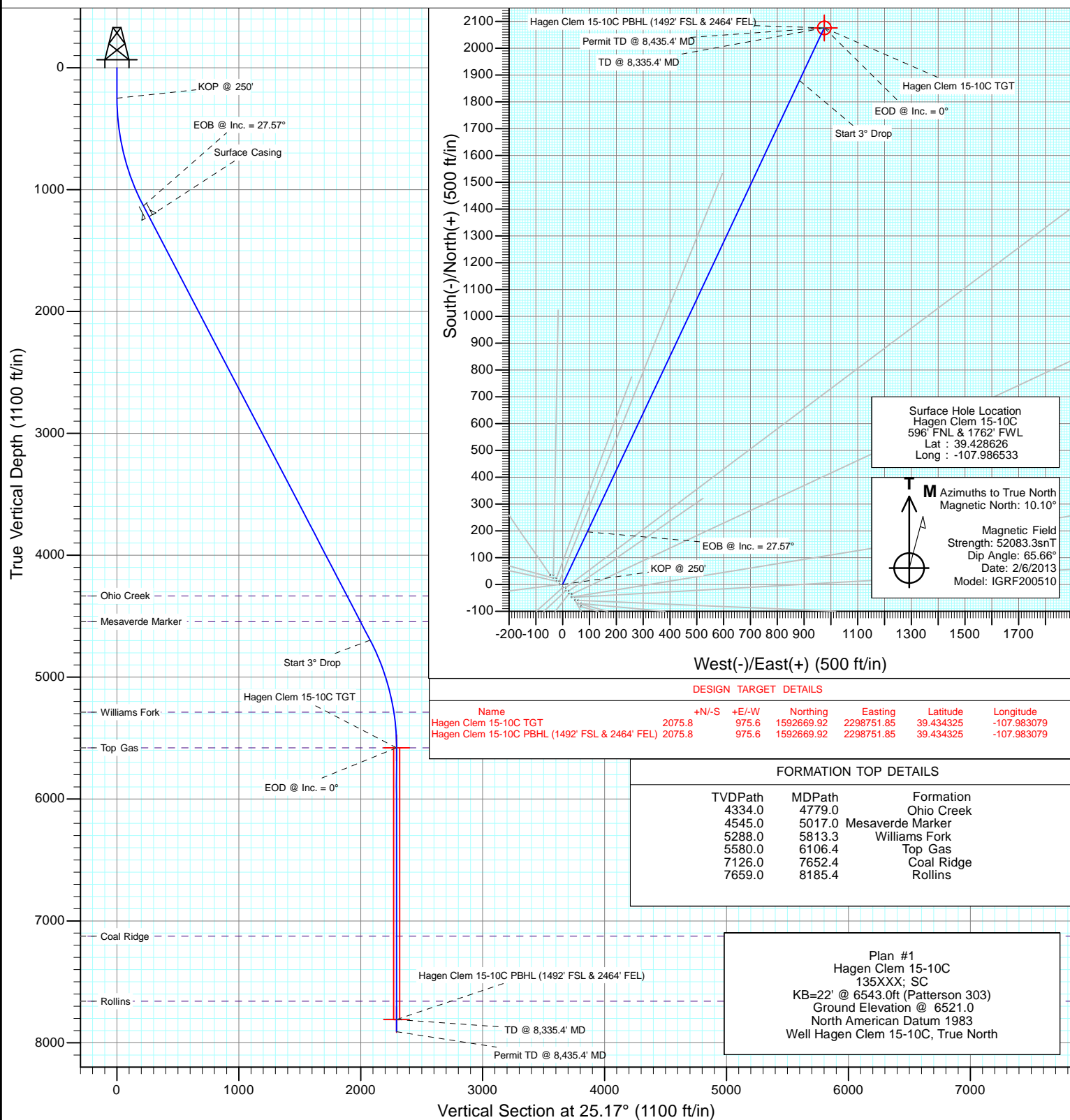


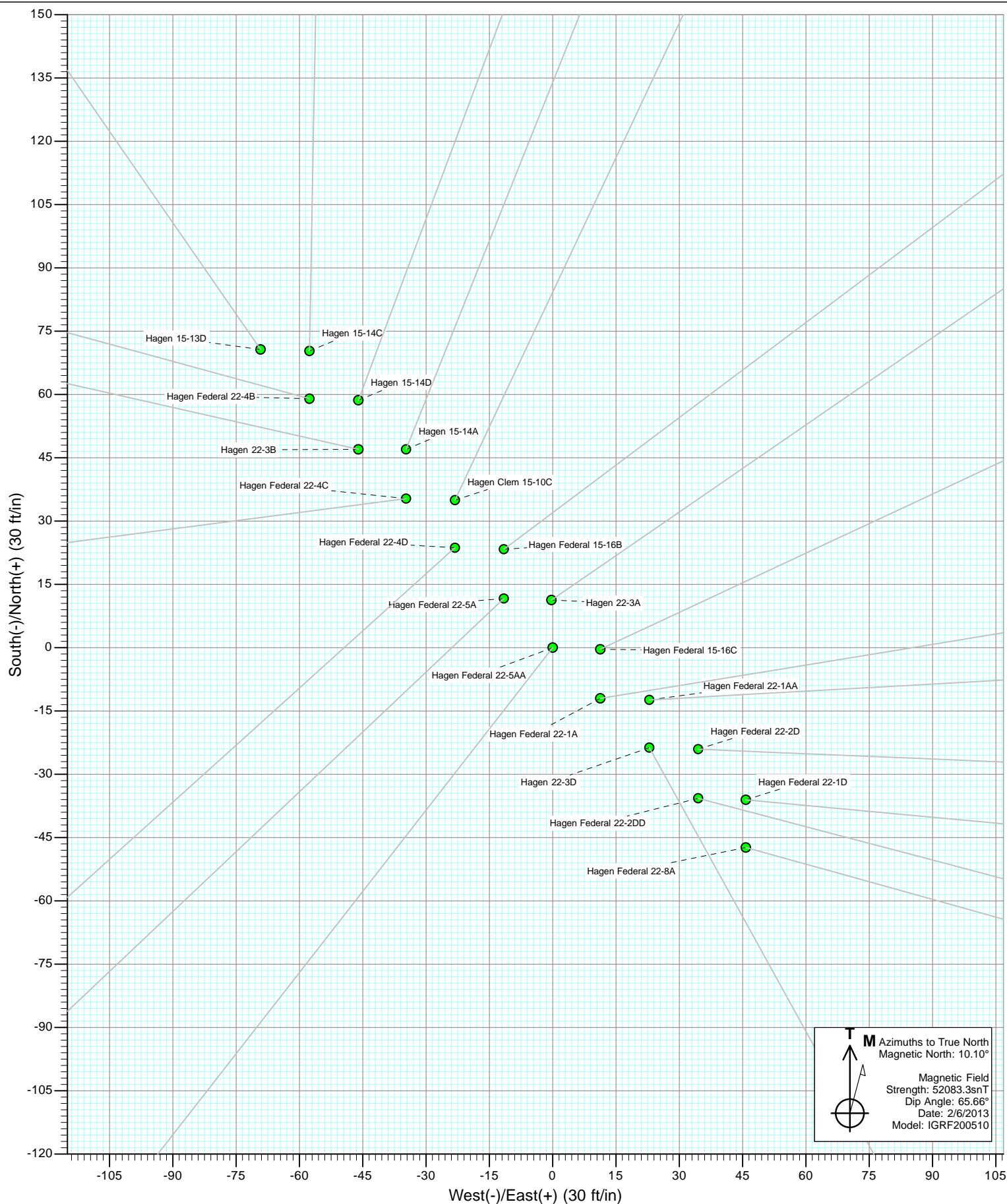
## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSECT	Target
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	250.0	0.0	0.0	250.0	0.0	0.0	0.0	0.0	0.0	
3	1169.0	27.57	25.17	1134.0	196.3	92.2	3.0	25.17	216.9	
4	5187.4	27.57	25.17	4696.0	1879.5	883.3	0.0	0.0	2076.7	
5	6106.4	0.0	0.0	5580.0	2075.8	975.6	3.0	180.0	2293.6	Hagen Clem 15-10C TGT
6	8335.4	0.0	0.0	7809.0	2075.8	975.6	0.0	0.0	2293.6	Hagen Clem 15-10C PBHL (1492' FSL & 2464' FEL)
7	8435.4	0.0	0.0	7909.0	2075.8	975.6	0.0	0.0	2293.6	





Project: S. Piceance (Parachute)  
Site: PC-22 Pad NENW 2 7S 95W



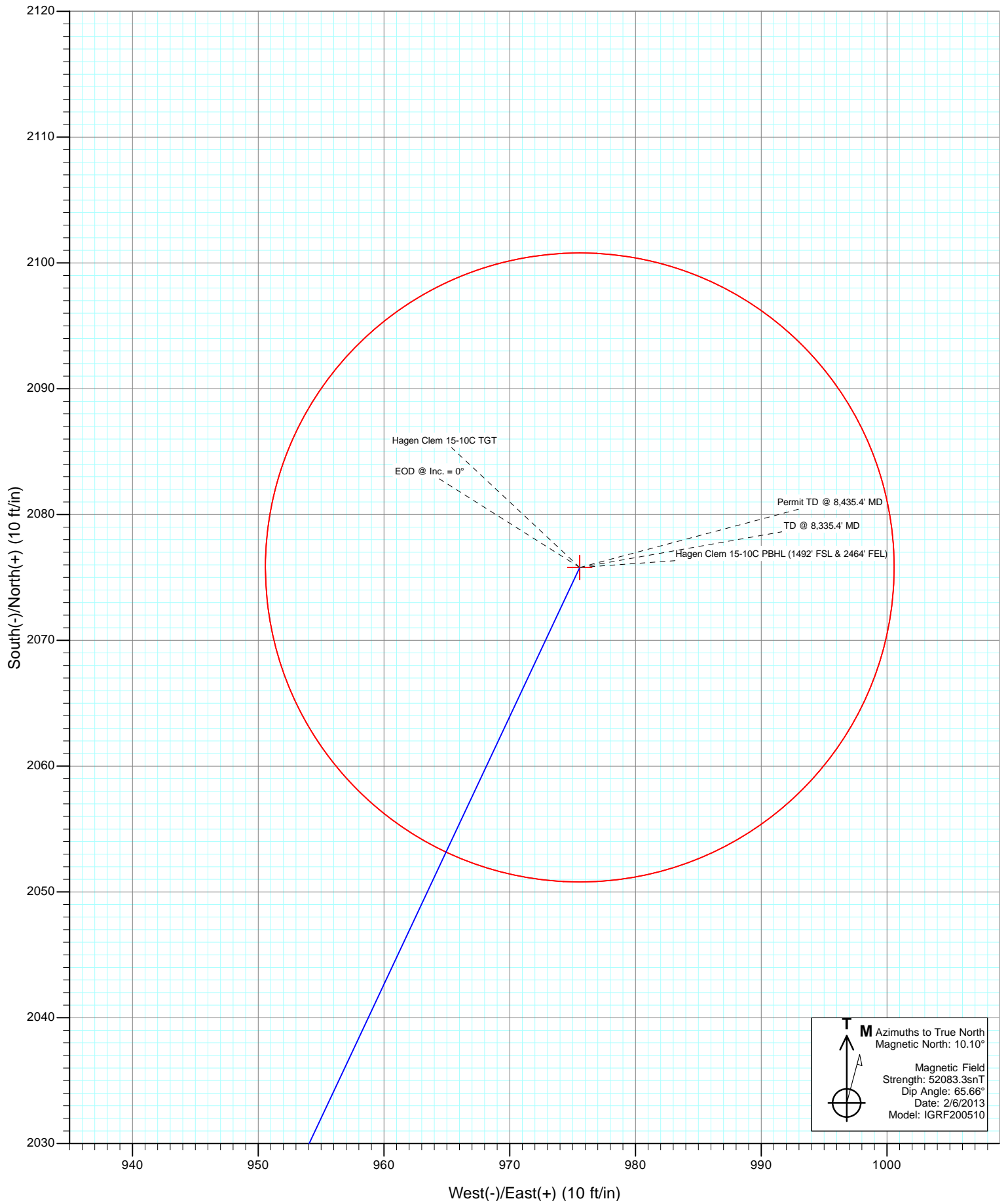


Project: S. Piceance (Parachute)  
Site: PC-22 Pad NENW 2 7S 95W





Project: S. Piceance (Parachute)  
Site: PC-22 Pad NENW 2 7S 95W  
Well: Hagen Clem 15-10C  
Wellbore: OH  
Design: Plan #1



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Project:</b>	S. Piceance (Parachute)	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>North Reference:</b>	True
<b>Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

<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		

Site		PC-22 Pad NENW 2 7S 95W			
Site Position:		Northing:	1,590,596.09 ft	Latitude:	39.428560
From:	Lat/Long	Easting:	2,297,773.66 ft	Longitude:	-107.986340
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.57 °

Well	Hagen Clem 15-10C					
Well Position	+N/-S	0.0 ft	Northing:	1,590,621.60 ft	Latitude:	39.428626
	+E/-W	0.0 ft	Easting:	2,297,719.83 ft	Longitude:	-107.986533
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,521.0 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	2/6/2013	10.10	65.66	52,083

<b>Design</b>	Plan #1				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN		<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	25.17	

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
250.0	0.00	0.00	250.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,169.0	27.57	25.17	1,134.0	196.3	92.2	3.00	3.00	0.00	25.17	
5,187.4	27.57	25.17	4,696.0	1,879.5	883.3	0.00	0.00	0.00	0.00	
6,106.4	0.00	0.00	5,580.0	2,075.8	975.6	3.00	-3.00	0.00	180.00	Hagen Clem 15-10C
8,335.4	0.00	0.00	7,809.0	2,075.8	975.6	0.00	0.00	0.00	0.00	Hagen Clem 15-10C I
8,435.4	0.00	0.00	7,909.0	2,075.8	975.6	0.00	0.00	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Project:</b>	S. Piceance (Parachute)	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>North Reference:</b>	True
<b>Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
250.0	0.00	0.00	250.0	0.0	0.0	0.0	0.00	0.00	KOP @ 250'
300.0	1.50	25.17	300.0	0.6	0.3	0.7	3.00	3.00	
400.0	4.50	25.17	399.8	5.3	2.5	5.9	3.00	3.00	
500.0	7.50	25.17	499.3	14.8	6.9	16.3	3.00	3.00	
600.0	10.50	25.17	598.0	28.9	13.6	32.0	3.00	3.00	
700.0	13.50	25.17	695.8	47.8	22.4	52.8	3.00	3.00	
800.0	16.50	25.17	792.4	71.2	33.5	78.6	3.00	3.00	
900.0	19.50	25.17	887.5	99.1	46.6	109.5	3.00	3.00	
1,000.0	22.50	25.17	980.9	131.6	61.8	145.4	3.00	3.00	
1,100.0	25.50	25.17	1,072.2	168.4	79.1	186.0	3.00	3.00	
1,169.0	27.57	25.17	1,134.0	196.3	92.2	216.9	3.00	3.00	EOB @ Inc. = 27.57°
1,200.0	27.57	25.17	1,161.4	209.3	98.3	231.2	0.00	0.00	
1,269.0	27.57	25.17	1,222.6	238.2	111.9	263.2	0.00	0.00	Surface Casing
1,300.0	27.57	25.17	1,250.1	251.1	118.0	277.5	0.00	0.00	
1,400.0	27.57	25.17	1,338.7	293.0	137.7	323.8	0.00	0.00	
1,500.0	27.57	25.17	1,427.4	334.9	157.4	370.1	0.00	0.00	
1,600.0	27.57	25.17	1,516.0	376.8	177.1	416.4	0.00	0.00	
1,700.0	27.57	25.17	1,604.6	418.7	196.8	462.6	0.00	0.00	
1,800.0	27.57	25.17	1,693.3	460.6	216.5	508.9	0.00	0.00	
1,900.0	27.57	25.17	1,781.9	502.5	236.2	555.2	0.00	0.00	
2,000.0	27.57	25.17	1,870.6	544.4	255.8	601.5	0.00	0.00	
2,100.0	27.57	25.17	1,959.2	586.3	275.5	647.8	0.00	0.00	
2,200.0	27.57	25.17	2,047.9	628.1	295.2	694.1	0.00	0.00	
2,300.0	27.57	25.17	2,136.5	670.0	314.9	740.3	0.00	0.00	
2,400.0	27.57	25.17	2,225.2	711.9	334.6	786.6	0.00	0.00	
2,500.0	27.57	25.17	2,313.8	753.8	354.3	832.9	0.00	0.00	
2,600.0	27.57	25.17	2,402.4	795.7	374.0	879.2	0.00	0.00	
2,700.0	27.57	25.17	2,491.1	837.6	393.6	925.5	0.00	0.00	
2,800.0	27.57	25.17	2,579.7	879.5	413.3	971.8	0.00	0.00	
2,900.0	27.57	25.17	2,668.4	921.4	433.0	1,018.0	0.00	0.00	
3,000.0	27.57	25.17	2,757.0	963.2	452.7	1,064.3	0.00	0.00	
3,100.0	27.57	25.17	2,845.7	1,005.1	472.4	1,110.6	0.00	0.00	
3,200.0	27.57	25.17	2,934.3	1,047.0	492.1	1,156.9	0.00	0.00	
3,300.0	27.57	25.17	3,023.0	1,088.9	511.8	1,203.2	0.00	0.00	
3,400.0	27.57	25.17	3,111.6	1,130.8	531.4	1,249.5	0.00	0.00	
3,500.0	27.57	25.17	3,200.2	1,172.7	551.1	1,295.7	0.00	0.00	
3,600.0	27.57	25.17	3,288.9	1,214.6	570.8	1,342.0	0.00	0.00	
3,700.0	27.57	25.17	3,377.5	1,256.5	590.5	1,388.3	0.00	0.00	
3,800.0	27.57	25.17	3,466.2	1,298.4	610.2	1,434.6	0.00	0.00	
3,900.0	27.57	25.17	3,554.8	1,340.2	629.9	1,480.9	0.00	0.00	
4,000.0	27.57	25.17	3,643.5	1,382.1	649.6	1,527.2	0.00	0.00	
4,100.0	27.57	25.17	3,732.1	1,424.0	669.3	1,573.4	0.00	0.00	
4,200.0	27.57	25.17	3,820.8	1,465.9	688.9	1,619.7	0.00	0.00	
4,300.0	27.57	25.17	3,909.4	1,507.8	708.6	1,666.0	0.00	0.00	
4,400.0	27.57	25.17	3,998.0	1,549.7	728.3	1,712.3	0.00	0.00	
4,500.0	27.57	25.17	4,086.7	1,591.6	748.0	1,758.6	0.00	0.00	
4,600.0	27.57	25.17	4,175.3	1,633.5	767.7	1,804.9	0.00	0.00	
4,700.0	27.57	25.17	4,264.0	1,675.3	787.4	1,851.1	0.00	0.00	
4,779.0	27.57	25.17	4,334.0	1,708.4	802.9	1,887.7	0.00	0.00	Ohio Creek

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Project:</b>	S. Piceance (Parachute)	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>North Reference:</b>	True
<b>Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,800.0	27.57	25.17	4,352.6	1,717.2	807.1	1,897.4	0.00	0.00	
4,900.0	27.57	25.17	4,441.3	1,759.1	826.7	1,943.7	0.00	0.00	
5,000.0	27.57	25.17	4,529.9	1,801.0	846.4	1,990.0	0.00	0.00	
5,017.0	27.57	25.17	4,545.0	1,808.1	849.8	1,997.9	0.00	0.00	Mesaverde Marker
5,100.0	27.57	25.17	4,618.6	1,842.9	866.1	2,036.3	0.00	0.00	
5,187.4	27.57	25.17	4,696.0	1,879.5	883.3	2,076.7	0.00	0.00	Start 3° Drop
5,200.0	27.19	25.17	4,707.2	1,884.8	885.8	2,082.5	3.00	-3.00	
5,300.0	24.19	25.17	4,797.3	1,924.0	904.2	2,125.9	3.00	-3.00	
5,400.0	21.19	25.17	4,889.6	1,958.9	920.6	2,164.5	3.00	-3.00	
5,500.0	18.19	25.17	4,983.7	1,989.4	935.0	2,198.1	3.00	-3.00	
5,600.0	15.19	25.17	5,079.5	2,015.4	947.2	2,226.9	3.00	-3.00	
5,700.0	12.19	25.17	5,176.6	2,036.8	957.3	2,250.5	3.00	-3.00	
5,800.0	9.19	25.17	5,274.9	2,053.6	965.1	2,269.1	3.00	-3.00	
5,813.3	8.79	25.17	5,288.0	2,055.5	966.0	2,271.2	3.00	-3.00	Williams Fork
5,900.0	6.19	25.17	5,374.0	2,065.7	970.8	2,282.5	3.00	-3.00	
6,000.0	3.19	25.17	5,473.6	2,073.1	974.3	2,290.7	3.00	-3.00	
6,106.4	0.00	0.00	5,580.0	2,075.8	975.6	2,293.6	3.00	-3.00	EOD @ Inc. = 0° - Top Gas
6,200.0	0.00	0.00	5,673.6	2,075.8	975.6	2,293.6	0.00	0.00	
6,300.0	0.00	0.00	5,773.6	2,075.8	975.6	2,293.6	0.00	0.00	
6,400.0	0.00	0.00	5,873.6	2,075.8	975.6	2,293.6	0.00	0.00	
6,500.0	0.00	0.00	5,973.6	2,075.8	975.6	2,293.6	0.00	0.00	
6,600.0	0.00	0.00	6,073.6	2,075.8	975.6	2,293.6	0.00	0.00	
6,700.0	0.00	0.00	6,173.6	2,075.8	975.6	2,293.6	0.00	0.00	
6,800.0	0.00	0.00	6,273.6	2,075.8	975.6	2,293.6	0.00	0.00	
6,900.0	0.00	0.00	6,373.6	2,075.8	975.6	2,293.6	0.00	0.00	
7,000.0	0.00	0.00	6,473.6	2,075.8	975.6	2,293.6	0.00	0.00	
7,100.0	0.00	0.00	6,573.6	2,075.8	975.6	2,293.6	0.00	0.00	
7,200.0	0.00	0.00	6,673.6	2,075.8	975.6	2,293.6	0.00	0.00	
7,300.0	0.00	0.00	6,773.6	2,075.8	975.6	2,293.6	0.00	0.00	
7,400.0	0.00	0.00	6,873.6	2,075.8	975.6	2,293.6	0.00	0.00	
7,500.0	0.00	0.00	6,973.6	2,075.8	975.6	2,293.6	0.00	0.00	
7,600.0	0.00	0.00	7,073.6	2,075.8	975.6	2,293.6	0.00	0.00	
7,652.4	0.00	0.00	7,126.0	2,075.8	975.6	2,293.6	0.00	0.00	Coal Ridge
7,700.0	0.00	0.00	7,173.6	2,075.8	975.6	2,293.6	0.00	0.00	
7,800.0	0.00	0.00	7,273.6	2,075.8	975.6	2,293.6	0.00	0.00	
7,900.0	0.00	0.00	7,373.6	2,075.8	975.6	2,293.6	0.00	0.00	
8,000.0	0.00	0.00	7,473.6	2,075.8	975.6	2,293.6	0.00	0.00	
8,100.0	0.00	0.00	7,573.6	2,075.8	975.6	2,293.6	0.00	0.00	
8,185.4	0.00	0.00	7,659.0	2,075.8	975.6	2,293.6	0.00	0.00	Rollins
8,200.0	0.00	0.00	7,673.6	2,075.8	975.6	2,293.6	0.00	0.00	
8,300.0	0.00	0.00	7,773.6	2,075.8	975.6	2,293.6	0.00	0.00	
8,335.4	0.00	0.00	7,809.0	2,075.8	975.6	2,293.6	0.00	0.00	TD @ 8,335.4' MD
8,400.0	0.00	0.00	7,873.6	2,075.8	975.6	2,293.6	0.00	0.00	
8,435.4	0.00	0.00	7,909.0	2,075.8	975.6	2,293.6	0.00	0.00	Permit TD @ 8,435.4' MD

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Project:</b>	S. Piceance (Parachute)	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>North Reference:</b>	True
<b>Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

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									
Hagen Clem 15-10C TG	0.00	0.00	5,580.0	2,075.8	975.6	1,592,669.92	2,298,751.85	39.434325	-107.983079
- plan hits target center									
- Point									
Hagen Clem 15-10C PB	0.00	0.00	7,809.0	2,075.8	975.6	1,592,669.92	2,298,751.85	39.434325	-107.983079
- plan hits target center									
- Circle (radius 25.0)									

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(ft)	(ft)		(in)	(in)
1,269.0	1,222.6	Surface Casing		

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
4,779.0	4,334.0	Ohio Creek				
5,017.0	4,545.0	Mesaverde Marker				
5,813.3	5,288.0	Williams Fork				
6,106.4	5,580.0	Top Gas				
7,652.4	7,126.0	Coal Ridge				
8,185.4	7,659.0	Rollins				

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
250.0	250.0	0.0	0.0	KOP @ 250'
1,169.0	1,134.0	196.3	92.2	EOB @ Inc. = 27.57°
5,187.4	4,696.0	1,879.5	883.3	Start 3° Drop
6,106.4	5,580.0	2,075.8	975.6	EOD @ Inc. = 0°
8,335.4	7,809.0	2,075.8	975.6	TD @ 8,335.4' MD
8,435.4	7,909.0	2,075.8	975.6	Permit TD @ 8,435.4' MD



# **EnCana Oil & Gas (USA) Inc**

**S. Piceance (Parachute)**

**PC-22 Pad NENW 2 7S 95W**

**Hagen Clem 15-10C**

**OH**

**Plan #1**

## **Anticollision Report**

**08 February, 2013**

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 500.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b>	2/8/2013		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	8,454.6	Plan #1 (OH)	MWD	Geolink MWD

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

### Summary

Site Name Offset Well - Wellbore - Design	Reference	Offset	Distance		Separation Factor	Warning
	Measured Depth (ft)	Measured Depth (ft)	Between Centres (ft)	Between Ellipses (ft)		
NESE S15-T7S-R95W (PI 15 Pad)						
Clem Warren15-33D (Existing) - DD - DD						Out of range
NESW Sec 15-T7S-R95W						
Furr A11-15B (Existing) - DD - DD						Out of range
PC-22 Pad NENW 2 7S 95W						
Hagen 15-13D - OH - Plan #1	200.0	200.0	58.3	57.6	93.763	CC, ES
Hagen 15-13D - OH - Plan #1	1,300.0	1,234.4	298.3	289.1	32.398	SF
Hagen 15-14A - OH - Plan #1	418.1	417.7	16.0	14.5	11.211	CC
Hagen 15-14A - OH - Plan #1	500.0	499.5	16.2	14.4	9.021	ES
Hagen 15-14A - OH - Plan #1	1,000.0	1,000.5	26.9	21.1	4.645	SF
Hagen 15-14C - OH - Plan #1	238.4	238.4	49.3	48.5	65.232	CC, ES
Hagen 15-14C - OH - Plan #1	1,000.0	988.3	95.1	89.2	16.249	SF
Hagen 15-14D - OH - Plan #1	379.7	379.0	32.6	31.4	25.739	CC
Hagen 15-14D - OH - Plan #1	500.0	498.5	33.0	31.2	18.312	ES
Hagen 15-14D - OH - Plan #1	800.0	797.3	36.6	32.8	9.548	SF
Hagen 22-3A - OH - Plan #1	200.0	200.0	32.9	32.3	52.995	CC
Hagen 22-3A - OH - Plan #1	210.7	210.7	32.9	32.3	50.008	ES
Hagen 22-3A - OH - Plan #1	700.0	697.8	59.1	56.1	19.900	SF
Hagen 22-3B - OH - Plan #1	239.6	239.6	25.8	25.1	34.004	CC, ES
Hagen 22-3B - OH - Plan #1	500.0	498.0	38.1	36.4	21.992	SF
Hagen 22-3D - OH - Plan #1	200.0	200.0	74.6	73.9	119.995	CC
Hagen 22-3D - OH - Plan #1	300.0	300.0	74.9	73.9	77.107	ES
Hagen 22-3D - OH - Plan #1	700.0	688.3	129.7	127.2	51.030	SF
Hagen Federal 15-16B - OH - Plan #1	200.0	200.0	16.4	15.8	26.445	CC, ES
Hagen Federal 15-16B - OH - Plan #1	1,200.0	1,179.2	134.2	124.5	13.714	SF
Hagen Federal 15-16C - OH - Plan #1	200.0	200.0	49.4	48.7	79.432	CC
Hagen Federal 15-16C - OH - Plan #1	227.8	227.8	49.4	48.7	68.750	ES
Hagen Federal 15-16C - OH - Plan #1	2,000.0	1,899.6	492.2	469.2	21.403	SF
Hagen Federal 22-1A - OH - Plan #1	200.0	200.0	58.3	57.6	93.780	CC
Hagen Federal 22-1A - OH - Plan #1	200.3	200.3	58.3	57.6	93.635	ES
Hagen Federal 22-1A - OH - Plan #1	1,600.0	1,464.0	459.0	444.4	31.390	SF
Hagen Federal 22-1AA - OH - Plan #1	200.0	200.0	66.0	65.4	106.301	CC, ES
Hagen Federal 22-1AA - OH - Plan #1	1,500.0	1,353.0	454.0	441.4	36.126	SF
Hagen Federal 22-1D - OH - Plan #1	200.0	200.0	99.0	98.3	159.285	CC, ES
Hagen Federal 22-1D - OH - Plan #1	1,400.0	1,247.2	460.1	449.9	44.905	SF
Hagen Federal 22-2D - OH - Plan #1	200.0	200.0	82.5	81.9	132.744	CC
Hagen Federal 22-2D - OH - Plan #1	241.2	241.2	82.6	81.8	107.885	ES
Hagen Federal 22-2D - OH - Plan #1	1,200.0	1,138.8	308.3	300.9	41.326	SF
Hagen Federal 22-2DD - OH - Plan #1	200.0	200.0	91.2	90.6	146.746	CC
Hagen Federal 22-2DD - OH - Plan #1	227.8	227.8	91.2	90.5	126.969	ES
Hagen Federal 22-2DD - OH - Plan #1	1,400.0	1,252.4	478.3	468.9	50.680	SF
Hagen Federal 22-4B - OH - Plan #1	200.0	200.0	42.0	41.4	67.625	CC, ES
Hagen Federal 22-4B - OH - Plan #1	500.0	491.6	61.6	59.9	35.471	SF
Hagen Federal 22-4C - OH - Plan #1	200.0	200.0	11.6	11.0	18.649	CC
Hagen Federal 22-4C - OH - Plan #1	242.7	242.7	11.7	10.9	15.161	ES
Hagen Federal 22-4C - OH - Plan #1	300.0	299.8	12.0	11.1	12.389	SF
Hagen Federal 22-4D - OH - Plan #1	200.0	200.0	11.3	10.7	18.172	CC
Hagen Federal 22-4D - OH - Plan #1	208.6	208.6	11.3	10.6	17.349	ES
Hagen Federal 22-4D - OH - Plan #1	300.0	299.6	12.9	12.0	13.326	SF
Hagen Federal 22-5A - OH - Plan #1	200.0	200.0	26.0	25.4	41.892	CC
Hagen Federal 22-5A - OH - Plan #1	230.1	230.1	26.1	25.4	35.926	ES
Hagen Federal 22-5A - OH - Plan #1	400.0	398.5	33.0	31.7	24.741	SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)		Separation Factor	Warning
Offset Well - Wellbore - Design						
PC-22 Pad NENW 2 7S 95W						
Hagen Federal 22-5AA - OH - Plan #1	200.0	200.0	41.9	41.3	67.503	CC
Hagen Federal 22-5AA - OH - Plan #1	235.5	235.5	42.0	41.3	56.381	ES
Hagen Federal 22-5AA - OH - Plan #1	400.0	398.4	47.1	45.8	35.315	SF
Hagen Federal 22-8A - OH - Plan #1	200.0	200.0	107.4	106.7	172.791	CC, ES
Hagen Federal 22-8A - OH - Plan #1	1,300.0	1,141.8	454.9	446.5	54.221	SF

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design PC-22 Pad NENW 2 7S 95W - Hagen 15-13D - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-52.22	35.7	-46.0	58.3					
100.0	100.0	100.0	100.0	0.1	0.1	-52.22	35.7	-46.0	58.3	58.0	0.27	213.972		
200.0	200.0	200.0	200.0	0.3	0.3	-52.22	35.7	-46.0	58.3	57.6	0.62	93.763 CC, ES		
300.0	300.0	297.1	297.1	0.5	0.5	-77.22	37.7	-47.4	60.5	59.6	0.97	62.626		
400.0	399.8	393.8	393.5	0.7	0.7	-79.40	43.8	-51.6	66.7	65.4	1.33	50.021		
500.0	499.3	489.8	488.7	0.9	1.0	-83.44	53.7	-58.5	76.9	75.2	1.76	43.640		
600.0	598.0	584.7	582.1	1.2	1.3	-88.08	67.4	-68.0	91.6	89.4	2.30	39.923		
700.0	695.8	678.2	673.2	1.6	1.7	-92.42	84.7	-79.9	111.2	108.2	2.96	37.559		
800.0	792.4	769.9	761.5	2.1	2.2	-96.07	105.1	-94.1	135.5	131.8	3.76	36.056		
900.0	887.5	864.4	851.6	2.7	2.7	-99.50	128.5	-110.3	163.6	158.9	4.69	34.858		
1,000.0	980.9	958.8	941.6	3.3	3.2	-103.18	152.0	-126.5	193.5	187.8	5.74	33.731		
1,100.0	1,072.2	1,052.0	1,030.5	4.1	3.7	-106.85	175.1	-142.6	225.7	218.9	6.86	32.909		
1,200.0	1,161.3	1,143.9	1,118.0	4.9	4.2	-110.37	197.9	-158.4	260.7	252.7	8.03	32.458		
1,300.0	1,248.6	1,234.4	1,204.3	5.8	4.7	-114.26	220.4	-174.0	298.3	289.1	9.21	32.398 SF		
1,400.0	1,335.7	1,325.0	1,290.6	6.7	5.2	-117.58	242.9	-189.5	337.2	326.8	10.36	32.545		
1,500.0	1,422.9	1,415.5	1,376.9	7.6	5.7	-120.22	265.4	-205.1	376.8	365.3	11.49	32.803		
1,600.0	1,510.1	1,506.0	1,463.2	8.4	6.2	-122.37	287.9	-220.7	417.0	404.4	12.59	33.110		
1,700.0	1,597.3	1,596.6	1,549.5	9.3	6.7	-124.14	310.4	-236.2	457.6	443.9	13.69	33.432		
1,800.0	1,684.4	1,687.1	1,635.8	10.2	7.3	-125.63	332.9	-251.8	498.5	483.7	14.77	33.754		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design PC-22 Pad NENW 2 7S 95W - Hagen 15-14A - OH - Plan #1												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis		
0.0	0.0	0.0	0.0	0.0	0.0	-43.95	12.0	-11.6	16.7				
100.0	100.0	100.0	100.0	0.1	0.1	-43.95	12.0	-11.6	16.7	16.4	0.27	61.292	
200.0	200.0	200.0	200.0	0.3	0.3	-43.95	12.0	-11.6	16.7	16.1	0.62	26.858	
300.0	300.0	300.0	300.0	0.5	0.5	-71.25	12.0	-11.6	16.5	15.5	0.97	16.961	
400.0	399.8	399.7	399.7	0.7	0.7	-80.40	14.4	-10.6	16.0	14.6	1.34	11.888	
418.1	417.8	417.7	417.7	0.7	0.7	-82.12	15.4	-10.2	16.0	14.5	1.42	11.211 CC	
500.0	499.3	499.5	499.2	0.9	0.9	-89.93	21.7	-7.7	16.2	14.4	1.80	9.021 ES	
600.0	598.0	599.5	598.3	1.2	1.1	-98.82	33.8	-2.9	17.2	14.8	2.37	7.247	
700.0	695.8	699.6	696.7	1.6	1.5	-106.34	50.7	3.9	18.8	15.8	3.07	6.129	
800.0	792.4	799.9	794.2	2.1	1.9	-112.22	72.4	12.5	21.0	17.1	3.89	5.407	
900.0	887.5	900.3	890.4	2.7	2.4	-116.60	98.9	23.1	23.7	18.8	4.82	4.913	
1,000.0	980.9	1,000.5	985.1	3.3	3.0	-120.72	129.5	35.3	26.9	21.1	5.79	4.645 SF	
1,100.0	1,072.2	1,100.2	1,078.9	4.1	3.6	-130.22	160.7	47.8	33.0	26.6	6.43	5.127	
1,200.0	1,161.3	1,199.3	1,172.3	4.9	4.2	-141.23	191.6	60.1	43.6	37.0	6.63	6.580	
1,300.0	1,248.6	1,297.9	1,265.1	5.8	4.8	-149.86	222.5	72.4	58.6	52.0	6.66	8.806	
1,400.0	1,335.7	1,396.4	1,357.9	6.7	5.4	-155.04	253.2	84.7	74.5	67.7	6.80	10.961	
1,500.0	1,422.9	1,495.0	1,450.7	7.6	6.0	-158.39	284.0	97.0	90.8	83.8	7.03	12.920	
1,600.0	1,510.1	1,593.5	1,543.5	8.4	6.6	-160.71	314.8	109.3	107.4	100.1	7.31	14.680	
1,700.0	1,597.3	1,692.1	1,636.3	9.3	7.2	-162.41	345.6	121.6	124.0	116.4	7.63	16.255	
1,800.0	1,684.4	1,790.6	1,729.1	10.2	7.8	-163.71	376.4	133.9	140.7	132.8	7.97	17.667	
1,900.0	1,771.6	1,889.2	1,821.9	11.1	8.4	-164.73	407.2	146.2	157.5	149.2	8.32	18.937	
2,000.0	1,858.8	1,987.7	1,914.7	12.0	9.0	-165.56	438.0	158.5	174.3	165.7	8.68	20.084	
2,100.0	1,945.9	2,086.3	2,007.5	12.9	9.6	-166.24	468.8	170.8	191.2	182.2	9.05	21.124	
2,200.0	2,033.1	2,184.8	2,100.3	13.8	10.2	-166.81	499.6	183.1	208.1	198.6	9.43	22.071	
2,300.0	2,120.3	2,283.3	2,193.1	14.6	10.8	-167.29	530.4	195.4	225.0	215.2	9.81	22.935	
2,400.0	2,207.4	2,381.9	2,285.9	15.5	11.4	-167.71	561.2	207.7	241.9	231.7	10.19	23.729	
2,500.0	2,294.6	2,480.4	2,378.7	16.4	12.0	-168.07	592.0	220.0	258.8	248.2	10.58	24.459	
2,600.0	2,381.8	2,579.0	2,471.5	17.3	12.7	-168.39	622.8	232.3	275.7	264.7	10.97	25.132	
2,700.0	2,469.0	2,677.5	2,564.3	18.2	13.3	-168.67	653.6	244.6	292.6	281.3	11.36	25.756	
2,800.0	2,556.1	2,776.1	2,657.1	19.1	13.9	-168.92	684.4	256.9	309.6	297.8	11.76	26.335	
2,900.0	2,643.3	2,874.6	2,749.9	20.0	14.5	-169.15	715.2	269.2	326.5	314.4	12.15	26.874	
3,000.0	2,730.5	2,973.2	2,842.7	20.9	15.1	-169.35	746.0	281.4	343.5	330.9	12.55	27.377	
3,100.0	2,817.6	3,071.7	2,935.5	21.8	15.7	-169.53	776.8	293.7	360.4	347.5	12.94	27.848	
3,200.0	2,904.8	3,170.3	3,028.3	22.6	16.3	-169.70	807.5	306.0	377.4	364.0	13.34	28.289	
3,300.0	2,992.0	3,268.8	3,121.1	23.5	16.9	-169.85	838.3	318.3	394.3	380.6	13.74	28.703	
3,400.0	3,079.1	3,367.4	3,213.9	24.4	17.5	-169.99	869.1	330.6	411.3	397.2	14.14	29.092	
3,500.0	3,166.3	3,465.9	3,306.7	25.3	18.1	-170.12	899.9	342.9	428.3	413.7	14.54	29.460	
3,600.0	3,253.5	3,564.5	3,399.5	26.2	18.7	-170.24	930.7	355.2	445.2	430.3	14.94	29.806	
3,700.0	3,340.6	3,663.0	3,492.3	27.1	19.3	-170.35	961.5	367.5	462.2	446.8	15.34	30.134	
3,800.0	3,427.8	3,761.5	3,585.1	28.0	19.9	-170.45	992.3	379.8	479.2	463.4	15.74	30.445	
3,900.0	3,515.0	3,860.1	3,677.9	28.9	20.5	-170.55	1,023.1	392.1	496.1	480.0	16.14	30.739	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design PC-22 Pad NENW 2 7S 95W - Hagen 15-14C - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-44.29	35.3	-34.5	49.4					
100.0	100.0	100.0	100.0	0.1	0.1	-44.29	35.3	-34.5	49.4	49.1	0.27	181.257		
200.0	200.0	200.0	200.0	0.3	0.3	-44.29	35.3	-34.5	49.4	48.7	0.62	79.427		
238.4	238.4	238.4	238.4	0.4	0.4	-69.67	35.3	-34.5	49.3	48.5	0.76	65.232 CC, ES		
300.0	300.0	299.1	299.1	0.5	0.5	-69.63	36.0	-34.5	49.6	48.6	0.97	51.130		
400.0	399.8	397.3	397.1	0.7	0.7	-70.94	41.0	-34.4	51.4	50.0	1.34	38.289		
500.0	499.3	495.4	494.7	0.9	0.9	-73.29	51.1	-34.2	55.0	53.2	1.79	30.786		
600.0	598.0	593.3	591.5	1.2	1.2	-76.25	66.1	-33.9	60.7	58.3	2.36	25.759		
700.0	695.8	692.3	688.6	1.6	1.6	-80.24	85.2	-33.6	67.7	64.7	3.06	22.128		
800.0	792.4	791.6	786.0	2.1	1.9	-87.21	104.6	-33.2	74.8	70.9	3.92	19.098		
900.0	887.5	890.4	882.9	2.7	2.3	-96.36	123.9	-32.9	83.4	78.5	4.88	17.071		
1,000.0	980.9	988.3	978.9	3.3	2.6	-106.50	143.0	-32.5	95.1	89.2	5.85	16.249 SF		
1,100.0	1,072.2	1,085.2	1,073.9	4.1	3.0	-116.42	162.0	-32.2	111.5	104.8	6.72	16.603		
1,200.0	1,161.3	1,180.6	1,167.5	4.9	3.4	-125.22	180.6	-31.8	133.6	126.2	7.43	17.976		
1,300.0	1,248.6	1,274.9	1,260.0	5.8	3.7	-132.72	199.1	-31.5	160.7	152.7	7.98	20.126		
1,400.0	1,335.7	1,369.2	1,352.4	6.7	4.1	-138.23	217.5	-31.2	189.9	181.5	8.48	22.401		
1,500.0	1,422.9	1,463.4	1,444.8	7.6	4.4	-142.27	235.9	-30.8	220.4	211.4	8.96	24.608		
1,600.0	1,510.1	1,557.6	1,537.2	8.4	4.8	-145.34	254.3	-30.5	251.6	242.2	9.43	26.683		
1,700.0	1,597.3	1,651.9	1,629.6	9.3	5.2	-147.74	272.8	-30.2	283.4	273.4	9.91	28.606		
1,800.0	1,684.4	1,746.1	1,722.1	10.2	5.5	-149.65	291.2	-29.9	315.4	305.1	10.38	30.379		
1,900.0	1,771.6	1,840.3	1,814.5	11.1	5.9	-151.22	309.6	-29.5	347.8	336.9	10.87	32.007		
2,000.0	1,858.8	1,934.6	1,906.9	12.0	6.2	-152.51	328.0	-29.2	380.4	369.0	11.35	33.504		
2,100.0	1,945.9	2,028.8	1,999.3	12.9	6.6	-153.61	346.4	-28.9	413.1	401.2	11.84	34.880		
2,200.0	2,033.1	2,123.0	2,091.7	13.8	6.9	-154.54	364.9	-28.5	445.9	433.5	12.33	36.149		
2,300.0	2,120.3	2,217.3	2,184.1	14.6	7.3	-155.35	383.3	-28.2	478.8	465.9	12.83	37.319		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design PC-22 Pad NENW 2 7S 95W - Hagen 15-14D - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-44.02	23.7	-22.9	32.9					
100.0	100.0	100.0	100.0	0.1	0.1	-44.02	23.7	-22.9	32.9	32.7	0.27	120.925		
200.0	200.0	200.0	200.0	0.3	0.3	-44.02	23.7	-22.9	32.9	32.3	0.62	52.990		
300.0	300.0	299.8	299.8	0.5	0.5	-70.01	23.8	-22.8	32.8	31.8	0.97	33.759		
379.7	379.6	379.0	378.9	0.6	0.6	-71.90	26.3	-21.9	32.6	31.4	1.27	25.739 CC		
400.0	399.8	399.1	399.0	0.7	0.7	-72.42	27.5	-21.5	32.6	31.3	1.34	24.275		
500.0	499.3	498.5	498.0	0.9	0.9	-75.10	35.9	-18.3	33.0	31.2	1.80	18.312 ES		
600.0	598.0	598.1	596.5	1.2	1.2	-78.15	49.1	-13.4	33.7	31.3	2.38	14.176		
700.0	695.8	697.9	695.1	1.6	1.5	-87.09	63.8	-7.9	34.3	31.3	3.09	11.124		
800.0	792.4	797.3	793.3	2.1	1.8	-103.54	78.5	-2.4	36.6	32.8	3.84	9.548 SF		
900.0	887.5	896.1	890.9	2.7	2.1	-122.88	93.0	3.0	44.1	39.8	4.36	10.130		
1,000.0	980.9	993.9	987.5	3.3	2.4	-138.92	107.4	8.4	59.0	54.4	4.59	12.859		
1,100.0	1,072.2	1,090.5	1,082.8	4.1	2.7	-149.89	121.7	13.7	81.1	76.4	4.72	17.188		
1,200.0	1,161.3	1,185.6	1,176.7	4.9	3.0	-157.04	135.7	18.9	109.6	104.7	4.86	22.561		
1,300.0	1,248.6	1,279.4	1,269.4	5.8	3.3	-161.87	149.5	24.1	142.6	137.5	5.04	28.294		
1,400.0	1,335.7	1,373.2	1,362.0	6.7	3.6	-164.98	163.3	29.2	176.4	171.1	5.28	33.391		
1,500.0	1,422.9	1,466.9	1,454.6	7.6	3.9	-167.08	177.1	34.4	210.5	204.9	5.56	37.872		
1,600.0	1,510.1	1,560.7	1,547.2	8.4	4.2	-168.60	191.0	39.6	244.8	238.9	5.85	41.823		
1,700.0	1,597.3	1,654.5	1,639.8	9.3	4.5	-169.75	204.8	44.7	279.2	273.0	6.16	45.325		
1,800.0	1,684.4	1,748.2	1,732.4	10.2	4.8	-170.65	218.6	49.9	313.7	307.2	6.47	48.447		
1,900.0	1,771.6	1,842.0	1,825.0	11.1	5.1	-171.37	232.4	55.0	348.2	341.4	6.79	51.244		
2,000.0	1,858.8	1,935.8	1,917.6	12.0	5.4	-171.96	246.2	60.2	382.8	375.6	7.12	53.764		
2,100.0	1,945.9	2,029.5	2,010.2	12.9	5.7	-172.45	260.0	65.3	417.4	409.9	7.45	56.046		
2,200.0	2,033.1	2,123.3	2,102.8	13.8	6.0	-172.86	273.9	70.5	452.0	444.2	7.78	58.120		
2,300.0	2,120.3	2,217.1	2,195.4	14.6	6.3	-173.22	287.7	75.7	486.6	478.5	8.11	60.015		



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design PC-22 Pad NENW 2 7S 95W - Hagen 22-3A - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	135.98	-23.7	22.9	32.9					
100.0	100.0	100.0	100.0	0.1	0.1	135.98	-23.7	22.9	32.9	32.7	0.27	120.936		
200.0	200.0	200.0	200.0	0.3	0.3	135.98	-23.7	22.9	32.9	32.3	0.62	52.995 CC		
210.7	210.7	210.7	210.7	0.3	0.3	110.84	-23.7	22.9	32.9	32.3	0.66	50.008 ES		
300.0	300.0	299.8	299.7	0.5	0.5	109.37	-22.8	24.1	33.4	32.4	0.97	34.337		
400.0	399.8	399.3	399.1	0.7	0.7	106.99	-19.2	29.4	36.4	35.0	1.37	26.640		
500.0	499.3	498.9	498.1	0.9	0.9	105.80	-12.9	38.5	42.0	40.2	1.84	22.865		
600.0	598.0	598.6	597.1	1.2	1.2	109.97	-6.3	48.1	49.3	46.9	2.38	20.718		
700.0	695.8	697.8	695.6	1.6	1.4	117.59	0.3	57.6	59.1	56.1	2.97	19.900 SF		
800.0	792.4	796.4	793.5	2.1	1.7	126.28	6.8	67.1	72.7	69.1	3.55	20.457		
900.0	887.5	893.9	890.4	2.7	2.0	134.39	13.2	76.5	91.0	86.9	4.08	22.276		
1,000.0	980.9	990.2	986.0	3.3	2.2	141.21	19.6	85.8	114.6	110.0	4.56	25.132		
1,100.0	1,072.2	1,085.1	1,080.2	4.1	2.5	146.66	25.9	94.9	143.6	138.6	4.99	28.789		
1,200.0	1,161.3	1,178.1	1,172.6	4.9	2.7	150.93	32.1	103.8	177.8	172.4	5.38	33.055		
1,300.0	1,248.6	1,269.7	1,263.6	5.8	3.0	154.51	38.1	112.6	216.1	210.4	5.75	37.605		
1,400.0	1,335.7	1,361.2	1,354.5	6.7	3.2	157.16	44.2	121.4	255.2	249.0	6.12	41.683		
1,500.0	1,422.9	1,452.8	1,445.4	7.6	3.4	159.11	50.3	130.3	294.5	288.0	6.50	45.301		
1,600.0	1,510.1	1,544.3	1,536.3	8.4	3.7	160.60	56.3	139.1	334.1	327.2	6.89	48.519		
1,700.0	1,597.3	1,635.8	1,627.2	9.3	3.9	161.77	62.4	147.9	373.9	366.6	7.28	51.393		
1,800.0	1,684.4	1,727.3	1,718.0	10.2	4.2	162.72	68.5	156.7	413.7	406.1	7.67	53.970		
1,900.0	1,771.6	1,818.8	1,808.9	11.1	4.4	163.51	74.5	165.5	453.7	445.6	8.06	56.292		
2,000.0	1,858.8	1,910.3	1,899.8	12.0	4.7	164.17	80.6	174.3	493.7	485.2	8.45	58.394		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design PC-22 Pad NENW 2 7S 95W - Hagen 22-3B - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-62.29	12.0	-22.9	25.8					
100.0	100.0	100.0	100.0	0.1	0.1	-62.29	12.0	-22.9	25.8	25.6	0.27	94.924		
200.0	200.0	200.0	200.0	0.3	0.3	-62.29	12.0	-22.9	25.8	25.2	0.62	41.596		
239.6	239.6	239.6	239.6	0.4	0.4	-87.91	12.0	-22.9	25.8	25.1	0.76	34.004 CC, ES		
300.0	300.0	299.3	299.3	0.5	0.5	-89.19	12.2	-23.5	26.5	25.5	0.97	27.276		
400.0	399.8	398.7	398.6	0.7	0.7	-100.49	13.0	-27.2	30.7	29.4	1.34	23.007		
500.0	499.3	498.0	497.8	0.9	0.8	-116.07	13.9	-31.1	38.1	36.4	1.73	21.992 SF		
600.0	598.0	596.5	596.3	1.2	1.0	-130.66	14.8	-35.0	50.7	48.5	2.14	23.656		
700.0	695.8	694.0	693.7	1.6	1.2	-141.78	15.6	-38.9	69.3	66.7	2.54	27.303		
800.0	792.4	790.3	789.9	2.1	1.4	-149.60	16.5	-42.7	93.8	90.9	2.91	32.216		
900.0	887.5	885.1	884.6	2.7	1.6	-155.04	17.3	-46.4	123.9	120.6	3.27	37.921		
1,000.0	980.9	978.0	977.5	3.3	1.7	-158.90	18.2	-50.1	159.4	155.8	3.61	44.146		
1,100.0	1,072.2	1,068.9	1,068.3	4.1	1.9	-161.71	19.0	-53.7	199.9	196.0	3.94	50.744		
1,200.0	1,161.3	1,157.6	1,156.9	4.9	2.1	-163.79	19.8	-57.2	245.4	241.1	4.26	57.628		
1,300.0	1,248.6	1,244.3	1,243.6	5.8	2.2	-165.63	20.5	-60.6	294.4	289.8	4.59	64.201		
1,400.0	1,335.7	1,331.0	1,330.2	6.7	2.4	-167.04	21.3	-64.0	343.8	338.9	4.92	69.841		
1,500.0	1,422.9	1,417.7	1,416.8	7.6	2.6	-168.10	22.1	-67.4	393.4	388.1	5.26	74.773		
1,600.0	1,510.1	1,504.3	1,503.4	8.4	2.7	-168.93	22.9	-70.8	443.0	437.4	5.60	79.117		
1,700.0	1,597.3	1,591.0	1,590.0	9.3	2.9	-169.59	23.6	-74.3	492.6	486.7	5.94	82.972		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design PC-22 Pad NENW 2 7S 95W - Hagen 22-3D - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	141.86	-58.6	46.0	74.6					
100.0	100.0	100.0	100.0	0.1	0.1	141.86	-58.6	46.0	74.6	74.3	0.27	273.834		
200.0	200.0	200.0	200.0	0.3	0.3	141.86	-58.6	46.0	74.6	73.9	0.62	119.995 CC		
228.3	228.3	228.3	228.3	0.4	0.4	116.76	-58.6	46.0	74.6	73.9	0.72	103.595		
300.0	300.0	300.0	300.0	0.5	0.5	117.13	-58.6	46.0	74.9	73.9	0.97	77.107 ES		
400.0	399.8	395.9	395.9	0.7	0.7	120.48	-60.7	47.2	79.9	78.6	1.33	60.237		
500.0	499.3	493.5	493.3	0.9	0.8	126.08	-66.1	50.2	91.9	90.2	1.71	53.724		
600.0	598.0	591.5	591.0	1.2	1.0	132.34	-71.7	53.3	108.4	106.3	2.12	51.101		
700.0	695.8	688.3	687.6	1.6	1.2	138.30	-77.2	56.3	129.7	127.2	2.54	51.030 SF		
800.0	792.4	783.7	782.8	2.1	1.4	143.54	-82.7	59.3	156.3	153.3	2.96	52.757		
900.0	887.5	877.4	876.3	2.7	1.6	147.93	-88.0	62.2	188.1	184.7	3.37	55.763		
1,000.0	980.9	969.2	967.9	3.3	1.8	151.52	-93.2	65.1	225.2	221.4	3.77	59.686		
1,100.0	1,072.2	1,058.8	1,057.3	4.1	2.0	154.41	-98.3	68.0	267.3	263.2	4.16	64.272		
1,200.0	1,161.3	1,145.9	1,144.3	4.9	2.2	156.74	-103.3	70.7	314.4	309.9	4.53	69.341		
1,300.0	1,248.6	1,231.2	1,229.4	5.8	2.4	159.01	-108.1	73.4	365.2	360.3	4.90	74.542		
1,400.0	1,335.7	1,316.3	1,314.3	6.7	2.5	160.90	-113.0	76.1	416.5	411.2	5.26	79.184		
1,500.0	1,422.9	1,401.4	1,399.2	7.6	2.7	162.37	-117.8	78.7	468.1	462.4	5.62	83.339		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design PC-22 Pad NENW 2 7S 95W - Hagen Federal 15-16B - OH - Plan #1												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	135.18	-11.7	11.6	16.4				
100.0	100.0	100.0	100.0	0.1	0.1	135.18	-11.7	11.6	16.4	16.2	0.27	60.348	
200.0	200.0	200.0	200.0	0.3	0.3	135.18	-11.7	11.6	16.4	15.8	0.62	26.445	CC, ES
300.0	300.0	299.8	299.8	0.5	0.5	103.39	-10.1	13.7	17.1	16.2	0.98	17.504	
400.0	399.8	399.4	399.1	0.7	0.7	96.32	-5.4	19.9	20.5	19.1	1.38	14.775	
500.0	499.3	498.7	497.5	0.9	1.0	92.43	2.3	30.2	26.5	24.6	1.89	14.019	
600.0	598.0	597.7	594.8	1.2	1.4	90.90	13.1	44.6	34.9	32.4	2.52	13.851	
700.0	695.8	696.2	690.6	1.6	1.8	90.62	26.8	62.8	45.8	42.5	3.31	13.823	
800.0	792.4	794.1	784.6	2.1	2.3	90.90	43.4	84.9	59.0	54.7	4.27	13.810	
900.0	887.5	891.4	876.4	2.7	2.9	91.37	62.7	110.6	74.5	69.1	5.40	13.790	
1,000.0	980.9	988.1	965.9	3.3	3.6	91.85	84.6	139.8	92.2	85.5	6.70	13.765	
1,100.0	1,072.2	1,084.1	1,052.8	4.1	4.4	92.29	109.0	172.3	112.2	104.0	8.16	13.739	
1,200.0	1,161.3	1,179.2	1,136.9	4.9	5.3	92.63	135.8	208.0	134.2	124.5	9.79	13.714	SF
1,300.0	1,248.6	1,273.6	1,218.0	5.8	6.2	92.94	164.8	246.6	158.3	146.8	11.52	13.746	
1,400.0	1,335.7	1,367.1	1,295.8	6.7	7.3	91.99	195.9	288.0	184.2	170.9	13.28	13.869	
1,500.0	1,422.9	1,459.2	1,369.9	7.6	8.3	90.11	228.7	331.7	211.9	196.9	15.02	14.104	
1,600.0	1,510.1	1,554.1	1,444.7	8.4	9.5	88.01	263.8	378.5	241.0	224.2	16.77	14.374	
1,700.0	1,597.3	1,649.5	1,519.8	9.3	10.6	86.35	299.1	425.4	270.3	251.8	18.50	14.613	
1,800.0	1,684.4	1,744.8	1,594.9	10.2	11.7	85.01	334.3	472.4	299.9	279.6	20.23	14.826	
1,900.0	1,771.6	1,840.1	1,670.0	11.1	12.9	83.91	369.6	519.4	329.5	307.6	21.94	15.015	
2,000.0	1,858.8	1,935.5	1,745.0	12.0	14.0	82.99	404.9	566.4	359.2	335.6	23.66	15.184	
2,100.0	1,945.9	2,030.8	1,820.1	12.9	15.2	82.22	440.2	613.4	389.0	363.7	25.37	15.334	
2,200.0	2,033.1	2,126.1	1,895.2	13.8	16.3	81.55	475.4	660.4	418.9	391.8	27.08	15.468	
2,300.0	2,120.3	2,221.5	1,970.3	14.6	17.5	80.97	510.7	707.3	448.8	420.0	28.79	15.590	
2,400.0	2,207.4	2,316.8	2,045.3	15.5	18.6	80.46	546.0	754.3	478.8	448.3	30.50	15.699	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design PC-22 Pad NENW 2 7S 95W - Hagen Federal 15-16C - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	135.71	-35.3	34.5	49.4					
100.0	100.0	100.0	100.0	0.1	0.1	135.71	-35.3	34.5	49.4	49.1	0.27	181.269		
200.0	200.0	200.0	200.0	0.3	0.3	135.71	-35.3	34.5	49.4	48.7	0.62	79.432 CC		
227.8	227.8	227.8	227.8	0.4	0.4	110.65	-35.3	34.5	49.4	48.7	0.72	68.750 ES		
300.0	300.0	299.6	299.6	0.5	0.5	110.53	-35.1	35.0	49.8	48.8	0.97	51.307		
400.0	399.8	398.6	398.5	0.7	0.7	110.43	-32.9	39.7	53.3	52.0	1.35	39.504		
500.0	499.3	497.4	496.7	0.9	0.9	110.26	-28.6	49.0	60.4	58.6	1.81	33.305		
600.0	598.0	595.7	593.9	1.2	1.2	110.03	-22.1	62.7	71.0	68.6	2.40	29.556		
700.0	695.8	693.4	689.5	1.6	1.6	109.75	-13.6	80.9	85.0	81.9	3.14	27.101		
800.0	792.4	790.4	783.2	2.1	2.1	109.43	-3.2	103.3	102.4	98.4	4.03	25.422		
900.0	887.5	886.4	874.7	2.7	2.6	109.07	9.1	129.6	123.1	118.1	5.08	24.245		
1,000.0	980.9	981.3	963.6	3.3	3.3	108.66	23.2	159.8	147.1	140.8	6.29	23.402		
1,100.0	1,072.2	1,075.1	1,049.7	4.1	4.0	108.21	38.9	193.5	174.2	166.5	7.64	22.788		
1,200.0	1,161.3	1,167.7	1,132.8	4.9	4.8	107.71	56.2	230.4	204.3	195.1	9.14	22.336		
1,300.0	1,248.6	1,259.1	1,212.8	5.8	5.7	107.57	74.9	270.4	236.9	226.1	10.75	22.029		
1,400.0	1,335.7	1,349.4	1,289.6	6.7	6.6	106.79	94.9	313.3	270.9	258.5	12.44	21.783		
1,500.0	1,422.9	1,438.2	1,363.0	7.6	7.6	105.40	116.1	358.7	306.4	292.3	14.16	21.636		
1,600.0	1,510.1	1,529.5	1,436.7	8.4	8.7	103.73	139.0	407.6	343.2	327.3	15.93	21.543		
1,700.0	1,597.3	1,622.0	1,511.2	9.3	9.7	102.35	162.2	457.3	380.2	362.5	17.70	21.477		
1,800.0	1,684.4	1,714.6	1,585.7	10.2	10.8	101.21	185.4	507.0	417.4	398.0	19.47	21.437		
1,900.0	1,771.6	1,807.1	1,660.3	11.1	11.9	100.26	208.6	556.7	454.8	433.5	21.24	21.415		
2,000.0	1,858.8	1,899.6	1,734.8	12.0	13.0	99.45	231.8	606.3	492.2	469.2	23.00	21.403 SF		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design PC-22 Pad NENW 2 7S 95W - Hagen Federal 22-1A - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program:		0-MWD											Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	143.74	-47.0	34.5	58.3					
100.0	100.0	100.0	100.0	0.1	0.1	143.74	-47.0	34.5	58.3	58.0	0.27	214.011		
200.0	200.0	200.0	200.0	0.3	0.3	143.74	-47.0	34.5	58.3	57.6	0.62	93.780 CC		
200.3	200.3	200.3	200.3	0.3	0.3	143.74	-47.0	34.5	58.3	57.6	0.62	93.635 ES		
300.0	300.0	298.9	298.9	0.5	0.5	117.86	-46.8	35.9	59.2	58.3	0.97	61.013		
400.0	399.8	397.3	397.1	0.7	0.7	116.78	-45.7	42.1	64.7	63.3	1.35	47.772		
500.0	499.3	495.0	494.1	0.9	0.9	115.89	-43.9	53.3	75.0	73.1	1.82	41.267		
600.0	598.0	591.8	589.6	1.2	1.3	115.24	-41.3	69.1	90.0	87.6	2.39	37.633		
700.0	695.8	687.4	682.9	1.6	1.7	114.75	-38.0	89.4	109.6	106.5	3.10	35.416		
800.0	792.4	781.5	773.7	2.1	2.1	114.33	-34.1	113.9	133.8	129.9	3.94	33.988		
900.0	887.5	873.9	861.5	2.7	2.7	113.93	-29.5	142.2	162.4	157.4	4.91	33.042		
1,000.0	980.9	964.3	946.0	3.3	3.3	113.49	-24.3	173.9	195.1	189.1	6.02	32.410		
1,100.0	1,072.2	1,052.6	1,026.9	4.1	4.0	113.00	-18.6	208.7	232.0	224.7	7.25	31.992		
1,200.0	1,161.3	1,138.7	1,104.2	4.9	4.8	112.43	-12.5	246.1	272.7	264.1	8.59	31.726		
1,300.0	1,248.6	1,222.7	1,177.9	5.8	5.6	112.55	-6.1	285.9	316.6	306.6	10.03	31.573		
1,400.0	1,335.7	1,305.0	1,248.4	6.7	6.4	112.37	0.8	327.9	362.3	350.8	11.52	31.461		
1,500.0	1,422.9	1,385.5	1,315.4	7.6	7.4	111.75	7.9	371.9	409.8	396.7	13.05	31.391		
1,600.0	1,510.1	1,464.0	1,378.9	8.4	8.3	110.84	15.3	417.4	459.0	444.4	14.62	31.390 SF		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design PC-22 Pad NENW 2 7S 95W - Hagen Federal 22-1AA - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	135.80	-47.4	46.0	66.0					
100.0	100.0	100.0	100.0	0.1	0.1	135.80	-47.4	46.0	66.0	65.8	0.27	242.583		
200.0	200.0	200.0	200.0	0.3	0.3	135.80	-47.4	46.0	66.0	65.4	0.62	106.301	CC, ES	
300.0	300.0	297.7	297.7	0.5	0.5	109.50	-47.2	48.5	68.0	67.0	0.97	69.966		
400.0	399.8	395.0	394.7	0.7	0.7	108.75	-46.8	56.0	74.9	73.5	1.36	55.190		
500.0	499.3	491.5	490.4	0.9	1.0	108.77	-46.1	68.2	86.8	85.0	1.82	47.806		
600.0	598.0	586.9	584.3	1.2	1.3	109.24	-45.2	85.0	103.8	101.5	2.38	43.580		
700.0	695.8	680.7	675.7	1.6	1.7	109.84	-44.0	106.1	125.8	122.7	3.07	40.942		
800.0	792.4	772.8	764.2	2.1	2.2	110.39	-42.6	131.2	152.6	148.7	3.89	39.214		
900.0	887.5	862.7	849.5	2.7	2.8	110.79	-41.0	159.7	184.0	179.2	4.84	38.062		
1,000.0	980.9	950.4	931.2	3.3	3.4	111.01	-39.2	191.3	220.0	214.1	5.90	37.295		
1,100.0	1,072.2	1,035.6	1,009.2	4.1	4.1	111.03	-37.3	225.7	260.2	253.2	7.07	36.796		
1,200.0	1,161.3	1,118.2	1,083.2	4.9	4.8	110.86	-35.2	262.2	304.6	296.2	8.35	36.490		
1,300.0	1,248.6	1,200.0	1,154.9	5.8	5.6	111.44	-33.0	301.5	352.4	342.7	9.72	36.263		
1,400.0	1,335.7	1,276.6	1,220.5	6.7	6.4	111.75	-30.8	341.1	402.2	391.1	11.12	36.162		
1,500.0	1,422.9	1,353.0	1,284.3	7.6	7.3	111.61	-28.4	383.1	454.0	441.4	12.57	36.126	SF	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> PC-22 Pad NENW 2 7S 95W - Hagen Federal 22-1D - OH - Plan #1													<b>Offset Site Error:</b> 0.0 ft
Survey Program: 0-MWD													<b>Offset Well Error:</b> 0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	135.86	-71.0	68.9	99.0				
100.0	100.0	100.0	100.0	0.1	0.1	135.86	-71.0	68.9	99.0	98.7	0.27	363.496	
200.0	200.0	200.0	200.0	0.3	0.3	135.86	-71.0	68.9	99.0	98.3	0.62	159.285 CC, ES	
300.0	300.0	297.1	297.1	0.5	0.5	110.49	-71.2	70.3	100.3	99.3	0.97	103.707	
400.0	399.8	393.0	392.7	0.7	0.7	110.73	-71.7	76.3	106.9	105.6	1.34	79.964	
500.0	499.3	488.0	487.1	0.9	0.9	111.51	-72.7	86.9	119.2	117.4	1.77	67.310	
600.0	598.0	581.7	579.6	1.2	1.2	112.54	-74.1	102.0	137.0	134.7	2.30	59.669	
700.0	695.8	673.7	669.6	1.6	1.6	113.55	-75.9	121.2	160.4	157.5	2.93	54.716	
800.0	792.4	763.6	756.5	2.1	2.1	114.40	-78.0	144.0	189.2	185.5	3.68	51.387	
900.0	887.5	851.1	840.0	2.7	2.6	115.00	-80.5	170.2	223.2	218.6	4.54	49.113	
1,000.0	980.9	936.0	919.7	3.3	3.1	115.35	-83.2	199.2	262.2	256.6	5.51	47.557	
1,100.0	1,072.2	1,018.0	995.4	4.1	3.7	115.45	-86.1	230.5	305.9	299.3	6.58	46.502	
1,200.0	1,161.3	1,100.0	1,069.7	4.9	4.4	115.35	-89.3	265.0	354.1	346.4	7.75	45.694	
1,300.0	1,248.6	1,173.0	1,134.5	5.8	5.1	115.97	-92.4	298.4	406.1	397.1	8.97	45.271	
1,400.0	1,335.7	1,247.2	1,199.1	6.7	5.8	116.51	-95.8	334.8	460.1	449.9	10.25	44.905 SF	



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design PC-22 Pad NENW 2 7S 95W - Hagen Federal 22-2D - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program:		0-MWD											Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	135.68	-59.0	57.6	82.5					
100.0	100.0	100.0	100.0	0.1	0.1	135.68	-59.0	57.6	82.5	82.2	0.27	302.928		
200.0	200.0	200.0	200.0	0.3	0.3	135.68	-59.0	57.6	82.5	81.9	0.62	132.744	CC	
241.2	241.2	241.2	241.2	0.4	0.4	110.65	-59.0	57.6	82.6	81.8	0.77	107.885	ES	
300.0	300.0	299.2	299.2	0.5	0.5	110.84	-59.0	57.8	82.8	81.9	0.97	85.429		
400.0	399.8	396.0	395.9	0.7	0.7	112.15	-59.2	61.5	87.5	86.1	1.33	65.580		
500.0	499.3	492.2	491.7	0.9	0.9	113.82	-59.5	70.0	97.7	96.0	1.76	55.637		
600.0	598.0	587.4	586.0	1.2	1.2	115.46	-60.1	83.1	113.6	111.3	2.27	50.058		
700.0	695.8	681.1	678.0	1.6	1.5	116.81	-60.8	100.6	135.0	132.1	2.89	46.681		
800.0	792.4	772.9	767.3	2.1	1.9	117.78	-61.7	122.1	161.7	158.1	3.63	44.535		
900.0	887.5	863.3	854.1	2.7	2.4	118.40	-62.8	147.4	193.7	189.2	4.48	43.274		
1,000.0	980.9	956.6	943.1	3.3	2.9	119.39	-64.0	175.1	229.1	223.7	5.42	42.285		
1,100.0	1,072.2	1,048.5	1,030.9	4.1	3.4	120.80	-65.1	202.3	267.2	260.8	6.42	41.639		
1,200.0	1,161.3	1,138.8	1,117.1	4.9	3.9	122.39	-66.3	229.1	308.3	300.9	7.46	41.326	SF	
1,300.0	1,248.6	1,227.7	1,202.0	5.8	4.4	124.70	-67.4	255.5	351.9	343.3	8.51	41.339		
1,400.0	1,335.7	1,316.6	1,286.9	6.7	4.9	126.81	-68.5	281.8	396.0	386.4	9.56	41.436		
1,500.0	1,422.9	1,405.4	1,371.8	7.6	5.4	128.49	-69.6	308.2	440.5	429.9	10.59	41.580		
1,600.0	1,510.1	1,494.3	1,456.6	8.4	5.9	129.87	-70.8	334.5	485.2	473.6	11.62	41.745		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design PC-22 Pad NENW 2 7S 95W - Hagen Federal 22-2DD - OH - Plan #1												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)			
0.0	0.0	0.0	0.0	0.0	0.0	140.80	-70.7	57.6	91.2				
100.0	100.0	100.0	100.0	0.1	0.1	140.80	-70.7	57.6	91.2	90.9	0.27	334.882	
200.0	200.0	200.0	200.0	0.3	0.3	140.80	-70.7	57.6	91.2	90.6	0.62	146.746	CC
227.8	227.8	227.8	227.8	0.4	0.4	115.69	-70.7	57.6	91.2	90.5	0.72	126.969	ES
300.0	300.0	298.1	298.1	0.5	0.5	115.74	-70.8	58.2	92.0	91.0	0.97	95.040	
400.0	399.8	394.1	393.9	0.7	0.7	116.55	-72.0	62.9	98.3	97.0	1.33	73.890	
500.0	499.3	489.1	488.5	0.9	0.9	117.85	-74.5	72.1	111.0	109.3	1.75	63.571	
600.0	598.0	582.7	581.0	1.2	1.2	119.26	-78.0	85.6	130.0	127.8	2.24	58.030	
700.0	695.8	674.2	670.8	1.6	1.5	120.48	-82.6	103.0	155.3	152.5	2.83	54.877	
800.0	792.4	763.3	757.2	2.1	1.9	121.39	-88.1	123.9	186.6	183.0	3.52	53.029	
900.0	887.5	849.5	839.7	2.7	2.4	121.96	-94.4	147.9	223.6	219.3	4.30	51.955	
1,000.0	980.9	932.5	918.1	3.3	2.9	122.21	-101.4	174.3	266.2	261.0	5.18	51.370	
1,100.0	1,072.2	1,012.1	992.1	4.1	3.5	122.17	-108.9	202.7	314.0	307.8	6.14	51.113	
1,200.0	1,161.3	1,088.1	1,061.4	4.9	4.1	121.85	-116.7	232.6	366.6	359.4	7.18	51.037	
1,300.0	1,248.6	1,169.9	1,135.4	5.8	4.8	122.70	-125.6	266.5	422.3	414.0	8.30	50.890	
1,400.0	1,335.7	1,252.4	1,210.0	6.7	5.4	123.76	-134.6	300.7	478.3	468.9	9.44	50.680	SF

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design PC-22 Pad NENW 2 7S 95W - Hagen Federal 22-4B - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-55.10	24.0	-34.5	42.0					
100.0	100.0	100.0	100.0	0.1	0.1	-55.10	24.0	-34.5	42.0	41.7	0.27	154.323		
200.0	200.0	200.0	200.0	0.3	0.3	-55.10	24.0	-34.5	42.0	41.4	0.62	67.625 CC, ES		
300.0	300.0	298.4	298.4	0.5	0.5	-81.71	24.4	-35.8	43.3	42.3	0.97	44.689		
400.0	399.8	395.8	395.5	0.7	0.7	-89.72	26.0	-41.8	49.1	47.8	1.33	36.868		
500.0	499.3	491.6	490.7	0.9	0.9	-100.63	28.9	-52.4	61.6	59.9	1.74	35.471 SF		
600.0	598.0	585.1	583.0	1.2	1.2	-110.16	33.0	-67.1	82.2	80.0	2.20	37.452		
700.0	695.8	675.6	671.4	1.6	1.6	-116.95	38.0	-85.5	111.1	108.4	2.72	40.850		
800.0	792.4	762.4	755.4	2.1	2.0	-121.40	43.8	-106.9	147.7	144.4	3.32	44.553		
900.0	887.5	845.1	834.3	2.7	2.5	-124.21	50.3	-130.7	191.5	187.5	3.98	48.103		
1,000.0	980.9	927.6	912.0	3.3	3.0	-126.10	57.6	-157.3	241.3	236.6	4.71	51.197		
1,100.0	1,072.2	1,011.2	990.7	4.1	3.5	-127.73	65.0	-184.5	294.7	289.2	5.50	53.558		
1,200.0	1,161.3	1,092.4	1,067.2	4.9	4.1	-129.06	72.2	-211.0	351.3	345.0	6.33	55.502		
1,300.0	1,248.6	1,171.7	1,141.8	5.8	4.6	-131.21	79.3	-236.8	410.6	403.4	7.18	57.199		
1,400.0	1,335.7	1,250.9	1,216.3	6.7	5.1	-133.21	86.3	-262.6	470.3	462.3	8.03	58.568		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design PC-22 Pad NENW 2 7S 95W - Hagen Federal 22-4C - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-88.20	0.4	-11.6	11.6					
100.0	100.0	100.0	100.0	0.1	0.1	-88.20	0.4	-11.6	11.6	11.3	0.27	42.557		
200.0	200.0	200.0	200.0	0.3	0.3	-88.20	0.4	-11.6	11.6	11.0	0.62	18.649	CC	
242.7	242.7	242.7	242.7	0.4	0.4	-114.45	0.4	-11.6	11.7	10.9	0.77	15.161	ES	
300.0	300.0	299.8	299.8	0.5	0.5	-116.33	0.3	-11.7	12.0	11.1	0.97	12.389	SF	
400.0	399.8	398.7	398.6	0.7	0.7	-131.75	-0.2	-15.6	18.9	17.6	1.33	14.250		
500.0	499.3	495.9	495.5	0.9	0.9	-141.67	-1.3	-24.2	35.3	33.6	1.70	20.807		
600.0	598.0	590.4	588.9	1.2	1.2	-145.90	-3.0	-37.3	60.8	58.7	2.09	29.122		
700.0	695.8	681.0	678.0	1.6	1.5	-147.69	-5.2	-54.2	94.9	92.3	2.51	37.791		
800.0	792.4	767.1	761.6	2.1	1.9	-148.39	-7.7	-74.1	136.9	133.9	2.97	46.166		
900.0	887.5	847.9	839.4	2.7	2.3	-148.52	-10.6	-96.2	186.4	182.9	3.45	54.024		
1,000.0	980.9	929.7	917.4	3.3	2.7	-148.54	-13.8	-120.7	241.8	237.9	3.97	60.844		
1,100.0	1,072.2	1,010.2	994.0	4.1	3.2	-148.69	-16.9	-144.9	301.0	296.5	4.52	66.561		
1,200.0	1,161.3	1,087.7	1,067.8	4.9	3.6	-148.82	-19.9	-168.2	363.9	358.8	5.09	71.483		
1,300.0	1,248.6	1,162.9	1,139.5	5.8	4.0	-149.77	-22.9	-190.8	429.5	423.8	5.68	75.656		
1,400.0	1,335.7	1,237.9	1,211.1	6.7	4.5	-150.77	-25.8	-213.3	495.2	489.0	6.27	78.974		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design PC-22 Pad NENW 2 7S 95W - Hagen Federal 22-4D - OH - Plan #1												Offset Site Error:	0.0 ft		
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)					
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-11.3	0.0	11.3						
100.0	100.0	100.0	100.0	0.1	0.1	180.00	-11.3	0.0	11.3	11.0	0.27	41.470			
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-11.3	0.0	11.3	10.7	0.62	18.172 CC			
208.6	208.6	208.6	208.6	0.3	0.3	154.85	-11.3	0.0	11.3	10.6	0.65	17.349 ES			
300.0	300.0	299.6	299.6	0.5	0.5	160.85	-12.3	-1.1	12.9	12.0	0.97	13.326 SF			
400.0	399.8	398.2	398.0	0.7	0.7	175.63	-16.5	-5.8	23.5	22.2	1.32	17.783			
500.0	499.3	494.3	493.4	0.9	0.9	-176.62	-24.0	-14.1	44.5	42.8	1.66	26.760			
600.0	598.0	587.8	585.6	1.2	1.2	-173.18	-34.1	-25.3	75.1	73.1	2.00	37.623			
700.0	695.8	680.8	677.3	1.6	1.5	-171.85	-44.8	-37.2	111.7	109.4	2.33	47.972			
800.0	792.4	771.8	767.0	2.1	1.8	-171.38	-55.3	-48.8	153.0	150.4	2.65	57.688			
900.0	887.5	860.6	854.4	2.7	2.1	-171.24	-65.6	-60.1	199.0	196.1	2.97	67.017			
1,000.0	980.9	946.9	939.4	3.3	2.4	-171.24	-75.5	-71.2	249.6	246.3	3.28	76.125			
1,100.0	1,072.2	1,030.4	1,021.7	4.1	2.7	-171.29	-85.1	-81.8	304.5	300.9	3.58	85.115			
1,200.0	1,161.3	1,111.0	1,101.1	4.9	3.0	-171.35	-94.4	-92.1	363.7	359.8	3.87	94.054			
1,300.0	1,248.6	1,189.2	1,178.1	5.8	3.3	-171.63	-103.4	-102.1	426.0	421.8	4.19	101.739			
1,400.0	1,335.7	1,267.3	1,255.1	6.7	3.5	-171.92	-112.4	-112.1	488.4	483.9	4.52	108.024			

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design PC-22 Pad NENW 2 7S 95W - Hagen Federal 22-5A - OH - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Total Uncertainty	Separation			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	153.58	-23.3	11.6	26.0					
100.0	100.0	100.0	100.0	0.1	0.1	153.58	-23.3	11.6	26.0	25.8	0.27	95.601		
200.0	200.0	200.0	200.0	0.3	0.3	153.58	-23.3	11.6	26.0	25.4	0.62	41.892	CC	
230.1	230.1	230.1	230.1	0.4	0.4	128.61	-23.3	11.6	26.1	25.4	0.73	35.926	ES	
300.0	300.0	299.8	299.8	0.5	0.5	130.83	-23.8	11.1	26.7	25.7	0.97	27.455		
400.0	399.8	398.5	398.4	0.7	0.7	146.12	-27.3	7.4	33.0	31.7	1.33	24.741	SF	
500.0	499.3	495.0	494.3	0.9	0.9	162.34	-34.1	0.2	49.6	47.9	1.69	29.282		
600.0	598.0	587.8	586.0	1.2	1.2	172.52	-43.8	-10.1	77.4	75.4	2.03	38.104		
700.0	695.8	675.8	672.3	1.6	1.5	178.28	-55.8	-22.8	115.4	113.1	2.35	49.059		
800.0	792.4	759.7	753.7	2.1	1.9	-178.26	-69.7	-37.5	162.4	159.7	2.66	61.142		
900.0	887.5	844.5	835.8	2.7	2.3	-176.15	-84.4	-53.0	215.1	212.2	2.96	72.738		
1,000.0	980.9	926.4	915.0	3.3	2.7	-174.86	-98.6	-68.0	272.4	269.1	3.25	83.818		
1,100.0	1,072.2	1,005.2	991.3	4.1	3.0	-174.02	-112.3	-82.5	333.8	330.3	3.53	94.516		
1,200.0	1,161.3	1,080.8	1,064.4	4.9	3.4	-173.41	-125.4	-96.3	399.3	395.5	3.81	104.924		
1,300.0	1,248.6	1,153.8	1,135.0	5.8	3.7	-173.16	-138.0	-109.7	467.7	463.5	4.12	113.597		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													PC-22 Pad NENW 2 7S 95W - Hagen Federal 22-5AA - OH - Plan #1		Offset Site Error:		0.0 ft			
Survey Program:				0-MWD														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis				Distance												
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Total Uncertainty	Separation	Warning								
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis	Factor								
0.0	0.0	0.0	0.0	0.0	0.0	146.48	-35.0	23.2	41.9											
100.0	100.0	100.0	100.0	0.1	0.1	146.48	-35.0	23.2	41.9	41.7	0.27	154.046								
200.0	200.0	200.0	200.0	0.3	0.3	146.48	-35.0	23.2	41.9	41.3	0.62	67.503	CC							
235.5	235.5	235.5	235.5	0.4	0.4	121.50	-35.0	23.2	42.0	41.3	0.75	56.381	ES							
300.0	300.0	299.8	299.8	0.5	0.5	122.26	-35.1	23.1	42.3	41.4	0.97	43.630								
400.0	399.8	398.4	398.4	0.7	0.7	131.89	-38.1	20.7	47.1	45.8	1.33	35.315	SF							
500.0	499.3	494.9	494.4	0.9	0.9	146.23	-44.9	15.4	60.5	58.8	1.71	35.337								
600.0	598.0	587.9	586.5	1.2	1.1	158.15	-55.1	7.4	85.1	83.0	2.07	41.147								
700.0	695.8	676.0	673.1	1.6	1.5	166.05	-68.1	-2.6	120.7	118.3	2.39	50.455								
800.0	792.4	758.5	753.4	2.1	1.8	171.05	-83.0	-14.3	166.0	163.3	2.69	61.761								
900.0	887.5	834.7	826.7	2.7	2.2	174.29	-99.2	-26.9	220.1	217.1	2.96	74.302								
1,000.0	980.9	900.0	888.9	3.3	2.6	176.35	-114.9	-39.2	281.8	278.6	3.21	87.910								
1,100.0	1,072.2	966.5	951.5	4.1	3.0	178.02	-132.6	-53.0	350.2	346.7	3.44	101.660								
1,200.0	1,161.3	1,029.8	1,010.5	4.9	3.4	179.30	-150.7	-67.1	424.1	420.5	3.67	115.700								

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													PC-22 Pad NENW 2 7S 95W - Hagen Federal 22-8A - OH - Plan #1		Offset Site Error:		0.0 ft
Survey Program:													0-MWD		Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis				Distance									
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	Warning				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)							
0.0	0.0	0.0	0.0	0.0	0.0	140.06	-82.3	68.9	107.4								
100.0	100.0	100.0	100.0	0.1	0.1	140.06	-82.3	68.9	107.4	107.1	0.27	394.317					
200.0	200.0	200.0	200.0	0.3	0.3	140.06	-82.3	68.9	107.4	106.7	0.62	172.791	CC, ES				
300.0	300.0	295.5	295.5	0.5	0.5	114.43	-83.0	71.2	109.7	108.7	0.97	113.608					
400.0	399.8	390.5	390.1	0.7	0.7	114.46	-84.9	78.1	118.1	116.7	1.33	88.455					
500.0	499.3	484.3	483.3	0.9	1.0	115.11	-88.0	89.3	132.6	130.9	1.76	75.326					
600.0	598.0	576.5	574.1	1.2	1.3	116.04	-92.2	104.6	153.4	151.1	2.27	67.600					
700.0	695.8	666.5	661.9	1.6	1.7	116.99	-97.5	123.6	180.2	177.3	2.87	62.726					
800.0	792.4	753.9	746.2	2.1	2.1	117.79	-103.6	145.8	212.9	209.3	3.58	59.544					
900.0	887.5	838.3	826.5	2.7	2.6	118.35	-110.6	170.8	251.2	246.9	4.37	57.445					
1,000.0	980.9	919.5	902.6	3.3	3.2	118.65	-118.1	198.0	295.0	289.7	5.26	56.078					
1,100.0	1,072.2	1,000.0	976.8	4.1	3.8	118.73	-126.5	228.0	343.8	337.6	6.24	55.093					
1,200.0	1,161.3	1,071.1	1,041.2	4.9	4.4	118.44	-134.5	257.0	397.4	390.1	7.28	54.594					
1,300.0	1,248.6	1,141.8	1,104.1	5.8	5.0	119.17	-143.2	288.2	454.9	446.5	8.39	54.221	SF				



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well Hagen Clem 15-10C
<b>Project:</b>	S. Piceance (Parachute)	<b>TVD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Reference Site:</b>	PC-22 Pad NENW 2 7S 95W	<b>MD Reference:</b>	KB=22' @ 6543.0ft (Patterson 303)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hagen Clem 15-10C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to KB=22' @ 6543.0ft (Patterson 303)  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: Hagen Clem 15-10C  
Coordinate System is US State Plane 1983, Colorado Central Zone  
Grid Convergence at Surface is: -1.57°

