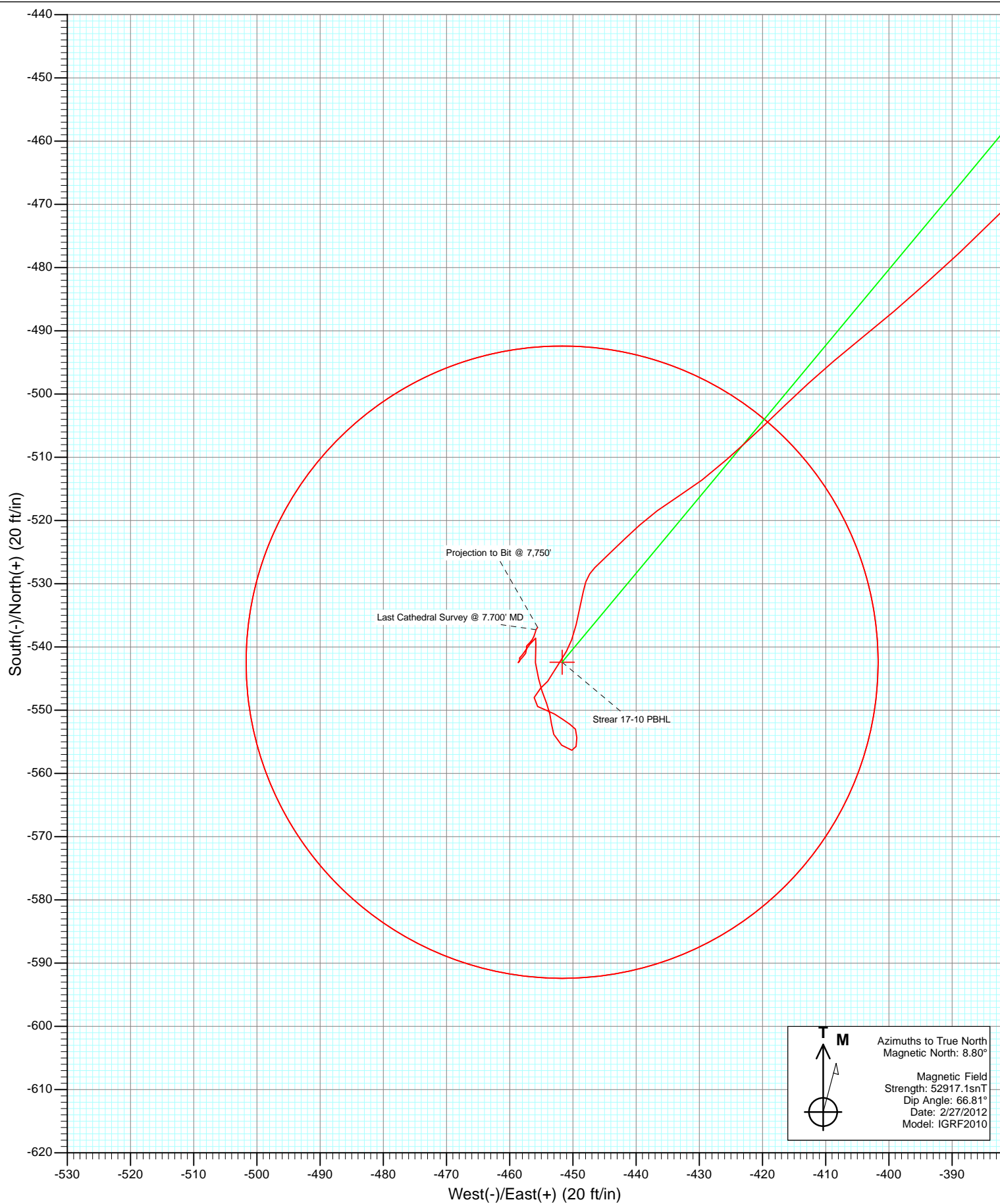


Azimuths to True North
Magnetic North: 8.80°

Magnetic Field
Strength: 52917.1nT
Dip Angle: 66.81°
Date: 2/27/2012
Model: IGRF2010

DD Strear 17-10 125205 148255; LR KBE @ 4939.0ft (Xtreme 14) North American Datum 1983 Well Strear 17-10, True North						
Type	Target	Azimuth	Origin Type	N/S	E/W	From TVD
Target	Strear 17-10 PBHL	219.79	Slot	0.0	0.0	0.0
Name						
Strear 17-10 Legal Box	TVD	+N/-S	+E/-W	Latitude	Longitude	
Strear 17-10 PBHL	7634.0	-296.9	-171.1	40.156234	-104.871854	
	7634.0	-542.4	-451.7	40.155560	-104.872858	



Cathedral Energy Services

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Strear 17-10
Project:	DJ Wattenberg	TVD Reference:	KBE @ 4939.0ft (Xtreme 14)
Site:	NENE Sec10-T2N-R67W (Strear 17-10-9F)	MD Reference:	KBE @ 4939.0ft (Xtreme 14)
Well:	Strear 17-10	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 Multi Users DB

Project	DJ Wattenberg		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		NENE Sec10-T2N-R67W (Strear 17-10-9F)			
Site Position:		Northing:	1,300,712.08 ft	Latitude:	40.157132
From:	Lat/Long	Easting:	3,175,747.83 ft	Longitude:	-104.871242
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.41 °

Well	Strear 17-10					
Well Position	+N/-S	0.0 ft	Northing:	1,300,681.84 ft	Latitude:	40.157049
	+E/-W	0.0 ft	Easting:	3,175,748.04 ft	Longitude:	-104.871242
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,924.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/27/2012	8.81	66.81	52,917

Design	DD				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	219.79	

Survey Program	Date	3/2/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
152.0	7,750.0	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		
152.0	0.50	191.20	152.0	-0.7	-0.1	0.6	0.33	0.33		
245.0	1.10	199.40	245.0	-1.9	-0.5	1.8	0.66	0.65		
338.0	2.10	205.20	338.0	-4.3	-1.5	4.3	1.09	1.08		
415.0	3.20	215.70	414.9	-7.3	-3.4	7.8	1.56	1.43		
505.0	4.40	226.30	504.7	-11.7	-7.3	13.7	1.54	1.33		
592.0	5.70	225.30	591.3	-17.1	-12.8	21.3	1.50	1.49		
682.0	7.20	220.90	680.8	-24.5	-19.7	31.4	1.75	1.67		
692.0	7.30	220.80	690.7	-25.4	-20.5	32.7	1.01	1.00		
793.0	7.40	224.80	790.9	-34.9	-29.3	45.6	0.52	0.10		
867.0	9.30	219.50	864.1	-42.9	-36.5	56.3	2.77	2.57		
957.0	10.90	216.80	952.7	-55.3	-46.2	72.1	1.85	1.78		
1,046.0	12.80	214.90	1,039.8	-70.1	-56.9	90.3	2.18	2.13		

Cathedral Energy Services

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Strear 17-10
Project:	DJ Wattenberg	TVD Reference:	KBE @ 4939.0ft (Xtreme 14)
Site:	NENE Sec10-T2N-R67W (Strear 17-10-9F)	MD Reference:	KBE @ 4939.0ft (Xtreme 14)
Well:	Strear 17-10	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 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
1,136.0	14.20	215.40	1,127.3	-87.3	-69.0	111.2	1.56	1.56	
1,227.0	16.30	217.60	1,215.1	-106.5	-83.2	135.1	2.39	2.31	
1,317.0	18.00	218.90	1,301.1	-127.4	-99.7	161.7	1.94	1.89	
1,407.0	18.10	217.60	1,386.6	-149.3	-116.9	189.5	0.46	0.11	
1,494.0	17.10	218.50	1,469.6	-170.0	-133.1	215.8	1.19	-1.15	
1,582.0	16.00	217.00	1,553.9	-189.8	-148.5	240.9	1.34	-1.25	
1,671.0	14.50	213.50	1,639.8	-208.9	-162.0	264.2	1.98	-1.69	
1,760.0	15.00	213.20	1,725.9	-227.8	-174.5	286.7	0.57	0.56	
1,849.0	15.80	213.30	1,811.7	-247.6	-187.4	310.2	0.90	0.90	
1,938.0	15.30	219.50	1,897.4	-266.8	-201.6	334.0	1.95	-0.56	
2,026.0	14.80	218.40	1,982.4	-284.5	-215.9	356.8	0.65	-0.57	
2,116.0	14.80	224.60	2,069.4	-301.7	-231.1	379.8	1.76	0.00	
2,205.0	15.10	224.00	2,155.4	-318.2	-247.2	402.7	0.38	0.34	
2,295.0	15.00	226.00	2,242.3	-334.7	-263.7	425.9	0.59	-0.11	
2,382.0	14.90	222.80	2,326.4	-350.7	-279.4	448.3	0.96	-0.11	
2,469.0	14.50	226.80	2,410.5	-366.4	-294.9	470.3	1.25	-0.46	
2,557.0	15.90	221.10	2,495.4	-383.0	-310.9	493.3	2.33	1.59	
2,647.0	17.10	215.90	2,581.7	-403.0	-326.8	518.8	2.11	1.33	
2,735.0	16.70	215.90	2,665.9	-423.7	-341.8	544.3	0.45	-0.45	
2,824.0	15.90	219.70	2,751.4	-443.5	-357.0	569.3	1.50	-0.90	
2,913.0	15.10	222.60	2,837.1	-461.4	-372.7	593.0	1.25	-0.90	
3,003.0	14.40	227.10	2,924.2	-477.6	-388.8	615.8	1.49	-0.78	
3,092.0	11.90	231.10	3,010.8	-490.9	-404.1	635.8	2.99	-2.81	
3,182.0	9.20	225.80	3,099.3	-501.8	-416.4	652.1	3.18	-3.00	
3,272.0	6.90	228.70	3,188.4	-510.4	-425.7	664.6	2.59	-2.56	
3,361.0	5.50	237.80	3,276.9	-516.2	-433.3	673.9	1.92	-1.57	
3,450.0	4.40	228.00	3,365.5	-520.7	-439.4	681.4	1.55	-1.24	
3,537.0	3.00	224.80	3,452.4	-524.6	-443.5	686.9	1.63	-1.61	
3,625.0	2.40	227.60	3,540.3	-527.5	-446.5	691.0	0.70	-0.68	
3,715.0	3.30	190.10	3,630.2	-531.3	-448.3	695.2	2.24	1.00	
3,803.0	3.60	194.10	3,718.0	-536.4	-449.5	699.9	0.44	0.34	
3,893.0	2.20	209.50	3,807.9	-540.7	-451.0	704.1	1.77	-1.56	
3,981.0	1.40	216.80	3,895.8	-543.0	-452.5	706.8	0.94	-0.91	
4,070.0	0.70	201.60	3,984.8	-544.4	-453.3	708.4	0.84	-0.79	
4,157.0	0.90	219.90	4,071.8	-545.4	-454.0	709.6	0.37	0.23	
4,246.0	1.10	231.60	4,160.8	-546.5	-455.1	711.2	0.32	0.22	
4,333.0	1.40	200.90	4,247.8	-548.0	-456.1	713.0	0.83	0.34	
4,423.0	1.30	112.50	4,337.8	-549.4	-455.6	713.7	2.09	-0.11	
4,510.0	0.80	114.70	4,424.8	-550.0	-454.1	713.3	0.58	-0.57	
4,600.0	0.90	115.10	4,514.7	-550.6	-452.9	712.9	0.11	0.11	
4,688.0	1.00	129.60	4,602.7	-551.4	-451.7	712.7	0.29	0.11	
4,775.0	0.90	118.70	4,689.7	-552.2	-450.5	712.6	0.24	-0.11	
4,863.0	0.70	147.70	4,777.7	-553.0	-449.6	712.6	0.51	-0.23	
4,950.0	1.20	183.80	4,864.7	-554.3	-449.4	713.5	0.87	0.57	
5,039.0	0.60	187.20	4,953.7	-555.7	-449.5	714.7	0.68	-0.67	
5,128.0	0.80	257.20	5,042.7	-556.3	-450.2	715.6	0.92	0.22	
5,216.0	1.80	312.80	5,130.7	-555.5	-451.8	716.0	1.71	1.14	
5,303.0	1.10	342.90	5,217.6	-553.8	-453.0	715.5	1.16	-0.80	
5,392.0	1.00	353.10	5,306.6	-552.2	-453.4	714.5	0.24	-0.11	
5,480.0	1.10	348.60	5,394.6	-550.6	-453.6	713.4	0.15	0.11	
5,566.0	1.30	338.40	5,480.6	-548.9	-454.1	712.4	0.34	0.23	
5,655.0	1.40	339.70	5,569.6	-547.0	-454.9	711.4	0.12	0.11	
5,741.0	1.30	351.10	5,655.5	-545.0	-455.4	710.2	0.33	-0.12	

Cathedral Energy Services

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Strear 17-10
Project:	DJ Wattenberg	TVD Reference:	KBE @ 4939.0ft (Xtreme 14)
Site:	NENE Sec10-T2N-R67W (Strear 17-10-9F)	MD Reference:	KBE @ 4939.0ft (Xtreme 14)
Well:	Strear 17-10	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 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
5,831.0	2.00	347.40	5,745.5	-542.5	-455.9	708.6	0.79	0.78	
5,919.0	1.90	15.60	5,833.4	-539.6	-455.9	706.3	1.09	-0.11	
6,009.0	0.80	223.40	5,923.4	-538.6	-455.9	705.6	2.93	-1.22	
6,098.0	0.90	222.60	6,012.4	-539.5	-456.8	706.9	0.11	0.11	
6,186.0	0.80	206.80	6,100.4	-540.6	-457.5	708.2	0.29	-0.11	
6,272.0	0.50	232.90	6,186.4	-541.4	-458.1	709.2	0.48	-0.35	
6,360.0	0.20	192.40	6,274.4	-541.7	-458.4	709.7	0.42	-0.34	
6,448.0	0.20	149.10	6,362.4	-542.0	-458.4	709.9	0.17	0.00	
6,538.0	0.20	226.00	6,452.4	-542.3	-458.4	710.1	0.28	0.00	
6,627.0	0.10	231.80	6,541.4	-542.4	-458.6	710.3	0.11	-0.11	
6,715.0	0.00	132.00	6,629.4	-542.5	-458.7	710.4	0.11	-0.11	
6,803.0	0.50	32.60	6,717.4	-542.2	-458.4	710.0	0.57	0.57	
6,893.0	0.50	52.70	6,807.4	-541.6	-457.9	709.2	0.19	0.00	
6,981.0	0.50	21.90	6,895.4	-541.0	-457.5	708.5	0.30	0.00	
7,069.0	0.50	2.30	6,983.4	-540.3	-457.3	707.8	0.19	0.00	
7,159.0	0.00	338.80	7,073.4	-539.9	-457.3	707.5	0.56	-0.56	
7,247.0	0.40	39.80	7,161.4	-539.6	-457.1	707.2	0.45	0.45	
7,336.0	0.20	52.30	7,250.4	-539.3	-456.8	706.7	0.24	-0.22	
7,425.0	0.50	29.60	7,339.4	-538.9	-456.5	706.2	0.36	0.34	
7,514.0	0.10	57.30	7,428.4	-538.5	-456.2	705.7	0.47	-0.45	
7,604.0	0.50	10.40	7,518.4	-538.1	-456.1	705.3	0.49	0.44	
7,700.0	0.50	27.30	7,614.4	-537.3	-455.8	704.5	0.15	0.00	Last Cathedral Survey @ 7,700' MD
7,750.0	0.50	36.10	7,664.4	-536.9	-455.6	704.1	0.15	0.00	Projection to Bit @ 7,750'

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									
Strear 17-10 PBHL	0.00	0.00	7,634.0	-542.4	-451.7	1,300,136.25	3,175,300.20	40.155560	-104.872858
- actual wellpath misses target center by 20.7ft at 7700.0ft MD (7614.4 TVD, -537.3 N, -455.8 E)									
- Circle (radius 50.0)									
Strear 17-10 Legal Box	0.00	0.00	-7,634.0	-296.9	-171.1	1,300,383.73	3,175,579.01	40.156234	-104.871854
- actual wellpath misses target center by 7641.7ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E)									
- Rectangle (sides W800.0 H800.0 D0.0)									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
7,700.0	7,614.4	-537.3	-455.8	Last Cathedral Survey @ 7,700' MD	
7,750.0	7,664.4	-536.9	-455.6	Projection to Bit @ 7,750'	

Checked By: _____ Approved By: _____ Date: _____