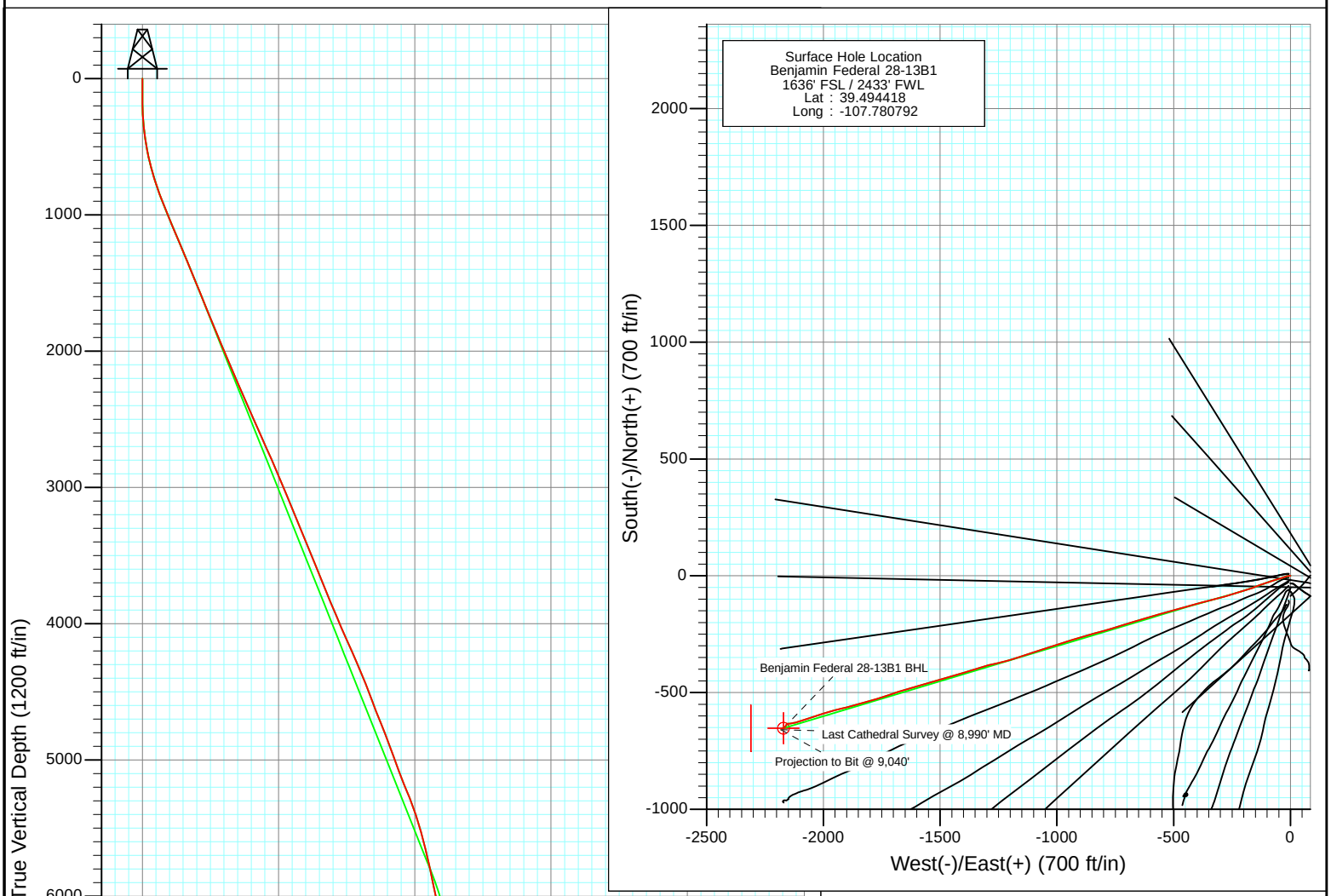
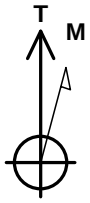
Project: Mamm Creek
Site: K28NW Pad
Well: Benjamin Federal 28-13B1
Wellbore: DD
Design: FINAL





Azimuths to True North
Magnetic North: 10.27°

Magnetic Field
Strength: 52289.6snT
Dip Angle: 65.78°
Date: 5/3/2011
Model: IGRF2010

DD
Benjamin Federal 28-13B1
BHL = (1020 FSL - 240 FWL) Job #115019 (SH), 115184 (MH): KR

WELL @ 5965.0ft (Original Well Elev)
North American Datum 1983
Well Benjamin Federal 28-13B1, True North

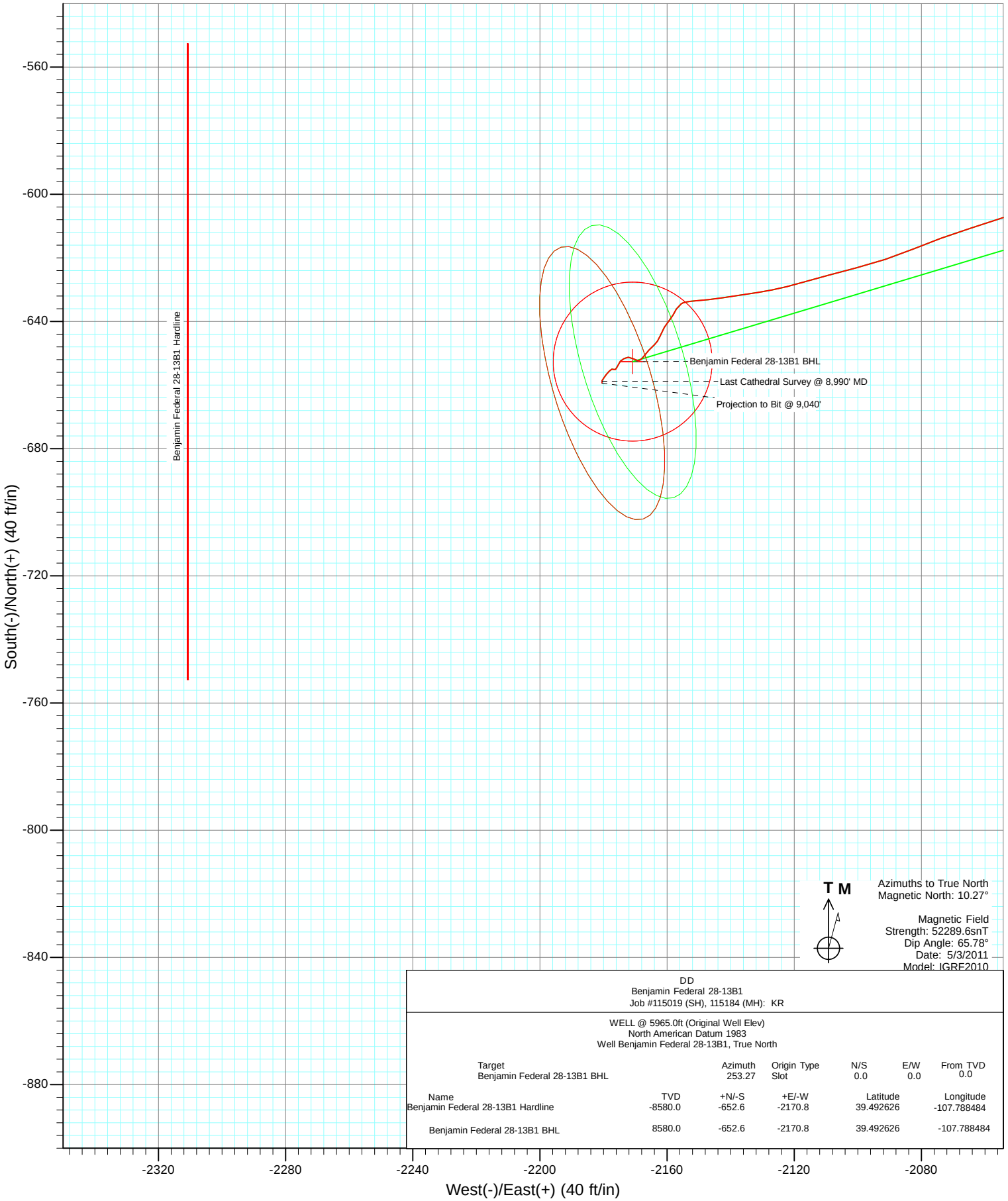
Type	Target	Azimuth	Origin Type	N/S	E/W	From TVD
Target	Benjamin Federal 28-13B1 BHL	253.27	Slot	0.0	0.0	0.0

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Benjamin Federal 28-13B1 Hardline	-8580.0	-652.6	-2170.8	39.492626	-107.788484
Benjamin Federal 28-13B1 TOG	6555.0	-652.6	-2170.8	39.492626	-107.788484
Benjamin Federal 28-13B1 BHL	8580.0	-652.6	-2170.8	39.492626	-107.788484

ENCANA

Project: Mamm Creek
Site: K28NW Pad
Well: Benjamin Federal 28-13B1
Wellbore: DD
Design: FINAL

CATHEDRAL



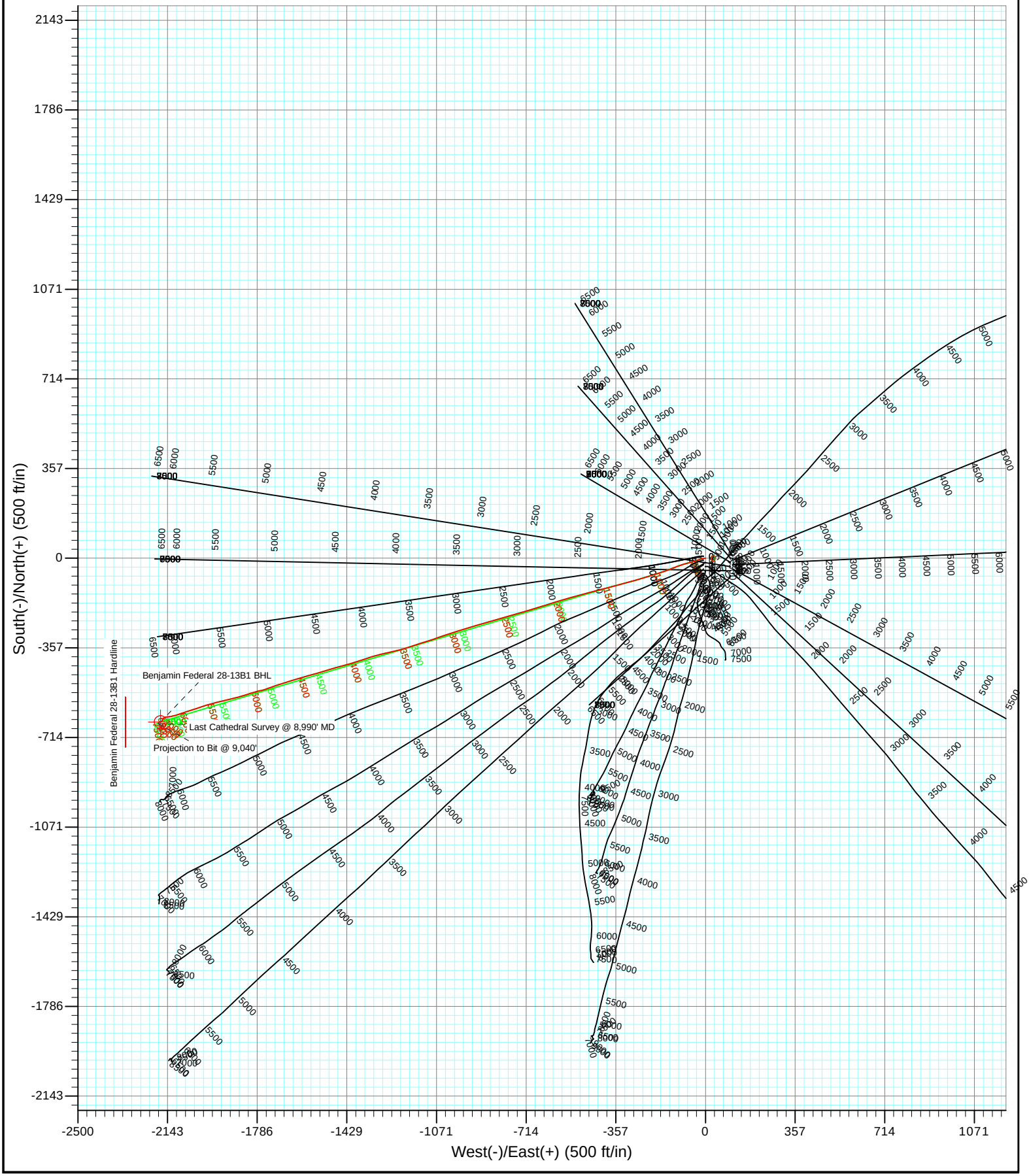
DD
Benjamin Federal 28-13B1
Job #115019 (SH), 115184 (MH): KR

WELL @ 5965.0ft (Original Well Elev)
North American Datum 1983
Well Benjamin Federal 28-13B1, True North

Target		Azimuth	Origin Type	N/S	E/W	From TVD
Benjamin Federal 28-13B1 BHL		253.27	Slot	0.0	0.0	0.0

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Benjamin Federal 28-13B1 Hardline	-8580.0	-652.6	-2170.8	39.492626	-107.788484
Benjamin Federal 28-13B1 BHL	8580.0	-652.6	-2170.8	39.492626	-107.788484

Project: Mamm Creek
Site: K28NW Pad
Well: Benjamin Federal 28-13B1
Wellbore: DD
Design: FINAL



Survey Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Benjamin Federal 28-13B1
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 28-13B1	**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 28-13B1

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,613,053.23 ft	**Latitude:**	39.494418
	+E/-W	0.0 ft	**Easting:**	2,356,417.28 ft	**Longitude:**	-107.780792
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	5/3/2011	10.27	65.78	52,290

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	253.27

Survey Program **Date** 5/18/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
125.0	9,040.0	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	
125.0	0.20	175.40	125.0	-0.2	0.0	0.0	0.16	0.16	
156.0	0.50	316.20	156.0	-0.2	-0.1	0.1	2.15	0.97	
186.0	1.40	280.30	186.0	0.0	-0.5	0.5	3.46	3.00	
217.0	1.90	263.20	217.0	0.0	-1.4	1.3	2.25	1.61	
247.0	3.20	264.60	247.0	-0.1	-2.7	2.7	4.34	4.33	
278.0	3.60	263.60	277.9	-0.3	-4.6	4.5	1.30	1.29	
309.0	4.40	256.90	308.8	-0.7	-6.7	6.6	2.98	2.58	
339.0	5.40	262.00	338.7	-1.2	-9.2	9.2	3.63	3.33	
370.0	6.60	259.40	369.5	-1.7	-12.4	12.4	3.97	3.87	
401.0	7.30	256.70	400.3	-2.5	-16.1	16.1	2.49	2.26	
432.0	7.90	248.40	431.0	-3.7	-20.0	20.2	4.03	1.94	
463.0	8.90	248.80	461.7	-5.4	-24.2	24.7	3.23	3.23	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Benjamin Federal 28-13B1
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 28-13B1	**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
494.0	9.80	251.70	492.3	-7.1	-28.9	29.7	3.28	2.90	
524.0	10.50	250.10	521.8	-8.8	-33.9	35.0	2.52	2.33	
555.0	11.70	251.80	552.2	-10.7	-39.6	41.0	4.01	3.87	
586.0	12.90	251.70	582.5	-12.8	-45.8	47.6	3.87	3.87	
617.0	13.50	255.10	612.7	-14.8	-52.6	54.7	3.16	1.94	
648.0	14.90	256.20	642.8	-16.7	-60.0	62.3	4.60	4.52	
709.0	16.30	254.80	701.5	-20.8	-75.9	78.6	2.38	2.30	
802.0	18.60	250.20	790.2	-29.3	-102.4	106.5	2.88	2.47	
894.0	20.90	248.00	876.8	-40.4	-131.4	137.5	2.63	2.50	
986.0	22.20	250.90	962.4	-52.2	-163.1	171.2	1.83	1.41	
1,079.0	22.60	253.30	1,048.4	-63.1	-196.8	206.6	1.07	0.43	
1,170.0	23.10	253.10	1,132.2	-73.3	-230.6	242.0	0.56	0.55	
1,262.0	22.60	252.20	1,217.0	-84.0	-264.7	277.7	0.66	-0.54	
1,355.0	22.60	255.40	1,302.9	-93.9	-299.0	313.4	1.32	0.00	
1,392.0	22.60	256.10	1,337.0	-97.4	-312.8	327.6	0.73	0.00	
1,545.0	22.20	254.90	1,478.5	-112.0	-369.3	385.9	0.40	-0.26	
1,640.0	22.30	255.00	1,566.4	-121.4	-404.0	421.8	0.11	0.11	
1,736.0	22.00	254.40	1,655.3	-130.9	-438.9	458.0	0.39	-0.31	
1,831.0	21.70	255.80	1,743.5	-140.0	-473.1	493.4	0.63	-0.32	
1,927.0	23.20	254.90	1,832.2	-149.3	-508.5	530.0	1.60	1.56	
2,022.0	23.20	254.00	1,919.5	-159.3	-544.6	567.4	0.37	0.00	
2,118.0	22.80	253.60	2,007.9	-169.8	-580.6	604.9	0.45	-0.42	
2,213.0	22.60	251.70	2,095.6	-180.7	-615.6	641.6	0.80	-0.21	
2,309.0	23.50	253.90	2,183.9	-191.8	-651.5	679.1	1.30	0.94	
2,404.0	23.10	253.10	2,271.1	-202.5	-687.5	716.7	0.54	-0.42	
2,500.0	24.10	253.20	2,359.1	-213.6	-724.3	755.2	1.04	1.04	
2,595.0	23.70	253.60	2,446.0	-224.6	-761.2	793.6	0.45	-0.42	
2,690.0	23.10	253.80	2,533.2	-235.2	-797.4	831.4	0.64	-0.63	
2,786.0	24.60	254.60	2,621.0	-245.8	-834.8	870.2	1.60	1.56	
2,881.0	24.00	254.20	2,707.5	-256.3	-872.4	909.3	0.65	-0.63	
2,977.0	23.60	254.40	2,795.4	-266.8	-909.7	948.0	0.43	-0.42	
3,072.0	23.20	251.50	2,882.6	-277.8	-945.8	985.7	1.28	-0.42	
3,167.0	22.50	251.80	2,970.1	-289.4	-980.8	1,022.6	0.75	-0.74	
3,262.0	23.20	253.30	3,057.7	-300.5	-1,016.0	1,059.5	0.96	0.74	
3,357.0	23.00	251.60	3,145.0	-311.7	-1,051.5	1,096.7	0.73	-0.21	
3,452.0	21.90	250.30	3,232.8	-323.6	-1,085.8	1,133.0	1.27	-1.16	
3,547.0	22.90	253.50	3,320.7	-334.8	-1,120.2	1,169.2	1.66	1.05	
3,642.0	21.60	251.20	3,408.6	-345.7	-1,154.5	1,205.1	1.65	-1.37	
3,738.0	22.10	252.10	3,497.7	-356.9	-1,188.4	1,240.8	0.63	0.52	
3,834.0	22.90	256.20	3,586.4	-366.9	-1,223.7	1,277.6	1.83	0.83	
3,929.0	22.20	257.30	3,674.1	-375.3	-1,259.2	1,313.9	0.86	-0.74	
4,025.0	21.80	257.00	3,763.1	-383.3	-1,294.3	1,349.8	0.43	-0.42	
4,120.0	22.90	252.20	3,851.0	-392.9	-1,329.0	1,385.9	2.24	1.16	
4,215.0	22.60	251.50	3,938.6	-404.3	-1,364.0	1,422.6	0.43	-0.32	
4,311.0	23.40	252.90	4,027.0	-415.8	-1,399.7	1,460.1	1.01	0.83	
4,406.0	24.20	255.60	4,113.9	-426.2	-1,436.6	1,498.4	1.42	0.84	
4,501.0	23.80	253.60	4,200.7	-436.4	-1,473.8	1,537.1	0.95	-0.42	
4,596.0	23.10	252.50	4,287.9	-447.5	-1,510.0	1,574.9	0.87	-0.74	
4,691.0	22.80	254.30	4,375.3	-458.0	-1,545.5	1,611.9	0.80	-0.32	
4,786.0	21.70	254.20	4,463.3	-467.8	-1,580.1	1,647.9	1.16	-1.16	
4,882.0	20.40	253.40	4,552.9	-477.4	-1,613.2	1,682.3	1.39	-1.35	
4,977.0	21.00	253.50	4,641.7	-487.0	-1,645.4	1,715.9	0.63	0.63	
5,072.0	22.40	252.30	4,730.0	-497.3	-1,679.0	1,751.0	1.55	1.47	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Benjamin Federal 28-13B1
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 28-13B1	**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
5,168.0	21.10	251.40	4,819.2	-508.4	-1,712.8	1,786.6	1.40	-1.35	
5,263.0	20.20	249.90	4,908.1	-519.5	-1,744.4	1,820.1	1.10	-0.95	
5,358.0	19.60	258.60	4,997.4	-528.3	-1,775.4	1,852.3	3.18	-0.63	
5,453.0	21.00	251.00	5,086.5	-537.0	-1,807.1	1,885.2	3.14	1.47	
5,548.0	21.30	254.60	5,175.1	-547.1	-1,839.9	1,919.5	1.40	0.32	
5,643.0	22.80	253.70	5,263.2	-556.8	-1,874.2	1,955.1	1.62	1.58	
5,738.0	19.90	258.60	5,351.6	-565.2	-1,907.7	1,989.6	3.58	-3.05	
5,833.0	17.10	255.10	5,441.7	-572.0	-1,937.0	2,019.7	3.17	-2.95	
5,929.0	15.60	254.60	5,533.8	-579.1	-1,963.1	2,046.7	1.57	-1.56	
6,024.0	14.10	253.00	5,625.7	-585.8	-1,986.5	2,071.1	1.64	-1.58	
6,119.0	13.10	252.40	5,718.0	-592.5	-2,007.8	2,093.4	1.06	-1.05	
6,213.0	12.00	252.40	5,809.8	-598.6	-2,027.3	2,113.8	1.17	-1.17	
6,308.0	11.80	251.50	5,902.7	-604.7	-2,045.9	2,133.4	0.29	-0.21	
6,403.0	12.10	252.70	5,995.7	-610.8	-2,064.6	2,153.1	0.41	0.32	
6,498.0	11.10	247.50	6,088.7	-617.2	-2,082.6	2,172.1	1.52	-1.05	
6,594.0	11.50	255.60	6,182.9	-623.1	-2,100.4	2,190.9	1.70	0.42	
6,689.0	9.80	254.00	6,276.2	-627.7	-2,117.4	2,208.4	1.82	-1.79	
6,784.0	7.60	261.50	6,370.1	-630.9	-2,131.3	2,222.7	2.60	-2.32	
6,879.0	5.90	261.50	6,464.5	-632.5	-2,142.4	2,233.8	1.79	-1.79	
6,974.0	4.50	266.10	6,559.1	-633.5	-2,150.9	2,242.2	1.54	-1.47	
7,069.0	1.40	231.50	6,653.9	-634.5	-2,155.6	2,247.0	3.62	-3.26	
7,164.0	1.30	212.60	6,748.9	-636.1	-2,157.0	2,248.9	0.48	-0.11	
7,260.0	1.20	205.70	6,844.9	-637.9	-2,158.1	2,250.4	0.19	-0.10	
7,355.0	1.40	222.20	6,939.9	-639.7	-2,159.3	2,252.0	0.44	0.21	
7,450.0	1.80	210.10	7,034.8	-641.8	-2,160.8	2,254.1	0.55	0.42	
7,544.0	2.20	202.90	7,128.8	-644.8	-2,162.3	2,256.3	0.50	0.43	
7,639.0	1.50	229.30	7,223.7	-647.3	-2,163.9	2,258.6	1.14	-0.74	
7,735.0	1.60	222.30	7,319.7	-649.1	-2,165.8	2,260.9	0.22	0.10	
7,830.0	1.70	216.50	7,414.6	-651.2	-2,167.5	2,263.2	0.20	0.11	
7,925.0	1.00	267.30	7,509.6	-652.4	-2,169.2	2,265.1	1.39	-0.74	
8,021.0	1.20	313.10	7,605.6	-651.7	-2,170.7	2,266.4	0.91	0.21	
8,116.0	0.90	253.50	7,700.6	-651.2	-2,172.2	2,267.7	1.13	-0.32	
8,211.0	0.80	253.70	7,795.6	-651.6	-2,173.5	2,269.1	0.11	-0.11	
8,306.0	1.00	217.10	7,890.6	-652.5	-2,174.7	2,270.4	0.63	0.21	
8,402.0	1.50	205.40	7,986.5	-654.3	-2,175.7	2,272.0	0.58	0.52	
8,497.0	0.60	310.50	8,081.5	-655.1	-2,176.6	2,273.1	1.85	-0.95	
8,592.0	0.50	239.60	8,176.5	-655.0	-2,177.3	2,273.7	0.68	-0.11	
8,688.0	0.70	230.20	8,272.5	-655.6	-2,178.2	2,274.7	0.23	0.21	
8,783.0	0.90	212.40	8,367.5	-656.6	-2,179.0	2,275.8	0.33	0.21	
8,878.0	0.80	219.00	8,462.5	-657.7	-2,179.8	2,276.9	0.15	-0.11	
8,974.0	0.50	207.90	8,558.5	-658.6	-2,180.4	2,277.7	0.34	-0.31	
8,990.0	0.70	174.20	8,574.5	-658.8	-2,180.5	2,277.8	2.48	1.25	**Last Cathedral Survey @ 8,990' MD**
9,040.0	0.70	174.20	8,624.5	-659.4	-2,180.4	2,277.9	0.00	0.00	**Projection to Bit @ 9,040'**

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Benjamin Federal 28-13B1
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 28-13B1	**North Reference:**	True
Wellbore:	DD	**Survey Calculation Method:**	Minimum Curvature
Design:	DD	**Database:**	EDM 5000.1 US Multi Users DB

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Benjamin Federal 28-13	0.00	0.00	6,555.0	-652.6	-2,170.8	1,612,455.31	2,354,230.79	39.492626	-107.788484
- survey misses target center by 27.8ft at 6971.9ft MD (6557.0 TVD, -633.5 N, -2150.8 E)									
- Point									
Benjamin Federal 28-13	0.00	0.00	8,580.0	-652.6	-2,170.8	1,612,455.31	2,354,230.79	39.492626	-107.788484
- survey misses target center by 12.7ft at 8990.0ft MD (8574.5 TVD, -658.8 N, -2180.5 E)									
- Circle (radius 25.0)									
Benjamin Federal 28-13	0.00	0.00	-8,580.0	-652.6	-2,170.8	1,612,455.31	2,354,230.79	39.492626	-107.788484
- survey misses target center by 8874.4ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E)									
- Polygon									
Point 1			-8,580.0	100.0	-140.0	1,612,558.79	2,354,093.35		
Point 2			-8,580.0	-100.0	-140.0	1,612,358.85	2,354,088.33		

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
8,990.0	8,574.5	-658.8	-2,180.5	Last Cathedral Survey @ 8,990' MD
9,040.0	8,624.5	-659.4	-2,180.4	Projection to Bit @ 9,040'

Checked By: _____ Approved By: _____ Date: _____