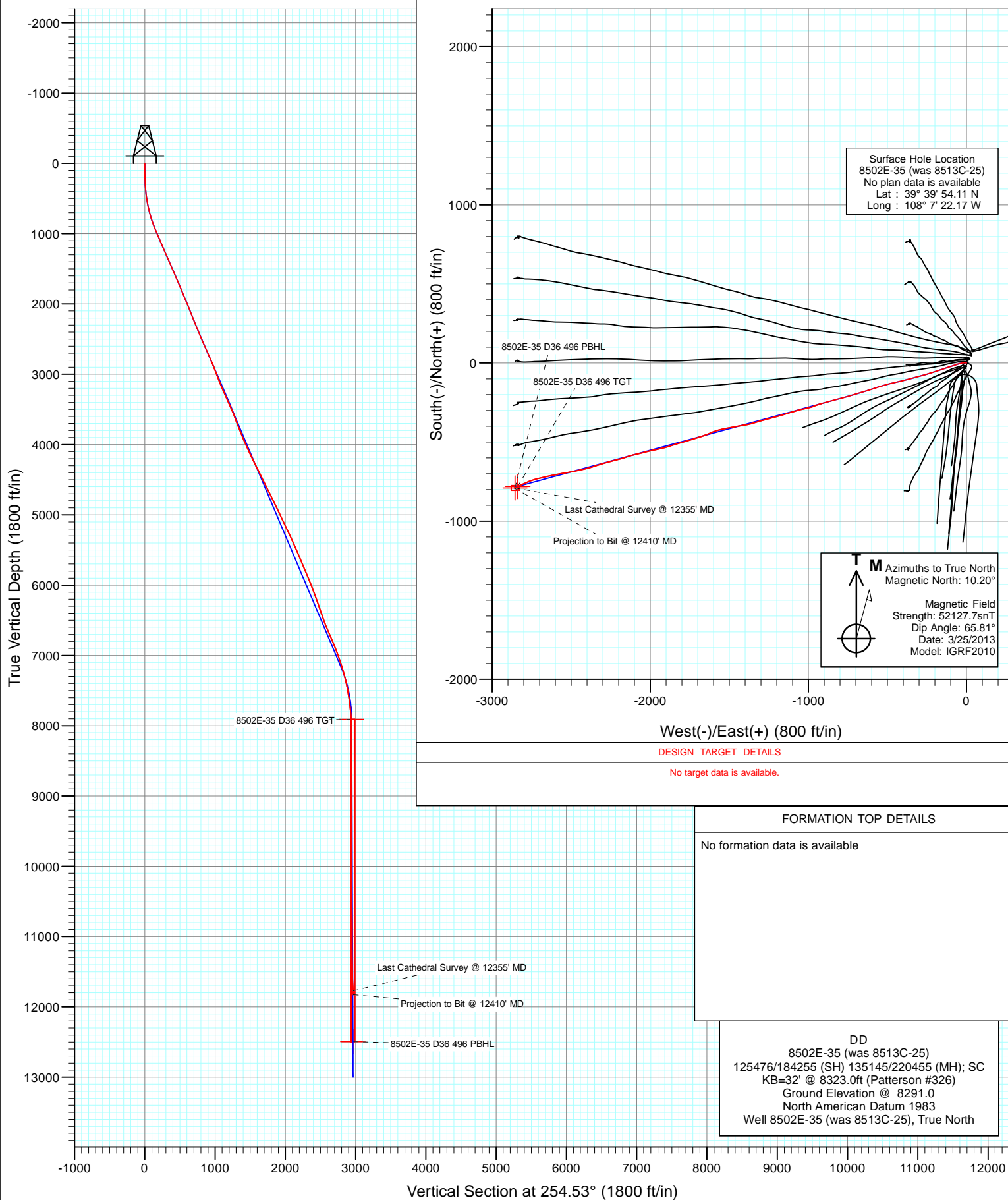
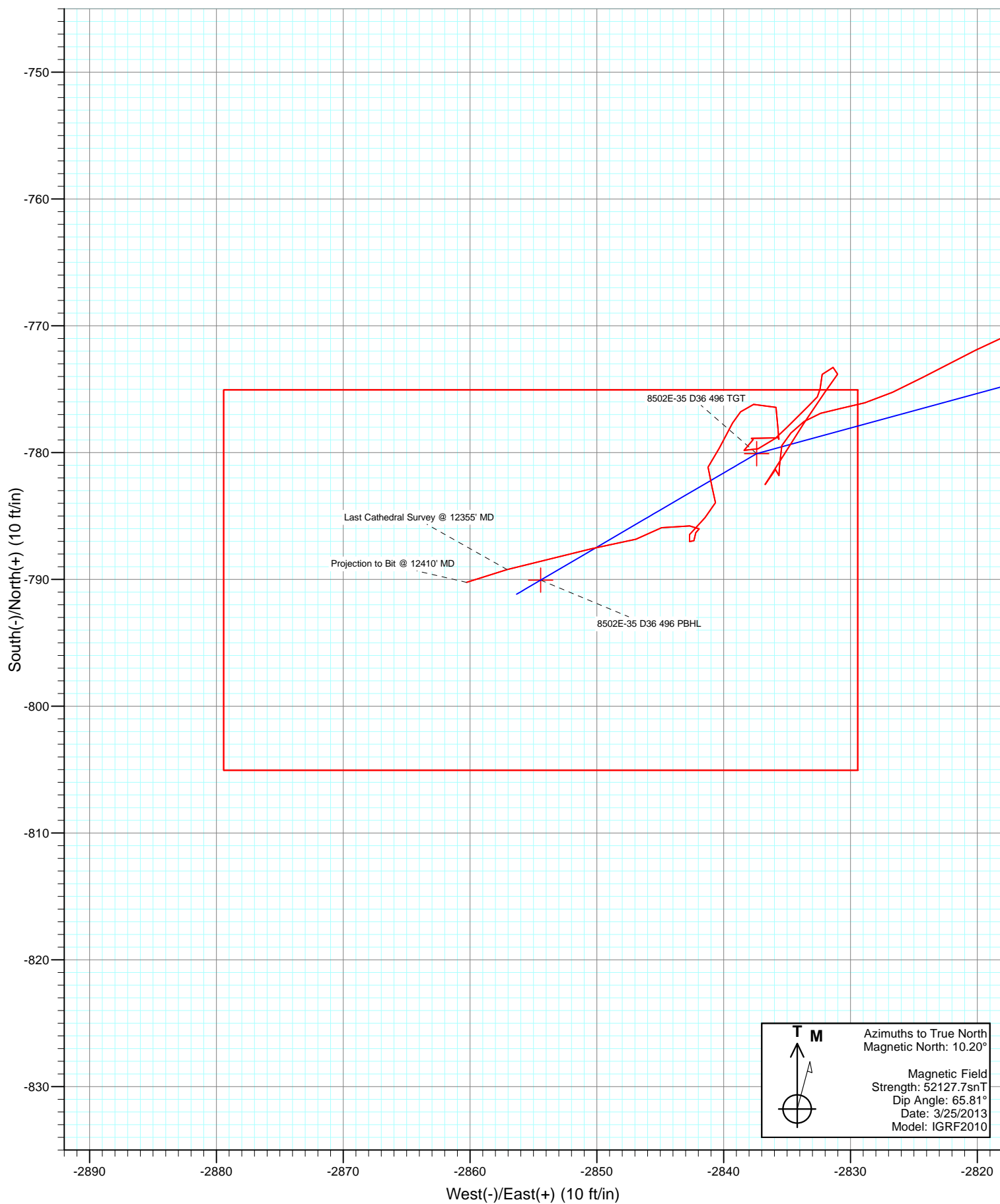




Project: Story Gulch  
Site: S36-T4S-R96W (D36 496)  
Well: 8502E-35 (was 8513C-25)  
Wellbore: DD  
Design: DD





# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well 8502E-35 (was 8513C-25)
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	KB=32' @ 8323.0ft (Patterson #326)
<b>Site:</b>	S36-T4S-R96W (D36 496)	<b>MD Reference:</b>	KB=32' @ 8323.0ft (Patterson #326)
<b>Well:</b>	8502E-35 (was 8513C-25)	<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	8502E-35 (was 8513C-25)					
Well Position	+N/-S	0.0 ft	Northing:	1,677,777.64 ft	Latitude:	39° 39' 54.11 N
	+E/-W	0.0 ft	Easting:	2,261,722.21 ft	Longitude:	108° 7' 22.17 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	3/25/2013	10.20	65.81	52,128

<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 (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	254.53	

<b>Survey Program</b>	<b>Date</b>	4/2/2013			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
179.0	3,006.0	Survey #1 (DD)	MWD	Geolink MWD	
3,077.0	12,410.0	Survey #2 (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	1.30	286.20	179.0	0.6	-1.9	1.7	0.73	0.73		
209.0	1.70	283.90	209.0	0.8	-2.7	2.4	1.35	1.33		
239.0	2.00	282.90	239.0	1.0	-3.7	3.3	1.01	1.00		
269.0	2.40	278.80	268.9	1.2	-4.8	4.3	1.43	1.33		
300.0	3.40	273.80	299.9	1.4	-6.3	5.7	3.32	3.23		
330.0	4.00	273.20	329.8	1.5	-8.3	7.6	2.00	2.00		
360.0	5.00	271.10	359.7	1.6	-10.6	9.8	3.38	3.33		
390.0	5.70	267.20	389.6	1.5	-13.4	12.5	2.63	2.33		
421.0	6.70	267.40	420.4	1.4	-16.8	15.8	3.23	3.23		
451.0	7.60	265.00	450.2	1.1	-20.5	19.5	3.16	3.00		
481.0	8.30	263.30	479.9	0.7	-24.6	23.5	2.46	2.33		

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well 8502E-35 (was 8513C-25)
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	KB=32' @ 8323.0ft (Patterson #326)
<b>Site:</b>	S36-T4S-R96W (D36 496)	<b>MD Reference:</b>	KB=32' @ 8323.0ft (Patterson #326)
<b>Well:</b>	8502E-35 (was 8513C-25)	<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
512.0	9.30	260.60	510.5	0.0	-29.3	28.2	3.49	3.23	
559.0	10.60	256.50	556.8	-1.6	-37.3	36.3	3.15	2.77	
606.0	11.30	250.10	603.0	-4.2	-45.8	45.3	2.98	1.49	
651.0	12.70	251.30	647.0	-7.3	-54.6	54.6	3.16	3.11	
698.0	14.20	253.50	692.7	-10.6	-65.0	65.5	3.37	3.19	
789.0	17.40	252.70	780.3	-17.8	-88.7	90.3	3.52	3.52	
881.0	20.00	251.10	867.4	-27.0	-116.8	119.7	2.88	2.83	
973.0	23.10	251.60	953.0	-37.8	-148.8	153.5	3.38	3.37	
1,064.0	24.10	252.40	1,036.3	-49.0	-183.4	189.9	1.15	1.10	
1,156.0	22.80	251.60	1,120.7	-60.3	-218.3	226.4	1.45	-1.41	
1,248.0	24.10	253.80	1,205.1	-71.2	-253.2	263.0	1.70	1.41	
1,339.0	24.20	255.10	1,288.2	-81.2	-289.1	300.3	0.59	0.11	
1,431.0	22.80	254.70	1,372.5	-90.7	-324.5	336.9	1.53	-1.52	
1,523.0	23.00	254.80	1,457.3	-100.2	-359.0	372.7	0.22	0.22	
1,614.0	23.00	255.50	1,541.1	-109.3	-393.4	408.3	0.30	0.00	
1,706.0	23.90	257.00	1,625.5	-118.0	-429.0	444.9	1.17	0.98	
1,797.0	23.50	257.90	1,708.8	-125.9	-464.7	481.4	0.59	-0.44	
1,889.0	22.90	254.40	1,793.3	-134.6	-499.8	517.6	1.63	-0.65	
1,981.0	22.70	252.30	1,878.2	-144.8	-534.0	553.3	0.91	-0.22	
2,072.0	23.00	253.20	1,962.0	-155.3	-567.7	588.6	0.51	0.33	
2,164.0	21.90	251.50	2,047.0	-165.9	-601.2	623.7	1.39	-1.20	
2,255.0	21.50	252.10	2,131.6	-176.4	-633.2	657.3	0.50	-0.44	
2,347.0	21.90	254.10	2,217.1	-186.3	-665.7	691.3	0.91	0.43	
2,438.0	22.40	253.50	2,301.4	-195.9	-698.7	725.6	0.60	0.55	
2,530.0	22.40	253.00	2,386.4	-206.0	-732.2	760.7	0.21	0.00	
2,622.0	22.80	254.30	2,471.4	-215.9	-766.2	796.0	0.70	0.43	
2,713.0	24.10	256.10	2,554.8	-225.1	-801.2	832.2	1.63	1.43	
2,804.0	24.30	255.10	2,637.8	-234.4	-837.3	869.5	0.50	0.22	
2,896.0	24.30	254.60	2,721.7	-244.3	-873.9	907.4	0.22	0.00	
3,006.0	23.70	254.60	2,822.2	-256.2	-917.0	952.1	0.55	-0.55	
3,077.0	21.80	248.90	2,887.7	-264.7	-943.0	979.5	4.10	-2.68	
3,169.0	19.90	250.40	2,973.6	-276.1	-973.7	1,012.1	2.15	-2.07	
3,260.0	20.60	257.70	3,059.0	-284.7	-1,004.0	1,043.6	2.88	0.77	
3,352.0	22.60	258.80	3,144.6	-291.6	-1,037.1	1,077.3	2.22	2.17	
3,443.0	23.50	251.50	3,228.3	-300.8	-1,071.5	1,112.9	3.29	0.99	
3,534.0	24.90	256.10	3,311.3	-311.1	-1,107.3	1,150.2	2.58	1.54	
3,626.0	23.30	250.30	3,395.3	-321.9	-1,143.2	1,187.7	3.10	-1.74	
3,717.0	24.20	255.00	3,478.6	-332.8	-1,178.2	1,224.3	2.30	0.99	
3,809.0	22.70	255.20	3,563.0	-342.2	-1,213.6	1,260.9	1.63	-1.63	
3,901.0	20.30	254.30	3,648.6	-351.1	-1,246.1	1,294.6	2.63	-2.61	
3,992.0	21.90	255.60	3,733.5	-359.6	-1,277.8	1,327.4	1.83	1.76	
4,084.0	22.10	255.10	3,818.8	-368.3	-1,311.1	1,361.8	0.30	0.22	
4,175.0	21.40	250.70	3,903.3	-378.2	-1,343.3	1,395.5	1.95	-0.77	
4,266.0	24.00	258.80	3,987.3	-387.3	-1,377.1	1,430.6	4.46	2.86	
4,357.0	25.40	260.70	4,070.0	-394.0	-1,414.6	1,468.4	1.77	1.54	
4,449.0	26.20	260.20	4,152.8	-400.7	-1,454.0	1,508.2	0.90	0.87	
4,541.0	26.80	258.20	4,235.1	-408.4	-1,494.4	1,549.2	1.17	0.65	
4,632.0	26.20	259.10	4,316.6	-416.4	-1,534.2	1,589.7	0.79	-0.66	
4,723.0	25.80	254.50	4,398.4	-425.5	-1,573.0	1,629.5	2.26	-0.44	
4,815.0	25.90	245.90	4,481.2	-439.0	-1,610.6	1,669.4	4.07	0.11	
4,906.0	26.50	250.80	4,562.9	-453.8	-1,648.0	1,709.3	2.47	0.66	
4,998.0	27.30	250.30	4,644.9	-467.7	-1,687.2	1,750.8	0.90	0.87	
5,089.0	26.50	253.70	4,726.1	-480.4	-1,726.3	1,791.9	1.91	-0.88	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well 8502E-35 (was 8513C-25)
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	KB=32' @ 8323.0ft (Patterson #326)
<b>Site:</b>	S36-T4S-R96W (D36 496)	<b>MD Reference:</b>	KB=32' @ 8323.0ft (Patterson #326)
<b>Well:</b>	8502E-35 (was 8513C-25)	<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
5,181.0	26.60	254.50	4,808.4	-491.7	-1,765.9	1,833.1	0.40	0.11	
5,272.0	25.80	252.00	4,890.0	-503.2	-1,804.4	1,873.2	1.50	-0.88	
5,364.0	25.60	254.40	4,972.9	-514.8	-1,842.5	1,913.1	1.15	-0.22	
5,455.0	25.00	250.80	5,055.2	-526.4	-1,879.6	1,951.9	1.81	-0.66	
5,547.0	25.20	256.40	5,138.5	-537.4	-1,917.0	1,990.9	2.59	0.22	
5,638.0	25.50	258.40	5,220.8	-545.9	-1,955.1	2,029.8	1.00	0.33	
5,730.0	25.30	257.70	5,303.9	-554.1	-1,993.7	2,069.2	0.39	-0.22	
5,821.0	23.90	255.30	5,386.6	-562.9	-2,030.5	2,107.1	1.89	-1.54	
5,912.0	24.80	257.40	5,469.5	-571.7	-2,067.0	2,144.6	1.37	0.99	
6,004.0	23.20	256.80	5,553.6	-580.1	-2,103.4	2,181.9	1.76	-1.74	
6,096.0	21.90	250.70	5,638.5	-589.9	-2,137.3	2,217.2	2.91	-1.41	
6,187.0	22.90	251.70	5,722.7	-601.0	-2,170.1	2,251.8	1.18	1.10	
6,279.0	23.20	256.70	5,807.3	-610.8	-2,204.7	2,287.8	2.15	0.33	
6,370.0	22.10	255.90	5,891.3	-619.1	-2,238.8	2,322.8	1.26	-1.21	
6,462.0	21.80	255.10	5,976.6	-627.7	-2,272.1	2,357.2	0.46	-0.33	
6,553.0	21.40	252.70	6,061.2	-637.0	-2,304.3	2,390.7	1.07	-0.44	
6,644.0	20.40	251.30	6,146.3	-647.0	-2,335.1	2,423.1	1.23	-1.10	
6,735.0	20.30	253.00	6,231.6	-656.7	-2,365.3	2,454.7	0.66	-0.11	
6,827.0	17.60	255.90	6,318.6	-664.8	-2,394.0	2,484.6	3.11	-2.93	
6,918.0	19.20	257.20	6,404.9	-671.5	-2,421.9	2,513.3	1.82	1.76	
7,010.0	19.70	258.80	6,491.7	-677.8	-2,451.9	2,543.9	0.79	0.54	
7,101.0	21.60	255.70	6,576.8	-684.9	-2,483.2	2,575.9	2.41	2.09	
7,193.0	24.40	261.50	6,661.5	-691.9	-2,518.4	2,611.7	3.91	3.04	
7,284.0	23.30	260.90	6,744.8	-697.6	-2,554.8	2,648.3	1.24	-1.21	
7,376.0	22.50	257.10	6,829.5	-704.4	-2,589.9	2,683.9	1.83	-0.87	
7,467.0	21.80	260.20	6,913.8	-711.1	-2,623.5	2,718.2	1.50	-0.77	
7,559.0	19.90	257.50	6,999.8	-717.4	-2,655.6	2,750.8	2.31	-2.07	
7,650.0	18.90	254.40	7,085.6	-724.7	-2,685.0	2,781.0	1.58	-1.10	
7,743.0	16.50	259.70	7,174.2	-731.2	-2,712.5	2,809.2	3.11	-2.58	
7,834.0	14.60	248.40	7,261.9	-737.7	-2,735.9	2,833.5	3.92	-2.09	
7,926.0	14.40	254.00	7,351.0	-745.1	-2,757.6	2,856.5	1.54	-0.22	
8,017.0	11.90	242.00	7,439.6	-752.6	-2,776.8	2,876.9	4.05	-2.75	
8,108.0	9.00	244.40	7,529.0	-760.1	-2,791.5	2,893.1	3.22	-3.19	
8,200.0	8.40	251.00	7,620.0	-765.4	-2,804.3	2,906.9	1.26	-0.65	
8,291.0	6.70	245.90	7,710.2	-769.8	-2,815.5	2,918.8	2.01	-1.87	
8,383.0	5.50	241.60	7,801.7	-774.0	-2,824.3	2,928.4	1.39	-1.30	
8,475.0	3.30	261.80	7,893.4	-776.5	-2,830.8	2,935.3	2.89	-2.39	
8,566.0	2.60	220.80	7,984.3	-778.5	-2,834.7	2,939.6	2.38	-0.77	
8,658.0	1.40	155.70	8,076.2	-781.1	-2,835.6	2,941.2	2.58	-1.30	
8,750.0	0.70	298.00	8,168.2	-781.8	-2,835.6	2,941.4	2.17	-0.76	
8,841.0	0.40	40.00	8,259.2	-781.3	-2,835.9	2,941.6	0.96	-0.33	
8,932.0	0.60	216.40	8,350.2	-781.5	-2,836.0	2,941.7	1.10	0.22	
9,024.0	1.00	213.20	8,442.2	-782.5	-2,836.7	2,942.7	0.44	0.43	
9,116.0	2.90	32.70	8,534.2	-781.2	-2,835.9	2,941.5	4.24	2.07	
9,206.0	2.40	31.70	8,624.1	-777.7	-2,833.7	2,938.5	0.56	-0.56	
9,298.0	1.40	38.10	8,716.0	-775.2	-2,832.0	2,936.1	1.11	-1.09	
9,390.0	0.70	29.90	8,808.0	-773.8	-2,831.0	2,934.8	0.78	-0.76	
9,481.0	0.80	274.10	8,899.0	-773.3	-2,831.4	2,935.0	1.40	0.11	
9,573.0	0.80	200.40	8,991.0	-773.8	-2,832.2	2,936.0	1.04	0.00	
9,664.0	0.70	174.60	9,082.0	-775.0	-2,832.4	2,936.5	0.38	-0.11	
9,756.0	1.60	231.30	9,174.0	-776.4	-2,833.3	2,937.8	1.47	0.98	
9,847.0	1.40	217.70	9,265.0	-778.0	-2,835.0	2,939.8	0.45	-0.22	
9,939.0	2.20	243.60	9,356.9	-779.7	-2,837.3	2,942.5	1.22	0.87	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well 8502E-35 (was 8513C-25)
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	KB=32' @ 8323.0ft (Patterson #326)
<b>Site:</b>	S36-T4S-R96W (D36 496)	<b>MD Reference:</b>	KB=32' @ 8323.0ft (Patterson #326)
<b>Well:</b>	8502E-35 (was 8513C-25)	<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
10,030.0	1.00	35.40	9,447.9	-779.8	-2,838.4	2,943.6	3.43	-1.32	
10,122.0	0.40	52.50	9,539.9	-779.0	-2,837.7	2,942.6	0.68	-0.65	
10,213.0	0.50	257.20	9,630.9	-778.9	-2,837.8	2,942.7	0.97	0.11	
10,304.0	1.30	84.60	9,721.9	-778.9	-2,837.2	2,942.1	1.97	0.88	
10,396.0	0.60	97.70	9,813.9	-778.8	-2,835.6	2,940.7	0.79	-0.76	
10,487.0	0.60	262.90	9,904.9	-779.0	-2,835.6	2,940.7	1.31	0.00	
10,579.0	1.30	23.30	9,996.9	-778.1	-2,835.7	2,940.5	1.83	0.76	
10,670.0	1.10	320.20	10,087.9	-776.4	-2,835.9	2,940.2	1.39	-0.22	
10,762.0	1.60	250.00	10,179.8	-776.2	-2,837.6	2,941.9	1.75	0.54	
10,854.0	1.40	203.50	10,271.8	-777.7	-2,839.3	2,943.9	1.30	-0.22	
10,945.0	1.40	212.30	10,362.8	-779.6	-2,840.3	2,945.4	0.24	0.00	
11,037.0	0.80	207.40	10,454.8	-781.1	-2,841.2	2,946.6	0.66	-0.65	
11,128.0	1.40	147.60	10,545.7	-782.6	-2,840.9	2,946.8	1.33	0.66	
11,220.0	0.60	223.00	10,637.7	-783.9	-2,840.6	2,946.8	1.50	-0.87	
11,312.0	1.20	210.50	10,729.7	-785.1	-2,841.5	2,947.9	0.68	0.65	
11,404.0	1.10	235.40	10,821.7	-786.5	-2,842.7	2,949.5	0.55	-0.11	
11,495.0	0.90	94.80	10,912.7	-787.0	-2,842.7	2,949.6	2.07	-0.22	
11,587.0	0.50	289.80	11,004.7	-786.9	-2,842.3	2,949.3	1.51	-0.43	
11,679.0	0.90	46.90	11,096.7	-786.3	-2,842.2	2,949.0	1.32	0.43	
11,770.0	0.40	233.40	11,187.7	-786.0	-2,841.9	2,948.6	1.43	-0.55	
11,862.0	0.80	310.90	11,279.7	-785.8	-2,842.7	2,949.3	0.88	0.43	
12,045.0	1.00	232.20	11,462.7	-785.9	-2,844.9	2,951.5	0.63	0.11	
12,228.0	2.70	261.00	11,645.6	-787.6	-2,850.4	2,957.2	1.03	0.93	
12,355.0	3.50	252.40	11,772.4	-789.2	-2,857.1	2,964.1	0.73	0.63	Last Cathedral Survey @ 12355' MD
12,410.0	3.50	252.40	11,827.3	-790.2	-2,860.3	2,967.4	0.00	0.00	Projection to Bit @ 12410' MD

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
8502E-35 D36 496 TGT	0.00	0.00	7,909.0	-780.1	-2,837.4	1,677,079.79	2,258,863.48	39° 39' 46.40 N	108° 7' 58.45 W
- hit/miss target									
- Shape									
- actual wellpath misses target center by 6.7ft at 8490.9ft MD (7909.3 TVD, -776.7 N, -2831.6 E)									
- Point									
8502E-35 D36 496 PBH	0.00	0.00	12,494.0	-790.1	-2,854.4	1,677,070.31	2,258,846.18	39° 39' 46.30 N	108° 7' 58.67 W
- actual wellpath misses target center by 666.7ft at 12410.0ft MD (11827.3 TVD, -790.2 N, -2860.3 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
12,355.0	11,772.4	-789.2	-2,857.1	Last Cathedral Survey @ 12355' MD	
12,410.0	11,827.3	-790.2	-2,860.3	Projection to Bit @ 12410' MD	

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