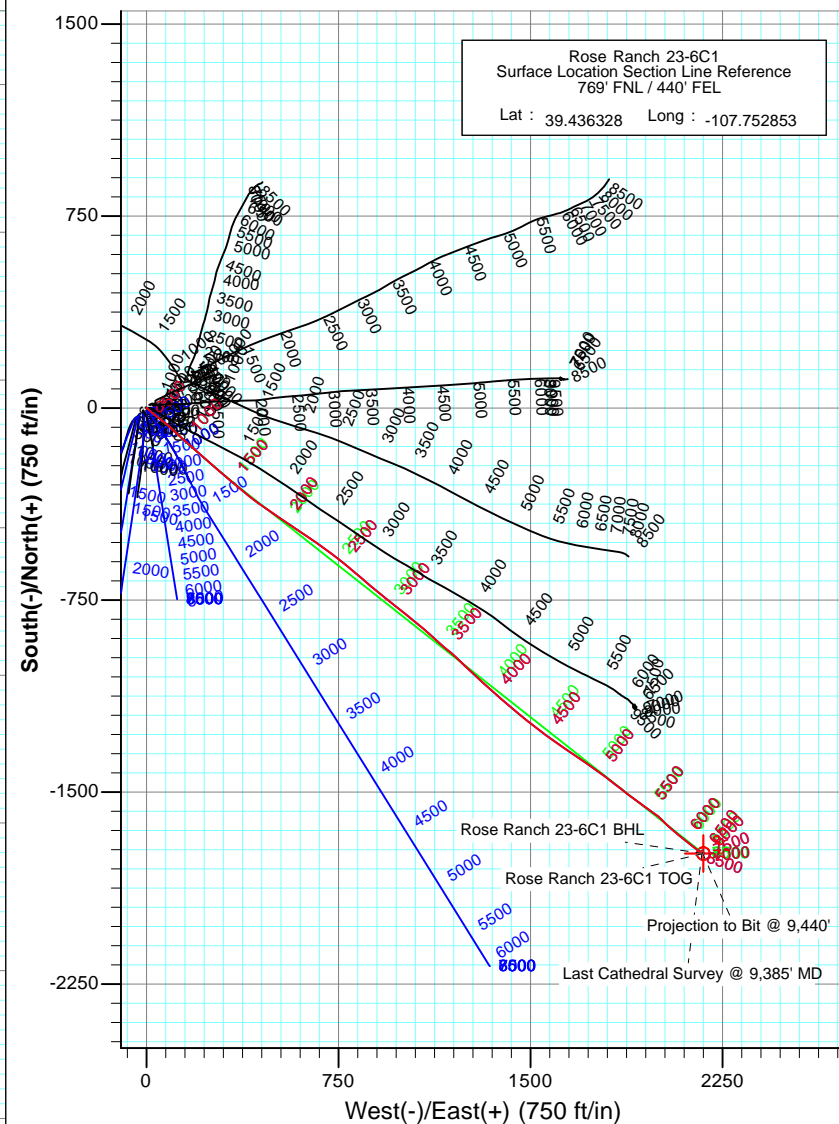
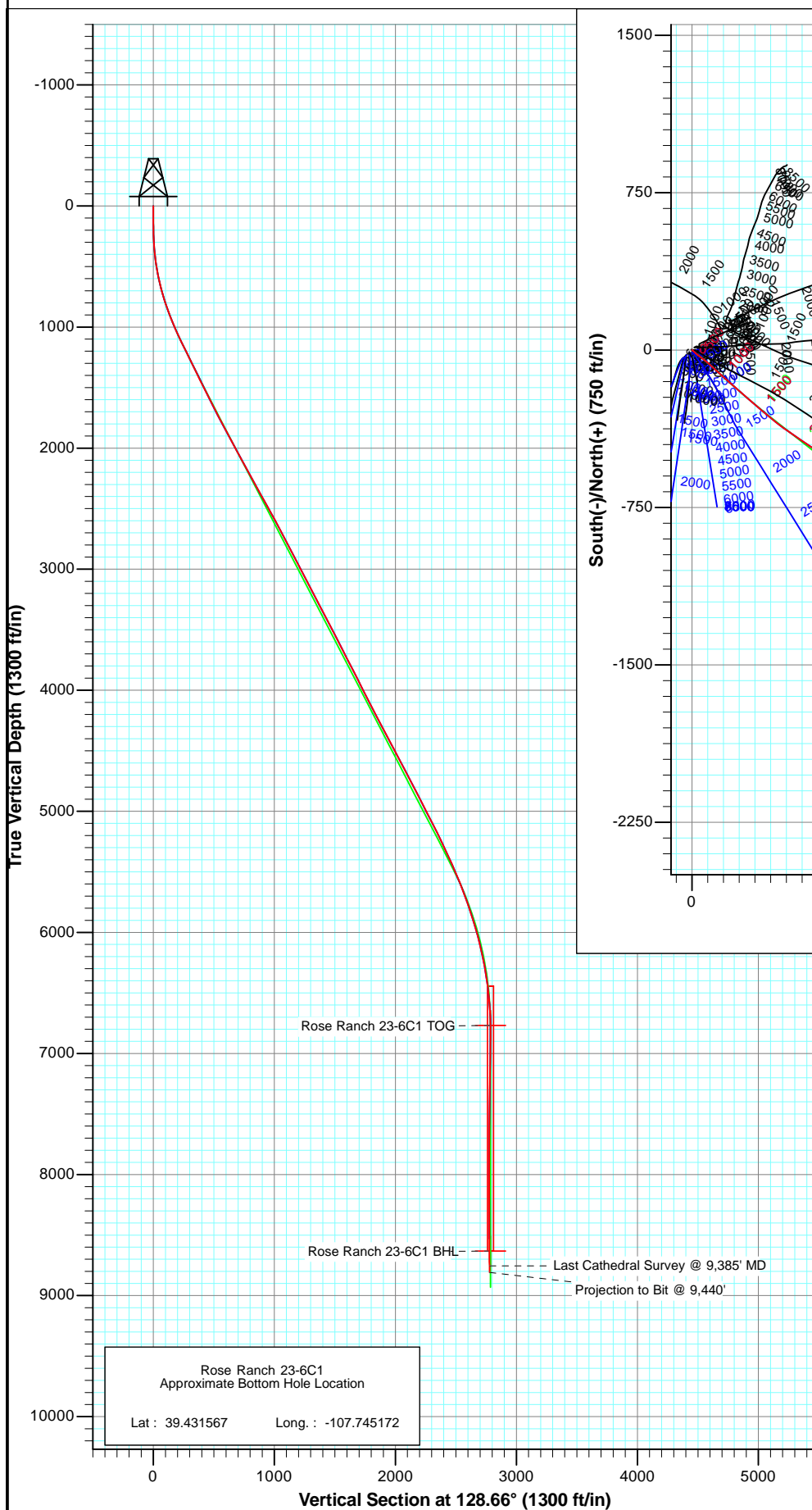




Project: Mamm Creek
Site: A22W Pad (S22-T7S-R93W)
Well: Rose Ranch 23-6C1
Wellbore: DD
Plan: FINAL



Azimuths to True North
Magnetic North: 10.29°

Magnetic Field
Strength: 52289.5nT
Dip Angle: 65.75°
Date: 12/29/2010
Model: IGRF2010

DESIGN DETAILS: DD

105498 (SH), 105882 (MH); KR
WELL @ 6806.0ft (Nabors M13)

Target	Azimuth	Origin Type	N/S	E/W	From TVD
Rose Ranch 23-6C1 BHL	128.66	Slot	0.0	0.0	0.0



Project: Mamm Creek
Site: A22W Pad (S22-T7S-R93W)
Well: Rose Ranch 23-6C1
Wellbore: DD
Plan: DD

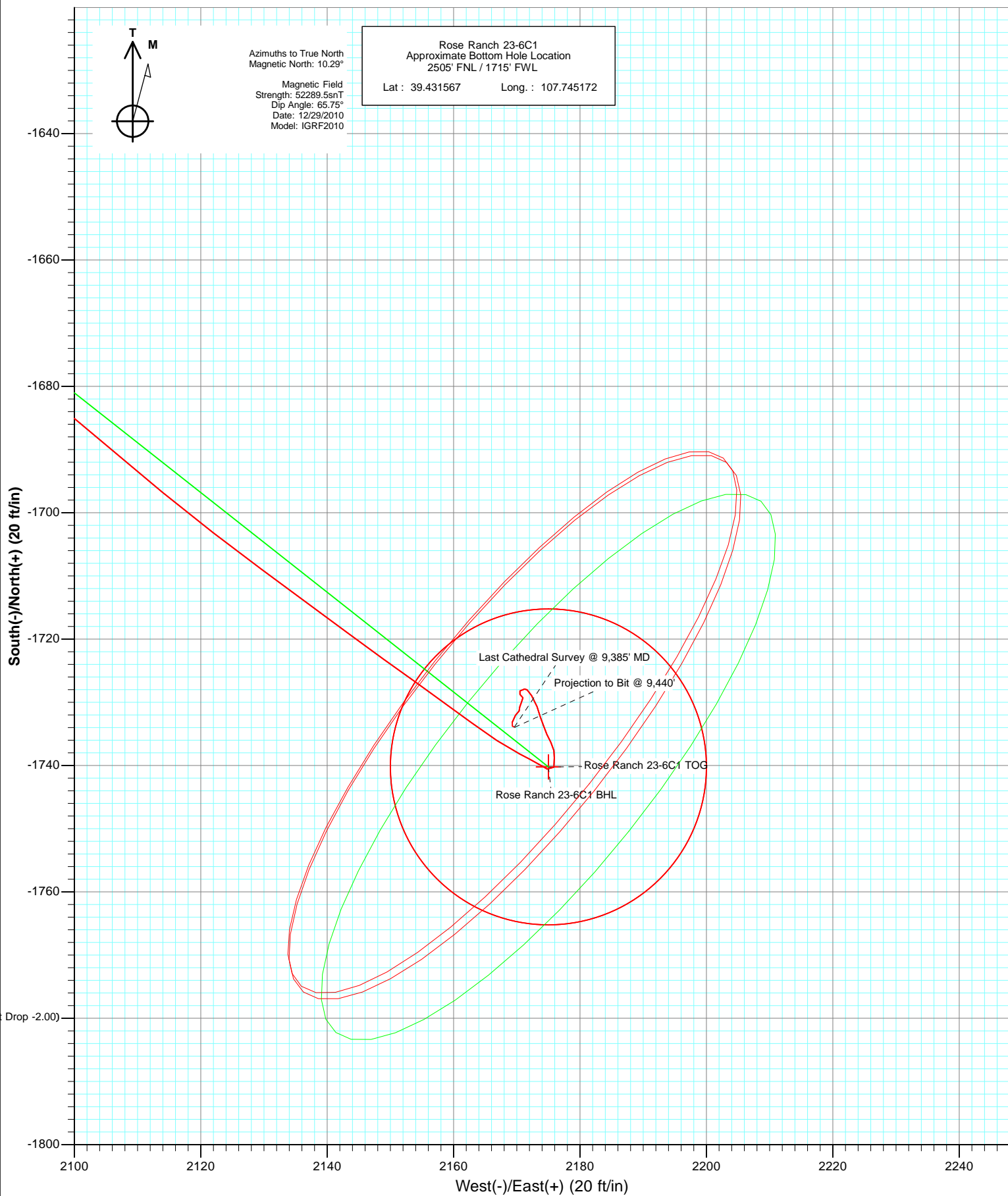
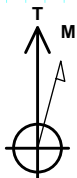


Azimuths to True North
Magnetic North: 10.29°

Magnetic Field
Strength: 52289.5nT
Dip Angle: 65.75°
Date: 12/29/2010
Model: IGRF2010

Rose Ranch 23-6C1
Approximate Bottom Hole Location
2505' FNL / 1715' FWL

Lat : 39.431567 Long. : 107.745172



Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Rose Ranch 23-6C1
Project:	Mamm Creek	TVD Reference:	WELL @ 6806.0ft (Nabors M13)
Site:	A22W Pad (S22-T7S-R93W)	MD Reference:	WELL @ 6806.0ft (Nabors M13)
Well:	Rose Ranch 23-6C1	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	EDM 5000.1 US Multi Users DB

Project	Mamm Creek		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		A22W Pad (S22-T7S-R93W)			
Site Position:		Northing:	1,591,715.91 ft	Latitude:	39.436361
From:	Lat/Long	Easting:	2,363,798.79 ft	Longitude:	-107.752769
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.42 °

Well	Rose Ranch 23-6C1					
Well Position	+N/-S	0.0 ft	Northing:	1,591,704.47 ft	Latitude:	39.436328
	+E/-W	0.0 ft	Easting:	2,363,774.78 ft	Longitude:	-107.752853
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,784.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/29/2010	10.29	65.75	52,289

Design	DD				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	128.66	

Survey Program	Date	1/10/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
110.0	9,162.0	Survey #1 (DD)	MWD	Geolink MWD	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
110.0	0.40	80.50	110.0	0.1	0.4	0.3	0.36	0.36		
141.0	0.00	32.70	141.0	0.1	0.5	0.3	1.29	-1.29		
171.0	0.80	112.70	171.0	0.0	0.7	0.5	2.67	2.67		
202.0	1.20	121.80	202.0	-0.3	1.2	1.1	1.38	1.29		
232.0	1.20	110.50	232.0	-0.5	1.7	1.7	0.79	0.00		
263.0	2.20	124.90	263.0	-1.0	2.5	2.6	3.48	3.23		
294.0	3.10	138.80	293.9	-2.0	3.5	4.0	3.55	2.90		
324.0	3.90	133.20	323.9	-3.3	4.8	5.8	2.90	2.67		
355.0	4.80	132.30	354.8	-4.9	6.6	8.2	2.91	2.90		
386.0	5.70	134.50	385.7	-6.8	8.6	11.0	2.97	2.90		
417.0	6.60	131.00	416.5	-9.1	11.1	14.3	3.14	2.90		
509.0	8.80	130.70	507.6	-17.1	20.4	26.6	2.39	2.39		

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Rose Ranch 23-6C1
Project:	Mamm Creek	TVD Reference:	WELL @ 6806.0ft (Nabors M13)
Site:	A22W Pad (S22-T7S-R93W)	MD Reference:	WELL @ 6806.0ft (Nabors M13)
Well:	Rose Ranch 23-6C1	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	EDM 5000.1 US Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
599.0	12.10	127.30	596.1	-27.3	33.1	42.9	3.73	3.67	
690.0	15.70	127.00	684.5	-40.5	50.5	64.8	3.96	3.96	
782.0	17.90	129.30	772.5	-57.0	71.4	91.4	2.50	2.39	
874.0	19.20	133.10	859.8	-76.3	93.4	120.6	1.93	1.41	
969.0	21.50	133.20	948.8	-98.9	117.5	153.5	2.42	2.42	
1,065.0	24.50	131.30	1,037.2	-124.0	145.3	190.9	3.22	3.12	
1,160.0	26.20	131.20	1,123.0	-150.9	175.9	231.6	1.79	1.79	
1,253.0	26.30	131.50	1,206.4	-178.0	206.7	272.7	0.18	0.11	
1,348.0	26.50	130.90	1,291.5	-205.9	238.5	314.9	0.35	0.21	
1,425.0	26.50	131.20	1,360.4	-228.4	264.4	349.2	0.17	0.00	
1,538.0	26.10	131.20	1,461.7	-261.4	302.1	399.2	0.35	-0.35	
1,634.0	25.70	129.80	1,548.1	-288.6	334.0	441.1	0.76	-0.42	
1,729.0	26.50	130.00	1,633.4	-315.4	366.1	482.9	0.85	0.84	
1,825.0	27.30	129.10	1,719.0	-343.1	399.5	526.3	0.94	0.83	
1,920.0	28.10	125.70	1,803.1	-369.9	434.6	570.5	1.86	0.84	
2,015.0	28.90	124.30	1,886.6	-395.9	471.8	615.7	1.10	0.84	
2,110.0	28.70	124.50	1,969.9	-421.7	509.5	661.3	0.23	-0.21	
2,205.0	28.70	124.00	2,053.2	-447.4	547.2	706.8	0.25	0.00	
2,300.0	28.50	123.40	2,136.6	-472.6	585.1	752.1	0.37	-0.21	
2,396.0	28.30	124.40	2,221.1	-498.1	623.0	797.6	0.54	-0.21	
2,491.0	29.20	124.40	2,304.4	-523.9	660.7	843.2	0.95	0.95	
2,586.0	29.50	126.50	2,387.2	-550.9	698.6	889.7	1.13	0.32	
2,681.0	29.30	128.00	2,469.9	-579.2	735.7	936.3	0.80	-0.21	
2,777.0	29.10	128.60	2,553.7	-608.2	772.5	983.1	0.37	-0.21	
2,872.0	27.90	130.30	2,637.2	-637.0	807.5	1,028.4	1.52	-1.26	
2,967.0	27.10	129.60	2,721.5	-665.1	841.1	1,072.3	0.91	-0.84	
3,062.0	28.10	131.00	2,805.7	-693.6	874.7	1,116.3	1.25	1.05	
3,158.0	27.70	129.80	2,890.5	-722.7	908.9	1,161.2	0.72	-0.42	
3,253.0	26.90	127.30	2,974.9	-749.9	942.9	1,204.7	1.47	-0.84	
3,349.0	27.80	130.40	3,060.2	-777.6	977.2	1,248.8	1.75	0.94	
3,445.0	27.30	126.90	3,145.3	-805.3	1,011.9	1,293.2	1.76	-0.52	
3,540.0	27.20	128.90	3,229.8	-832.0	1,046.2	1,336.7	0.97	-0.11	
3,635.0	27.90	131.00	3,314.0	-860.2	1,079.9	1,380.6	1.26	0.74	
3,730.0	27.70	133.00	3,398.1	-889.9	1,112.8	1,424.9	1.00	-0.21	
3,826.0	28.00	131.50	3,482.9	-920.0	1,146.0	1,469.6	0.79	0.31	
3,922.0	26.90	128.50	3,568.1	-948.5	1,179.9	1,513.8	1.84	-1.15	
4,017.0	27.00	133.20	3,652.8	-976.6	1,212.4	1,556.8	2.24	0.11	
4,113.0	27.30	134.00	3,738.2	-1,006.8	1,244.2	1,600.5	0.49	0.31	
4,208.0	27.50	134.20	3,822.6	-1,037.2	1,275.6	1,644.0	0.23	0.21	
4,303.0	27.00	131.10	3,907.0	-1,066.7	1,307.5	1,687.4	1.58	-0.53	
4,399.0	26.50	133.50	3,992.8	-1,095.8	1,339.5	1,730.5	1.24	-0.52	
4,494.0	26.90	129.90	4,077.6	-1,124.2	1,371.3	1,773.1	1.75	0.42	
4,590.0	27.90	130.40	4,162.9	-1,152.6	1,405.1	1,817.3	1.07	1.04	
4,682.0	27.20	130.60	4,244.4	-1,180.3	1,437.5	1,859.8	0.77	-0.76	
4,777.0	27.50	129.60	4,328.8	-1,208.4	1,470.9	1,903.4	0.58	0.32	
4,872.0	28.50	127.10	4,412.7	-1,236.0	1,505.8	1,948.0	1.62	1.05	
4,968.0	27.60	128.10	4,497.4	-1,263.6	1,541.6	1,993.1	1.06	-0.94	
5,062.0	28.40	125.10	4,580.4	-1,289.9	1,577.0	2,037.2	1.72	0.85	
5,157.0	28.30	125.80	4,664.0	-1,316.0	1,613.8	2,082.3	0.37	-0.11	
5,253.0	27.60	123.20	4,748.8	-1,341.5	1,650.8	2,127.1	1.46	-0.73	
5,348.0	26.50	123.60	4,833.5	-1,365.3	1,686.9	2,170.2	1.17	-1.16	
5,444.0	26.40	125.30	4,919.4	-1,389.5	1,722.2	2,212.8	0.80	-0.10	
5,538.0	27.90	125.10	5,003.0	-1,414.2	1,757.2	2,255.6	1.60	1.60	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Rose Ranch 23-6C1
Project:	Mamm Creek	TVD Reference:	WELL @ 6806.0ft (Nabors M13)
Site:	A22W Pad (S22-T7S-R93W)	MD Reference:	WELL @ 6806.0ft (Nabors M13)
Well:	Rose Ranch 23-6C1	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	EDM 5000.1 US Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
5,635.0	27.40	128.90	5,089.0	-1,441.3	1,793.2	2,300.6	1.89	-0.52	
5,730.0	26.50	126.90	5,173.7	-1,467.7	1,827.1	2,343.6	1.34	-0.95	
5,826.0	25.60	128.20	5,259.9	-1,493.4	1,860.6	2,385.8	1.11	-0.94	
5,921.0	24.70	126.10	5,345.9	-1,517.8	1,892.7	2,426.1	1.33	-0.95	
6,017.0	24.10	126.00	5,433.3	-1,541.1	1,924.8	2,465.8	0.63	-0.62	
6,112.0	23.10	126.00	5,520.4	-1,563.5	1,955.6	2,503.7	1.05	-1.05	
6,207.0	21.80	125.80	5,608.2	-1,584.8	1,984.9	2,540.0	1.37	-1.37	
6,302.0	20.10	134.70	5,696.9	-1,606.6	2,010.9	2,573.8	3.79	-1.79	
6,398.0	18.50	133.30	5,787.5	-1,628.6	2,033.7	2,605.4	1.73	-1.67	
6,493.0	18.00	130.50	5,877.7	-1,648.5	2,055.8	2,635.1	1.06	-0.53	
6,589.0	16.90	128.60	5,969.3	-1,666.8	2,078.0	2,663.9	1.29	-1.15	
6,684.0	13.60	130.80	6,061.0	-1,682.8	2,097.2	2,688.9	3.53	-3.47	
6,779.0	12.90	129.10	6,153.4	-1,696.7	2,113.9	2,710.6	0.84	-0.74	
6,874.0	11.30	126.40	6,246.3	-1,709.0	2,129.6	2,730.6	1.79	-1.68	
6,970.0	8.90	126.50	6,340.8	-1,719.0	2,143.2	2,747.4	2.50	-2.50	
7,066.0	7.00	125.30	6,435.9	-1,726.8	2,153.9	2,760.6	1.99	-1.98	
7,161.0	6.30	126.70	6,530.3	-1,733.2	2,162.8	2,771.6	0.76	-0.74	
7,257.0	4.60	117.80	6,625.8	-1,738.2	2,170.5	2,780.7	1.97	-1.77	
7,352.0	1.40	122.00	6,720.7	-1,740.6	2,174.8	2,785.6	3.37	-3.37	
7,448.0	1.10	3.40	6,816.7	-1,740.3	2,175.9	2,786.2	2.24	-0.31	
7,543.0	0.70	0.40	6,911.7	-1,738.8	2,175.9	2,785.3	0.42	-0.42	
7,638.0	0.70	353.50	7,006.7	-1,737.6	2,175.9	2,784.5	0.09	0.00	
7,734.0	1.00	330.20	7,102.6	-1,736.3	2,175.4	2,783.3	0.47	0.31	
7,829.0	0.70	338.20	7,197.6	-1,735.0	2,174.8	2,782.1	0.34	-0.32	
7,923.0	1.00	338.40	7,291.6	-1,733.7	2,174.2	2,780.9	0.32	0.32	
8,019.0	0.90	343.40	7,387.6	-1,732.2	2,173.7	2,779.5	0.14	-0.10	
8,114.0	1.10	341.50	7,482.6	-1,730.7	2,173.2	2,778.1	0.21	0.21	
8,209.0	1.30	325.90	7,577.6	-1,728.9	2,172.3	2,776.3	0.40	0.21	
8,304.0	0.10	280.30	7,672.6	-1,728.0	2,171.6	2,775.2	1.30	-1.26	
8,399.0	0.40	288.40	7,767.6	-1,727.9	2,171.2	2,774.9	0.32	0.32	
8,495.0	0.70	224.00	7,863.6	-1,728.2	2,170.5	2,774.5	0.67	0.31	
8,590.0	0.50	106.70	7,958.6	-1,728.7	2,170.5	2,774.8	1.08	-0.21	
8,685.0	0.50	172.00	8,053.6	-1,729.3	2,171.0	2,775.5	0.57	0.00	
8,780.0	0.50	222.40	8,148.5	-1,730.0	2,170.7	2,775.8	0.45	0.00	
8,876.0	0.50	178.40	8,244.5	-1,730.7	2,170.5	2,776.0	0.39	0.00	
8,971.0	0.30	207.80	8,339.5	-1,731.3	2,170.4	2,776.3	0.30	-0.21	
9,066.0	0.80	222.60	8,434.5	-1,732.1	2,169.8	2,776.3	0.54	0.53	
9,162.0	0.70	184.90	8,530.5	-1,733.1	2,169.3	2,776.6	0.51	-0.10	
9,257.0	0.10	133.20	8,625.5	-1,733.8	2,169.3	2,777.0	0.68	-0.63	
9,352.0	0.20	110.70	8,720.5	-1,733.9	2,169.5	2,777.3	0.12	0.11	
9,385.0	0.10	100.30	8,753.5	-1,733.9	2,169.6	2,777.3	0.31	-0.30	Last Cathedral Survey @ 9,385' MD Projection to Bit @ 9,440'
9,440.0	0.10	100.30	8,808.5	-1,733.9	2,169.7	2,777.4	0.00	0.00	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Rose Ranch 23-6C1
Project:	Mamm Creek	TVD Reference:	WELL @ 6806.0ft (Nabors M13)
Site:	A22W Pad (S22-T7S-R93W)	MD Reference:	WELL @ 6806.0ft (Nabors M13)
Well:	Rose Ranch 23-6C1	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	EDM 5000.1 US Multi Users DB

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
Rose Ranch 23-6C1 TO	0.00	0.00	6,768.0	-1,740.2	2,175.0	1,589,910.87	2,365,905.96	39.431550	-107.745153
- survey misses target center by 0.8ft at 7399.3ft MD (6768.0 TVD, -1740.8 N, 2175.6 E)									
- Point									
Rose Ranch 23-6C1 BH	0.00	0.00	8,631.0	-1,740.2	2,175.0	1,589,910.87	2,365,905.96	39.431550	-107.745153
- survey misses target center by 8.6ft at 9262.5ft MD (8631.0 TVD, -1733.8 N, 2169.3 E)									
- Circle (radius 25.0)									

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
9,385.0	8,753.5	-1,733.9	2,169.6	Last Cathedral Survey @ 9,385' MD
9,440.0	8,808.5	-1,733.9	2,169.7	Projection to Bit @ 9,440'

Checked By: _____ Approved By: _____ Date: _____