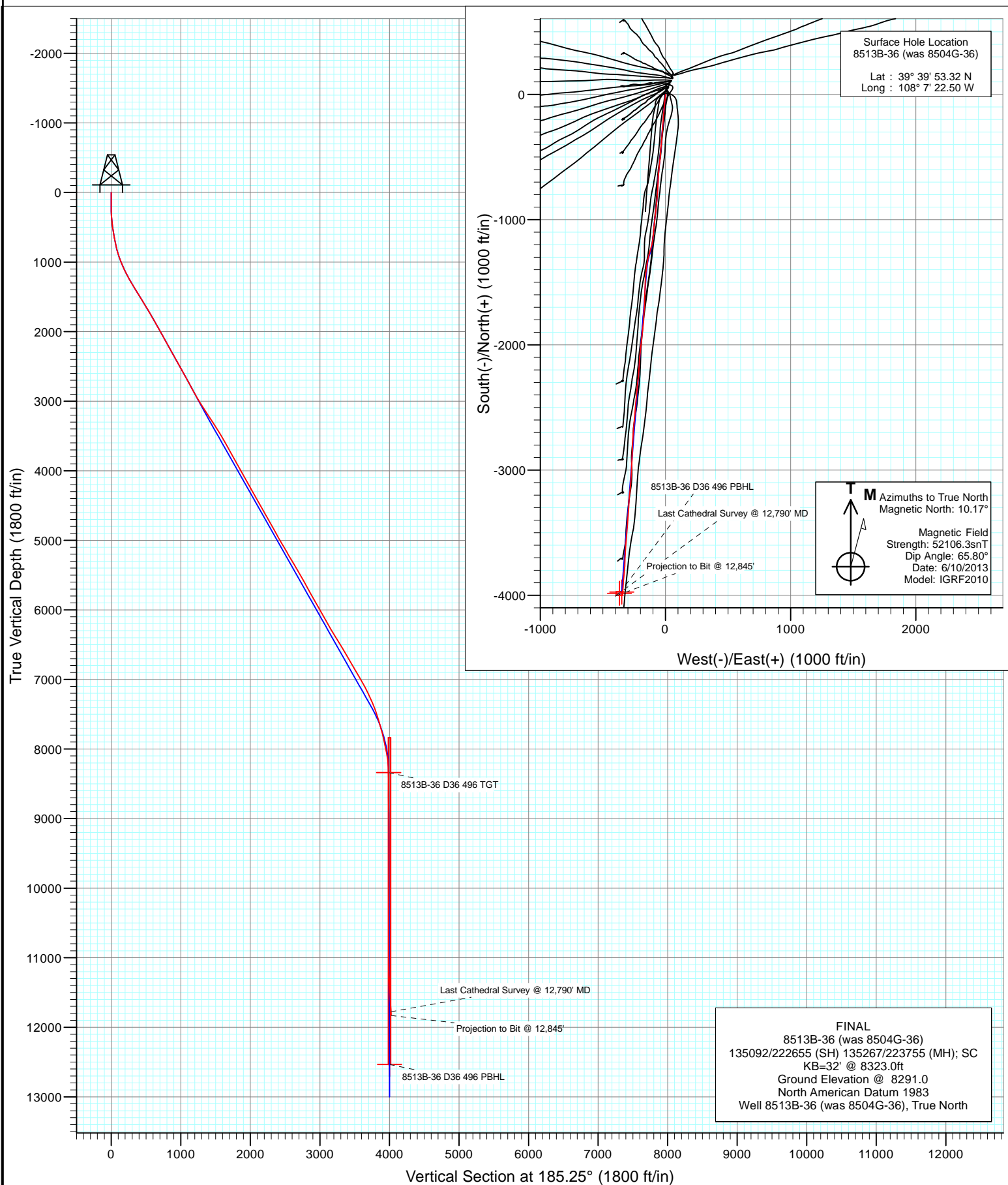


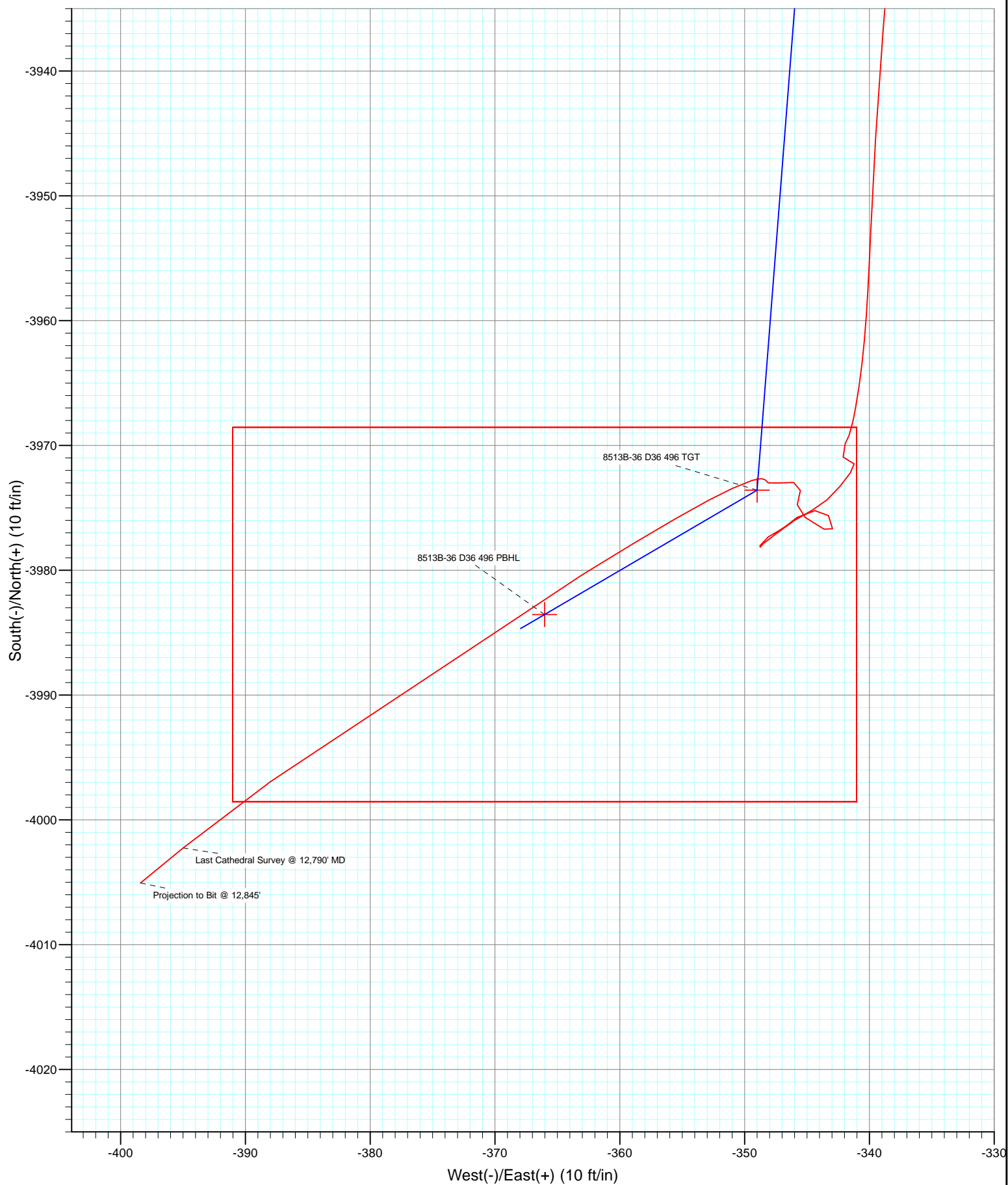


Project: Story Gulch  
Site: S36-T4S-R96W (D36 496)  
Well: 8513B-36 (was 8504G-36)  
Wellbore: DD  
Design: FINAL





Project: Story Gulch  
Site: S36-T4S-R96W (D36 496)  
Well: 8513B-36 (was 8504G-36)  
Wellbore: DD  
Design: FINAL



# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well 8513B-36 (was 8504G-36)
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	KB=32' @ 8323.0ft
<b>Site:</b>	S36-T4S-R96W (D36 496)	<b>MD Reference:</b>	KB=32' @ 8323.0ft
<b>Well:</b>	8513B-36 (was 8504G-36)	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB

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

Site		S36-T4S-R96W (D36 496)			
Site Position:		Northing:	1,590,537.44 ft	Latitude:	39° 25' 42.24 N
From:	Lat/Long	Easting:	2,297,786.47 ft	Longitude:	107° 59' 10.64 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.57 °

Well	8513B-36 (was 8504G-36)					
Well Position	+N/-S	0.0 ft	Northing:	1,677,698.48 ft	Latitude:	39° 39' 53.32 N
	+E/-W	0.0 ft	Easting:	2,261,694.11 ft	Longitude:	108° 7' 22.50 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,291.0 ft

<b>Wellbore</b>	DD				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	6/10/2013	10.17	65.80	52,106

<b>Design</b>	DD				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	185.25	

<b>Survey Program</b>	<b>Date</b>	6/17/2013			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
179.0	12,845.0	Survey #1 (DD)	MWD	Geolink MWD	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Formations / Comments</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
179.0	0.70	46.20	179.0	0.8	0.8	-0.8	0.39	0.39		
209.0	0.50	58.20	209.0	1.0	1.0	-1.0	0.78	-0.67		
240.0	0.50	135.40	240.0	0.9	1.2	-1.0	2.01	0.00		
270.0	1.30	164.50	270.0	0.5	1.4	-0.6	2.99	2.67		
301.0	2.40	170.90	301.0	-0.5	1.6	0.3	3.60	3.55		
331.0	3.50	176.70	330.9	-2.0	1.8	1.8	3.79	3.67		
362.0	4.30	179.80	361.9	-4.1	1.8	3.9	2.67	2.58		
392.0	5.20	187.50	391.8	-6.6	1.7	6.4	3.67	3.00		
422.0	6.30	186.60	421.6	-9.6	1.3	9.4	3.68	3.67		
453.0	7.20	186.90	452.4	-13.2	0.9	13.1	2.91	2.90		
483.0	8.00	187.40	482.1	-17.1	0.4	17.0	2.68	2.67		
514.0	8.80	189.50	512.8	-21.6	-0.3	21.5	2.76	2.58		

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well 8513B-36 (was 8504G-36)
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	KB=32' @ 8323.0ft
<b>Site:</b>	S36-T4S-R96W (D36 496)	<b>MD Reference:</b>	KB=32' @ 8323.0ft
<b>Well:</b>	8513B-36 (was 8504G-36)	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	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
544.0	9.20	189.10	542.4	-26.2	-1.1	26.2	1.35	1.33	
574.0	9.40	187.90	572.0	-31.0	-1.8	31.1	0.93	0.67	
605.0	9.20	188.80	602.6	-36.0	-2.5	36.1	0.80	-0.65	
653.0	9.60	189.10	650.0	-43.7	-3.7	43.9	0.84	0.83	
699.0	10.90	186.50	695.2	-51.8	-4.8	52.1	3.00	2.83	
744.0	12.20	183.70	739.3	-60.8	-5.6	61.1	3.15	2.89	
790.0	13.60	183.10	784.2	-71.1	-6.2	71.3	3.06	3.04	
836.0	15.40	184.10	828.7	-82.6	-6.9	82.8	3.95	3.91	
881.0	17.10	185.20	871.9	-95.1	-8.0	95.4	3.84	3.78	
973.0	20.70	185.90	958.9	-124.8	-10.9	125.2	3.92	3.91	
1,064.0	23.00	184.20	1,043.4	-158.5	-13.8	159.1	2.62	2.53	
1,155.0	25.60	183.40	1,126.3	-195.9	-16.3	196.5	2.88	2.86	
1,247.0	28.20	185.30	1,208.4	-237.3	-19.5	238.1	2.98	2.83	
1,338.0	30.10	186.20	1,287.8	-281.4	-23.9	282.5	2.14	2.09	
1,429.0	32.10	183.50	1,365.7	-328.3	-27.9	329.4	2.68	2.20	
1,520.0	31.90	183.00	1,442.9	-376.4	-30.6	377.6	0.36	-0.22	
1,612.0	31.90	185.70	1,521.0	-424.9	-34.3	426.2	1.55	0.00	
1,703.0	30.90	186.20	1,598.7	-472.0	-39.2	473.6	1.14	-1.10	
1,794.0	31.00	185.70	1,676.7	-518.6	-44.1	520.4	0.30	0.11	
1,885.0	30.20	185.90	1,755.1	-564.7	-48.7	566.8	0.89	-0.88	
1,977.0	29.70	184.40	1,834.8	-610.4	-52.9	612.7	0.98	-0.54	
2,069.0	29.50	183.60	1,914.8	-655.7	-56.0	658.1	0.48	-0.22	
2,160.0	29.40	183.00	1,994.0	-700.4	-58.6	702.8	0.34	-0.11	
2,252.0	29.20	182.90	2,074.3	-745.4	-60.9	747.8	0.22	-0.22	
2,344.0	28.70	182.90	2,154.8	-789.8	-63.2	792.3	0.54	-0.54	
2,435.0	28.80	184.70	2,234.5	-833.5	-66.1	836.1	0.96	0.11	
2,527.0	29.30	186.30	2,315.0	-878.0	-70.4	880.7	1.00	0.54	
2,618.0	29.40	186.80	2,394.3	-922.3	-75.5	925.3	0.29	0.11	
2,710.0	29.40	186.00	2,474.4	-967.2	-80.5	970.5	0.43	0.00	
2,801.0	29.20	186.30	2,553.8	-1,011.5	-85.3	1,015.0	0.27	-0.22	
2,893.0	29.20	186.20	2,634.1	-1,056.1	-90.1	1,059.9	0.05	0.00	
2,977.0	28.30	185.20	2,707.8	-1,096.3	-94.2	1,100.3	1.21	-1.07	
3,082.0	27.90	185.60	2,800.4	-1,145.5	-98.8	1,149.7	0.42	-0.38	
3,174.0	29.80	192.70	2,881.0	-1,189.2	-105.9	1,194.0	4.25	2.07	
3,265.0	31.20	196.80	2,959.4	-1,233.9	-117.7	1,239.5	2.76	1.54	
3,357.0	31.90	194.80	3,037.8	-1,280.2	-130.8	1,286.8	1.37	0.76	
3,448.0	32.70	191.30	3,114.7	-1,327.5	-141.8	1,335.0	2.23	0.88	
3,540.0	33.40	188.30	3,191.8	-1,377.0	-150.3	1,385.0	1.93	0.76	
3,631.0	33.70	183.80	3,267.7	-1,427.0	-155.6	1,435.2	2.75	0.33	
3,723.0	32.60	184.30	3,344.7	-1,477.1	-159.2	1,485.5	1.23	-1.20	
3,814.0	31.90	183.00	3,421.7	-1,525.6	-162.3	1,534.0	1.08	-0.77	
3,906.0	31.20	181.70	3,500.1	-1,573.7	-164.2	1,582.1	1.06	-0.76	
3,998.0	29.70	180.00	3,579.4	-1,620.3	-164.9	1,628.6	1.88	-1.63	
4,089.0	29.30	181.50	3,658.6	-1,665.1	-165.5	1,673.3	0.92	-0.44	
4,180.0	28.40	184.50	3,738.3	-1,708.9	-167.8	1,717.1	1.87	-0.99	
4,271.0	29.60	184.00	3,817.9	-1,752.9	-171.1	1,761.2	1.35	1.32	
4,363.0	27.80	182.80	3,898.6	-1,797.0	-173.7	1,805.4	2.05	-1.96	
4,454.0	29.60	187.00	3,978.4	-1,840.6	-177.5	1,849.1	2.97	1.98	
4,546.0	30.80	186.60	4,057.9	-1,886.5	-183.0	1,895.3	1.32	1.30	
4,637.0	29.80	185.80	4,136.5	-1,932.1	-187.9	1,941.2	1.19	-1.10	
4,729.0	29.40	186.00	4,216.5	-1,977.4	-192.6	1,986.7	0.45	-0.43	
4,820.0	28.20	186.30	4,296.2	-2,020.9	-197.3	2,030.5	1.33	-1.32	
4,912.0	29.30	184.70	4,376.9	-2,065.0	-201.5	2,074.8	1.46	1.20	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well 8513B-36 (was 8504G-36)
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	KB=32' @ 8323.0ft
<b>Site:</b>	S36-T4S-R96W (D36 496)	<b>MD Reference:</b>	KB=32' @ 8323.0ft
<b>Well:</b>	8513B-36 (was 8504G-36)	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	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
5,003.0	29.20	184.60	4,456.3	-2,109.3	-205.1	2,119.2	0.12	-0.11	
5,094.0	30.00	184.50	4,535.4	-2,154.1	-208.7	2,164.2	0.88	0.88	
5,186.0	28.30	183.60	4,615.8	-2,198.8	-211.9	2,209.0	1.91	-1.85	
5,278.0	29.50	184.40	4,696.3	-2,243.2	-215.0	2,253.4	1.37	1.30	
5,369.0	30.30	186.50	4,775.2	-2,288.3	-219.3	2,298.8	1.45	0.88	
5,461.0	28.80	186.00	4,855.2	-2,333.4	-224.2	2,344.1	1.65	-1.63	
5,552.0	29.00	185.20	4,934.9	-2,377.2	-228.5	2,388.1	0.48	0.22	
5,643.0	30.90	184.50	5,013.7	-2,422.4	-232.3	2,433.5	2.12	2.09	
5,735.0	29.90	185.20	5,093.1	-2,468.8	-236.3	2,480.1	1.15	-1.09	
5,826.0	30.50	185.00	5,171.7	-2,514.4	-240.3	2,525.9	0.67	0.66	
5,918.0	29.50	185.20	5,251.4	-2,560.2	-244.4	2,571.9	1.09	-1.09	
6,009.0	31.10	184.50	5,330.0	-2,606.0	-248.3	2,617.8	1.80	1.76	
6,101.0	30.30	185.40	5,409.1	-2,652.8	-252.4	2,664.7	1.00	-0.87	
6,193.0	30.80	183.50	5,488.3	-2,699.4	-256.0	2,711.5	1.18	0.54	
6,284.0	29.50	183.40	5,567.0	-2,745.0	-258.7	2,757.2	1.43	-1.43	
6,375.0	28.20	184.20	5,646.7	-2,788.8	-261.6	2,801.1	1.49	-1.43	
6,467.0	28.30	182.80	5,727.7	-2,832.3	-264.3	2,844.6	0.73	0.11	
6,558.0	30.70	182.00	5,806.9	-2,877.1	-266.2	2,889.3	2.67	2.64	
6,649.0	29.40	180.50	5,885.7	-2,922.6	-267.2	2,934.8	1.65	-1.43	
6,741.0	30.10	182.90	5,965.6	-2,968.2	-268.5	2,980.4	1.50	0.76	
6,832.0	29.40	181.90	6,044.6	-3,013.3	-270.4	3,025.5	0.94	-0.77	
6,923.0	28.90	184.80	6,124.1	-3,057.6	-273.0	3,069.7	1.65	-0.55	
7,015.0	28.80	185.20	6,204.7	-3,101.8	-276.9	3,114.1	0.24	-0.11	
7,106.0	31.00	186.20	6,283.5	-3,146.9	-281.4	3,159.5	2.48	2.42	
7,198.0	32.50	186.00	6,361.8	-3,195.1	-286.5	3,207.9	1.63	1.63	
7,289.0	30.80	183.10	6,439.2	-3,242.7	-290.4	3,255.6	2.51	-1.87	
7,381.0	31.60	183.10	6,517.9	-3,290.3	-292.9	3,303.3	0.87	0.87	
7,473.0	30.40	183.80	6,596.8	-3,337.5	-295.8	3,350.6	1.36	-1.30	
7,564.0	29.90	183.40	6,675.5	-3,383.2	-298.6	3,396.3	0.59	-0.55	
7,657.0	31.10	185.80	6,755.6	-3,430.2	-302.4	3,443.5	1.84	1.29	
7,748.0	30.40	184.80	6,833.8	-3,476.5	-306.7	3,490.0	0.95	-0.77	
7,839.0	29.80	185.30	6,912.5	-3,522.0	-310.8	3,535.6	0.71	-0.66	
7,930.0	29.60	183.30	6,991.6	-3,566.9	-314.1	3,580.7	1.11	-0.22	
8,022.0	29.10	183.40	7,071.8	-3,612.0	-316.8	3,625.8	0.55	-0.54	
8,113.0	27.20	184.70	7,152.0	-3,654.8	-319.8	3,668.7	2.19	-2.09	
8,205.0	25.60	182.60	7,234.4	-3,695.6	-322.4	3,709.6	2.01	-1.74	
8,297.0	23.30	181.50	7,318.2	-3,733.6	-323.8	3,747.6	2.55	-2.50	
8,388.0	20.70	182.50	7,402.5	-3,767.7	-325.0	3,781.6	2.89	-2.86	
8,480.0	18.40	185.50	7,489.2	-3,798.4	-327.1	3,812.4	2.73	-2.50	
8,572.0	16.50	186.30	7,577.0	-3,825.8	-329.9	3,840.0	2.08	-2.07	
8,663.0	16.40	184.80	7,664.2	-3,851.5	-332.4	3,865.8	0.48	-0.11	
8,755.0	15.20	184.90	7,752.8	-3,876.5	-334.5	3,890.8	1.30	-1.30	
8,846.0	13.40	183.40	7,840.9	-3,898.9	-336.2	3,913.3	2.02	-1.98	
8,937.0	12.00	184.40	7,929.7	-3,918.8	-337.5	3,933.3	1.56	-1.54	
9,029.0	10.90	184.50	8,019.9	-3,937.0	-338.9	3,951.5	1.20	-1.20	
9,121.0	9.30	182.30	8,110.5	-3,953.1	-339.9	3,967.7	1.79	-1.74	
9,212.0	5.30	187.50	8,200.7	-3,964.7	-340.7	3,979.2	4.45	-4.40	
9,304.0	1.50	212.20	8,292.5	-3,969.9	-341.9	3,984.5	4.33	-4.13	
9,396.0	0.60	93.80	8,384.5	-3,970.9	-342.1	3,985.6	2.02	-0.98	
9,577.0	0.30	187.60	8,565.5	-3,971.5	-341.2	3,986.0	0.38	-0.17	
9,669.0	0.70	210.20	8,657.5	-3,972.2	-341.5	3,986.8	0.48	0.43	
9,760.0	1.00	221.90	8,748.5	-3,973.3	-342.3	3,987.9	0.38	0.33	
9,852.0	0.90	226.10	8,840.5	-3,974.4	-343.4	3,989.1	0.13	-0.11	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well 8513B-36 (was 8504G-36)
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	KB=32' @ 8323.0ft
<b>Site:</b>	S36-T4S-R96W (D36 496)	<b>MD Reference:</b>	KB=32' @ 8323.0ft
<b>Well:</b>	8513B-36 (was 8504G-36)	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	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
9,943.0	0.90	244.10	8,931.5	-3,975.2	-344.6	3,990.0	0.31	0.00	
10,034.0	1.20	237.00	9,022.5	-3,976.0	-346.0	3,991.0	0.36	0.33	
10,126.0	1.30	230.90	9,114.4	-3,977.2	-347.6	3,992.3	0.18	0.11	
10,217.0	0.10	259.00	9,205.4	-3,977.9	-348.5	3,993.1	1.33	-1.32	
10,309.0	0.40	211.80	9,297.4	-3,978.1	-348.7	3,993.4	0.37	0.33	
10,400.0	0.50	20.30	9,388.4	-3,978.0	-348.8	3,993.3	0.98	0.11	
10,492.0	0.80	58.40	9,480.4	-3,977.3	-348.1	3,992.5	0.55	0.33	
10,583.0	0.50	59.70	9,571.4	-3,976.8	-347.2	3,991.9	0.33	-0.33	
10,675.0	0.30	52.50	9,663.4	-3,976.4	-346.7	3,991.5	0.22	-0.22	
10,766.0	1.10	52.30	9,754.4	-3,975.8	-345.8	3,990.7	0.88	0.88	
10,858.0	0.90	89.60	9,846.4	-3,975.2	-344.4	3,990.1	0.73	-0.22	
10,949.0	0.70	137.80	9,937.4	-3,975.6	-343.3	3,990.4	0.75	-0.22	
11,040.0	0.80	184.20	10,028.4	-3,976.7	-343.0	3,991.4	0.66	0.11	
11,132.0	1.10	313.70	10,120.4	-3,976.7	-343.6	3,991.5	1.87	0.33	
11,223.0	1.20	291.20	10,211.4	-3,975.8	-345.2	3,990.7	0.50	0.11	
11,314.0	0.90	21.30	10,302.3	-3,974.7	-345.8	3,989.7	1.65	-0.33	
11,405.0	0.60	359.10	10,393.3	-3,973.6	-345.5	3,988.5	0.45	-0.33	
11,496.0	0.70	286.60	10,484.3	-3,973.0	-346.1	3,988.0	0.85	0.11	
11,588.0	0.90	253.90	10,576.3	-3,973.0	-347.3	3,988.1	0.53	0.22	
11,679.0	0.30	333.40	10,667.3	-3,973.0	-348.1	3,988.2	0.98	-0.66	
11,771.0	0.20	280.20	10,759.3	-3,972.7	-348.4	3,988.0	0.26	-0.11	
11,862.0	0.20	292.50	10,850.3	-3,972.7	-348.7	3,987.9	0.05	0.00	
12,044.0	1.40	245.80	11,032.3	-3,973.4	-351.0	3,988.9	0.70	0.66	
12,319.0	4.40	238.30	11,306.9	-3,980.4	-363.0	3,996.9	1.10	1.09	
12,685.0	5.00	234.80	11,671.7	-3,996.9	-388.0	4,015.7	0.18	0.16	
12,790.0	4.60	230.60	11,776.3	-4,002.3	-395.0	4,021.6	0.51	-0.38	Last Cathedral Survey @ 12,790' MD
12,845.0	4.60	230.60	11,831.1	-4,005.1	-398.4	4,024.7	0.00	0.00	Projection to Bit @ 12,845'

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
8513B-36 D36 496 PBH - hit/miss target - Shape - survey misses target center by 704.9ft at 12845.0ft MD (11831.1 TVD, -4005.1 N, -398.4 E) - Rectangle (sides W30.0 H50.0 D0.0)	0.00	0.00	12,535.0	-3,983.5	-366.0	1,673,727.16	2,261,213.23	39° 39' 13.95 N	108° 7' 27.18 W
8513B-36 D36 496 TGT - survey misses target center by 7.3ft at 9349.5ft MD (8338.0 TVD, -3970.7 N, -342.3 E) - Point	0.00	0.00	8,338.0	-3,973.6	-349.0	1,673,736.63	2,261,230.55	39° 39' 14.05 N	108° 7' 26.96 W

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
12,790.0	11,776.3	-4,002.3	-395.0	Last Cathedral Survey @ 12,790' MD	
12,845.0	11,831.1	-4,005.1	-398.4	Projection to Bit @ 12,845'	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_