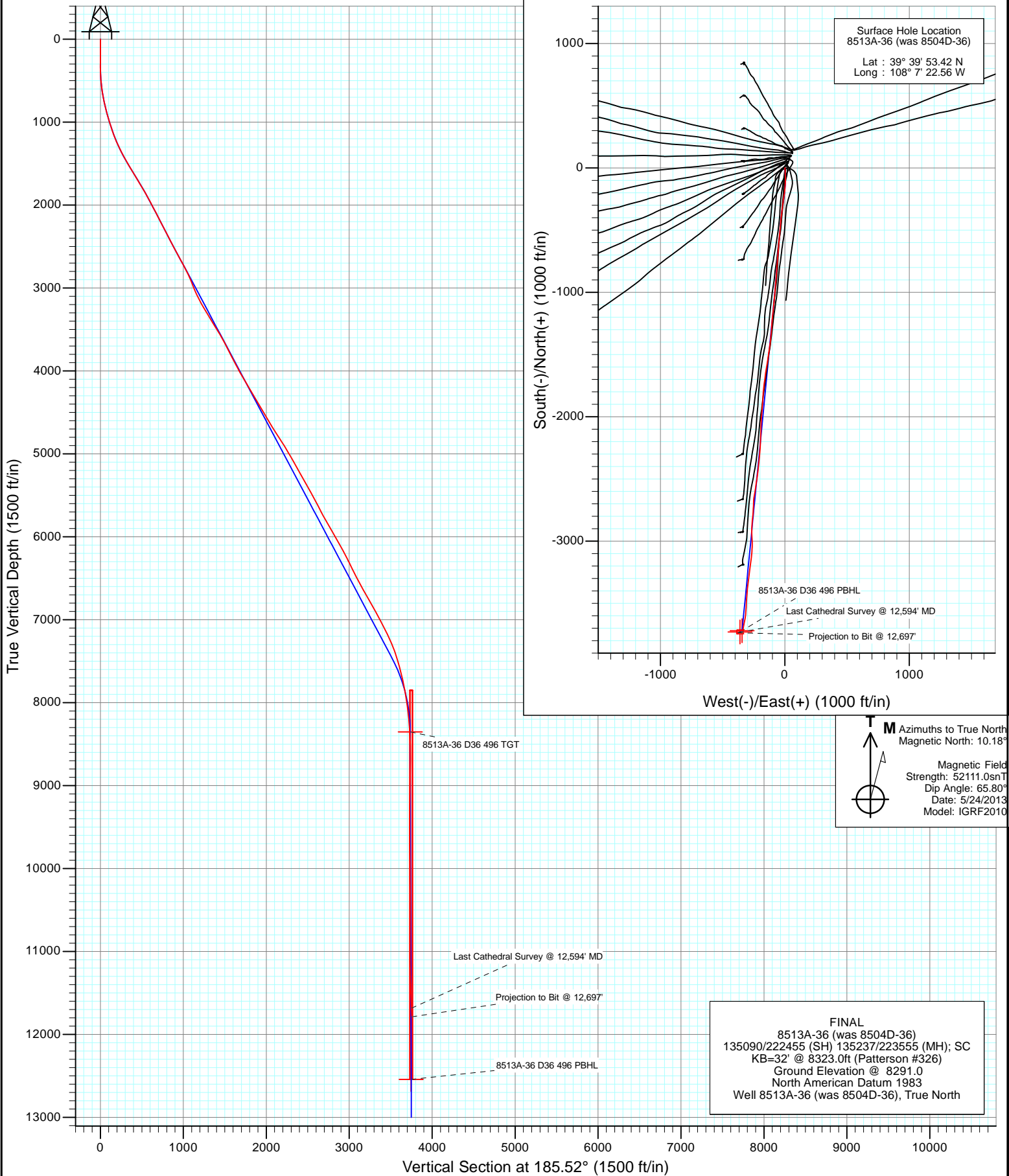


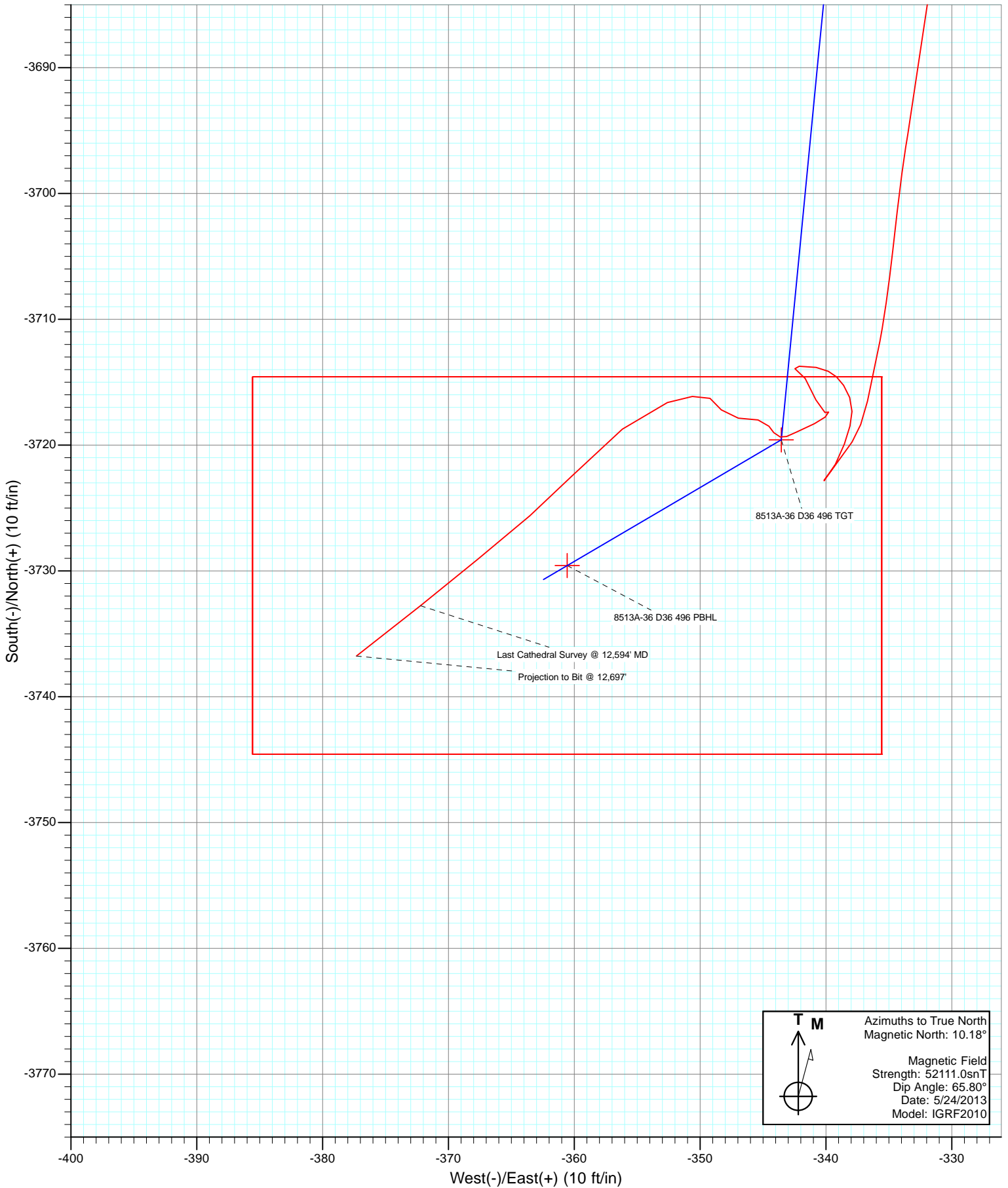


Project: Story Gulch  
 Site: S36-T4S-R96W (D36 496)  
 Well: 8513A-36 (was 8504D-36)  
 Wellbore: DD  
 Design: FINAL





Project: Story Gulch  
Site: S36-T4S-R96W (D36 496)  
Well: 8513A-36 (was 8504D-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 8513A-36 (was 8504D-36)
<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> 8513A-36 (was 8504D-36)	<b>North Reference:</b> True
<b>Wellbore:</b> DD	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> FINAL	<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		

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

<b>Well</b> 8513A-36 (was 8504D-36)			
<b>Well Position</b>	<b>+N/-S</b> 0.0 ft	<b>Northing:</b> 1,677,708.73 ft	<b>Latitude:</b> 39° 39' 53.42 N
	<b>+E/-W</b> 0.0 ft	<b>Easting:</b> 2,261,689.71 ft	<b>Longitude:</b> 108° 7' 22.56 W
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b> ft	<b>Ground Level:</b> 8,291.0 ft

<b>Wellbore</b> DD					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/24/2013	10.18	65.80	52,111

<b>Design</b> FINAL				
<b>Audit Notes:</b>				
<b>Version:</b> 1.0	<b>Phase:</b> ACTUAL	<b>Tie On Depth:</b> 0.0		
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	185.52

<b>Survey Program</b>		<b>Date</b> 6/3/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
179.0	12,697.0	Survey #1 (DD)	MWD	Geolink MWD

<b>Survey</b>									
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	
179.0	0.20	132.80	179.0	-0.2	0.2	0.2	0.11	0.11	
209.0	0.10	83.30	209.0	-0.2	0.3	0.2	0.52	-0.33	
240.0	0.30	127.50	240.0	-0.3	0.4	0.3	0.77	0.65	
270.0	0.30	67.90	270.0	-0.3	0.5	0.3	0.99	0.00	
301.0	0.40	82.00	301.0	-0.3	0.7	0.2	0.42	0.32	
331.0	0.30	100.20	331.0	-0.3	0.9	0.2	0.49	-0.33	
362.0	0.80	167.50	362.0	-0.5	1.0	0.4	2.38	1.61	
392.0	1.70	178.70	392.0	-1.1	1.1	1.0	3.09	3.00	
422.0	2.40	171.50	422.0	-2.2	1.2	2.1	2.48	2.33	
453.0	3.40	171.60	452.9	-3.8	1.4	3.6	3.23	3.23	
483.0	4.50	176.60	482.9	-5.8	1.6	5.6	3.84	3.67	
514.0	5.30	176.80	513.7	-8.5	1.8	8.2	2.58	2.58	

# Cathedral Energy Services

## Survey Report

<b>Company:</b> EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b> Well 8513A-36 (was 8504D-36)
<b>Project:</b> Story Gulch	<b>TD 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> 8513A-36 (was 8504D-36)	<b>North Reference:</b> True
<b>Wellbore:</b> DD	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> FINAL	<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	6.00	177.50	543.6	-11.4	1.9	11.2	2.34	2.33	
574.0	7.00	179.70	573.4	-14.8	2.0	14.5	3.43	3.33	
605.0	8.00	178.30	604.1	-18.8	2.0	18.6	3.28	3.23	
654.0	9.80	180.40	652.5	-26.4	2.1	26.1	3.73	3.67	
699.0	10.90	177.50	696.8	-34.5	2.3	34.1	2.70	2.44	
791.0	13.10	176.20	786.8	-53.6	3.3	53.0	2.41	2.39	
882.0	14.60	178.50	875.2	-75.4	4.3	74.6	1.76	1.65	
974.0	16.60	181.10	963.8	-100.1	4.4	99.2	2.30	2.17	
1,065.0	18.20	182.30	1,050.6	-127.3	3.6	126.4	1.80	1.76	
1,156.0	20.10	184.60	1,136.6	-157.1	1.7	156.2	2.25	2.09	
1,248.0	22.80	187.80	1,222.2	-190.5	-1.9	189.8	3.20	2.93	
1,339.0	25.10	187.90	1,305.3	-227.1	-7.0	226.7	2.53	2.53	
1,431.0	26.80	189.90	1,388.1	-266.9	-13.2	266.9	2.08	1.85	
1,523.0	30.30	186.30	1,468.9	-310.4	-19.4	310.8	4.24	3.80	
1,614.0	32.10	185.50	1,546.7	-357.3	-24.2	357.9	2.03	1.98	
1,705.0	31.20	185.80	1,624.2	-404.8	-28.9	405.7	1.00	-0.99	
1,797.0	31.30	186.30	1,702.8	-452.2	-33.9	453.4	0.30	0.11	
1,888.0	30.00	186.60	1,781.1	-498.3	-39.1	499.8	1.44	-1.43	
1,979.0	29.00	184.80	1,860.3	-542.9	-43.6	544.6	1.47	-1.10	
2,071.0	28.70	184.30	1,940.9	-587.2	-47.1	589.0	0.42	-0.33	
2,162.0	27.50	184.40	2,021.2	-629.9	-50.4	631.8	1.32	-1.32	
2,253.0	27.20	184.70	2,102.0	-671.6	-53.7	673.6	0.36	-0.33	
2,345.0	27.30	184.80	2,183.8	-713.6	-57.2	715.8	0.12	0.11	
2,437.0	27.40	184.50	2,265.5	-755.7	-60.6	758.0	0.19	0.11	
2,528.0	27.40	183.80	2,346.3	-797.5	-63.6	799.9	0.35	0.00	
2,619.0	27.50	184.10	2,427.0	-839.3	-66.5	841.8	0.19	0.11	
2,711.0	27.90	185.00	2,508.5	-881.9	-69.9	884.6	0.63	0.43	
2,803.0	28.60	185.10	2,589.5	-925.3	-73.7	928.1	0.76	0.76	
2,894.0	28.70	185.00	2,669.4	-968.8	-77.6	971.7	0.12	0.11	
2,975.0	28.40	185.20	2,740.5	-1,007.3	-81.0	1,010.5	0.39	-0.37	
3,081.0	24.90	183.10	2,835.3	-1,054.7	-84.5	1,058.0	3.42	-3.30	
3,172.0	22.20	186.70	2,918.7	-1,090.9	-87.6	1,094.3	3.36	-2.97	
3,264.0	22.30	186.90	3,003.8	-1,125.5	-91.7	1,129.1	0.14	0.11	
3,355.0	24.60	187.10	3,087.3	-1,161.5	-96.1	1,165.3	2.53	2.53	
3,447.0	29.10	185.30	3,169.4	-1,202.8	-100.5	1,206.9	4.97	4.89	
3,538.0	31.00	182.50	3,248.1	-1,248.2	-103.6	1,252.4	2.59	2.09	
3,630.0	31.10	184.90	3,327.0	-1,295.6	-106.7	1,299.8	1.35	0.11	
3,721.0	30.90	184.60	3,405.0	-1,342.3	-110.6	1,346.7	0.28	-0.22	
3,813.0	31.70	188.00	3,483.6	-1,389.8	-115.8	1,394.5	2.11	0.87	
3,904.0	31.60	187.90	3,561.1	-1,437.1	-122.4	1,442.2	0.12	-0.11	
3,996.0	26.50	186.20	3,641.5	-1,481.4	-127.9	1,486.8	5.62	-5.54	
4,088.0	27.80	189.30	3,723.3	-1,523.0	-133.6	1,528.7	2.09	1.41	
4,178.0	27.50	190.60	3,803.0	-1,564.1	-140.8	1,570.4	0.75	-0.33	
4,269.0	27.00	188.90	3,883.9	-1,605.1	-147.9	1,611.9	1.02	-0.55	
4,361.0	28.30	187.70	3,965.4	-1,647.4	-154.1	1,654.6	1.54	1.41	
4,453.0	30.10	187.40	4,045.7	-1,691.9	-160.0	1,699.4	1.96	1.96	
4,544.0	29.90	188.00	4,124.5	-1,737.0	-166.0	1,744.9	0.40	-0.22	
4,635.0	31.20	185.30	4,202.9	-1,782.9	-171.4	1,791.1	2.08	1.43	
4,727.0	30.50	183.10	4,281.9	-1,830.0	-174.8	1,838.3	1.44	-0.76	
4,818.0	30.40	183.00	4,360.4	-1,876.0	-177.3	1,884.4	0.12	-0.11	
4,910.0	30.30	185.30	4,439.7	-1,922.4	-180.7	1,930.8	1.27	-0.11	
5,001.0	31.20	185.70	4,518.0	-1,968.7	-185.1	1,977.4	1.01	0.99	
5,093.0	30.40	182.70	4,597.0	-2,015.6	-188.6	2,024.4	1.88	-0.87	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well 8513A-36 (was 8504D-36)
<b>Project:</b>	Story Gulch	<b>TD Reference:</b>	KB=32' @ 8323.0ft (Patterson #326)
<b>Site:</b>	S36-T4S-R96W (D36 496)	<b>MVD Reference:</b>	KB=32' @ 8323.0ft (Patterson #326)
<b>Well:</b>	8513A-36 (was 8504D-36)	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<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
5,184.0	31.90	181.80	4,674.9	-2,062.7	-190.4	2,071.4	1.73	1.65	
5,276.0	32.80	182.70	4,752.6	-2,111.9	-192.4	2,120.6	1.11	0.98	
5,367.0	33.10	182.40	4,828.9	-2,161.3	-194.6	2,170.0	0.38	0.33	
5,459.0	31.00	182.40	4,906.9	-2,210.1	-196.6	2,218.7	2.28	-2.28	
5,551.0	31.20	184.00	4,985.7	-2,257.5	-199.3	2,266.2	0.92	0.22	
5,642.0	29.50	184.30	5,064.2	-2,303.4	-202.6	2,312.2	1.88	-1.87	
5,733.0	29.00	185.70	5,143.6	-2,347.7	-206.5	2,356.7	0.93	-0.55	
5,825.0	29.50	187.20	5,223.9	-2,392.3	-211.5	2,401.6	0.96	0.54	
5,916.0	29.70	186.30	5,303.0	-2,437.0	-216.8	2,446.5	0.54	0.22	
6,008.0	28.40	187.10	5,383.4	-2,481.3	-222.0	2,491.2	1.47	-1.41	
6,100.0	29.20	188.70	5,464.1	-2,525.2	-228.1	2,535.5	1.21	0.87	
6,191.0	29.40	189.10	5,543.4	-2,569.2	-235.0	2,579.9	0.31	0.22	
6,282.0	27.40	189.00	5,623.5	-2,612.0	-241.8	2,623.1	2.20	-2.20	
6,374.0	26.90	188.20	5,705.3	-2,653.5	-248.1	2,665.0	0.67	-0.54	
6,465.0	30.00	181.30	5,785.3	-2,696.6	-251.5	2,708.3	4.96	3.41	
6,556.0	29.30	182.80	5,864.4	-2,741.6	-253.1	2,753.3	1.12	-0.77	
6,648.0	30.80	185.00	5,944.1	-2,787.6	-256.3	2,799.3	2.02	1.63	
6,739.0	29.50	186.70	6,022.8	-2,833.0	-260.9	2,845.0	1.71	-1.43	
6,831.0	29.20	183.60	6,102.9	-2,877.9	-265.0	2,890.1	1.68	-0.33	
6,922.0	27.80	178.70	6,182.9	-2,921.3	-265.9	2,933.3	2.99	-1.54	
7,013.0	27.90	177.00	6,263.4	-2,963.8	-264.3	2,975.5	0.88	0.11	
7,105.0	25.80	178.50	6,345.5	-3,005.3	-262.7	3,016.6	2.40	-2.28	
7,196.0	26.90	181.40	6,427.0	-3,045.7	-262.6	3,056.8	1.86	1.21	
7,288.0	27.30	184.20	6,508.9	-3,087.5	-264.7	3,098.7	1.45	0.43	
7,379.0	28.50	185.10	6,589.3	-3,130.0	-268.2	3,141.2	1.40	1.32	
7,471.0	30.00	188.90	6,669.6	-3,174.6	-273.7	3,186.2	2.59	1.63	
7,563.0	29.00	190.20	6,749.7	-3,219.2	-281.2	3,231.3	1.29	-1.09	
7,655.0	29.50	186.80	6,830.0	-3,263.7	-287.8	3,276.2	1.89	0.54	
7,747.0	28.90	186.30	6,910.3	-3,308.3	-292.9	3,321.1	0.70	-0.65	
7,838.0	28.50	186.20	6,990.1	-3,351.7	-297.7	3,364.8	0.44	-0.44	
7,929.0	27.20	185.20	7,070.6	-3,394.0	-301.9	3,407.3	1.52	-1.43	
8,020.0	26.50	185.30	7,151.7	-3,434.9	-305.7	3,448.4	0.77	-0.77	
8,112.0	24.10	182.40	7,234.9	-3,474.1	-308.4	3,487.7	2.94	-2.61	
8,204.0	22.00	181.50	7,319.6	-3,510.1	-309.6	3,523.6	2.31	-2.28	
8,295.0	18.60	184.70	7,404.9	-3,541.7	-311.2	3,555.2	3.93	-3.74	
8,387.0	17.10	185.60	7,492.5	-3,569.7	-313.7	3,583.4	1.66	-1.63	
8,478.0	15.50	184.30	7,579.8	-3,595.2	-316.0	3,608.9	1.80	-1.76	
8,570.0	12.80	191.20	7,669.0	-3,617.4	-318.9	3,631.3	3.46	-2.93	
8,662.0	11.90	191.20	7,758.9	-3,636.7	-322.7	3,650.9	0.98	-0.98	
8,753.0	11.20	190.70	7,848.0	-3,654.6	-326.2	3,669.1	0.78	-0.77	
8,844.0	8.80	192.20	7,937.7	-3,670.1	-329.3	3,684.8	2.65	-2.64	
8,936.0	8.40	188.50	8,028.6	-3,683.6	-331.7	3,698.5	0.74	-0.43	
9,027.0	6.50	188.50	8,118.8	-3,695.3	-333.5	3,710.3	2.09	-2.09	
9,119.0	5.40	186.10	8,210.4	-3,704.8	-334.7	3,719.8	1.23	-1.20	
9,211.0	3.40	191.10	8,302.1	-3,711.8	-335.7	3,726.8	2.21	-2.17	
9,302.0	2.70	192.60	8,392.9	-3,716.5	-336.7	3,731.6	0.77	-0.77	
9,394.0	1.70	213.50	8,484.9	-3,719.7	-337.9	3,735.0	1.38	-1.09	
9,485.0	2.00	217.60	8,575.8	-3,722.1	-339.6	3,737.5	0.36	0.33	
9,576.0	0.90	39.30	8,666.8	-3,722.8	-340.1	3,738.3	3.19	-1.21	
9,668.0	1.10	30.70	8,758.8	-3,721.5	-339.2	3,736.9	0.27	0.22	
9,759.0	1.10	17.20	8,849.8	-3,719.9	-338.5	3,735.2	0.28	0.00	
9,851.0	0.80	17.50	8,941.8	-3,718.5	-338.1	3,733.7	0.33	-0.33	
9,941.0	0.70	356.40	9,031.8	-3,717.3	-337.9	3,732.6	0.32	-0.11	

# Cathedral Energy Services

## Survey Report

<b>Company:</b> EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b> Well 8513A-36 (was 8504D-36)
<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> 8513A-36 (was 8504D-36)	<b>North Reference:</b> True
<b>Wellbore:</b> DD	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> FINAL	<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
10,033.0	0.70	345.40	9,123.8	-3,716.2	-338.1	3,731.5	0.15	0.00	
10,124.0	0.70	321.40	9,214.8	-3,715.2	-338.6	3,730.6	0.32	0.00	
10,215.0	0.40	318.10	9,305.7	-3,714.6	-339.2	3,730.0	0.33	-0.33	
10,307.0	0.60	294.80	9,397.7	-3,714.1	-339.8	3,729.6	0.31	0.22	
10,398.0	0.70	281.60	9,488.7	-3,713.8	-340.8	3,729.4	0.20	0.11	
10,489.0	1.00	268.00	9,579.7	-3,713.7	-342.1	3,729.4	0.40	0.33	
10,580.0	0.60	108.90	9,670.7	-3,713.9	-342.5	3,729.6	1.73	-0.44	
10,672.0	0.90	150.10	9,762.7	-3,714.7	-341.6	3,730.3	0.65	0.33	
10,763.0	1.50	155.50	9,853.7	-3,716.4	-340.8	3,732.0	0.67	0.66	
10,854.0	0.30	69.90	9,944.7	-3,717.4	-340.1	3,732.9	1.66	-1.32	
10,946.0	0.10	129.80	10,036.7	-3,717.4	-339.8	3,732.8	0.29	-0.22	
11,037.0	0.60	222.80	10,127.7	-3,717.8	-340.1	3,733.2	0.67	0.55	
11,129.0	0.70	252.60	10,219.7	-3,718.3	-340.9	3,733.9	0.38	0.11	
11,220.0	1.30	240.80	10,310.7	-3,719.0	-342.3	3,734.7	0.69	0.66	
11,312.0	0.50	289.80	10,402.7	-3,719.3	-343.6	3,735.1	1.13	-0.87	
11,404.0	0.30	325.90	10,494.7	-3,719.0	-344.1	3,734.9	0.34	-0.22	
11,495.0	0.50	321.70	10,585.6	-3,718.5	-344.5	3,734.4	0.22	0.22	
11,587.0	0.80	286.70	10,677.6	-3,718.0	-345.4	3,734.0	0.53	0.33	
11,678.0	1.20	267.70	10,768.6	-3,717.9	-347.0	3,734.0	0.57	0.44	
11,770.0	1.00	330.80	10,860.6	-3,717.2	-348.3	3,733.5	1.26	-0.22	
11,861.0	0.70	292.30	10,951.6	-3,716.3	-349.2	3,732.6	0.69	-0.33	
11,953.0	1.10	266.40	11,043.6	-3,716.1	-350.6	3,732.6	0.61	0.43	
12,044.0	1.50	248.70	11,134.6	-3,716.6	-352.6	3,733.3	0.62	0.44	
12,319.0	2.60	223.10	11,409.4	-3,722.5	-360.2	3,739.9	0.51	0.40	
12,411.0	3.10	229.70	11,501.3	-3,725.6	-363.5	3,743.3	0.65	0.54	
12,502.0	3.70	230.30	11,592.1	-3,729.1	-367.7	3,747.2	0.66	0.66	
12,594.0	3.60	231.80	11,683.9	-3,732.8	-372.2	3,751.3	0.15	-0.11	Last Cathedral Survey @ 12,594' MD
12,697.0	3.60	231.80	11,786.7	-3,736.8	-377.3	3,755.7	0.00	0.00	Projection to Bit @ 12,697'

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
8513A-36 D36 496 PBH - hit/miss target - Shape	0.00	0.00	12,542.0	-3,729.6	-360.6	1,673,991.12	2,261,221.64	39° 39' 16.56 N	108° 7' 27.17 W
- actual wellpath misses target center by 755.5ft at 12697.0ft MD (11786.7 TVD, -3736.8 N, -377.3 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									
8513A-36 D36 496 TGT - actual wellpath misses target center by 8.9ft at 9260.3ft MD (8351.3 TVD, -3714.5 N, -336.3 E)	0.00	0.00	8,351.0	-3,719.6	-343.5	1,674,000.62	2,261,238.93	39° 39' 16.66 N	108° 7' 26.95 W
- Point									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment	
12,594.0	11,683.9	-3,732.8	-372.2	Last Cathedral Survey @ 12,594' MD	
12,697.0	11,786.7	-3,736.8	-377.3	Projection to Bit @ 12,697'	

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