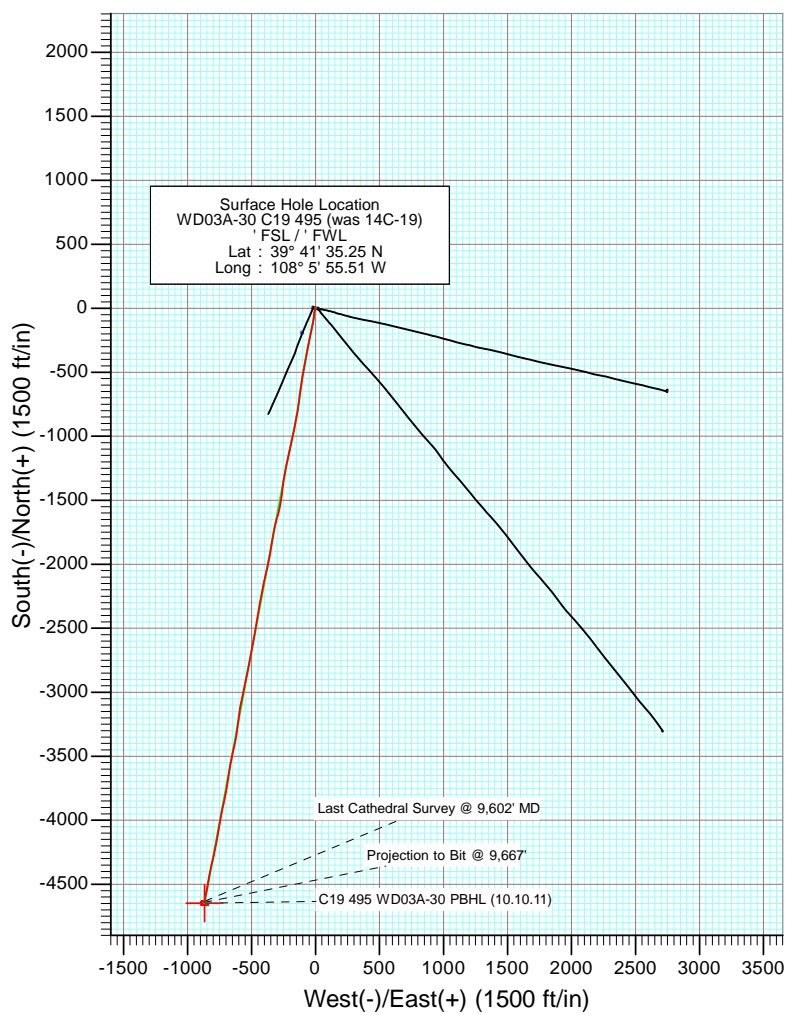
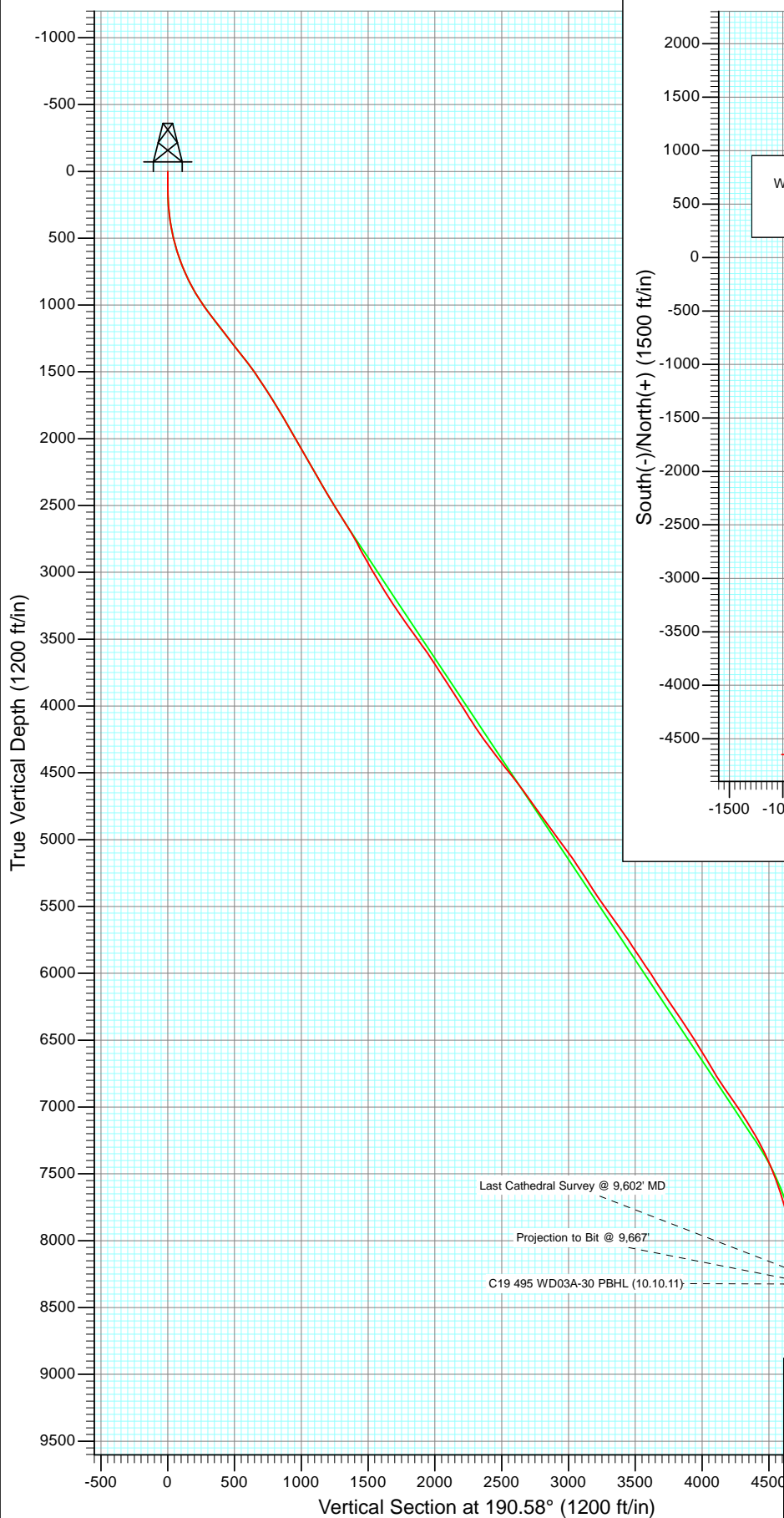




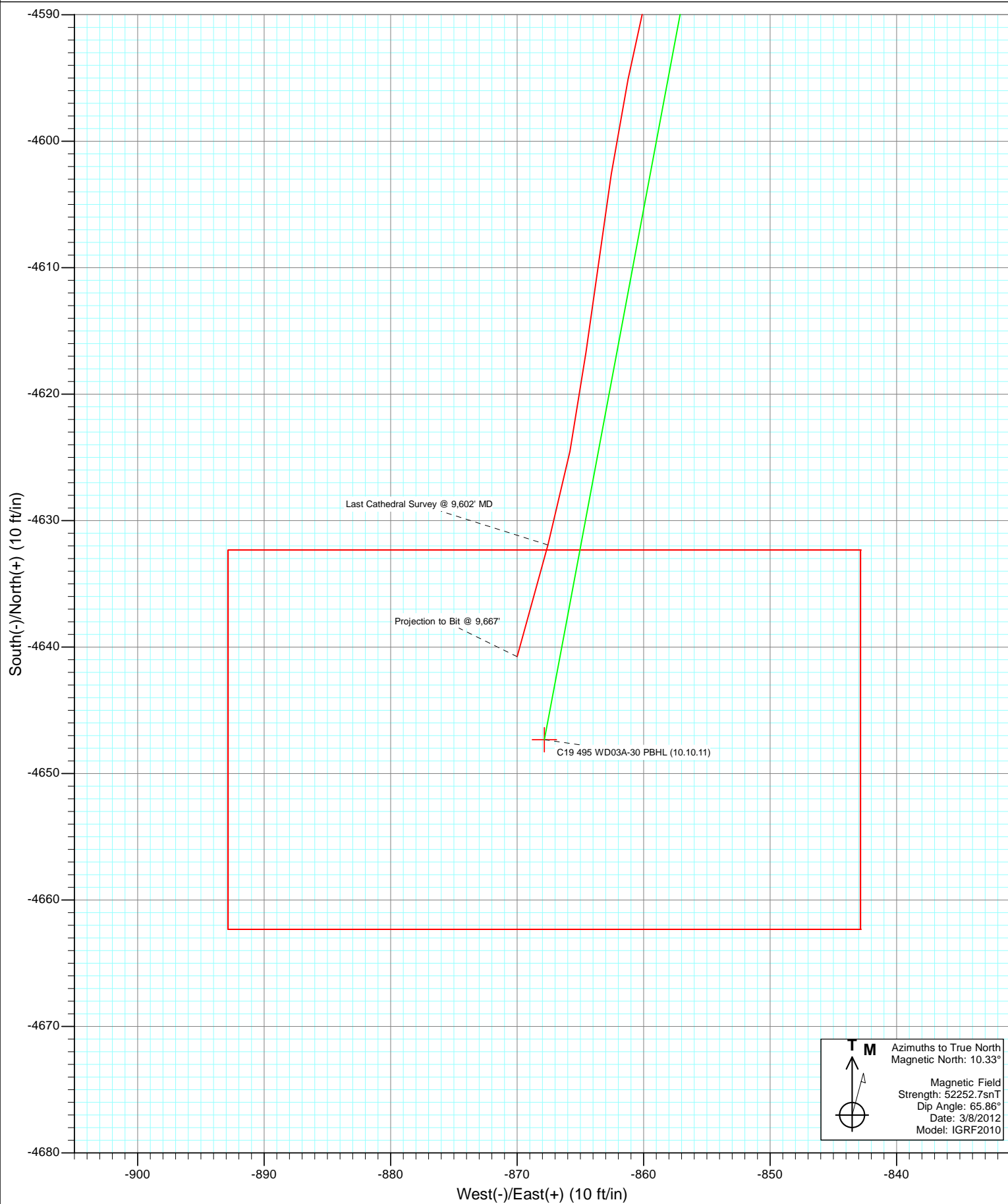
Project: Story Gulch  
 Site: C19 495  
 Well: WD03A-30 C19 495 (was 14C-19)  
 Wellbore: DD  
 Design: FINAL



Azimuths to True North  
 Magnetic North: 10.33°

Magnetic Field  
 Strength: 52252.7snT  
 Dip Angle: 65.86°  
 Date: 3/8/2012  
 Model: IGRF2010

DD							
WD03A-30 C19 495 (was 14C-19)							
125168 145255 LR							
KB-32 @ 8159.0ft (Patterson 330)							
GL @ 8127.0							
North American Datum 1983							
Well WD03A-30 C19 495 (was 14C-19), True North							
Type	Target	Azimuth	Origin Type	N/S	E/W	From TVD	
Target	C19 495 WD03A-30 PBHL (10.10.11)	90.58	Slot	0.0	0.0	0.0	
Name	C19 495 WD03A-30 PBHL (10.10.11)	TVD	+N/-S	+E/-W	Latitude	Longitude	
		8324.0	-647.3	-867.8	39° 40' 49.32 N	108° 6' 6.61 W	



# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well WD03A-30 C19 495 (was 14C-19)
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	KB=32' @ 8159.0ft (Patterson 330)
<b>Site:</b>	C19 495	<b>MD Reference:</b>	KB=32' @ 8159.0ft (Patterson 330)
<b>Well:</b>	WD03A-30 C19 495 (was 14C-19)	<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		

<b>Site</b>	C19 495			
<b>Site Position:</b>		<b>Northing:</b>	1,687,624.39 ft	<b>Latitude:</b> 39° 41' 33.36 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,268,676.50 ft	<b>Longitude:</b> 108° 5' 56.88 W
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> -1.64 °

<b>Well</b>	WD03A-30 C19 495 (was 14C-19)			
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>	1,687,812.44 ft
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>	2,268,789.01 ft
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	ft
			<b>Ground Level:</b>	8,127.0 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	3/8/2012	10.33	65.86	52,253

<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	190.58

<b>Survey Program</b>	<b>Date</b>	3/17/2012		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
174.0	9,667.0	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	
174.0	1.40	222.00	174.0	-1.6	-1.4	1.8	0.80	0.80	
204.0	2.30	214.70	204.0	-2.3	-2.0	2.7	3.10	3.00	
235.0	3.40	190.00	234.9	-3.8	-2.5	4.2	5.24	3.55	
265.0	4.40	191.70	264.9	-5.8	-2.9	6.2	3.36	3.33	
296.0	5.20	193.70	295.8	-8.3	-3.5	8.8	2.64	2.58	
326.0	6.90	196.50	325.6	-11.3	-4.3	11.9	5.75	5.67	
357.0	7.90	194.00	356.3	-15.2	-5.4	15.9	3.39	3.23	
388.0	9.00	191.80	387.0	-19.6	-6.4	20.5	3.70	3.55	
419.0	10.10	192.20	417.6	-24.7	-7.4	25.6	3.55	3.55	
449.0	11.30	190.90	447.0	-30.1	-8.6	31.2	4.08	4.00	
480.0	12.80	189.00	477.4	-36.5	-9.7	37.7	5.00	4.84	
511.0	13.90	186.50	507.5	-43.6	-10.6	44.8	4.01	3.55	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well WD03A-30 C19 495 (was 14C-19)
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	KB=32' @ 8159.0ft (Patterson 330)
<b>Site:</b>	C19 495	<b>MD Reference:</b>	KB=32' @ 8159.0ft (Patterson 330)
<b>Well:</b>	WD03A-30 C19 495 (was 14C-19)	<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
542.0	15.10	186.20	537.5	-51.3	-11.5	52.5	3.88	3.87	
574.0	16.00	187.00	568.4	-59.8	-12.5	61.1	2.89	2.81	
605.0	17.20	186.40	598.1	-68.6	-13.5	69.9	3.91	3.87	
635.0	18.20	188.30	626.6	-77.7	-14.7	79.0	3.85	3.33	
665.0	19.40	190.10	655.0	-87.2	-16.2	88.7	4.44	4.00	
696.0	20.80	189.90	684.2	-97.7	-18.1	99.4	4.52	4.52	
727.0	22.00	190.00	713.0	-108.8	-20.0	110.7	3.87	3.87	
757.0	23.10	190.30	740.7	-120.2	-22.1	122.2	3.69	3.67	
788.0	24.30	190.60	769.1	-132.4	-24.3	134.6	3.89	3.87	
819.0	25.50	191.40	797.2	-145.2	-26.8	147.7	4.02	3.87	
849.0	26.70	191.90	824.2	-158.2	-29.5	160.9	4.07	4.00	
945.0	30.80	191.90	908.3	-203.3	-39.0	207.0	4.27	4.27	
1,032.0	33.90	191.30	981.8	-248.9	-48.3	253.6	3.58	3.56	
1,123.0	36.70	190.70	1,056.1	-300.5	-58.4	306.1	3.10	3.08	
1,215.0	38.10	190.60	1,129.1	-355.5	-68.7	362.0	1.52	1.52	
1,306.0	37.30	191.60	1,201.1	-410.1	-79.4	417.7	1.11	-0.88	
1,398.0	37.20	190.20	1,274.4	-464.7	-89.9	473.4	0.93	-0.11	
1,489.0	39.30	191.30	1,345.8	-520.1	-100.5	529.7	2.43	2.31	
1,580.0	37.50	187.70	1,417.2	-575.8	-109.8	586.2	3.15	-1.98	
1,671.0	35.40	186.10	1,490.4	-629.5	-116.3	640.1	2.53	-2.31	
1,763.0	33.40	188.80	1,566.3	-681.0	-123.0	692.0	2.73	-2.17	
1,854.0	32.90	187.00	1,642.5	-730.3	-129.9	741.7	1.21	-0.55	
1,946.0	32.00	188.60	1,720.1	-779.2	-136.6	791.0	1.35	-0.98	
2,037.0	31.20	191.00	1,797.6	-826.2	-144.7	838.7	1.64	-0.88	
2,129.0	30.40	191.30	1,876.6	-872.4	-153.8	885.8	0.89	-0.87	
2,221.0	29.30	189.80	1,956.4	-917.4	-162.2	931.6	1.44	-1.20	
2,312.0	29.90	191.80	2,035.5	-961.5	-170.6	976.5	1.27	0.66	
2,404.0	29.80	192.50	2,115.3	-1,006.3	-180.2	1,022.3	0.39	-0.11	
2,496.0	29.80	192.60	2,195.2	-1,050.9	-190.2	1,068.0	0.05	0.00	
2,587.0	30.00	190.70	2,274.1	-1,095.4	-199.3	1,113.3	1.06	0.22	
2,679.0	30.20	191.90	2,353.7	-1,140.6	-208.4	1,159.5	0.69	0.22	
2,770.0	30.10	191.70	2,432.4	-1,185.3	-217.7	1,205.2	0.16	-0.11	
2,862.0	32.00	192.40	2,511.2	-1,231.7	-227.6	1,252.6	2.10	2.07	
2,908.0	32.40	192.00	2,550.1	-1,255.7	-232.8	1,277.1	0.99	0.87	
3,004.0	33.00	191.00	2,630.9	-1,306.5	-243.1	1,329.0	0.84	0.62	
3,087.0	30.50	189.50	2,701.5	-1,349.5	-250.9	1,372.6	3.16	-3.01	
3,179.0	27.60	184.30	2,781.9	-1,393.8	-256.4	1,417.2	4.18	-3.15	
3,269.0	28.83	187.30	2,861.2	-1,436.1	-260.7	1,459.6	2.09	1.37	
3,362.0	30.63	189.45	2,942.0	-1,481.7	-267.5	1,505.6	2.25	1.94	
3,453.0	29.80	189.00	3,020.6	-1,526.9	-274.8	1,551.4	0.95	-0.91	
3,544.0	32.20	192.70	3,098.6	-1,572.9	-283.7	1,598.3	3.37	2.64	
3,636.0	32.20	197.60	3,176.5	-1,620.2	-296.5	1,647.1	2.84	0.00	
3,728.0	33.80	192.90	3,253.6	-1,668.5	-309.6	1,697.0	3.28	1.74	
3,820.0	34.60	192.00	3,329.7	-1,719.0	-320.7	1,748.7	1.03	0.87	
3,912.0	35.80	190.80	3,404.9	-1,771.0	-331.2	1,801.7	1.51	1.30	
4,004.0	35.80	188.40	3,479.5	-1,824.1	-340.2	1,855.5	1.53	0.00	
4,095.0	35.80	188.40	3,553.3	-1,876.7	-348.0	1,908.7	0.00	0.00	
4,187.0	34.10	192.00	3,628.7	-1,928.6	-357.3	1,961.4	2.90	-1.85	
4,278.0	33.20	190.60	3,704.5	-1,978.0	-367.1	2,011.8	1.31	-0.99	
4,370.0	31.90	192.40	3,782.0	-2,026.5	-377.0	2,061.3	1.76	-1.41	
4,461.0	33.40	194.90	3,858.7	-2,074.2	-388.6	2,110.3	2.22	1.65	
4,552.0	33.60	191.60	3,934.5	-2,123.1	-400.1	2,160.5	2.01	0.22	
4,644.0	31.70	192.60	4,012.0	-2,171.6	-410.5	2,210.1	2.15	-2.07	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well WD03A-30 C19 495 (was 14C-19)
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	KB=32' @ 8159.0ft (Patterson 330)
<b>Site:</b>	C19 495	<b>MD Reference:</b>	KB=32' @ 8159.0ft (Patterson 330)
<b>Well:</b>	WD03A-30 C19 495 (was 14C-19)	<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
4,736.0	32.30	191.70	4,090.0	-2,219.3	-420.8	2,258.8	0.83	0.65	
4,826.0	33.90	188.00	4,165.4	-2,267.7	-429.1	2,307.9	2.86	1.78	
4,919.0	35.60	189.20	4,241.8	-2,320.1	-437.1	2,360.9	1.97	1.83	
5,010.0	36.60	188.80	4,315.4	-2,373.0	-445.5	2,414.5	1.13	1.10	
5,102.0	38.58	189.60	4,388.3	-2,428.4	-454.4	2,470.6	2.22	2.15	
5,194.0	37.90	191.21	4,460.5	-2,484.4	-464.7	2,527.5	1.31	-0.74	
5,285.0	38.60	191.70	4,532.0	-2,539.7	-475.9	2,583.9	0.84	0.77	
5,377.0	37.20	190.10	4,604.6	-2,595.1	-486.6	2,640.4	1.86	-1.52	
5,468.0	35.64	187.80	4,677.8	-2,648.5	-495.0	2,694.4	2.28	-1.71	
5,560.0	34.70	191.50	4,753.0	-2,700.7	-503.9	2,747.3	2.53	-1.02	
5,651.0	36.47	191.60	4,827.0	-2,752.6	-514.5	2,800.3	1.95	1.95	
5,743.0	36.00	190.80	4,901.2	-2,805.9	-525.0	2,854.6	0.72	-0.51	
5,834.0	36.25	192.30	4,974.7	-2,858.5	-535.8	2,908.3	1.01	0.27	
5,925.0	36.90	192.00	5,047.8	-2,911.5	-547.2	2,962.5	0.74	0.71	
6,017.0	35.50	189.70	5,122.1	-2,964.9	-557.4	3,016.8	2.12	-1.52	
6,109.0	33.50	192.90	5,197.9	-3,016.0	-567.6	3,068.9	2.93	-2.17	
6,200.0	33.00	192.50	5,274.0	-3,064.6	-578.6	3,118.8	0.60	-0.55	
6,291.0	32.40	188.80	5,350.6	-3,112.9	-587.7	3,167.9	2.29	-0.66	
6,383.0	34.60	188.80	5,427.3	-3,163.1	-595.4	3,218.7	2.39	2.39	
6,474.0	35.40	187.10	5,501.8	-3,214.8	-602.7	3,270.8	1.39	0.88	
6,566.0	35.50	185.90	5,576.8	-3,267.8	-608.7	3,324.0	0.76	0.11	
6,657.0	35.40	191.20	5,650.9	-3,320.0	-616.5	3,376.7	3.38	-0.11	
6,749.0	35.20	189.60	5,726.0	-3,372.2	-626.1	3,429.9	1.03	-0.22	
6,841.0	33.40	191.70	5,802.0	-3,423.2	-635.7	3,481.7	2.34	-1.96	
6,932.0	33.80	192.60	5,877.8	-3,472.4	-646.3	3,532.0	0.70	0.44	
7,023.0	34.00	192.50	5,953.3	-3,522.0	-657.3	3,582.8	0.23	0.22	
7,115.0	32.80	189.30	6,030.1	-3,571.7	-666.9	3,633.4	2.32	-1.30	
7,207.0	33.20	189.70	6,107.3	-3,621.1	-675.2	3,683.5	0.50	0.43	
7,298.0	33.60	187.00	6,183.3	-3,670.6	-682.5	3,733.5	1.69	0.44	
7,390.0	33.70	189.30	6,259.9	-3,721.1	-689.7	3,784.5	1.39	0.11	
7,481.0	34.50	190.90	6,335.2	-3,771.3	-698.6	3,835.5	1.32	0.88	
7,572.0	34.10	192.30	6,410.4	-3,821.5	-708.9	3,886.7	0.97	-0.44	
7,664.0	32.00	191.50	6,487.5	-3,870.6	-719.3	3,936.9	2.33	-2.28	
7,756.0	31.80	191.00	6,565.6	-3,918.3	-728.8	3,985.5	0.36	-0.22	
7,847.0	31.40	191.90	6,643.1	-3,965.0	-738.2	4,033.2	0.68	-0.44	
7,939.0	30.60	189.80	6,722.0	-4,011.6	-747.2	4,080.6	1.46	-0.87	
8,031.0	32.10	189.30	6,800.5	-4,058.8	-755.1	4,128.4	1.65	1.63	
8,122.0	34.80	189.00	6,876.5	-4,108.3	-763.1	4,178.6	2.97	2.97	
8,214.0	35.40	191.30	6,951.7	-4,160.4	-772.4	4,231.5	1.58	0.65	
8,306.0	33.80	191.20	7,027.5	-4,211.6	-782.6	4,283.7	1.74	-1.74	
8,398.0	31.70	192.50	7,104.8	-4,260.3	-792.8	4,333.4	2.41	-2.28	
8,489.0	30.90	193.20	7,182.6	-4,306.4	-803.3	4,380.7	0.97	-0.88	
8,581.0	28.10	192.10	7,262.7	-4,350.6	-813.3	4,425.9	3.10	-3.04	
8,673.0	25.90	191.10	7,344.6	-4,391.5	-821.7	4,467.7	2.44	-2.39	
8,764.0	23.90	191.60	7,427.2	-4,429.1	-829.2	4,506.0	2.21	-2.20	
8,856.0	21.00	189.60	7,512.2	-4,463.6	-835.7	4,541.1	3.26	-3.15	
8,948.0	18.50	187.70	7,598.8	-4,494.3	-840.4	4,572.2	2.81	-2.72	
9,040.0	15.90	192.60	7,686.6	-4,521.1	-845.1	4,599.4	3.23	-2.83	
9,131.0	15.50	192.70	7,774.2	-4,545.1	-850.5	4,624.0	0.44	-0.44	
9,223.0	13.90	191.30	7,863.2	-4,567.9	-855.4	4,647.3	1.78	-1.74	
9,314.0	10.90	193.20	7,952.1	-4,587.0	-859.5	4,666.8	3.33	-3.30	
9,405.0	9.20	188.80	8,041.7	-4,602.6	-862.6	4,682.7	2.05	-1.87	
9,496.0	8.80	187.30	8,131.6	-4,616.7	-864.6	4,696.9	0.51	-0.44	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well WD03A-30 C19 495 (was 14C-19)
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	KB=32' @ 8159.0ft (Patterson 330)
<b>Site:</b>	C19 495	<b>MD Reference:</b>	KB=32' @ 8159.0ft (Patterson 330)
<b>Well:</b>	WD03A-30 C19 495 (was 14C-19)	<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
9,602.0	8.10	195.40	8,236.4	-4,631.9	-867.6	4,712.5	1.30	-0.66	Last Cathedral Survey @ 9,602' MD
9,667.0	8.10	195.40	8,300.8	-4,640.8	-870.0	4,721.6	0.00	0.00	Projection to Bit @ 9,667'

### Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
C19 495 WD03A-30 PBI	0.00	0.00	8,324.0	-4,647.3	-867.8	1,683,191.84	2,267,788.60	39° 40' 49.32 N	108° 6' 6.61 W
- actual wellpath misses target center by 24.2ft at 9667.0ft MD (8300.8 TVD, -4640.8 N, -870.0 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									

### Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
9,602.0	8,236.4	-4,631.9	-867.6	Last Cathedral Survey @ 9,602' MD
9,667.0	8,300.8	-4,640.8	-870.0	Projection to Bit @ 9,667'

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