

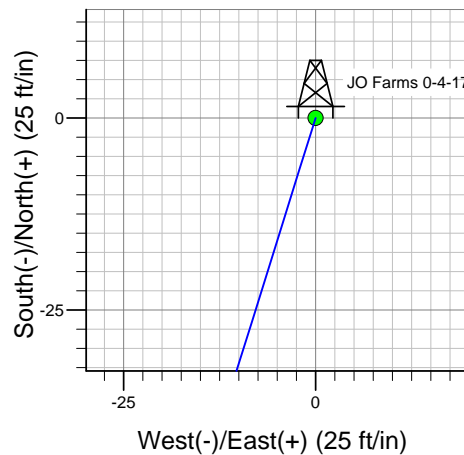
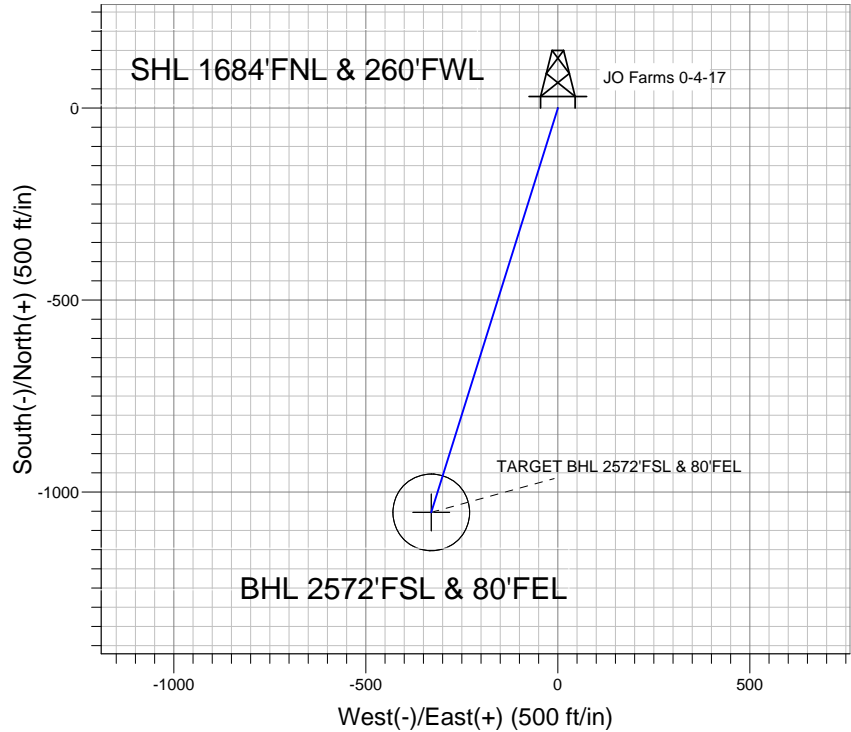
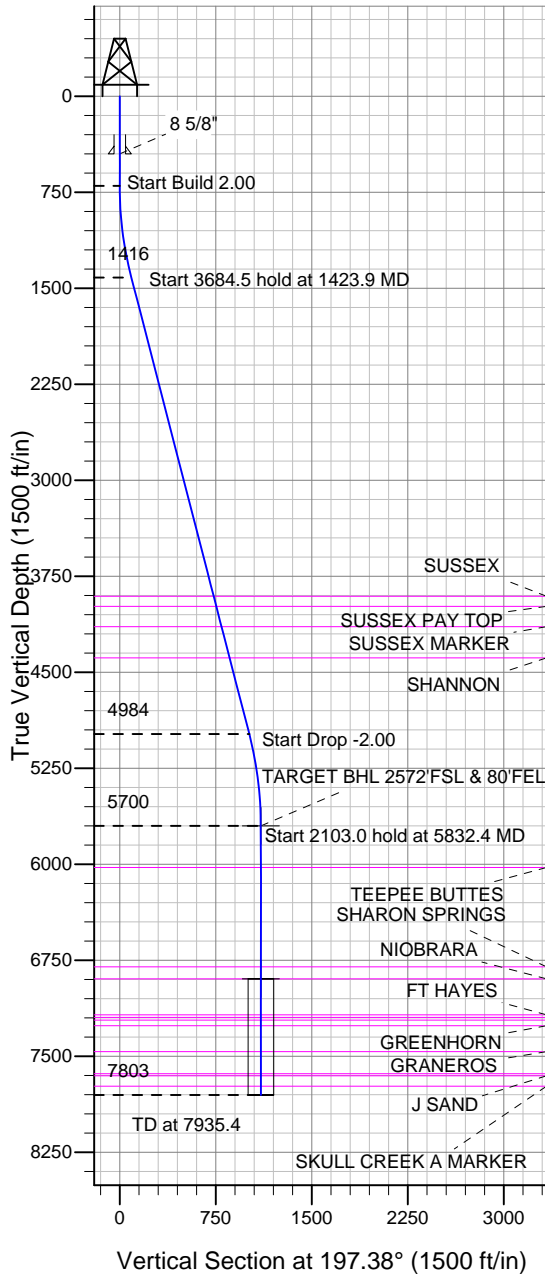
Well Name: **JO Farms 0-4-17**

Surface Location: JO Farms 0-4-17 Pad Sec.17-T3N-R68W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 5113.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1326373.29	3129706.17	40.228360	-105.035460	
RKB - 13' WELL @ 5126.0ft (RKB - 13')						

EnCana Oil & Gas Weld County CO



JO Farms 0-4-17
Plan #1 (11-27-12)
11:44, November 27 2012



Azimuths to True North
Magnetic North: 8.80°

Magnetic Field
Strength: 52856.6snT
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 2572'FSL & 80'FEL	5700.0	-1052.8	-329.5	40.225470	-105.036640	Point
TARGET CIRCLE 2572'FSL & 80'FEL	6896.0	-1052.8	-329.5	40.225470	-105.036640	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	700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.0	
3	1423.9	14.48	197.38	1416.3	-86.8	-27.2	2.00	197.38	91.0	
4	5108.4	14.48	197.38	4983.7	-966.0	-302.3	0.00	0.00	1012.2	
5	5832.4	0.00	0.00	5700.0	-1052.8	-329.5	2.00	180.00	1103.2	TARGET BHL 2572'FSL & 80'FEL
6	7935.4	0.00	0.00	7803.0	-1052.8	-329.5	0.00	0.00	1103.2	



EnCana Oil & Gas Weld County CO

SEC.17-T3N-R68W

JO Farms 0-4-17 Pad Sec.17-T3N-R68W

JO Farms 0-4-17

Wellbore #1

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

Standard Planning Report

27 November, 2012

Database:	Landmark	Local Co-ordinate Reference:	Well JO Farms 0-4-17
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 5126.0ft (RKB - 13')
Project:	SEC.17-T3N-R68W	MD Reference:	WELL @ 5126.0ft (RKB - 13')
Site:	JO Farms 0-4-17 Pad Sec.17-T3N-R68W	North Reference:	True
Well:	JO Farms 0-4-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (11-27-12)		

Project	SEC.17-T3N-R68W, Weld County, CO		
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		JO Farms 0-4-17 Pad Sec.17-T3N-R68W			
Site Position:		Northing:	1,326,373.30ft	Latitude:	40.228360
From:	Lat/Long	Easting:	3,129,706.17ft	Longitude:	-105.035460
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.30 °

Well		JO Farms 0-4-17				
Well Position	+N-S	0.0 ft	Northing:	1,326,373.29 ft	Latitude:	40.228360
	+E-W	0.0 ft	Easting:	3,129,706.17 ft	Longitude:	-105.035460
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,113.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/27/2012	8.80	66.82	52,857

Design	Plan #1 (11-27-12)			
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	197.38

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	
700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,423.9	14.48	197.38	1,416.3	-86.8	-27.2	2.00	2.00	0.00	197.38	
5,108.4	14.48	197.38	4,983.7	-966.0	-302.3	0.00	0.00	0.00	0.00	
5,832.4	0.00	0.00	5,700.0	-1,052.8	-329.5	2.00	-2.00	0.00	180.00	TARGET BHL 2572
7,935.4	0.00	0.00	7,803.0	-1,052.8	-329.5	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well JO Farms 0-4-17
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 5126.0ft (RKB - 13')
Project:	SEC.17-T3N-R68W	MD Reference:	WELL @ 5126.0ft (RKB - 13')
Site:	JO Farms 0-4-17 Pad Sec.17-T3N-R68W	North Reference:	True
Well:	JO Farms 0-4-17	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
450.0	0.00	0.00	450.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
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
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
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
720.0	0.40	197.38	720.0	-0.1	0.0	0.1	2.00	2.00	0.00
760.0	1.20	197.38	760.0	-0.6	-0.2	0.6	2.00	2.00	0.00
800.0	2.00	197.38	800.0	-1.7	-0.5	1.7	2.00	2.00	0.00
840.0	2.80	197.38	839.9	-3.3	-1.0	3.4	2.00	2.00	0.00
880.0	3.60	197.38	879.9	-5.4	-1.7	5.7	2.00	2.00	0.00
920.0	4.40	197.38	919.8	-8.1	-2.5	8.4	2.00	2.00	0.00
960.0	5.20	197.38	959.6	-11.3	-3.5	11.8	2.00	2.00	0.00
1,000.0	6.00	197.38	999.5	-15.0	-4.7	15.7	2.00	2.00	0.00
1,040.0	6.80	197.38	1,039.2	-19.2	-6.0	20.2	2.00	2.00	0.00
1,080.0	7.60	197.38	1,078.9	-24.0	-7.5	25.2	2.00	2.00	0.00
1,120.0	8.40	197.38	1,118.5	-29.3	-9.2	30.7	2.00	2.00	0.00
1,160.0	9.20	197.38	1,158.0	-35.2	-11.0	36.9	2.00	2.00	0.00
1,200.0	10.00	197.38	1,197.5	-41.5	-13.0	43.5	2.00	2.00	0.00
1,240.0	10.80	197.38	1,236.8	-48.4	-15.2	50.7	2.00	2.00	0.00
1,280.0	11.60	197.38	1,276.0	-55.8	-17.5	58.5	2.00	2.00	0.00
1,320.0	12.40	197.38	1,315.2	-63.8	-20.0	66.8	2.00	2.00	0.00
1,360.0	13.20	197.38	1,354.2	-72.2	-22.6	75.7	2.00	2.00	0.00
1,400.0	14.00	197.38	1,393.1	-81.2	-25.4	85.1	2.00	2.00	0.00
1,423.9	14.48	197.38	1,416.3	-86.8	-27.2	91.0	2.00	2.00	0.00
1,440.0	14.48	197.38	1,431.8	-90.7	-28.4	95.0	0.00	0.00	0.00
1,480.0	14.48	197.38	1,470.5	-100.2	-31.4	105.0	0.00	0.00	0.00
1,520.0	14.48	197.38	1,509.3	-109.8	-34.3	115.0	0.00	0.00	0.00
1,560.0	14.48	197.38	1,548.0	-119.3	-37.3	125.0	0.00	0.00	0.00
1,600.0	14.48	197.38	1,586.7	-128.8	-40.3	135.0	0.00	0.00	0.00
1,640.0	14.48	197.38	1,625.5	-138.4	-43.3	145.0	0.00	0.00	0.00
1,680.0	14.48	197.38	1,664.2	-147.9	-46.3	155.0	0.00	0.00	0.00
1,720.0	14.48	197.38	1,702.9	-157.5	-49.3	165.0	0.00	0.00	0.00
1,760.0	14.48	197.38	1,741.6	-167.0	-52.3	175.0	0.00	0.00	0.00
1,800.0	14.48	197.38	1,780.4	-176.6	-55.3	185.0	0.00	0.00	0.00
1,840.0	14.48	197.38	1,819.1	-186.1	-58.2	195.0	0.00	0.00	0.00
1,880.0	14.48	197.38	1,857.8	-195.7	-61.2	205.0	0.00	0.00	0.00
1,920.0	14.48	197.38	1,896.6	-205.2	-64.2	215.0	0.00	0.00	0.00
1,960.0	14.48	197.38	1,935.3	-214.7	-67.2	225.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well JO Farms 0-4-17
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 5126.0ft (RKB - 13')
Project:	SEC.17-T3N-R68W	MD Reference:	WELL @ 5126.0ft (RKB - 13')
Site:	JO Farms 0-4-17 Pad Sec.17-T3N-R68W	North Reference:	True
Well:	JO Farms 0-4-17	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)
2,000.0	14.48	197.38	1,974.0	-224.3	-70.2	235.0	0.00	0.00	0.00
2,040.0	14.48	197.38	2,012.8	-233.8	-73.2	245.0	0.00	0.00	0.00
2,080.0	14.48	197.38	2,051.5	-243.4	-76.2	255.0	0.00	0.00	0.00
2,120.0	14.48	197.38	2,090.2	-252.9	-79.2	265.0	0.00	0.00	0.00
2,160.0	14.48	197.38	2,128.9	-262.5	-82.1	275.0	0.00	0.00	0.00
2,200.0	14.48	197.38	2,167.7	-272.0	-85.1	285.0	0.00	0.00	0.00
2,240.0	14.48	197.38	2,206.4	-281.6	-88.1	295.0	0.00	0.00	0.00
2,280.0	14.48	197.38	2,245.1	-291.1	-91.1	305.0	0.00	0.00	0.00
2,320.0	14.48	197.38	2,283.9	-300.6	-94.1	315.0	0.00	0.00	0.00
2,360.0	14.48	197.38	2,322.6	-310.2	-97.1	325.0	0.00	0.00	0.00
2,400.0	14.48	197.38	2,361.3	-319.7	-100.1	335.0	0.00	0.00	0.00
2,440.0	14.48	197.38	2,400.0	-329.3	-103.1	345.0	0.00	0.00	0.00
2,480.0	14.48	197.38	2,438.8	-338.8	-106.0	355.0	0.00	0.00	0.00
2,520.0	14.48	197.38	2,477.5	-348.4	-109.0	365.0	0.00	0.00	0.00
2,560.0	14.48	197.38	2,516.2	-357.9	-112.0	375.0	0.00	0.00	0.00
2,600.0	14.48	197.38	2,555.0	-367.4	-115.0	385.0	0.00	0.00	0.00
2,640.0	14.48	197.38	2,593.7	-377.0	-118.0	395.0	0.00	0.00	0.00
2,680.0	14.48	197.38	2,632.4	-386.5	-121.0	405.0	0.00	0.00	0.00
2,720.0	14.48	197.38	2,671.2	-396.1	-124.0	415.0	0.00	0.00	0.00
2,760.0	14.48	197.38	2,709.9	-405.6	-127.0	425.0	0.00	0.00	0.00
2,800.0	14.48	197.38	2,748.6	-415.2	-129.9	435.0	0.00	0.00	0.00
2,840.0	14.48	197.38	2,787.3	-424.7	-132.9	445.0	0.00	0.00	0.00
2,880.0	14.48	197.38	2,826.1	-434.3	-135.9	455.0	0.00	0.00	0.00
2,920.0	14.48	197.38	2,864.8	-443.8	-138.9	465.0	0.00	0.00	0.00
2,960.0	14.48	197.38	2,903.5	-453.3	-141.9	475.0	0.00	0.00	0.00
3,000.0	14.48	197.38	2,942.3	-462.9	-144.9	485.0	0.00	0.00	0.00
3,040.0	14.48	197.38	2,981.0	-472.4	-147.9	495.0	0.00	0.00	0.00
3,080.0	14.48	197.38	3,019.7	-482.0	-150.8	505.0	0.00	0.00	0.00
3,120.0	14.48	197.38	3,058.5	-491.5	-153.8	515.0	0.00	0.00	0.00
3,160.0	14.48	197.38	3,097.2	-501.1	-156.8	525.0	0.00	0.00	0.00
3,200.0	14.48	197.38	3,135.9	-510.6	-159.8	535.0	0.00	0.00	0.00
3,240.0	14.48	197.38	3,174.6	-520.2	-162.8	545.0	0.00	0.00	0.00
3,280.0	14.48	197.38	3,213.4	-529.7	-165.8	555.0	0.00	0.00	0.00
3,320.0	14.48	197.38	3,252.1	-539.2	-168.8	565.0	0.00	0.00	0.00
3,360.0	14.48	197.38	3,290.8	-548.8	-171.8	575.0	0.00	0.00	0.00
3,400.0	14.48	197.38	3,329.6	-558.3	-174.7	585.0	0.00	0.00	0.00
3,440.0	14.48	197.38	3,368.3	-567.9	-177.7	595.0	0.00	0.00	0.00
3,480.0	14.48	197.38	3,407.0	-577.4	-180.7	605.0	0.00	0.00	0.00
3,520.0	14.48	197.38	3,445.7	-587.0	-183.7	615.0	0.00	0.00	0.00
3,560.0	14.48	197.38	3,484.5	-596.5	-186.7	625.0	0.00	0.00	0.00
3,600.0	14.48	197.38	3,523.2	-606.1	-189.7	635.0	0.00	0.00	0.00
3,640.0	14.48	197.38	3,561.9	-615.6	-192.7	645.0	0.00	0.00	0.00
3,680.0	14.48	197.38	3,600.7	-625.1	-195.7	655.0	0.00	0.00	0.00
3,720.0	14.48	197.38	3,639.4	-634.7	-198.6	665.0	0.00	0.00	0.00
3,760.0	14.48	197.38	3,678.1	-644.2	-201.6	675.1	0.00	0.00	0.00
3,800.0	14.48	197.38	3,716.9	-653.8	-204.6	685.1	0.00	0.00	0.00
3,840.0	14.48	197.38	3,755.6	-663.3	-207.6	695.1	0.00	0.00	0.00
3,880.0	14.48	197.38	3,794.3	-672.9	-210.6	705.1	0.00	0.00	0.00
3,920.0	14.48	197.38	3,833.0	-682.4	-213.6	715.1	0.00	0.00	0.00
3,960.0	14.48	197.38	3,871.8	-692.0	-216.6	725.1	0.00	0.00	0.00
3,995.3	14.48	197.38	3,906.0	-700.4	-219.2	733.9	0.00	0.00	0.00
SUSSEX									
4,000.0	14.48	197.38	3,910.5	-701.5	-219.6	735.1	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well JO Farms 0-4-17
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 5126.0ft (RKB - 13')
Project:	SEC.17-T3N-R68W	MD Reference:	WELL @ 5126.0ft (RKB - 13')
Site:	JO Farms 0-4-17 Pad Sec.17-T3N-R68W	North Reference:	True
Well:	JO Farms 0-4-17	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)
4,040.0	14.48	197.38	3,949.2	-711.0	-222.5	745.1	0.00	0.00	0.00
4,078.0	14.48	197.38	3,986.0	-720.1	-225.4	754.6	0.00	0.00	0.00
SUSSEX PAY TOP									
4,080.0	14.48	197.38	3,988.0	-720.6	-225.5	755.1	0.00	0.00	0.00
4,120.0	14.48	197.38	4,026.7	-730.1	-228.5	765.1	0.00	0.00	0.00
4,160.0	14.48	197.38	4,065.4	-739.7	-231.5	775.1	0.00	0.00	0.00
4,200.0	14.48	197.38	4,104.2	-749.2	-234.5	785.1	0.00	0.00	0.00
4,240.0	14.48	197.38	4,142.9	-758.8	-237.5	795.1	0.00	0.00	0.00
4,241.2	14.48	197.38	4,144.0	-759.0	-237.6	795.3	0.00	0.00	0.00
SUSSEX MARKER									
4,280.0	14.48	197.38	4,181.6	-768.3	-240.5	805.1	0.00	0.00	0.00
4,320.0	14.48	197.38	4,220.3	-777.9	-243.4	815.1	0.00	0.00	0.00
4,360.0	14.48	197.38	4,259.1	-787.4	-246.4	825.1	0.00	0.00	0.00
4,400.0	14.48	197.38	4,297.8	-796.9	-249.4	835.1	0.00	0.00	0.00
4,440.0	14.48	197.38	4,336.5	-806.5	-252.4	845.1	0.00	0.00	0.00
4,480.0	14.48	197.38	4,375.3	-816.0	-255.4	855.1	0.00	0.00	0.00
4,493.2	14.48	197.38	4,388.0	-819.2	-256.4	858.4	0.00	0.00	0.00
SHANNON									
4,520.0	14.48	197.38	4,414.0	-825.6	-258.4	865.1	0.00	0.00	0.00
4,560.0	14.48	197.38	4,452.7	-835.1	-261.4	875.1	0.00	0.00	0.00
4,600.0	14.48	197.38	4,491.4	-844.7	-264.4	885.1	0.00	0.00	0.00
4,640.0	14.48	197.38	4,530.2	-854.2	-267.3	895.1	0.00	0.00	0.00
4,680.0	14.48	197.38	4,568.9	-863.8	-270.3	905.1	0.00	0.00	0.00
4,720.0	14.48	197.38	4,607.6	-873.3	-273.3	915.1	0.00	0.00	0.00
4,760.0	14.48	197.38	4,646.4	-882.8	-276.3	925.1	0.00	0.00	0.00
4,800.0	14.48	197.38	4,685.1	-892.4	-279.3	935.1	0.00	0.00	0.00
4,840.0	14.48	197.38	4,723.8	-901.9	-282.3	945.1	0.00	0.00	0.00
4,880.0	14.48	197.38	4,762.6	-911.5	-285.3	955.1	0.00	0.00	0.00
4,920.0	14.48	197.38	4,801.3	-921.0	-288.3	965.1	0.00	0.00	0.00
4,960.0	14.48	197.38	4,840.0	-930.6	-291.2	975.1	0.00	0.00	0.00
5,000.0	14.48	197.38	4,878.7	-940.1	-294.2	985.1	0.00	0.00	0.00
5,040.0	14.48	197.38	4,917.5	-949.7	-297.2	995.1	0.00	0.00	0.00
5,080.0	14.48	197.38	4,956.2	-959.2	-300.2	1,005.1	0.00	0.00	0.00
5,108.4	14.48	197.38	4,983.7	-966.0	-302.3	1,012.2	0.00	0.00	0.00
5,120.0	14.25	197.38	4,994.9	-968.7	-303.2	1,015.1	2.00	-2.00	0.00
5,160.0	13.45	197.38	5,033.8	-977.9	-306.0	1,024.6	2.00	-2.00	0.00
5,200.0	12.65	197.38	5,072.7	-986.5	-308.7	1,033.7	2.00	-2.00	0.00
5,240.0	11.85	197.38	5,111.8	-994.6	-311.3	1,042.1	2.00	-2.00	0.00
5,280.0	11.05	197.38	5,151.0	-1,002.2	-313.6	1,050.1	2.00	-2.00	0.00
5,320.0	10.25	197.38	5,190.3	-1,009.2	-315.9	1,057.5	2.00	-2.00	0.00
5,360.0	9.45	197.38	5,229.8	-1,015.7	-317.9	1,064.3	2.00	-2.00	0.00
5,400.0	8.65	197.38	5,269.3	-1,021.7	-319.8	1,070.6	2.00	-2.00	0.00
5,440.0	7.85	197.38	5,308.8	-1,027.2	-321.5	1,076.3	2.00	-2.00	0.00
5,480.0	7.05	197.38	5,348.5	-1,032.2	-323.0	1,081.5	2.00	-2.00	0.00
5,520.0	6.25	197.38	5,388.2	-1,036.6	-324.4	1,086.2	2.00	-2.00	0.00
5,560.0	5.45	197.38	5,428.0	-1,040.5	-325.6	1,090.2	2.00	-2.00	0.00
5,600.0	4.65	197.38	5,467.9	-1,043.8	-326.7	1,093.8	2.00	-2.00	0.00
5,640.0	3.85	197.38	5,507.8	-1,046.7	-327.6	1,096.7	2.00	-2.00	0.00
5,680.0	3.05	197.38	5,547.7	-1,048.9	-328.3	1,099.1	2.00	-2.00	0.00
5,720.0	2.25	197.38	5,587.6	-1,050.7	-328.8	1,101.0	2.00	-2.00	0.00
5,760.0	1.45	197.38	5,627.6	-1,051.9	-329.2	1,102.3	2.00	-2.00	0.00
5,800.0	0.65	197.38	5,667.6	-1,052.6	-329.4	1,103.0	2.00	-2.00	0.00
5,832.4	0.00	0.00	5,700.0	-1,052.8	-329.5	1,103.2	2.00	-2.00	0.00
TARGET BHL 2572'FSL & 80'FEL									

Database:	Landmark	Local Co-ordinate Reference:	Well JO Farms 0-4-17
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 5126.0ft (RKB - 13')
Project:	SEC.17-T3N-R68W	MD Reference:	WELL @ 5126.0ft (RKB - 13')
Site:	JO Farms 0-4-17 Pad Sec.17-T3N-R68W	North Reference:	True
Well:	JO Farms 0-4-17	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)
5,840.0	0.00	0.00	5,707.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
5,880.0	0.00	0.00	5,747.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
5,920.0	0.00	0.00	5,787.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
5,960.0	0.00	0.00	5,827.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,000.0	0.00	0.00	5,867.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,040.0	0.00	0.00	5,907.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,080.0	0.00	0.00	5,947.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,120.0	0.00	0.00	5,987.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,158.4	0.00	0.00	6,026.0	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
TEEPEE BUTTES									
6,160.0	0.00	0.00	6,027.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,200.0	0.00	0.00	6,067.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,240.0	0.00	0.00	6,107.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,280.0	0.00	0.00	6,147.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,320.0	0.00	0.00	6,187.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,360.0	0.00	0.00	6,227.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,400.0	0.00	0.00	6,267.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,440.0	0.00	0.00	6,307.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,480.0	0.00	0.00	6,347.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,520.0	0.00	0.00	6,387.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,560.0	0.00	0.00	6,427.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,467.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,640.0	0.00	0.00	6,507.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,680.0	0.00	0.00	6,547.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,720.0	0.00	0.00	6,587.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,760.0	0.00	0.00	6,627.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,667.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,840.0	0.00	0.00	6,707.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,880.0	0.00	0.00	6,747.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,920.0	0.00	0.00	6,787.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
6,933.4	0.00	0.00	6,801.0	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
SHARON SPRINGS									
6,960.0	0.00	0.00	6,827.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,000.0	0.00	0.00	6,867.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,028.4	0.00	0.00	6,896.0	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
NIOBRARA - TARGET CIRCLE 2572'FSL & 80'FEL									
7,040.0	0.00	0.00	6,907.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,080.0	0.00	0.00	6,947.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,120.0	0.00	0.00	6,987.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,160.0	0.00	0.00	7,027.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,200.0	0.00	0.00	7,067.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,240.0	0.00	0.00	7,107.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,280.0	0.00	0.00	7,147.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,308.4	0.00	0.00	7,176.0	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
FT HAYES									
7,320.0	0.00	0.00	7,187.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,329.4	0.00	0.00	7,197.0	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
CODELL									
7,350.4	0.00	0.00	7,218.0	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
FAIRPORT									
7,360.0	0.00	0.00	7,227.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,393.4	0.00	0.00	7,261.0	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
GREENHORN									

Database:	Landmark	Local Co-ordinate Reference:	Well JO Farms 0-4-17
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 5126.0ft (RKB - 13')
Project:	SEC.17-T3N-R68W	MD Reference:	WELL @ 5126.0ft (RKB - 13')
Site:	JO Farms 0-4-17 Pad Sec.17-T3N-R68W	North Reference:	True
Well:	JO Farms 0-4-17	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)
7,400.0	0.00	0.00	7,267.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,440.0	0.00	0.00	7,307.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,480.0	0.00	0.00	7,347.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,520.0	0.00	0.00	7,387.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,560.0	0.00	0.00	7,427.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,596.4	0.00	0.00	7,464.0	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
GRANEROS									
7,600.0	0.00	0.00	7,467.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,640.0	0.00	0.00	7,507.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,680.0	0.00	0.00	7,547.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,720.0	0.00	0.00	7,587.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,760.0	0.00	0.00	7,627.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,768.4	0.00	0.00	7,636.0	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
MMOWRY									
7,785.4	0.00	0.00	7,653.0	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
J SAND									
7,800.0	0.00	0.00	7,667.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,840.0	0.00	0.00	7,707.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,866.4	0.00	0.00	7,734.0	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
SKULL CREEK A MARKER									
7,880.0	0.00	0.00	7,747.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,920.0	0.00	0.00	7,787.6	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00
7,935.4	0.00	0.00	7,803.0	-1,052.8	-329.5	1,103.2	0.00	0.00	0.00

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
TARGET CIRCLE 257'	0.00	0.00	6,896.0	-1,052.8	-329.5	1,325,318.81	3,129,382.20	40.225470	-105.036640
- plan hits target center									
- Circle (radius 100.0)									
TARGET BHL 2572'F	0.00	0.00	5,700.0	-1,052.8	-329.5	1,325,318.81	3,129,382.20	40.225470	-105.036640
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
450.0	450.0	8 5/8"	8-5/8	12-1/4	

Database:	Landmark	Local Co-ordinate Reference:	Well JO Farms 0-4-17
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	WELL @ 5126.0ft (RKB - 13')
Project:	SEC.17-T3N-R68W	MD Reference:	WELL @ 5126.0ft (RKB - 13')
Site:	JO Farms 0-4-17 Pad Sec.17-T3N-R68W	North Reference:	True
Well:	JO Farms 0-4-17	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 (°)	
3,995.3	3,906.0	SUSSEX		0.00		
4,078.0	3,986.0	SUSSEX PAY TOP		0.00		
4,241.2	4,144.0	SUSSEX MARKER		0.00		
4,493.2	4,388.0	SHANNON		0.00		
6,158.4	6,026.0	TEEPEE BUTTES		0.00		
6,933.4	6,801.0	SHARON SPRINGS		0.00		
7,028.4	6,896.0	NIOBRARA		0.00		
7,308.4	7,176.0	FT HAYES		0.00		
7,329.4	7,197.0	CODELL		0.00		
7,350.4	7,218.0	FAIRPORT		0.00		
7,393.4	7,261.0	GREENHORN		0.00		
7,596.4	7,464.0	GRANEROS		0.00		
7,768.4	7,636.0	MMOWRY		0.00		
7,785.4	7,653.0	J SAND		0.00		
7,866.4	7,734.0	SKULL CREEK A MARKER		0.00		