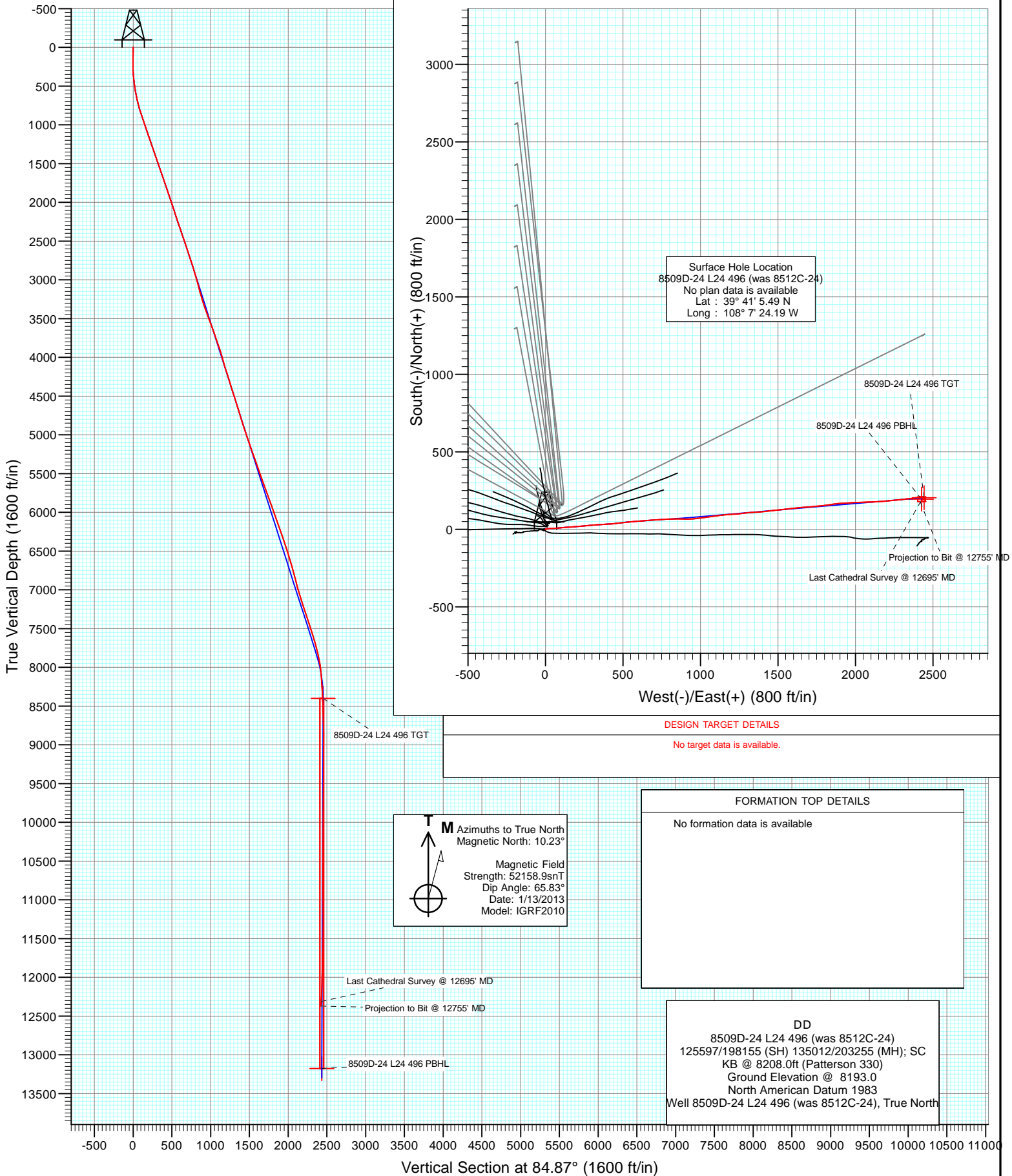


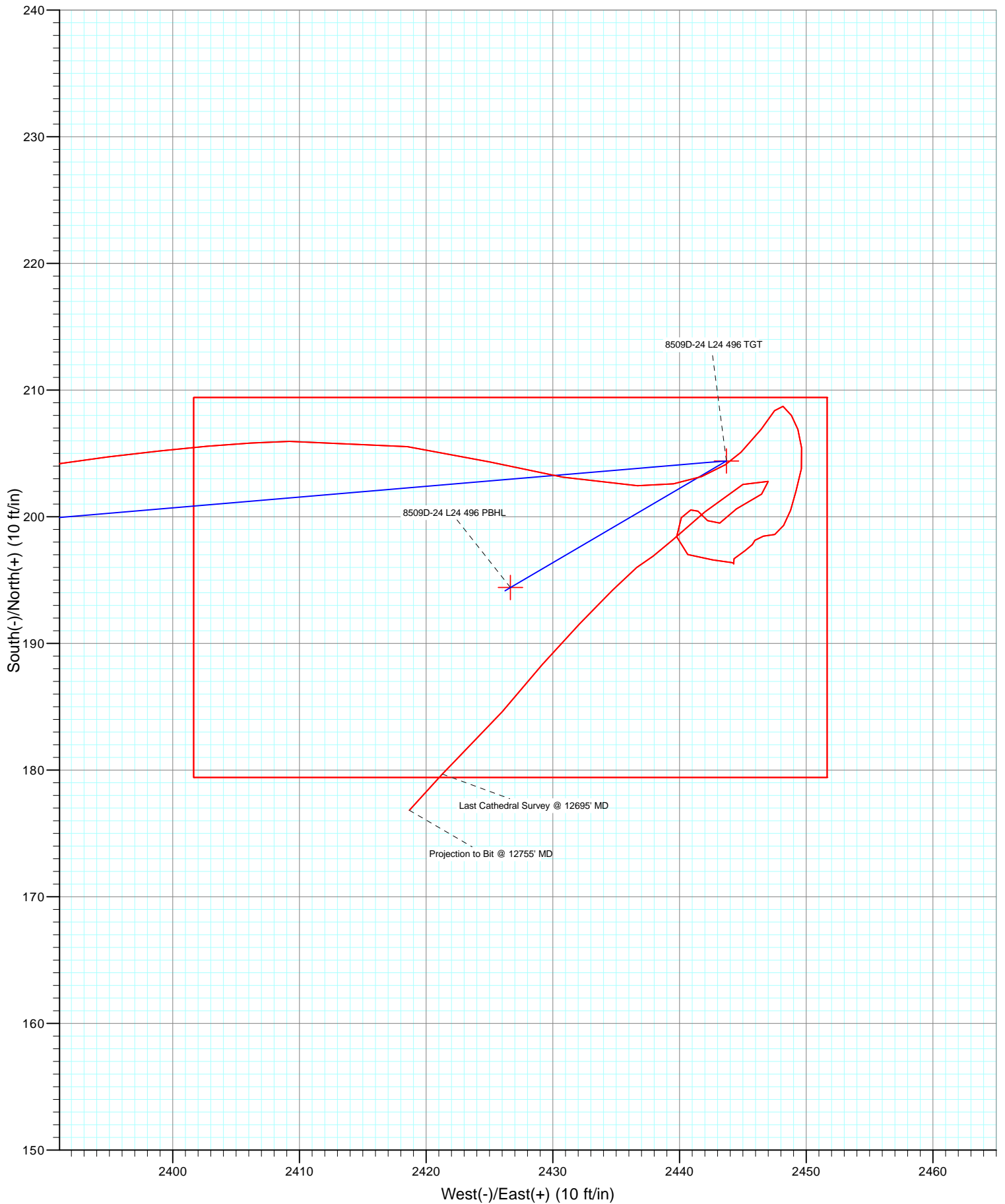


Project: Story Gulch
 Site: L24 496
 Well: 8509D-24 L24 496 (was 8512C-24)
 Vellbore: DD
 Design: DD





Project: Story Gulch
Site: L24 496
Well: 8509D-24 L24 496 (was 8512C-24)
Vellbore: DD
Design: DD



Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well 8509D-24 L24 496 (was 8512C-24)
Project: Story Gulch	TVD Reference: KB @ 8208.0ft (Patterson 330)
Site: L24 496	MD Reference: KB @ 8208.0ft (Patterson 330)
Well: 8509D-24 L24 496 (was 8512C-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 8509D-24 L24 496 (was 8512C-24)					
Well Position	+N/-S 0.0 ft	Northing: 1,685,001.69 ft	Latitude: 39° 41' 5.49 N		
	+E/-W 0.0 ft	Easting: 2,261,772.85 ft	Longitude: 108° 7' 24.19 W		
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	1/13/2013	10.23	65.83	52,159

Design DD					
Audit Notes:					
Version: 1.0	Phase: ACTUAL	Tie On Depth: 0.0			
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	84.87	

Survey Program Date 1/28/2013					
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
180.0	12,755.0	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	
180.0	0.10	245.10	180.0	-0.1	-0.1	-0.1	0.06	0.06	
210.0	0.40	280.30	210.0	-0.1	-0.3	-0.3	1.08	1.00	
241.0	0.30	0.20	241.0	0.0	-0.4	-0.4	1.47	-0.32	
271.0	1.20	73.80	271.0	0.2	-0.1	-0.1	3.84	3.00	
302.0	2.20	66.30	302.0	0.5	0.8	0.8	3.30	3.23	
332.0	3.10	72.00	332.0	1.0	2.1	2.2	3.12	3.00	
362.0	3.80	73.60	361.9	1.6	3.8	3.9	2.36	2.33	
393.0	5.20	77.80	392.8	2.1	6.2	6.3	4.64	4.52	
423.0	5.80	78.00	422.7	2.7	9.0	9.2	2.00	2.00	
454.0	7.00	79.90	453.5	3.4	12.4	12.6	3.93	3.87	
484.0	8.00	81.40	483.2	4.0	16.2	16.5	3.40	3.33	
515.0	8.80	83.20	513.9	4.6	20.7	21.1	2.72	2.58	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well 8509D-24 L24 496 (was 8512C-24)
Project: Story Gulch	TD Reference: KB @ 8208.0ft (Patterson 330)
Site: L24 496	MD Reference: KB @ 8208.0ft (Patterson 330)
Well: 8509D-24 L24 496 (was 8512C-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
564.0	10.10	88.00	562.2	5.2	28.7	29.1	3.10	2.65	
610.0	11.40	90.10	607.4	5.4	37.3	37.6	2.95	2.83	
655.0	12.20	88.60	651.5	5.5	46.5	46.8	1.90	1.78	
701.0	13.20	85.60	696.3	6.0	56.6	56.9	2.60	2.17	
747.0	14.50	83.70	741.0	7.0	67.6	67.9	2.99	2.83	
793.0	15.60	84.10	785.4	8.3	79.4	79.9	2.40	2.39	
839.0	17.40	85.10	829.5	9.5	92.5	92.9	3.96	3.91	
885.0	19.20	85.20	873.2	10.7	106.8	107.4	3.91	3.91	
976.0	19.30	86.50	959.1	12.9	136.8	137.4	0.48	0.11	
1,068.0	18.80	86.10	1,046.1	14.8	166.7	167.4	0.56	-0.54	
1,159.0	18.80	84.60	1,132.2	17.2	196.0	196.7	0.53	0.00	
1,254.0	18.90	84.20	1,222.1	20.2	226.5	227.4	0.17	0.11	
1,341.0	19.20	85.10	1,304.3	22.9	254.8	255.8	0.48	0.34	
1,433.0	18.50	84.90	1,391.4	25.5	284.4	285.5	0.76	-0.76	
1,524.0	18.90	84.60	1,477.6	28.1	313.4	314.7	0.45	0.44	
1,616.0	19.50	87.00	1,564.5	30.3	343.6	344.9	1.08	0.65	
1,708.0	19.00	86.50	1,651.3	32.0	373.9	375.3	0.57	-0.54	
1,799.0	18.80	87.00	1,737.4	33.7	403.3	404.7	0.28	-0.22	
1,891.0	19.30	85.10	1,824.4	35.8	433.3	434.7	0.87	0.54	
1,982.0	18.60	82.70	1,910.5	38.9	462.7	464.3	1.15	-0.77	
2,074.0	18.10	82.10	1,997.8	42.7	491.4	493.2	0.58	-0.54	
2,166.0	18.10	85.30	2,085.2	45.9	519.8	521.8	1.08	0.00	
2,257.0	18.10	84.80	2,171.7	48.3	547.9	550.1	0.17	0.00	
2,349.0	18.50	84.20	2,259.1	51.1	576.7	578.9	0.48	0.43	
2,440.0	19.10	86.50	2,345.2	53.5	605.9	608.3	1.05	0.66	
2,532.0	18.90	86.70	2,432.2	55.2	635.8	638.2	0.23	-0.22	
2,623.0	18.60	85.00	2,518.4	57.4	665.0	667.4	0.69	-0.33	
2,715.0	18.40	84.70	2,605.6	60.0	694.1	696.6	0.24	-0.22	
2,807.0	18.20	85.80	2,693.0	62.4	722.8	725.5	0.43	-0.22	
2,898.0	18.20	87.20	2,779.4	64.1	751.2	753.9	0.48	0.00	
2,985.0	17.80	87.60	2,862.2	65.3	778.1	780.8	0.48	-0.46	
3,071.0	16.20	88.70	2,944.4	66.1	803.2	805.9	1.90	-1.86	
3,166.0	15.00	87.90	3,035.9	66.9	828.7	831.4	1.28	-1.26	
3,261.0	14.70	90.40	3,127.7	67.3	853.1	855.7	0.74	-0.32	
3,356.0	16.80	91.40	3,219.2	66.8	878.8	881.3	2.23	2.21	
3,451.0	18.20	90.80	3,309.8	66.3	907.4	909.7	1.49	1.47	
3,546.0	19.30	87.80	3,399.7	66.7	937.9	940.1	1.54	1.16	
3,641.0	20.60	83.60	3,489.0	69.2	970.2	972.5	2.04	1.37	
3,736.0	21.40	82.10	3,577.7	73.4	1,004.0	1,006.6	1.01	0.84	
3,831.0	19.50	82.50	3,666.7	77.9	1,036.9	1,039.7	2.01	-2.00	
3,926.0	18.10	82.20	3,756.7	81.9	1,067.2	1,070.3	1.48	-1.47	
4,021.0	18.80	82.60	3,846.8	85.9	1,097.0	1,100.3	0.75	0.74	
4,116.0	17.70	82.80	3,937.0	89.7	1,126.6	1,130.1	1.16	-1.16	
4,211.0	15.60	83.80	4,028.0	92.9	1,153.6	1,157.3	2.23	-2.21	
4,306.0	16.90	86.00	4,119.2	95.2	1,180.1	1,183.8	1.51	1.37	
4,401.0	17.50	87.20	4,210.0	96.9	1,208.1	1,211.9	0.73	0.63	
4,496.0	17.00	85.30	4,300.7	98.7	1,236.2	1,240.1	0.79	-0.53	
4,591.0	17.10	82.70	4,391.5	101.6	1,263.9	1,267.9	0.81	0.11	
4,686.0	17.90	82.20	4,482.1	105.4	1,292.2	1,296.5	0.86	0.84	
4,781.0	18.10	86.70	4,572.5	108.2	1,321.4	1,325.8	1.48	0.21	
4,876.0	17.10	86.30	4,663.0	110.0	1,350.1	1,354.5	1.06	-1.05	
4,970.0	16.80	85.50	4,752.9	111.9	1,377.4	1,381.9	0.40	-0.32	
5,066.0	17.70	85.30	4,844.6	114.2	1,405.8	1,410.4	0.94	0.94	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well 8509D-24 L24 496 (was 8512C-24)
Project: Story Gulch	TVD Reference: KB @ 8208.0ft (Patterson 330)
Site: L24 496	MD Reference: KB @ 8208.0ft (Patterson 330)
Well: 8509D-24 L24 496 (was 8512C-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
5,161.0	18.20	82.70	4,935.0	117.3	1,434.9	1,439.6	0.99	0.53	
5,256.0	19.10	83.50	5,025.0	120.9	1,465.1	1,470.0	0.98	0.95	
5,351.0	18.90	84.00	5,114.8	124.3	1,495.8	1,500.9	0.27	-0.21	
5,446.0	19.40	83.60	5,204.6	127.7	1,526.8	1,532.1	0.54	0.53	
5,541.0	19.80	83.40	5,294.1	131.3	1,558.5	1,564.0	0.43	0.42	
5,636.0	19.10	83.90	5,383.7	134.8	1,589.9	1,595.6	0.76	-0.74	
5,731.0	18.90	84.70	5,473.5	137.8	1,620.7	1,626.5	0.35	-0.21	
5,826.0	19.90	84.50	5,563.1	140.8	1,652.1	1,658.1	1.05	1.05	
5,922.0	20.40	85.10	5,653.2	143.8	1,685.0	1,691.1	0.56	0.52	
6,016.0	20.30	85.80	5,741.3	146.4	1,717.6	1,723.8	0.28	-0.11	
6,111.0	19.90	84.30	5,830.6	149.2	1,750.1	1,756.5	0.69	-0.42	
6,207.0	19.20	84.00	5,921.0	152.5	1,782.1	1,788.6	0.74	-0.73	
6,302.0	19.60	82.40	6,010.6	156.2	1,813.4	1,820.1	0.70	0.42	
6,397.0	19.00	81.10	6,100.3	160.7	1,844.5	1,851.5	0.78	-0.63	
6,492.0	19.30	83.50	6,190.0	164.9	1,875.4	1,882.6	0.89	0.32	
6,587.0	20.50	86.20	6,279.4	167.8	1,907.6	1,914.9	1.59	1.26	
6,682.0	19.40	86.50	6,368.7	169.8	1,939.9	1,947.3	1.16	-1.16	
6,777.0	17.30	86.30	6,458.8	171.7	1,969.8	1,977.2	2.21	-2.21	
6,873.0	16.40	88.40	6,550.7	173.0	1,997.5	2,005.0	1.13	-0.94	
6,968.0	15.60	87.90	6,642.0	173.9	2,023.7	2,031.2	0.85	-0.84	
7,063.0	15.60	87.30	6,733.5	174.9	2,049.2	2,056.7	0.17	0.00	
7,158.0	14.90	87.30	6,825.2	176.1	2,074.2	2,081.6	0.74	-0.74	
7,253.0	15.20	88.40	6,916.9	177.0	2,098.9	2,106.3	0.44	0.32	
7,348.0	16.40	88.30	7,008.3	177.8	2,124.7	2,132.1	1.26	1.26	
7,443.0	17.40	86.70	7,099.2	179.0	2,152.3	2,159.7	1.16	1.05	
7,538.0	17.90	86.60	7,189.7	180.7	2,181.1	2,188.5	0.53	0.53	
7,633.0	18.40	84.60	7,280.0	182.9	2,210.6	2,218.1	0.84	0.53	
7,728.0	18.80	82.80	7,370.1	186.3	2,240.7	2,248.3	0.74	0.42	
7,824.0	18.00	83.40	7,461.2	189.9	2,270.7	2,278.6	0.86	-0.83	
7,919.0	16.90	83.90	7,551.8	193.1	2,299.1	2,307.1	1.17	-1.16	
8,014.0	16.70	85.10	7,642.7	195.7	2,326.4	2,334.6	0.42	-0.21	
8,109.0	15.20	83.40	7,734.1	198.3	2,352.4	2,360.7	1.65	-1.58	
8,204.0	13.30	79.70	7,826.1	201.7	2,375.5	2,384.0	2.22	-2.00	
8,299.0	10.50	82.90	7,919.1	204.7	2,394.8	2,403.5	3.03	-2.95	
8,394.0	7.00	88.30	8,013.0	206.0	2,409.2	2,418.0	3.78	-3.68	
8,489.0	4.30	99.70	8,107.5	205.5	2,418.5	2,427.2	3.06	-2.84	
8,584.0	3.70	101.40	8,202.3	204.3	2,425.0	2,433.6	0.64	-0.63	
8,679.0	3.40	102.20	8,297.1	203.1	2,430.8	2,439.2	0.32	-0.32	
8,774.0	3.80	91.30	8,391.9	202.5	2,436.7	2,445.0	0.83	0.42	
8,869.0	2.50	67.50	8,486.8	203.2	2,441.8	2,450.1	1.91	-1.37	
8,976.0	1.50	42.90	8,593.7	205.1	2,444.9	2,453.4	1.21	-0.93	
9,071.0	1.40	39.70	8,688.7	206.9	2,446.4	2,455.1	0.14	-0.11	
9,166.0	0.80	28.80	8,783.6	208.4	2,447.5	2,456.3	0.67	-0.63	
9,262.0	0.50	126.10	8,879.6	208.7	2,448.2	2,457.0	1.04	-0.31	
9,357.0	0.70	144.80	8,974.6	208.0	2,448.8	2,457.6	0.29	0.21	
9,451.0	0.80	164.80	9,068.6	206.9	2,449.3	2,458.0	0.30	0.11	
9,546.0	1.00	171.60	9,163.6	205.4	2,449.6	2,458.2	0.24	0.21	
9,641.0	1.00	190.00	9,258.6	203.8	2,449.6	2,458.0	0.34	0.00	
9,736.0	1.20	196.00	9,353.6	202.0	2,449.2	2,457.5	0.24	0.21	
9,831.0	0.70	196.20	9,448.6	200.5	2,448.8	2,456.9	0.53	-0.53	
9,926.0	0.90	210.60	9,543.6	199.3	2,448.2	2,456.2	0.30	0.21	
10,021.0	0.40	259.40	9,638.6	198.6	2,447.5	2,455.5	0.74	-0.53	
10,116.0	0.70	261.50	9,733.6	198.5	2,446.6	2,454.6	0.32	0.32	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well 8509D-24 L24 496 (was 8512C-24)
Project: Story Gulch	TVD Reference: KB @ 8208.0ft (Patterson 330)
Site: L24 496	MD Reference: KB @ 8208.0ft (Patterson 330)
Well: 8509D-24 L24 496 (was 8512C-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
10,211.0	0.30	200.10	9,828.6	198.1	2,446.0	2,453.9	0.65	-0.42	
10,305.0	0.20	227.80	9,922.5	197.8	2,445.7	2,453.6	0.16	-0.11	
10,400.0	0.70	230.70	10,017.5	197.3	2,445.2	2,453.0	0.53	0.53	
10,495.0	0.60	237.30	10,112.5	196.7	2,444.3	2,452.1	0.13	-0.11	
10,590.0	0.50	109.50	10,207.5	196.3	2,444.3	2,452.0	1.04	-0.11	
10,685.0	0.60	296.90	10,302.5	196.4	2,444.2	2,452.0	1.16	0.11	
10,780.0	1.40	270.20	10,397.5	196.6	2,442.6	2,450.4	0.95	0.84	
10,875.0	1.10	297.30	10,492.5	197.0	2,440.7	2,448.5	0.69	-0.32	
10,970.0	1.20	356.10	10,587.5	198.4	2,439.8	2,447.7	1.19	0.11	
11,065.0	0.80	41.20	10,682.5	199.9	2,440.1	2,448.2	0.90	-0.42	
11,160.0	0.40	68.70	10,777.5	200.5	2,440.9	2,449.0	0.51	-0.42	
11,255.0	0.40	129.40	10,872.5	200.4	2,441.5	2,449.6	0.43	0.00	
11,350.0	0.90	137.30	10,967.5	199.7	2,442.2	2,450.3	0.53	0.53	
11,445.0	0.70	50.70	11,062.5	199.5	2,443.2	2,451.2	1.17	-0.21	
11,540.0	1.40	49.70	11,157.4	200.6	2,444.5	2,452.7	0.74	0.74	
11,635.0	1.40	69.60	11,252.4	201.8	2,446.5	2,454.7	0.51	0.00	
11,729.0	1.00	317.80	11,346.4	202.8	2,447.0	2,455.3	2.13	-0.43	
11,825.0	2.00	239.30	11,442.4	202.6	2,445.0	2,453.3	2.14	1.04	
11,920.0	2.50	229.90	11,537.3	200.4	2,442.0	2,450.1	0.65	0.53	
12,015.0	1.60	227.60	11,632.2	198.1	2,439.4	2,447.4	0.95	-0.95	
12,109.0	0.80	236.40	11,726.2	196.9	2,437.9	2,445.8	0.87	-0.85	
12,204.0	1.10	234.10	11,821.2	196.0	2,436.6	2,444.4	0.32	0.32	
12,299.0	2.10	222.80	11,916.2	194.2	2,434.7	2,442.3	1.10	1.05	
12,393.0	2.40	225.90	12,010.1	191.6	2,432.1	2,439.5	0.34	0.32	
12,489.0	2.80	219.60	12,106.0	188.3	2,429.2	2,436.3	0.51	0.42	
12,583.0	3.20	220.90	12,199.9	184.6	2,426.0	2,432.8	0.43	0.43	
12,678.0	3.70	226.30	12,294.7	180.5	2,422.0	2,428.5	0.63	0.53	
12,695.0	3.70	222.30	12,311.7	179.7	2,421.3	2,427.6	1.52	0.00	Last Cathedral Survey @ 12695' MD
12,755.0	3.70	222.30	12,371.5	176.8	2,418.7	2,424.8	0.00	0.00	Projection to Bit @ 12755' MD

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
8509D-24 L24 496 TGT - hit/miss target - Shape	0.00	0.00	8,401.0	204.4	2,443.7	1,685,135.45	2,264,221.43	39° 41' 7.51 N	108° 6' 52.93 W
- survey misses target center by 6.7ft at 8783.5ft MD (8401.4 TVD, 202.5 N, 2437.3 E)									
- Point									
8509D-24 L24 496 PBHI - survey misses target center by 805.7ft at 12755.0ft MD (12371.5 TVD, 176.8 N, 2418.7 E)	0.00	0.00	13,177.0	194.4	2,426.7	1,685,125.95	2,264,204.11	39° 41' 7.41 N	108° 6' 53.15 W
- Rectangle (sides W30.0 H50.0 D0.0)									

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
12,695.0	12,311.7	179.7	2,421.3	Last Cathedral Survey @ 12695' MD
12,755.0	12,371.5	176.8	2,418.7	Projection to Bit @ 12755' MD

Checked By: _____	Approved By: _____	Date: _____
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