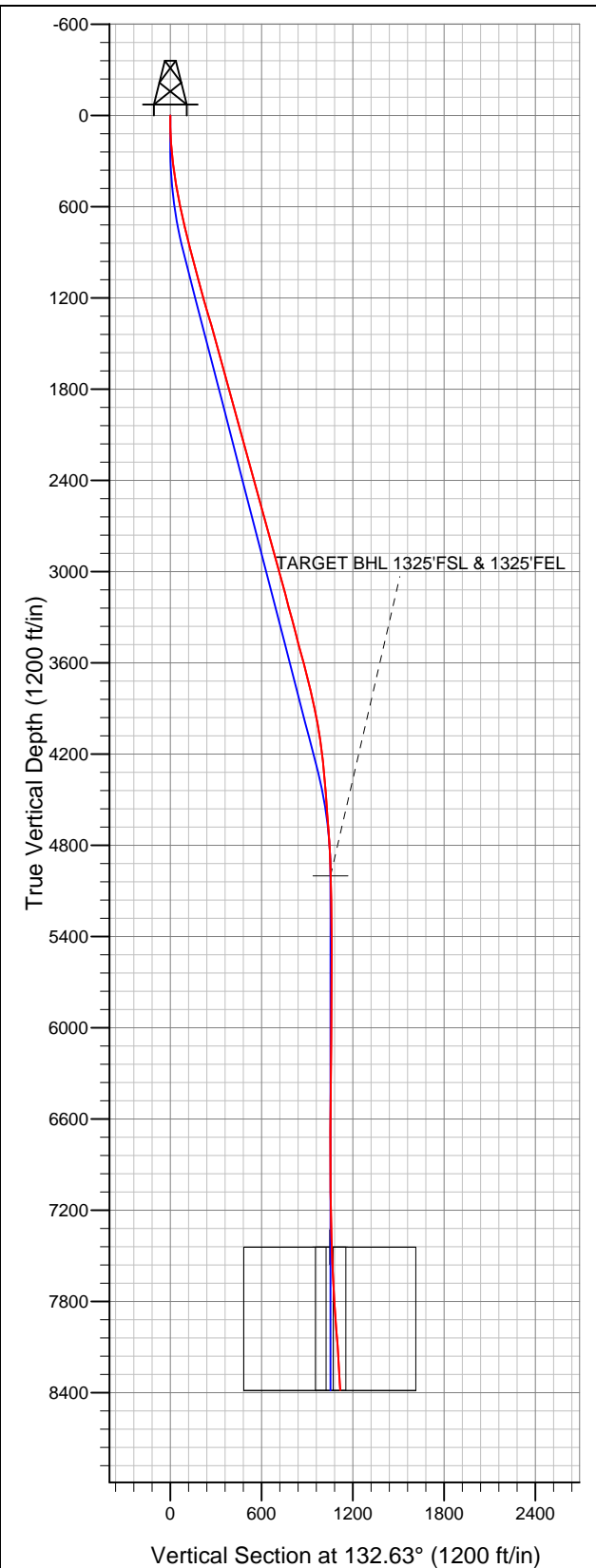


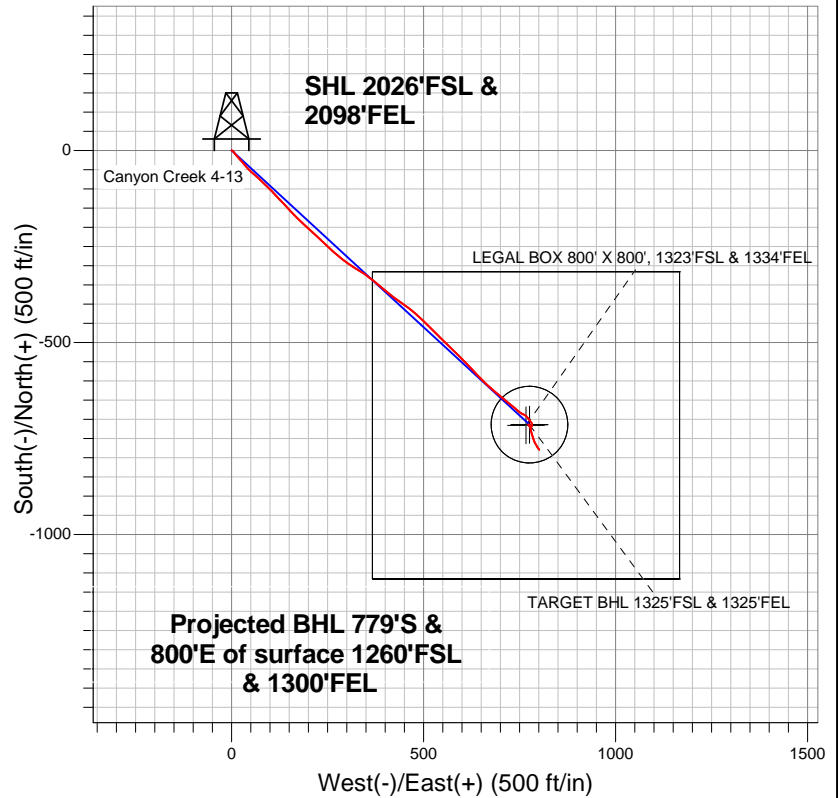
Well Name: Canyon Creek 4-13

Surface Location: Canyon Creek 4-6-13 Pad Sec.13-T1N-R69W
North American Datum 1983 US State Plane 1983Colorado Northern Zone
Ground Elevation: 5058.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1261187.19	3122343.34	40.049520	-105.062980	
Original Well Elev		WELL @ 5071.0ft (Original Well Elev)				



EnCana Oil & Gas Boulder County, CO



LEGEND

- Wellbore #1
- Canyon Creek 4-13, Wellbore #1, Plan 3 (July 11, 2012)R V0
- Survey #1

Final Survey Plot

Projected Final Survey -
8513'MD & 8382'TVD @ 1116'VS
3.10 deg Inc 145.30 deg AZ

Project: SEC.13-T1N-R69W
Site: Canyon Creek 4-6-13 Pad Sec.13-T1N-R69W
Well: Canyon Creek 4-13
Plan: Wellbore #1



EnCana Oil & Gas Boulder County, CO

SEC.13-T1N-R69W

Canyon Creek 4-6-13 Pad Sec.13-T1N-R69W

Canyon Creek 4-13

Wellbore #1

Survey: Survey #1

Standard Survey Report

20 July, 2012

Company:	EnCana Oil & Gas Boulder County, CO	Local Co-ordinate Reference:	Well Canyon Creek 4-13
Project:	SEC.13-T1N-R69W	TVD Reference:	WELL @ 5071.0ft (Original Well Elev)
Site:	Canyon Creek 4-6-13 Pad Sec.13-T1N-R69W	MD Reference:	WELL @ 5071.0ft (Original Well Elev)
Well:	Canyon Creek 4-13	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.13-T1N-R69W, Boulder County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Canyon Creek 4-6-13 Pad Sec.13-T1N-R69W		
Site Position:		Northing:	1,261,226.92 ft
From:	Lat/Long	Easting:	3,122,273.14 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40.049630
		Longitude:	-105.063230
		Grid Convergence:	0.28 °

Well	Canyon Creek 4-13		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40.049520
		Longitude:	-105.062980
		Ground Level:	5,058.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/11/2012	8.85	66.68	52,799

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	132.63	

Survey Program	Date	7/18/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
44.0	8,513.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
44.0	0.80	88.80	44.0	0.0	0.3	0.2	1.82	1.82	0.00	
136.0	3.00	127.50	135.9	-1.4	2.9	3.1	2.64	2.39	42.07	
227.0	4.10	142.60	226.8	-5.5	6.7	8.7	1.58	1.21	16.59	
319.0	7.40	142.60	318.3	-12.8	12.3	17.7	3.59	3.59	0.00	
410.0	9.40	137.00	408.3	-22.9	21.0	30.9	2.37	2.20	-6.15	
502.0	10.60	139.80	498.9	-34.9	31.5	46.8	1.41	1.30	3.04	
593.0	11.80	136.50	588.2	-48.0	43.3	64.4	1.49	1.32	-3.63	
684.0	12.30	130.10	677.2	-61.0	57.2	83.4	1.57	0.55	-7.03	
790.0	13.50	133.50	780.5	-76.8	74.8	107.0	1.34	1.13	3.21	
848.0	14.50	133.50	836.8	-86.4	85.0	121.0	1.72	1.72	0.00	
887.0	13.70	134.20	874.6	-93.0	91.8	130.5	2.10	-2.05	1.79	
974.0	14.60	137.20	959.0	-108.2	106.6	151.8	1.33	1.03	3.45	

Company:	EnCana Oil & Gas Boulder County, CO	Local Co-ordinate Reference:	Well Canyon Creek 4-13
Project:	SEC.13-T1N-R69W	TVD Reference:	WELL @ 5071.0ft (Original Well Elev)
Site:	Canyon Creek 4-6-13 Pad Sec.13-T1N-R69W	MD Reference:	WELL @ 5071.0ft (Original Well Elev)
Well:	Canyon Creek 4-13	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
1,061.0	15.10	136.70	1,043.1	-124.5	121.9	174.0	0.59	0.57	-0.57	
1,149.0	15.50	135.80	1,127.9	-141.3	137.9	197.2	0.53	0.45	-1.02	
1,236.0	16.10	137.20	1,211.7	-158.5	154.2	220.8	0.82	0.69	1.61	
1,323.0	16.40	135.10	1,295.2	-176.0	171.1	245.1	0.76	0.34	-2.41	
1,411.0	16.10	132.60	1,379.7	-193.1	188.8	269.7	0.86	-0.34	-2.84	
1,498.0	16.40	132.60	1,463.2	-209.6	206.8	294.1	0.34	0.34	0.00	
1,585.0	15.30	133.50	1,546.9	-225.8	224.1	317.8	1.30	-1.26	1.03	
1,673.0	15.00	133.00	1,631.8	-241.6	240.9	340.8	0.37	-0.34	-0.57	
1,760.0	15.00	132.40	1,715.9	-256.8	257.4	363.3	0.18	0.00	-0.69	
1,847.0	15.20	131.20	1,799.9	-271.9	274.3	386.0	0.43	0.23	-1.38	
1,934.0	15.10	128.00	1,883.8	-286.4	291.8	408.7	0.97	-0.11	-3.68	
2,022.0	15.80	122.80	1,968.7	-300.0	310.9	431.9	1.76	0.80	-5.91	
2,109.0	15.10	120.00	2,052.5	-312.1	330.7	454.7	1.18	-0.80	-3.22	
2,196.0	15.80	125.10	2,136.4	-324.5	350.2	477.5	1.76	0.80	5.86	
2,284.0	15.20	130.70	2,221.2	-338.9	368.8	500.9	1.83	-0.68	6.36	
2,371.0	15.70	130.10	2,305.0	-354.0	386.4	524.0	0.60	0.57	-0.69	
2,458.0	15.60	128.00	2,388.8	-368.7	404.6	547.4	0.66	-0.11	-2.41	
2,546.0	14.90	127.70	2,473.7	-382.9	422.9	570.5	0.80	-0.80	-0.34	
2,633.0	16.50	124.50	2,557.5	-396.8	441.9	593.9	2.09	1.84	-3.68	
2,720.0	15.80	126.30	2,641.0	-410.8	461.7	617.9	0.99	-0.80	2.07	
2,807.0	15.40	132.10	2,724.8	-425.6	479.8	641.2	1.85	-0.46	6.67	
2,895.0	14.60	133.70	2,809.8	-441.1	496.5	664.0	1.02	-0.91	1.82	
2,982.0	15.10	134.70	2,893.9	-456.6	512.5	686.3	0.65	0.57	1.15	
3,069.0	15.70	135.80	2,977.8	-473.0	528.7	709.4	0.77	0.69	1.26	
3,157.0	15.60	133.70	3,062.5	-489.7	545.6	733.1	0.65	-0.11	-2.39	
3,244.0	14.80	134.20	3,146.5	-505.5	562.0	755.9	0.93	-0.92	0.57	
3,331.0	15.10	134.20	3,230.5	-521.2	578.1	778.3	0.34	0.34	0.00	
3,419.0	15.30	135.40	3,315.5	-537.5	594.5	801.4	0.42	0.23	1.36	
3,506.0	14.20	136.30	3,399.6	-553.3	609.9	823.5	1.29	-1.26	1.03	
3,593.0	14.80	137.40	3,483.8	-569.2	624.8	845.2	0.76	0.69	1.26	
3,680.0	15.30	135.40	3,567.8	-585.6	640.4	867.7	0.83	0.57	-2.30	
3,768.0	14.80	135.40	3,652.8	-601.9	656.4	890.6	0.57	-0.57	0.00	
3,855.0	13.60	130.50	3,737.2	-616.4	672.0	911.9	1.95	-1.38	-5.63	
3,942.0	12.00	129.80	3,822.0	-628.8	686.7	931.1	1.85	-1.84	-0.80	
4,030.0	12.70	130.70	3,908.0	-641.0	701.1	949.9	0.82	0.80	1.02	
4,117.0	10.60	130.00	3,993.2	-652.4	714.5	967.5	2.42	-2.41	-0.80	
4,204.0	8.70	128.90	4,078.9	-661.7	725.7	982.1	2.19	-2.18	-1.26	
4,292.0	7.30	128.60	4,166.1	-669.3	735.3	994.3	1.59	-1.59	-0.34	
4,379.0	6.20	131.40	4,252.5	-675.9	743.1	1,004.5	1.32	-1.26	3.22	
4,466.0	5.30	128.20	4,339.0	-681.5	749.8	1,013.2	1.10	-1.03	-3.68	
4,553.0	4.30	120.00	4,425.7	-685.6	755.8	1,020.4	1.39	-1.15	-9.43	
4,641.0	3.80	105.70	4,513.5	-688.0	761.4	1,026.2	1.28	-0.57	-16.25	
4,728.0	4.60	135.60	4,600.3	-691.3	766.7	1,032.3	2.64	0.92	34.37	
4,815.0	4.20	139.30	4,687.0	-696.2	771.2	1,038.9	0.56	-0.46	4.25	
4,903.0	3.90	144.00	4,774.8	-701.1	775.0	1,045.0	0.51	-0.34	5.34	
4,990.0	3.30	148.30	4,861.6	-705.6	778.1	1,050.4	0.76	-0.69	4.94	
5,077.0	2.00	143.30	4,948.5	-709.0	780.3	1,054.3	1.52	-1.49	-5.75	
5,128.5	1.90	157.25	5,000.0	-710.5	781.2	1,055.9	0.94	-0.20	27.08	
TARGET BHL 1325'FSL & 1325'FEL										
5,165.0	1.90	167.60	5,036.5	-711.6	781.5	1,057.0	0.94	0.00	28.37	
5,252.0	2.00	178.80	5,123.4	-714.5	781.9	1,059.2	0.45	0.11	12.87	
5,426.0	0.40	211.50	5,297.4	-718.1	781.6	1,061.4	0.96	-0.92	18.79	
5,601.0	0.50	231.90	5,472.4	-719.1	780.7	1,061.4	0.11	0.06	11.66	
5,776.0	0.50	257.20	5,647.4	-719.7	779.4	1,060.9	0.13	0.00	14.46	

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Site:	Canyon Creek 4-6-13 Pad Sec.13-T1N-R69W	MD Reference:	WELL @ 5071.0ft (Original Well Elev)
Well:	Canyon Creek 4-13	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,950.0	0.40	259.00	5,821.4	-720.0	778.0	1,060.1	0.06	-0.06	1.03
6,125.0	0.20	312.80	5,996.4	-719.9	777.2	1,059.4	0.19	-0.11	30.74
6,299.0	0.40	295.70	6,170.4	-719.4	776.4	1,058.5	0.12	0.11	-9.83
6,474.0	1.00	333.20	6,345.4	-717.8	775.2	1,056.5	0.41	0.34	21.43
6,649.0	0.90	314.70	6,520.3	-715.5	773.5	1,053.7	0.18	-0.06	-10.57
6,823.0	0.10	330.10	6,694.3	-714.4	772.5	1,052.2	0.46	-0.46	8.85
6,998.0	0.40	53.10	6,869.3	-713.9	772.9	1,052.1	0.23	0.17	47.43
7,172.0	0.90	115.00	7,043.3	-714.1	774.6	1,053.6	0.46	0.29	35.57
7,347.0	1.40	147.50	7,218.3	-716.5	777.0	1,056.9	0.46	0.29	18.57
7,522.0	1.70	181.10	7,393.2	-720.9	778.1	1,060.7	0.54	0.17	19.20
7,571.4	2.14	175.36	7,442.6	-722.5	778.2	1,061.9	0.97	0.89	-11.61
TARGET CIRCLE 1325'FSL & 1325'FEL - LEGAL BOX 800' X 800', 1323'FSL & 1334'FEL									
7,696.0	3.30	167.90	7,567.1	-728.4	779.1	1,066.5	0.97	0.93	-5.99
7,871.0	4.00	164.30	7,741.7	-739.2	781.8	1,075.8	0.42	0.40	-2.06
8,045.0	4.90	159.90	7,915.2	-752.0	786.0	1,087.6	0.55	0.52	-2.53
8,220.0	4.00	150.19	8,089.7	-764.3	791.6	1,100.1	0.67	-0.51	-5.55
8,395.0	3.30	149.50	8,264.3	-773.9	797.2	1,110.7	0.40	-0.40	-0.39
8,468.0	3.10	145.30	8,337.2	-777.4	799.4	1,114.6	0.42	-0.27	-5.75
8,513.0	3.10	145.30	8,382.1	-779.4	800.8	1,117.0	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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