

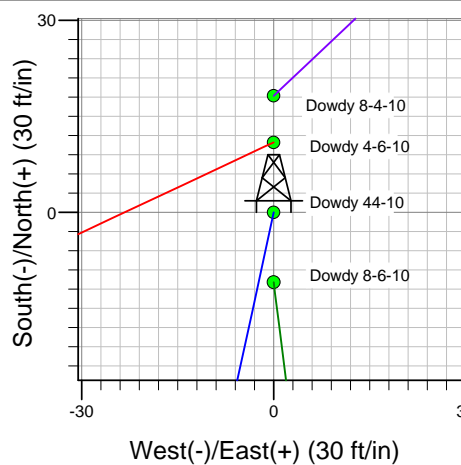
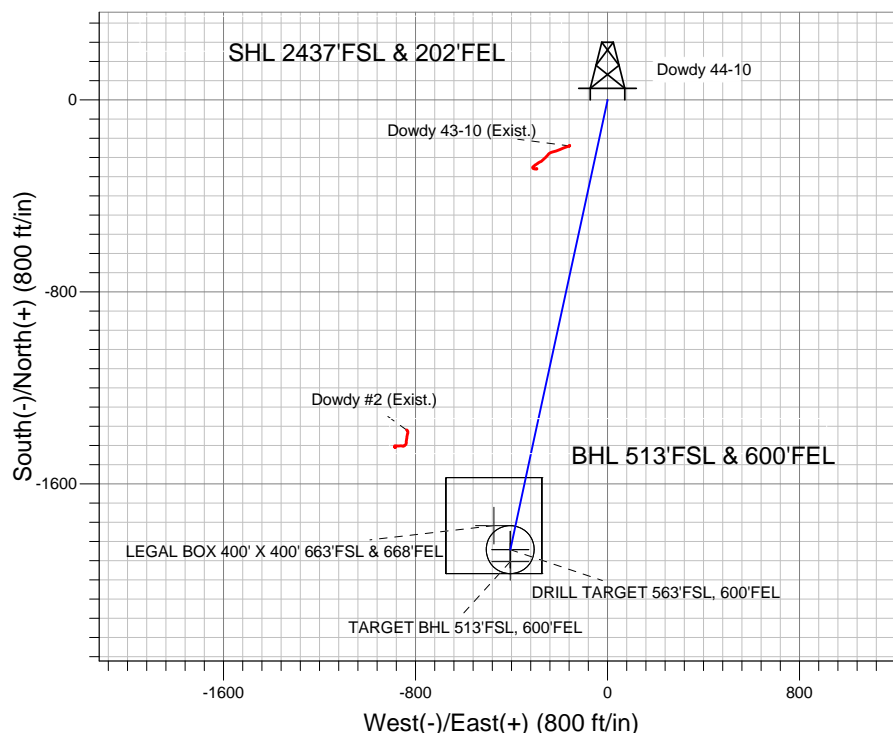
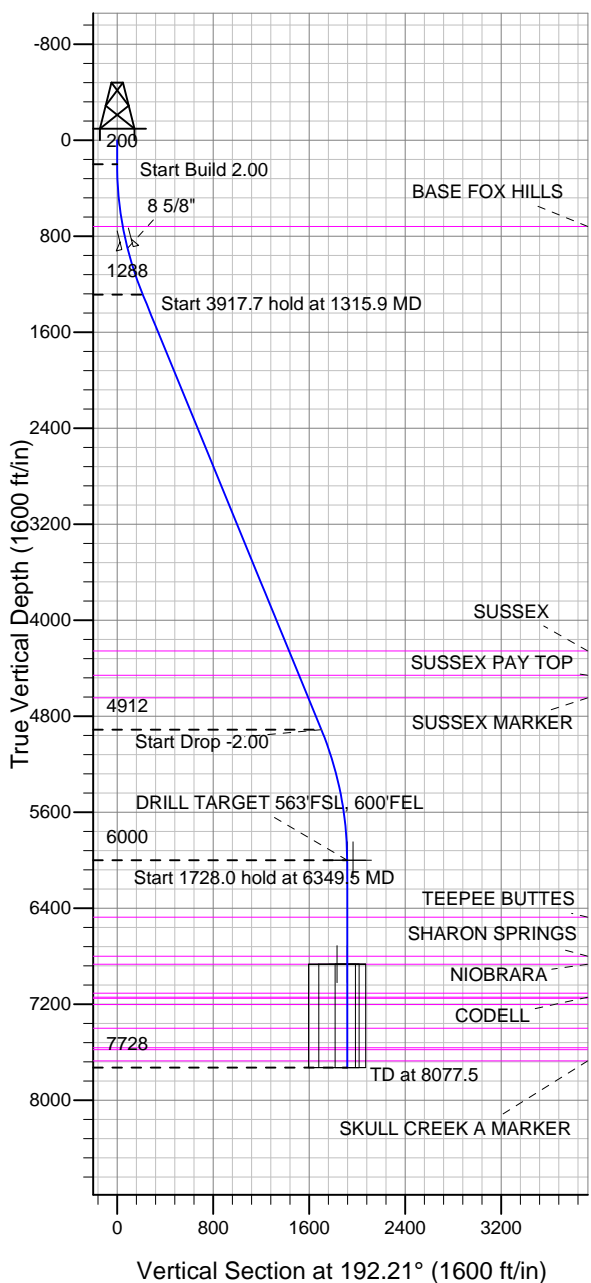
ENSIGN

Directional

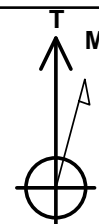
Well Name: Dowdy 44-10

Surface Location: Dowdy 8-4-10 Pad Sec.10-T2N-R65W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4861.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1299608.81 3240048.09 40.152630 -104.641220
 Original Well Elev WELL @ 4874.0ft (Original Well Elev)

EnCana Oil & Gas Weld County CO



Dowdy 8-4-10 Pad Sec.10-T2N-R65W
 Dowdy 44-10
 Plan #2 (7-20-12)
 15:35, July 20 2012



Azimuths to True North
 Magnetic North: 8.63°
 Magnetic Field
 Strength: 52898.7snT
 Dip Angle: 66.83°
 Date: 7/20/2012
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
DRILL TARGET 563'FSL, 600'FEL	6000.0	-1873.5	-405.4	40.147487	-104.642670	Point
TARGET BHL 513'FSL, 600'FEL	6000.0	-1923.5	-405.4	40.147350	-104.642670	Point
LEGAL BOX 400' X 400' 663'FSL & 668'FEL	6866.0	-1773.5	-473.4	40.147762	-104.642913	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 563'FSL & 600'FEL	6866.0	-1873.5	-405.4	40.147487	-104.642670	Circle (Radius: 100.0)

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	1315.9	22.32	192.21	1287.9	-209.7	-45.4	2.00	192.21	214.6	
4	5233.6	22.32	192.21	4912.1	-1663.8	-360.0	0.00	0.00	1702.3	
5	6349.5	0.00	0.00	6000.0	-1873.5	-405.4	2.00	180.00	1916.9	DRILL TARGET 563'FSL, 600'FEL
6	8077.5	0.00	0.00	7728.0	-1873.5	-405.4	0.00	0.00	1916.9	



Directional

EnCana Oil & Gas Weld County CO

SEC.10-T2N-R65W

Dowdy 8-4-10 Pad Sec.10-T2N-R65W

Dowdy 44-10

Wellbore #1

Plan: Plan #2 (7-20-12)

Standard Planning Report

20 July, 2012

Database:	Landmark	Local Co-ordinate Reference:	Well Dowdy 44-10
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 4874.0ft (Original Well Elev)
Project:	SEC.10-T2N-R65W	MD Reference:	WELL @ 4874.0ft (Original Well Elev)
Site:	Dowdy 8-4-10 Pad Sec.10-T2N-R65W	North Reference:	True
Well:	Dowdy 44-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (7-20-12)		

Project	SEC.10-T2N-R65W, 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						Dowdy 8-4-10 Pad Sec.10-T2N-R65W											
Site Position:						Northing:			1,299,627.04 ft			Latitude:			40.152680		
From:			Lat/Long			Easting:			3,240,047.91 ft			Longitude:			-104.641220		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.55 °		

Well	Dowdy 44-10					
Well Position	+N/-S	-18.2 ft	Northing:	1,299,608.81 ft	Latitude:	40.152630
	+E/-W	0.0 ft	Easting:	3,240,048.09 ft	Longitude:	-104.641220
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,861.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/20/2012	8.63	66.83	52,899

Design	Plan #2 (7-20-12)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	192.21

Plan Sections										
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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,315.9	22.32	192.21	1,287.9	-209.7	-45.4	2.00	2.00	0.00	192.21	
5,233.6	22.32	192.21	4,912.1	-1,663.8	-360.0	0.00	0.00	0.00	0.00	
6,349.5	0.00	0.00	6,000.0	-1,873.5	-405.4	2.00	-2.00	0.00	180.00	DRILL TARGET 56
8,077.5	0.00	0.00	7,728.0	-1,873.5	-405.4	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Dowdy 44-10
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 4874.0ft (Original Well Elev)
Project:	SEC.10-T2N-R65W	MD Reference:	WELL @ 4874.0ft (Original Well Elev)
Site:	Dowdy 8-4-10 Pad Sec.10-T2N-R65W	North Reference:	True
Well:	Dowdy 44-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (7-20-12)		

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)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
240.0	0.80	192.21	240.0	-0.3	-0.1	0.3	2.00	2.00	0.00
280.0	1.60	192.21	280.0	-1.1	-0.2	1.1	2.00	2.00	0.00
320.0	2.40	192.21	320.0	-2.5	-0.5	2.5	2.00	2.00	0.00
360.0	3.20	192.21	359.9	-4.4	-0.9	4.5	2.00	2.00	0.00
400.0	4.00	192.21	399.8	-6.8	-1.5	7.0	2.00	2.00	0.00
440.0	4.80	192.21	439.7	-9.8	-2.1	10.0	2.00	2.00	0.00
480.0	5.60	192.21	479.6	-13.4	-2.9	13.7	2.00	2.00	0.00
520.0	6.40	192.21	519.3	-17.4	-3.8	17.9	2.00	2.00	0.00
560.0	7.20	192.21	559.1	-22.1	-4.8	22.6	2.00	2.00	0.00
600.0	8.00	192.21	598.7	-27.2	-5.9	27.9	2.00	2.00	0.00
640.0	8.80	192.21	638.3	-33.0	-7.1	33.7	2.00	2.00	0.00
680.0	9.60	192.21	677.8	-39.2	-8.5	40.1	2.00	2.00	0.00
720.0	10.40	192.21	717.1	-46.0	-10.0	47.1	2.00	2.00	0.00
721.9	10.44	192.21	719.0	-46.3	-10.0	47.4	2.00	2.00	0.00
BASE FOX HILLS									
760.0	11.20	192.21	756.4	-53.3	-11.5	54.6	2.00	2.00	0.00
800.0	12.00	192.21	795.6	-61.2	-13.2	62.6	2.00	2.00	0.00
840.0	12.80	192.21	834.7	-69.6	-15.1	71.2	2.00	2.00	0.00
880.0	13.60	192.21	873.6	-78.5	-17.0	80.3	2.00	2.00	0.00
907.2	14.14	192.21	900.0	-84.9	-18.4	86.8	2.00	2.00	0.00
8 5/8"									
920.0	14.40	192.21	912.4	-88.0	-19.0	90.0	2.00	2.00	0.00
960.0	15.20	192.21	951.1	-98.0	-21.2	100.2	2.00	2.00	0.00
1,000.0	16.00	192.21	989.6	-108.5	-23.5	111.0	2.00	2.00	0.00
1,040.0	16.80	192.21	1,028.0	-119.5	-25.9	122.3	2.00	2.00	0.00
1,080.0	17.60	192.21	1,066.2	-131.1	-28.4	134.1	2.00	2.00	0.00
1,120.0	18.40	192.21	1,104.3	-143.1	-31.0	146.5	2.00	2.00	0.00
1,160.0	19.20	192.21	1,142.1	-155.7	-33.7	159.3	2.00	2.00	0.00
1,200.0	20.00	192.21	1,179.8	-168.9	-36.5	172.8	2.00	2.00	0.00
1,240.0	20.80	192.21	1,217.3	-182.5	-39.5	186.7	2.00	2.00	0.00
1,280.0	21.60	192.21	1,254.6	-196.6	-42.5	201.2	2.00	2.00	0.00
1,315.9	22.32	192.21	1,287.9	-209.7	-45.4	214.6	2.00	2.00	0.00
1,320.0	22.32	192.21	1,291.7	-211.3	-45.7	216.2	0.00	0.00	0.00
1,360.0	22.32	192.21	1,328.7	-226.1	-48.9	231.3	0.00	0.00	0.00
1,400.0	22.32	192.21	1,365.7	-241.0	-52.1	246.5	0.00	0.00	0.00
1,440.0	22.32	192.21	1,402.7	-255.8	-55.4	261.7	0.00	0.00	0.00
1,480.0	22.32	192.21	1,439.7	-270.6	-58.6	276.9	0.00	0.00	0.00
1,520.0	22.32	192.21	1,476.7	-285.5	-61.8	292.1	0.00	0.00	0.00
1,560.0	22.32	192.21	1,513.7	-300.3	-65.0	307.3	0.00	0.00	0.00
1,600.0	22.32	192.21	1,550.7	-315.2	-68.2	322.5	0.00	0.00	0.00
1,640.0	22.32	192.21	1,587.7	-330.0	-71.4	337.7	0.00	0.00	0.00
1,680.0	22.32	192.21	1,624.7	-344.9	-74.6	352.9	0.00	0.00	0.00
1,720.0	22.32	192.21	1,661.7	-359.7	-77.8	368.0	0.00	0.00	0.00
1,760.0	22.32	192.21	1,698.7	-374.6	-81.1	383.2	0.00	0.00	0.00
1,800.0	22.32	192.21	1,735.7	-389.4	-84.3	398.4	0.00	0.00	0.00
1,840.0	22.32	192.21	1,772.7	-404.3	-87.5	413.6	0.00	0.00	0.00
1,880.0	22.32	192.21	1,809.7	-419.1	-90.7	428.8	0.00	0.00	0.00
1,920.0	22.32	192.21	1,846.7	-434.0	-93.9	444.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Dowdy 44-10
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 4874.0ft (Original Well Elev)
Project:	SEC.10-T2N-R65W	MD Reference:	WELL @ 4874.0ft (Original Well Elev)
Site:	Dowdy 8-4-10 Pad Sec.10-T2N-R65W	North Reference:	True
Well:	Dowdy 44-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (7-20-12)		

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)	Turn Rate (°/100ft)
1,960.0	22.32	192.21	1,883.7	-448.8	-97.1	459.2	0.00	0.00	0.00
2,000.0	22.32	192.21	1,920.8	-463.6	-100.3	474.4	0.00	0.00	0.00
2,040.0	22.32	192.21	1,957.8	-478.5	-103.5	489.6	0.00	0.00	0.00
2,080.0	22.32	192.21	1,994.8	-493.3	-106.8	504.8	0.00	0.00	0.00
2,120.0	22.32	192.21	2,031.8	-508.2	-110.0	519.9	0.00	0.00	0.00
2,160.0	22.32	192.21	2,068.8	-523.0	-113.2	535.1	0.00	0.00	0.00
2,200.0	22.32	192.21	2,105.8	-537.9	-116.4	550.3	0.00	0.00	0.00
2,240.0	22.32	192.21	2,142.8	-552.7	-119.6	565.5	0.00	0.00	0.00
2,280.0	22.32	192.21	2,179.8	-567.6	-122.8	580.7	0.00	0.00	0.00
2,320.0	22.32	192.21	2,216.8	-582.4	-126.0	595.9	0.00	0.00	0.00
2,360.0	22.32	192.21	2,253.8	-597.3	-129.2	611.1	0.00	0.00	0.00
2,400.0	22.32	192.21	2,290.8	-612.1	-132.5	626.3	0.00	0.00	0.00
2,440.0	22.32	192.21	2,327.8	-626.9	-135.7	641.5	0.00	0.00	0.00
2,480.0	22.32	192.21	2,364.8	-641.8	-138.9	656.6	0.00	0.00	0.00
2,520.0	22.32	192.21	2,401.8	-656.6	-142.1	671.8	0.00	0.00	0.00
2,560.0	22.32	192.21	2,438.8	-671.5	-145.3	687.0	0.00	0.00	0.00
2,600.0	22.32	192.21	2,475.8	-686.3	-148.5	702.2	0.00	0.00	0.00
2,640.0	22.32	192.21	2,512.8	-701.2	-151.7	717.4	0.00	0.00	0.00
2,680.0	22.32	192.21	2,549.8	-716.0	-154.9	732.6	0.00	0.00	0.00
2,720.0	22.32	192.21	2,586.8	-730.9	-158.1	747.8	0.00	0.00	0.00
2,760.0	22.32	192.21	2,623.8	-745.7	-161.4	763.0	0.00	0.00	0.00
2,800.0	22.32	192.21	2,660.8	-760.6	-164.6	778.2	0.00	0.00	0.00
2,840.0	22.32	192.21	2,697.8	-775.4	-167.8	793.3	0.00	0.00	0.00
2,880.0	22.32	192.21	2,734.8	-790.2	-171.0	808.5	0.00	0.00	0.00
2,920.0	22.32	192.21	2,771.8	-805.1	-174.2	823.7	0.00	0.00	0.00
2,960.0	22.32	192.21	2,808.8	-819.9	-177.4	838.9	0.00	0.00	0.00
3,000.0	22.32	192.21	2,845.8	-834.8	-180.6	854.1	0.00	0.00	0.00
3,040.0	22.32	192.21	2,882.9	-849.6	-183.8	869.3	0.00	0.00	0.00
3,080.0	22.32	192.21	2,919.9	-864.5	-187.1	884.5	0.00	0.00	0.00
3,120.0	22.32	192.21	2,956.9	-879.3	-190.3	899.7	0.00	0.00	0.00
3,160.0	22.32	192.21	2,993.9	-894.2	-193.5	914.9	0.00	0.00	0.00
3,200.0	22.32	192.21	3,030.9	-909.0	-196.7	930.1	0.00	0.00	0.00
3,240.0	22.32	192.21	3,067.9	-923.9	-199.9	945.2	0.00	0.00	0.00
3,280.0	22.32	192.21	3,104.9	-938.7	-203.1	960.4	0.00	0.00	0.00
3,320.0	22.32	192.21	3,141.9	-953.6	-206.3	975.6	0.00	0.00	0.00
3,360.0	22.32	192.21	3,178.9	-968.4	-209.5	990.8	0.00	0.00	0.00
3,400.0	22.32	192.21	3,215.9	-983.2	-212.8	1,006.0	0.00	0.00	0.00
3,440.0	22.32	192.21	3,252.9	-998.1	-216.0	1,021.2	0.00	0.00	0.00
3,480.0	22.32	192.21	3,289.9	-1,012.9	-219.2	1,036.4	0.00	0.00	0.00
3,520.0	22.32	192.21	3,326.9	-1,027.8	-222.4	1,051.6	0.00	0.00	0.00
3,560.0	22.32	192.21	3,363.9	-1,042.6	-225.6	1,066.8	0.00	0.00	0.00
3,600.0	22.32	192.21	3,400.9	-1,057.5	-228.8	1,081.9	0.00	0.00	0.00
3,640.0	22.32	192.21	3,437.9	-1,072.3	-232.0	1,097.1	0.00	0.00	0.00
3,680.0	22.32	192.21	3,474.9	-1,087.2	-235.2	1,112.3	0.00	0.00	0.00
3,720.0	22.32	192.21	3,511.9	-1,102.0	-238.5	1,127.5	0.00	0.00	0.00
3,760.0	22.32	192.21	3,548.9	-1,116.9	-241.7	1,142.7	0.00	0.00	0.00
3,800.0	22.32	192.21	3,585.9	-1,131.7	-244.9	1,157.9	0.00	0.00	0.00
3,840.0	22.32	192.21	3,622.9	-1,146.5	-248.1	1,173.1	0.00	0.00	0.00
3,880.0	22.32	192.21	3,659.9	-1,161.4	-251.3	1,188.3	0.00	0.00	0.00
3,920.0	22.32	192.21	3,696.9	-1,176.2	-254.5	1,203.5	0.00	0.00	0.00
3,960.0	22.32	192.21	3,733.9	-1,191.1	-257.7	1,218.6	0.00	0.00	0.00
4,000.0	22.32	192.21	3,770.9	-1,205.9	-260.9	1,233.8	0.00	0.00	0.00
4,040.0	22.32	192.21	3,807.9	-1,220.8	-264.2	1,249.0	0.00	0.00	0.00
4,080.0	22.32	192.21	3,845.0	-1,235.6	-267.4	1,264.2	0.00	0.00	0.00

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Project:	SEC.10-T2N-R65W	MD Reference:	WELL @ 4874.0ft (Original Well Elev)
Site:	Dowdy 8-4-10 Pad Sec.10-T2N-R65W	North Reference:	True
Well:	Dowdy 44-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (7-20-12)		

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)	Turn Rate (°/100ft)
4,120.0	22.32	192.21	3,882.0	-1,250.5	-270.6	1,279.4	0.00	0.00	0.00
4,160.0	22.32	192.21	3,919.0	-1,265.3	-273.8	1,294.6	0.00	0.00	0.00
4,200.0	22.32	192.21	3,956.0	-1,280.2	-277.0	1,309.8	0.00	0.00	0.00
4,240.0	22.32	192.21	3,993.0	-1,295.0	-280.2	1,325.0	0.00	0.00	0.00
4,280.0	22.32	192.21	4,030.0	-1,309.8	-283.4	1,340.2	0.00	0.00	0.00
4,320.0	22.32	192.21	4,067.0	-1,324.7	-286.6	1,355.4	0.00	0.00	0.00
4,360.0	22.32	192.21	4,104.0	-1,339.5	-289.9	1,370.5	0.00	0.00	0.00
4,400.0	22.32	192.21	4,141.0	-1,354.4	-293.1	1,385.7	0.00	0.00	0.00
4,440.0	22.32	192.21	4,178.0	-1,369.2	-296.3	1,400.9	0.00	0.00	0.00
4,480.0	22.32	192.21	4,215.0	-1,384.1	-299.5	1,416.1	0.00	0.00	0.00
4,520.0	22.32	192.21	4,252.0	-1,398.9	-302.7	1,431.3	0.00	0.00	0.00
4,525.4	22.32	192.21	4,257.0	-1,400.9	-303.1	1,433.4	0.00	0.00	0.00
SUSSEX									
4,560.0	22.32	192.21	4,289.0	-1,413.8	-305.9	1,446.5	0.00	0.00	0.00
4,600.0	22.32	192.21	4,326.0	-1,428.6	-309.1	1,461.7	0.00	0.00	0.00
4,640.0	22.32	192.21	4,363.0	-1,443.5	-312.3	1,476.9	0.00	0.00	0.00
4,680.0	22.32	192.21	4,400.0	-1,458.3	-315.6	1,492.1	0.00	0.00	0.00
4,720.0	22.32	192.21	4,437.0	-1,473.2	-318.8	1,507.2	0.00	0.00	0.00
4,742.7	22.32	192.21	4,458.0	-1,481.6	-320.6	1,515.9	0.00	0.00	0.00
SUSSEX PAY TOP									
4,760.0	22.32	192.21	4,474.0	-1,488.0	-322.0	1,522.4	0.00	0.00	0.00
4,800.0	22.32	192.21	4,511.0	-1,502.8	-325.2	1,537.6	0.00	0.00	0.00
4,840.0	22.32	192.21	4,548.0	-1,517.7	-328.4	1,552.8	0.00	0.00	0.00
4,880.0	22.32	192.21	4,585.0	-1,532.5	-331.6	1,568.0	0.00	0.00	0.00
4,920.0	22.32	192.21	4,622.0	-1,547.4	-334.8	1,583.2	0.00	0.00	0.00
4,947.0	22.32	192.21	4,647.0	-1,557.4	-337.0	1,593.4	0.00	0.00	0.00
SUSSEX MARKER									
4,960.0	22.32	192.21	4,659.0	-1,562.2	-338.0	1,598.4	0.00	0.00	0.00
5,000.0	22.32	192.21	4,696.0	-1,577.1	-341.3	1,613.6	0.00	0.00	0.00
5,040.0	22.32	192.21	4,733.0	-1,591.9	-344.5	1,628.8	0.00	0.00	0.00
5,080.0	22.32	192.21	4,770.1	-1,606.8	-347.7	1,643.9	0.00	0.00	0.00
5,120.0	22.32	192.21	4,807.1	-1,621.6	-350.9	1,659.1	0.00	0.00	0.00
5,160.0	22.32	192.21	4,844.1	-1,636.5	-354.1	1,674.3	0.00	0.00	0.00
5,200.0	22.32	192.21	4,881.1	-1,651.3	-357.3	1,689.5	0.00	0.00	0.00
5,233.6	22.32	192.21	4,912.1	-1,663.8	-360.0	1,702.3	0.00	0.00	0.00
5,240.0	22.19	192.21	4,918.1	-1,666.1	-360.5	1,704.7	2.00	-2.00	0.00
5,280.0	21.39	192.21	4,955.2	-1,680.7	-363.7	1,719.5	2.00	-2.00	0.00
5,320.0	20.59	192.21	4,992.6	-1,694.7	-366.7	1,733.9	2.00	-2.00	0.00
5,360.0	19.79	192.21	5,030.1	-1,708.1	-369.6	1,747.7	2.00	-2.00	0.00
5,400.0	18.99	192.21	5,067.8	-1,721.1	-372.4	1,761.0	2.00	-2.00	0.00
5,440.0	18.19	192.21	5,105.7	-1,733.6	-375.1	1,773.7	2.00	-2.00	0.00
5,480.0	17.39	192.21	5,143.8	-1,745.5	-377.7	1,785.9	2.00	-2.00	0.00
5,520.0	16.59	192.21	5,182.1	-1,757.0	-380.2	1,797.6	2.00	-2.00	0.00
5,560.0	15.79	192.21	5,220.5	-1,767.9	-382.5	1,808.8	2.00	-2.00	0.00
5,600.0	14.99	192.21	5,259.1	-1,778.2	-384.8	1,819.4	2.00	-2.00	0.00
5,640.0	14.19	192.21	5,297.8	-1,788.1	-386.9	1,829.5	2.00	-2.00	0.00
5,680.0	13.39	192.21	5,336.6	-1,797.4	-388.9	1,839.0	2.00	-2.00	0.00
5,720.0	12.59	192.21	5,375.6	-1,806.2	-390.8	1,848.0	2.00	-2.00	0.00
5,760.0	11.79	192.21	5,414.7	-1,814.4	-392.6	1,856.4	2.00	-2.00	0.00
5,800.0	10.99	192.21	5,453.9	-1,822.2	-394.3	1,864.3	2.00	-2.00	0.00
5,840.0	10.19	192.21	5,493.2	-1,829.3	-395.8	1,871.7	2.00	-2.00	0.00
5,880.0	9.39	192.21	5,532.6	-1,836.0	-397.3	1,878.5	2.00	-2.00	0.00
5,920.0	8.59	192.21	5,572.1	-1,842.1	-398.6	1,884.7	2.00	-2.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Dowdy 44-10
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 4874.0ft (Original Well Elev)
Project:	SEC.10-T2N-R65W	MD Reference:	WELL @ 4874.0ft (Original Well Elev)
Site:	Dowdy 8-4-10 Pad Sec.10-T2N-R65W	North Reference:	True
Well:	Dowdy 44-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (7-20-12)		

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)	Turn Rate (°/100ft)
5,960.0	7.79	192.21	5,611.7	-1,847.7	-399.8	1,890.4	2.00	-2.00	0.00
6,000.0	6.99	192.21	5,651.4	-1,852.7	-400.9	1,895.6	2.00	-2.00	0.00
6,040.0	6.19	192.21	5,691.1	-1,857.2	-401.9	1,900.2	2.00	-2.00	0.00
6,080.0	5.39	192.21	5,730.9	-1,861.1	-402.7	1,904.2	2.00	-2.00	0.00
6,120.0	4.59	192.21	5,770.8	-1,864.5	-403.5	1,907.7	2.00	-2.00	0.00
6,160.0	3.79	192.21	5,810.7	-1,867.4	-404.1	1,910.6	2.00	-2.00	0.00
6,200.0	2.99	192.21	5,850.6	-1,869.7	-404.6	1,913.0	2.00	-2.00	0.00
6,240.0	2.19	192.21	5,890.6	-1,871.5	-405.0	1,914.8	2.00	-2.00	0.00
6,280.0	1.39	192.21	5,930.5	-1,872.7	-405.2	1,916.0	2.00	-2.00	0.00
6,320.0	0.59	192.21	5,970.5	-1,873.4	-405.4	1,916.7	2.00	-2.00	0.00
6,349.5	0.00	0.00	6,000.0	-1,873.5	-405.4	1,916.9	2.00	-2.00	0.00
6,360.0	0.00	0.00	6,010.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
6,400.0	0.00	0.00	6,050.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
6,440.0	0.00	0.00	6,090.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
6,480.0	0.00	0.00	6,130.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
6,520.0	0.00	0.00	6,170.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
6,560.0	0.00	0.00	6,210.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,250.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
6,640.0	0.00	0.00	6,290.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
6,680.0	0.00	0.00	6,330.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
6,720.0	0.00	0.00	6,370.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
6,760.0	0.00	0.00	6,410.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,450.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
6,823.5	0.00	0.00	6,474.0	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
TEEPEE BUTTES									
6,840.0	0.00	0.00	6,490.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
6,880.0	0.00	0.00	6,530.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
6,920.0	0.00	0.00	6,570.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
6,960.0	0.00	0.00	6,610.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,650.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
7,040.0	0.00	0.00	6,690.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
7,080.0	0.00	0.00	6,730.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
7,120.0	0.00	0.00	6,770.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
7,149.5	0.00	0.00	6,800.0	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
SHARON SPRINGS									
7,160.0	0.00	0.00	6,810.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
7,200.0	0.00	0.00	6,850.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
7,215.5	0.00	0.00	6,866.0	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
NIOBRARA									
7,240.0	0.00	0.00	6,890.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
7,280.0	0.00	0.00	6,930.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
7,320.0	0.00	0.00	6,970.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
7,360.0	0.00	0.00	7,010.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
7,400.0	0.00	0.00	7,050.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
7,440.0	0.00	0.00	7,090.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
7,457.5	0.00	0.00	7,108.0	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
FT. HAYES									
7,480.0	0.00	0.00	7,130.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
7,490.5	0.00	0.00	7,141.0	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
CODELL									
7,500.5	0.00	0.00	7,151.0	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00
FAIRPORT									
7,520.0	0.00	0.00	7,170.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Dowdy 44-10
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 4874.0ft (Original Well Elev)
Project:	SEC.10-T2N-R65W	MD Reference:	WELL @ 4874.0ft (Original Well Elev)
Site:	Dowdy 8-4-10 Pad Sec.10-T2N-R65W	North Reference:	True
Well:	Dowdy 44-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (7-20-12)		

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)	Turn Rate (°/100ft)	
7,551.5	0.00	0.00	7,202.0	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	
GREENHORN										
7,560.0	0.00	0.00	7,210.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,250.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	
7,640.0	0.00	0.00	7,290.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	
7,680.0	0.00	0.00	7,330.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	
7,720.0	0.00	0.00	7,370.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	
7,750.5	0.00	0.00	7,401.0	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	
GRANEROS										
7,760.0	0.00	0.00	7,410.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,450.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	
7,840.0	0.00	0.00	7,490.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	
7,880.0	0.00	0.00	7,530.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	
7,911.5	0.00	0.00	7,562.0	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	
MOWRY										
7,920.0	0.00	0.00	7,570.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	
7,927.5	0.00	0.00	7,578.0	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	
J-SAND										
7,960.0	0.00	0.00	7,610.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,650.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	
8,021.5	0.00	0.00	7,672.0	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	
SKULL CREEK A MARKER										
8,040.0	0.00	0.00	7,690.5	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	
8,077.5	0.00	0.00	7,728.0	-1,873.5	-405.4	1,916.9	0.00	0.00	0.00	

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (")	Hole Diameter (")
907.2	900.0	8 5/8"		8-5/8	12-1/4

Database:	Landmark	Local Co-ordinate Reference:	Well Dowdy 44-10
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 4874.0ft (Original Well Elev)
Project:	SEC.10-T2N-R65W	MD Reference:	WELL @ 4874.0ft (Original Well Elev)
Site:	Dowdy 8-4-10 Pad Sec.10-T2N-R65W	North Reference:	True
Well:	Dowdy 44-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (7-20-12)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
721.9	719.0	BASE FOX HILLS		0.00		
4,525.4	4,257.0	SUSSEX		0.00		
4,742.7	4,458.0	SUSSEX PAY TOP		0.00		
4,947.0	4,647.0	SUSSEX MARKER		0.00		
6,823.5	6,474.0	TEEPEE BUTTES		0.00		
7,149.5	6,800.0	SHARON SPRINGS		0.00		
7,215.5	6,866.0	NIOBRARA		0.00		
7,457.5	7,108.0	FT. HAYES		0.00		
7,490.5	7,141.0	CODELL		0.00		
7,500.5	7,151.0	FAIRPORT		0.00		
7,551.5	7,202.0	GREENHORN		0.00		
7,750.5	7,401.0	GRANEROS		0.00		
7,911.5	7,562.0	MOWRY		0.00		
7,927.5	7,578.0	J-SAND		0.00		
8,021.5	7,672.0	SKULL CREEK A MARKER		0.00		



Directional

EnCana Oil & Gas Weld County CO

SEC.10-T2N-R65W

Dowdy 8-4-10 Pad Sec.10-T2N-R65W

Dowdy 44-10

Wellbore #1

Plan #2 (7-20-12)

Anticollision Report

20 July, 2012

Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Dowdy 44-10
Project:	SEC.10-T2N-R65W	TVD Reference:	WELL @ 4874.0ft (Original Well Elev)
Reference Site:	Dowdy 8-4-10 Pad Sec.10-T2N-R65W	MD Reference:	WELL @ 4874.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Dowdy 44-10	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (7-20-12)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS												Offset Well Error:	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)	Minimum Separation (ft)	Separation Factor	Warning
1,600.0	1,550.7	1,561.7	1,561.7	7.0	2.9	25.41	-1,446.0	-886.3	1,395.8	1,388.3	7.44	187.600	
1,700.0	1,643.2	1,650.7	1,650.7	7.7	3.0	26.06	-1,445.7	-886.0	1,360.6	1,352.6	8.02	169.726	
1,800.0	1,735.7	1,738.6	1,738.6	8.5	3.1	26.72	-1,445.8	-885.9	1,326.1	1,317.5	8.63	153.745	
1,900.0	1,828.2	1,832.6	1,832.5	9.2	3.3	27.48	-1,445.8	-885.9	1,291.8	1,282.5	9.29	139.011	
2,000.0	1,920.8	1,925.0	1,924.9	10.0	3.5	28.27	-1,445.7	-885.9	1,257.7	1,247.7	10.00	125.799	
2,100.0	2,013.3	2,017.2	2,017.2	10.7	3.7	29.10	-1,445.7	-886.1	1,223.8	1,213.1	10.72	114.132	
2,200.0	2,105.8	2,115.5	2,115.5	11.5	3.9	30.06	-1,445.1	-886.4	1,189.9	1,178.4	11.49	103.533	
2,300.0	2,198.3	2,203.5	2,203.4	12.2	4.1	30.98	-1,444.3	-886.8	1,156.3	1,144.1	12.26	94.345	
2,400.0	2,290.8	2,303.0	2,303.0	13.0	4.3	32.09	-1,443.4	-887.2	1,122.9	1,109.8	13.08	85.858	
2,500.0	2,383.3	2,395.8	2,395.7	13.7	4.5	33.16	-1,442.5	-887.2	1,089.5	1,075.6	13.89	78.457	
2,600.0	2,475.8	2,487.9	2,487.9	14.5	4.7	34.28	-1,441.7	-887.0	1,056.4	1,041.7	14.71	71.823	
2,700.0	2,568.3	2,579.8	2,579.8	15.2	4.9	35.46	-1,441.0	-886.7	1,023.8	1,008.2	15.55	65.839	
2,800.0	2,660.8	2,677.5	2,677.5	16.0	5.1	36.77	-1,440.5	-885.9	991.4	975.0	16.41	60.412	
2,900.0	2,753.3	2,780.7	2,780.6	16.7	5.2	38.14	-1,440.6	-883.4	958.7	941.4	17.27	55.504	
3,000.0	2,845.8	2,878.4	2,878.3	17.5	5.3	39.45	-1,441.1	-879.3	925.4	907.3	18.13	51.046	
3,100.0	2,938.4	2,972.0	2,971.7	18.2	5.4	40.80	-1,441.1	-875.3	892.4	873.3	19.02	46.917	
3,200.0	3,030.9	3,062.6	3,062.3	19.0	5.6	42.23	-1,441.1	-871.5	859.8	839.8	19.94	43.109	
3,300.0	3,123.4	3,150.3	3,149.9	19.7	5.7	43.71	-1,441.0	-868.2	828.0	807.1	20.90	39.622	
3,400.0	3,215.9	3,242.1	3,241.6	20.5	5.9	45.40	-1,441.1	-865.3	797.4	775.5	21.92	36.380	
3,500.0	3,308.4	3,335.9	3,335.4	21.2	6.0	47.28	-1,440.6	-862.1	767.1	744.1	23.00	33.348	
3,600.0	3,400.9	3,423.8	3,423.3	22.0	6.2	49.14	-1,440.7	-859.3	738.0	713.9	24.09	30.632	
3,700.0	3,493.4	3,513.8	3,513.2	22.8	6.3	51.16	-1,441.1	-856.6	710.2	685.0	25.23	28.148	
3,800.0	3,585.9	3,600.0	3,599.4	23.5	6.5	53.26	-1,441.5	-854.4	683.8	657.4	26.39	25.908	
3,900.0	3,678.4	3,688.2	3,687.6	24.3	6.6	55.56	-1,442.1	-852.9	659.3	631.7	27.60	23.892	
4,000.0	3,770.9	3,777.6	3,777.0	25.0	6.8	58.04	-1,442.9	-852.0	636.8	608.0	28.83	22.087	
4,100.0	3,863.5	3,870.2	3,869.5	25.8	6.9	60.85	-1,443.0	-851.7	616.1	586.0	30.15	20.433	
4,200.0	3,956.0	3,967.2	3,966.6	26.5	7.1	64.01	-1,442.7	-851.2	596.8	565.2	31.55	18.912	
4,300.0	4,048.5	4,061.5	4,060.8	27.3	7.3	67.27	-1,442.1	-850.0	578.6	545.7	32.95	17.560	
4,400.0	4,141.0	4,152.2	4,151.5	28.0	7.6	70.58	-1,441.5	-848.8	562.6	528.3	34.32	16.393	
4,500.0	4,233.5	4,244.5	4,243.8	28.8	7.8	74.11	-1,440.8	-848.0	549.1	513.4	35.67	15.395	
4,600.0	4,326.0	4,336.5	4,335.8	29.5	8.0	77.73	-1,440.5	-846.8	537.8	500.8	36.96	14.550	
4,700.0	4,418.5	4,425.7	4,425.0	30.3	8.2	81.42	-1,439.5	-846.2	529.7	491.5	38.19	13.871	
4,800.0	4,511.0	4,520.3	4,519.7	31.1	8.4	85.41	-1,438.6	-845.5	524.2	484.9	39.35	13.323	
4,900.0	4,603.5	4,614.3	4,613.6	31.8	8.6	89.37	-1,438.2	-844.4	521.3	480.9	40.40	12.904	
4,962.2	4,661.1	4,672.1	4,671.4	32.3	8.7	91.83	-1,437.9	-843.7	520.7	479.7	40.99	12.705 CC	
5,000.0	4,696.0	4,707.0	4,706.3	32.6	8.8	93.33	-1,437.6	-843.1	520.9	479.6	41.32	12.607 ES	
5,100.0	4,788.6	4,798.3	4,797.6	33.3	9.0	97.28	-1,436.4	-841.7	523.5	481.4	42.12	12.429	
5,200.0	4,881.1	4,888.2	4,887.5	34.1	9.2	101.14	-1,435.0	-840.4	529.3	486.5	42.79	12.370 SF	
5,233.6	4,912.1	4,918.2	4,917.5	34.3	9.3	102.41	-1,434.5	-840.1	532.0	489.0	42.99	12.375	
5,300.0	4,973.9	4,977.5	4,976.7	34.7	9.5	104.95	-1,433.3	-839.5	538.2	494.9	43.25	12.443	
5,400.0	5,067.8	5,069.4	5,068.7	35.2	9.7	108.57	-1,431.2	-838.7	549.1	505.6	43.45	12.638	
5,500.0	5,162.9	5,160.5	5,159.7	35.7	9.9	111.73	-1,429.2	-838.3	561.1	517.5	43.57	12.878	
5,600.0	5,259.1	5,253.0	5,252.1	36.1	10.1	114.54	-1,426.7	-838.4	574.0	530.3	43.64	13.152	
5,700.0	5,356.1	5,349.0	5,348.1	36.4	10.3	117.04	-1,423.9	-838.7	586.8	543.1	43.69	13.432	
5,800.0	5,453.9	5,448.9	5,448.0	36.8	10.5	119.28	-1,420.8	-838.5	598.8	555.0	43.72	13.695	
5,900.0	5,552.4	5,547.0	5,546.0	37.1	10.8	121.12	-1,417.8	-837.7	609.1	565.3	43.78	13.914	
6,000.0	5,651.4	5,642.2	5,641.1	37.3	11.0	122.58	-1,414.5	-837.2	618.5	574.7	43.85	14.106	
6,100.0	5,750.9	5,739.5	5,738.4	37.5	11.2	123.76	-1,410.8	-836.9	626.7	582.8	43.94	14.263	
6,200.0	5,850.6	5,838.7	5,837.5	37.6	11.4	124.67	-1,406.7	-836.6	633.4	589.4	44.06	14.377	
6,300.0	5,950.5	5,941.3	5,940.1	37.7	11.7	125.30	-1,402.7	-835.9	637.9	593.7	44.21	14.429	
6,349.5	6,000.0	5,991.9	5,990.6	37.8	11.8	-42.32	-1,400.9	-835.6	639.2	594.9	44.31	14.427	
6,400.0	6,050.5	6,044.6	6,043.3	37.8	11.9	-42.20	-1,399.3	-835.4	640.2	595.7	44.44	14.405	

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

Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Dowdy 44-10
Project:	SEC.10-T2N-R65W	TVD Reference:	WELL @ 4874.0ft (Original Well Elev)
Reference Site:	Dowdy 8-4-10 Pad Sec.10-T2N-R65W	MD Reference:	WELL @ 4874.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Dowdy 44-10	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (7-20-12)	Offset TVD Reference:	Offset Datum

Offset Design Dowdy 8-4-10 Pad Sec.10-T2N-R65W - Dowdy #2 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS												Offset Well Error:	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)	Minimum Separation (ft)	Separation Factor	Warning
6,500.0	6,150.5	6,144.8	6,143.4	37.9	12.2	-41.91	-1,396.0	-834.0	641.8	597.1	44.68	14.364	
6,600.0	6,250.5	6,244.8	6,243.4	37.9	12.4	-41.67	-1,392.8	-833.3	643.7	598.8	44.93	14.327	
6,700.0	6,350.5	6,348.0	6,346.5	38.0	12.7	-41.47	-1,390.2	-832.5	645.1	599.9	45.20	14.271	
6,800.0	6,450.5	6,445.5	6,444.0	38.1	12.9	-41.30	-1,388.0	-832.0	646.4	600.9	45.47	14.218	
6,900.0	6,550.5	6,543.4	6,541.8	38.1	13.2	-41.18	-1,385.6	-832.2	648.3	602.6	45.74	14.174	
7,000.0	6,650.5	6,644.9	6,643.3	38.2	13.4	-41.05	-1,383.2	-832.3	650.2	604.1	46.02	14.128	
7,100.0	6,750.5	6,747.6	6,746.0	38.3	13.6	-40.95	-1,381.3	-832.5	651.7	605.4	46.31	14.074	
7,200.0	6,850.5	6,849.0	6,847.4	38.3	13.9	-40.90	-1,380.1	-832.8	652.8	606.2	46.61	14.008	
7,300.0	6,950.5	6,949.9	6,948.3	38.4	14.1	-40.85	-1,378.9	-833.1	653.9	607.0	46.90	13.944	
7,400.0	7,050.5	7,050.3	7,048.7	38.5	14.3	-40.83	-1,378.1	-833.5	654.8	607.6	47.19	13.874	
7,500.0	7,150.5	7,151.3	7,149.7	38.5	14.5	-40.81	-1,377.2	-833.9	655.7	608.2	47.47	13.812	
7,600.0	7,250.5	7,253.5	7,251.9	38.6	14.7	-40.83	-1,377.0	-834.4	656.2	608.5	47.73	13.748	
7,700.0	7,350.5	7,349.9	7,348.3	38.7	14.8	-40.84	-1,376.7	-834.9	656.7	608.8	47.98	13.689	
7,800.0	7,450.5	7,446.6	7,445.0	38.7	15.0	-40.84	-1,375.7	-835.7	658.1	609.8	48.25	13.640	
7,900.0	7,550.5	7,551.7	7,550.0	38.8	15.2	-40.85	-1,374.8	-836.7	659.3	610.8	48.52	13.588	
8,000.0	7,650.5	7,585.0	7,583.4	38.9	15.2	-40.87	-1,374.8	-836.9	663.3	614.6	48.67	13.630	
8,077.5	7,728.0	7,585.0	7,583.4	39.0	15.2	-40.87	-1,374.8	-836.9	676.0	627.3	48.74	13.871	

Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Dowdy 44-10
Project:	SEC.10-T2N-R65W	TVD Reference:	WELL @ 4874.0ft (Original Well Elev)
Reference Site:	Dowdy 8-4-10 Pad Sec.10-T2N-R65W	MD Reference:	WELL @ 4874.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Dowdy 44-10	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (7-20-12)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													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)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-134.44	-287.8	-293.5	411.1					
100.0	100.0	97.2	97.2	0.1	0.1	-134.37	-287.8	-294.2	411.5	411.3	0.24	1,703.612		
200.0	200.0	200.2	200.2	0.3	0.4	-134.24	-287.5	-295.2	412.1	411.4	0.73	563.728		
300.0	300.0	301.8	301.8	0.5	0.6	33.80	-287.0	-295.7	410.7	409.5	1.19	346.528		
400.0	399.8	402.3	402.3	0.8	0.9	34.36	-286.3	-296.0	406.0	404.4	1.62	250.200		
500.0	499.5	501.2	501.2	1.0	1.1	35.22	-285.8	-296.1	398.6	396.5	2.09	190.980		
600.0	598.7	599.3	599.3	1.3	1.4	36.42	-285.5	-296.4	388.7	386.1	2.58	150.405		
700.0	697.5	693.2	693.2	1.6	1.5	37.91	-285.9	-297.0	376.9	373.8	3.03	124.233		
800.0	795.6	791.5	791.5	2.0	1.7	39.88	-287.0	-297.9	363.4	359.9	3.48	104.298		
900.0	893.1	891.1	891.0	2.4	1.9	42.50	-287.7	-298.8	347.4	343.4	4.04	86.025		
1,000.0	989.6	987.9	987.9	2.9	2.1	45.83	-287.8	-299.7	329.3	324.7	4.69	70.167		
1,100.0	1,085.3	1,083.7	1,083.6	3.5	2.4	49.97	-288.0	-300.5	310.1	304.7	5.44	57.028		
1,200.0	1,179.8	1,179.1	1,179.0	4.1	2.6	55.16	-287.9	-301.4	290.4	284.1	6.30	46.110		
1,300.0	1,273.2	1,272.3	1,272.2	4.8	2.8	61.48	-287.8	-302.0	271.2	264.0	7.27	37.284		
1,315.9	1,287.9	1,286.9	1,286.9	4.9	2.9	62.59	-287.8	-302.1	268.4	260.9	7.44	36.068		
1,400.0	1,365.7	1,364.7	1,364.6	5.5	3.1	68.58	-287.8	-302.8	255.0	246.6	8.35	30.529		
1,500.0	1,458.2	1,456.7	1,456.7	6.3	3.3	76.37	-287.6	-303.6	243.6	234.2	9.46	25.755		
1,600.0	1,550.7	1,549.3	1,549.2	7.0	3.6	84.70	-287.3	-304.6	238.1	227.5	10.54	22.582		
1,645.5	1,592.8	1,591.6	1,591.6	7.3	3.7	88.59	-287.2	-305.0	237.5	226.5	11.01	21.568 CC, ES		
1,700.0	1,643.2	1,641.5	1,641.4	7.7	3.8	93.15	-287.0	-305.5	238.4	226.9	11.54	20.666		
1,800.0	1,735.7	1,732.7	1,732.7	8.5	4.0	101.34	-286.5	-306.8	245.2	232.8	12.40	19.770		
1,900.0	1,828.2	1,824.9	1,824.9	9.2	4.3	109.09	-285.8	-308.2	257.8	244.7	13.12	19.642 SF		
2,000.0	1,920.8	1,918.5	1,918.4	10.0	4.5	116.17	-285.4	-309.5	274.9	261.2	13.72	20.032		
2,100.0	2,013.3	2,009.4	2,009.3	10.7	4.8	122.34	-284.5	-310.6	296.1	281.9	14.21	20.832		
2,200.0	2,105.8	2,103.9	2,103.7	11.5	5.0	127.95	-283.6	-311.4	320.5	305.8	14.63	21.908		
2,300.0	2,198.3	2,194.8	2,194.7	12.2	5.2	132.62	-282.8	-312.1	347.3	332.3	15.01	23.130		
2,400.0	2,290.8	2,288.0	2,287.9	13.0	5.4	136.82	-281.8	-312.5	376.2	360.9	15.33	24.542		
2,500.0	2,383.3	2,380.5	2,380.4	13.7	5.5	140.54	-280.5	-312.0	406.6	391.1	15.57	26.120		
2,600.0	2,475.8	2,472.2	2,472.1	14.5	5.6	143.84	-279.0	-310.7	438.5	422.7	15.78	27.795		
2,700.0	2,568.3	2,564.9	2,564.7	15.2	5.7	146.78	-277.3	-309.1	471.5	455.5	15.98	29.508		
2,800.0	2,660.8	2,656.8	2,656.5	16.0	5.8	149.35	-275.8	-307.2	505.3	489.1	16.19	31.204		
2,900.0	2,753.3	2,748.2	2,748.0	16.7	5.9	151.63	-274.2	-305.2	540.1	523.6	16.43	32.875		
3,000.0	2,845.8	2,839.7	2,839.3	17.5	6.0	153.65	-272.5	-303.0	575.5	558.8	16.68	34.494		
3,100.0	2,938.4	2,930.9	2,930.6	18.2	6.1	155.45	-270.8	-300.8	611.6	594.6	16.96	36.057		
3,200.0	3,030.9	3,023.6	3,023.2	19.0	6.2	157.09	-269.0	-298.4	648.1	630.8	17.26	37.558		
3,300.0	3,123.4	3,116.5	3,116.1	19.7	6.3	158.56	-267.5	-296.0	684.8	667.2	17.56	38.989		
3,400.0	3,215.9	3,208.5	3,208.1	20.5	6.4	159.85	-266.1	-293.8	721.8	703.9	17.90	40.332		
3,500.0	3,308.4	3,301.1	3,300.6	21.2	6.6	161.01	-264.8	-291.8	759.0	740.7	18.25	41.591		
3,600.0	3,400.9	3,391.5	3,391.0	22.0	6.7	162.04	-263.5	-289.8	796.4	777.8	18.62	42.773		
3,700.0	3,493.4	3,481.1	3,480.5	22.8	6.8	162.98	-262.0	-287.7	834.3	815.3	19.00	43.902		
3,800.0	3,585.9	3,573.3	3,572.7	23.5	7.0	163.90	-260.3	-285.2	872.5	853.1	19.40	44.982		
3,900.0	3,678.4	3,668.3	3,667.6	24.3	7.1	164.75	-258.7	-282.6	910.6	890.8	19.80	46.001		
4,000.0	3,770.9	3,756.8	3,756.1	25.0	7.3	165.53	-257.5	-279.6	948.8	928.6	20.20	46.980		
4,100.0	3,863.5	3,842.2	3,841.4	25.8	7.4	166.24	-255.7	-276.5	987.6	967.0	20.60	47.935		
4,200.0	3,956.0	3,927.0	3,926.1	26.5	7.6	166.90	-253.5	-273.2	1,027.2	1,006.1	21.03	48.849		
4,300.0	4,048.5	4,009.7	4,008.7	27.3	7.7	167.51	-250.6	-270.0	1,067.5	1,046.1	21.46	49.740		
4,400.0	4,141.0	4,099.0	4,097.8	28.0	7.9	168.13	-247.2	-266.3	1,108.4	1,086.5	21.91	50.586		
4,500.0	4,233.5	4,184.8	4,183.5	28.8	8.1	168.70	-243.7	-262.5	1,149.6	1,127.2	22.36	51.407		
4,600.0	4,326.0	4,274.4	4,273.0	29.5	8.3	169.26	-239.8	-258.5	1,191.1	1,168.3	22.82	52.186		
4,700.0	4,418.5	4,364.7	4,363.0	30.3	8.5	169.78	-235.9	-254.5	1,232.7	1,209.4	23.30	52.915		
4,800.0	4,511.0	4,454.7	4,452.9	31.1	8.7	170.24	-231.9	-251.0	1,274.4	1,250.7	23.78	53.594		
4,900.0	4,603.5	4,548.2	4,546.2	31.8	8.9	170.67	-227.8	-247.8	1,316.2	1,291.9	24.28	54.214		

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

Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Dowdy 44-10
Project:	SEC.10-T2N-R65W	TVD Reference:	WELL @ 4874.0ft (Original Well Elev)
Reference Site:	Dowdy 8-4-10 Pad Sec.10-T2N-R65W	MD Reference:	WELL @ 4874.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Dowdy 44-10	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (7-20-12)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS												Offset Well Error:	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)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,696.0	4,646.8	4,644.7	32.6	9.1	171.11	-224.0	-244.2	1,357.6	1,332.8	24.78	54.781	
5,100.0	4,788.6	4,745.4	4,743.1	33.3	9.3	171.56	-220.8	-239.5	1,398.5	1,373.2	25.27	55.330	
5,200.0	4,881.1	4,841.6	4,839.1	34.1	9.5	172.03	-218.3	-233.9	1,439.0	1,413.2	25.75	55.878	
5,233.6	4,912.1	4,873.7	4,871.1	34.3	9.6	172.19	-217.5	-231.8	1,452.6	1,426.7	25.91	56.059	
5,300.0	4,973.9	4,936.5	4,933.8	34.7	9.7	172.57	-216.1	-227.5	1,478.6	1,452.3	26.29	56.250	
5,400.0	5,067.8	5,028.9	5,025.9	35.2	9.9	173.11	-214.2	-220.5	1,515.1	1,488.3	26.80	56.532	
5,500.0	5,162.9	5,118.1	5,114.8	35.7	10.1	173.59	-212.3	-213.6	1,548.7	1,521.4	27.28	56.763	
5,600.0	5,259.1	5,209.9	5,206.3	36.1	10.3	174.00	-210.0	-207.0	1,579.2	1,551.5	27.74	56.925	
5,700.0	5,356.1	5,302.5	5,298.8	36.4	10.5	174.36	-207.4	-200.9	1,606.7	1,578.5	28.17	57.030	
5,800.0	5,453.9	5,406.9	5,402.9	36.8	10.7	174.71	-204.6	-194.3	1,630.7	1,602.1	28.59	57.039	
5,900.0	5,552.4	5,504.4	5,500.2	37.1	10.9	175.00	-202.2	-188.4	1,651.1	1,622.2	28.95	57.030	
6,000.0	5,651.4	5,608.9	5,604.4	37.3	11.1	175.27	-199.8	-182.3	1,668.0	1,638.7	29.29	56.952	
6,100.0	5,750.9	5,713.6	5,709.0	37.5	11.4	175.50	-197.7	-176.8	1,681.1	1,651.5	29.58	56.827	
6,200.0	5,850.6	5,822.3	5,817.6	37.6	11.6	175.71	-195.9	-171.4	1,690.3	1,660.4	29.84	56.647	
6,300.0	5,950.5	5,927.3	5,922.4	37.7	11.8	175.86	-194.5	-167.2	1,695.6	1,665.6	30.05	56.436	
6,349.5	6,000.0	5,980.2	5,975.3	37.8	11.9	8.13	-193.9	-165.5	1,696.8	1,666.7	30.14	56.299	
6,400.0	6,050.5	6,038.1	6,033.2	37.8	12.1	8.18	-193.4	-163.8	1,697.5	1,667.2	30.33	55.968	
6,500.0	6,150.5	6,146.0	6,141.0	37.9	12.3	8.26	-192.9	-161.5	1,698.2	1,667.5	30.68	55.344	
6,600.0	6,250.5	6,244.7	6,239.8	37.9	12.5	8.30	-192.4	-160.2	1,698.9	1,667.9	31.03	54.743	
6,700.0	6,350.5	6,348.2	6,343.2	38.0	12.8	8.32	-191.9	-159.5	1,699.5	1,668.1	31.41	54.101	
6,800.0	6,450.5	6,449.2	6,444.2	38.1	13.0	8.33	-191.5	-159.2	1,699.9	1,668.1	31.79	53.466	
6,900.0	6,550.5	6,548.9	6,543.9	38.1	13.3	8.33	-191.1	-159.0	1,700.4	1,668.2	32.18	52.846	
7,000.0	6,650.5	6,649.8	6,644.9	38.2	13.5	8.34	-190.7	-158.8	1,700.8	1,668.2	32.56	52.228	
7,100.0	6,750.5	6,750.7	6,745.8	38.3	13.8	8.34	-190.4	-158.5	1,701.2	1,668.2	32.95	51.625	
7,200.0	6,850.5	6,855.8	6,850.9	38.3	14.0	8.36	-190.2	-158.2	1,701.4	1,668.1	33.32	51.065	
7,300.0	6,950.5	6,959.6	6,954.7	38.4	14.2	8.37	-190.3	-157.9	1,701.3	1,667.7	33.61	50.621	
7,400.0	7,050.5	7,060.7	7,055.8	38.5	14.2	8.37	-190.5	-157.8	1,701.1	1,667.2	33.83	50.276	
7,487.8	7,138.4	7,144.3	7,139.4	38.5	14.3	8.36	-190.7	-158.0	1,700.9	1,666.9	34.04	49.969	
7,500.0	7,150.5	7,155.3	7,150.4	38.5	14.3	8.36	-190.7	-158.0	1,700.9	1,666.8	34.07	49.925	
7,600.0	7,250.5	7,253.6	7,248.7	38.6	14.5	8.35	-190.4	-158.3	1,701.1	1,666.8	34.35	49.528	
7,700.0	7,350.5	7,364.0	7,359.0	38.7	14.6	8.34	-190.4	-158.7	1,701.1	1,666.4	34.64	49.108	
7,800.0	7,450.5	7,471.5	7,466.5	38.7	14.7	8.37	-191.3	-158.0	1,700.3	1,665.4	34.92	48.694	
7,892.3	7,542.9	7,550.0	7,545.0	38.8	14.9	8.40	-192.0	-157.1	1,699.7	1,664.6	35.17	48.330	
7,900.0	7,550.5	7,550.0	7,545.0	38.8	14.9	8.40	-192.0	-157.1	1,699.8	1,664.6	35.18	48.315	
8,000.0	7,650.5	7,550.0	7,545.0	38.9	14.9	8.40	-192.0	-157.1	1,703.1	1,667.7	35.33	48.203	
8,077.5	7,728.0	7,550.0	7,545.0	39.0	14.9	8.40	-192.0	-157.1	1,709.7	1,674.2	35.45	48.230	

Dowdy 8-4-10 Pad Sec.10-T2N-R65W - Dowdy 4-6-10 - Wellbore #1 - Plan #1 (7-09-12)													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)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	0.00	10.9	0.0	10.9	10.9	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	0.00	10.9	0.0	10.9	10.7	0.22	48.623		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	10.9	0.0	10.9	10.3	0.67	16.208 CC, ES		
300.0	300.0	300.1	300.1	0.5	0.5	161.95	10.2	-1.6	12.0	10.9	1.09	10.959		
400.0	399.8	400.1	400.0	0.8	0.8	149.58	8.0	-6.3	15.6	14.0	1.52	10.266 SF		
500.0	499.5	499.8	499.3	1.0	1.0	138.60	4.3	-14.2	22.4	20.4	2.00	11.215		
600.0	598.7	599.1	597.8	1.3	1.3	131.27	-0.9	-25.1	32.7	30.1	2.55	12.793		
700.0	697.5	697.8	695.3	1.6	1.6	126.65	-7.4	-39.1	46.2	43.0	3.19	14.486		
800.0	795.6	795.9	791.6	2.0	2.0	123.65	-15.3	-55.9	62.8	58.9	3.91	16.071		
900.0	893.1	893.1	886.3	2.4	2.5	121.59	-24.5	-75.5	82.5	77.7	4.72	17.471		
1,000.0	989.6	989.4	979.4	2.9	2.9	120.09	-34.9	-97.8	105.1	99.5	5.63	18.675		
1,100.0	1,085.3	1,084.6	1,070.6	3.5	3.5	118.93	-46.6	-122.7	130.6	123.9	6.63	19.698		
1,200.0	1,179.8	1,178.8	1,159.8	4.1	4.1	117.99	-59.4	-149.9	158.9	151.2	7.73	20.566		
1,300.0	1,273.2	1,271.7	1,246.9	4.8	4.8	117.18	-73.2	-179.4	189.9	181.0	8.91	21.307		
1,315.9	1,287.9	1,286.3	1,260.5	4.9	4.9	117.06	-75.5	-184.3	195.1	186.0	9.11	21.418		
1,400.0	1,365.7	1,363.5	1,331.8	5.5	5.5	116.70	-88.0	-211.0	223.1	212.9	10.20	21.874		
1,500.0	1,458.2	1,454.3	1,414.6	6.3	6.2	115.79	-103.8	-244.7	257.5	246.0	11.54	22.321		
1,600.0	1,550.7	1,544.3	1,495.5	7.0	7.0	114.55	-120.5	-280.4	293.2	280.3	12.92	22.695		
1,700.0	1,643.2	1,637.2	1,578.5	7.7	7.9	113.33	-138.3	-318.3	329.5	315.2	14.35	22.956		
1,800.0	1,735.7	1,730.2	1,661.4	8.5	8.8	112.35	-156.1	-356.2	366.0	350.2	15.79	23.173		
1,900.0	1,828.2	1,823.1	1,744.4	9.2	9.6	111.55	-173.9	-394.1	402.5	385.2	17.23	23.353		
2,000.0	1,920.8	1,916.1	1,827.4	10.0	10.5	110.88	-191.6	-432.1	439.0	420.4	18.68	23.506		
2,100.0	2,013.3	2,009.1	1,910.4	10.7	11.4	110.31	-209.4	-470.0	475.6	455.5	20.12	23.636		
2,200.0	2,105.8	2,102.0	1,993.4	11.5	12.3	109.82	-227.2	-507.9	512.3	490.7	21.57	23.749		
2,300.0	2,198.3	2,195.0	2,076.4	12.2	13.2	109.40	-245.0	-545.8	549.0	525.9	23.02	23.848		
2,400.0	2,290.8	2,287.9	2,159.4	13.0	14.1	109.03	-262.8	-583.8	585.7	561.2	24.47	23.934		
2,500.0	2,383.3	2,380.9	2,242.4	13.7	15.0	108.71	-280.5	-621.7	622.4	596.5	25.92	24.011		
2,600.0	2,475.8	2,473.9	2,325.4	14.5	15.9	108.42	-298.3	-659.6	659.1	631.7	27.37	24.080		
2,700.0	2,568.3	2,566.8	2,408.3	15.2	16.8	108.16	-316.1	-697.6	695.9	667.0	28.82	24.142		
2,800.0	2,660.8	2,659.8	2,491.3	16.0	17.7	107.93	-333.9	-735.5	732.6	702.3	30.28	24.197		
2,900.0	2,753.3	2,752.8	2,574.3	16.7	18.6	107.72	-351.7	-773.4	769.4	737.6	31.73	24.248		
3,000.0	2,845.8	2,845.7	2,657.3	17.5	19.5	107.53	-369.5	-811.3	806.1	773.0	33.18	24.294		
3,100.0	2,938.4	2,938.7	2,740.3	18.2	20.4	107.35	-387.2	-849.3	842.9	808.3	34.64	24.336		
3,200.0	3,030.9	3,031.6	2,823.3	19.0	21.3	107.19	-405.0	-887.2	879.7	843.6	36.09	24.375		
3,300.0	3,123.4	3,124.6	2,906.3	19.7	22.2	107.04	-422.8	-925.1	916.5	879.0	37.55	24.410		
3,400.0	3,215.9	3,217.6	2,989.3	20.5	23.1	106.91	-440.6	-963.1	953.3	914.3	39.00	24.443		
3,500.0	3,308.4	3,310.5	3,072.2	21.2	24.0	106.78	-458.4	-1,001.0	990.1	949.6	40.46	24.474		
3,600.0	3,400.9	3,403.5	3,155.2	22.0	24.9	106.67	-476.2	-1,038.9	1,026.9	985.0	41.91	24.502		
3,700.0	3,493.4	3,496.4	3,238.2	22.8	25.8	106.56	-493.9	-1,076.8	1,063.7	1,020.3	43.37	24.528		
3,800.0	3,585.9	3,589.4	3,321.2	23.5	26.7	106.46	-511.7	-1,114.8	1,100.5	1,055.7	44.82	24.553		
3,900.0	3,678.4	3,682.4	3,404.2	24.3	27.6	106.36	-529.5	-1,152.7	1,137.3	1,091.1	46.28	24.576		
4,000.0	3,770.9	3,775.3	3,487.2	25.0	28.5	106.27	-547.3	-1,190.6	1,174.2	1,126.4	47.73	24.598		
4,100.0	3,863.5	3,868.3	3,570.2	25.8	29.4	106.19	-565.1	-1,228.6	1,211.0	1,161.8	49.19	24.618		
4,200.0	3,956.0	3,961.2	3,653.2	26.5	30.3	106.11	-582.8	-1,266.5	1,247.8	1,197.1	50.65	24.637		
4,300.0	4,048.5	4,054.2	3,736.2	27.3	31.2	106.04	-600.6	-1,304.4	1,284.6	1,232.5	52.10	24.655		
4,400.0	4,141.0	4,147.2	3,819.1	28.0	32.1	105.97	-618.4	-1,342.3	1,321.4	1,267.9	53.56	24.673		
4,500.0	4,233.5	4,240.1	3,902.1	28.8	33.0	105.90	-636.2	-1,380.3	1,358.3	1,303.3	55.02	24.689		
4,600.0	4,326.0	4,333.1	3,985.1	29.5	33.9	105.84	-654.0	-1,418.2	1,395.1	1,338.6	56.47	24.704		
4,700.0	4,418.5	4,426.1	4,068.1	30.3	34.8	105.78	-671.8	-1,456.1	1,431.9	1,374.0	57.93	24.718		
4,800.0	4,511.0	4,519.0	4,151.1	31.1	35.7	105.72	-689.5	-1,494.0	1,468.8	1,409.4	59.39	24.732		
4,900.0	4,603.5	4,612.0	4,234.1	31.8	36.6	105.67	-707.3	-1,532.0	1,505.6	1,444.7	60.84	24.745		
5,000.0	4,696.0	4,704.9	4,317.1	32.6	37.5	105.62	-725.1	-1,569.9	1,542.4	1,480.1	62.30	24.758		

Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Dowdy 44-10
Project:	SEC.10-T2N-R65W	TVD Reference:	WELL @ 4874.0ft (Original Well Elev)
Reference Site:	Dowdy 8-4-10 Pad Sec.10-T2N-R65W	MD Reference:	WELL @ 4874.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Dowdy 44-10	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (7-20-12)	Offset TVD Reference:	Offset Datum

Offset Design													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)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-10.9	0.0	10.9	10.9	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	180.00	-10.9	0.0	10.9	10.7	0.22	48.623		
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-10.9	0.0	10.9	10.3	0.67	16.208 CC		
300.0	300.0	299.6	299.6	0.5	0.5	-15.24	-12.6	0.2	11.0	9.9	1.08	10.148		
400.0	399.8	399.2	399.1	0.8	0.7	-24.10	-17.8	0.8	11.3	9.8	1.48	7.592 ES		
500.0	499.5	498.8	498.2	1.0	1.0	-37.34	-26.4	1.9	12.3	10.3	1.93	6.376		
600.0	598.7	598.3	597.0	1.3	1.3	-51.63	-38.4	3.4	14.6	12.1	2.45	5.961 SF		
700.0	697.5	697.7	695.2	1.6	1.6	-63.77	-53.7	5.3	18.4	15.4	3.09	5.978		
800.0	795.6	797.0	792.7	2.0	2.0	-72.76	-72.4	7.6	23.9	20.0	3.85	6.194		
900.0	893.1	896.3	889.4	2.4	2.4	-79.09	-94.5	10.3	30.7	26.0	4.74	6.479		
1,000.0	989.6	995.9	986.2	2.9	2.9	-86.04	-118.2	13.3	38.1	32.4	5.75	6.633		
1,100.0	1,085.3	1,095.3	1,082.7	3.5	3.4	-94.95	-141.8	16.2	46.1	39.3	6.84	6.747		
1,200.0	1,179.8	1,194.5	1,179.0	4.1	3.9	-104.56	-165.4	19.1	55.7	47.8	7.91	7.043		
1,300.0	1,273.2	1,293.2	1,274.8	4.8	4.4	-113.85	-188.9	22.0	67.8	58.9	8.89	7.623		
1,315.9	1,287.9	1,308.9	1,290.0	4.9	4.4	-115.25	-192.6	22.4	70.0	60.9	9.04	7.743		
1,400.0	1,365.7	1,391.7	1,370.4	5.5	4.9	-121.70	-212.3	24.9	82.3	72.5	9.77	8.426		
1,500.0	1,458.2	1,490.1	1,465.9	6.3	5.4	-127.20	-235.7	27.8	97.9	87.3	10.60	9.240		
1,600.0	1,550.7	1,588.5	1,561.5	7.0	5.9	-131.17	-259.1	30.7	114.2	102.8	11.41	10.004		
1,700.0	1,643.2	1,686.9	1,657.0	7.7	6.4	-134.14	-282.5	33.6	130.8	118.6	12.23	10.700		
1,800.0	1,735.7	1,785.3	1,752.5	8.5	6.9	-136.44	-305.9	36.4	147.7	134.7	13.04	11.327		
1,900.0	1,828.2	1,883.7	1,848.1	9.2	7.4	-138.26	-329.3	39.3	164.8	151.0	13.86	11.890		
2,000.0	1,920.8	1,982.1	1,943.6	10.0	7.9	-139.75	-352.7	42.2	182.1	167.4	14.69	12.396		
2,100.0	2,013.3	2,080.5	2,039.1	10.7	8.4	-140.97	-376.1	45.1	199.4	183.9	15.51	12.852		
2,200.0	2,105.8	2,178.9	2,134.7	11.5	8.9	-142.00	-399.5	48.0	216.8	200.4	16.35	13.263		
2,300.0	2,198.3	2,277.3	2,230.2	12.2	9.4	-142.88	-422.9	50.9	234.3	217.1	17.18	13.636		
2,400.0	2,290.8	2,375.7	2,325.8	13.0	9.9	-143.63	-446.3	53.8	251.8	233.7	18.02	13.974		
2,500.0	2,383.3	2,474.1	2,421.3	13.7	10.4	-144.29	-469.7	56.7	269.3	250.5	18.86	14.283		
2,600.0	2,475.8	2,572.5	2,516.8	14.5	10.9	-144.87	-493.2	59.6	286.9	267.2	19.70	14.566		
2,700.0	2,568.3	2,670.9	2,612.4	15.2	11.4	-145.38	-516.6	62.5	304.5	283.9	20.54	14.825		
2,800.0	2,660.8	2,769.3	2,707.9	16.0	11.9	-145.83	-540.0	65.4	322.1	300.7	21.38	15.064		
2,900.0	2,753.3	2,867.7	2,803.4	16.7	12.4	-146.24	-563.4	68.2	339.7	317.5	22.23	15.285		
3,000.0	2,845.8	2,966.1	2,899.0	17.5	12.9	-146.60	-586.8	71.1	357.4	334.3	23.07	15.489		
3,100.0	2,938.4	3,064.5	2,994.5	18.2	13.4	-146.94	-610.2	74.0	375.1	351.1	23.92	15.679		
3,200.0	3,030.9	3,162.9	3,090.1	19.0	13.9	-147.24	-633.6	76.9	392.7	368.0	24.77	15.856		
3,300.0	3,123.4	3,261.3	3,185.6	19.7	14.4	-147.51	-657.0	79.8	410.4	384.8	25.62	16.021		
3,400.0	3,215.9	3,359.8	3,281.1	20.5	14.9	-147.77	-680.4	82.7	428.1	401.6	26.47	16.175		
3,500.0	3,308.4	3,458.2	3,376.7	21.2	15.4	-148.00	-703.8	85.6	445.8	418.5	27.32	16.320		
3,600.0	3,400.9	3,556.6	3,472.2	22.0	15.9	-148.22	-727.2	88.5	463.5	435.4	28.17	16.455		
3,700.0	3,493.4	3,655.0	3,567.8	22.8	16.4	-148.42	-750.6	91.4	481.2	452.2	29.02	16.583		
3,800.0	3,585.9	3,753.4	3,663.3	23.5	16.9	-148.60	-774.0	94.3	499.0	469.1	29.87	16.703		
3,900.0	3,678.4	3,851.8	3,758.8	24.3	17.4	-148.78	-797.4	97.2	516.7	486.0	30.72	16.817		
4,000.0	3,770.9	3,950.2	3,854.4	25.0	17.9	-148.94	-820.8	100.1	534.4	502.8	31.58	16.924		
4,100.0	3,863.5	4,048.6	3,949.9	25.8	18.4	-149.09	-844.2	102.9	552.1	519.7	32.43	17.026		
4,200.0	3,956.0	4,147.0	4,045.4	26.5	18.9	-149.23	-867.6	105.8	569.9	536.6	33.28	17.122		
4,300.0	4,048.5	4,245.4	4,141.0	27.3	19.4	-149.36	-891.0	108.7	587.6	553.5	34.14	17.214		
4,400.0	4,141.0	4,343.8	4,236.5	28.0	19.9	-149.49	-914.4	111.6	605.4	570.4	34.99	17.301		
4,500.0	4,233.5	4,442.2	4,332.1	28.8	20.4	-149.61	-937.8	114.5	623.1	587.3	35.85	17.383		
4,600.0	4,326.0	4,540.6	4,427.6	29.5	20.9	-149.72	-961.2	117.4	640.9	604.2	36.70	17.462		
4,700.0	4,418.5	4,639.0	4,523.1	30.3	21.4	-149.82	-984.6	120.3	658.6	621.1	37.55	17.537		
4,800.0	4,511.0	4,737.4	4,618.7	31.1	21.9	-149.92	-1,008.0	123.2	676.4	638.0	38.41	17.609		
4,900.0	4,603.5	4,835.8	4,714.2	31.8	22.4	-150.02	-1,031.4	126.1	694.1	654.9	39.26	17.678		
5,000.0	4,696.0	4,934.2	4,809.7	32.6	22.9	-150.11	-1,054.8	129.0	711.9	671.8	40.12	17.743		

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

Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Dowdy 44-10
Project:	SEC.10-T2N-R65W	TVD Reference:	WELL @ 4874.0ft (Original Well Elev)
Reference Site:	Dowdy 8-4-10 Pad Sec.10-T2N-R65W	MD Reference:	WELL @ 4874.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Dowdy 44-10	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (7-20-12)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Dowdy 8-4-10 Pad Sec.10-T2N-R65W - Dowdy 8-6-10 - Wellbore #1 - Plan #1 (7-09-12)												Offset Well Error:	0.0 ft
Survey Program: 0-MWD													
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)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	4,788.6	5,032.6	4,905.3	33.3	23.4	-150.19	-1,078.2	131.9	729.6	688.7	40.98	17.806	
5,200.0	4,881.1	5,131.0	5,000.8	34.1	23.9	-150.28	-1,101.7	134.7	747.4	705.6	41.83	17.867	
5,233.6	4,912.1	5,161.1	5,030.0	34.3	24.1	-150.30	-1,108.8	135.6	753.4	711.3	42.10	17.897	
5,300.0	4,973.9	5,216.6	5,084.1	34.7	24.3	-150.49	-1,121.1	137.2	765.2	722.7	42.54	17.989	
5,400.0	5,067.8	5,300.0	5,165.8	35.2	24.6	-150.78	-1,137.7	139.2	782.1	739.1	43.07	18.161	
5,500.0	5,162.9	5,383.3	5,247.8	35.7	24.8	-151.07	-1,152.0	141.0	798.0	754.4	43.52	18.337	
5,600.0	5,259.1	5,466.4	5,330.1	36.1	25.0	-151.38	-1,163.8	142.4	812.7	768.8	43.90	18.514	
5,700.0	5,356.1	5,549.3	5,412.4	36.4	25.2	-151.69	-1,173.2	143.6	826.4	782.2	44.20	18.696	
5,800.0	5,453.9	5,632.1	5,494.9	36.8	25.3	-152.02	-1,180.3	144.5	839.0	794.6	44.43	18.883	
5,900.0	5,552.4	5,714.7	5,577.4	37.1	25.4	-152.35	-1,185.0	145.0	850.5	805.9	44.58	19.077	
6,000.0	5,651.4	5,800.0	5,662.6	37.3	25.5	-152.69	-1,187.4	145.3	860.9	816.3	44.66	19.279	
6,100.0	5,750.9	5,888.2	5,750.9	37.5	25.6	-153.04	-1,187.6	145.4	870.0	825.3	44.67	19.475	
6,200.0	5,850.6	5,988.0	5,850.6	37.6	25.7	-153.30	-1,187.6	145.4	876.2	831.5	44.68	19.612	
6,300.0	5,950.5	6,087.9	5,950.5	37.7	25.8	-153.43	-1,187.6	145.4	879.3	834.6	44.70	19.673	
6,349.5	6,000.0	6,137.4	6,000.0	37.8	25.8	38.76	-1,187.6	145.4	879.7	834.9	44.72	19.672	
6,400.0	6,050.5	6,187.9	6,050.5	37.8	25.9	38.76	-1,187.6	145.4	879.7	834.8	44.83	19.624	
6,500.0	6,150.5	6,287.9	6,150.5	37.9	26.0	38.76	-1,187.6	145.4	879.7	834.6	45.03	19.535	
6,600.0	6,250.5	6,387.9	6,250.5	37.9	26.1	38.76	-1,187.6	145.4	879.7	834.4	45.24	19.444	
6,700.0	6,350.5	6,487.9	6,350.5	38.0	26.2	38.76	-1,187.6	145.4	879.7	834.2	45.45	19.353	
6,800.0	6,450.5	6,587.9	6,450.5	38.1	26.3	38.76	-1,187.6	145.4	879.7	834.0	45.67	19.262	
6,900.0	6,550.5	6,687.9	6,550.5	38.1	26.3	38.76	-1,187.6	145.4	879.7	833.8	45.89	19.170	
7,000.0	6,650.5	6,787.9	6,650.5	38.2	26.4	38.76	-1,187.6	145.4	879.7	833.6	46.11	19.077	
7,100.0	6,750.5	6,887.9	6,750.5	38.3	26.5	38.76	-1,187.6	145.4	879.7	833.3	46.34	18.984	
7,200.0	6,850.5	6,987.9	6,850.5	38.3	26.6	38.76	-1,187.6	145.4	879.7	833.1	46.57	18.891	
7,300.0	6,950.5	7,087.9	6,950.5	38.4	26.7	38.76	-1,187.6	145.4	879.7	832.9	46.80	18.797	
7,400.0	7,050.5	7,187.9	7,050.5	38.5	26.8	38.76	-1,187.6	145.4	879.7	832.6	47.03	18.703	
7,500.0	7,150.5	7,287.9	7,150.5	38.5	26.9	38.76	-1,187.6	145.4	879.7	832.4	47.27	18.608	
7,600.0	7,250.5	7,387.9	7,250.5	38.6	27.0	38.76	-1,187.6	145.4	879.7	832.1	47.51	18.514	
7,700.0	7,350.5	7,487.9	7,350.5	38.7	27.2	38.76	-1,187.6	145.4	879.7	831.9	47.76	18.419	
7,800.0	7,450.5	7,587.9	7,450.5	38.7	27.3	38.76	-1,187.6	145.4	879.7	831.7	48.01	18.324	
7,900.0	7,550.5	7,687.9	7,550.5	38.8	27.4	38.76	-1,187.6	145.4	879.7	831.4	48.26	18.229	
8,000.0	7,650.5	7,787.9	7,650.5	38.9	27.5	38.76	-1,187.6	145.4	879.7	831.2	48.51	18.133	
8,077.5	7,728.0	7,865.4	7,728.0	39.0	27.6	38.76	-1,187.6	145.4	879.7	831.0	48.71	18.060	

Reference Depths are relative to WELL @ 4874.0ft (Original Well Elev)Coordinates are relative to: Dowdy 44-10
Offset Depths are relative to Offset DatumCoordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 °Grid Convergence at Surface is: 0.55°



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