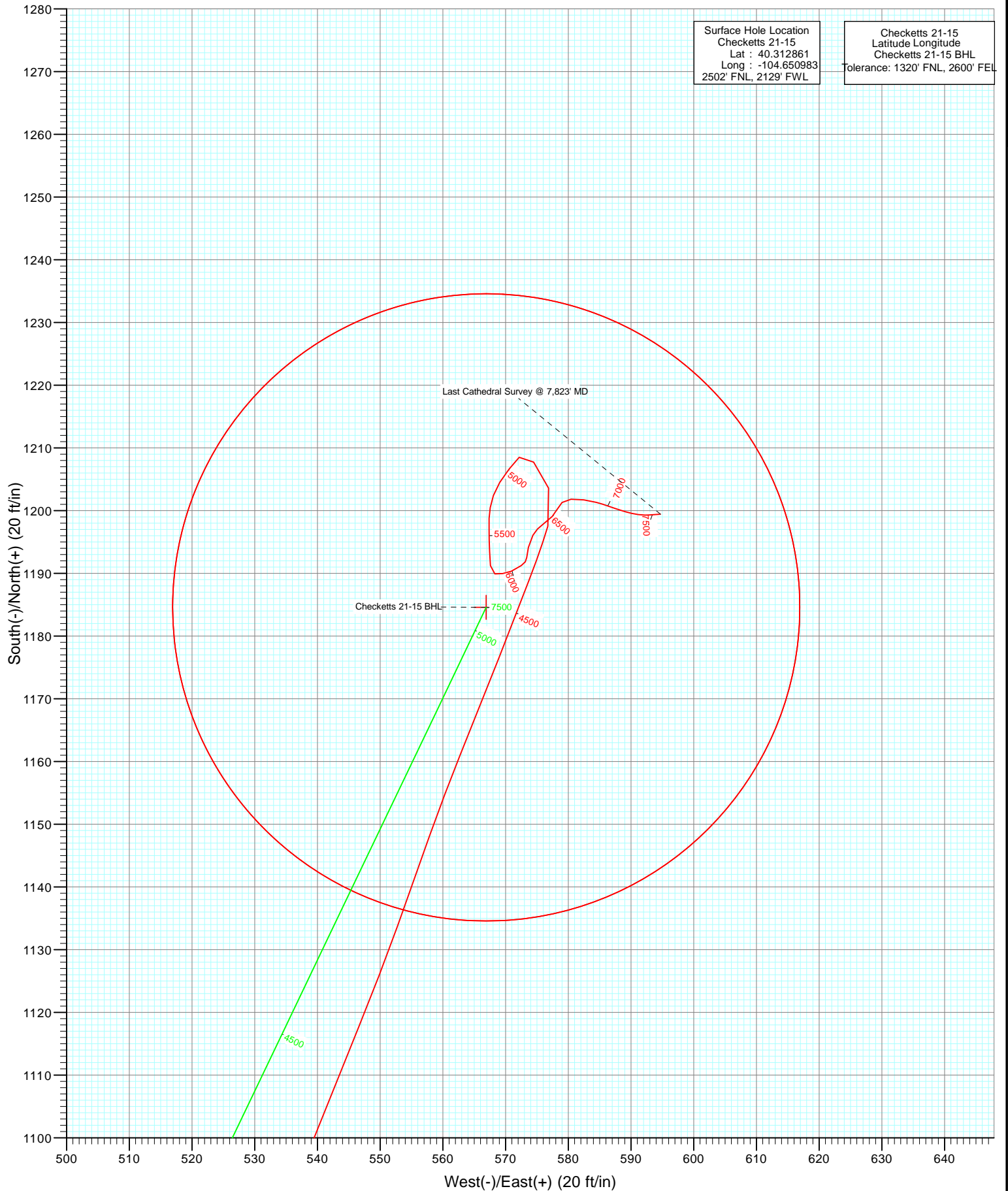


DD Checketts 21-15 15' KB @ 4743.0ft (Xtreme 11) North American Datum 1983 Well Checketts 21-15, True North					
Type Target	Target Checketts 21-15 BHL	Azimuth 25.57	Origin Type Slot	N/S 0.0	E/W 0.0
Name Checketts 21-15 BHL	TVD 7753.0	+N/-S 1184.6	+E/-W 566.9	Latitude 40.316113	Longitude -104.648950
		From TVD 0.0			



# Cathedral Energy Services

## Survey Report

<b>Company:</b>	Anadarko Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Checketts 21-15
<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 21-15	<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 21-15				
Well Position	+N/-S	0.0 ft	Northing:	1,357,952.47 ft	Latitude:	40.312861
	+E/-W	0.0 ft	Easting:	3,236,766.82 ft	Longitude:	-104.650983
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	5/12/2012	8.67	66.97	53,003

<b>Design</b>	DD				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	25.57	

<b>Survey Program</b>	<b>Date</b>	5/17/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
91.0	7,823.0	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	93.40	91.0	-0.1	0.9	0.3	1.21	1.21		
179.0	2.20	75.20	179.0	0.3	3.3	1.7	1.37	1.25		
267.0	3.60	48.00	266.8	2.6	7.0	5.4	2.19	1.59		
354.0	5.80	32.80	353.6	8.1	11.4	12.3	2.88	2.53		
447.0	6.10	25.40	446.1	16.5	16.1	21.9	0.88	0.32		
482.0	6.10	23.20	480.9	19.9	17.6	25.6	0.67	0.00		
578.0	5.90	22.40	576.3	29.2	21.5	35.6	0.23	-0.21		
668.0	7.90	21.50	665.7	39.2	25.6	46.4	2.23	2.22		
760.0	9.00	34.10	756.7	51.1	31.9	59.8	2.33	1.20		
852.0	10.70	33.70	847.3	64.1	40.7	75.4	1.85	1.85		
944.0	12.80	29.30	937.4	80.1	50.4	94.0	2.48	2.28		
1,035.0	15.30	26.60	1,025.7	99.7	60.7	116.1	2.84	2.75		

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	Anadarko Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Checketts 21-15
<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 21-15	<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
1,126.0	17.80	24.10	1,112.9	123.1	71.8	142.0	2.86	2.75	
1,216.0	19.50	27.60	1,198.2	149.0	84.4	170.8	2.26	1.89	
1,307.0	20.50	25.10	1,283.7	176.8	98.2	201.9	1.45	1.10	
1,398.0	20.20	23.00	1,369.0	205.7	111.1	233.5	0.87	-0.33	
1,489.0	19.20	21.90	1,454.7	234.1	122.8	264.2	1.17	-1.10	
1,579.0	19.90	20.20	1,539.5	262.2	133.6	294.2	1.00	0.78	
1,670.0	20.40	20.50	1,624.9	291.6	144.5	325.4	0.56	0.55	
1,761.0	19.20	20.00	1,710.5	320.5	155.2	356.1	1.33	-1.32	
1,852.0	19.80	24.80	1,796.3	348.6	166.7	386.4	1.88	0.66	
1,942.0	20.30	27.70	1,880.9	376.2	180.4	417.2	1.24	0.56	
2,033.0	19.60	27.20	1,966.4	403.8	194.7	448.3	0.79	-0.77	
2,124.0	20.30	26.30	2,051.9	431.5	208.7	479.3	0.84	0.77	
2,214.0	21.10	27.70	2,136.1	459.8	223.1	511.1	1.05	0.89	
2,305.0	19.00	26.90	2,221.6	487.6	237.4	542.3	2.33	-2.31	
2,396.0	19.60	25.00	2,307.5	514.6	250.6	572.4	0.95	0.66	
2,487.0	20.70	24.30	2,392.9	543.1	263.7	603.7	1.24	1.21	
2,578.0	18.70	22.90	2,478.6	571.2	276.0	634.4	2.26	-2.20	
2,669.0	19.70	26.90	2,564.5	598.3	288.6	664.3	1.82	1.10	
2,759.0	20.00	26.20	2,649.2	625.6	302.2	694.8	0.43	0.33	
2,850.0	20.80	25.00	2,734.5	654.3	315.9	726.5	0.99	0.88	
2,941.0	22.80	24.80	2,819.0	684.9	330.2	760.3	2.20	2.20	
3,032.0	20.10	21.90	2,903.7	715.4	343.4	793.6	3.19	-2.97	
3,122.0	20.30	22.80	2,988.1	744.2	355.2	824.6	0.41	0.22	
3,213.0	19.90	21.60	3,073.6	773.1	367.0	855.8	0.63	-0.44	
3,304.0	18.80	23.70	3,159.4	800.9	378.6	885.9	1.43	-1.21	
3,395.0	18.00	26.30	3,245.8	827.0	390.8	914.6	1.26	-0.88	
3,485.0	17.60	29.20	3,331.5	851.3	403.6	942.1	1.08	-0.44	
3,576.0	17.70	31.40	3,418.2	875.1	417.5	969.6	0.74	0.11	
3,667.0	17.70	31.60	3,504.9	898.7	431.9	997.1	0.07	0.00	
3,758.0	19.50	33.00	3,591.1	923.3	447.4	1,026.0	2.04	1.98	
3,848.0	19.70	32.70	3,675.9	948.6	463.8	1,055.9	0.25	0.22	
3,939.0	21.30	30.20	3,761.2	975.8	480.4	1,087.6	2.00	1.76	
4,030.0	22.10	27.50	3,845.7	1,005.3	496.6	1,121.2	1.41	0.88	
4,121.0	21.10	27.10	3,930.3	1,035.0	512.0	1,154.7	1.11	-1.10	
4,211.0	20.10	21.60	4,014.6	1,063.8	525.1	1,186.3	2.42	-1.11	
4,302.0	18.40	21.80	4,100.5	1,091.7	536.2	1,216.2	1.87	-1.87	
4,393.0	17.40	21.90	4,187.1	1,117.7	546.6	1,244.1	1.10	-1.10	
4,484.0	14.60	19.00	4,274.5	1,141.2	555.4	1,269.1	3.20	-3.08	
4,575.0	12.00	21.90	4,363.1	1,160.8	562.7	1,289.9	2.95	-2.86	
4,665.0	9.70	21.50	4,451.5	1,176.5	568.9	1,306.8	2.56	-2.56	
4,756.0	7.00	20.90	4,541.5	1,188.8	573.7	1,320.0	2.97	-2.97	
4,847.0	4.60	16.30	4,632.0	1,197.5	576.7	1,329.2	2.68	-2.64	
4,937.0	3.50	341.30	4,721.8	1,203.6	576.9	1,334.7	2.94	-1.22	
5,028.0	2.70	315.80	4,812.7	1,207.8	574.5	1,337.4	1.73	-0.88	
5,119.0	1.40	225.60	4,903.6	1,208.5	572.2	1,337.1	3.35	-1.43	
5,210.0	1.70	216.70	4,994.6	1,206.7	570.6	1,334.7	0.42	0.33	
5,301.0	1.60	213.50	5,085.6	1,204.5	569.1	1,332.2	0.15	-0.11	
5,391.0	1.40	197.20	5,175.5	1,202.4	568.1	1,329.8	0.52	-0.22	
5,482.0	1.10	192.00	5,266.5	1,200.5	567.5	1,327.9	0.35	-0.33	
5,573.0	1.10	179.80	5,357.5	1,198.8	567.4	1,326.2	0.26	0.00	
5,664.0	1.10	179.20	5,448.5	1,197.0	567.4	1,324.7	0.01	0.00	
5,754.0	1.10	180.40	5,538.5	1,195.3	567.4	1,323.1	0.03	0.00	
5,845.0	1.20	175.90	5,629.5	1,193.5	567.4	1,321.5	0.15	0.11	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	Anadarko Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Checketts 21-15
<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 21-15	<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
5,936.0	1.60	176.80	5,720.4	1,191.3	567.6	1,319.6	0.44	0.44	
6,027.0	0.80	94.30	5,811.4	1,189.9	568.3	1,318.7	1.86	-0.88	
6,117.0	0.80	83.30	5,901.4	1,190.0	569.5	1,319.2	0.17	0.00	
6,208.0	1.00	66.70	5,992.4	1,190.4	570.9	1,320.2	0.36	0.22	
6,299.0	1.30	56.00	6,083.4	1,191.2	572.5	1,321.7	0.40	0.33	
6,390.0	0.90	1.80	6,174.4	1,192.5	573.4	1,323.2	1.17	-0.44	
6,480.0	1.20	14.60	6,264.3	1,194.2	573.6	1,324.8	0.42	0.33	
6,571.0	1.40	26.50	6,355.3	1,196.1	574.4	1,326.8	0.37	0.22	
6,662.0	2.20	54.10	6,446.3	1,198.1	576.3	1,329.5	1.27	0.88	
6,753.0	1.20	23.90	6,537.2	1,200.0	578.1	1,332.0	1.44	-1.10	
6,844.0	0.90	50.30	6,628.2	1,201.3	579.0	1,333.6	0.62	-0.33	
6,935.0	1.10	85.40	6,719.2	1,201.8	580.4	1,334.7	0.70	0.22	
7,025.0	1.50	98.50	6,809.2	1,201.7	582.5	1,335.4	0.55	0.44	
7,116.0	1.10	105.20	6,900.2	1,201.3	584.5	1,335.9	0.47	-0.44	
7,207.0	1.10	109.00	6,991.1	1,200.8	586.1	1,336.2	0.08	0.00	
7,298.0	1.10	108.30	7,082.1	1,200.3	587.8	1,336.4	0.01	0.00	
7,389.0	0.90	106.50	7,173.1	1,199.8	589.3	1,336.6	0.22	-0.22	
7,480.0	0.70	98.70	7,264.1	1,199.5	590.5	1,336.9	0.25	-0.22	
7,570.0	0.70	97.60	7,354.1	1,199.3	591.6	1,337.2	0.01	0.00	
7,661.0	0.70	85.80	7,445.1	1,199.3	592.7	1,337.7	0.16	0.00	
7,823.0	0.70	85.80	7,607.1	1,199.4	594.7	1,338.7	0.00	0.00	Last Cathedral Survey @ 7,823' MD - Checketts

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Checketts 21-15 BHL	0.00	0.00	7,753.0	1,184.6	566.9	1,359,142.43	3,237,322.36	40.316113	-104.648950
- hit/miss target									
- Shape									
- actual wellpath misses target center by 149.3ft at 7823.0ft MD (7607.1 TVD, 1199.4 N, 594.7 E)									
- Circle (radius 50.0)									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
7,823.0	7,607.1	1,199.4	594.7	Last Cathedral Survey @ 7,823' MD

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