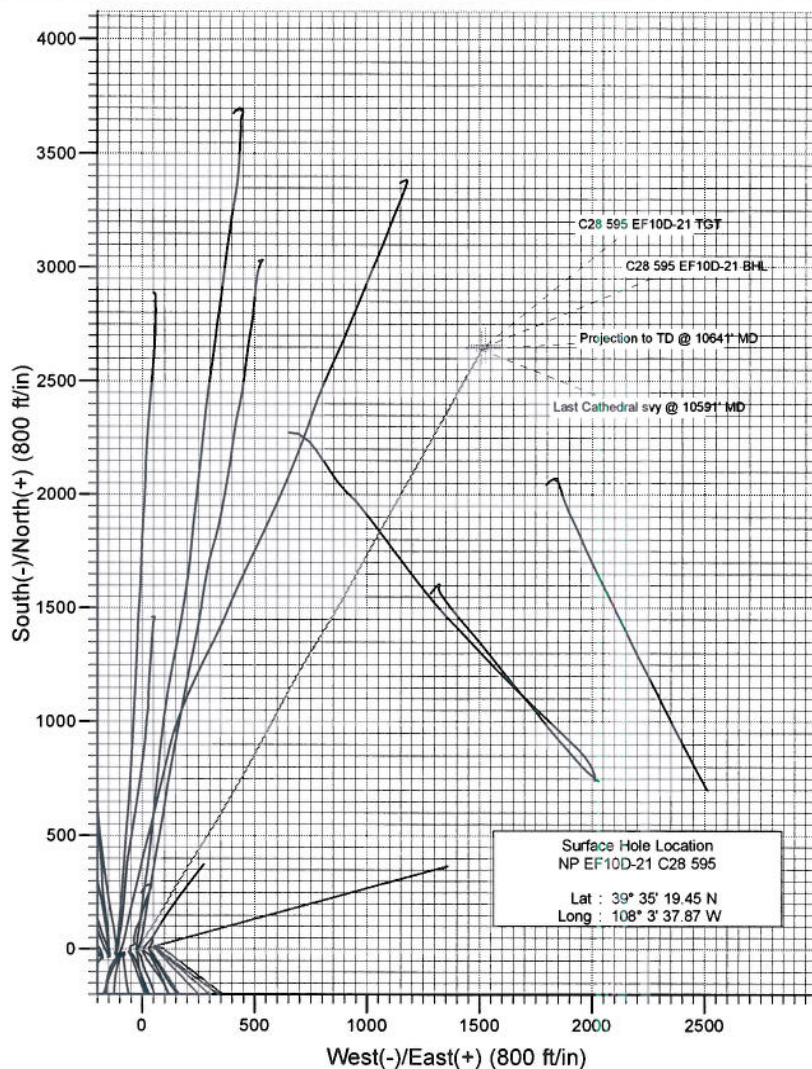
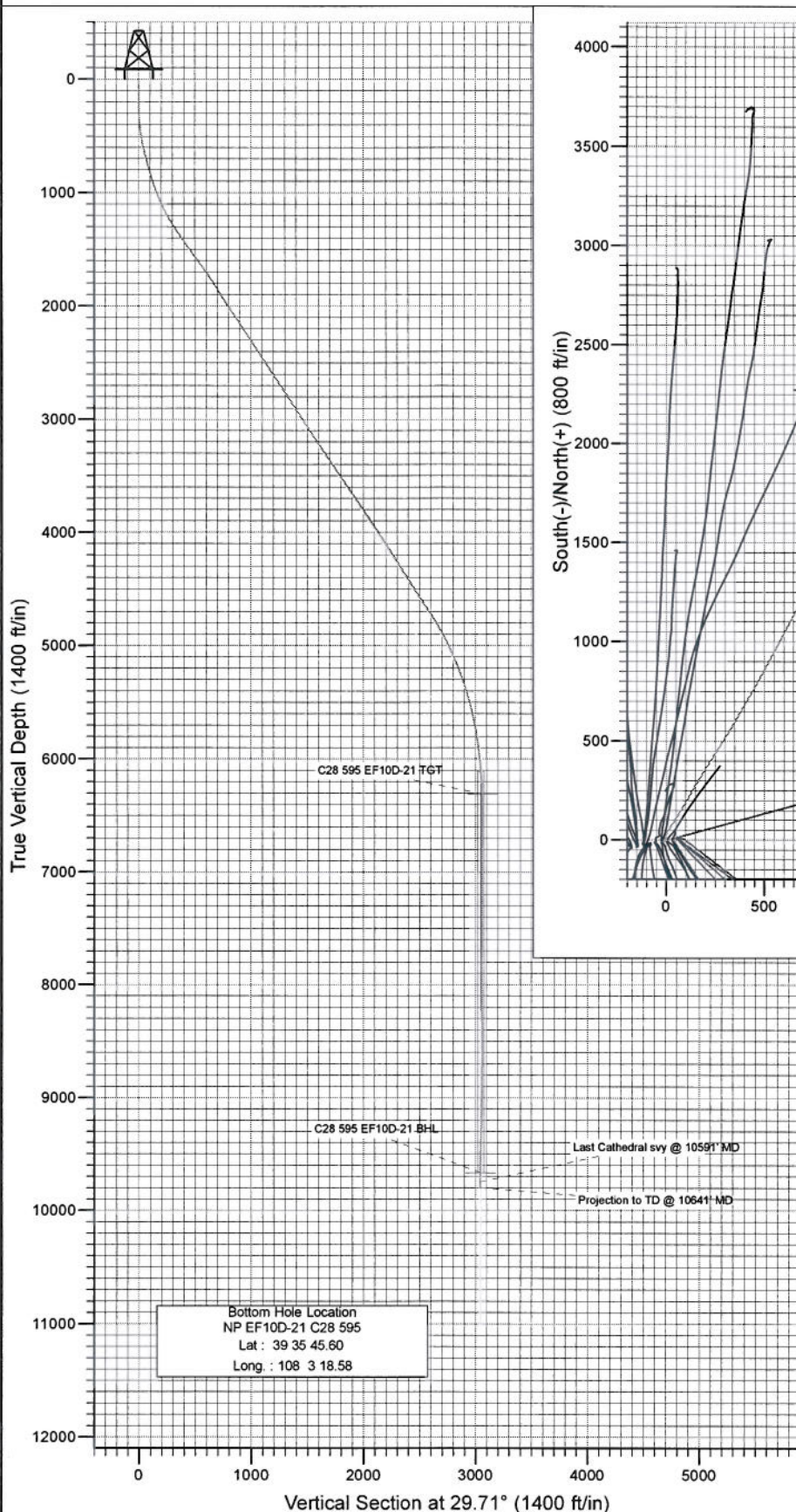




Project: North Piceance  
 Site: C28 595 (S28-T5S-R95W)  
 Well: NP EF10D-21 C28 595  
 Wellbore: DD  
 Design: Final



Azimuths to True North  
 Magnetic North: 10.53°

Magnetic Field  
 Strength: 52400.6snT  
 Dip Angle: 65.83°  
 Date: 5/13/2010  
 Model: IGRF2010

DESIGN DETAILS: DD

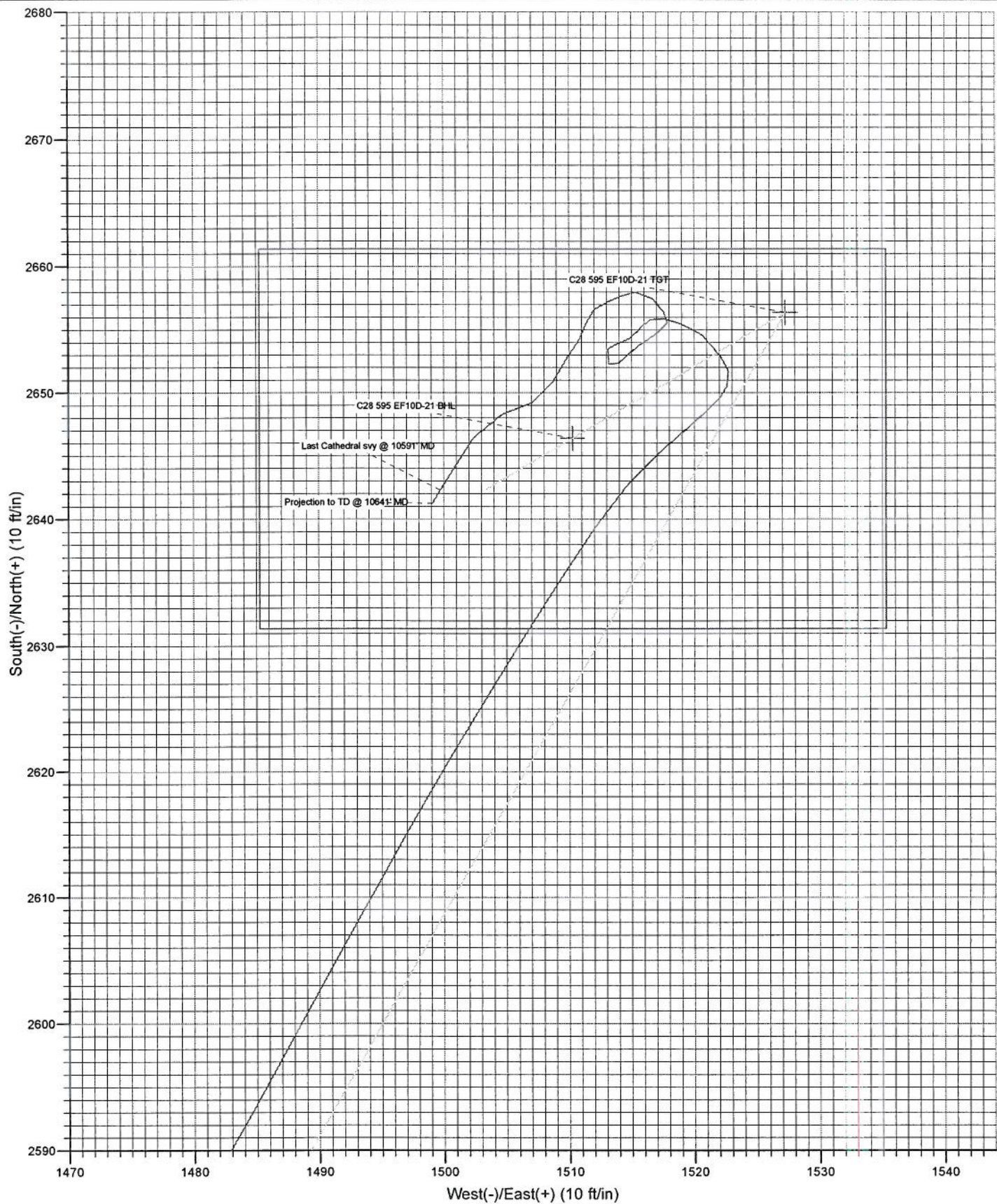
105106, 105207; LR  
 WELL @ 6197.0ft (Nabors M13)

Target	Azimuth	Origin	N/S	E/W	From TVD
C28 595 EF10D-21 BHL	29.71	Spot	0.0	0.0	0.0





Project: North Piceance  
Site: C28 595 (S28-T5S-R95W)  
Well: NP EF10D-21 C28 595  
Wellbore: DD  
Design: Final





# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well NP EF10D-21 C28 595
<b>Project:</b>	North Piceance	<b>TVD Reference:</b>	WELL @ 6197.0ft (Nabors M13)
<b>Site:</b>	C28 595 (S28-T5S-R95W)	<b>MD Reference:</b>	WELL @ 6197.0ft (Nabors M13)
<b>Well:</b>	NP EF10D-21 C28 595	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB

<b>Project</b>	North Piceance		
<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		C28 595 (S28-T5S-R95W)			
Site Position:		Northing:	1,649,466.64 ft	Latitude:	39° 35' 19.10 N
From:	Lat/Long	Easting:	2,278,319.64 ft	Longitude:	108° 3' 39.81 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.62 °

Well	NP EF10D-21 C28 595					
Well Position	+N/-S	0.0 ft	Northing:	1,649,497.26 ft	Latitude:	39° 35' 19.45 N
	+E/-W	0.0 ft	Easting:	2,278,472.05 ft	Longitude:	108° 3' 37.87 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,175.0 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	5/13/2010	10.53	65.83	52,401

<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	29.71	

<b>Survey Program</b>	<b>Date</b>	5/27/2010			
<b>From</b>	<b>To</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
(ft)	(ft)				
170.0	10,641.0	Survey #1 (DD)	MWD	Geolink MWD	

<b>Survey</b>										
<b>Measured Depth</b>	<b>Inclination</b>	<b>Azimuth</b>	<b>Vertical Depth</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Vertical Section</b>	<b>Dogleg Rate</b>	<b>Build Rate</b>	<b>Formations / Comments</b>	
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
170.0	1.80	276.10	170.0	0.3	-2.7	-1.1	1.06	1.06		
201.0	1.80	289.70	201.0	0.5	-3.6	-1.3	1.37	0.00		
231.0	2.00	291.20	230.9	0.8	-4.5	-1.5	0.69	0.67		
262.0	2.10	331.30	261.9	1.5	-5.3	-1.3	4.54	0.32		
293.0	2.80	351.50	292.9	2.8	-5.7	-0.4	3.55	2.26		
324.0	3.70	359.90	323.8	4.5	-5.8	1.1	3.28	2.90		
354.0	5.10	4.60	353.8	6.8	-5.7	3.1	4.82	4.67		
385.0	5.80	8.10	384.6	9.8	-5.4	5.8	2.50	2.26		
416.0	6.30	9.60	415.4	13.0	-4.9	8.9	1.69	1.61		
446.0	7.30	16.80	445.2	16.4	-4.0	12.3	4.37	3.33		
477.0	9.00	13.80	475.9	20.7	-2.9	16.5	5.65	5.48		
508.0	10.10	28.90	506.5	25.4	-1.0	21.6	8.79	3.55		

# Cathedral Energy Services

## Survey Report

Company: EnCana Oil & Gas (USA) Inc  
Project: North Piceance  
Site: C28 595 (S28-T5S-R95W)  
Well: NP EF10D-21 C28 595  
Wellbore: DD  
Design: DD

Local Co-ordinate Reference: Well NP EF10D-21 C28 595  
TVD Reference: WELL @ 6197.0ft (Nabors M13)  
MD Reference: WELL @ 6197.0ft (Nabors M13)  
North Reference: True  
Survey Calculation Method: Minimum Curvature  
Database: EDM 5000.1 US 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
539.0	10.80	23.90	537.0	30.4	1.5	27.2	3.69	2.26	
569.0	11.30	23.20	566.4	35.7	3.8	32.9	1.73	1.67	
600.0	12.20	23.70	596.8	41.5	6.3	39.2	2.92	2.90	
632.0	13.30	31.20	628.0	47.8	9.6	46.2	6.20	3.44	
664.0	13.70	31.60	659.1	54.1	13.5	53.7	1.28	1.25	
695.0	14.50	31.80	689.2	60.6	17.4	61.2	2.59	2.58	
727.0	15.50	34.10	720.1	67.5	21.9	69.5	3.64	3.12	
791.0	16.00	34.30	781.7	81.9	31.7	86.8	0.79	0.78	
887.0	17.80	35.00	873.5	104.8	47.6	114.6	1.89	1.87	
983.0	20.20	30.60	964.3	131.1	64.4	145.8	2.91	2.50	
1,078.0	22.50	30.00	1,052.8	161.0	81.9	180.4	2.43	2.42	
1,174.0	26.60	30.60	1,140.1	195.4	102.0	220.3	4.28	4.27	
1,269.0	31.10	29.80	1,223.3	235.0	125.0	266.1	4.75	4.74	
1,364.0	33.00	30.90	1,303.8	278.5	150.5	316.5	2.09	2.00	
1,460.0	34.20	32.20	1,383.7	323.8	178.3	369.6	1.46	1.25	
1,555.0	35.30	32.10	1,461.8	369.6	207.1	423.7	1.16	1.16	
1,651.0	36.60	33.30	1,539.5	417.0	237.6	480.0	1.54	1.35	
1,677.0	36.60	33.20	1,560.4	430.0	246.1	495.4	0.23	0.00	
1,749.0	36.70	32.90	1,618.1	466.0	269.5	538.3	0.28	0.14	
1,844.0	35.10	31.60	1,695.1	513.1	299.3	594.0	1.87	-1.68	
1,939.0	34.10	31.70	1,773.3	559.0	327.6	647.9	1.05	-1.05	
2,034.0	31.90	31.00	1,853.0	603.2	354.5	699.6	2.35	-2.32	
2,129.0	32.80	30.10	1,933.2	647.0	380.3	750.4	1.07	0.95	
2,224.0	34.40	30.70	2,012.3	692.3	406.9	803.0	1.72	1.68	
2,320.0	33.90	30.60	2,091.8	738.7	434.4	856.9	0.52	-0.52	
2,415.0	33.30	29.50	2,170.9	784.2	460.7	909.5	0.90	-0.63	
2,510.0	33.80	29.00	2,250.1	830.0	486.4	962.0	0.60	0.53	
2,606.0	32.80	28.50	2,330.3	876.2	511.7	1,014.7	1.08	-1.04	
2,701.0	33.70	28.60	2,409.8	922.0	536.6	1,066.7	0.95	0.95	
2,796.0	33.40	27.80	2,488.9	968.2	561.4	1,119.2	0.56	-0.32	
2,890.0	34.20	29.00	2,567.1	1,014.2	586.3	1,171.5	1.11	0.85	
2,984.0	33.40	27.50	2,645.2	1,060.3	611.1	1,223.8	1.23	-0.85	
3,080.0	33.30	28.30	2,725.4	1,106.9	635.8	1,276.5	0.47	-0.10	
3,175.0	34.00	29.50	2,804.4	1,153.0	661.2	1,329.2	1.02	0.74	
3,270.0	33.10	29.10	2,883.6	1,198.8	686.9	1,381.7	0.98	-0.95	
3,365.0	32.90	29.80	2,963.3	1,243.9	712.3	1,433.4	0.45	-0.21	
3,460.0	33.20	31.50	3,042.9	1,288.4	738.8	1,485.2	1.03	0.32	
3,555.0	33.40	32.30	3,122.3	1,332.7	766.3	1,537.3	0.51	0.21	
3,652.0	33.40	31.50	3,203.3	1,378.0	794.5	1,590.7	0.45	0.00	
3,747.0	33.50	30.90	3,282.6	1,422.8	821.7	1,643.0	0.36	0.11	
3,843.0	34.40	31.30	3,362.2	1,468.7	849.4	1,696.6	0.97	0.94	
3,938.0	34.80	31.40	3,440.4	1,514.8	877.4	1,750.5	0.43	0.42	
4,034.0	34.80	30.00	3,519.2	1,561.9	905.4	1,805.3	0.83	0.00	
4,129.0	34.80	28.50	3,597.2	1,609.2	931.9	1,859.5	0.90	0.00	
4,224.0	33.80	27.80	3,675.7	1,656.4	957.1	1,913.0	1.13	-1.05	
4,319.0	33.90	28.50	3,754.6	1,703.1	982.1	1,965.9	0.42	0.11	
4,414.0	34.20	30.10	3,833.3	1,749.4	1,008.1	2,019.1	0.99	0.32	
4,509.0	34.10	29.30	3,912.0	1,795.8	1,034.6	2,072.4	0.48	-0.11	
4,604.0	34.00	29.70	3,990.7	1,842.1	1,060.8	2,125.6	0.26	-0.11	
4,699.0	33.90	29.30	4,069.5	1,888.2	1,086.9	2,178.7	0.26	-0.11	
4,794.0	33.30	28.80	4,148.6	1,934.2	1,112.4	2,231.3	0.70	-0.63	
4,890.0	31.50	29.10	4,229.7	1,979.2	1,137.3	2,282.7	1.88	-1.87	
4,985.0	31.70	29.70	4,310.6	2,022.6	1,161.7	2,332.5	0.39	0.21	



# Cathedral Energy Services

## Survey Report

Company: EnCana Oil & Gas (USA) Inc  
Project: North Piceance  
Site: C28 595 (S28-T5S-R95W)  
Well: NP EF10D-21 C28 595  
Wellbore: DD  
Design: DD

Local Co-ordinate Reference: Well NP EF10D-21 C28 595  
TVD Reference: WELL @ 6197.0ft (Nabors M13)  
MD Reference: WELL @ 6197.0ft (Nabors M13)  
North Reference: True  
Survey Calculation Method: Minimum Curvature  
Database: EDM 5000.1 US 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
5,081.0	32.60	30.60	4,391.8	2,066.7	1,187.4	2,383.6	1.06	0.94	
5,176.0	33.60	29.60	4,471.4	2,111.6	1,213.4	2,435.4	1.20	1.05	
5,271.0	33.40	29.60	4,550.6	2,157.2	1,239.3	2,487.9	0.21	-0.21	
5,367.0	33.70	29.30	4,630.7	2,203.4	1,265.4	2,540.9	0.36	0.31	
5,462.0	32.60	29.10	4,710.2	2,248.8	1,290.7	2,592.9	1.16	-1.16	
5,557.0	32.10	28.90	4,790.4	2,293.2	1,315.4	2,643.7	0.54	-0.53	
5,653.0	29.60	28.30	4,872.9	2,336.4	1,339.0	2,692.9	2.62	-2.60	
5,748.0	27.30	30.60	4,956.4	2,375.9	1,361.2	2,738.2	2.68	-2.42	
5,843.0	25.00	28.50	5,041.7	2,412.3	1,381.9	2,780.0	2.61	-2.42	
5,938.0	23.00	28.80	5,128.4	2,446.2	1,400.4	2,818.6	2.11	-2.11	
6,033.0	21.40	28.20	5,216.4	2,477.7	1,417.5	2,854.5	1.70	-1.68	
6,129.0	19.20	29.70	5,306.4	2,506.9	1,433.6	2,887.8	2.35	-2.29	
6,224.0	17.40	30.60	5,396.6	2,532.7	1,448.6	2,917.7	1.92	-1.89	
6,319.0	15.00	31.20	5,487.8	2,555.4	1,462.2	2,944.2	2.53	-2.53	
6,414.0	13.40	31.20	5,579.9	2,575.3	1,474.2	2,967.4	1.68	-1.68	
6,509.0	12.20	29.50	5,672.6	2,593.5	1,484.9	2,988.5	1.32	-1.26	
6,603.0	9.20	28.80	5,764.9	2,608.7	1,493.4	3,005.9	3.19	-3.19	
6,698.0	7.90	30.90	5,858.9	2,621.0	1,500.4	3,020.1	1.41	-1.37	
6,792.0	6.60	32.20	5,952.1	2,631.1	1,506.6	3,031.9	1.39	-1.38	
6,888.0	5.40	35.10	6,047.6	2,639.5	1,512.2	3,041.9	1.29	-1.25	
6,983.0	4.00	49.20	6,142.3	2,645.3	1,517.2	3,049.5	1.90	-1.47	
7,079.0	2.10	47.90	6,238.1	2,648.6	1,521.1	3,054.3	1.98	-1.98	
7,174.0	0.90	19.00	6,333.1	2,650.5	1,522.6	3,056.7	1.46	-1.26	
7,269.0	0.60	345.20	6,428.1	2,651.7	1,522.7	3,057.8	0.55	-0.32	
7,365.0	0.80	323.00	6,524.1	2,652.7	1,522.2	3,058.4	0.35	0.21	
7,461.0	0.70	321.00	6,620.1	2,653.7	1,521.4	3,058.9	0.11	-0.10	
7,556.0	0.70	314.20	6,715.1	2,654.6	1,520.6	3,059.3	0.09	0.00	
7,650.0	0.50	280.50	6,809.1	2,655.0	1,519.8	3,059.3	0.42	-0.21	
7,746.0	0.70	305.10	6,905.1	2,655.5	1,518.9	3,059.2	0.34	0.21	
7,841.0	1.00	275.10	7,000.0	2,655.9	1,517.6	3,058.9	0.55	0.32	
7,936.0	0.40	243.30	7,095.0	2,655.8	1,516.5	3,058.3	0.73	-0.63	
8,032.0	0.20	214.50	7,191.0	2,655.5	1,516.1	3,057.8	0.25	-0.21	
8,128.0	0.20	264.50	7,287.0	2,655.4	1,515.9	3,057.6	0.18	0.00	
8,223.0	0.60	204.20	7,382.0	2,654.9	1,515.5	3,057.0	0.56	0.42	
8,319.0	0.60	255.40	7,478.0	2,654.3	1,514.8	3,056.1	0.54	0.00	
8,414.0	0.90	240.00	7,573.0	2,653.8	1,513.7	3,055.1	0.38	0.32	
8,510.0	0.00	280.50	7,669.0	2,653.4	1,513.0	3,054.5	0.94	-0.94	
8,605.0	0.10	88.60	7,764.0	2,653.4	1,513.1	3,054.5	0.11	0.11	
8,700.0	0.30	191.90	7,859.0	2,653.2	1,513.1	3,054.3	0.36	0.21	
8,796.0	0.80	172.60	7,955.0	2,652.3	1,513.2	3,053.6	0.55	0.52	
8,892.0	1.20	42.50	8,051.0	2,652.3	1,513.9	3,054.0	1.90	0.42	
8,987.0	1.30	55.80	8,146.0	2,653.7	1,515.5	3,055.9	0.32	0.11	
9,083.0	1.00	56.60	8,242.0	2,654.8	1,517.1	3,057.7	0.31	-0.31	
9,178.0	0.40	12.10	8,337.0	2,655.5	1,517.9	3,058.7	0.81	-0.63	
9,274.0	0.80	327.60	8,432.9	2,656.4	1,517.6	3,059.4	0.61	0.42	
9,369.0	0.90	310.10	8,527.9	2,657.5	1,516.6	3,059.8	0.29	0.11	
9,465.0	0.90	272.00	8,623.9	2,658.0	1,515.3	3,059.6	0.61	0.00	
9,560.0	0.60	226.40	8,718.9	2,657.7	1,514.2	3,058.8	0.68	-0.32	
9,655.0	0.80	263.00	8,813.9	2,657.2	1,513.2	3,057.9	0.50	0.21	
9,751.0	0.90	223.00	8,909.9	2,656.6	1,512.0	3,056.8	0.61	0.10	
9,846.0	0.70	193.40	9,004.9	2,655.5	1,511.4	3,055.5	0.48	-0.21	
9,941.0	1.00	210.70	9,099.9	2,654.2	1,510.8	3,054.1	0.41	0.32	
10,036.0	1.10	215.70	9,194.9	2,652.8	1,509.8	3,052.3	0.14	0.11	

# Cathedral Energy Services

## Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NP EF10D-21 C28 595
Project:	North Piceance	TVD Reference:	WELL @ 6197.0ft (Nabors M13)
Site:	C28 595 (S28-T5S-R95W)	MD Reference:	WELL @ 6197.0ft (Nabors M13)
Well:	NP EF10D-21 C28 595	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	EDM 5000.1 US 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
10,131.0	1.50	207.70	9,289.8	2,650.9	1,508.7	3,050.2	0.46	0.42	
10,227.0	1.50	241.20	9,385.8	2,649.2	1,507.0	3,047.9	0.90	0.00	
10,322.0	1.60	255.70	9,480.8	2,648.3	1,504.7	3,045.9	0.42	0.11	
10,418.0	2.20	213.30	9,576.7	2,646.4	1,502.4	3,043.1	1.55	0.62	
10,513.0	1.40	211.90	9,671.7	2,643.9	1,500.8	3,040.1	0.84	-0.84	
10,591.0	1.40	212.30	9,749.7	2,642.3	1,499.7	3,038.2	0.01	0.00	Last Cathedral svy @ 10591' MD
10,641.0	1.40	212.30	9,799.6	2,641.3	1,499.1	3,037.0	0.00	0.00	Projection to TD @ 10641' MD

### Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
C28 595 EF10D-21 BHL	0.00	0.00	9,667.0	2,646.4	1,510.3	1,652,100.04	2,280,056.31	39° 35' 45.60 N	108° 3' 18.58 W
- survey misses target center by 9.8ft at 10508.1ft MD (9666.8 TVD, 2644.0 N, 1500.8 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									
C28 595 EF10D-21 TGT	0.00	0.00	6,307.0	2,656.4	1,527.3	1,652,109.53	2,280,073.55	39° 35' 45.70 N	108° 3' 18.36 W
- survey misses target center by 7.9ft at 7148.1ft MD (6307.2 TVD, 2650.1 N, 1522.4 E)									
- Point									

### Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
10,591.0	9,749.7	2,642.3	1,499.7	Last Cathedral svy @ 10591' MD Projection to TD @ 10641' MD
10,641.0	9,799.6	2,641.3	1,499.1	

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