

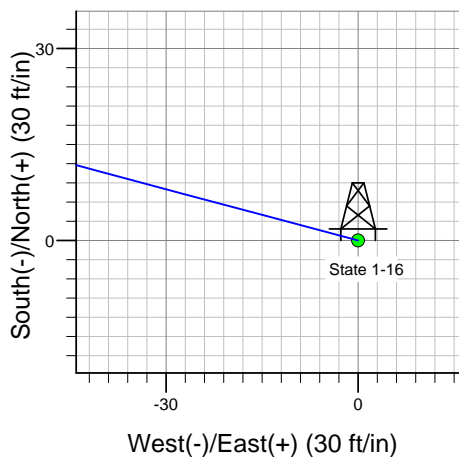
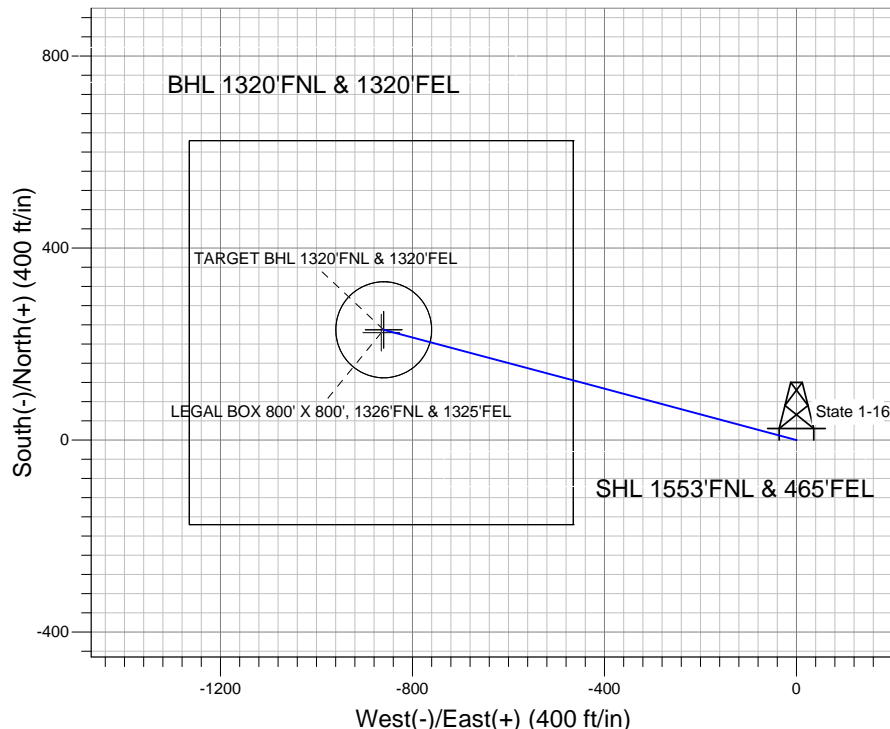
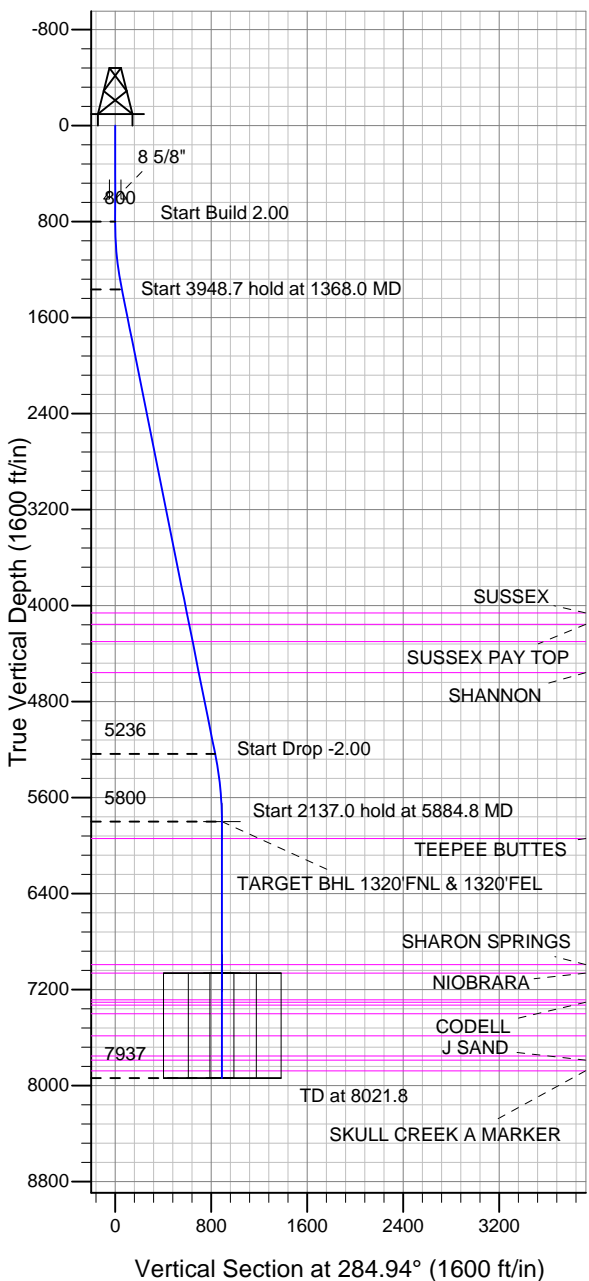
# ENSIGN

## Directional

### Well Name: State 1-16

Surface Location: State 1-16 Pad Sec.16-T3N-R68W  
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone  
 Ground Elevation: 5016.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1326641.69 3139538.78 40.228950 -105.000240  
 RKB - 13' WELL @ 5029.0ft (RKB - 13')

### EnCana Oil & Gas Weld County CO



State 1-16 Pad Sec.16-T3N-R68W  
 State 1-16  
 Plan #2 (12-19-12)



Azimuths to True North  
 Magnetic North: 8.77°

Magnetic Field  
 Strength: 52855.3snT  
 Dip Angle: 66.82°  
 Date: 12/19/2012  
 Model: IGRF2010

### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1320'FNL & 1320'FEL	5800.0	229.5	-860.0	40.229580	-105.003320	Point
LEGAL BOX 800' X 800', 1326'FNL & 1325'FEL	7062.0	223.5	-865.0	40.229564	-105.003338	Rectangle (Sides: L800.0 W800.0)
TARGET CIRCLE 1320'FNL & 1320'FEL	7062.0	229.5	-860.0	40.229580	-105.003320	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	800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0	
3	1368.0	11.36	284.94	1364.3	14.5	-54.2	2.00	284.94	56.1	
4	5316.8	11.36	284.94	5235.7	215.1	-805.8	0.00	0.00	834.0	
5	5884.8	0.00	0.00	5800.0	229.5	-860.0	2.00	180.00	890.1	TARGET BHL 1320'FNL & 1320'FEL
6	8021.8	0.00	0.00	7937.0	229.5	-860.0	0.00	0.00	890.1	



## **Directional**

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

**SEC.16-T3N-R68W**

**State 1-16 Pad Sec.16-T3N-R68W**

**State 1-16**

**Wellbore #1**

**Plan: Plan #2 (12-19-12)**

### **Standard Planning Report**

**19 December, 2012**

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	
800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,368.0	11.36	284.94	1,364.3	14.5	-54.2	2.00	2.00	0.00	284.94	
5,316.8	11.36	284.94	5,235.7	215.1	-805.8	0.00	0.00	0.00	0.00	
5,884.8	0.00	0.00	5,800.0	229.5	-860.0	2.00	-2.00	0.00	180.00	TARGET BHL 1320
8,021.8	0.00	0.00	7,937.0	229.5	-860.0	0.00	0.00	0.00	0.00	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State 1-16
<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>TVD Reference:</b>	WELL @ 5029.0ft (RKB - 13')
<b>Project:</b>	SEC.16-T3N-R68W	<b>MD Reference:</b>	WELL @ 5029.0ft (RKB - 13')
<b>Site:</b>	State 1-16 Pad Sec.16-T3N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	State 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (12-19-12)		

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	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
440.0	0.00	0.00	440.0	0.0	0.0	0.0	0.00	0.00	0.00
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	0.00
520.0	0.00	0.00	520.0	0.0	0.0	0.0	0.00	0.00	0.00
560.0	0.00	0.00	560.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
611.0	0.00	0.00	611.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
680.0	0.00	0.00	680.0	0.0	0.0	0.0	0.00	0.00	0.00
720.0	0.00	0.00	720.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.00	0.00	760.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
840.0	0.80	284.94	840.0	0.1	-0.3	0.3	2.00	2.00	0.00
880.0	1.60	284.94	880.0	0.3	-1.1	1.1	2.00	2.00	0.00
920.0	2.40	284.94	920.0	0.6	-2.4	2.5	2.00	2.00	0.00
960.0	3.20	284.94	959.9	1.2	-4.3	4.5	2.00	2.00	0.00
1,000.0	4.00	284.94	999.8	1.8	-6.7	7.0	2.00	2.00	0.00
1,040.0	4.80	284.94	1,039.7	2.6	-9.7	10.0	2.00	2.00	0.00
1,080.0	5.60	284.94	1,079.6	3.5	-13.2	13.7	2.00	2.00	0.00
1,120.0	6.40	284.94	1,119.3	4.6	-17.2	17.9	2.00	2.00	0.00
1,160.0	7.20	284.94	1,159.1	5.8	-21.8	22.6	2.00	2.00	0.00
1,200.0	8.00	284.94	1,198.7	7.2	-26.9	27.9	2.00	2.00	0.00
1,240.0	8.80	284.94	1,238.3	8.7	-32.6	33.7	2.00	2.00	0.00
1,280.0	9.60	284.94	1,277.8	10.3	-38.8	40.1	2.00	2.00	0.00
1,320.0	10.40	284.94	1,317.1	12.1	-45.5	47.1	2.00	2.00	0.00
1,360.0	11.20	284.94	1,356.4	14.1	-52.7	54.6	2.00	2.00	0.00
1,368.0	11.36	284.94	1,364.3	14.5	-54.2	56.1	2.00	2.00	0.00
1,400.0	11.36	284.94	1,395.7	16.1	-60.3	62.4	0.00	0.00	0.00
1,440.0	11.36	284.94	1,434.9	18.1	-67.9	70.3	0.00	0.00	0.00
1,480.0	11.36	284.94	1,474.1	20.2	-75.5	78.2	0.00	0.00	0.00
1,520.0	11.36	284.94	1,513.3	22.2	-83.2	86.1	0.00	0.00	0.00
1,560.0	11.36	284.94	1,552.5	24.2	-90.8	93.9	0.00	0.00	0.00
1,600.0	11.36	284.94	1,591.7	26.3	-98.4	101.8	0.00	0.00	0.00
1,640.0	11.36	284.94	1,631.0	28.3	-106.0	109.7	0.00	0.00	0.00
1,680.0	11.36	284.94	1,670.2	30.3	-113.6	117.6	0.00	0.00	0.00
1,720.0	11.36	284.94	1,709.4	32.4	-121.2	125.5	0.00	0.00	0.00
1,760.0	11.36	284.94	1,748.6	34.4	-128.8	133.3	0.00	0.00	0.00
1,800.0	11.36	284.94	1,787.8	36.4	-136.4	141.2	0.00	0.00	0.00
1,840.0	11.36	284.94	1,827.0	38.4	-144.1	149.1	0.00	0.00	0.00
1,880.0	11.36	284.94	1,866.3	40.5	-151.7	157.0	0.00	0.00	0.00
1,920.0	11.36	284.94	1,905.5	42.5	-159.3	164.9	0.00	0.00	0.00
1,960.0	11.36	284.94	1,944.7	44.5	-166.9	172.7	0.00	0.00	0.00
2,000.0	11.36	284.94	1,983.9	46.6	-174.5	180.6	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State 1-16
<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>TVD Reference:</b>	WELL @ 5029.0ft (RKB - 13')
<b>Project:</b>	SEC.16-T3N-R68W	<b>MD Reference:</b>	WELL @ 5029.0ft (RKB - 13')
<b>Site:</b>	State 1-16 Pad Sec.16-T3N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	State 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (12-19-12)		

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)
2,040.0	11.36	284.94	2,023.1	48.6	-182.1	188.5	0.00	0.00	0.00
2,080.0	11.36	284.94	2,062.3	50.6	-189.7	196.4	0.00	0.00	0.00
2,120.0	11.36	284.94	2,101.6	52.7	-197.4	204.3	0.00	0.00	0.00
2,160.0	11.36	284.94	2,140.8	54.7	-205.0	212.1	0.00	0.00	0.00
2,200.0	11.36	284.94	2,180.0	56.7	-212.6	220.0	0.00	0.00	0.00
2,240.0	11.36	284.94	2,219.2	58.8	-220.2	227.9	0.00	0.00	0.00
2,280.0	11.36	284.94	2,258.4	60.8	-227.8	235.8	0.00	0.00	0.00
2,320.0	11.36	284.94	2,297.6	62.8	-235.4	243.7	0.00	0.00	0.00
2,360.0	11.36	284.94	2,336.8	64.9	-243.0	251.5	0.00	0.00	0.00
2,400.0	11.36	284.94	2,376.1	66.9	-250.6	259.4	0.00	0.00	0.00
2,440.0	11.36	284.94	2,415.3	68.9	-258.3	267.3	0.00	0.00	0.00
2,480.0	11.36	284.94	2,454.5	71.0	-265.9	275.2	0.00	0.00	0.00
2,520.0	11.36	284.94	2,493.7	73.0	-273.5	283.1	0.00	0.00	0.00
2,560.0	11.36	284.94	2,532.9	75.0	-281.1	290.9	0.00	0.00	0.00
2,600.0	11.36	284.94	2,572.1	77.1	-288.7	298.8	0.00	0.00	0.00
2,640.0	11.36	284.94	2,611.4	79.1	-296.3	306.7	0.00	0.00	0.00
2,680.0	11.36	284.94	2,650.6	81.1	-303.9	314.6	0.00	0.00	0.00
2,720.0	11.36	284.94	2,689.8	83.2	-311.5	322.5	0.00	0.00	0.00
2,760.0	11.36	284.94	2,729.0	85.2	-319.2	330.3	0.00	0.00	0.00
2,800.0	11.36	284.94	2,768.2	87.2	-326.8	338.2	0.00	0.00	0.00
2,840.0	11.36	284.94	2,807.4	89.2	-334.4	346.1	0.00	0.00	0.00
2,880.0	11.36	284.94	2,846.7	91.3	-342.0	354.0	0.00	0.00	0.00
2,920.0	11.36	284.94	2,885.9	93.3	-349.6	361.8	0.00	0.00	0.00
2,960.0	11.36	284.94	2,925.1	95.3	-357.2	369.7	0.00	0.00	0.00
3,000.0	11.36	284.94	2,964.3	97.4	-364.8	377.6	0.00	0.00	0.00
3,040.0	11.36	284.94	3,003.5	99.4	-372.4	385.5	0.00	0.00	0.00
3,080.0	11.36	284.94	3,042.7	101.4	-380.1	393.4	0.00	0.00	0.00
3,120.0	11.36	284.94	3,082.0	103.5	-387.7	401.2	0.00	0.00	0.00
3,160.0	11.36	284.94	3,121.2	105.5	-395.3	409.1	0.00	0.00	0.00
3,200.0	11.36	284.94	3,160.4	107.5	-402.9	417.0	0.00	0.00	0.00
3,240.0	11.36	284.94	3,199.6	109.6	-410.5	424.9	0.00	0.00	0.00
3,280.0	11.36	284.94	3,238.8	111.6	-418.1	432.8	0.00	0.00	0.00
3,320.0	11.36	284.94	3,278.0	113.6	-425.7	440.6	0.00	0.00	0.00
3,360.0	11.36	284.94	3,317.3	115.7	-433.4	448.5	0.00	0.00	0.00
3,400.0	11.36	284.94	3,356.5	117.7	-441.0	456.4	0.00	0.00	0.00
3,440.0	11.36	284.94	3,395.7	119.7	-448.6	464.3	0.00	0.00	0.00
3,480.0	11.36	284.94	3,434.9	121.8	-456.2	472.2	0.00	0.00	0.00
3,520.0	11.36	284.94	3,474.1	123.8	-463.8	480.0	0.00	0.00	0.00
3,560.0	11.36	284.94	3,513.3	125.8	-471.4	487.9	0.00	0.00	0.00
3,600.0	11.36	284.94	3,552.6	127.9	-479.0	495.8	0.00	0.00	0.00
3,640.0	11.36	284.94	3,591.8	129.9	-486.6	503.7	0.00	0.00	0.00
3,680.0	11.36	284.94	3,631.0	131.9	-494.3	511.6	0.00	0.00	0.00
3,720.0	11.36	284.94	3,670.2	133.9	-501.9	519.4	0.00	0.00	0.00
3,760.0	11.36	284.94	3,709.4	136.0	-509.5	527.3	0.00	0.00	0.00
3,800.0	11.36	284.94	3,748.6	138.0	-517.1	535.2	0.00	0.00	0.00
3,840.0	11.36	284.94	3,787.8	140.0	-524.7	543.1	0.00	0.00	0.00
3,880.0	11.36	284.94	3,827.1	142.1	-532.3	551.0	0.00	0.00	0.00
3,920.0	11.36	284.94	3,866.3	144.1	-539.9	558.8	0.00	0.00	0.00
3,960.0	11.36	284.94	3,905.5	146.1	-547.5	566.7	0.00	0.00	0.00
4,000.0	11.36	284.94	3,944.7	148.2	-555.2	574.6	0.00	0.00	0.00
4,040.0	11.36	284.94	3,983.9	150.2	-562.8	582.5	0.00	0.00	0.00
4,080.0	11.36	284.94	4,023.1	152.2	-570.4	590.4	0.00	0.00	0.00
4,117.6	11.36	284.94	4,060.0	154.1	-577.5	597.8	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State 1-16
<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>TVD Reference:</b>	WELL @ 5029.0ft (RKB - 13')
<b>Project:</b>	SEC.16-T3N-R68W	<b>MD Reference:</b>	WELL @ 5029.0ft (RKB - 13')
<b>Site:</b>	State 1-16 Pad Sec.16-T3N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	State 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (12-19-12)		

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)
<b>SUSSEX</b>									
4,120.0	11.36	284.94	4,062.4	154.3	-578.0	598.2	0.00	0.00	0.00
4,160.0	11.36	284.94	4,101.6	156.3	-585.6	606.1	0.00	0.00	0.00
4,200.0	11.36	284.94	4,140.8	158.3	-593.2	614.0	0.00	0.00	0.00
4,214.5	11.36	284.94	4,155.0	159.1	-596.0	616.8	0.00	0.00	0.00
<b>SUSSEX PAY TOP</b>									
4,240.0	11.36	284.94	4,180.0	160.4	-600.8	621.9	0.00	0.00	0.00
4,280.0	11.36	284.94	4,219.2	162.4	-608.5	629.8	0.00	0.00	0.00
4,320.0	11.36	284.94	4,258.4	164.4	-616.1	637.6	0.00	0.00	0.00
4,360.0	11.36	284.94	4,297.7	166.5	-623.7	645.5	0.00	0.00	0.00
4,361.4	11.36	284.94	4,299.0	166.5	-623.9	645.8	0.00	0.00	0.00
<b>SUSSEX MARKER</b>									
4,400.0	11.36	284.94	4,336.9	168.5	-631.3	653.4	0.00	0.00	0.00
4,440.0	11.36	284.94	4,376.1	170.5	-638.9	661.3	0.00	0.00	0.00
4,480.0	11.36	284.94	4,415.3	172.6	-646.5	669.1	0.00	0.00	0.00
4,520.0	11.36	284.94	4,454.5	174.6	-654.1	677.0	0.00	0.00	0.00
4,560.0	11.36	284.94	4,493.7	176.6	-661.7	684.9	0.00	0.00	0.00
4,600.0	11.36	284.94	4,533.0	178.6	-669.4	692.8	0.00	0.00	0.00
4,625.5	11.36	284.94	4,558.0	179.9	-674.2	697.8	0.00	0.00	0.00
<b>SHANNON</b>									
4,640.0	11.36	284.94	4,572.2	180.7	-677.0	700.7	0.00	0.00	0.00
4,680.0	11.36	284.94	4,611.4	182.7	-684.6	708.5	0.00	0.00	0.00
4,720.0	11.36	284.94	4,650.6	184.7	-692.2	716.4	0.00	0.00	0.00
4,760.0	11.36	284.94	4,689.8	186.8	-699.8	724.3	0.00	0.00	0.00
4,800.0	11.36	284.94	4,729.0	188.8	-707.4	732.2	0.00	0.00	0.00
4,840.0	11.36	284.94	4,768.3	190.8	-715.0	740.1	0.00	0.00	0.00
4,880.0	11.36	284.94	4,807.5	192.9	-722.6	747.9	0.00	0.00	0.00
4,920.0	11.36	284.94	4,846.7	194.9	-730.3	755.8	0.00	0.00	0.00
4,960.0	11.36	284.94	4,885.9	196.9	-737.9	763.7	0.00	0.00	0.00
5,000.0	11.36	284.94	4,925.1	199.0	-745.5	771.6	0.00	0.00	0.00
5,040.0	11.36	284.94	4,964.3	201.0	-753.1	779.5	0.00	0.00	0.00
5,080.0	11.36	284.94	5,003.6	203.0	-760.7	787.3	0.00	0.00	0.00
5,120.0	11.36	284.94	5,042.8	205.1	-768.3	795.2	0.00	0.00	0.00
5,160.0	11.36	284.94	5,082.0	207.1	-775.9	803.1	0.00	0.00	0.00
5,200.0	11.36	284.94	5,121.2	209.1	-783.6	811.0	0.00	0.00	0.00
5,240.0	11.36	284.94	5,160.4	211.2	-791.2	818.9	0.00	0.00	0.00
5,280.0	11.36	284.94	5,199.6	213.2	-798.8	826.7	0.00	0.00	0.00
5,316.8	11.36	284.94	5,235.7	215.1	-805.8	834.0	0.00	0.00	0.00
5,320.0	11.30	284.94	5,238.9	215.2	-806.4	834.6	2.00	-2.00	0.00
5,360.0	10.50	284.94	5,278.1	217.2	-813.7	842.2	2.00	-2.00	0.00
5,400.0	9.70	284.94	5,317.5	219.0	-820.5	849.2	2.00	-2.00	0.00
5,440.0	8.90	284.94	5,357.0	220.6	-826.7	855.6	2.00	-2.00	0.00
5,480.0	8.10	284.94	5,396.5	222.2	-832.4	861.6	2.00	-2.00	0.00
5,520.0	7.30	284.94	5,436.2	223.6	-837.6	866.9	2.00	-2.00	0.00
5,560.0	6.50	284.94	5,475.9	224.8	-842.2	871.7	2.00	-2.00	0.00
5,600.0	5.70	284.94	5,515.7	225.9	-846.3	876.0	2.00	-2.00	0.00
5,640.0	4.90	284.94	5,555.5	226.8	-849.9	879.7	2.00	-2.00	0.00
5,680.0	4.10	284.94	5,595.4	227.6	-852.9	882.8	2.00	-2.00	0.00
5,720.0	3.30	284.94	5,635.3	228.3	-855.4	885.4	2.00	-2.00	0.00
5,760.0	2.50	284.94	5,675.2	228.8	-857.4	887.4	2.00	-2.00	0.00
5,800.0	1.70	284.94	5,715.2	229.2	-858.8	888.9	2.00	-2.00	0.00
5,840.0	0.90	284.94	5,755.2	229.4	-859.7	889.8	2.00	-2.00	0.00
5,880.0	0.10	284.94	5,795.2	229.5	-860.0	890.1	2.00	-2.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State 1-16
<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>TVD Reference:</b>	WELL @ 5029.0ft (RKB - 13')
<b>Project:</b>	SEC.16-T3N-R68W	<b>MD Reference:</b>	WELL @ 5029.0ft (RKB - 13')
<b>Site:</b>	State 1-16 Pad Sec.16-T3N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	State 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (12-19-12)		

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)
5,884.8	0.00	0.00	5,800.0	229.5	-860.0	890.1	2.00	-2.00	0.00
5,920.0	0.00	0.00	5,835.2	229.5	-860.0	890.1	0.00	0.00	0.00
5,960.0	0.00	0.00	5,875.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,000.0	0.00	0.00	5,915.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,024.8	0.00	0.00	5,940.0	229.5	-860.0	890.1	0.00	0.00	0.00
TEEPEE BUTTES									
6,040.0	0.00	0.00	5,955.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,080.0	0.00	0.00	5,995.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,120.0	0.00	0.00	6,035.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,160.0	0.00	0.00	6,075.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,200.0	0.00	0.00	6,115.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,240.0	0.00	0.00	6,155.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,280.0	0.00	0.00	6,195.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,320.0	0.00	0.00	6,235.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,360.0	0.00	0.00	6,275.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,400.0	0.00	0.00	6,315.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,440.0	0.00	0.00	6,355.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,480.0	0.00	0.00	6,395.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,520.0	0.00	0.00	6,435.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,560.0	0.00	0.00	6,475.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,600.0	0.00	0.00	6,515.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,640.0	0.00	0.00	6,555.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,680.0	0.00	0.00	6,595.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,720.0	0.00	0.00	6,635.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,760.0	0.00	0.00	6,675.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,800.0	0.00	0.00	6,715.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,840.0	0.00	0.00	6,755.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,880.0	0.00	0.00	6,795.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,920.0	0.00	0.00	6,835.2	229.5	-860.0	890.1	0.00	0.00	0.00
6,960.0	0.00	0.00	6,875.2	229.5	-860.0	890.1	0.00	0.00	0.00
7,000.0	0.00	0.00	6,915.2	229.5	-860.0	890.1	0.00	0.00	0.00
7,040.0	0.00	0.00	6,955.2	229.5	-860.0	890.1	0.00	0.00	0.00
7,076.8	0.00	0.00	6,992.0	229.5	-860.0	890.1	0.00	0.00	0.00
SHARON SPRINGS									
7,080.0	0.00	0.00	6,995.2	229.5	-860.0	890.1	0.00	0.00	0.00
7,120.0	0.00	0.00	7,035.2	229.5	-860.0	890.1	0.00	0.00	0.00
7,146.8	0.00	0.00	7,062.0	229.5	-860.0	890.1	0.00	0.00	0.00
NIOBRARA									
7,160.0	0.00	0.00	7,075.2	229.5	-860.0	890.1	0.00	0.00	0.00
7,200.0	0.00	0.00	7,115.2	229.5	-860.0	890.1	0.00	0.00	0.00
7,240.0	0.00	0.00	7,155.2	229.5	-860.0	890.1	0.00	0.00	0.00
7,280.0	0.00	0.00	7,195.2	229.5	-860.0	890.1	0.00	0.00	0.00
7,320.0	0.00	0.00	7,235.2	229.5	-860.0	890.1	0.00	0.00	0.00
7,360.0	0.00	0.00	7,275.2	229.5	-860.0	890.1	0.00	0.00	0.00
7,369.8	0.00	0.00	7,285.0	229.5	-860.0	890.1	0.00	0.00	0.00
FT HAYES									
7,390.8	0.00	0.00	7,306.0	229.5	-860.0	890.1	0.00	0.00	0.00
CODELL									
7,400.0	0.00	0.00	7,315.2	229.5	-860.0	890.1	0.00	0.00	0.00
7,414.8	0.00	0.00	7,330.0	229.5	-860.0	890.1	0.00	0.00	0.00
FAIRPORT									
7,440.0	0.00	0.00	7,355.2	229.5	-860.0	890.1	0.00	0.00	0.00
7,480.0	0.00	0.00	7,395.2	229.5	-860.0	890.1	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State 1-16
<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>TVD Reference:</b>	WELL @ 5029.0ft (RKB - 13')
<b>Project:</b>	SEC.16-T3N-R68W	<b>MD Reference:</b>	WELL @ 5029.0ft (RKB - 13')
<b>Site:</b>	State 1-16 Pad Sec.16-T3N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	State 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (12-19-12)		

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)	
7,485.8	0.00	0.00	7,401.0	229.5	-860.0	890.1	0.00	0.00	0.00	
<b>GREENHORN</b>										
7,520.0	0.00	0.00	7,435.2	229.5	-860.0	890.1	0.00	0.00	0.00	
7,560.0	0.00	0.00	7,475.2	229.5	-860.0	890.1	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,515.2	229.5	-860.0	890.1	0.00	0.00	0.00	
7,640.0	0.00	0.00	7,555.2	229.5	-860.0	890.1	0.00	0.00	0.00	
7,669.8	0.00	0.00	7,585.0	229.5	-860.0	890.1	0.00	0.00	0.00	
<b>GRANEROS</b>										
7,680.0	0.00	0.00	7,595.2	229.5	-860.0	890.1	0.00	0.00	0.00	
7,720.0	0.00	0.00	7,635.2	229.5	-860.0	890.1	0.00	0.00	0.00	
7,760.0	0.00	0.00	7,675.2	229.5	-860.0	890.1	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,715.2	229.5	-860.0	890.1	0.00	0.00	0.00	
7,837.8	0.00	0.00	7,753.0	229.5	-860.0	890.1	0.00	0.00	0.00	
<b>MOWRY</b>										
7,840.0	0.00	0.00	7,755.2	229.5	-860.0	890.1	0.00	0.00	0.00	
7,871.8	0.00	0.00	7,787.0	229.5	-860.0	890.1	0.00	0.00	0.00	
<b>J SAND</b>										
7,880.0	0.00	0.00	7,795.2	229.5	-860.0	890.1	0.00	0.00	0.00	
7,920.0	0.00	0.00	7,835.2	229.5	-860.0	890.1	0.00	0.00	0.00	
7,960.0	0.00	0.00	7,875.2	229.5	-860.0	890.1	0.00	0.00	0.00	
7,960.8	0.00	0.00	7,876.0	229.5	-860.0	890.1	0.00	0.00	0.00	
<b>SKULL CREEK A MARKER</b>										
8,000.0	0.00	0.00	7,915.2	229.5	-860.0	890.1	0.00	0.00	0.00	
8,021.8	0.00	0.00	7,937.0	229.5	-860.0	890.1	0.00	0.00	0.00	

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (")	Hole Diameter (")
611.0	611.0	8 5/8"		8-5/8	12-1/4



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State 1-16
<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>TVD Reference:</b>	WELL @ 5029.0ft (RKB - 13')
<b>Project:</b>	SEC.16-T3N-R68W	<b>MD Reference:</b>	WELL @ 5029.0ft (RKB - 13')
<b>Site:</b>	State 1-16 Pad Sec.16-T3N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	State 1-16	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (12-19-12)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,117.6	4,060.0	SUSSEX		0.00		
4,214.5	4,155.0	SUSSEX PAY TOP		0.00		
4,361.4	4,299.0	SUSSEX MARKER		0.00		
4,625.5	4,558.0	SHANNON		0.00		
6,024.8	5,940.0	TEEPEE BUTTES		0.00		
7,076.8	6,992.0	SHARON SPRINGS		0.00		
7,146.8	7,062.0	NIOBRARA		0.00		
7,369.8	7,285.0	FT HAYES		0.00		
7,390.8	7,306.0	CODELL		0.00		
7,414.8	7,330.0	FAIRPORT		0.00		
7,485.8	7,401.0	GREENHORN		0.00		
7,669.8	7,585.0	GRANEROS		0.00		
7,837.8	7,753.0	MOWRY		0.00		
7,871.8	7,787.0	J SAND		0.00		
7,960.8	7,876.0	SKULL CREEK A MARKER		0.00		