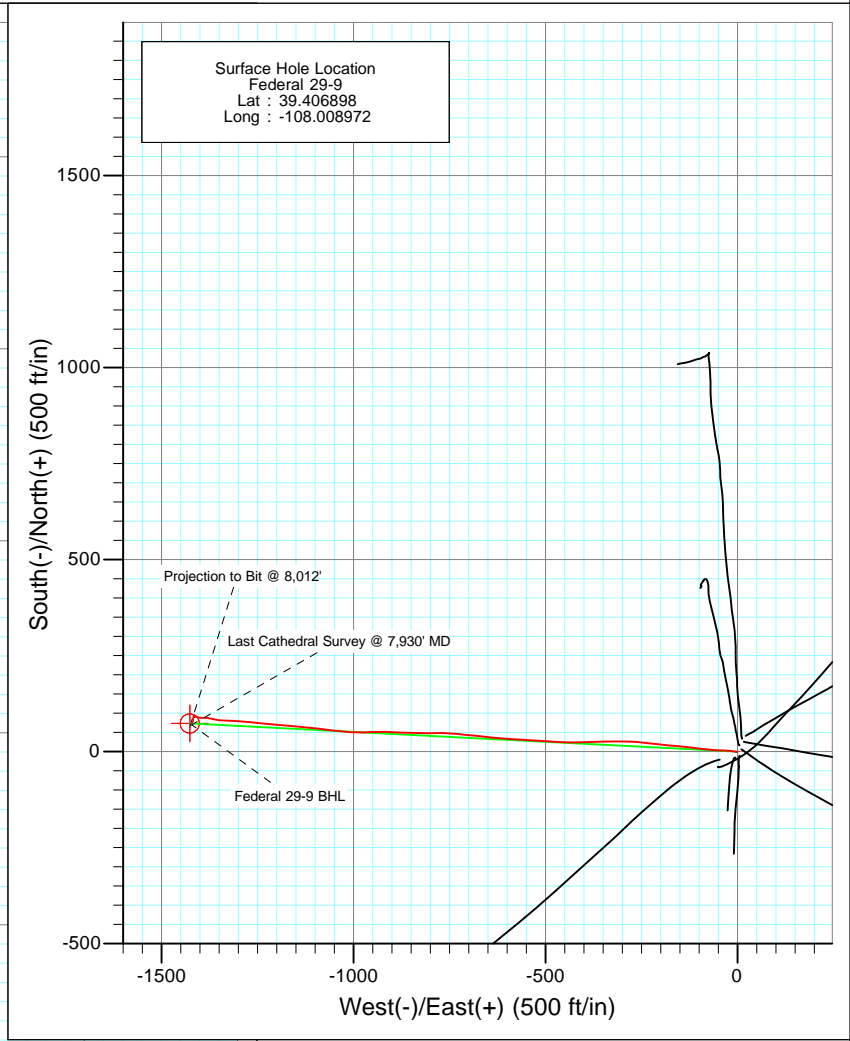
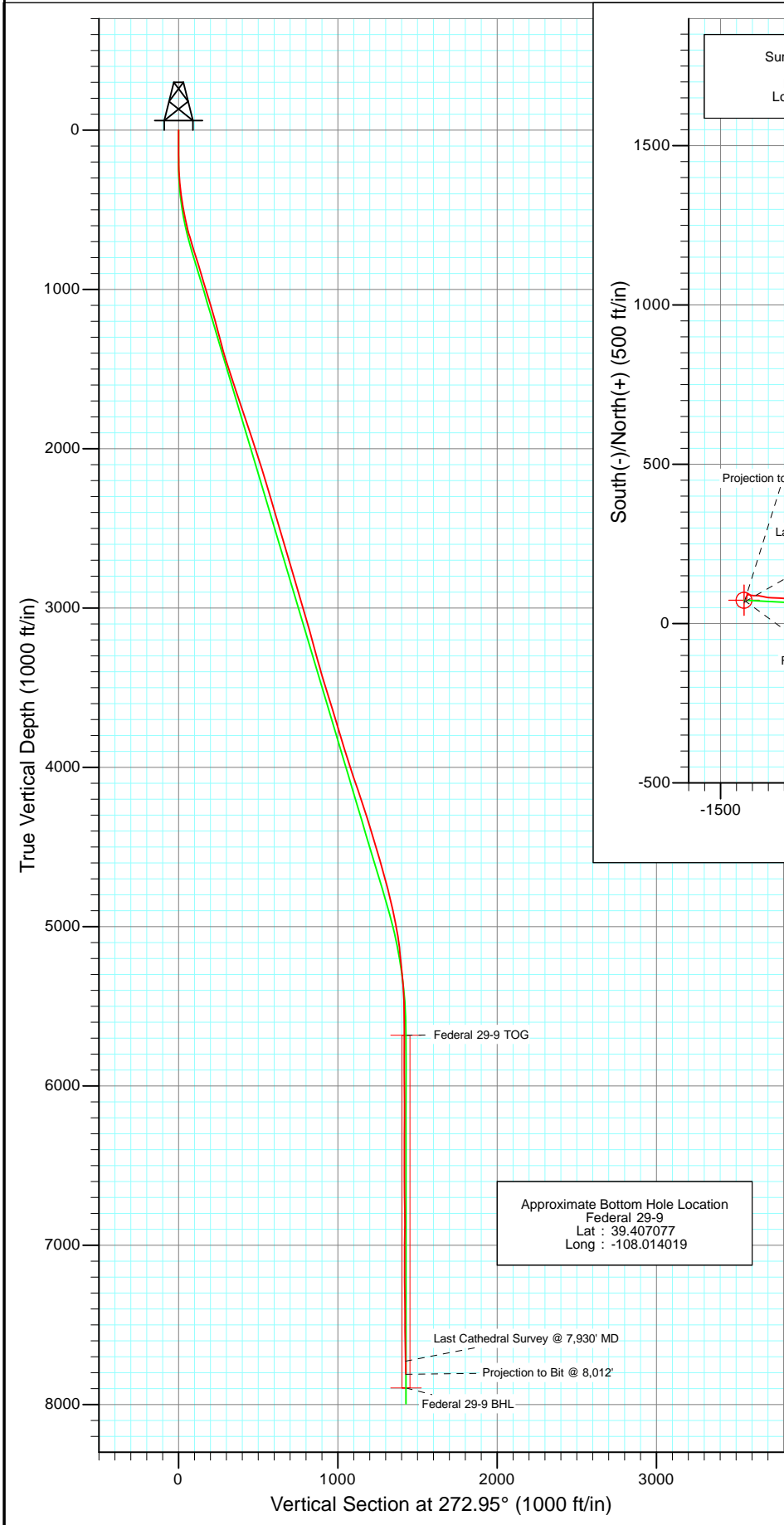
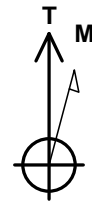




Project: S. Piceance (Parachute)  
 Site: PL 28 Pad (S28-T7S-R95W)  
 Well: Federal 29-9  
 Wellbore: DD  
 Design: FINAL



Approximate Bottom Hole Location  
 Federal 29-9  
 Lat : 39.407077  
 Long : -108.014019

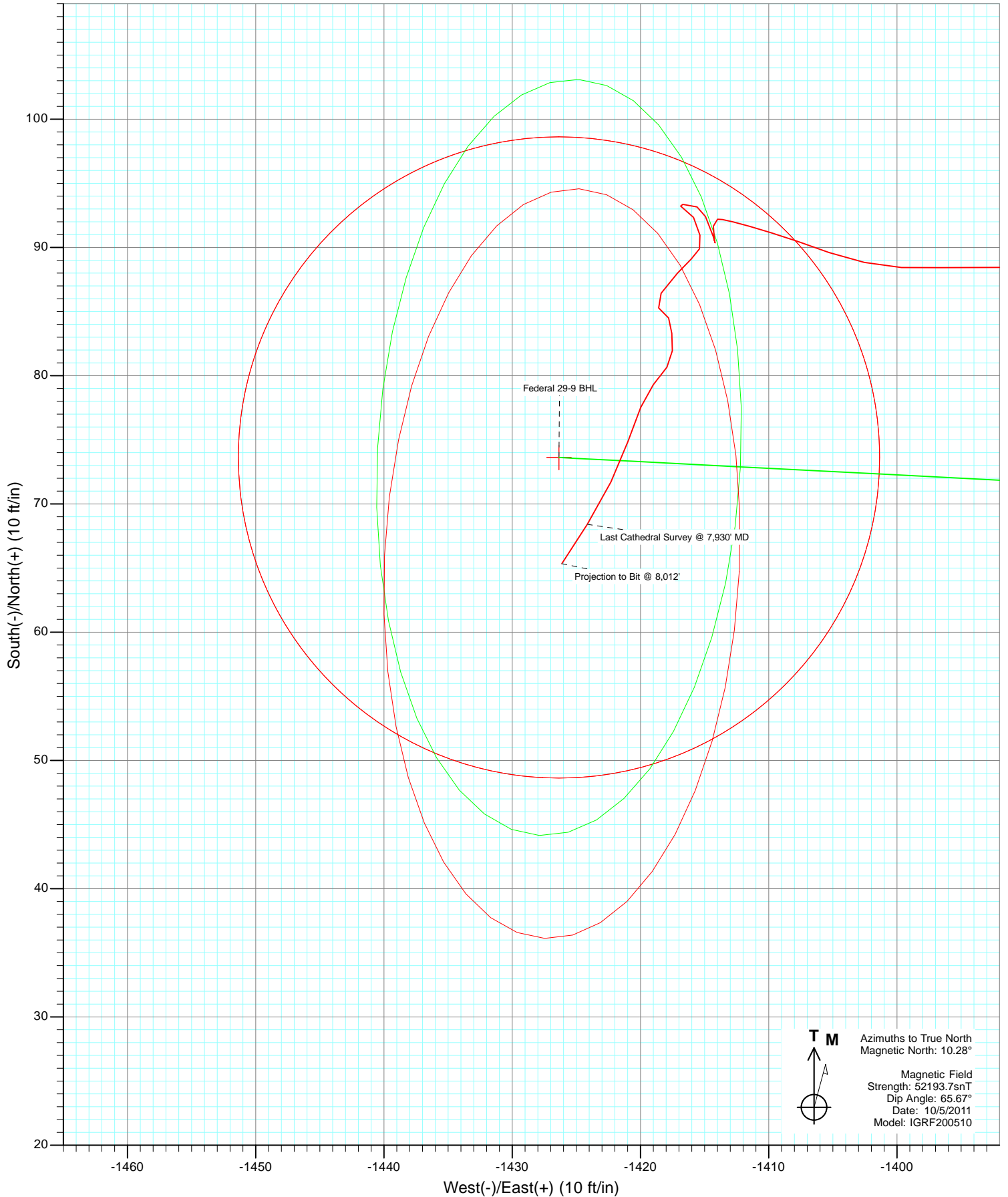


Azimuths to True North  
 Magnetic North: 10.28°  
 Magnetic Field  
 Strength: 52193.7snT  
 Dip Angle: 65.67°  
 Date: 10/5/2011  
 Model: IGRF200510

DD Federal 29-9 115430/114555 (SH) 115556/120255 (MH); SC						
WELL @ 7186.0ft (Original Well Elev) North American Datum 1983 Well Federal 29-9, True North						
Target	Azimuth	Origin	Type	N/S	E/W	From TVD
Federal 29-9 BHL	272.95	Slot		0.0	0.0	0.0
Name	TVD	+N/-S		+E/-W	Latitude	Longitude
Federal 29-9 BHL	7896.0	73.6		-1426.4	39.407100	-108.014020

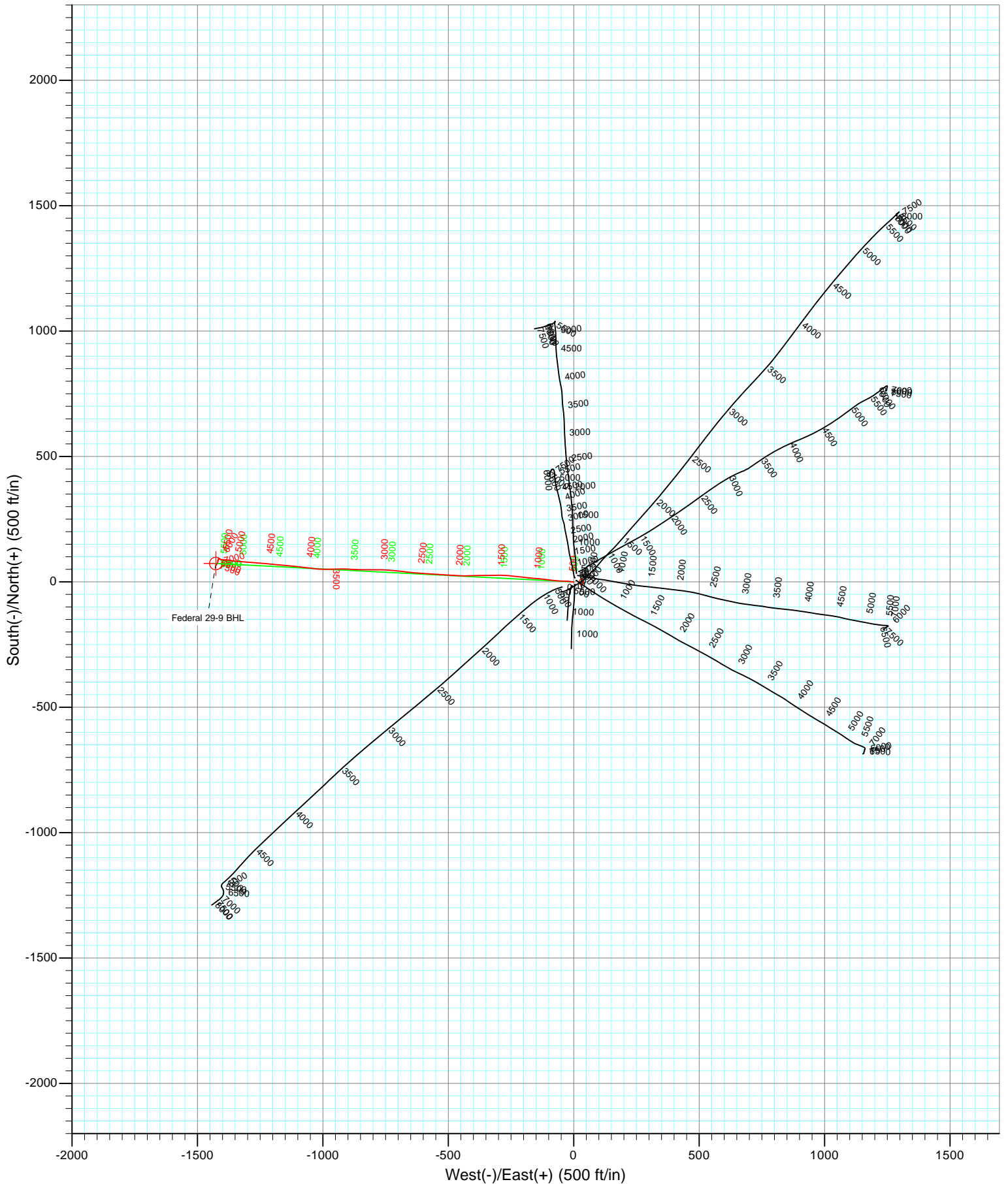


Project: S. Piceance (Parachute)  
Site: PL 28 Pad (S28-T7S-R95W)  
Well: Federal 29-9  
Wellbore: DD  
Design: FINAL





Project: S. Piceance (Parachute)  
Site: PL 28 Pad (S28-T7S-R95W)  
Well: Federal 29-9  
Wellbore: DD  
Design: FINAL



# Cathedral Energy Services

## Survey Report

<b>Company:</b> EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b> Well Federal 29-9
<b>Project:</b> S. Piceance (Parachute)	<b>TVD Reference:</b> WELL @ 7186.0ft (Original Well Elev)
<b>Site:</b> PL 28 Pad (S28-T7S-R95W)	<b>MD Reference:</b> WELL @ 7186.0ft (Original Well Elev)
<b>Well:</b> Federal 29-9	<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> S. Piceance (Parachute), Garfield County, CO		
<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> PL 28 Pad (S28-T7S-R95W)				
<b>Site Position:</b>	<b>Northing:</b> 1,582,914.36 ft	<b>Latitude:</b> 39.406980		
<b>From:</b> Lat/Long	<b>Easting:</b> 2,291,178.00 ft	<b>Longitude:</b> -108.008930		
<b>Position Uncertainty:</b> 0.0 ft	<b>Slot Radius:</b> 13.200 in	<b>Grid Convergence:</b> -1.58 °		

<b>Well</b> Federal 29-9				
<b>Well Position</b>	<b>+N/-S</b> 0.0 ft	<b>Northing:</b> 1,582,884.82 ft	<b>Latitude:</b> 39.406898	
	<b>+E/-W</b> 0.0 ft	<b>Easting:</b> 2,291,165.31 ft	<b>Longitude:</b> -108.008972	
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b> ft	<b>Ground Level:</b> 7,164.0 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>
	IGRF200510	10/5/2011	10.28	65.67	52,194

<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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	272.95

<b>Survey Program</b>		<b>Date</b> 12/15/2011
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>
125.0	1,210.0	Survey #1 (DD)
1,356.0	8,012.0	Survey #2 (DD)
		<b>Tool Name</b>
		MWD
		MWD
		<b>Description</b>
		Geolink 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	
125.0	0.40	259.00	125.0	-0.1	-0.4	0.4	0.32	0.32	
156.0	0.50	248.10	156.0	-0.2	-0.7	0.7	0.42	0.32	
187.0	1.00	268.70	187.0	-0.2	-1.1	1.0	1.81	1.61	
217.0	1.60	274.00	217.0	-0.2	-1.7	1.7	2.04	2.00	
248.0	2.50	277.80	248.0	-0.1	-2.8	2.8	2.93	2.90	
278.0	3.30	275.80	277.9	0.1	-4.3	4.3	2.69	2.67	
309.0	4.10	276.80	308.9	0.3	-6.3	6.3	2.59	2.58	
340.0	5.40	276.80	339.8	0.6	-8.9	8.9	4.19	4.19	
371.0	6.50	276.60	370.6	1.0	-12.1	12.1	3.55	3.55	
402.0	7.30	277.80	401.4	1.5	-15.8	15.8	2.62	2.58	
433.0	8.50	278.20	432.1	2.1	-20.0	20.1	3.88	3.87	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Federal 29-9
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	WELL @ 7186.0ft (Original Well Elev)
<b>Site:</b>	PL 28 Pad (S28-T7S-R95W)	<b>MD Reference:</b>	WELL @ 7186.0ft (Original Well Elev)
<b>Well:</b>	Federal 29-9	<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
464.0	9.40	273.30	462.7	2.5	-24.8	24.9	3.80	2.90	
495.0	10.20	273.90	493.2	2.9	-30.0	30.2	2.60	2.58	
525.0	11.10	273.00	522.7	3.2	-35.6	35.7	3.05	3.00	
555.0	11.90	271.60	552.1	3.4	-41.6	41.7	2.82	2.67	
586.0	12.60	270.40	582.4	3.6	-48.1	48.3	2.40	2.26	
678.0	16.30	276.50	671.5	5.1	-71.0	71.2	4.34	4.02	
770.0	17.50	276.40	759.5	8.1	-97.6	97.9	1.30	1.30	
862.0	17.20	275.90	847.3	11.0	-124.9	125.3	0.36	-0.33	
953.0	17.00	275.40	934.3	13.7	-151.5	152.0	0.27	-0.22	
1,045.0	16.70	276.20	1,022.4	16.4	-178.0	178.6	0.41	-0.33	
1,136.0	16.40	275.90	1,109.6	19.1	-203.8	204.5	0.34	-0.33	
1,210.0	16.00	275.50	1,180.6	21.1	-224.3	225.1	0.56	-0.54	
1,356.0	14.37	276.95	1,321.5	25.3	-262.4	263.3	1.15	-1.12	
1,451.0	16.13	269.48	1,413.2	26.6	-287.3	288.2	2.77	1.85	
1,547.0	18.41	271.33	1,504.9	26.8	-315.7	316.7	2.44	2.37	
1,642.0	18.02	267.19	1,595.1	26.4	-345.4	346.3	1.42	-0.41	
1,738.0	19.82	269.39	1,685.9	25.5	-376.5	377.3	2.02	1.87	
1,833.0	18.72	267.02	1,775.6	24.6	-407.9	408.6	1.42	-1.16	
1,928.0	17.97	271.41	1,865.8	24.1	-437.7	438.4	1.65	-0.79	
2,023.0	18.46	273.79	1,956.0	25.5	-467.4	468.1	0.94	0.52	
2,119.0	17.05	272.56	2,047.4	27.1	-496.6	497.4	1.52	-1.47	
2,214.0	17.80	273.87	2,138.1	28.7	-525.0	525.8	0.89	0.79	
2,309.0	16.96	273.96	2,228.8	30.7	-553.3	554.2	0.88	-0.88	
2,404.0	16.22	274.40	2,319.8	32.6	-580.4	581.3	0.79	-0.78	
2,500.0	16.57	271.50	2,411.9	34.0	-607.4	608.4	0.93	0.36	
2,595.0	16.83	276.95	2,502.9	36.0	-634.6	635.6	1.67	0.27	
2,690.0	15.73	276.77	2,594.1	39.2	-661.1	662.2	1.16	-1.16	
2,786.0	16.96	275.46	2,686.2	42.1	-687.9	689.2	1.34	1.28	
2,881.0	16.13	276.86	2,777.3	45.0	-714.8	716.2	0.97	-0.87	
2,976.0	16.66	273.61	2,868.4	47.4	-741.5	743.0	1.11	0.56	
3,072.0	16.00	271.94	2,960.5	48.7	-768.5	770.0	0.84	-0.69	
3,168.0	17.18	269.22	3,052.5	49.0	-795.9	797.4	1.47	1.23	
3,263.0	15.21	267.55	3,143.8	48.3	-822.4	823.8	2.13	-2.07	
3,358.0	14.68	274.49	3,235.6	48.7	-846.8	848.2	1.96	-0.56	
3,453.0	15.73	271.59	3,327.2	50.0	-871.7	873.1	1.36	1.11	
3,548.0	16.88	272.91	3,418.4	51.0	-898.3	899.8	1.27	1.21	
3,644.0	17.89	269.48	3,510.0	51.6	-927.0	928.4	1.50	1.05	
3,739.0	15.86	268.07	3,600.9	51.0	-954.6	955.9	2.18	-2.14	
3,834.0	16.92	268.86	3,692.1	50.3	-981.4	982.7	1.14	1.12	
3,930.0	17.27	272.73	3,783.8	50.7	-1,009.6	1,010.8	1.24	0.36	
4,025.0	16.61	278.27	3,874.7	53.4	-1,037.1	1,038.5	1.83	-0.69	
4,120.0	18.81	276.25	3,965.2	57.0	-1,065.8	1,067.3	2.40	2.32	
4,209.0	18.63	276.42	4,049.5	60.1	-1,094.2	1,095.8	0.21	-0.20	
4,304.0	18.46	275.90	4,139.6	63.4	-1,124.2	1,126.0	0.25	-0.18	
4,400.0	17.84	274.84	4,230.8	66.2	-1,154.0	1,155.8	0.73	-0.65	
4,496.0	17.62	275.02	4,322.2	68.7	-1,183.1	1,185.1	0.24	-0.23	
4,591.0	17.09	275.28	4,412.9	71.2	-1,211.3	1,213.4	0.56	-0.56	
4,687.0	16.79	275.98	4,504.7	74.0	-1,239.1	1,241.3	0.38	-0.31	
4,783.0	15.78	275.72	4,596.5	76.7	-1,265.9	1,268.2	1.05	-1.05	
4,878.0	15.12	274.05	4,688.5	78.9	-1,291.1	1,293.5	0.84	-0.69	
4,973.0	14.24	272.47	4,780.4	80.3	-1,315.2	1,317.6	1.02	-0.93	
5,069.0	13.05	271.76	4,873.6	81.1	-1,337.8	1,340.2	1.25	-1.24	
5,164.0	11.43	282.49	4,966.5	83.5	-1,357.7	1,360.2	2.93	-1.71	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Federal 29-9
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	WELL @ 7186.0ft (Original Well Elev)
<b>Site:</b>	PL 28 Pad (S28-T7S-R95W)	<b>MD Reference:</b>	WELL @ 7186.0ft (Original Well Elev)
<b>Well:</b>	Federal 29-9	<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
5,260.0	9.18	280.29	5,060.9	86.9	-1,374.5	1,377.2	2.38	-2.34	
5,355.0	5.93	272.56	5,155.1	88.5	-1,386.9	1,389.6	3.58	-3.42	
5,451.0	5.67	266.84	5,250.6	88.4	-1,396.6	1,399.3	0.66	-0.27	
5,546.0	5.14	289.78	5,345.2	89.6	-1,405.3	1,408.0	2.32	-0.56	
5,641.0	2.77	285.48	5,440.0	91.7	-1,411.5	1,414.4	2.51	-2.49	
5,737.0	0.31	254.01	5,535.9	92.2	-1,414.0	1,416.9	2.62	-2.56	
5,832.0	0.57	189.85	5,630.9	91.7	-1,414.3	1,417.2	0.54	0.27	
5,928.0	0.75	164.63	5,726.9	90.6	-1,414.2	1,417.0	0.35	0.19	
6,023.0	1.14	343.40	5,821.9	90.9	-1,414.3	1,417.1	1.99	0.41	
6,118.0	0.83	332.58	5,916.9	92.4	-1,414.9	1,417.8	0.38	-0.33	
6,214.0	0.44	290.66	6,012.9	93.2	-1,415.6	1,418.5	0.61	-0.41	
6,309.0	0.92	275.63	6,107.9	93.4	-1,416.7	1,419.6	0.53	0.51	
6,404.0	0.75	110.66	6,202.9	93.2	-1,416.9	1,419.8	1.74	-0.18	
6,500.0	0.92	147.66	6,298.9	92.3	-1,415.9	1,418.7	0.58	0.18	
6,596.0	0.88	173.33	6,394.9	91.0	-1,415.4	1,418.2	0.42	-0.04	
6,691.0	0.44	197.75	6,489.9	89.9	-1,415.4	1,418.1	0.54	-0.46	
6,786.0	0.83	230.02	6,584.8	89.1	-1,416.0	1,418.7	0.54	0.41	
6,882.0	1.05	219.03	6,680.8	88.0	-1,417.1	1,419.8	0.30	0.23	
6,977.0	1.36	219.21	6,775.8	86.4	-1,418.4	1,421.0	0.33	0.33	
7,073.0	0.70	115.58	6,871.8	85.3	-1,418.6	1,421.1	1.74	-0.69	
7,168.0	0.70	155.49	6,966.8	84.5	-1,417.8	1,420.3	0.50	0.00	
7,262.0	0.83	178.69	7,060.8	83.3	-1,417.6	1,420.0	0.35	0.14	
7,358.0	0.79	178.25	7,156.8	81.9	-1,417.5	1,419.9	0.04	-0.04	
7,453.0	0.92	214.81	7,251.8	80.7	-1,417.9	1,420.2	0.58	0.14	
7,549.0	1.14	220.35	7,347.8	79.3	-1,419.0	1,421.2	0.25	0.23	
7,644.0	1.36	199.25	7,442.7	77.5	-1,420.0	1,422.1	0.53	0.23	
7,740.0	2.07	201.54	7,538.7	74.8	-1,421.0	1,423.0	0.74	0.74	
7,835.0	2.02	204.35	7,633.6	71.7	-1,422.3	1,424.1	0.12	-0.05	
7,930.0	2.55	212.88	7,728.6	68.4	-1,424.1	1,425.8	0.66	0.56	<b>Last Cathedral Survey @ 7,930' MD</b>
8,012.0	2.55	212.88	7,810.5	65.3	-1,426.1	1,427.6	0.00	0.00	<b>Projection to Bit @ 8,012'</b>

# Cathedral Energy Services

## Survey Report

<b>Company:</b> EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b> Well Federal 29-9
<b>Project:</b> S. Piceance (Parachute)	<b>TVD Reference:</b> WELL @ 7186.0ft (Original Well Elev)
<b>Site:</b> PL 28 Pad (S28-T7S-R95W)	<b>MD Reference:</b> WELL @ 7186.0ft (Original Well Elev)
<b>Well:</b> Federal 29-9	<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

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
Federal 29-9 BHL	0.00	0.00	7,896.0	73.6	-1,426.4	1,582,997.81	2,289,741.54	39.407100	-108.014020
- actual wellpath misses target center by 85.9ft at 8012.0ft MD (7810.5 TVD, 65.3 N, -1426.1 E)									
- Circle (radius 25.0)									
Federal 29-9 TOG	0.00	0.00	5,682.0	73.6	-1,426.4	1,582,997.81	2,289,741.54	39.407100	-108.014020
- actual wellpath misses target center by 21.2ft at 5883.3ft MD (5682.2 TVD, 91.1 N, -1414.3 E)									
- Point									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
7,930.0	7,728.6	68.4	-1,424.1	Last Cathedral Survey @ 7,930' MD	
8,012.0	7,810.5	65.3	-1,426.1	Projection to Bit @ 8,012'	

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