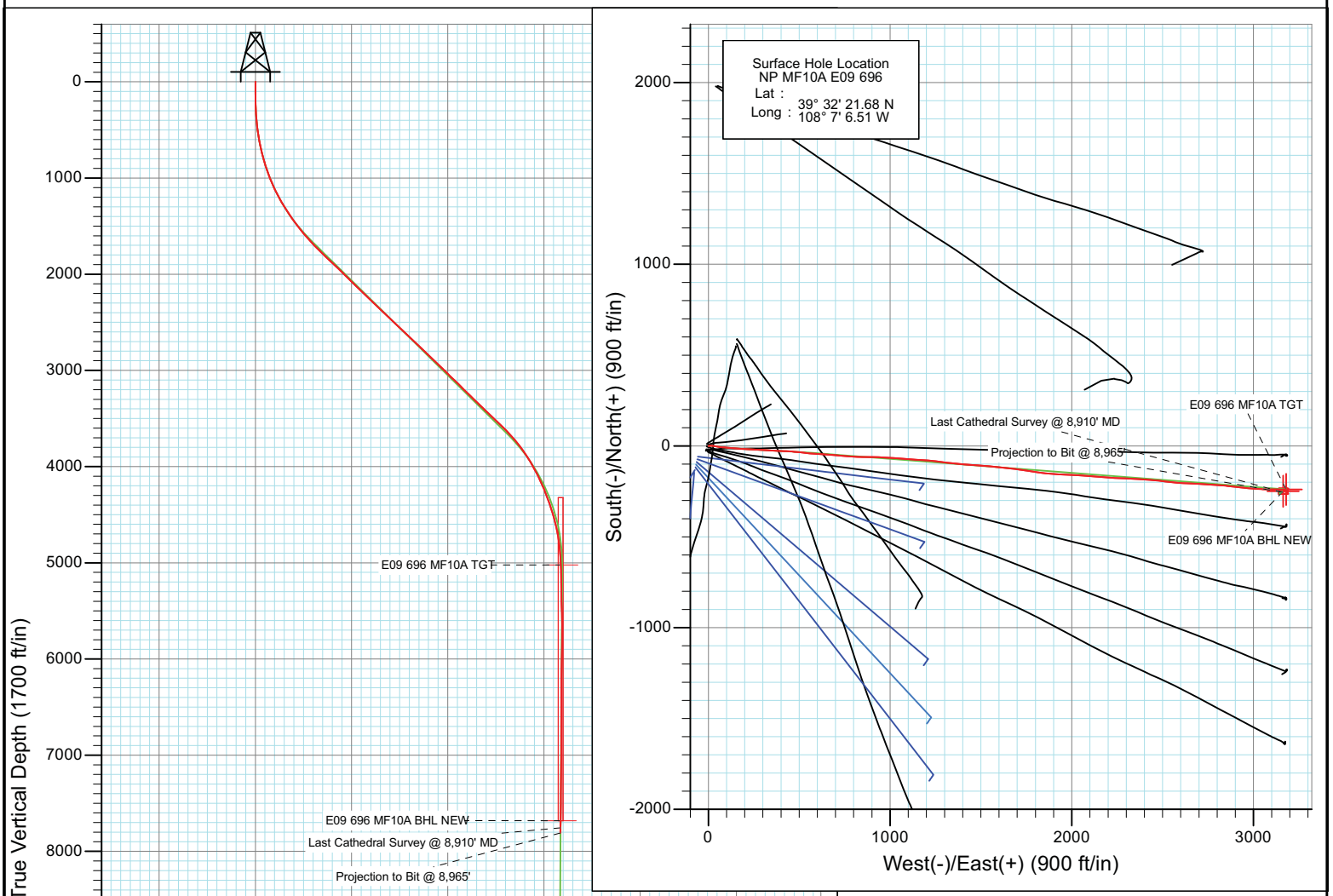
Project: North Piceance
Site: E09 696 (SWNW S9-T6S-R96W)
Well: NP MF10A E09 696
Wellbore: DD
Design: Final



Azimuths to True North
Magnetic North: 10.48°

Magnetic Field
Strength: 52311.1snT
Dip Angle: 65.77°
Date: 12/10/2010
Model: IGRF2010

DD
NP MF10A E09 696
105474 (SH), 105556 (MH); LR

WELL @ 5772.0ft (Original Well Elev)
North American Datum 1983
Well NP MF10A E09 696, True North

	Target	Azimuth	Origin Type	N/S
Target	E09 696 MF10A BHL NEW	94.50	Slot	0.0

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
E09 696 MF10A TGT	5022.0	-238.8	3180.4	39° 32' 19.32 N	108° 6' 25.91 W
E09 696 MF10A BHL NEW	7682.0	-248.8	3163.4	39° 32' 19.22 N	108° 6' 26.13 W

Project: North Piceance
Site: E09 696 (SWNW S9-T6S-R96W)
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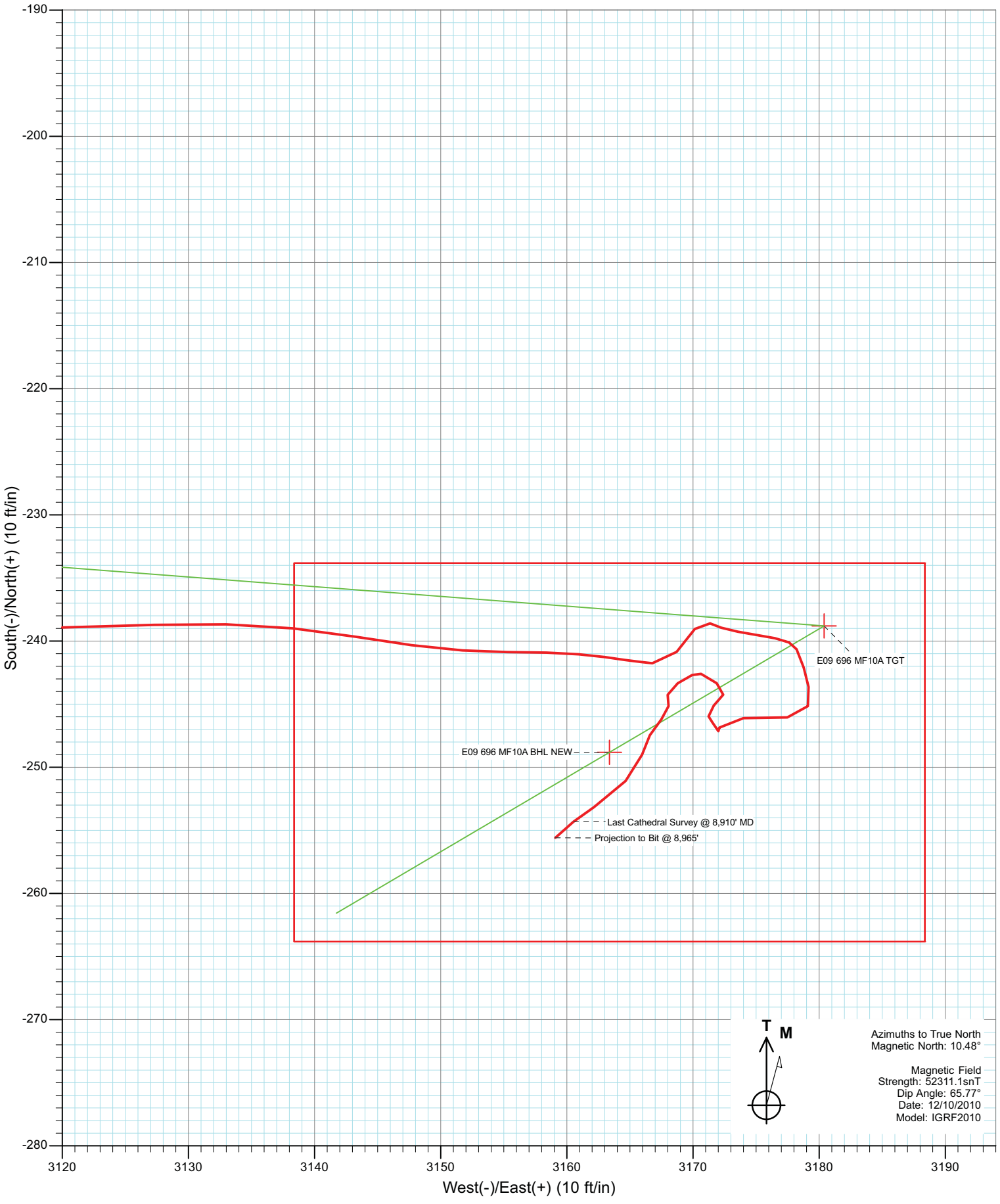
Wellbore: DD
Design: FINAL



Survey Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well NP MF10A E09 696
Project:	North Piceance	**TVD Reference:**	WELL @ 5772.0ft (Original Well Elev)
Site:	E09 696 (SWNW S9-T6S-R96W)	**MD Reference:**	WELL @ 5772.0ft (Original Well Elev)
Well:	NP MF10A E09 696	**North Reference:**	True
Wellbore:	DD	**Survey Calculation Method:**	Minimum Curvature
Design:	DD	**Database:**	EDM 5000.1 US Multi Users DB

Project North Piceance

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

Site E09 696 (SWNW S9-T6S-R96W)

Site Position:		**Northing:**	1,632,140.57 ft	**Latitude:**	39° 32' 23.23 N
From:	Lat/Long	**Easting:**	2,261,634.68 ft	**Longitude:**	108° 7' 6.47 W
Position Uncertainty:	0.0 ft	**Slot Radius:**	0.000 in	**Grid Convergence:**	-1.65 °

Well NP MF10A E09 696

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,631,983.92 ft	**Latitude:**	39° 32' 21.68 N
	+E/-W	0.0 ft	**Easting:**	2,261,627.06 ft	**Longitude:**	108° 7' 6.51 W
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,739.0 ft

Wellbore DD

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/10/2010	10.48	65.77	52,311

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	94.50

Survey Program **Date** 12/20/2010

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
234.0	8,965.0	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	
234.0	1.50	81.50	234.0	0.5	3.0	3.0	0.64	0.64	
265.0	1.80	78.30	265.0	0.6	3.9	3.8	1.01	0.97	
296.0	2.20	86.10	295.9	0.8	5.0	4.9	1.56	1.29	
326.0	2.80	84.60	325.9	0.9	6.3	6.2	2.01	2.00	
357.0	4.00	82.60	356.9	1.1	8.1	8.0	3.89	3.87	
388.0	4.80	88.70	387.8	1.2	10.5	10.3	2.99	2.58	
419.0	5.40	90.10	418.6	1.3	13.2	13.1	1.98	1.94	
449.0	6.10	90.80	448.5	1.2	16.2	16.1	2.34	2.33	
480.0	7.20	93.70	479.3	1.1	19.8	19.7	3.71	3.55	
511.0	7.90	94.60	510.0	0.8	23.9	23.7	2.29	2.26	
542.0	8.60	100.50	540.7	0.2	28.3	28.2	3.54	2.26	
574.0	9.40	102.20	572.3	-0.8	33.2	33.2	2.63	2.50	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well NP MF10A E09 696
Project:	North Piceance	**TVD Reference:**	WELL @ 5772.0ft (Original Well Elev)
Site:	E09 696 (SWNW S9-T6S-R96W)	**MD Reference:**	WELL @ 5772.0ft (Original Well Elev)
Well:	NP MF10A E09 696	**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
606.0	10.60	101.30	603.8	-1.9	38.6	38.7	3.78	3.75	
669.0	12.70	97.00	665.5	-3.9	51.2	51.3	3.60	3.33	
732.0	13.70	97.40	726.8	-5.7	65.5	65.7	1.59	1.59	
795.0	15.10	95.70	787.9	-7.5	81.0	81.4	2.32	2.22	
858.0	16.70	94.20	848.5	-9.0	98.2	98.6	2.62	2.54	
921.0	18.70	93.90	908.5	-10.3	117.3	117.8	3.18	3.17	
984.0	20.70	94.40	967.8	-11.8	138.5	139.0	3.19	3.17	
1,048.0	21.90	95.20	1,027.4	-13.8	161.7	162.3	1.93	1.87	
1,111.0	23.80	94.20	1,085.5	-15.8	186.1	186.7	3.08	3.02	
1,174.0	26.00	94.50	1,142.6	-17.8	212.5	213.2	3.50	3.49	
1,237.0	28.60	92.80	1,198.6	-19.6	241.3	242.1	4.31	4.13	
1,300.0	30.90	92.30	1,253.3	-21.0	272.6	273.4	3.67	3.65	
1,363.0	32.30	92.10	1,306.9	-22.3	305.5	306.4	2.23	2.22	
1,426.0	33.30	94.70	1,359.9	-24.3	339.6	340.5	2.74	1.59	
1,500.0	36.10	92.30	1,420.7	-26.9	381.6	382.6	4.21	3.78	
1,558.0	36.10	91.90	1,467.6	-28.1	415.8	416.7	0.41	0.00	
1,653.0	38.10	95.90	1,543.4	-32.0	472.9	474.0	3.30	2.11	
1,748.0	40.90	96.30	1,616.7	-38.5	533.0	534.4	2.96	2.95	
1,843.0	44.60	93.20	1,686.4	-43.7	597.3	598.8	4.48	3.89	
1,938.0	45.30	94.60	1,753.7	-48.3	664.2	666.0	1.28	0.74	
2,033.0	45.90	94.70	1,820.1	-53.8	731.9	733.8	0.64	0.63	
2,127.0	46.90	93.70	1,884.9	-58.8	799.8	801.9	1.31	1.06	
2,222.0	46.90	90.10	1,949.9	-61.1	869.1	871.2	2.77	0.00	
2,317.0	45.20	91.30	2,015.8	-61.9	937.4	939.4	2.01	-1.79	
2,412.0	44.30	94.90	2,083.3	-65.5	1,004.2	1,006.2	2.83	-0.95	
2,506.0	46.10	94.20	2,149.5	-70.8	1,070.7	1,072.9	1.99	1.91	
2,601.0	46.80	93.40	2,215.0	-75.4	1,139.4	1,141.8	0.96	0.74	
2,695.0	45.60	94.10	2,280.0	-79.8	1,207.1	1,209.6	1.39	-1.28	
2,790.0	46.10	97.40	2,346.2	-86.6	1,274.9	1,277.8	2.55	0.53	
2,885.0	46.50	96.50	2,411.8	-94.9	1,343.1	1,346.4	0.80	0.42	
2,979.0	47.80	94.90	2,475.8	-101.8	1,411.6	1,415.3	1.86	1.38	
3,074.0	46.00	93.60	2,540.7	-106.9	1,480.8	1,484.6	2.14	-1.89	
3,169.0	46.40	94.70	2,606.4	-111.9	1,549.2	1,553.2	0.94	0.42	
3,264.0	46.10	96.20	2,672.1	-118.4	1,617.5	1,621.8	1.18	-0.32	
3,359.0	46.30	97.80	2,737.9	-126.8	1,685.6	1,690.3	1.23	0.21	
3,453.0	46.40	97.90	2,802.8	-136.1	1,752.9	1,758.2	0.13	0.11	
3,548.0	46.40	98.80	2,868.3	-146.0	1,821.0	1,826.8	0.69	0.00	
3,643.0	46.10	93.40	2,934.0	-153.3	1,889.2	1,895.4	4.12	-0.32	
3,738.0	45.80	93.00	3,000.1	-157.2	1,957.4	1,963.7	0.44	-0.32	
3,832.0	46.10	92.90	3,065.4	-160.6	2,024.8	2,031.2	0.33	0.32	
3,927.0	45.80	94.70	3,131.5	-165.2	2,092.9	2,099.5	1.40	-0.32	
4,022.0	44.60	94.40	3,198.4	-170.5	2,160.1	2,166.9	1.28	-1.26	
4,117.0	45.30	93.90	3,265.6	-175.4	2,227.1	2,234.0	0.83	0.74	
4,212.0	47.10	92.70	3,331.4	-179.3	2,295.5	2,302.5	2.10	1.89	
4,306.0	45.60	93.30	3,396.3	-182.9	2,363.5	2,370.5	1.66	-1.60	
4,401.0	46.80	93.50	3,462.0	-186.9	2,431.9	2,439.1	1.27	1.26	
4,496.0	46.30	97.30	3,527.4	-193.4	2,500.5	2,508.0	2.95	-0.53	
4,590.0	45.50	95.60	3,592.8	-201.0	2,567.6	2,575.5	1.55	-0.85	
4,685.0	43.30	93.00	3,660.7	-206.0	2,633.9	2,641.9	3.00	-2.32	
4,780.0	39.20	92.30	3,732.1	-208.9	2,696.4	2,704.5	4.34	-4.32	
4,875.0	36.10	95.00	3,807.3	-212.6	2,754.3	2,762.5	3.70	-3.26	
4,970.0	33.60	92.60	3,885.2	-216.2	2,808.5	2,816.8	3.00	-2.63	
5,064.0	30.40	96.00	3,965.0	-219.9	2,858.1	2,866.6	3.91	-3.40	

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Site:	E09 696 (SWNW S9-T6S-R96W)	**MD Reference:**	WELL @ 5772.0ft (Original Well Elev)
Well:	NP MF10A E09 696	**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
5,159.0	28.20	97.60	4,047.8	-225.3	2,904.3	2,913.0	2.46	-2.32	
5,254.0	25.20	94.40	4,132.7	-229.9	2,946.7	2,955.7	3.50	-3.16	
5,349.0	22.10	96.70	4,219.7	-233.5	2,984.6	2,993.8	3.40	-3.26	
5,443.0	21.40	91.90	4,307.0	-236.1	3,019.3	3,028.6	2.03	-0.74	
5,538.0	19.00	94.50	4,396.1	-237.9	3,052.1	3,061.3	2.70	-2.53	
5,633.0	16.80	90.90	4,486.5	-239.3	3,081.2	3,090.5	2.59	-2.32	
5,727.0	14.50	88.70	4,577.1	-239.3	3,106.6	3,115.8	2.53	-2.45	
5,822.0	10.70	88.00	4,669.8	-238.7	3,127.3	3,136.4	4.00	-4.00	
5,917.0	8.70	99.90	4,763.4	-239.6	3,143.2	3,152.3	2.97	-2.11	
6,012.0	6.10	90.00	4,857.6	-240.9	3,155.3	3,164.5	3.04	-2.74	
6,106.0	3.30	98.20	4,951.3	-241.3	3,163.0	3,172.2	3.06	-2.98	
6,201.0	1.30	95.70	5,046.2	-241.8	3,166.8	3,176.0	2.11	-2.11	
6,296.0	1.60	40.50	5,141.2	-240.9	3,168.7	3,177.8	1.44	0.32	
6,391.0	1.20	35.30	5,236.1	-239.0	3,170.1	3,179.1	0.44	-0.42	
6,485.0	0.90	118.80	5,330.1	-238.6	3,171.4	3,180.3	1.51	-0.32	
6,580.0	1.90	101.30	5,425.1	-239.3	3,173.6	3,182.5	1.13	1.05	
6,675.0	1.70	98.70	5,520.1	-239.8	3,176.5	3,185.5	0.23	-0.21	
6,769.0	0.90	152.20	5,614.0	-240.6	3,178.2	3,187.3	1.46	-0.85	
6,864.0	1.00	164.90	5,709.0	-242.1	3,178.8	3,188.0	0.24	0.11	
6,959.0	0.90	166.70	5,804.0	-243.6	3,179.2	3,188.5	0.11	-0.11	
7,054.0	1.00	196.50	5,899.0	-245.2	3,179.1	3,188.5	0.52	0.11	
7,148.0	1.70	265.50	5,993.0	-246.0	3,177.5	3,187.0	1.74	0.74	
7,243.0	2.50	271.60	6,087.9	-246.1	3,174.0	3,183.5	0.87	0.84	
7,337.0	1.00	170.00	6,181.9	-246.9	3,172.1	3,181.7	3.06	-1.60	
7,432.0	0.70	336.70	6,276.9	-247.1	3,172.0	3,181.6	1.78	-0.32	
7,527.0	0.40	305.60	6,371.9	-246.4	3,171.5	3,181.1	0.43	-0.32	
7,622.0	0.30	358.40	6,466.9	-246.0	3,171.2	3,180.8	0.34	-0.11	
7,716.0	0.90	34.40	6,560.9	-245.1	3,171.6	3,181.1	0.72	0.64	
7,811.0	0.50	52.90	6,655.9	-244.2	3,172.4	3,181.8	0.48	-0.42	
7,906.0	1.30	308.10	6,750.8	-243.3	3,171.9	3,181.2	1.59	0.84	
8,000.0	0.50	280.50	6,844.8	-242.6	3,170.6	3,179.9	0.94	-0.85	
8,095.0	0.40	241.20	6,939.8	-242.7	3,169.9	3,179.2	0.33	-0.11	
8,190.0	1.20	239.70	7,034.8	-243.3	3,168.8	3,178.1	0.84	0.84	
8,285.0	0.50	171.60	7,129.8	-244.3	3,168.0	3,177.4	1.17	-0.74	
8,379.0	0.60	177.90	7,223.8	-245.2	3,168.1	3,177.5	0.12	0.11	
8,474.0	1.00	226.90	7,318.8	-246.2	3,167.5	3,177.0	0.80	0.42	
8,569.0	0.90	203.90	7,413.8	-247.5	3,166.6	3,176.2	0.41	-0.11	
8,664.0	1.10	199.50	7,508.8	-249.0	3,166.0	3,175.7	0.23	0.21	
8,759.0	1.90	219.60	7,603.7	-251.1	3,164.7	3,174.6	1.00	0.84	
8,854.0	2.10	240.10	7,698.7	-253.2	3,162.1	3,172.3	0.78	0.21	
8,910.0	2.00	228.60	7,754.6	-254.3	3,160.5	3,170.7	0.75	-0.18	**Last Cathedral Survey @ 8,910' MD**
8,965.0	2.00	228.60	7,809.6	-255.6	3,159.1	3,169.4	0.00	0.00	**Projection to Bit @ 8,965'**

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Site:	E09 696 (SWNW S9-T6S-R96W)	**MD Reference:**	WELL @ 5772.0ft (Original Well Elev)
Well:	NP MF10A E09 696	**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
E09 696 MF10A BHL NE	0.00	0.00	7,682.0	-248.8	3,163.4	1,631,644.04	2,264,781.96	39° 32' 19.22 N	108° 6' 26.13 W
- survey misses target center by 4.1ft at 8837.2ft MD (7681.9 TVD, -252.8 N, 3162.7 E) - Rectangle (sides W30.0 H50.0 D0.0)									
E09 696 MF10A TGT	0.00	0.00	5,022.0	-238.8	3,180.4	1,631,653.57	2,264,799.26	39° 32' 19.32 N	108° 6' 25.91 W
- survey misses target center by 14.6ft at 6177.3ft MD (5022.6 TVD, -241.7 N, 3166.1 E) - Point									

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
8,910.0	7,754.6	-254.3	3,160.5	Last Cathedral Survey @ 8,910' MD
8,965.0	7,809.6	-255.6	3,159.1	Projection to Bit @ 8,965'

Checked By: _____ Approved By: _____ Date: _____