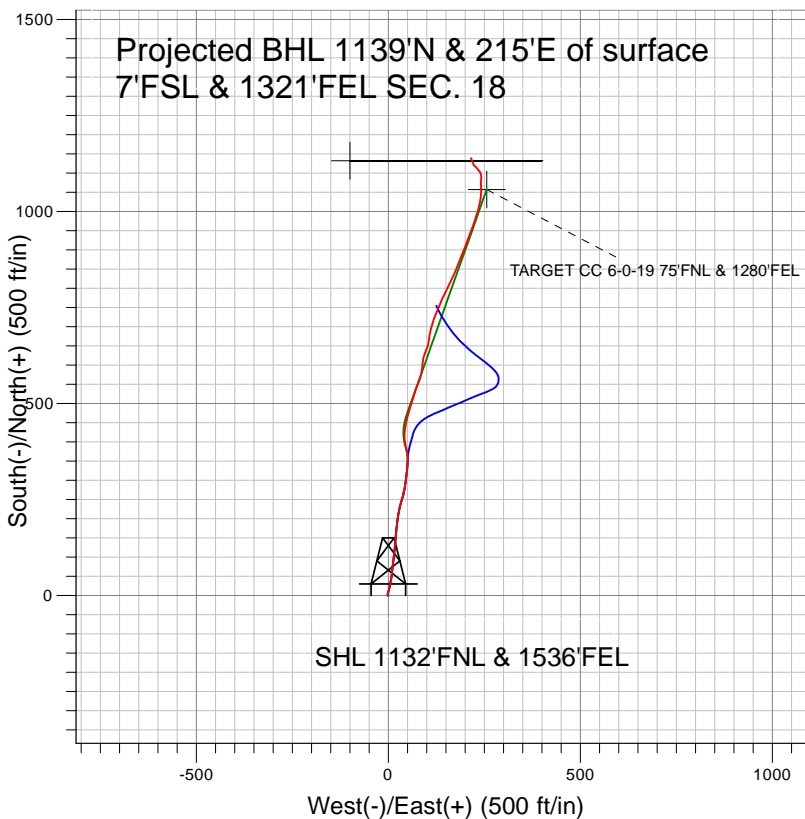


## EnCana Oil & Gas Weld County CO



### LEGEND

- COAL CREEK 6-0-19, Wellbore #1, Sidetrack 1 (7-17-09) V0
- Wellbore #1
- FINAL SURVEY

## Final Survey Plot

Projected Final Survey -  
8495'MD & 8379'TVD @ 1157.5' VS  
3.0 deg Inc 338.3 deg AZ

Project: SEC.19-T1N-R68W  
Site: COAL CREEK PAD SEC.19-T1N-R68W  
Well: COAL CREEK 6-0-19  
Plan: Wellbore #1



# **EnCana Oil & Gas Weld County CO**

**SEC.19-T1N-R68W**

**COAL CREEK PAD SEC.19-T1N-R68W**

**COAL CREEK 6-0-19**

**Wellbore #1**

**Survey: FINAL SURVEY**

## **Standard Survey Report**

**10 August, 2009**

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well COAL CREEK 6-0-19
<b>Project:</b>	SEC.19-T1N-R68W	<b>TVD Reference:</b>	RKB @ 5046.0ft (RBK ENSIGN RIG 122 13')
<b>Site:</b>	COAL CREEK PAD SEC.19-T1N-R68W	<b>MD Reference:</b>	RKB @ 5046.0ft (RBK ENSIGN RIG 122 13')
<b>Well:</b>	COAL CREEK 6-0-19	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM den0-adp01 Server Data

<b>Project</b>	SEC.19-T1N-R68W		
<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 Northern Zone		Using geodetic scale factor

<b>Site</b>	COAL CREEK PAD SEC.19-T1N-R68W		
<b>Site Position:</b>		<b>Northing:</b>	1,257,977.60 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,128,065.34 ft
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40° 2' 26.268 N
		<b>Longitude:</b>	105° 2' 33.360 W
		<b>Grid Convergence:</b>	0.30 °

<b>Well</b>	COAL CREEK 6-0-19		
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>
			<b>Latitude:</b>
			<b>Longitude:</b>
			<b>Ground Level:</b>

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	7/1/2009	9.21	66.79	53,134

<b>Design</b>	Wellbore #1				
<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	9.51	

<b>Survey Program</b>	<b>Date</b>	8/10/2009			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
79.0	5,068.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<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>Turn Rate (°/100ft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
0.5	0.00	255.90	0.5	0.0	0.0	0.0	0.38	0.38	0.00	
<b>HARDLINE 75' N OF BHL</b>										
79.0	0.30	255.90	79.0	-0.1	-0.2	-0.1	0.38	0.38	0.00	
172.0	0.40	272.60	172.0	-0.1	-0.8	-0.2	0.15	0.11	17.96	
265.0	0.60	297.10	265.0	0.1	-1.5	-0.1	0.31	0.22	26.34	
358.0	0.80	339.80	358.0	1.0	-2.2	0.6	0.58	0.22	45.91	
450.0	1.30	14.60	450.0	2.6	-2.1	2.2	0.86	0.54	37.83	
542.0	2.50	21.40	541.9	5.5	-1.1	5.2	1.32	1.30	7.39	
635.0	5.40	11.60	634.7	11.6	0.5	11.6	3.19	3.12	-10.54	
727.0	8.00	14.30	726.1	22.1	2.9	22.3	2.85	2.83	2.93	
819.0	10.50	11.20	816.9	36.5	6.1	37.0	2.77	2.72	-3.37	
850.0	11.00	9.00	847.3	42.2	7.2	42.8	2.09	1.61	-7.10	

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well COAL CREEK 6-0-19
<b>Project:</b>	SEC.19-T1N-R68W	<b>TVD Reference:</b>	RKB @ 5046.0ft (RBK ENSIGN RIG 122 13')
<b>Site:</b>	COAL CREEK PAD SEC.19-T1N-R68W	<b>MD Reference:</b>	RKB @ 5046.0ft (RBK ENSIGN RIG 122 13')
<b>Well:</b>	COAL CREEK 6-0-19	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM den0-adp01 Server Data

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)
897.0	11.00	9.00	893.4	51.1	8.6	51.8	0.00	0.00	0.00
924.0	11.10	5.70	919.9	56.2	9.2	56.9	2.37	0.37	-12.22
1,011.0	10.90	4.40	1,005.3	72.7	10.7	73.5	0.37	-0.23	-1.49
1,098.0	11.30	8.40	1,090.7	89.4	12.6	90.2	1.00	0.46	4.60
1,186.0	12.00	7.60	1,176.9	107.0	15.0	108.0	0.82	0.80	-0.91
1,273.0	12.60	5.60	1,261.9	125.4	17.1	126.5	0.85	0.69	-2.30
1,360.0	13.10	3.20	1,346.7	144.7	18.6	145.7	0.84	0.57	-2.76
1,448.0	12.60	6.10	1,432.5	164.2	20.2	165.2	0.93	-0.57	3.30
1,535.0	12.00	6.00	1,517.5	182.6	22.2	183.7	0.69	-0.69	-0.11
1,622.0	11.70	7.30	1,602.7	200.3	24.2	201.6	0.46	-0.34	1.49
1,709.0	10.00	9.00	1,688.1	216.5	26.5	218.0	1.99	-1.95	1.95
1,797.0	9.80	16.80	1,774.8	231.3	29.9	233.0	1.54	-0.23	8.86
1,884.0	10.10	16.30	1,860.5	245.7	34.2	247.9	0.36	0.34	-0.57
1,971.0	10.50	14.20	1,946.1	260.7	38.3	263.4	0.63	0.46	-2.41
2,058.0	11.30	11.00	2,031.5	276.7	41.8	279.8	1.15	0.92	-3.68
2,145.0	10.90	7.30	2,116.9	293.3	44.5	296.6	0.94	-0.46	-4.25
2,233.0	11.10	7.30	2,203.3	309.9	46.6	313.4	0.23	0.23	0.00
2,320.0	10.90	5.30	2,288.7	326.4	48.5	329.9	0.50	-0.23	-2.30
2,407.0	10.90	3.90	2,374.1	342.8	49.8	346.3	0.30	0.00	-1.61
2,496.0	10.70	359.60	2,461.5	359.5	50.3	362.8	0.93	-0.22	-4.83
2,573.0	12.40	345.70	2,537.0	374.6	48.2	377.4	4.22	2.21	-18.05
2,660.0	13.10	348.30	2,621.9	393.3	43.9	395.2	1.04	0.80	2.99
2,747.0	13.50	359.40	2,706.5	413.1	41.8	414.4	2.97	0.46	12.76
2,835.0	13.20	8.20	2,792.2	433.4	43.1	434.5	2.33	-0.34	10.00
2,966.0	13.50	14.80	2,919.6	463.0	49.1	464.7	1.18	0.23	5.04
3,097.0	13.30	17.70	3,047.1	492.1	57.6	494.9	0.54	-0.15	2.21
3,226.0	14.40	16.00	3,172.3	521.6	66.6	525.5	0.91	0.85	-1.32
3,358.0	11.50	22.90	3,301.0	549.6	76.2	554.6	2.49	-2.20	5.23
3,489.0	10.90	15.00	3,429.5	573.6	84.5	579.6	1.26	-0.46	-6.03
3,620.0	12.90	4.00	3,557.7	600.1	88.7	606.5	2.30	1.53	-8.40
3,751.0	9.00	17.90	3,686.3	624.5	92.9	631.2	3.57	-2.98	10.61
3,881.0	7.90	24.50	3,814.9	642.3	99.7	649.9	1.13	-0.85	5.08
4,012.0	8.00	7.60	3,944.6	659.5	104.7	667.7	1.78	0.08	-12.90
4,143.0	9.60	8.70	4,074.1	679.3	107.5	687.8	1.23	1.22	0.84
4,274.0	11.60	16.30	4,202.8	702.8	112.9	711.8	1.86	1.53	5.80
4,405.0	13.30	22.00	4,330.8	729.4	122.2	739.6	1.60	1.30	4.35
4,536.0	13.80	22.60	4,458.1	757.8	133.9	769.5	0.40	0.38	0.46
4,667.0	14.90	26.30	4,585.0	787.3	147.3	800.8	1.09	0.84	2.82
4,798.0	15.60	25.70	4,711.4	818.3	162.4	833.9	0.55	0.53	-0.46
4,929.0	14.90	22.30	4,837.8	849.7	176.5	867.2	0.87	-0.53	-2.60
5,060.0	14.90	21.20	4,964.4	881.0	188.9	900.1	0.22	0.00	-0.84
5,191.0	12.90	21.50	5,091.6	910.3	200.4	930.9	1.53	-1.53	0.23
5,322.0	13.40	20.80	5,219.1	938.1	211.1	960.1	0.40	0.38	-0.53
5,452.0	12.70	19.60	5,345.8	965.7	221.3	989.0	0.58	-0.54	-0.92
5,583.0	10.50	16.90	5,474.1	990.7	229.6	1,015.0	1.73	-1.68	-2.06
5,714.0	9.10	13.30	5,603.2	1,012.2	235.4	1,037.2	1.17	-1.07	-2.75
5,845.0	8.30	10.30	5,732.7	1,031.5	239.5	1,056.9	0.70	-0.61	-2.29
5,976.0	6.00	0.70	5,862.6	1,047.7	241.3	1,073.2	1.97	-1.76	-7.33
6,107.0	3.80	3.80	5,993.1	1,058.9	241.7	1,084.3	1.69	-1.68	2.37
6,113.7	3.70	3.08	5,999.8	1,059.3	241.7	1,084.7	1.70	-1.55	-10.80
<b>TARGET CC 6-0-19 75'FNL &amp; 1280'FEL</b>									
6,237.0	2.00	336.90	6,123.0	1,065.3	241.1	1,090.5	1.70	-1.38	-21.23
6,368.0	1.90	3.50	6,253.9	1,069.5	240.3	1,094.5	0.69	-0.08	20.31
6,499.0	1.90	359.30	6,384.8	1,073.9	240.4	1,098.8	0.11	0.00	-3.21

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well COAL CREEK 6-0-19
<b>Project:</b>	SEC.19-T1N-R68W	<b>TVD Reference:</b>	RKB @ 5046.0ft (RBK ENSIGN RIG 122 13')
<b>Site:</b>	COAL CREEK PAD SEC.19-T1N-R68W	<b>MD Reference:</b>	RKB @ 5046.0ft (RBK ENSIGN RIG 122 13')
<b>Well:</b>	COAL CREEK 6-0-19	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM den0-adp01 Server Data

### 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)
6,630.0	2.10	8.90	6,515.8	1,078.4	240.7	1,103.4	0.30	0.15	7.33
6,761.0	1.80	5.60	6,646.7	1,082.8	241.3	1,107.8	0.24	-0.23	-2.52
6,892.0	2.00	7.00	6,777.6	1,087.2	241.8	1,112.2	0.16	0.15	1.07
7,023.0	1.80	352.40	6,908.5	1,091.5	241.8	1,116.4	0.40	-0.15	-11.15
7,154.0	1.60	343.00	7,039.5	1,095.2	241.0	1,120.0	0.26	-0.15	-7.18
7,284.0	1.50	337.00	7,169.4	1,098.6	239.8	1,123.1	0.15	-0.08	-4.62
7,415.0	1.20	340.00	7,300.4	1,101.4	238.7	1,125.7	0.24	-0.23	2.29
7,546.0	1.10	342.80	7,431.4	1,103.9	237.8	1,128.0	0.09	-0.08	2.14
7,677.0	1.20	314.60	7,562.3	1,106.1	236.5	1,129.9	0.43	0.08	-21.53
7,808.0	2.30	316.20	7,693.3	1,108.9	233.7	1,132.3	0.84	0.84	1.22
7,939.0	3.10	316.10	7,824.1	1,113.4	229.4	1,136.0	0.61	0.61	-0.08
8,070.0	2.70	313.40	7,955.0	1,118.1	224.7	1,139.8	0.32	-0.31	-2.06
8,201.0	3.30	335.60	8,085.8	1,123.6	220.9	1,144.7	0.99	0.46	16.95
8,331.0	3.30	341.30	8,215.6	1,130.6	218.2	1,151.1	0.25	0.00	4.38
8,447.0	3.00	338.30	8,331.4	1,136.5	216.0	1,156.6	0.30	-0.26	-2.59
8,495.0	3.00	338.30	8,379.3	1,138.9	215.0	1,158.8	0.00	0.00	0.00

### Wellbore Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
HARDLINE 75' N OF	0.00	0.00	1.0	1,132.0	-100.0	1,259,109.03	3,127,959.51	40° 2' 37.455 N	105° 2' 34.646 W
- survey misses target center by 1136.4ft at 0.5ft MD (0.5 TVD, 0.0 N, 0.0 E)									
- Polygon									
Point 1			1.0	0.0	0.0	1,259,109.03	3,127,959.51		
Point 2			1.0	0.0	500.0	1,259,111.61	3,128,459.48		
TARGET CC 6-0-19 7	0.00	0.00	6,000.0	1,057.0	256.0	1,259,035.87	3,128,315.88	40° 2' 36.713 N	105° 2' 30.068 W
- survey misses target center by 14.5ft at 6113.7ft MD (5999.8 TVD, 1059.3 N, 241.7 E)									
- Point									

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