

Well Name: **Cosslett 41-22**

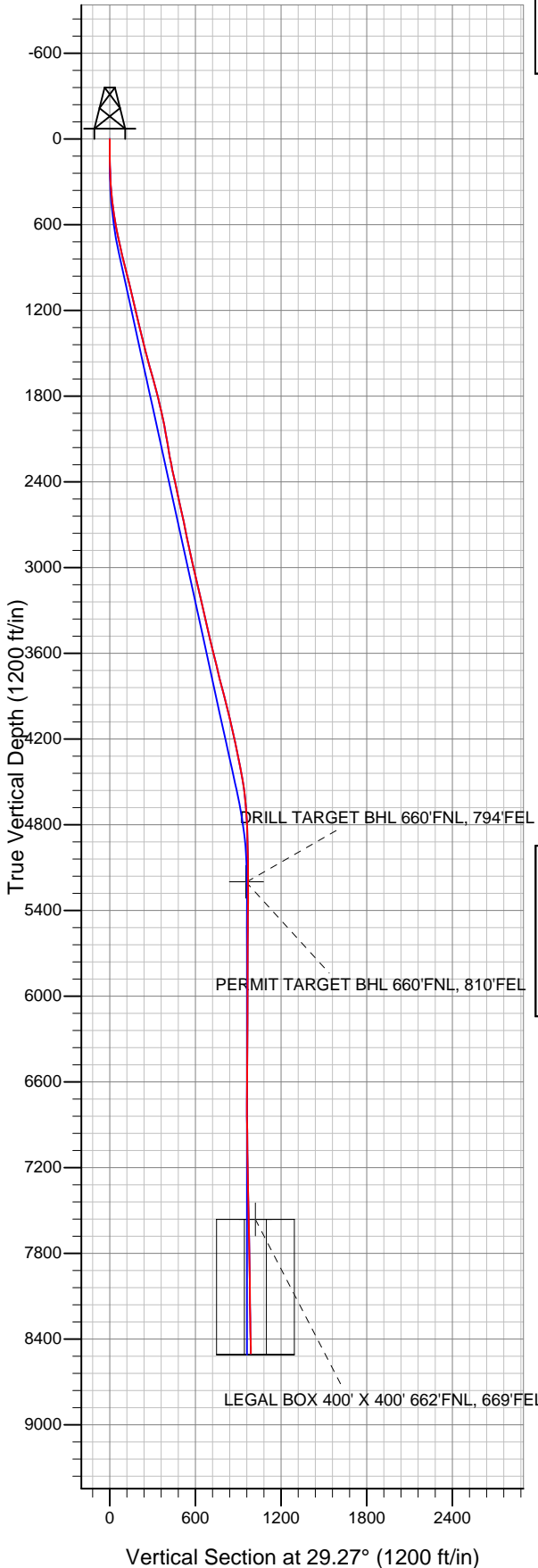
Surface Location: Cosslett 4-0-22 Pad Sec.22-T1N-R68W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 5185.0

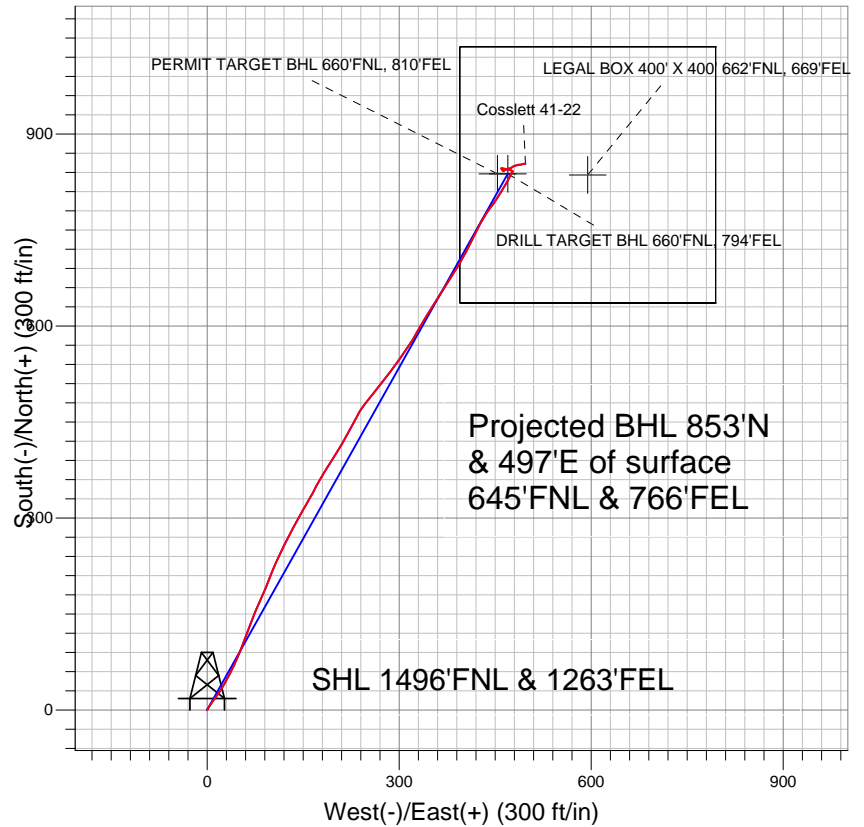
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1257775.32	3144317.22	40.039830	-104.984560

Original Well Elev WELL @ 5198.0ft (Original Well Elev)

Slot



EnCana Oil & Gas Weld County CO



LEGEND

- ◆ Cosslett 41-22, Wellbore #1, Plan #1 (10-11-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 8610'MD & 8503'TVD @ 988'VS
 1.8 deg Inc 89.1 deg AZ

Project: SEC.22-T1N-R68W
 Site: Cosslett 4-0-22 Pad Sec.22-T1N-R68W
 Well: Cosslett 41-22
 Plan: Wellbore #1



Directional

EnCana Oil & Gas Weld County CO

SEC.22-T1N-R68W

Cosslett 4-0-22 Pad Sec.22-T1N-R68W

Cosslett 41-22

Wellbore #1

Survey: Survey #1

Standard Survey Report

28 November, 2011

Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Cosslett 41-22
Project:	SEC.22-T1N-R68W	TVD Reference:	WELL @ 5198.0ft (Original Well Elev)
Site:	Cosslett 4-0-22 Pad Sec.22-T1N-R68W	MD Reference:	WELL @ 5198.0ft (Original Well Elev)
Well:	Cosslett 41-22	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.22-T1N-R68W, Weld 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		Cosslett 4-0-22 Pad Sec.22-T1N-R68W			
Site Position:		Northing:	1,257,775.21 ft	Latitude:	40.039830
From:	Lat/Long	Easting:	3,144,297.62 ft	Longitude:	-104.984630
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.33 °

Well	Cosslett 41-22					
Well Position	+N-S	0.0 ft	Northing:	1,257,775.32 ft	Latitude:	40.039830
	+E-W	0.0 ft	Easting:	3,144,317.22 ft	Longitude:	-104.984560
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,185.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/11/2011	8.91	66.71	52,881

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	29.27

Survey Program		Date	11/28/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
138.0	8,610.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

Survey	Wellbore Data									
	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)
Main Wellbore	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	138.0	0.30	356.40	138.0	0.4	0.0	0.3	0.22	0.22	0.00
	229.0	2.00	38.40	229.0	1.8	0.9	2.1	1.97	1.87	46.15
	320.0	3.70	30.00	319.9	5.6	3.4	6.6	1.92	1.87	-9.23
	411.0	5.60	36.30	410.6	11.8	7.5	13.9	2.16	2.09	6.92
	503.0	8.10	36.30	501.9	20.6	14.0	24.8	2.72	2.72	0.00
	594.0	10.10	32.10	591.7	32.5	22.0	39.1	2.31	2.20	-4.62
	685.0	12.00	27.20	681.1	47.7	30.6	56.6	2.33	2.09	-5.38
	777.0	12.60	27.00	770.9	65.1	39.5	76.2	0.65	0.65	-0.22
	871.0	13.70	23.10	862.5	84.5	48.5	97.5	1.50	1.17	-4.15
	965.0	14.50	20.30	953.6	105.8	57.0	120.2	1.12	0.85	-2.98
	1,057.0	13.90	19.80	1,042.8	127.0	64.7	142.4	0.67	-0.65	-0.54
	1,151.0	14.20	23.30	1,134.0	148.2	73.1	165.0	0.96	0.32	3.72

Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Cosslett 41-22
Project:	SEC.22-T1N-R68W	TVD Reference:	WELL @ 5198.0ft (Original Well Elev)
Site:	Cosslett 4-0-22 Pad Sec.22-T1N-R68W	MD Reference:	WELL @ 5198.0ft (Original Well Elev)
Well:	Cosslett 41-22	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)	
1,244.0	13.50	23.30	1,224.3	168.7	81.9	187.2	0.75	-0.75	0.00	
1,338.0	12.30	23.30	1,315.9	187.9	90.2	208.1	1.28	-1.28	0.00	
1,431.0	13.90	20.50	1,406.5	207.5	98.1	228.9	1.85	1.72	-3.01	
1,525.0	14.70	24.00	1,497.6	229.0	106.9	252.0	1.25	0.85	3.72	
1,618.0	16.10	26.50	1,587.3	251.3	117.4	276.6	1.67	1.51	2.69	
1,712.0	15.40	27.40	1,677.7	274.0	129.0	302.1	0.79	-0.74	0.96	
1,805.0	14.90	28.40	1,767.5	295.5	140.3	326.4	0.61	-0.54	1.08	
1,899.0	13.40	29.60	1,858.7	315.6	151.5	349.4	1.63	-1.60	1.28	
1,992.0	12.00	30.70	1,949.4	333.3	161.7	369.8	1.53	-1.51	1.18	
2,086.0	9.70	25.50	2,041.7	348.9	170.1	387.5	2.66	-2.45	-5.53	
2,180.0	10.10	31.80	2,134.3	363.0	177.9	403.6	1.23	0.43	6.70	
2,273.0	10.40	32.50	2,225.8	377.0	186.7	420.2	0.35	0.32	0.75	
2,367.0	11.90	31.40	2,318.0	392.4	196.3	438.3	1.61	1.60	-1.17	
2,460.0	12.20	30.00	2,409.0	409.1	206.2	457.7	0.45	0.32	-1.51	
2,553.0	12.00	31.00	2,499.9	425.9	216.1	477.2	0.31	-0.22	1.08	
2,647.0	12.80	28.90	2,591.7	443.4	226.2	497.4	0.98	0.85	-2.23	
2,740.0	12.80	27.00	2,682.4	461.6	235.8	518.0	0.45	0.00	-2.04	
2,834.0	11.30	40.20	2,774.4	477.9	246.5	537.4	3.33	-1.60	14.04	
2,927.0	12.00	38.30	2,865.4	492.5	258.4	555.9	0.86	0.75	-2.04	
3,021.0	12.40	36.10	2,957.3	508.3	270.4	575.6	0.65	0.43	-2.34	
3,114.0	14.00	39.80	3,047.9	525.0	283.5	596.6	1.94	1.72	3.98	
3,208.0	13.80	34.00	3,139.1	543.1	297.0	618.9	1.50	-0.21	-6.17	
3,303.0	12.00	35.30	3,231.7	560.5	309.1	640.1	1.92	-1.89	1.37	
3,397.0	13.10	33.50	3,323.5	577.4	320.6	660.4	1.24	1.17	-1.91	
3,490.0	13.40	26.30	3,414.0	595.8	331.2	681.7	1.80	0.32	-7.74	
3,584.0	13.00	33.50	3,505.5	614.4	341.8	703.1	1.80	-0.43	7.66	
3,677.0	14.20	31.40	3,595.9	632.9	353.6	724.9	1.40	1.29	-2.26	
3,771.0	13.50	34.20	3,687.2	651.8	365.7	747.4	1.03	-0.74	2.98	
3,864.0	13.50	30.70	3,777.6	670.1	377.4	769.0	0.88	0.00	-3.76	
3,959.0	15.90	32.30	3,869.5	690.6	390.0	793.1	2.56	2.53	1.68	
4,054.0	13.50	27.00	3,961.4	711.5	402.0	817.2	2.89	-2.53	-5.58	
4,148.0	13.50	27.50	4,052.8	731.0	412.0	839.1	0.12	0.00	0.53	
4,242.0	12.80	25.60	4,144.3	750.1	421.6	860.5	0.88	-0.74	-2.02	
4,335.0	11.80	30.70	4,235.2	767.6	430.9	880.3	1.59	-1.08	5.48	
4,428.0	11.60	37.20	4,326.3	783.2	441.4	899.0	1.43	-0.22	6.99	
4,522.0	10.90	33.20	4,418.5	798.2	452.0	917.3	1.11	-0.74	-4.26	
4,615.0	8.90	30.50	4,510.1	811.8	460.5	933.2	2.21	-2.15	-2.90	
4,709.0	6.60	31.40	4,603.2	822.6	467.0	945.9	2.45	-2.45	0.96	
4,802.0	4.60	27.00	4,695.8	830.5	471.4	955.0	2.20	-2.15	-4.73	
4,896.0	3.10	23.00	4,789.5	836.2	474.1	961.3	1.62	-1.60	-4.26	
4,989.0	1.20	32.80	4,882.5	839.4	475.7	964.7	2.07	-2.04	10.54	
5,083.0	1.10	41.10	4,976.5	840.9	476.8	966.6	0.21	-0.11	8.83	
5,177.0	0.60	110.30	5,070.4	841.4	477.8	967.6	1.12	-0.53	73.62	
5,270.0	1.10	299.30	5,163.4	841.6	477.5	967.6	1.82	0.54	-183.87	
5,306.7	1.18	298.21	5,200.1	842.0	476.9	967.6	0.22	0.21	-2.96	
DRILL TARGET BHL 660'FNL, 794'FEL										
5,307.0	1.18	298.21	5,200.4	842.0	476.9	967.6	0.00	0.00	0.00	
PERMIT TARGET BHL 660'FNL, 810'FEL										
5,363.0	1.30	296.80	5,256.4	842.5	475.8	967.6	0.22	0.22	-2.52	
5,457.0	1.10	302.50	5,350.4	843.5	474.1	967.6	0.25	-0.21	6.06	
5,551.0	0.80	290.30	5,444.4	844.2	472.7	967.6	0.38	-0.32	-12.98	
5,644.0	1.20	268.30	5,537.4	844.4	471.1	967.0	0.59	0.43	-23.66	
5,738.0	1.00	272.90	5,631.4	844.4	469.3	966.1	0.23	-0.21	4.89	
5,831.0	1.10	278.90	5,724.3	844.6	467.6	965.4	0.16	0.11	6.45	

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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)
5,925.0	0.60	308.10	5,818.3	845.1	466.3	965.2	0.69	-0.53	31.06
6,018.0	1.10	278.10	5,911.3	845.5	465.1	964.9	0.70	0.54	-32.26
6,112.0	0.50	278.90	6,005.3	845.7	463.8	964.5	0.64	-0.64	0.85
6,205.0	0.40	290.30	6,098.3	845.8	463.1	964.3	0.14	-0.11	12.26
6,299.0	1.00	280.00	6,192.3	846.1	462.0	963.9	0.65	0.64	-10.96
6,393.0	0.70	281.50	6,286.3	846.4	460.6	963.5	0.32	-0.32	1.60
6,486.0	0.50	266.60	6,379.3	846.5	459.6	963.1	0.27	-0.22	-16.02
6,580.0	1.00	145.00	6,473.3	845.8	459.7	962.5	1.42	0.53	-129.36
6,674.0	1.10	143.20	6,567.3	844.4	460.7	961.8	0.11	0.11	-1.91
6,768.0	0.70	144.60	6,661.2	843.2	461.6	961.2	0.43	-0.43	1.49
6,861.0	0.50	136.00	6,754.2	842.4	462.2	960.8	0.24	-0.22	-9.25
6,955.0	0.60	94.50	6,848.2	842.1	463.0	960.9	0.43	0.11	-44.15
7,048.0	0.70	38.40	6,941.2	842.5	463.8	961.7	0.66	0.11	-60.32
7,142.0	0.60	49.30	7,035.2	843.3	464.5	962.7	0.17	-0.11	11.60
7,235.0	1.10	53.00	7,128.2	844.1	465.6	964.0	0.54	0.54	3.98
7,329.0	1.80	76.20	7,222.2	845.0	467.8	965.8	0.96	0.74	24.68
7,422.0	1.80	87.80	7,315.1	845.4	470.6	967.6	0.39	0.00	12.47
7,515.0	1.60	57.80	7,408.1	846.2	473.2	969.5	0.97	-0.22	-32.26
7,609.0	1.80	53.50	7,502.1	847.7	475.5	972.0	0.25	0.21	-4.57
7,672.9	1.79	62.63	7,566.0	848.8	477.2	973.7	0.45	-0.02	14.27
LEGAL BOX 400' X 400' 662'FNL, 669'FEL									
7,703.0	1.80	66.90	7,596.0	849.2	478.0	974.5	0.45	0.04	14.22
7,797.0	1.00	72.90	7,690.0	850.0	480.2	976.3	0.86	-0.85	6.38
7,890.0	0.60	60.20	7,783.0	850.5	481.4	977.3	0.47	-0.43	-13.66
7,984.0	1.10	82.90	7,877.0	850.9	482.7	978.2	0.63	0.53	24.15
8,077.0	1.10	70.40	7,970.0	851.3	484.4	979.4	0.26	0.00	-13.44
8,171.0	1.30	81.10	8,063.9	851.7	486.3	980.8	0.32	0.21	11.38
8,264.0	1.40	96.40	8,156.9	851.8	488.5	981.9	0.40	0.11	16.45
8,358.0	1.40	61.50	8,250.9	852.2	490.7	983.3	0.89	0.00	-37.13
8,452.0	1.40	77.60	8,344.9	853.0	492.8	985.0	0.42	0.00	17.13
8,564.0	1.80	89.10	8,456.8	853.3	495.9	986.8	0.46	0.36	10.27
8,610.0	1.80	89.10	8,502.8	853.3	497.3	987.5	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____