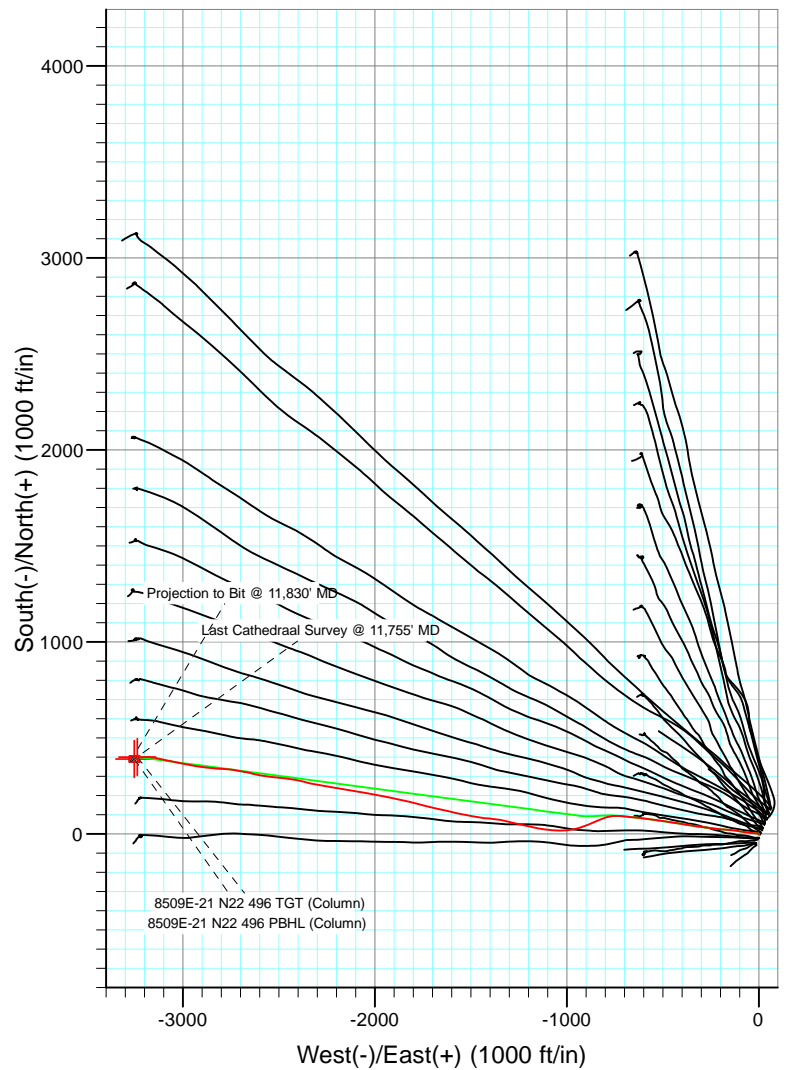
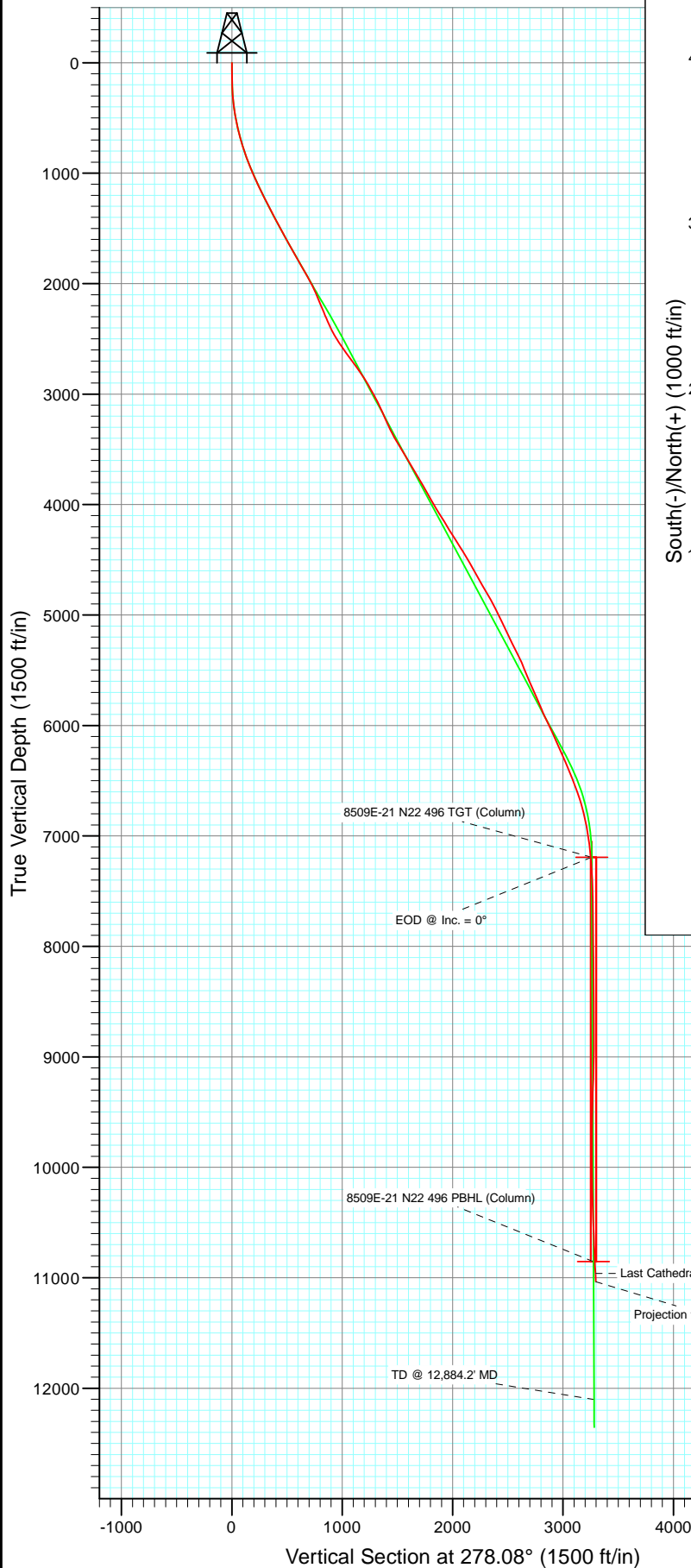




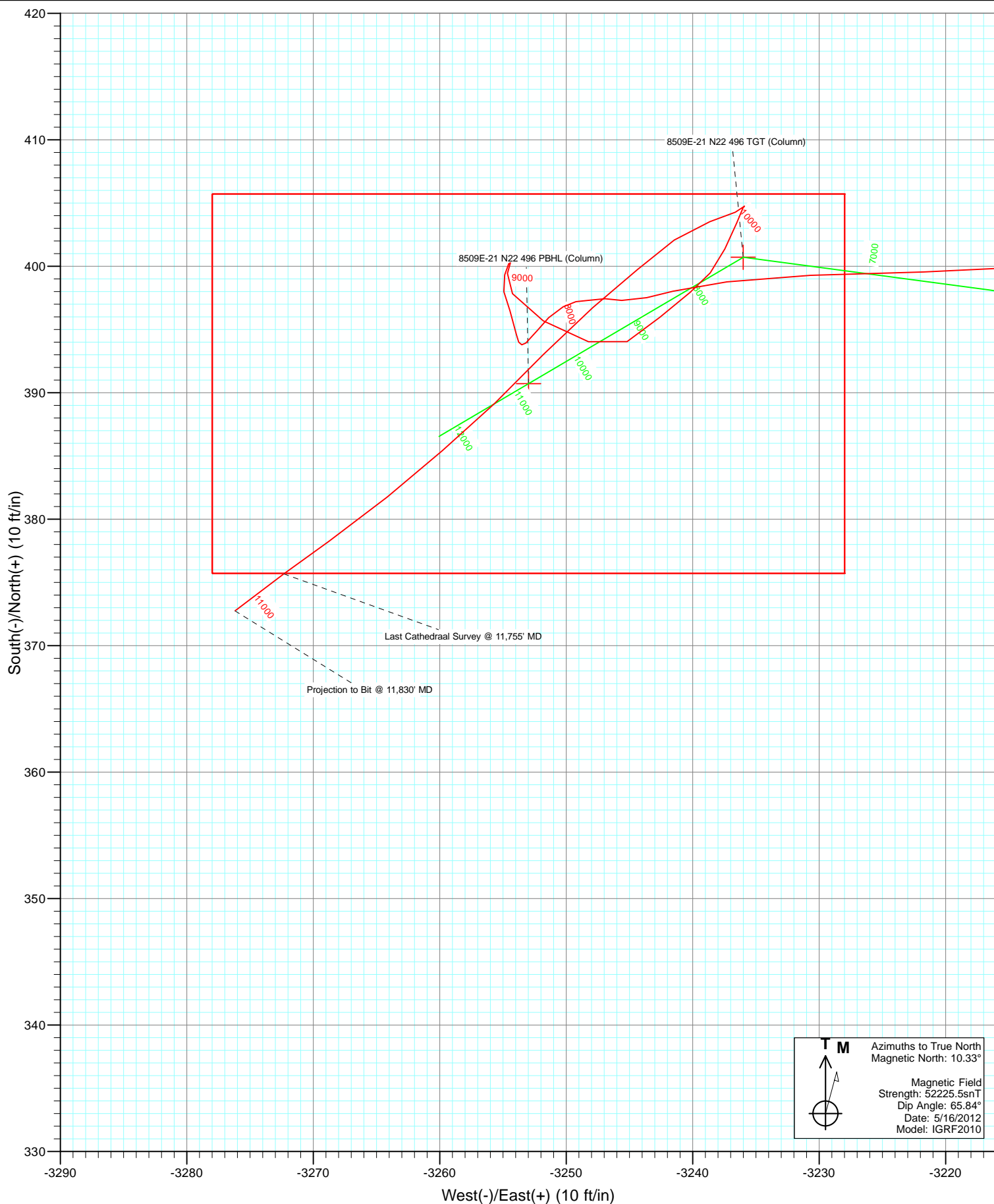
Project: Story Gulch  
 Site: S22-T4S-R96W (N22 496) (Column Pattern)  
 Well: 8509E-21 N22 496  
 Wellbore: DD  
 Design: FINAL



Azimuths to True North  
 Magnetic North: 10.33°

Magnetic Field  
 Strength: 52225.5nT  
 Dip Angle: 65.84°  
 Date: 5/16/2012  
 Model: IGRF2010

FINAL 8509E-21 N22 496 146555/125177 (SH) 162655/125338 (MH); SC							
WELL @ 7602.0ft (Patterson #306) North American Datum 1983 Well 8509E-21 N22 496, True North							
Type User	Target No Target (Freehand)	Azimuth 278.08	Origin Slot	Type	N/S 0.0	E/W 0.0	From TVD 0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude		
8509E-21 N22 496 TGT (Column)	1192.0	400.7	-3236.0	39° 41' 5.88 N	108° 10' 7.34 W		
8509E-21 N22 496 PBHL (Column)	1052.0	390.7	-3253.0	39° 41' 5.78 N	108° 10' 7.55 W		



## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well 8509E-21 N22 496
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	WELL @ 7602.0ft (Patterson #306)
<b>Site:</b>	S22-T4S-R96W (N22 496) (Column Pattern)	<b>MD Reference:</b>	WELL @ 7602.0ft (Patterson #306)
<b>Well:</b>	8509E-21 N22 496	<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>	S22-T4S-R96W (N22 496) (Column Pattern)			
<b>Site Position:</b>		<b>Northing:</b>	1,685,048.56 ft	<b>Latitude:</b> 39° 41' 3.24 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,252,316.79 ft	<b>Longitude:</b> 108° 9' 25.11 W
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> -1.68 °

<b>Well</b>	8509E-21 N22 496			
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>	1,684,917.40 ft
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>	2,252,247.75 ft
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	ft
			<b>Ground Level:</b>	7,569.0 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	5/16/2012	10.33	65.84	52,225

<b>Design</b>	FINAL			
<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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	278.08

<b>Survey Program</b>	<b>Date</b>	6/28/2012		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
211.0	11,830.0	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	
211.0	2.20	300.00	210.9	2.0	-3.5	3.8	1.04	1.04	
242.0	3.10	284.80	241.9	2.5	-4.8	5.1	3.66	2.90	
272.0	3.30	273.00	271.9	2.8	-6.5	6.8	2.29	0.67	
303.0	4.10	266.60	302.8	2.8	-8.5	8.8	2.90	2.58	
333.0	5.20	271.00	332.7	2.7	-10.9	11.2	3.85	3.67	
425.0	8.90	276.80	424.0	3.6	-22.1	22.4	4.09	4.02	
516.0	10.90	276.90	513.6	5.5	-37.7	38.1	2.20	2.20	
611.0	13.30	275.50	606.5	7.6	-57.5	58.0	2.54	2.53	
703.0	15.90	279.10	695.5	10.6	-80.5	81.2	2.99	2.83	
794.0	18.00	280.30	782.6	15.1	-106.6	107.7	2.34	2.31	
886.0	20.10	277.10	869.5	19.6	-136.3	137.7	2.55	2.28	
977.0	22.50	273.60	954.3	22.7	-169.2	170.7	2.98	2.64	

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well 8509E-21 N22 496
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	WELL @ 7602.0ft (Patterson #306)
<b>Site:</b>	S22-T4S-R96W (N22 496) (Column Pattern)	<b>MD Reference:</b>	WELL @ 7602.0ft (Patterson #306)
<b>Well:</b>	8509E-21 N22 496	<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
1,069.0	24.00	275.20	1,038.9	25.5	-205.4	206.9	1.77	1.63	
1,161.0	25.30	276.00	1,122.5	29.2	-243.6	245.3	1.46	1.41	
1,252.0	26.90	277.20	1,204.2	33.8	-283.3	285.3	1.85	1.76	
1,343.0	28.00	279.10	1,284.9	39.8	-324.9	327.2	1.55	1.21	
1,435.0	27.20	279.30	1,366.5	46.6	-366.9	369.8	0.88	-0.87	
1,527.0	28.00	278.20	1,448.0	53.1	-409.1	412.5	1.03	0.87	
1,618.0	28.80	279.00	1,528.0	59.5	-451.8	455.7	0.97	0.88	
1,709.0	28.70	278.70	1,607.8	66.3	-495.1	499.5	0.19	-0.11	
1,800.0	29.00	277.00	1,687.5	72.3	-538.6	543.4	0.96	0.33	
1,892.0	29.80	278.30	1,767.7	78.3	-583.3	588.6	1.11	0.87	
1,984.0	29.90	276.30	1,847.5	84.1	-628.8	634.3	1.09	0.11	
2,075.0	29.70	275.80	1,926.5	88.9	-673.7	679.5	0.35	-0.22	
2,171.0	27.00	275.50	2,010.9	93.4	-719.1	725.1	2.82	-2.81	
2,262.0	24.40	264.20	2,093.0	93.5	-758.4	764.0	6.08	-2.86	
2,353.0	23.60	252.70	2,176.1	86.1	-794.5	798.7	5.21	-0.88	
2,445.0	26.00	247.80	2,259.7	73.0	-830.8	832.8	3.43	2.61	
2,536.0	28.10	245.40	2,340.7	56.6	-868.7	868.0	2.60	2.31	
2,628.0	28.80	249.20	2,421.6	39.7	-909.1	905.7	2.11	0.76	
2,719.0	33.50	257.00	2,499.5	26.2	-954.1	948.4	6.80	5.16	
2,811.0	35.90	266.70	2,575.2	19.0	-1,005.9	998.5	6.54	2.61	
2,902.0	37.00	272.90	2,648.4	18.8	-1,059.9	1,052.0	4.22	1.21	
2,994.0	35.60	277.30	2,722.6	23.6	-1,114.1	1,106.3	3.21	-1.52	
3,086.0	34.60	282.80	2,797.9	32.8	-1,166.1	1,159.2	3.60	-1.09	
3,178.0	31.60	281.90	2,874.9	43.6	-1,215.2	1,209.3	3.30	-3.26	
3,270.0	30.10	283.20	2,953.9	53.8	-1,261.2	1,256.3	1.78	-1.63	
3,361.0	27.60	283.20	3,033.6	63.8	-1,304.0	1,300.0	2.75	-2.75	
3,453.0	26.20	280.30	3,115.6	72.3	-1,344.7	1,341.5	2.09	-1.52	
3,544.0	23.80	275.00	3,198.1	77.5	-1,382.8	1,380.0	3.61	-2.64	
3,636.0	23.70	275.90	3,282.3	81.0	-1,419.7	1,417.0	0.41	-0.11	
3,727.0	28.00	280.30	3,364.2	86.7	-1,458.9	1,456.6	5.17	4.73	
3,819.0	30.80	279.70	3,444.4	94.6	-1,503.4	1,501.7	3.06	3.04	
3,910.0	30.90	281.20	3,522.5	103.0	-1,549.3	1,548.4	0.85	0.11	
4,002.0	32.30	283.80	3,600.8	113.5	-1,596.3	1,596.4	2.12	1.52	
4,094.0	30.90	282.70	3,679.2	124.6	-1,643.2	1,644.4	1.65	-1.52	
4,185.0	30.60	283.00	3,757.4	134.9	-1,688.6	1,690.8	0.37	-0.33	
4,277.0	29.70	283.40	3,837.0	145.4	-1,733.6	1,736.8	1.00	-0.98	
4,369.0	28.70	284.20	3,917.3	156.2	-1,777.2	1,781.5	1.17	-1.09	
4,459.0	30.90	283.90	3,995.4	167.0	-1,820.6	1,826.0	2.45	2.44	
4,551.0	32.30	282.40	4,073.7	178.0	-1,867.5	1,874.0	1.75	1.52	
4,642.0	31.40	281.50	4,151.0	187.9	-1,914.5	1,921.9	1.12	-0.99	
4,733.0	31.60	281.40	4,228.6	197.3	-1,961.1	1,969.3	0.23	0.22	
4,825.0	31.90	279.80	4,306.8	206.2	-2,008.7	2,017.7	0.97	0.33	
4,916.0	32.80	279.40	4,383.7	214.4	-2,056.7	2,066.4	1.02	0.99	
5,008.0	31.50	279.60	4,461.6	222.4	-2,105.0	2,115.3	1.42	-1.41	
5,099.0	29.10	282.00	4,540.2	231.0	-2,150.0	2,161.2	2.95	-2.64	
5,190.0	28.80	279.20	4,619.8	239.1	-2,193.3	2,205.2	1.53	-0.33	
5,282.0	29.90	278.00	4,700.0	245.9	-2,237.9	2,250.3	1.36	1.20	
5,374.0	30.90	279.20	4,779.3	252.8	-2,283.9	2,296.8	1.27	1.09	
5,466.0	29.70	282.80	4,858.8	261.6	-2,329.5	2,343.1	2.37	-1.30	
5,557.0	26.30	284.20	4,939.1	271.6	-2,371.0	2,385.7	3.81	-3.74	
5,649.0	25.70	280.50	5,021.8	280.2	-2,410.4	2,425.9	1.88	-0.65	
5,740.0	26.30	279.10	5,103.6	287.0	-2,449.7	2,465.7	0.94	0.66	
5,832.0	25.40	275.90	5,186.4	292.3	-2,489.5	2,505.8	1.80	-0.98	

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well 8509E-21 N22 496
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	WELL @ 7602.0ft (Patterson #306)
<b>Site:</b>	S22-T4S-R96W (N22 496) (Column Pattern)	<b>MD Reference:</b>	WELL @ 7602.0ft (Patterson #306)
<b>Well:</b>	8509E-21 N22 496	<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
5,923.0	25.60	275.90	5,268.5	296.3	-2,528.4	2,545.0	0.22	0.22	
6,015.0	27.60	276.60	5,350.8	300.8	-2,569.4	2,586.2	2.20	2.17	
6,107.0	23.70	283.90	5,433.7	307.7	-2,608.5	2,625.9	5.45	-4.24	
6,199.0	20.90	283.10	5,518.8	315.8	-2,642.5	2,660.6	3.06	-3.04	
6,291.0	24.30	279.90	5,603.8	322.8	-2,677.1	2,695.9	3.93	3.70	
6,382.0	24.40	281.00	5,686.7	329.6	-2,714.0	2,733.4	0.51	0.11	
6,474.0	22.80	276.70	5,771.0	335.3	-2,750.4	2,770.2	2.55	-1.74	
6,565.0	22.90	273.00	5,854.9	338.3	-2,785.6	2,805.5	1.58	0.11	
6,657.0	25.80	274.20	5,938.7	340.7	-2,823.4	2,843.3	3.20	3.15	
6,748.0	25.60	275.60	6,020.7	344.1	-2,862.7	2,882.7	0.70	-0.22	
6,840.0	24.90	278.70	6,103.9	349.0	-2,901.7	2,921.9	1.63	-0.76	
6,931.0	22.70	279.00	6,187.1	354.6	-2,937.9	2,958.6	2.42	-2.42	
7,022.0	23.70	281.00	6,270.8	360.8	-2,973.2	2,994.4	1.40	1.10	
7,113.0	23.50	281.80	6,354.2	368.0	-3,009.0	3,030.8	0.41	-0.22	
7,205.0	22.20	281.70	6,438.9	375.3	-3,043.9	3,066.5	1.41	-1.41	
7,297.0	20.80	281.00	6,524.5	382.0	-3,077.0	3,100.1	1.55	-1.52	
7,388.0	19.90	282.00	6,609.9	388.3	-3,108.0	3,131.7	1.06	-0.99	
7,480.0	16.20	282.70	6,697.3	394.3	-3,135.8	3,160.1	4.03	-4.02	
7,571.0	13.80	278.60	6,785.2	398.7	-3,159.0	3,183.6	2.88	-2.64	
7,663.0	12.00	270.80	6,874.9	400.5	-3,179.4	3,204.1	2.72	-1.96	
7,755.0	9.80	268.60	6,965.2	400.5	-3,196.8	3,221.3	2.43	-2.39	
7,846.0	7.70	268.00	7,055.2	400.1	-3,210.6	3,235.0	2.31	-2.31	
7,938.0	6.20	266.60	7,146.5	399.6	-3,221.7	3,245.9	1.64	-1.63	
7,984.7	5.59	268.28	7,192.9	399.3	-3,226.5	3,250.6	1.36	-1.31	8509E-21 N22 496 TGT (Column)
8,030.0	5.00	270.30	7,238.0	399.3	-3,230.7	3,254.7	1.36	-1.30	
8,121.0	3.40	258.60	7,328.8	398.8	-3,237.3	3,261.2	1.99	-1.76	
8,213.0	2.00	262.70	7,420.7	398.0	-3,241.6	3,265.3	1.54	-1.52	
8,305.0	0.70	236.90	7,512.7	397.5	-3,243.6	3,267.3	1.53	-1.41	
8,488.0	0.70	290.80	7,695.7	397.3	-3,245.6	3,269.2	0.35	0.00	
8,579.0	1.00	265.50	7,786.6	397.4	-3,246.9	3,270.6	0.52	0.33	
8,671.0	0.70	262.90	7,878.6	397.3	-3,248.3	3,271.9	0.33	-0.33	
8,763.0	0.50	266.40	7,970.6	397.2	-3,249.2	3,272.8	0.22	-0.22	
8,855.0	0.90	237.50	8,062.6	396.8	-3,250.2	3,273.8	0.57	0.43	
8,946.0	0.90	228.00	8,153.6	395.9	-3,251.4	3,274.8	0.16	0.00	
9,038.0	0.80	214.50	8,245.6	394.9	-3,252.3	3,275.5	0.24	-0.11	
9,129.0	0.90	229.40	8,336.6	393.9	-3,253.2	3,276.3	0.27	0.11	
9,221.0	1.40	350.10	8,428.6	394.6	-3,253.9	3,277.1	2.19	0.54	
9,312.0	1.10	338.10	8,519.6	396.5	-3,254.4	3,277.9	0.44	-0.33	
9,404.0	0.90	348.00	8,611.5	398.0	-3,254.9	3,278.6	0.29	-0.22	
9,496.0	0.80	19.40	8,703.5	399.3	-3,254.9	3,278.7	0.51	-0.11	
9,587.0	0.40	20.00	8,794.5	400.2	-3,254.5	3,278.5	0.44	-0.44	
9,678.0	0.30	176.70	8,885.5	400.3	-3,254.4	3,278.4	0.75	-0.11	
9,770.0	0.80	202.20	8,977.5	399.4	-3,254.6	3,278.5	0.59	0.54	
9,857.0	1.60	148.70	9,064.5	397.8	-3,254.2	3,277.9	1.49	0.92	
9,948.0	2.60	120.90	9,155.4	395.7	-3,251.8	3,275.2	1.54	1.10	
10,039.0	2.40	108.20	9,246.4	394.0	-3,248.2	3,271.4	0.65	-0.22	
10,131.0	1.70	63.50	9,338.3	394.0	-3,245.2	3,268.4	1.83	-0.76	
10,222.0	2.40	46.30	9,429.2	396.0	-3,242.6	3,266.1	1.02	0.77	
10,314.0	1.50	57.00	9,521.2	397.9	-3,240.2	3,264.0	1.05	-0.98	
10,406.0	1.30	32.90	9,613.2	399.5	-3,238.6	3,262.6	0.67	-0.22	
10,497.0	1.50	30.50	9,704.1	401.4	-3,237.5	3,261.7	0.23	0.22	
10,589.0	1.30	17.60	9,796.1	403.4	-3,236.5	3,261.1	0.40	-0.22	
10,680.0	0.40	38.40	9,887.1	404.6	-3,236.0	3,260.8	1.03	-0.99	

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well 8509E-21 N22 496
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	WELL @ 7602.0ft (Patterson #306)
<b>Site:</b>	S22-T4S-R96W (N22 496) (Column Pattern)	<b>MD Reference:</b>	WELL @ 7602.0ft (Patterson #306)
<b>Well:</b>	8509E-21 N22 496	<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
10,772.0	0.20	215.00	9,979.1	404.8	-3,235.9	3,260.7	0.65	-0.22	
10,863.0	0.90	240.70	10,070.1	404.3	-3,236.6	3,261.3	0.80	0.77	
10,955.0	1.80	254.00	10,162.1	403.5	-3,238.6	3,263.2	1.03	0.98	
11,047.0	2.20	233.60	10,254.0	402.1	-3,241.5	3,265.8	0.88	0.43	
11,138.0	2.50	229.30	10,344.9	399.7	-3,244.4	3,268.3	0.38	0.33	
11,230.0	3.30	229.70	10,436.8	396.7	-3,247.9	3,271.4	0.87	0.87	
11,321.0	3.50	223.50	10,527.7	393.0	-3,251.8	3,274.8	0.46	0.22	
11,412.0	3.40	226.30	10,618.5	389.1	-3,255.7	3,278.1	0.22	-0.11	
11,504.0	3.50	229.40	10,710.3	385.4	-3,259.8	3,281.6	0.23	0.11	
11,595.0	3.70	230.60	10,801.1	381.8	-3,264.2	3,285.4	0.23	0.22	
11,644.8	3.64	232.98	10,850.9	379.8	-3,266.7	3,287.6	0.33	-0.12	8509E-21 N22 496 PBHL (Column)
11,686.0	3.60	235.00	10,892.0	378.3	-3,268.8	3,289.5	0.33	-0.10	
11,755.0	3.70	233.00	10,960.8	375.7	-3,272.3	3,292.6	0.23	0.14	Last Cathedral Survey @ 11,755' MD
11,830.0	3.70	233.00	11,035.7	372.8	-3,276.2	3,296.1	0.00	0.00	Projection to Bit @ 11,830' MD

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
8509E-21 N22 496 TGT	0.00	0.00	7,192.0	400.7	-3,236.0	1,685,412.58	2,249,024.85	39° 41' 5.88 N	108° 10' 7.34 W
- hit/miss target									
- Shape									
- actual wellpath misses target center by 9.6ft at 7984.7ft MD (7192.9 TVD, 399.3 N, -3226.5 E)									
- Point									
8509E-21 N22 496 PBH	0.00	0.00	10,852.0	390.7	-3,253.0	1,685,403.09	2,249,007.59	39° 41' 5.78 N	108° 10' 7.55 W
- actual wellpath misses target center by 17.6ft at 11644.8ft MD (10850.9 TVD, 379.8 N, -3266.7 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	
11,755.0	10,960.8	375.7	-3,272.3	Last Cathedral Survey @ 11,755' MD	
11,830.0	11,035.7	372.8	-3,276.2	Projection to Bit @ 11,830' MD	

Checked By: _____	Approved By: _____	Date: _____
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