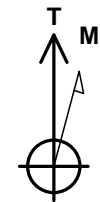
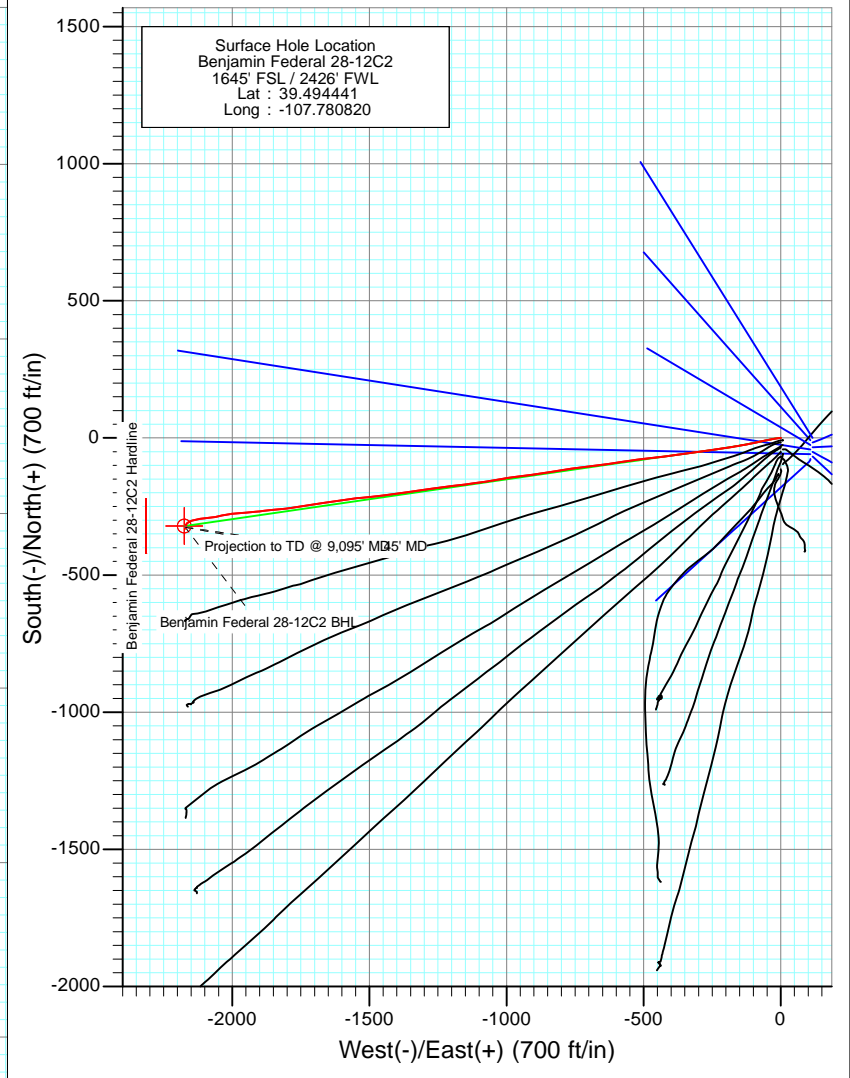
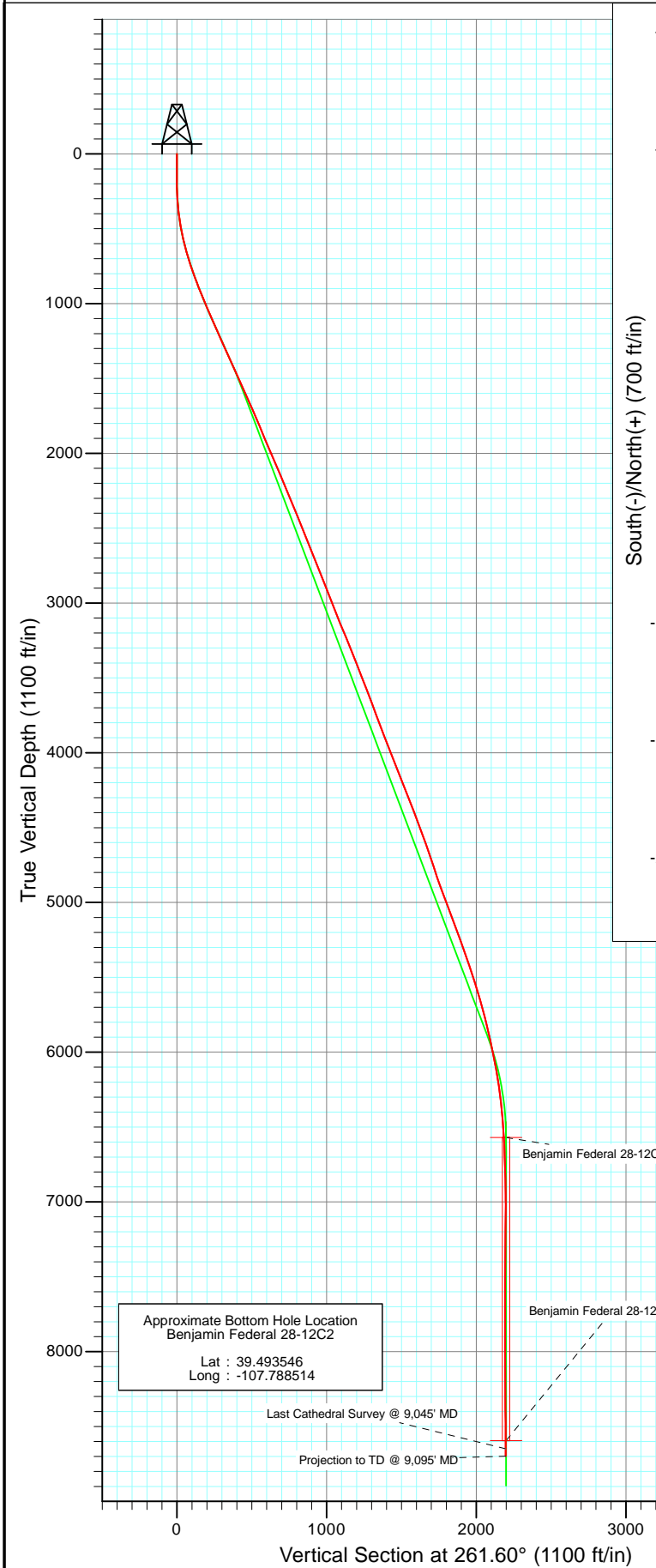




Project: Mamm Creek
 Site: K28NW Pad
 Well: Benjamin Federal 28-12C2
 Wellbore: DD
 Design: FINAL

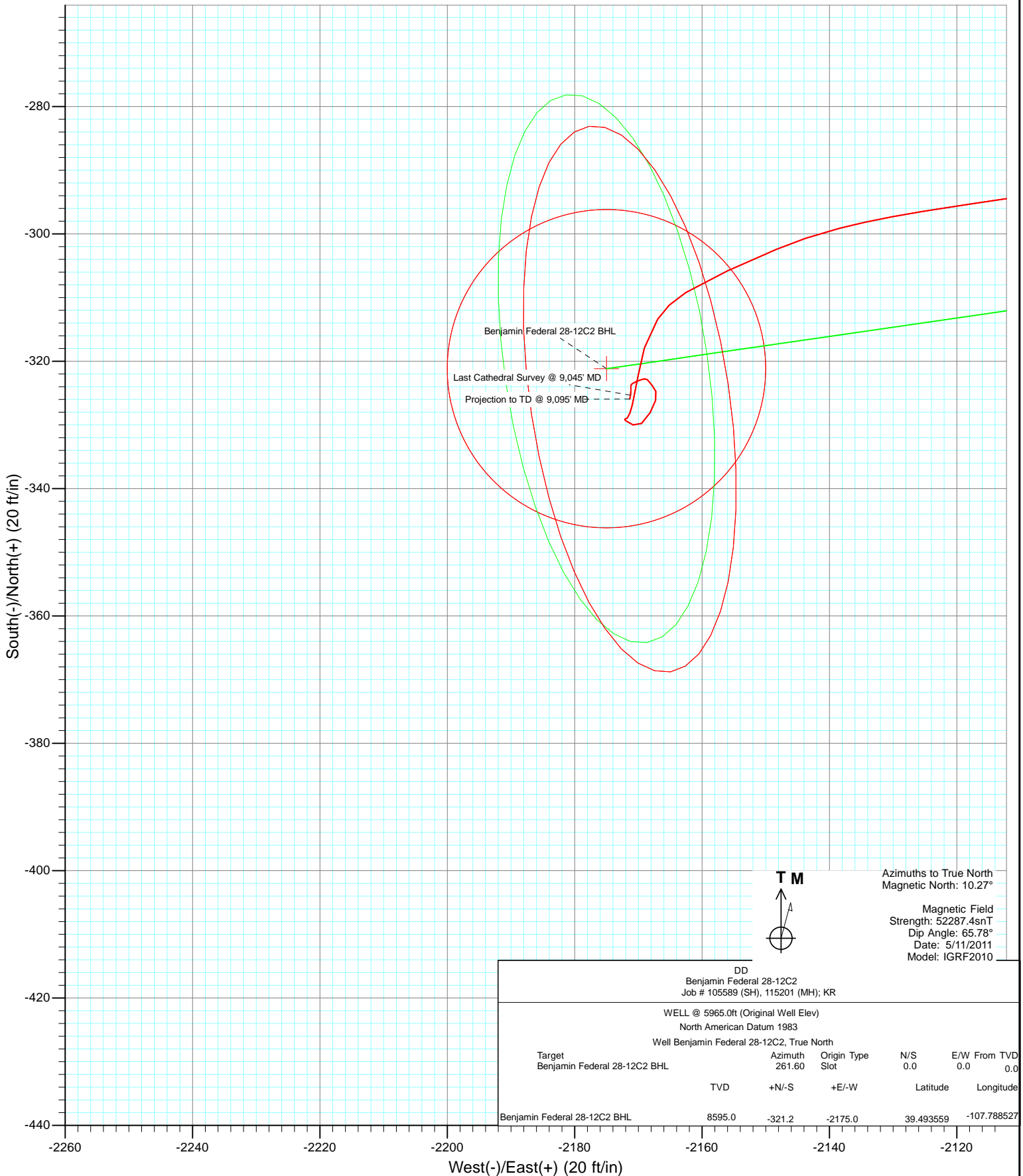


Azimuths to True North
 Magnetic North: 10.27°
 Magnetic Strength: 52287.4snT
 Dip Angle: 65.78°
 Date: 5/11/2011
 Model: IGRF2010

DD Benjamin Federal 28-12C2 BHL = (1360 FSL - 240 FWL) Job # 105589 (SH), 115201 (MH); KR						
WELL @ 5965.0ft (Original Well Elev) North American Datum 1983 Well Benjamin Federal 28-12C2, True North						
Type	Target	Azimuth	Origin Type	N/S	E/W	From TVD
Target	Benjamin Federal 28-12C2 BHL	261.60	Slot	0.0	0.0	0.0
	TVD	+N/-S	+E/-W	Latitude	Longitude	
Benjamin Federal 28-12C2 BHL	8595.0	-321.2	-2175.0	39.493559	-107.788527	



Project: Mamm Creek
 Site: K28NW Pad
 Well: Benjamin Federal 28-12C2
 Wellbore: DD
 Design: FINAL

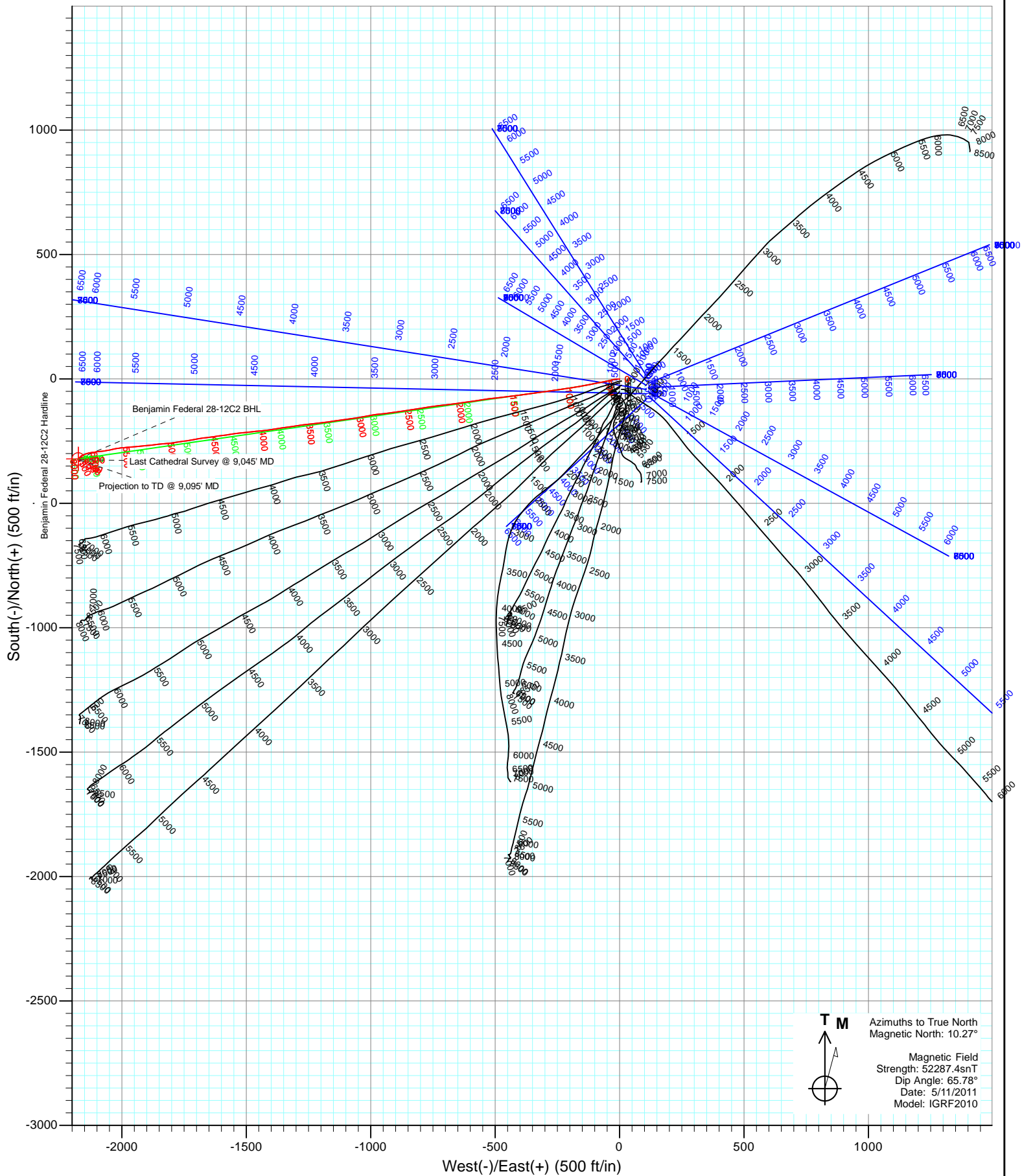


Azimuths to True North
 Magnetic North: 10.27°
 Magnetic Field
 Strength: 52287.4snT
 Dip Angle: 65.78°
 Date: 5/11/2011
 Model: IGRF2010

DD					
Benjamin Federal 28-12C2					
Job # 105589 (SH), 115201 (MH); KR					
WELL @ 5965.0ft (Original Well Elev)					
North American Datum 1983					
Well Benjamin Federal 28-12C2, True North					
Target	Azimuth	Origin Type	N/S	E/W	From TVD
Benjamin Federal 28-12C2 BHL	261.60	Slot	0.0	0.0	0.0
	TVD	+N/-S	+E/-W	Latitude	Longitude
Benjamin Federal 28-12C2 BHL	8595.0	-321.2	-2175.0	39.493559	-107.788527



Project: Mamm Creek
Site: K28NW Pad
Well: Benjamin Federal 28-12C2
Wellbore: DD
Design: FINAL



Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Benjamin Federal 28-12C2
Project: Mamm Creek	TVD Reference: WELL @ 5965.0ft (Original Well Elev)
Site: K28NW Pad	MD Reference: WELL @ 5965.0ft (Original Well Elev)
Well: Benjamin Federal 28-12C2	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 K28NW Pad				
Site Position:	Northing: 1,613,160.16 ft	Latitude: 39.494711		
From: Lat/Long	Easting: 2,356,412.22 ft	Longitude: -107.780819		
Position Uncertainty: 0.0 ft	Slot Radius: 13.200 in	Grid Convergence: -1.44 °		

Well Benjamin Federal 28-12C2				
Well Position	+N/-S 0.0 ft	Northing: 1,613,061.80 ft	Latitude: 39.494441	
	+E/-W 0.0 ft	Easting: 2,356,409.60 ft	Longitude: -107.780820	
Position Uncertainty	0.0 ft	Wellhead Elevation: ft	Ground Level: 5,943.0 ft	

Wellbore DD					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/11/2011	10.27	65.78	52,287

Design DD				
Audit Notes:				
Version: 1.0	Phase: ACTUAL	Tie On Depth: 0.0		
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	261.60

Survey Program		Date 6/2/2011
From (ft)	To (ft)	Survey (Wellbore)
113.0	9,095.0	Survey #1 (DD)
		Tool Name MWD
		Description 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	
113.0	0.50	170.10	113.0	-0.5	0.1	0.0	0.44	0.44	
144.0	0.10	280.30	144.0	-0.6	0.1	0.0	1.75	-1.29	
175.0	0.20	299.60	175.0	-0.6	0.0	0.1	0.36	0.32	
205.0	1.00	276.20	205.0	-0.5	-0.3	0.4	2.73	2.67	
236.0	1.50	274.00	236.0	-0.5	-1.0	1.0	1.62	1.61	
267.0	2.70	277.20	267.0	-0.4	-2.1	2.1	3.89	3.87	
298.0	3.30	270.30	297.9	-0.3	-3.7	3.7	2.26	1.94	
328.0	4.10	268.30	327.9	-0.3	-5.7	5.6	2.70	2.67	
359.0	5.10	270.20	358.8	-0.3	-8.1	8.1	3.26	3.23	
390.0	6.20	264.20	389.6	-0.5	-11.2	11.1	4.02	3.55	
420.0	7.00	261.70	419.4	-0.9	-14.6	14.6	2.83	2.67	
451.0	8.20	261.30	450.1	-1.5	-18.7	18.7	3.87	3.87	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-12C2
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site:	K28NW Pad	MVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Well:	Benjamin Federal 28-12C2	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
482.0	9.50	257.10	480.8	-2.4	-23.3	23.4	4.68	4.19	
513.0	11.00	258.30	511.3	-3.6	-28.7	28.9	4.89	4.84	
544.0	12.20	257.60	541.6	-4.9	-34.8	35.2	3.90	3.87	
574.0	13.30	256.70	570.9	-6.4	-41.3	41.8	3.73	3.67	
605.0	14.30	255.80	601.0	-8.1	-48.5	49.1	3.30	3.23	
636.0	15.20	258.10	631.0	-9.9	-56.1	57.0	3.46	2.90	
667.0	16.40	260.30	660.8	-11.5	-64.4	65.4	4.33	3.87	
698.0	17.30	258.20	690.5	-13.2	-73.3	74.4	3.50	2.90	
729.0	18.30	260.20	720.0	-14.9	-82.6	83.9	3.78	3.23	
759.0	18.90	258.20	748.4	-16.7	-92.0	93.4	2.92	2.00	
790.0	19.40	258.10	777.7	-18.8	-101.9	103.6	1.62	1.61	
821.0	19.50	259.00	806.9	-20.9	-112.0	113.9	1.02	0.32	
852.0	19.70	258.90	836.1	-22.9	-122.2	124.3	0.65	0.65	
883.0	20.20	258.40	865.3	-24.9	-132.6	134.8	1.70	1.61	
913.0	21.30	259.40	893.3	-27.0	-143.0	145.5	3.85	3.67	
944.0	22.00	261.50	922.2	-28.9	-154.3	156.9	3.37	2.26	
974.0	21.70	259.00	950.0	-30.8	-165.3	168.0	3.26	-1.00	
1,066.0	23.50	262.50	1,034.9	-36.4	-200.2	203.4	2.44	1.96	
1,158.0	24.00	262.00	1,119.1	-41.4	-236.9	240.4	0.59	0.54	
1,250.0	24.30	260.30	1,203.1	-47.2	-274.1	278.1	0.82	0.33	
1,385.0	24.10	262.90	1,326.2	-55.3	-328.8	333.4	0.80	-0.15	
1,447.0	24.30	263.70	1,382.8	-58.2	-354.1	358.8	0.62	0.32	
1,543.0	24.20	260.80	1,470.3	-63.6	-393.1	398.2	1.24	-0.10	
1,637.0	23.60	263.90	1,556.3	-68.6	-430.9	436.3	1.48	-0.64	
1,733.0	23.60	263.00	1,644.2	-73.0	-469.1	474.7	0.38	0.00	
1,828.0	24.20	263.70	1,731.1	-77.5	-507.3	513.2	0.70	0.63	
1,924.0	23.10	260.80	1,819.0	-82.6	-545.4	551.7	1.67	-1.15	
2,019.0	23.00	262.40	1,906.4	-88.1	-582.2	588.8	0.67	-0.11	
2,114.0	22.90	261.60	1,993.9	-93.2	-618.9	625.9	0.34	-0.11	
2,209.0	23.60	261.90	2,081.2	-98.6	-656.0	663.4	0.75	0.74	
2,304.0	22.90	263.70	2,168.5	-103.3	-693.2	700.9	1.05	-0.74	
2,399.0	22.30	262.70	2,256.2	-107.6	-729.5	737.4	0.75	-0.63	
2,494.0	22.40	261.50	2,344.1	-112.6	-765.3	773.5	0.49	0.11	
2,589.0	22.50	261.30	2,431.9	-118.0	-801.1	809.8	0.13	0.11	
2,685.0	22.30	261.30	2,520.6	-123.6	-837.3	846.4	0.21	-0.21	
2,780.0	22.10	260.20	2,608.6	-129.3	-872.7	882.2	0.49	-0.21	
2,875.0	21.40	263.30	2,696.8	-134.4	-907.5	917.4	1.42	-0.74	
2,970.0	21.40	263.10	2,785.3	-138.5	-942.0	952.1	0.08	0.00	
3,066.0	21.20	262.40	2,874.7	-142.9	-976.5	986.9	0.34	-0.21	
3,161.0	20.70	259.30	2,963.4	-148.3	-1,010.1	1,020.9	1.28	-0.53	
3,256.0	22.10	260.10	3,051.9	-154.5	-1,044.2	1,055.5	1.51	1.47	
3,351.0	22.60	262.80	3,139.7	-159.8	-1,079.9	1,091.7	1.20	0.53	
3,446.0	22.40	262.10	3,227.5	-164.6	-1,115.9	1,128.0	0.35	-0.21	
3,542.0	22.10	261.00	3,316.4	-170.0	-1,151.9	1,164.4	0.53	-0.31	
3,638.0	21.40	263.60	3,405.5	-174.7	-1,187.1	1,199.9	1.24	-0.73	
3,733.0	21.40	263.10	3,494.0	-178.7	-1,221.6	1,234.6	0.19	0.00	
3,828.0	21.40	263.60	3,582.4	-182.8	-1,256.0	1,269.2	0.19	0.00	
3,923.0	20.50	261.30	3,671.2	-187.2	-1,289.7	1,303.2	1.28	-0.95	
4,019.0	20.50	262.20	3,761.1	-192.0	-1,322.9	1,336.8	0.33	0.00	
4,114.0	20.30	261.50	3,850.1	-196.7	-1,355.7	1,369.9	0.33	-0.21	
4,209.0	21.30	260.70	3,938.9	-202.0	-1,389.0	1,403.6	1.09	1.05	
4,304.0	21.40	263.80	4,027.4	-206.6	-1,423.3	1,438.2	1.19	0.11	
4,400.0	21.90	263.70	4,116.6	-210.5	-1,458.5	1,473.6	0.52	0.52	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Benjamin Federal 28-12C2
Project:	Mamm Creek	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site:	K28NW Pad	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Well:	Benjamin Federal 28-12C2	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
4,495.0	22.30	263.90	4,204.7	-214.3	-1,494.0	1,509.3	0.43	0.42	
4,590.0	20.90	264.50	4,293.0	-217.9	-1,528.8	1,544.3	1.49	-1.47	
4,685.0	21.00	259.90	4,381.7	-222.5	-1,562.5	1,578.2	1.73	0.11	
4,781.0	20.70	263.50	4,471.4	-227.4	-1,596.2	1,612.3	1.37	-0.31	
4,876.0	19.80	262.00	4,560.6	-231.6	-1,628.9	1,645.2	1.09	-0.95	
4,971.0	18.90	263.40	4,650.2	-235.6	-1,660.1	1,676.7	1.07	-0.95	
5,067.0	18.50	259.70	4,741.1	-240.1	-1,690.5	1,707.4	1.30	-0.42	
5,162.0	18.90	259.80	4,831.1	-245.5	-1,720.5	1,737.9	0.42	0.42	
5,257.0	20.60	262.30	4,920.5	-250.5	-1,752.2	1,770.0	2.00	1.79	
5,352.0	20.60	260.90	5,009.4	-255.3	-1,785.3	1,803.4	0.52	0.00	
5,448.0	20.50	265.30	5,099.3	-259.4	-1,818.7	1,837.1	1.61	-0.10	
5,543.0	20.30	264.60	5,188.4	-262.3	-1,851.7	1,870.1	0.33	-0.21	
5,638.0	19.90	262.30	5,277.6	-266.0	-1,884.1	1,902.8	0.93	-0.42	
5,733.0	19.10	265.20	5,367.1	-269.5	-1,915.6	1,934.4	1.32	-0.84	
5,828.0	17.80	264.60	5,457.3	-272.2	-1,945.6	1,964.4	1.38	-1.37	
5,924.0	17.60	266.40	5,548.7	-274.4	-1,974.7	1,993.6	0.61	-0.21	
6,019.0	16.70	263.40	5,639.5	-276.9	-2,002.5	2,021.5	1.33	-0.95	
6,115.0	14.90	258.60	5,731.9	-280.9	-2,028.4	2,047.6	2.32	-1.87	
6,209.0	13.40	257.30	5,823.0	-285.7	-2,050.8	2,070.6	1.63	-1.60	
6,305.0	12.30	262.30	5,916.6	-289.5	-2,071.8	2,091.9	1.63	-1.15	
6,400.0	11.60	264.00	6,009.6	-291.9	-2,091.3	2,111.5	0.82	-0.74	
6,495.0	10.40	262.20	6,102.8	-294.1	-2,109.3	2,129.7	1.31	-1.26	
6,590.0	9.30	260.70	6,196.4	-296.5	-2,125.4	2,145.9	1.19	-1.16	
6,684.0	7.00	255.50	6,289.4	-299.1	-2,138.4	2,159.2	2.57	-2.45	
6,780.0	5.50	246.30	6,384.9	-302.4	-2,148.3	2,169.5	1.87	-1.56	
6,875.0	4.70	246.30	6,479.5	-305.8	-2,156.1	2,177.6	0.84	-0.84	
6,970.0	4.20	238.10	6,574.2	-309.2	-2,162.6	2,184.5	0.85	-0.53	
7,065.0	3.30	211.60	6,669.0	-313.4	-2,167.0	2,189.5	2.03	-0.95	
7,161.0	2.70	196.50	6,764.9	-317.9	-2,169.1	2,192.2	1.03	-0.62	
7,256.0	2.70	189.00	6,859.8	-322.3	-2,170.0	2,193.8	0.37	0.00	
7,351.0	2.90	193.00	6,954.7	-326.8	-2,170.9	2,195.4	0.29	0.21	
7,446.0	0.80	276.20	7,049.6	-329.1	-2,172.1	2,196.9	3.07	-2.21	
7,541.0	1.00	110.00	7,144.6	-329.3	-2,172.0	2,196.8	1.88	0.21	
7,636.0	0.70	132.44	7,239.6	-330.0	-2,170.8	2,195.7	0.47	-0.32	
7,732.0	1.30	53.70	7,335.6	-329.7	-2,169.5	2,194.4	1.41	0.62	
7,827.0	1.40	24.90	7,430.6	-328.1	-2,168.1	2,192.8	0.71	0.11	
7,923.0	1.10	22.90	7,526.6	-326.1	-2,167.3	2,191.7	0.32	-0.31	
8,018.0	0.80	330.30	7,621.5	-324.7	-2,167.3	2,191.4	0.93	-0.32	
8,113.0	0.50	325.30	7,716.5	-323.8	-2,167.8	2,191.9	0.32	-0.32	
8,208.0	0.40	316.70	7,811.5	-323.2	-2,168.3	2,192.2	0.13	-0.11	
8,303.0	0.20	322.20	7,906.5	-322.9	-2,168.6	2,192.5	0.21	-0.21	
8,399.0	0.40	265.30	8,002.5	-322.7	-2,169.0	2,192.9	0.35	0.21	
8,494.0	0.50	245.60	8,097.5	-322.9	-2,169.8	2,193.7	0.19	0.11	
8,589.0	0.30	249.20	8,192.5	-323.2	-2,170.4	2,194.3	0.21	-0.21	
8,684.0	0.20	234.50	8,287.5	-323.4	-2,170.7	2,194.7	0.12	-0.11	
8,780.0	0.20	238.00	8,383.5	-323.6	-2,171.0	2,195.0	0.01	0.00	
8,875.0	0.20	184.60	8,478.5	-323.8	-2,171.2	2,195.2	0.19	0.00	
8,970.0	0.60	176.80	8,573.5	-324.5	-2,171.2	2,195.3	0.42	0.42	
9,045.0	0.70	191.10	8,648.5	-325.3	-2,171.2	2,195.5	0.25	0.13	Last Cathedral Survey @ 9,045' MD
9,095.0	0.70	191.10	8,698.5	-325.9	-2,171.3	2,195.7	0.00	0.00	Projection to TD @ 9,095' MD

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Benjamin Federal 28-12C2
Project: Mamm Creek	TVD Reference: WELL @ 5965.0ft (Original Well Elev)
Site: K28NW Pad	MD Reference: WELL @ 5965.0ft (Original Well Elev)
Well: Benjamin Federal 28-12C2	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									
Benjamin Federal 28-12 - survey misses target center by 17.5ft at 6967.1ft MD (6571.3 TVD, -309.1 N, -2162.4 E) - Point	0.00	0.00	6,570.0	-321.2	-2,175.0	1,612,795.34	2,354,227.22	39.493559	-107.788527
Benjamin Federal 28-12 - survey misses target center by 8871.7ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E) - Polygon	0.00	0.00	-8,595.0	-321.2	-2,175.0	1,612,795.34	2,354,227.22	39.493559	-107.788527
Point 1			-8,595.0	100.0	-140.0	1,612,898.83	2,354,089.77		
Point 2			-8,595.0	-100.0	-140.0	1,612,698.89	2,354,084.75		
Benjamin Federal 28-12 - survey misses target center by 5.2ft at 8991.4ft MD (8595.0 TVD, -324.7 N, -2171.1 E) - Circle (radius 25.0)	0.00	0.00	8,595.0	-321.2	-2,175.0	1,612,795.34	2,354,227.22	39.493559	-107.788527

Survey Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)		
9,045.0	8,648.5	-325.3	-2,171.2	Last Cathedral Survey @ 9,045' MD	
9,095.0	8,698.5	-325.9	-2,171.3	Projection to TD @ 9,095' MD	

Checked By: _____	Approved By: _____	Date: _____
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