291.10	957.5	45.8	-124.1	132.2	3.37	3.37	
1,065.0	22.90	289.90	1,041.8	57.7	-156.1	166.4	1.93	1.87	
1,157.0	22.80	290.40	1,126.6	70.0	-189.6	202.1	0.24	-0.11	
1,248.0	22.10	290.00	1,210.7	82.0	-222.2	236.9	0.79	-0.77	
1,340.0	21.00	289.10	1,296.3	93.3	-254.1	270.7	1.25	-1.20	
1,432.0	20.20	287.90	1,382.4	103.6	-284.8	303.0	0.98	-0.87	
1,523.0	20.50	289.30	1,467.7	113.7	-314.7	334.7	0.63	0.33	
1,707.0	21.40	292.00	1,639.5	136.9	-376.3	400.4	0.72	0.49	
1,798.0	21.80	291.30	1,724.2	149.3	-407.4	433.9	0.52	0.44	
1,890.0	22.60	290.60	1,809.3	161.7	-439.9	468.6	0.92	0.87	
1,981.0	22.10	288.60	1,893.5	173.3	-472.5	503.2	1.00	-0.55	
2,073.0	21.70	287.10	1,978.9	183.9	-505.1	537.5	0.75	-0.43	
2,165.0	21.10	285.50	2,064.5	193.3	-537.3	571.0	0.91	-0.65	
2,256.0	21.20	286.20	2,149.4	202.3	-568.9	603.8	0.30	0.11	
2,348.0	21.40	286.20	2,235.1	211.6	-601.0	637.2	0.22	0.22	
2,439.0	21.30	286.20	2,319.9	220.8	-632.8	670.2	0.11	-0.11	
2,531.0	22.70	288.50	2,405.2	231.1	-665.7	704.7	1.79	1.52	
2,622.0	21.80	288.80	2,489.4	242.1	-698.4	739.1	1.00	-0.99	
2,714.0	21.10	288.70	2,575.0	252.9	-730.2	772.8	0.76	-0.76	
2,806.0	21.60	291.00	2,660.7	264.3	-761.7	806.3	1.06	0.54	
2,897.0	22.10	291.70	2,745.2	276.7	-793.3	840.1	0.62	0.55	
2,980.0	22.10	293.00	2,822.1	288.5	-822.1	871.3	0.59	0.00	
3,088.0	19.60	289.60	2,923.0	302.5	-857.9	909.7	2.57	-2.31	
3,179.0	20.90	285.80	3,008.4	312.1	-887.9	941.2	2.03	1.43	
3,271.0	20.40	285.30	3,094.5	320.8	-919.2	973.5	0.58	-0.54	
3,363.0	21.90	291.20	3,180.3	331.2	-950.6	1,006.7	2.83	1.63	
3,455.0	24.50	294.70	3,264.8	345.4	-984.0	1,042.8	3.20	2.83	
3,547.0	26.20	294.90	3,348.0	361.9	-1,019.7	1,082.0	1.85	1.85	
3,639.0	25.90	293.50	3,430.6	378.5	-1,056.6	1,122.3	0.74	-0.33	
3,731.0	25.50	293.20	3,513.5	394.3	-1,093.2	1,162.1	0.46	-0.43	
3,822.0	23.90	287.90	3,596.2	407.7	-1,128.8	1,200.1	3.00	-1.76	
3,914.0	21.60	285.20	3,681.0	417.9	-1,162.8	1,235.6	2.74	-2.50	
4,006.0	22.30	285.40	3,766.4	426.9	-1,196.0	1,269.9	0.77	0.76	
4,098.0	21.50	289.50	3,851.7	437.2	-1,228.7	1,304.2	1.88	-0.87	
4,190.0	20.80	285.20	3,937.5	447.1	-1,260.4	1,337.3	1.85	-0.76	
4,282.0	21.50	285.50	4,023.3	455.9	-1,292.4	1,370.4	0.77	0.76	
4,373.0	22.70	293.10	4,107.7	467.2	-1,324.6	1,404.6	3.40	1.32	
4,465.0	23.90	291.50	4,192.2	481.0	-1,358.3	1,441.0	1.47	1.30	
4,557.0	23.90	292.20	4,276.3	494.9	-1,392.9	1,478.2	0.31	0.00	
4,648.0	22.60	290.80	4,359.9	508.1	-1,426.3	1,514.1	1.55	-1.43	
4,740.0	23.80	290.60	4,444.4	520.9	-1,460.2	1,550.3	1.31	1.30	
4,832.0	24.60	290.70	4,528.4	534.2	-1,495.5	1,588.0	0.87	0.87	
4,924.0	22.60	287.90	4,612.7	546.4	-1,530.2	1,624.9	2.49	-2.17	
5,016.0	23.60	288.80	4,697.3	557.8	-1,564.5	1,660.9	1.15	1.09	
5,108.0	21.80	287.80	4,782.2	568.9	-1,598.2	1,696.4	2.00	-1.96	
5,200.0	22.20	289.30	4,867.5	579.9	-1,630.9	1,730.9	0.75	0.43	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8510A-23 L24 496 (was 8505D-24)
Project:	Story Gulch	TVD Reference:	KB @ 8208.0ft (Patterson 330)
Site:	L24 496	MD Reference:	KB @ 8208.0ft (Patterson 330)
Well:	8510A-23 L24 496 (was 8505D-24)	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
5,291.0	21.40	288.40	4,951.9	590.8	-1,662.8	1,764.7	0.95	-0.88	
5,383.0	22.60	292.00	5,037.3	602.7	-1,695.2	1,799.1	1.96	1.30	
5,475.0	21.00	288.90	5,122.7	614.7	-1,727.2	1,833.3	2.14	-1.74	
5,567.0	22.50	291.90	5,208.1	626.6	-1,759.1	1,867.4	2.03	1.63	
5,659.0	21.10	290.60	5,293.5	639.0	-1,790.9	1,901.5	1.61	-1.52	
5,751.0	21.70	291.40	5,379.2	651.0	-1,822.3	1,935.1	0.73	0.65	
5,843.0	22.60	290.00	5,464.4	663.3	-1,854.7	1,969.7	1.13	0.98	
5,934.0	21.40	288.10	5,548.8	674.4	-1,886.9	2,003.8	1.53	-1.32	
6,026.0	22.50	287.40	5,634.1	684.9	-1,919.7	2,038.2	1.23	1.20	
6,118.0	23.50	291.00	5,718.8	696.7	-1,953.6	2,074.1	1.88	1.09	
6,210.0	21.80	290.00	5,803.7	709.2	-1,986.8	2,109.5	1.89	-1.85	
6,302.0	22.00	289.20	5,889.1	720.7	-2,019.1	2,143.9	0.39	0.22	
6,394.0	22.30	288.50	5,974.3	731.9	-2,051.9	2,178.5	0.43	0.33	
6,486.0	22.10	288.10	6,059.5	742.8	-2,084.9	2,213.3	0.27	-0.22	
6,577.0	22.60	288.70	6,143.6	753.7	-2,117.8	2,247.9	0.60	0.55	
6,669.0	22.40	288.00	6,228.6	764.8	-2,151.2	2,283.1	0.36	-0.22	
6,761.0	22.20	289.50	6,313.7	776.0	-2,184.2	2,318.0	0.66	-0.22	
6,853.0	20.50	287.90	6,399.4	786.8	-2,216.0	2,351.5	1.95	-1.85	
6,945.0	19.10	289.30	6,486.0	796.7	-2,245.5	2,382.6	1.61	-1.52	
7,037.0	18.90	285.00	6,573.0	805.5	-2,274.1	2,412.5	1.54	-0.22	
7,129.0	19.80	285.00	6,659.8	813.4	-2,303.5	2,442.9	0.98	0.98	
7,221.0	18.90	289.60	6,746.6	822.4	-2,332.6	2,473.4	1.92	-0.98	
7,312.0	19.90	290.80	6,832.4	832.9	-2,361.0	2,503.6	1.18	1.10	
7,404.0	22.00	290.20	6,918.3	844.4	-2,391.8	2,536.5	2.29	2.28	
7,496.0	23.80	290.40	7,003.1	856.8	-2,425.4	2,572.3	1.96	1.96	
7,588.0	23.20	289.50	7,087.4	869.3	-2,459.9	2,608.9	0.76	-0.65	
7,680.0	22.20	289.00	7,172.3	881.1	-2,493.4	2,644.5	1.11	-1.09	
7,772.0	21.30	288.40	7,257.8	892.0	-2,525.7	2,678.5	1.01	-0.98	
7,864.0	20.00	291.40	7,343.9	903.0	-2,556.2	2,711.0	1.82	-1.41	
7,956.0	18.10	290.70	7,430.8	913.8	-2,584.2	2,741.0	2.08	-2.07	
8,048.0	16.10	293.20	7,518.7	923.9	-2,609.3	2,768.0	2.32	-2.17	
8,140.0	13.80	293.20	7,607.6	933.2	-2,631.1	2,791.7	2.50	-2.50	
8,232.0	12.30	291.80	7,697.2	941.2	-2,650.3	2,812.4	1.67	-1.63	
8,323.0	10.70	291.80	7,786.4	947.9	-2,667.1	2,830.6	1.76	-1.76	
8,415.0	9.80	284.20	7,876.9	953.0	-2,682.6	2,846.9	1.76	-0.98	
8,507.0	7.30	282.70	7,967.9	956.2	-2,695.9	2,860.5	2.73	-2.72	
8,599.0	4.80	282.20	8,059.4	958.3	-2,705.4	2,870.1	2.72	-2.72	
8,691.0	3.50	282.20	8,151.2	959.7	-2,711.9	2,876.7	1.41	-1.41	
8,783.0	1.40	263.50	8,243.1	960.2	-2,715.8	2,880.5	2.41	-2.28	
8,875.0	1.10	88.90	8,335.1	960.1	-2,716.0	2,880.7	2.71	-0.33	
8,967.0	1.00	85.40	8,427.0	960.2	-2,714.3	2,879.1	0.13	-0.11	
9,059.0	0.80	101.20	8,519.0	960.1	-2,712.9	2,877.8	0.34	-0.22	
9,150.0	1.10	144.90	8,610.0	959.3	-2,711.8	2,876.4	0.84	0.33	
9,242.0	1.00	146.10	8,702.0	957.9	-2,710.8	2,875.1	0.11	-0.11	
9,334.0	1.40	124.60	8,794.0	956.6	-2,709.4	2,873.3	0.65	0.43	
9,426.0	0.60	132.70	8,886.0	955.6	-2,708.2	2,871.8	0.88	-0.87	
9,518.0	1.00	245.40	8,978.0	954.9	-2,708.5	2,871.9	1.47	0.43	
9,610.0	1.50	214.10	9,069.9	953.6	-2,709.9	2,872.8	0.90	0.54	
9,702.0	1.30	273.40	9,161.9	952.7	-2,711.7	2,874.1	1.52	-0.22	
9,794.0	1.30	316.60	9,253.9	953.5	-2,713.4	2,876.1	1.04	0.00	
9,885.0	1.20	333.00	9,344.9	955.1	-2,714.6	2,877.7	0.41	-0.11	
9,977.0	1.30	294.90	9,436.9	956.4	-2,715.9	2,879.4	0.89	0.11	
10,069.0	1.80	268.80	9,528.8	956.8	-2,718.3	2,881.8	0.93	0.54	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8510A-23 L24 496 (was 8505D-24)
Project:	Story Gulch	TVD Reference:	KB @ 8208.0ft (Patterson 330)
Site:	L24 496	MD Reference:	KB @ 8208.0ft (Patterson 330)
Well:	8510A-23 L24 496 (was 8505D-24)	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
10,161.0	1.20	240.40	9,620.8	956.3	-2,720.6	2,883.8	1.02	-0.65	
10,253.0	0.50	191.00	9,712.8	955.4	-2,721.5	2,884.3	1.04	-0.76	
10,345.0	0.90	226.00	9,804.8	954.5	-2,722.1	2,884.6	0.62	0.43	
10,437.0	0.60	143.60	9,896.8	953.6	-2,722.4	2,884.5	1.10	-0.33	
10,528.0	1.00	196.00	9,987.8	952.5	-2,722.3	2,884.1	0.87	0.44	
10,621.0	0.10	178.70	10,080.8	951.6	-2,722.5	2,884.0	0.97	-0.97	
10,713.0	1.00	75.50	10,172.8	951.8	-2,721.7	2,883.3	1.12	0.98	
10,805.0	0.50	90.30	10,264.7	952.0	-2,720.6	2,882.3	0.58	-0.54	
10,897.0	0.50	165.80	10,356.7	951.6	-2,720.1	2,881.7	0.67	0.00	
10,989.0	0.30	84.50	10,448.7	951.2	-2,719.7	2,881.2	0.59	-0.22	
11,080.0	1.60	327.30	10,539.7	952.3	-2,720.2	2,882.0	1.93	1.43	
11,172.0	1.50	19.30	10,631.7	954.5	-2,720.5	2,883.0	1.48	-0.11	
11,264.0	1.40	19.70	10,723.7	956.7	-2,719.7	2,883.0	0.11	-0.11	
11,356.0	1.20	336.20	10,815.7	958.6	-2,719.7	2,883.7	1.07	-0.22	
11,448.0	1.10	186.60	10,907.6	958.6	-2,720.2	2,884.2	2.41	-0.11	
11,540.0	1.30	2.70	10,999.6	958.8	-2,720.2	2,884.3	2.61	0.22	
11,632.0	0.90	2.00	11,091.6	960.6	-2,720.2	2,884.8	0.44	-0.43	
11,724.0	0.40	35.10	11,183.6	961.6	-2,720.0	2,884.9	0.66	-0.54	
11,816.0	0.30	33.00	11,275.6	962.0	-2,719.6	2,884.8	0.11	-0.11	
11,907.0	0.80	206.40	11,366.6	961.7	-2,719.8	2,884.8	1.21	0.55	
11,999.0	0.90	203.90	11,458.6	960.4	-2,720.4	2,884.9	0.12	0.11	
12,091.0	0.70	157.30	11,550.6	959.2	-2,720.5	2,884.6	0.72	-0.22	
12,183.0	1.30	176.00	11,642.6	957.7	-2,720.2	2,883.8	0.73	0.65	
12,275.0	1.10	180.80	11,734.6	955.8	-2,720.1	2,883.1	0.24	-0.22	
12,367.0	1.40	207.90	11,826.5	953.9	-2,720.6	2,883.0	0.71	0.33	
12,459.0	1.10	176.50	11,918.5	952.0	-2,721.1	2,882.8	0.80	-0.33	
12,551.0	0.80	244.30	12,010.5	950.8	-2,721.6	2,882.9	1.18	-0.33	
12,692.0	1.00	261.00	12,151.5	950.2	-2,723.7	2,884.7	0.23	0.14	Last Cathedral Survey @ 12,692' MD
12,747.0	1.00	261.00	12,206.5	950.1	-2,724.7	2,885.5	0.00	0.00	Projection to Bit @ 12,747'

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8510A-23 L24 496 (was 8505D-24)
Project:	Story Gulch	TVD Reference:	KB @ 8208.0ft (Patterson 330)
Site:	L24 496	MD Reference:	KB @ 8208.0ft (Patterson 330)
Well:	8510A-23 L24 496 (was 8505D-24)	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 Multi Users DB

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
8510A-23 L24 496 PBHI	0.00	0.00	12,923.0	951.3	-2,728.3	1,686,092.85	2,259,117.13	39° 41' 15.51 N	108° 7' 58.55 W
- actual wellpath misses target center by 716.5ft at 12747.0ft MD (12206.5 TVD, 950.1 N, -2724.7 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									
8510A-23 L24 496 TGT	0.00	0.00	8,185.0	961.3	-2,711.3	1,686,102.37	2,259,134.45	39° 41' 15.61 N	108° 7' 58.33 W
- actual wellpath misses target center by 2.7ft at 8724.8ft MD (8184.9 TVD, 960.1 N, -2713.7 E)									
- Point									

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
12,692.0	12,151.5	950.2	-2,723.7	Last Cathedral Survey @ 12,692' MD
12,747.0	12,206.5	950.1	-2,724.7	Projection to Bit @ 12,747'

Checked By: _____ Approved By: _____ Date: _____