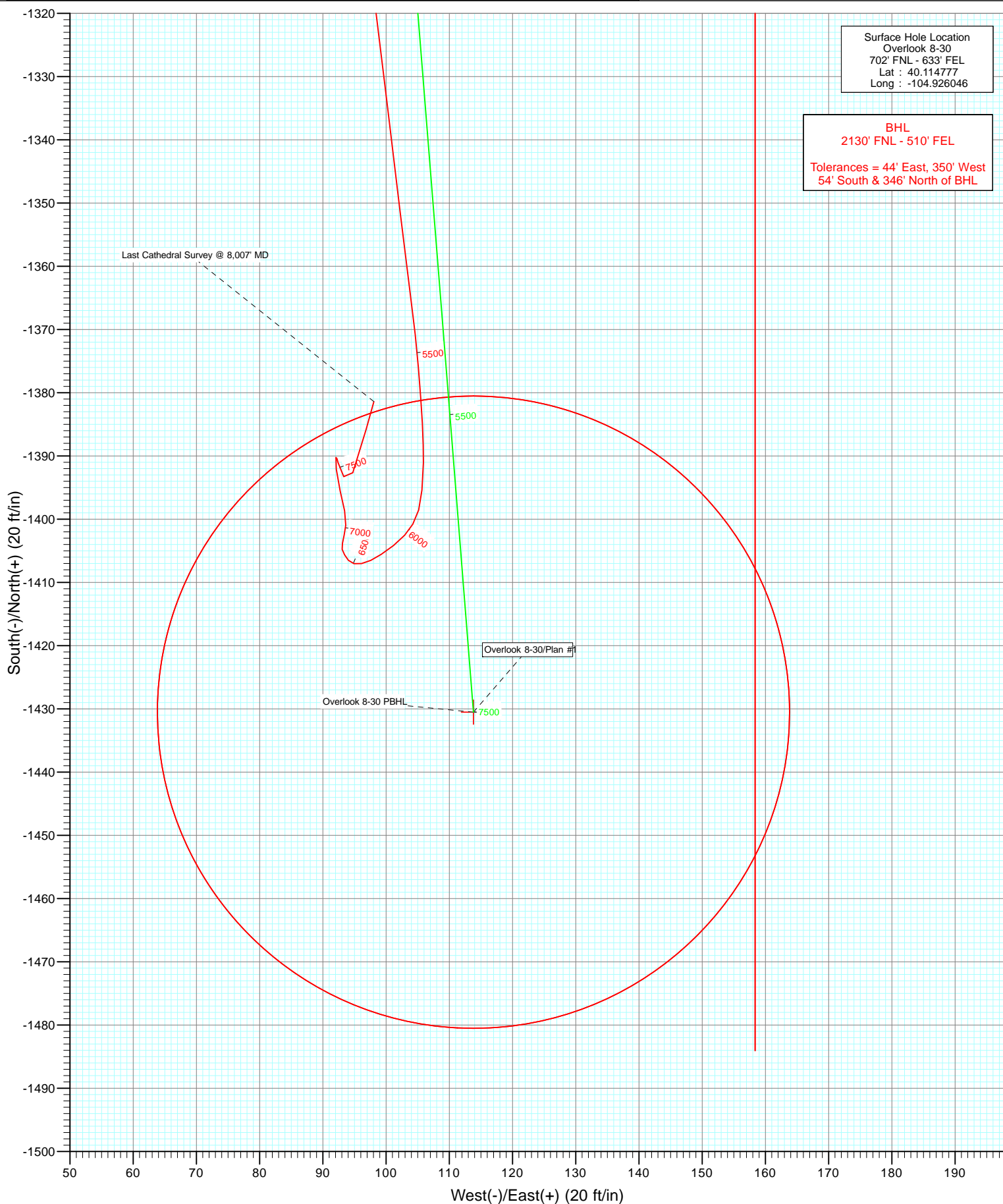


Azimuths to True North
Magnetic North: 8.80°

Magnetic Field
Strength: 52865.7nT
Dip Angle: 66.76°
Date: 5/15/2012
Model: IGRF2010

DD Overlook 8-30 1125337 166155; LR KB=15' @ 5025.0ft (Xtreme 14) North American Datum 1983 Well Overlook 8-30, True North					
Type Target	Target Overlook 8-30 PBHL	Azimuth 175.45	Origin Type Slot	N/S 0.0	E/W 0.0
From TVD 0.0					
Name Overlook 8-30 PBHL	TVD 7784.0	+N/-S -1430.5	+E/-W 113.8	Latitude 40.110850	Longitude -104.925639



Cathedral Energy Services

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Overlook 8-30
Project:	DJ Wattenberg	TVD Reference:	KB=15' @ 5025.0ft (Xtreme 14)
Site:	NENE Sec30-T2N-R67W (Overlook 1-30 pad)	MD Reference:	KB=15' @ 5025.0ft (Xtreme 14)
Well:	Overlook 8-30	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 Sec30-T2N-R67W (Overlook 1-30 pad)			
Site Position:		Northing:	1,285,208.05 ft	Latitude:	40.114856
From:	Lat/Long	Easting:	3,160,505.89 ft	Longitude:	-104.926131
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.37 °

Well		Overlook 8-30				
Well Position	+N/-S	0.0 ft	Northing:	1,285,179.42 ft	Latitude:	40.114777
	+E/-W	0.0 ft	Easting:	3,160,529.85 ft	Longitude:	-104.926046
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,010.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/15/2012	8.80	66.76	52,866

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	175.45	

Survey Program	Date	5/25/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
111.0	8,007.0	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		
111.0	0.50	191.10	111.0	-0.5	-0.1	0.5	0.45	0.45		
204.0	0.70	187.60	204.0	-1.4	-0.2	1.4	0.22	0.22		
298.0	1.60	181.50	298.0	-3.3	-0.4	3.3	0.96	0.96		
407.0	2.90	181.90	406.9	-7.6	-0.5	7.5	1.19	1.19		
495.0	5.10	173.60	494.7	-13.7	-0.1	13.7	2.58	2.50		
583.0	7.40	173.80	582.1	-23.2	0.9	23.2	2.61	2.61		
671.0	9.70	173.10	669.2	-36.2	2.4	36.3	2.62	2.61		
760.0	11.00	172.90	756.7	-52.1	4.4	52.3	1.46	1.46		
840.0	11.60	175.40	835.2	-67.7	6.0	67.9	0.97	0.75		
924.0	12.00	176.60	917.4	-84.8	7.2	85.1	0.56	0.48		
1,010.0	14.20	175.40	1,001.1	-104.3	8.5	104.6	2.58	2.56		
1,099.0	14.50	174.10	1,087.4	-126.2	10.6	126.7	0.49	0.34		

Cathedral Energy Services

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Overlook 8-30
Project:	DJ Wattenberg	TVD Reference:	KB=15' @ 5025.0ft (Xtreme 14)
Site:	NENE Sec30-T2N-R67W (Overlook 1-30 pad)	MD Reference:	KB=15' @ 5025.0ft (Xtreme 14)
Well:	Overlook 8-30	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
1,189.0	17.30	173.10	1,173.9	-150.7	13.3	151.3	3.13	3.11	
1,277.0	17.10	172.60	1,258.0	-176.5	16.6	177.3	0.28	-0.23	
1,365.0	18.60	177.20	1,341.7	-203.4	18.9	204.3	2.34	1.70	
1,455.0	18.50	175.40	1,427.1	-232.0	20.8	232.9	0.65	-0.11	
1,543.0	17.40	175.40	1,510.8	-259.0	22.9	260.0	1.25	-1.25	
1,633.0	16.10	175.40	1,597.0	-284.8	25.0	285.9	1.44	-1.44	
1,721.0	17.50	175.90	1,681.2	-310.2	26.9	311.4	1.60	1.59	
1,810.0	15.30	174.10	1,766.6	-335.2	29.1	336.5	2.54	-2.47	
1,900.0	16.00	176.20	1,853.2	-359.4	31.1	360.8	1.00	0.78	
1,989.0	16.30	173.30	1,938.7	-384.1	33.4	385.5	0.97	0.34	
2,079.0	16.90	174.50	2,025.0	-409.6	36.1	411.2	0.77	0.67	
2,168.0	16.30	175.90	2,110.3	-435.0	38.3	436.6	0.81	-0.67	
2,257.0	15.60	174.60	2,195.8	-459.3	40.3	461.1	0.88	-0.79	
2,347.0	16.70	177.70	2,282.3	-484.3	42.0	486.1	1.55	1.22	
2,436.0	15.90	176.00	2,367.7	-509.3	43.3	511.1	1.05	-0.90	
2,526.0	15.20	175.20	2,454.4	-533.3	45.2	535.2	0.81	-0.78	
2,616.0	14.20	172.90	2,541.5	-556.0	47.5	558.0	1.29	-1.11	
2,704.0	14.00	170.30	2,626.8	-577.2	50.6	579.4	0.75	-0.23	
2,792.0	12.90	171.60	2,712.4	-597.4	53.9	599.8	1.30	-1.25	
2,880.0	14.00	176.60	2,798.0	-617.8	55.9	620.3	1.82	1.25	
2,969.0	13.10	181.80	2,884.5	-638.6	56.3	641.1	1.70	-1.01	
3,057.0	14.90	181.20	2,969.9	-659.9	55.7	662.2	2.05	2.05	
3,145.0	17.10	180.20	3,054.5	-684.1	55.4	686.4	2.52	2.50	
3,235.0	17.90	175.30	3,140.3	-711.2	56.5	713.4	1.86	0.89	
3,324.0	19.40	179.60	3,224.7	-739.6	57.7	741.8	2.29	1.69	
3,413.0	19.20	179.00	3,308.7	-769.0	58.1	771.2	0.32	-0.22	
3,502.0	15.50	179.30	3,393.6	-795.5	58.5	797.7	4.16	-4.16	
3,590.0	17.40	176.30	3,478.0	-820.4	59.5	822.5	2.36	2.16	
3,680.0	16.80	175.70	3,564.0	-846.8	61.3	849.0	0.69	-0.67	
3,766.0	14.60	172.50	3,646.8	-870.0	63.7	872.3	2.75	-2.56	
3,853.0	15.30	171.10	3,730.8	-892.2	66.9	894.7	0.91	0.80	
3,941.0	16.80	176.80	3,815.4	-916.3	69.4	919.0	2.47	1.70	
4,028.0	18.40	178.20	3,898.3	-942.6	70.5	945.2	1.90	1.84	
4,118.0	17.20	172.70	3,984.0	-970.0	72.7	972.7	2.29	-1.33	
4,205.0	17.40	175.60	4,067.1	-995.7	75.3	998.6	1.02	0.23	
4,293.0	16.60	176.30	4,151.3	-1,021.4	77.1	1,024.3	0.94	-0.91	
4,383.0	16.70	178.80	4,237.5	-1,047.2	78.2	1,050.1	0.80	0.11	
4,471.0	17.50	179.00	4,321.6	-1,073.0	78.7	1,075.9	0.91	0.91	
4,559.0	14.40	178.20	4,406.2	-1,097.2	79.3	1,100.0	3.53	-3.52	
4,648.0	14.50	173.90	4,492.4	-1,119.3	80.8	1,122.2	1.21	0.11	
4,735.0	14.90	172.90	4,576.5	-1,141.3	83.4	1,144.3	0.54	0.46	
4,824.0	15.20	174.50	4,662.5	-1,164.2	85.9	1,167.4	0.58	0.34	
4,911.0	15.10	177.40	4,746.5	-1,186.9	87.5	1,190.1	0.88	-0.11	
4,999.0	16.30	179.20	4,831.2	-1,210.7	88.2	1,213.9	1.47	1.36	
5,089.0	16.90	176.70	4,917.4	-1,236.4	89.1	1,239.6	1.04	0.67	
5,178.0	18.00	173.00	5,002.3	-1,263.0	91.5	1,266.3	1.75	1.24	
5,267.0	16.80	173.20	5,087.3	-1,289.4	94.7	1,292.8	1.35	-1.35	
5,355.0	14.70	173.00	5,172.0	-1,313.1	97.6	1,316.7	2.39	-2.39	
5,444.0	12.50	173.20	5,258.5	-1,333.9	100.1	1,337.6	2.47	-2.47	
5,533.0	10.20	173.20	5,345.7	-1,351.3	102.2	1,355.1	2.58	-2.58	
5,621.0	7.90	172.50	5,432.6	-1,365.0	103.9	1,368.9	2.62	-2.61	
5,709.0	6.50	175.20	5,519.9	-1,376.0	105.1	1,380.0	1.64	-1.59	
5,798.0	4.90	176.80	5,608.5	-1,384.8	105.8	1,388.8	1.81	-1.80	

Cathedral Energy Services

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Overlook 8-30
Project:	DJ Wattenberg	TVD Reference:	KB=15' @ 5025.0ft (Xtreme 14)
Site:	NENE Sec30-T2N-R67W (Overlook 1-30 pad)	MD Reference:	KB=15' @ 5025.0ft (Xtreme 14)
Well:	Overlook 8-30	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
5,886.0	3.30	181.40	5,696.2	-1,391.1	105.9	1,395.1	1.85	-1.82	
5,973.0	2.40	184.80	5,783.1	-1,395.4	105.7	1,399.4	1.05	-1.03	
6,061.0	1.80	195.00	5,871.1	-1,398.6	105.2	1,402.5	0.80	-0.68	
6,149.0	1.40	213.50	5,959.0	-1,400.8	104.2	1,404.6	0.74	-0.45	
6,237.0	1.40	218.80	6,047.0	-1,402.5	103.0	1,406.3	0.15	0.00	
6,327.0	1.70	233.50	6,137.0	-1,404.2	101.2	1,407.8	0.55	0.33	
6,416.0	1.40	236.30	6,225.9	-1,405.6	99.2	1,409.0	0.35	-0.34	
6,503.0	1.10	244.30	6,312.9	-1,406.5	97.6	1,409.8	0.40	-0.34	
6,592.0	0.90	259.70	6,401.9	-1,407.0	96.1	1,410.2	0.37	-0.22	
6,680.0	0.70	282.20	6,489.9	-1,407.0	94.9	1,410.1	0.42	-0.23	
6,769.0	0.70	320.50	6,578.9	-1,406.5	94.1	1,409.5	0.52	0.00	
6,856.0	0.70	329.00	6,665.9	-1,405.6	93.4	1,408.6	0.12	0.00	
6,945.0	0.50	347.30	6,754.9	-1,404.8	93.1	1,407.7	0.31	-0.22	
7,034.0	0.80	11.70	6,843.9	-1,403.8	93.1	1,406.8	0.45	0.34	
7,124.0	0.90	12.30	6,933.9	-1,402.5	93.4	1,405.5	0.11	0.11	
7,213.0	1.10	6.10	7,022.9	-1,401.0	93.6	1,404.0	0.26	0.22	
7,301.0	1.90	349.10	7,110.8	-1,398.7	93.4	1,401.7	1.03	0.91	
7,391.0	2.20	345.90	7,200.8	-1,395.5	92.7	1,398.5	0.36	0.33	
7,479.0	2.40	353.90	7,288.7	-1,392.1	92.1	1,395.0	0.43	0.23	
7,566.0	0.20	82.10	7,375.7	-1,390.2	92.1	1,393.2	2.76	-2.53	
7,655.0	1.10	168.60	7,464.7	-1,391.1	92.4	1,394.0	1.24	1.01	
7,744.0	2.00	152.40	7,553.6	-1,393.3	93.3	1,396.3	1.11	1.01	
7,834.0	2.70	19.50	7,643.6	-1,392.7	94.7	1,395.8	4.80	0.78	
7,949.0	4.50	15.70	7,758.4	-1,385.8	96.9	1,389.1	1.58	1.57	
8,007.0	4.50	15.70	7,816.2	-1,381.4	98.1	1,384.8	0.00	0.00	Last Cathedral Survey @ 8,007' MD

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Overlook 8-30 PBHL	0.00	0.00	7,784.0	-1,430.5	113.8	1,283,749.67	3,160,652.95	40.110850	-104.925639
- hit/miss target									
- Shape									
- actual wellpath misses target center by 54.3ft at 7949.0ft MD (7758.4 TVD, -1385.8 N, 96.9 E)									
- Circle (radius 50.0)									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
8,007.0	7,816.2	-1,381.4	98.1	Last Cathedral Survey @ 8,007' MD	

Checked By: _____ Approved By: _____ Date: _____