

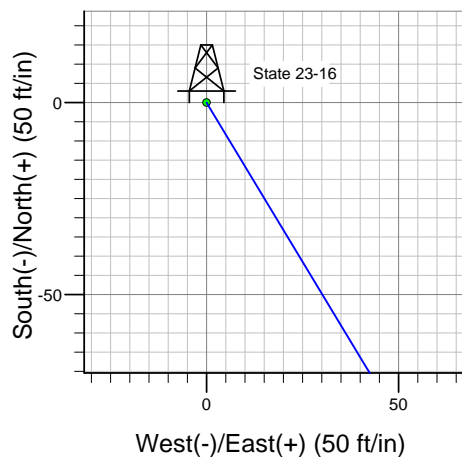
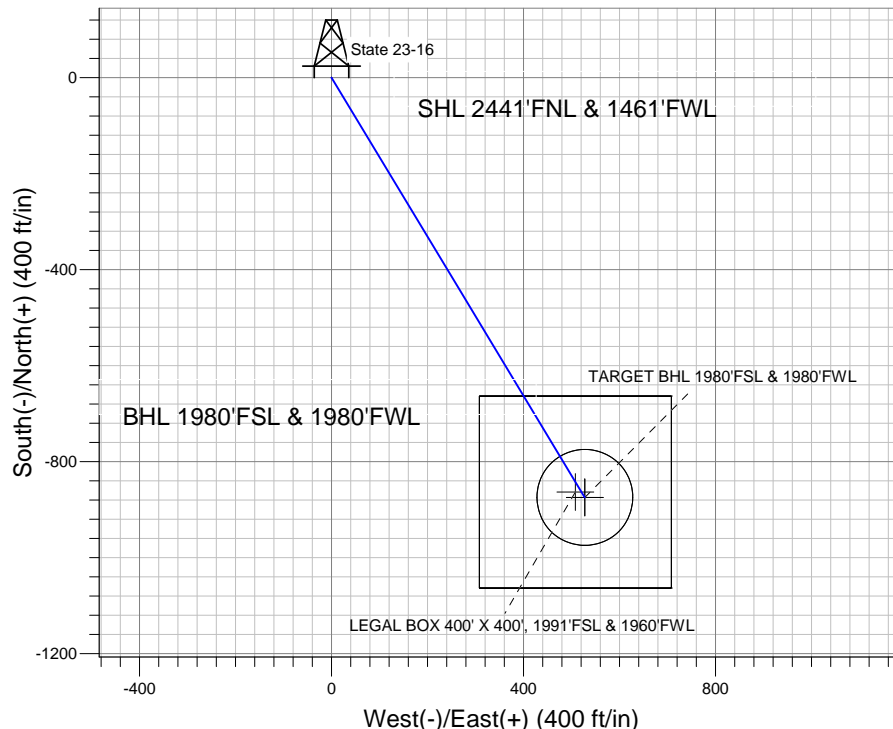
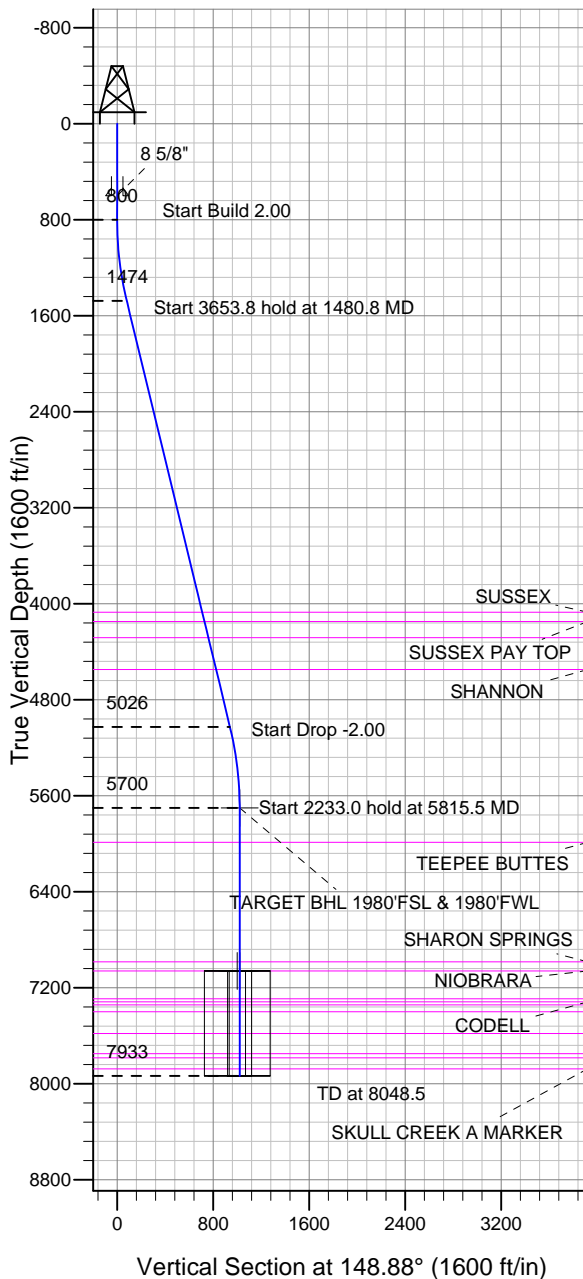
ENSIGN

Directional

Well Name: State 23-16

Surface Location: State 23-16 Pad Sec.16-T3N-R68W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 5073.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1325697.95 3136226.87 40.226410 -105.012120
 RKB - 13' WELL @ 5086.0ft (RKB - 13')

EnCana Oil & Gas Weld County CO



State 23-16 Pad Sec.16-T3N-R68W
 State 23-16
 Plan #1 (11-27-12)



Azimuths to True North
 Magnetic North: 8.79°

Magnetic Field
 Strength: 52858.5nT
 Dip Angle: 66.82°
 Date: 11/27/2012
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1980'FSL & 1980'FWL	5700.0	-874.3	527.8	40.224010	-105.010230	Point
LEGAL BOX 400' X 400', 1991'FSL & 1960'FWL	7058.0	-863.3	507.8	40.224040	-105.010302	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 1980'FSL & 1980'FWL	7058.0	-874.3	527.8	40.224010	-105.010230	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	1480.8	13.62	148.88	1474.5	-68.9	41.6	2.00	148.88	80.5	
4	5134.6	13.62	148.88	5025.5	-805.4	486.2	0.00	0.00	940.7	
5	5815.5	0.00	0.00	5700.0	-874.3	527.8	2.00	180.00	1021.3	TARGET BHL 1980'FSL & 1980'FWL
6	8048.5	0.00	0.00	7933.0	-874.3	527.8	0.00	0.00	1021.3	



Directional

EnCana Oil & Gas Weld County CO

SEC.16-T3N-R68W

State 23-16 Pad Sec.16-T3N-R68W

State 23-16

Wellbore #1

Plan: Plan #1 (11-27-12)

Standard Planning Report

27 November, 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	
1,480.8	13.62	148.88	1,474.5	-68.9	41.6	2.00	2.00	0.00	148.88	
5,134.6	13.62	148.88	5,025.5	-805.4	486.2	0.00	0.00	0.00	0.00	
5,815.5	0.00	0.00	5,700.0	-874.3	527.8	2.00	-2.00	0.00	180.00	TARGET BHL 1980
8,048.5	0.00	0.00	7,933.0	-874.3	527.8	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well State 23-16
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 5086.0ft (RKB - 13')
Project:	SEC.16-T3N-R68W	MD Reference:	WELL @ 5086.0ft (RKB - 13')
Site:	State 23-16 Pad Sec.16-T3N-R68W	North Reference:	True
Well:	State 23-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (11-27-12)		

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
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	148.88	840.0	-0.2	0.1	0.3	2.00	2.00	0.00
880.0	1.60	148.88	880.0	-1.0	0.6	1.1	2.00	2.00	0.00
920.0	2.40	148.88	920.0	-2.2	1.3	2.5	2.00	2.00	0.00
960.0	3.20	148.88	959.9	-3.8	2.3	4.5	2.00	2.00	0.00
1,000.0	4.00	148.88	999.8	-6.0	3.6	7.0	2.00	2.00	0.00
1,040.0	4.80	148.88	1,039.7	-8.6	5.2	10.0	2.00	2.00	0.00
1,080.0	5.60	148.88	1,079.6	-11.7	7.1	13.7	2.00	2.00	0.00
1,120.0	6.40	148.88	1,119.3	-15.3	9.2	17.9	2.00	2.00	0.00
1,160.0	7.20	148.88	1,159.1	-19.3	11.7	22.6	2.00	2.00	0.00
1,200.0	8.00	148.88	1,198.7	-23.9	14.4	27.9	2.00	2.00	0.00
1,240.0	8.80	148.88	1,238.3	-28.9	17.4	33.7	2.00	2.00	0.00
1,280.0	9.60	148.88	1,277.8	-34.3	20.7	40.1	2.00	2.00	0.00
1,320.0	10.40	148.88	1,317.1	-40.3	24.3	47.1	2.00	2.00	0.00
1,360.0	11.20	148.88	1,356.4	-46.7	28.2	54.6	2.00	2.00	0.00
1,400.0	12.00	148.88	1,395.6	-53.6	32.4	62.6	2.00	2.00	0.00
1,440.0	12.80	148.88	1,434.7	-60.9	36.8	71.2	2.00	2.00	0.00
1,480.0	13.60	148.88	1,473.6	-68.8	41.5	80.3	2.00	2.00	0.00
1,480.8	13.62	148.88	1,474.5	-68.9	41.6	80.5	2.00	2.00	0.00
1,520.0	13.62	148.88	1,512.5	-76.8	46.4	89.7	0.00	0.00	0.00
1,560.0	13.62	148.88	1,551.4	-84.9	51.2	99.2	0.00	0.00	0.00
1,600.0	13.62	148.88	1,590.3	-93.0	56.1	108.6	0.00	0.00	0.00
1,640.0	13.62	148.88	1,629.1	-101.0	61.0	118.0	0.00	0.00	0.00
1,680.0	13.62	148.88	1,668.0	-109.1	65.8	127.4	0.00	0.00	0.00
1,720.0	13.62	148.88	1,706.9	-117.1	70.7	136.8	0.00	0.00	0.00
1,760.0	13.62	148.88	1,745.8	-125.2	75.6	146.2	0.00	0.00	0.00
1,800.0	13.62	148.88	1,784.6	-133.3	80.4	155.7	0.00	0.00	0.00
1,840.0	13.62	148.88	1,823.5	-141.3	85.3	165.1	0.00	0.00	0.00
1,880.0	13.62	148.88	1,862.4	-149.4	90.2	174.5	0.00	0.00	0.00
1,920.0	13.62	148.88	1,901.3	-157.5	95.0	183.9	0.00	0.00	0.00
1,960.0	13.62	148.88	1,940.1	-165.5	99.9	193.3	0.00	0.00	0.00
2,000.0	13.62	148.88	1,979.0	-173.6	104.8	202.7	0.00	0.00	0.00
2,040.0	13.62	148.88	2,017.9	-181.6	109.6	212.2	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well State 23-16
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 5086.0ft (RKB - 13')
Project:	SEC.16-T3N-R68W	MD Reference:	WELL @ 5086.0ft (RKB - 13')
Site:	State 23-16 Pad Sec.16-T3N-R68W	North Reference:	True
Well:	State 23-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (11-27-12)		

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)
2,080.0	13.62	148.88	2,056.8	-189.7	114.5	221.6	0.00	0.00	0.00
2,120.0	13.62	148.88	2,095.6	-197.8	119.4	231.0	0.00	0.00	0.00
2,160.0	13.62	148.88	2,134.5	-205.8	124.2	240.4	0.00	0.00	0.00
2,200.0	13.62	148.88	2,173.4	-213.9	129.1	249.8	0.00	0.00	0.00
2,240.0	13.62	148.88	2,212.3	-221.9	134.0	259.3	0.00	0.00	0.00
2,280.0	13.62	148.88	2,251.1	-230.0	138.8	268.7	0.00	0.00	0.00
2,320.0	13.62	148.88	2,290.0	-238.1	143.7	278.1	0.00	0.00	0.00
2,360.0	13.62	148.88	2,328.9	-246.1	148.6	287.5	0.00	0.00	0.00
2,400.0	13.62	148.88	2,367.8	-254.2	153.4	296.9	0.00	0.00	0.00
2,440.0	13.62	148.88	2,406.6	-262.3	158.3	306.3	0.00	0.00	0.00
2,480.0	13.62	148.88	2,445.5	-270.3	163.2	315.8	0.00	0.00	0.00
2,520.0	13.62	148.88	2,484.4	-278.4	168.0	325.2	0.00	0.00	0.00
2,560.0	13.62	148.88	2,523.3	-286.4	172.9	334.6	0.00	0.00	0.00
2,600.0	13.62	148.88	2,562.2	-294.5	177.8	344.0	0.00	0.00	0.00
2,640.0	13.62	148.88	2,601.0	-302.6	182.6	353.4	0.00	0.00	0.00
2,680.0	13.62	148.88	2,639.9	-310.6	187.5	362.8	0.00	0.00	0.00
2,720.0	13.62	148.88	2,678.8	-318.7	192.4	372.3	0.00	0.00	0.00
2,760.0	13.62	148.88	2,717.7	-326.8	197.2	381.7	0.00	0.00	0.00
2,800.0	13.62	148.88	2,756.5	-334.8	202.1	391.1	0.00	0.00	0.00
2,840.0	13.62	148.88	2,795.4	-342.9	207.0	400.5	0.00	0.00	0.00
2,880.0	13.62	148.88	2,834.3	-350.9	211.8	409.9	0.00	0.00	0.00
2,920.0	13.62	148.88	2,873.2	-359.0	216.7	419.3	0.00	0.00	0.00
2,960.0	13.62	148.88	2,912.0	-367.1	221.6	428.8	0.00	0.00	0.00
3,000.0	13.62	148.88	2,950.9	-375.1	226.4	438.2	0.00	0.00	0.00
3,040.0	13.62	148.88	2,989.8	-383.2	231.3	447.6	0.00	0.00	0.00
3,080.0	13.62	148.88	3,028.7	-391.3	236.2	457.0	0.00	0.00	0.00
3,120.0	13.62	148.88	3,067.5	-399.3	241.0	466.4	0.00	0.00	0.00
3,160.0	13.62	148.88	3,106.4	-407.4	245.9	475.8	0.00	0.00	0.00
3,200.0	13.62	148.88	3,145.3	-415.4	250.8	485.3	0.00	0.00	0.00
3,240.0	13.62	148.88	3,184.2	-423.5	255.6	494.7	0.00	0.00	0.00
3,280.0	13.62	148.88	3,223.0	-431.6	260.5	504.1	0.00	0.00	0.00
3,320.0	13.62	148.88	3,261.9	-439.6	265.4	513.5	0.00	0.00	0.00
3,360.0	13.62	148.88	3,300.8	-447.7	270.2	522.9	0.00	0.00	0.00
3,400.0	13.62	148.88	3,339.7	-455.7	275.1	532.3	0.00	0.00	0.00
3,440.0	13.62	148.88	3,378.5	-463.8	280.0	541.8	0.00	0.00	0.00
3,480.0	13.62	148.88	3,417.4	-471.9	284.8	551.2	0.00	0.00	0.00
3,520.0	13.62	148.88	3,456.3	-479.9	289.7	560.6	0.00	0.00	0.00
3,560.0	13.62	148.88	3,495.2	-488.0	294.6	570.0	0.00	0.00	0.00
3,600.0	13.62	148.88	3,534.0	-496.1	299.4	579.4	0.00	0.00	0.00
3,640.0	13.62	148.88	3,572.9	-504.1	304.3	588.9	0.00	0.00	0.00
3,680.0	13.62	148.88	3,611.8	-512.2	309.2	598.3	0.00	0.00	0.00
3,720.0	13.62	148.88	3,650.7	-520.2	314.0	607.7	0.00	0.00	0.00
3,760.0	13.62	148.88	3,689.5	-528.3	318.9	617.1	0.00	0.00	0.00
3,800.0	13.62	148.88	3,728.4	-536.4	323.8	626.5	0.00	0.00	0.00
3,840.0	13.62	148.88	3,767.3	-544.4	328.6	635.9	0.00	0.00	0.00
3,880.0	13.62	148.88	3,806.2	-552.5	333.5	645.4	0.00	0.00	0.00
3,920.0	13.62	148.88	3,845.0	-560.6	338.4	654.8	0.00	0.00	0.00
3,960.0	13.62	148.88	3,883.9	-568.6	343.2	664.2	0.00	0.00	0.00
4,000.0	13.62	148.88	3,922.8	-576.7	348.1	673.6	0.00	0.00	0.00
4,040.0	13.62	148.88	3,961.7	-584.7	353.0	683.0	0.00	0.00	0.00
4,080.0	13.62	148.88	4,000.6	-592.8	357.8	692.4	0.00	0.00	0.00
4,120.0	13.62	148.88	4,039.4	-600.9	362.7	701.9	0.00	0.00	0.00
4,150.4	13.62	148.88	4,069.0	-607.0	366.4	709.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well State 23-16
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 5086.0ft (RKB - 13')
Project:	SEC.16-T3N-R68W	MD Reference:	WELL @ 5086.0ft (RKB - 13')
Site:	State 23-16 Pad Sec.16-T3N-R68W	North Reference:	True
Well:	State 23-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (11-27-12)		

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)
SUSSEX									
4,160.0	13.62	148.88	4,078.3	-608.9	367.6	711.3	0.00	0.00	0.00
4,200.0	13.62	148.88	4,117.2	-617.0	372.4	720.7	0.00	0.00	0.00
4,229.7	13.62	148.88	4,146.0	-623.0	376.1	727.7	0.00	0.00	0.00
SUSSEX PAY TOP									
4,240.0	13.62	148.88	4,156.1	-625.1	377.3	730.1	0.00	0.00	0.00
4,280.0	13.62	148.88	4,194.9	-633.1	382.2	739.5	0.00	0.00	0.00
4,320.0	13.62	148.88	4,233.8	-641.2	387.0	748.9	0.00	0.00	0.00
4,360.0	13.62	148.88	4,272.7	-649.2	391.9	758.4	0.00	0.00	0.00
4,368.6	13.62	148.88	4,281.0	-651.0	393.0	760.4	0.00	0.00	0.00
SUSSEX MARKER									
4,400.0	13.62	148.88	4,311.6	-657.3	396.8	767.8	0.00	0.00	0.00
4,440.0	13.62	148.88	4,350.4	-665.4	401.6	777.2	0.00	0.00	0.00
4,480.0	13.62	148.88	4,389.3	-673.4	406.5	786.6	0.00	0.00	0.00
4,520.0	13.62	148.88	4,428.2	-681.5	411.4	796.0	0.00	0.00	0.00
4,560.0	13.62	148.88	4,467.1	-689.6	416.2	805.4	0.00	0.00	0.00
4,600.0	13.62	148.88	4,505.9	-697.6	421.1	814.9	0.00	0.00	0.00
4,640.0	13.62	148.88	4,544.8	-705.7	426.0	824.3	0.00	0.00	0.00
4,641.2	13.62	148.88	4,546.0	-705.9	426.1	824.6	0.00	0.00	0.00
SHANNON									
4,680.0	13.62	148.88	4,583.7	-713.7	430.8	833.7	0.00	0.00	0.00
4,720.0	13.62	148.88	4,622.6	-721.8	435.7	843.1	0.00	0.00	0.00
4,760.0	13.62	148.88	4,661.4	-729.9	440.6	852.5	0.00	0.00	0.00
4,800.0	13.62	148.88	4,700.3	-737.9	445.4	861.9	0.00	0.00	0.00
4,840.0	13.62	148.88	4,739.2	-746.0	450.3	871.4	0.00	0.00	0.00
4,880.0	13.62	148.88	4,778.1	-754.0	455.2	880.8	0.00	0.00	0.00
4,920.0	13.62	148.88	4,816.9	-762.1	460.0	890.2	0.00	0.00	0.00
4,960.0	13.62	148.88	4,855.8	-770.2	464.9	899.6	0.00	0.00	0.00
5,000.0	13.62	148.88	4,894.7	-778.2	469.8	909.0	0.00	0.00	0.00
5,040.0	13.62	148.88	4,933.6	-786.3	474.6	918.4	0.00	0.00	0.00
5,080.0	13.62	148.88	4,972.4	-794.4	479.5	927.9	0.00	0.00	0.00
5,120.0	13.62	148.88	5,011.3	-802.4	484.4	937.3	0.00	0.00	0.00
5,134.6	13.62	148.88	5,025.5	-805.4	486.2	940.7	0.00	0.00	0.00
5,160.0	13.11	148.88	5,050.2	-810.4	489.2	946.6	2.00	-2.00	0.00
5,200.0	12.31	148.88	5,089.2	-817.9	493.7	955.4	2.00	-2.00	0.00
5,240.0	11.51	148.88	5,128.4	-825.0	498.0	963.6	2.00	-2.00	0.00
5,280.0	10.71	148.88	5,167.6	-831.6	502.0	971.4	2.00	-2.00	0.00
5,320.0	9.91	148.88	5,207.0	-837.7	505.7	978.5	2.00	-2.00	0.00
5,360.0	9.11	148.88	5,246.4	-843.4	509.1	985.1	2.00	-2.00	0.00
5,400.0	8.31	148.88	5,286.0	-848.6	512.2	991.2	2.00	-2.00	0.00
5,440.0	7.51	148.88	5,325.6	-853.3	515.1	996.7	2.00	-2.00	0.00
5,480.0	6.71	148.88	5,365.3	-857.5	517.6	1,001.6	2.00	-2.00	0.00
5,520.0	5.91	148.88	5,405.0	-861.3	519.9	1,006.0	2.00	-2.00	0.00
5,560.0	5.11	148.88	5,444.9	-864.6	521.9	1,009.9	2.00	-2.00	0.00
5,600.0	4.31	148.88	5,484.7	-867.4	523.6	1,013.2	2.00	-2.00	0.00
5,640.0	3.51	148.88	5,524.6	-869.7	525.0	1,015.9	2.00	-2.00	0.00
5,680.0	2.71	148.88	5,564.6	-871.6	526.1	1,018.1	2.00	-2.00	0.00
5,720.0	1.91	148.88	5,604.5	-872.9	527.0	1,019.7	2.00	-2.00	0.00
5,760.0	1.11	148.88	5,644.5	-873.8	527.5	1,020.7	2.00	-2.00	0.00
5,800.0	0.31	148.88	5,684.5	-874.3	527.8	1,021.2	2.00	-2.00	0.00
5,815.5	0.00	0.00	5,700.0	-874.3	527.8	1,021.3	2.00	-2.00	0.00
5,840.0	0.00	0.00	5,724.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
5,880.0	0.00	0.00	5,764.5	-874.3	527.8	1,021.3	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well State 23-16
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 5086.0ft (RKB - 13')
Project:	SEC.16-T3N-R68W	MD Reference:	WELL @ 5086.0ft (RKB - 13')
Site:	State 23-16 Pad Sec.16-T3N-R68W	North Reference:	True
Well:	State 23-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (11-27-12)		

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)
5,920.0	0.00	0.00	5,804.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
5,960.0	0.00	0.00	5,844.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,000.0	0.00	0.00	5,884.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,040.0	0.00	0.00	5,924.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,080.0	0.00	0.00	5,964.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,101.5	0.00	0.00	5,986.0	-874.3	527.8	1,021.3	0.00	0.00	0.00
TEEPEE BUTTES									
6,120.0	0.00	0.00	6,004.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,160.0	0.00	0.00	6,044.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,200.0	0.00	0.00	6,084.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,240.0	0.00	0.00	6,124.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,280.0	0.00	0.00	6,164.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,320.0	0.00	0.00	6,204.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,360.0	0.00	0.00	6,244.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,400.0	0.00	0.00	6,284.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,440.0	0.00	0.00	6,324.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,480.0	0.00	0.00	6,364.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,520.0	0.00	0.00	6,404.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,560.0	0.00	0.00	6,444.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,600.0	0.00	0.00	6,484.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,640.0	0.00	0.00	6,524.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,680.0	0.00	0.00	6,564.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,720.0	0.00	0.00	6,604.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,760.0	0.00	0.00	6,644.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,800.0	0.00	0.00	6,684.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,840.0	0.00	0.00	6,724.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,880.0	0.00	0.00	6,764.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,920.0	0.00	0.00	6,804.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
6,960.0	0.00	0.00	6,844.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
7,000.0	0.00	0.00	6,884.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
7,040.0	0.00	0.00	6,924.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
7,080.0	0.00	0.00	6,964.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
7,099.5	0.00	0.00	6,984.0	-874.3	527.8	1,021.3	0.00	0.00	0.00
SHARON SPRINGS									
7,120.0	0.00	0.00	7,004.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
7,160.0	0.00	0.00	7,044.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
7,173.5	0.00	0.00	7,058.0	-874.3	527.8	1,021.3	0.00	0.00	0.00
NIOBRARA									
7,200.0	0.00	0.00	7,084.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
7,240.0	0.00	0.00	7,124.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
7,280.0	0.00	0.00	7,164.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
7,320.0	0.00	0.00	7,204.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
7,360.0	0.00	0.00	7,244.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
7,400.0	0.00	0.00	7,284.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
7,406.5	0.00	0.00	7,291.0	-874.3	527.8	1,021.3	0.00	0.00	0.00
FT HAYES									
7,431.5	0.00	0.00	7,316.0	-874.3	527.8	1,021.3	0.00	0.00	0.00
CODELL									
7,440.0	0.00	0.00	7,324.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
7,456.5	0.00	0.00	7,341.0	-874.3	527.8	1,021.3	0.00	0.00	0.00
FAIRPORT									
7,480.0	0.00	0.00	7,364.5	-874.3	527.8	1,021.3	0.00	0.00	0.00
7,514.5	0.00	0.00	7,399.0	-874.3	527.8	1,021.3	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well State 23-16
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 5086.0ft (RKB - 13')
Project:	SEC.16-T3N-R68W	MD Reference:	WELL @ 5086.0ft (RKB - 13')
Site:	State 23-16 Pad Sec.16-T3N-R68W	North Reference:	True
Well:	State 23-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (11-27-12)		

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)	
GREENHORN										
7,520.0	0.00	0.00	7,404.5	-874.3	527.8	1,021.3	0.00	0.00	0.00	
7,560.0	0.00	0.00	7,444.5	-874.3	527.8	1,021.3	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,484.5	-874.3	527.8	1,021.3	0.00	0.00	0.00	
7,640.0	0.00	0.00	7,524.5	-874.3	527.8	1,021.3	0.00	0.00	0.00	
7,680.0	0.00	0.00	7,564.5	-874.3	527.8	1,021.3	0.00	0.00	0.00	
7,695.5	0.00	0.00	7,580.0	-874.3	527.8	1,021.3	0.00	0.00	0.00	
GRANEROS										
7,720.0	0.00	0.00	7,604.5	-874.3	527.8	1,021.3	0.00	0.00	0.00	
7,760.0	0.00	0.00	7,644.5	-874.3	527.8	1,021.3	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,684.5	-874.3	527.8	1,021.3	0.00	0.00	0.00	
7,840.0	0.00	0.00	7,724.5	-874.3	527.8	1,021.3	0.00	0.00	0.00	
7,863.5	0.00	0.00	7,748.0	-874.3	527.8	1,021.3	0.00	0.00	0.00	
MOWRY										
7,880.0	0.00	0.00	7,764.5	-874.3	527.8	1,021.3	0.00	0.00	0.00	
7,898.5	0.00	0.00	7,783.0	-874.3	527.8	1,021.3	0.00	0.00	0.00	
J SAND										
7,920.0	0.00	0.00	7,804.5	-874.3	527.8	1,021.3	0.00	0.00	0.00	
7,960.0	0.00	0.00	7,844.5	-874.3	527.8	1,021.3	0.00	0.00	0.00	
7,989.5	0.00	0.00	7,874.0	-874.3	527.8	1,021.3	0.00	0.00	0.00	
SKULL CREEK A MARKER										
8,000.0	0.00	0.00	7,884.5	-874.3	527.8	1,021.3	0.00	0.00	0.00	
8,040.0	0.00	0.00	7,924.5	-874.3	527.8	1,021.3	0.00	0.00	0.00	
8,048.5	0.00	0.00	7,933.0	-874.3	527.8	1,021.3	0.00	0.00	0.00	

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (")	Hole Diameter (")
600.0	600.0	8 5/8"		8-5/8	12-1/4

Database:	Landmark	Local Co-ordinate Reference:	Well State 23-16
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 5086.0ft (RKB - 13')
Project:	SEC.16-T3N-R68W	MD Reference:	WELL @ 5086.0ft (RKB - 13')
Site:	State 23-16 Pad Sec.16-T3N-R68W	North Reference:	True
Well:	State 23-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (11-27-12)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,150.4	4,069.0	SUSSEX		0.00		
4,229.7	4,146.0	SUSSEX PAY TOP		0.00		
4,368.6	4,281.0	SUSSEX MARKER		0.00		
4,641.2	4,546.0	SHANNON		0.00		
6,101.5	5,986.0	TEEPEE BUTTES		0.00		
7,099.5	6,984.0	SHARON SPRINGS		0.00		
7,173.5	7,058.0	NIOBRARA		0.00		
7,406.5	7,291.0	FT HAYES		0.00		
7,431.5	7,316.0	CODELL		0.00		
7,456.5	7,341.0	FAIRPORT		0.00		
7,514.5	7,399.0	GREENHORN		0.00		
7,695.5	7,580.0	GRANEROS		0.00		
7,863.5	7,748.0	MOWRY		0.00		
7,898.5	7,783.0	J SAND		0.00		
7,989.5	7,874.0	SKULL CREEK A MARKER		0.00		