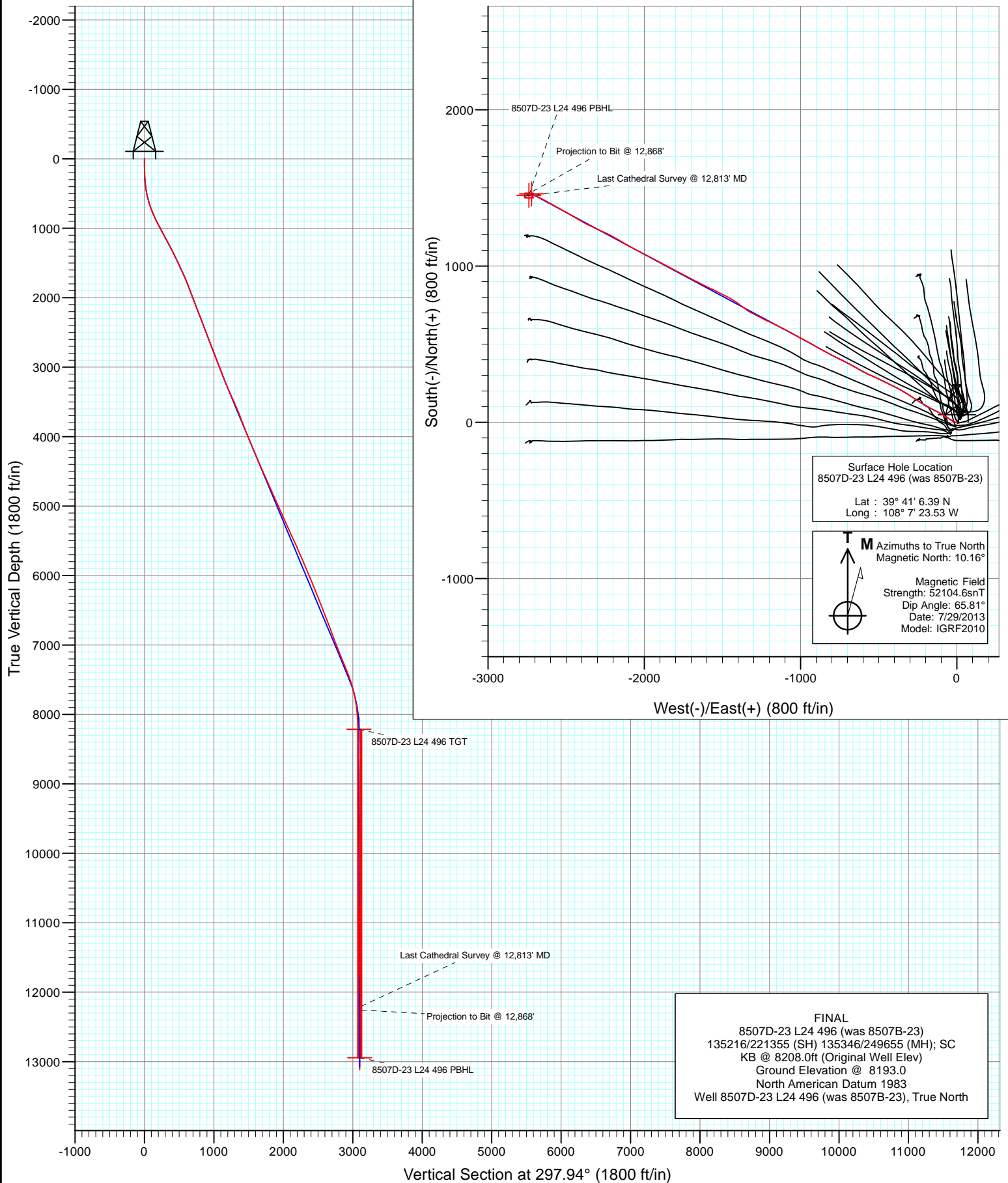


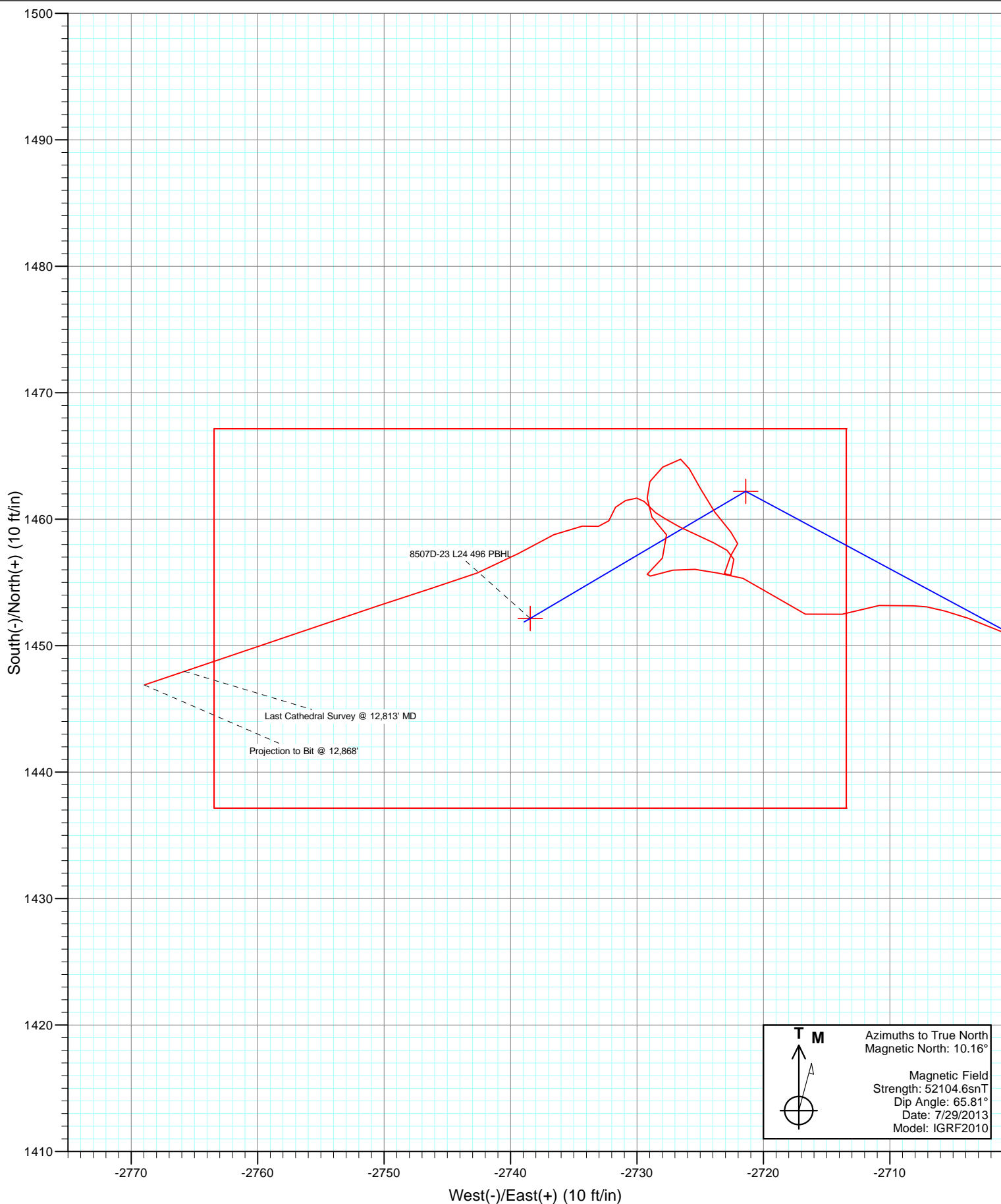


Project: Story Gulch
Site: L24 496
Well: 8507D-23 L24 496 (was 8507B-23)
Wellbore: DD
Design: FINAL





Project: Story Gulch
Site: L24 496
Well: 8507D-23 L24 496 (was 8507B-23)
Wellbore: DD
Design: FINAL



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8507D-23 L24 496 (was 8507B-23)
Project:	Story Gulch	TVD Reference:	KB @ 8208.0ft (Original Well Elev)
Site:	L24 496	MD Reference:	KB @ 8208.0ft (Original Well Elev)
Well:	8507D-23 L24 496 (was 8507B-23)	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	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	8507D-23 L24 496 (was 8507B-23)			
Well Position	+N/-S	0.0 ft	Northing:	1,685,091.23 ft
	+E/-W	0.0 ft	Easting:	2,261,827.06 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	7/29/2013	10.16	65.81	52,105

Design	FINAL			
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	297.94

Survey Program	Date	8/10/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
209.0	3,272.0	Survey #1 (DD)	MWD	Geolink MWD
3,363.0	12,868.0	Survey #2 (DD)	Geolink 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	
209.0	2.00	261.80	209.0	-0.5	-3.6	2.9	0.96	0.96	
239.0	2.60	266.30	238.9	-0.6	-4.8	3.9	2.09	2.00	
270.0	3.30	274.40	269.9	-0.6	-6.4	5.4	2.62	2.26	
301.0	4.00	279.70	300.8	-0.4	-8.4	7.2	2.50	2.26	
331.0	4.90	284.60	330.7	0.1	-10.6	9.4	3.25	3.00	
362.0	5.90	290.70	361.6	1.0	-13.4	12.3	3.72	3.23	
392.0	7.00	294.50	391.4	2.3	-16.5	15.7	3.93	3.67	
422.0	8.20	300.40	421.1	4.2	-20.0	19.6	4.77	4.00	
453.0	9.50	302.40	451.8	6.7	-24.1	24.4	4.31	4.19	
483.0	10.70	300.80	481.3	9.4	-28.6	29.6	4.11	4.00	
517.0	12.20	300.80	514.6	12.9	-34.4	36.4	4.41	4.41	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8507D-23 L24 496 (was 8507B-23)
Project:	Story Gulch	TVD Reference:	KB @ 8208.0ft (Original Well Elev)
Site:	L24 496	MD Reference:	KB @ 8208.0ft (Original Well Elev)
Well:	8507D-23 L24 496 (was 8507B-23)	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	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
563.0	14.30	302.40	559.4	18.4	-43.3	46.9	4.63	4.57	
609.0	16.00	303.30	603.8	24.9	-53.4	58.9	3.73	3.70	
655.0	17.80	303.90	647.8	32.3	-64.6	72.2	3.93	3.91	
701.0	19.50	303.40	691.4	40.5	-76.8	86.8	3.71	3.70	
746.0	21.00	300.90	733.6	48.8	-90.0	102.4	3.85	3.33	
792.0	21.80	297.00	776.5	56.9	-104.7	119.1	3.55	1.74	
884.0	25.40	296.80	860.7	73.5	-137.5	155.9	3.91	3.91	
977.0	27.50	298.10	944.0	92.6	-174.3	197.4	2.34	2.26	
1,069.0	28.30	301.10	1,025.3	113.9	-211.7	240.4	1.76	0.87	
1,161.0	28.60	302.70	1,106.2	137.1	-248.9	284.1	0.89	0.33	
1,253.0	28.50	303.70	1,187.0	161.1	-285.7	327.9	0.53	-0.11	
1,345.0	27.60	301.80	1,268.2	184.6	-322.1	371.0	1.38	-0.98	
1,437.0	27.00	300.00	1,350.0	206.2	-358.3	413.1	1.11	-0.65	
1,529.0	25.50	296.40	1,432.5	225.5	-394.1	453.8	2.38	-1.63	
1,620.0	25.00	295.00	1,514.8	242.3	-429.1	492.6	0.86	-0.55	
1,712.0	25.00	297.10	1,598.2	259.4	-464.0	531.4	0.96	0.00	
1,804.0	24.40	295.80	1,681.8	276.5	-498.4	569.9	0.88	-0.65	
1,896.0	21.90	294.00	1,766.3	291.8	-531.2	606.0	2.82	-2.72	
1,988.0	21.00	293.60	1,852.0	305.3	-562.0	639.5	0.99	-0.98	
2,080.0	20.20	297.70	1,938.1	319.3	-591.1	671.9	1.79	-0.87	
2,172.0	21.00	299.50	2,024.2	334.8	-619.6	704.2	1.11	0.87	
2,264.0	21.50	300.20	2,109.9	351.4	-648.5	737.5	0.61	0.54	
2,360.0	21.10	299.40	2,199.4	368.8	-678.7	772.4	0.52	-0.42	
2,452.0	21.20	296.50	2,285.2	384.3	-708.0	805.6	1.14	0.11	
2,543.0	21.50	295.40	2,370.0	398.8	-737.8	838.7	0.55	0.33	
2,635.0	20.90	297.00	2,455.7	413.5	-767.7	871.9	0.91	-0.65	
2,727.0	20.90	297.00	2,541.7	428.4	-796.9	904.8	0.00	0.00	
2,819.0	20.70	298.10	2,627.7	443.5	-825.9	937.4	0.48	-0.22	
2,911.0	20.50	298.20	2,713.8	458.8	-854.4	969.8	0.22	-0.22	
3,003.0	21.00	299.10	2,799.8	474.4	-883.0	1,002.4	0.64	0.54	
3,095.0	21.40	300.40	2,885.6	490.9	-911.9	1,035.6	0.67	0.43	
3,186.0	21.40	298.60	2,970.3	507.3	-940.8	1,068.8	0.72	0.00	
3,272.0	21.00	297.90	3,050.5	522.0	-968.2	1,099.9	0.55	-0.47	
3,363.0	20.30	298.50	3,135.7	537.1	-996.5	1,132.0	0.80	-0.77	
3,455.0	22.50	298.70	3,221.3	553.2	-1,026.0	1,165.6	2.39	2.39	
3,547.0	24.20	299.70	3,305.8	571.0	-1,057.8	1,202.0	1.90	1.85	
3,639.0	23.80	296.70	3,389.8	588.7	-1,090.7	1,239.4	1.40	-0.43	
3,731.0	24.60	296.90	3,473.7	605.7	-1,124.4	1,277.1	0.87	0.87	
3,822.0	23.90	297.30	3,556.7	622.7	-1,157.7	1,314.5	0.79	-0.77	
3,914.0	22.30	294.00	3,641.3	638.4	-1,190.2	1,350.6	2.24	-1.74	
4,006.0	21.00	295.40	3,726.8	652.5	-1,221.0	1,384.4	1.52	-1.41	
4,098.0	22.10	299.10	3,812.4	668.0	-1,251.0	1,418.2	1.90	1.20	
4,190.0	21.70	296.10	3,897.8	683.9	-1,281.4	1,452.5	1.29	-0.43	
4,282.0	20.50	296.20	3,983.6	698.5	-1,311.2	1,485.6	1.30	-1.30	
4,374.0	22.10	305.50	4,069.3	715.7	-1,339.7	1,518.9	4.06	1.74	
4,465.0	23.30	308.20	4,153.3	736.8	-1,367.8	1,553.6	1.75	1.32	
4,557.0	23.40	304.20	4,237.8	758.3	-1,397.2	1,589.6	1.73	0.11	
4,649.0	24.30	304.50	4,321.9	779.3	-1,427.9	1,626.6	0.99	0.98	
4,741.0	23.80	296.90	4,405.9	798.4	-1,460.1	1,664.0	3.41	-0.54	
4,833.0	24.50	297.30	4,489.9	815.5	-1,493.6	1,701.6	0.78	0.76	
4,925.0	22.70	297.60	4,574.2	832.5	-1,526.3	1,738.5	1.96	-1.96	
5,017.0	23.20	294.80	4,658.9	848.3	-1,558.5	1,774.3	1.31	0.54	
5,108.0	23.70	295.80	4,742.4	863.8	-1,591.2	1,810.5	0.70	0.55	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8507D-23 L24 496 (was 8507B-23)
Project:	Story Gulch	TVD Reference:	KB @ 8208.0ft (Original Well Elev)
Site:	L24 496	MD Reference:	KB @ 8208.0ft (Original Well Elev)
Well:	8507D-23 L24 496 (was 8507B-23)	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	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
5,200.0	24.40	296.70	4,826.4	880.4	-1,624.8	1,847.9	0.86	0.76	
5,292.0	24.30	295.30	4,910.2	897.0	-1,658.9	1,885.9	0.64	-0.11	
5,384.0	24.60	298.70	4,994.0	914.3	-1,692.8	1,923.9	1.56	0.33	
5,476.0	23.70	296.80	5,077.9	931.9	-1,726.1	1,961.5	1.29	-0.98	
5,568.0	24.30	297.70	5,162.0	949.0	-1,759.4	1,999.0	0.76	0.65	
5,660.0	24.80	299.20	5,245.7	967.2	-1,793.0	2,037.2	0.87	0.54	
5,752.0	24.30	296.90	5,329.3	985.2	-1,826.7	2,075.4	1.17	-0.54	
5,844.0	24.60	299.00	5,413.1	1,003.0	-1,860.4	2,113.5	1.00	0.33	
5,935.0	25.20	297.70	5,495.6	1,021.2	-1,894.1	2,151.8	0.89	0.66	
6,027.0	23.40	296.10	5,579.5	1,038.4	-1,927.8	2,189.6	2.08	-1.96	
6,119.0	24.90	298.60	5,663.4	1,055.7	-1,961.2	2,227.3	1.97	1.63	
6,211.0	23.00	298.40	5,747.5	1,073.5	-1,994.1	2,264.6	2.07	-2.07	
6,303.0	22.70	298.70	5,832.3	1,090.6	-2,025.4	2,300.3	0.35	-0.33	
6,395.0	22.80	296.40	5,917.1	1,107.0	-2,057.0	2,335.9	0.97	0.11	
6,487.0	22.50	297.70	6,002.0	1,123.1	-2,088.5	2,371.3	0.63	-0.33	
6,579.0	22.10	301.60	6,087.2	1,140.4	-2,118.9	2,406.2	1.67	-0.43	
6,671.0	22.10	300.30	6,172.4	1,158.2	-2,148.5	2,440.8	0.53	0.00	
6,762.0	23.50	299.70	6,256.3	1,175.8	-2,179.1	2,476.0	1.56	1.54	
6,854.0	22.00	298.50	6,341.1	1,193.1	-2,210.2	2,511.6	1.71	-1.63	
6,946.0	20.60	295.60	6,426.8	1,208.3	-2,239.9	2,545.0	1.90	-1.52	
7,038.0	21.00	293.10	6,512.8	1,221.8	-2,269.7	2,577.6	1.06	0.43	
7,130.0	21.00	295.60	6,598.7	1,235.4	-2,299.7	2,610.5	0.97	0.00	
7,222.0	21.40	296.20	6,684.5	1,249.9	-2,329.6	2,643.7	0.49	0.43	
7,314.0	19.70	294.70	6,770.7	1,263.8	-2,358.8	2,676.0	1.93	-1.85	
7,406.0	20.70	298.20	6,857.0	1,278.0	-2,387.2	2,707.7	1.70	1.09	
7,498.0	22.00	301.70	6,942.7	1,294.7	-2,416.2	2,741.2	1.98	1.41	
7,589.0	20.00	300.50	7,027.6	1,311.6	-2,444.1	2,773.7	2.25	-2.20	
7,681.0	21.50	299.60	7,113.7	1,327.9	-2,472.3	2,806.3	1.67	1.63	
7,773.0	23.90	299.80	7,198.5	1,345.5	-2,503.1	2,841.8	2.61	2.61	
7,865.0	22.80	300.50	7,283.0	1,363.8	-2,534.7	2,878.2	1.23	-1.20	
7,957.0	21.90	298.10	7,368.1	1,380.9	-2,565.2	2,913.2	1.39	-0.98	
8,049.0	20.00	297.90	7,454.0	1,396.4	-2,594.2	2,946.1	2.07	-2.07	
8,141.0	16.80	298.40	7,541.3	1,410.1	-2,619.8	2,975.1	3.48	-3.48	
8,233.0	15.20	300.70	7,629.7	1,422.5	-2,641.9	3,000.5	1.87	-1.74	
8,325.0	12.70	295.90	7,719.0	1,433.1	-2,661.4	3,022.6	2.99	-2.72	
8,416.0	9.70	297.00	7,808.3	1,441.0	-2,677.2	3,040.3	3.30	-3.30	
8,508.0	6.50	289.90	7,899.3	1,446.3	-2,689.0	3,053.2	3.64	-3.48	
8,600.0	4.70	294.30	7,990.9	1,449.6	-2,697.3	3,062.1	2.01	-1.96	
8,692.0	4.00	288.80	8,082.6	1,452.2	-2,703.8	3,069.0	0.88	-0.76	
8,784.0	1.60	267.90	8,174.5	1,453.2	-2,708.1	3,073.3	2.79	-2.61	
8,876.0	1.80	272.80	8,266.5	1,453.2	-2,710.8	3,075.7	0.27	0.22	
8,967.0	2.10	243.00	8,357.4	1,452.5	-2,713.8	3,078.0	1.15	0.33	
9,059.0	2.00	298.60	8,449.4	1,452.5	-2,716.7	3,080.6	2.08	-0.11	
9,151.0	2.00	301.30	8,541.3	1,454.1	-2,719.5	3,083.8	0.10	0.00	
9,243.0	1.10	296.40	8,633.3	1,455.3	-2,721.6	3,086.3	0.99	-0.98	
9,335.0	1.50	271.50	8,725.3	1,455.7	-2,723.6	3,088.2	0.74	0.43	
9,427.0	0.80	293.40	8,817.2	1,456.0	-2,725.4	3,089.9	0.89	-0.76	
9,519.0	1.50	254.70	8,909.2	1,456.0	-2,727.2	3,091.5	1.10	0.76	
9,611.0	0.80	256.90	9,001.2	1,455.5	-2,728.9	3,092.8	0.76	-0.76	
9,703.0	0.60	53.70	9,093.2	1,455.6	-2,729.2	3,093.1	1.49	-0.22	
9,795.0	1.60	39.00	9,185.2	1,456.9	-2,728.0	3,092.6	1.12	1.09	
9,887.0	1.20	330.00	9,277.2	1,458.8	-2,727.7	3,093.2	1.76	-0.43	
9,979.0	1.10	310.60	9,369.1	1,460.2	-2,728.8	3,094.9	0.43	-0.11	

Cathedral Energy Services

Survey Report

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Project:	Story Gulch	TVD Reference:	KB @ 8208.0ft (Original Well Elev)
Site:	L24 496	MD Reference:	KB @ 8208.0ft (Original Well Elev)
Well:	8507D-23 L24 496 (was 8507B-23)	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	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
10,071.0	1.20	18.00	9,461.1	1,461.7	-2,729.2	3,095.9	1.39	0.11	
10,163.0	0.50	346.70	9,553.1	1,463.0	-2,729.0	3,096.4	0.89	-0.76	
10,254.0	1.70	55.60	9,644.1	1,464.1	-2,728.0	3,096.0	1.75	1.32	
10,346.0	0.40	116.90	9,736.1	1,464.7	-2,726.5	3,095.0	1.68	-1.41	
10,438.0	0.90	146.60	9,828.1	1,464.0	-2,725.9	3,094.1	0.64	0.54	
10,530.0	1.40	153.00	9,920.1	1,462.4	-2,725.0	3,092.5	0.56	0.54	
10,622.0	1.30	143.90	10,012.0	1,460.5	-2,723.8	3,090.7	0.26	-0.11	
10,713.0	1.20	138.00	10,103.0	1,459.0	-2,722.6	3,088.8	0.18	-0.11	
10,805.0	0.30	204.50	10,195.0	1,458.1	-2,722.0	3,087.9	1.21	-0.98	
10,897.0	1.10	211.40	10,287.0	1,457.1	-2,722.6	3,088.0	0.87	0.87	
10,989.0	0.80	181.80	10,379.0	1,455.7	-2,723.1	3,087.7	0.61	-0.33	
11,081.0	0.90	45.50	10,471.0	1,455.6	-2,722.6	3,087.2	1.72	0.11	
11,173.0	1.00	340.50	10,563.0	1,456.8	-2,722.3	3,087.6	1.11	0.11	
11,265.0	1.80	292.20	10,654.9	1,458.1	-2,723.9	3,089.6	1.48	0.87	
11,357.0	1.90	298.10	10,746.9	1,459.4	-2,726.6	3,092.6	0.23	0.11	
11,448.0	0.90	306.00	10,837.9	1,460.5	-2,728.5	3,094.8	1.12	-1.10	
11,539.0	0.70	325.10	10,928.9	1,461.4	-2,729.4	3,096.0	0.36	-0.22	
11,631.0	0.40	231.80	11,020.9	1,461.7	-2,730.0	3,096.6	0.90	-0.33	
11,723.0	0.80	271.00	11,112.9	1,461.5	-2,730.9	3,097.3	0.60	0.43	
11,815.0	0.70	196.20	11,204.8	1,460.9	-2,731.7	3,097.8	0.99	-0.11	
11,907.0	0.80	214.00	11,296.8	1,459.9	-2,732.2	3,097.8	0.27	0.11	
11,999.0	0.60	280.70	11,388.8	1,459.4	-2,733.0	3,098.3	0.86	-0.22	
12,091.0	1.00	265.50	11,480.8	1,459.5	-2,734.3	3,099.4	0.49	0.43	
12,182.0	2.00	246.80	11,571.8	1,458.8	-2,736.6	3,101.1	1.21	1.10	
12,274.0	2.00	237.50	11,663.7	1,457.3	-2,739.4	3,102.9	0.35	0.00	
12,366.0	2.50	250.50	11,755.7	1,455.7	-2,742.6	3,105.0	0.77	0.54	
12,458.0	2.20	252.60	11,847.6	1,454.5	-2,746.2	3,107.6	0.34	-0.33	
12,550.0	3.50	251.20	11,939.5	1,453.1	-2,750.6	3,110.8	1.41	1.41	
12,813.0	3.50	251.40	12,202.0	1,448.0	-2,765.8	3,121.8	0.00	0.00	Last Cathedral Survey @ 12,813' MD Projection to Bit @ 12,868'
12,868.0	3.50	251.40	12,256.9	1,446.9	-2,769.0	3,124.1	0.00	0.00	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8507D-23 L24 496 (was 8507B-23)
Project:	Story Gulch	TVD Reference:	KB @ 8208.0ft (Original Well Elev)
Site:	L24 496	MD Reference:	KB @ 8208.0ft (Original Well Elev)
Well:	8507D-23 L24 496 (was 8507B-23)	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
8507D-23 L24 496 TGT	0.00	0.00	8,213.0	1,462.2	-2,721.4	1,686,631.40	2,259,149.01	39° 41' 20.84 N	108° 7' 58.34 W
- actual wellpath misses target center by 15.2ft at 8822.9ft MD (8213.4 TVD, 1453.1 N, -2709.2 E)									
- Point									
8507D-23 L24 496 PBHI	0.00	0.00	12,945.0	1,452.2	-2,738.4	1,686,621.84	2,259,131.68	39° 41' 20.74 N	108° 7' 58.56 W
- actual wellpath misses target center by 688.8ft at 12868.0ft MD (12256.9 TVD, 1446.9 N, -2769.0 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
12,813.0	12,202.0	1,448.0	-2,765.8	Last Cathedral Survey @ 12,813' MD
12,868.0	12,256.9	1,446.9	-2,769.0	Projection to Bit @ 12,868'

Checked By: _____ Approved By: _____ Date: _____