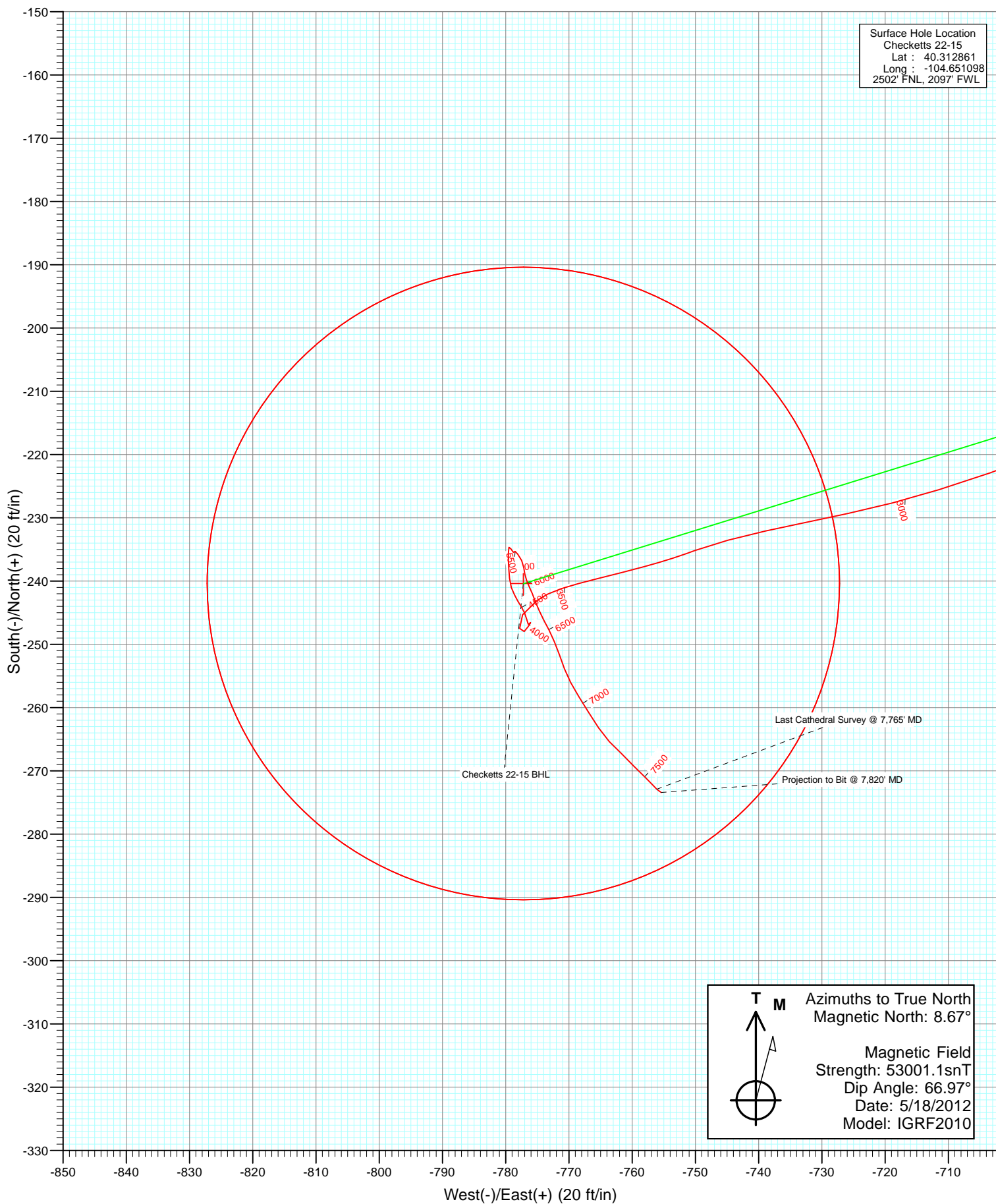


Azimuths to True North  
Magnetic North: 8.67°

Magnetic Field  
Strength: 53001.1snT  
Dip Angle: 66.97°  
Date: 5/18/2012  
Model: IGRF2010

Type	DD	Checketts 22-15	125346; 167055 DN	15' KB @ 4743.0ft (Xtreme 11)	North American Datum 1983	Well Checketts 22-15, True North
User	Target	No Target (Freehand)	Azimuth	Origin	Type	Slot
			213.74			
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	
Checketts 22-15 BHL	7753.0	-240.4	-777.2	40.312201	-104.653885	



# Cathedral Energy Services

## Survey Report

<b>Company:</b>	Anadarko Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Checketts 22-15
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	15' KB @ 4743.0ft (Xtreme 11)
<b>Site:</b>	SENW Sec15-T4N-R65W (Checketts)	<b>MD Reference:</b>	15' KB @ 4743.0ft (Xtreme 11)
<b>Well:</b>	Checketts 22-15	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB

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

Site		SENW Sec15-T4N-R65W (Checketts)			
Site Position:		Northing:	1,357,952.22 ft	Latitude:	40.312861
From:	Lat/Long	Easting:	3,236,750.92 ft	Longitude:	-104.651040
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.55 °

Well		Checketts 22-15				
Well Position	+N/-S	0.0 ft	Northing:	1,357,952.02 ft	Latitude:	40.312861
	+E/-W	0.0 ft	Easting:	3,236,734.75 ft	Longitude:	-104.651098
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,728.0 ft

<b>Wellbore</b>	DD				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	5/18/2012	8.67	66.97	53,001

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	213.74

<b>Survey Program</b>	<b>Date</b>	6/27/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
91.0	7,820.0	Survey #1 (DD)	MWD	Geolink MWD	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Formations / Comments</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
91.0	1.10	129.30	91.0	-0.6	0.7	0.1	1.21	1.21		
179.0	1.60	190.20	179.0	-2.3	1.1	1.3	1.63	0.57		
267.0	3.60	207.30	266.9	-6.0	-0.4	5.2	2.41	2.27		
356.0	5.90	221.90	355.6	-11.9	-4.7	12.5	2.90	2.58		
447.0	7.00	234.90	446.0	-18.5	-12.4	22.3	2.00	1.21		
546.0	7.80	246.40	544.2	-24.7	-23.5	33.6	1.70	0.81		
638.0	8.80	259.80	635.2	-28.4	-36.1	43.7	2.36	1.09		
729.0	10.80	268.10	724.9	-29.9	-51.5	53.5	2.69	2.20		
821.0	12.90	271.70	814.9	-29.9	-70.4	64.0	2.42	2.28		
914.0	14.50	269.40	905.3	-29.7	-92.4	76.0	1.82	1.72		
990.0	16.10	265.50	978.6	-30.7	-112.4	87.9	2.50	2.11		
1,081.0	17.90	260.10	1,065.6	-34.1	-138.8	105.4	2.63	1.98		

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	Anadarko Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Checketts 22-15
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	15' KB @ 4743.0ft (Xtreme 11)
<b>Site:</b>	SENW Sec15-T4N-R65W (Checketts)	<b>MD Reference:</b>	15' KB @ 4743.0ft (Xtreme 11)
<b>Well:</b>	Checketts 22-15	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	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
1,172.0	18.30	255.90	1,152.1	-39.9	-166.4	125.6	1.50	0.44	
1,263.0	18.90	252.10	1,238.4	-48.0	-194.3	147.8	1.49	0.66	
1,353.0	20.30	252.70	1,323.1	-57.1	-223.1	171.4	1.57	1.56	
1,444.0	20.20	247.70	1,408.5	-67.7	-252.7	196.7	1.90	-0.11	
1,535.0	18.90	247.40	1,494.3	-79.4	-280.8	222.0	1.43	-1.43	
1,626.0	17.90	247.40	1,580.6	-90.4	-307.3	245.9	1.10	-1.10	
1,716.0	17.20	247.10	1,666.4	-100.9	-332.4	268.5	0.78	-0.78	
1,806.0	16.20	246.10	1,752.6	-111.2	-356.1	290.2	1.16	-1.11	
1,898.0	15.60	251.70	1,841.1	-120.2	-379.6	310.8	1.79	-0.65	
1,989.0	16.30	256.20	1,928.6	-127.1	-403.6	329.9	1.56	0.77	
2,080.0	16.60	254.90	2,015.9	-133.6	-428.6	349.1	0.52	0.33	
2,170.0	18.60	256.90	2,101.7	-140.2	-454.9	369.2	2.32	2.22	
2,261.0	19.60	254.90	2,187.7	-147.4	-483.8	391.3	1.31	1.10	
2,352.0	19.20	254.60	2,273.5	-155.4	-513.0	414.1	0.45	-0.44	
2,443.0	20.70	252.10	2,359.0	-164.3	-542.7	438.1	1.90	1.65	
2,534.0	19.50	251.20	2,444.5	-174.1	-572.4	462.7	1.36	-1.32	
2,625.0	18.60	250.70	2,530.5	-183.8	-600.5	486.4	1.01	-0.99	
2,715.0	18.60	250.30	2,615.8	-193.4	-627.5	509.4	0.14	0.00	
2,806.0	16.30	247.80	2,702.6	-203.1	-653.0	531.6	2.66	-2.53	
2,897.0	14.40	248.60	2,790.4	-212.1	-675.4	551.5	2.10	-2.09	
2,988.0	12.10	248.60	2,878.9	-219.7	-694.8	568.6	2.53	-2.53	
3,079.0	10.30	253.10	2,968.2	-225.5	-711.5	582.7	2.20	-1.98	
3,169.0	8.70	258.10	3,057.0	-229.3	-725.8	593.8	2.00	-1.78	
3,260.0	8.20	257.80	3,147.0	-232.1	-738.9	603.4	0.55	-0.55	
3,351.0	6.60	250.50	3,237.2	-235.2	-750.2	612.2	2.04	-1.76	
3,442.0	4.30	255.40	3,327.8	-237.8	-758.4	619.0	2.58	-2.53	
3,533.0	4.60	256.10	3,418.5	-239.5	-765.3	624.2	0.34	0.33	
3,624.0	3.20	252.00	3,509.3	-241.2	-771.2	628.9	1.57	-1.54	
3,714.0	2.30	233.40	3,599.2	-243.0	-775.1	632.6	1.40	-1.00	
3,805.0	1.80	214.30	3,690.2	-245.3	-777.3	635.7	0.92	-0.55	
3,896.0	1.30	161.30	3,781.1	-247.5	-777.8	637.8	1.60	-0.55	
3,987.0	0.80	38.70	3,872.1	-248.0	-777.1	637.8	2.04	-0.55	
4,078.0	0.50	39.00	3,963.1	-247.2	-776.4	636.8	0.33	-0.33	
4,168.0	0.40	21.20	4,053.1	-246.6	-776.1	636.1	0.19	-0.11	
4,259.0	0.60	207.40	4,144.1	-246.7	-776.2	636.2	1.10	0.22	
4,350.0	0.40	347.50	4,235.1	-246.8	-776.5	636.5	1.04	-0.22	
4,441.0	0.60	341.30	4,326.1	-246.0	-776.7	636.0	0.23	0.22	
4,532.0	0.70	340.20	4,417.1	-245.1	-777.0	635.4	0.11	0.11	
4,622.0	0.70	326.20	4,507.1	-244.1	-777.5	634.8	0.19	0.00	
4,713.0	0.70	330.80	4,598.1	-243.1	-778.1	634.4	0.06	0.00	
4,804.0	0.70	332.50	4,689.1	-242.2	-778.6	633.8	0.02	0.00	
4,894.0	0.90	339.70	4,779.1	-241.0	-779.1	633.2	0.25	0.22	
4,985.0	1.00	357.90	4,870.1	-239.5	-779.4	632.1	0.35	0.11	
5,076.0	0.90	353.20	4,961.1	-238.0	-779.5	630.9	0.14	-0.11	
5,166.0	0.70	1.10	5,051.0	-236.8	-779.6	629.9	0.25	-0.22	
5,257.0	0.70	359.00	5,142.0	-235.7	-779.6	629.0	0.03	0.00	
5,348.0	0.60	11.40	5,233.0	-234.7	-779.5	628.1	0.19	-0.11	
5,439.0	0.90	163.40	5,324.0	-234.9	-779.2	628.1	1.60	0.33	
5,530.0	0.30	59.90	5,415.0	-235.4	-778.8	628.3	1.11	-0.66	
5,621.0	0.10	80.80	5,506.0	-235.3	-778.5	628.1	0.23	-0.22	
5,711.0	0.70	141.50	5,596.0	-235.7	-778.1	628.2	0.73	0.67	
5,802.0	0.80	156.00	5,687.0	-236.7	-777.5	628.7	0.23	0.11	
5,893.0	0.70	172.70	5,778.0	-237.9	-777.1	629.5	0.26	-0.11	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	Anadarko Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Checketts 22-15
<b>Project:</b>	DJ Wattenberg	<b>TVD Reference:</b>	15' KB @ 4743.0ft (Xtreme 11)
<b>Site:</b>	SENW Sec15-T4N-R65W (Checketts)	<b>MD Reference:</b>	15' KB @ 4743.0ft (Xtreme 11)
<b>Well:</b>	Checketts 22-15	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	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
5,984.0	0.60	167.90	5,869.0	-238.9	-777.0	630.2	0.13	-0.11	
6,075.0	0.70	160.50	5,960.0	-239.9	-776.7	630.9	0.14	0.11	
6,165.0	0.70	153.30	6,050.0	-240.9	-776.3	631.5	0.10	0.00	
6,256.0	0.80	159.30	6,141.0	-242.0	-775.8	632.1	0.14	0.11	
6,347.0	0.90	158.80	6,232.0	-243.2	-775.3	632.9	0.11	0.11	
6,437.0	1.00	155.60	6,322.0	-244.6	-774.7	633.7	0.13	0.11	
6,529.0	1.10	152.50	6,413.9	-246.1	-774.0	634.6	0.12	0.11	
6,619.0	1.20	152.60	6,503.9	-247.7	-773.2	635.4	0.11	0.11	
6,710.0	1.40	157.50	6,594.9	-249.6	-772.3	636.5	0.25	0.22	
6,801.0	1.40	160.00	6,685.9	-251.7	-771.5	637.8	0.07	0.00	
6,892.0	1.50	160.80	6,776.8	-253.8	-770.7	639.2	0.11	0.11	
6,982.0	1.50	151.20	6,866.8	-256.0	-769.8	640.4	0.28	0.00	
7,073.0	1.70	148.60	6,957.8	-258.2	-768.5	641.5	0.23	0.22	
7,164.0	1.90	148.00	7,048.7	-260.6	-767.0	642.7	0.22	0.22	
7,254.0	2.00	146.20	7,138.7	-263.2	-765.3	643.9	0.13	0.11	
7,345.0	1.50	136.90	7,229.6	-265.4	-763.6	644.8	0.63	-0.55	
7,436.0	1.80	132.80	7,320.6	-267.2	-761.8	645.3	0.35	0.33	
7,526.0	1.90	137.50	7,410.6	-269.3	-759.7	645.9	0.20	0.11	
7,617.0	1.10	129.10	7,501.5	-270.9	-758.0	646.3	0.91	-0.88	
7,708.0	1.10	142.10	7,592.5	-272.2	-756.8	646.7	0.27	0.00	
7,765.0	0.90	127.10	7,649.5	-272.9	-756.1	646.9	0.58	-0.35	Last Cathedral Survey @ 7,765' MD
7,820.0	0.90	127.10	7,704.5	-273.4	-755.4	646.9	0.00	0.00	Projection to Bit @ 7,820' MD - Checketts 22-15

### 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									
Checketts 22-15 BHL	0.00	0.00	7,753.0	-240.4	-777.2	1,357,704.21	3,235,959.87	40.312201	-104.653885
- actual wellpath misses target center by 62.6ft at 7820.0ft MD (7704.5 TVD, -273.4 N, -755.4 E)									
- Circle (radius 50.0)									

### Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
7,765.0	7,649.5	-272.9	-756.1	Last Cathedral Survey @ 7,765' MD
7,820.0	7,704.5	-273.4	-755.4	Projection to Bit @ 7,820' MD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_