



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Paragon 25C-31HZ
<b>Company:</b>	Anadarko Petroleum Corporation	<b>TVD Reference:</b>	KB=17' @ 5002.0ft (Original Well Elev)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	KB=17' @ 5002.0ft (Original Well Elev)
<b>Site:</b>	Paragon Pad (S31-T2N-R65W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Paragon 25C-31HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #1		

<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		Paragon Pad (S31-T2N-R65W)			
Site Position:		Northing:	1,270,825.80 ft	Latitude:	40.074048
From:	Lat/Long	Easting:	3,223,070.84 ft	Longitude:	-104.702902
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.52 °

Well	Paragon 25C-31HZ					
Well Position	+N/-S	0.0 ft	Northing:	1,270,795.91 ft	Latitude:	40.073966
	+E/-W	0.0 ft	Easting:	3,223,071.11 ft	Longitude:	-104.702902
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,985.0 ft

<b>Wellbore</b>	HZ				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
			(°)	(°)	(nT)
	IGRF2010	9/17/2013	8.50	66.72	52,727

<b>Design</b>	Plan #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<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	354.03

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,518.2	8.36	253.56	1,516.7	-8.6	-29.2	2.00	2.00	0.00	253.56	
6,444.2	8.36	253.56	6,390.3	-211.4	-716.4	0.00	0.00	0.00	0.00	
6,862.4	0.00	0.00	6,807.0	-220.0	-745.6	2.00	-2.00	0.00	180.00	Paragon 25C-31HZ V
7,759.5	89.71	0.00	7,380.0	350.1	-745.6	10.00	10.00	0.00	0.00	
14,540.0	89.71	0.00	7,414.0	7,130.5	-745.6	0.00	0.00	0.00	0.00	Paragon 25C-31HZ P

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<b>Site:</b>	Paragon Pad (S31-T2N-R65W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Paragon 25C-31HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	
1,057.0	0.00	0.00	1,057.0	0.0	0.0	0.0	0.00	0.00	Fox Hills Base
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	KOP @ 1,100'
1,200.0	2.00	253.56	1,200.0	-0.5	-1.7	-0.3	2.00	2.00	
1,300.0	4.00	253.56	1,299.8	-2.0	-6.7	-1.3	2.00	2.00	
1,400.0	6.00	253.56	1,399.5	-4.4	-15.1	-2.9	2.00	2.00	
1,500.0	8.00	253.56	1,498.7	-7.9	-26.7	-5.1	2.00	2.00	
1,518.2	8.36	253.56	1,516.7	-8.6	-29.2	-5.5	2.00	2.00	EOB @ Inc. = 8.36°
1,600.0	8.36	253.56	1,597.6	-12.0	-40.6	-7.7	0.00	0.00	
1,700.0	8.36	253.56	1,696.6	-16.1	-54.6	-10.3	0.00	0.00	
1,800.0	8.36	253.56	1,795.5	-20.2	-68.5	-13.0	0.00	0.00	
1,900.0	8.36	253.56	1,894.5	-24.3	-82.5	-15.6	0.00	0.00	
2,000.0	8.36	253.56	1,993.4	-28.5	-96.4	-18.3	0.00	0.00	
2,100.0	8.36	253.56	2,092.3	-32.6	-110.4	-20.9	0.00	0.00	
2,200.0	8.36	253.56	2,191.3	-36.7	-124.3	-23.6	0.00	0.00	
2,300.0	8.36	253.56	2,290.2	-40.8	-138.3	-26.2	0.00	0.00	
2,400.0	8.36	253.56	2,389.1	-44.9	-152.2	-28.8	0.00	0.00	
2,500.0	8.36	253.56	2,488.1	-49.0	-166.2	-31.5	0.00	0.00	
2,600.0	8.36	253.56	2,587.0	-53.1	-180.1	-34.1	0.00	0.00	
2,700.0	8.36	253.56	2,685.9	-57.3	-194.1	-36.8	0.00	0.00	
2,800.0	8.36	253.56	2,784.9	-61.4	-208.0	-39.4	0.00	0.00	
2,900.0	8.36	253.56	2,883.8	-65.5	-222.0	-42.1	0.00	0.00	
3,000.0	8.36	253.56	2,982.8	-69.6	-235.9	-44.7	0.00	0.00	
3,100.0	8.36	253.56	3,081.7	-73.7	-249.9	-47.3	0.00	0.00	
3,200.0	8.36	253.56	3,180.6	-77.8	-263.8	-50.0	0.00	0.00	
3,300.0	8.36	253.56	3,279.6	-82.0	-277.8	-52.6	0.00	0.00	
3,400.0	8.36	253.56	3,378.5	-86.1	-291.7	-55.3	0.00	0.00	
3,500.0	8.36	253.56	3,477.4	-90.2	-305.7	-57.9	0.00	0.00	
3,600.0	8.36	253.56	3,576.4	-94.3	-319.6	-60.6	0.00	0.00	
3,700.0	8.36	253.56	3,675.3	-98.4	-333.6	-63.2	0.00	0.00	
3,800.0	8.36	253.56	3,774.3	-102.5	-347.5	-65.8	0.00	0.00	
3,900.0	8.36	253.56	3,873.2	-106.7	-361.5	-68.5	0.00	0.00	
4,000.0	8.36	253.56	3,972.1	-110.8	-375.4	-71.1	0.00	0.00	
4,100.0	8.36	253.56	4,071.1	-114.9	-389.4	-73.8	0.00	0.00	
4,200.0	8.36	253.56	4,170.0	-119.0	-403.3	-76.4	0.00	0.00	
4,229.3	8.36	253.56	4,199.0	-120.2	-407.4	-77.2	0.00	0.00	Parkman
4,300.0	8.36	253.56	4,268.9	-123.1	-417.3	-79.1	0.00	0.00	
4,400.0	8.36	253.56	4,367.9	-127.2	-431.3	-81.7	0.00	0.00	
4,500.0	8.36	253.56	4,466.8	-131.4	-445.2	-84.3	0.00	0.00	
4,600.0	8.36	253.56	4,565.7	-135.5	-459.2	-87.0	0.00	0.00	
4,623.5	8.36	253.56	4,589.0	-136.4	-462.4	-87.6	0.00	0.00	Sussex
4,700.0	8.36	253.56	4,664.7	-139.6	-473.1	-89.6	0.00	0.00	

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<b>Site:</b>	Paragon Pad (S31-T2N-R65W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Paragon 25C-31HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,800.0	8.36	253.56	4,763.6	-143.7	-487.1	-92.3	0.00	0.00	
4,900.0	8.36	253.56	4,862.6	-147.8	-501.0	-94.9	0.00	0.00	
5,000.0	8.36	253.56	4,961.5	-151.9	-515.0	-97.6	0.00	0.00	
5,100.0	8.36	253.56	5,060.4	-156.0	-528.9	-100.2	0.00	0.00	
5,200.0	8.36	253.56	5,159.4	-160.2	-542.9	-102.8	0.00	0.00	
5,300.0	8.36	253.56	5,258.3	-164.3	-556.8	-105.5	0.00	0.00	
5,400.0	8.36	253.56	5,357.2	-168.4	-570.8	-108.1	0.00	0.00	
5,500.0	8.36	253.56	5,456.2	-172.5	-584.7	-110.8	0.00	0.00	
5,600.0	8.36	253.56	5,555.1	-176.6	-598.7	-113.4	0.00	0.00	
5,700.0	8.36	253.56	5,654.0	-180.7	-612.6	-116.1	0.00	0.00	
5,800.0	8.36	253.56	5,753.0	-184.9	-626.6	-118.7	0.00	0.00	
5,900.0	8.36	253.56	5,851.9	-189.0	-640.5	-121.3	0.00	0.00	
6,000.0	8.36	253.56	5,950.9	-193.1	-654.5	-124.0	0.00	0.00	
6,100.0	8.36	253.56	6,049.8	-197.2	-668.4	-126.6	0.00	0.00	
6,200.0	8.36	253.56	6,148.7	-201.3	-682.4	-129.3	0.00	0.00	
6,300.0	8.36	253.56	6,247.7	-205.4	-696.3	-131.9	0.00	0.00	
6,400.0	8.36	253.56	6,346.6	-209.6	-710.3	-134.6	0.00	0.00	
6,444.2	8.36	253.56	6,390.3	-211.4	-716.4	-135.7	0.00	0.00	Start 2° Drop
6,500.0	7.25	253.56	6,445.6	-213.5	-723.7	-137.1	2.00	-2.00	
6,600.0	5.25	253.56	6,545.0	-216.6	-734.1	-139.1	2.00	-2.00	
6,700.0	3.25	253.56	6,644.7	-218.7	-741.2	-140.4	2.00	-2.00	
6,800.0	1.25	253.56	6,744.7	-219.8	-745.0	-141.1	2.00	-2.00	
6,862.4	0.00	0.00	6,807.0	-220.0	-745.6	-141.3	2.00	-2.00	Start 10° Build
6,900.0	3.76	0.00	6,844.6	-218.8	-745.6	-140.0	10.00	10.00	
6,950.0	8.76	0.00	6,894.3	-213.3	-745.6	-134.6	10.00	10.00	
7,000.0	13.76	0.00	6,943.3	-203.5	-745.6	-124.9	10.00	10.00	
7,035.0	17.26	0.00	6,977.0	-194.2	-745.6	-115.6	10.00	10.00	Sharon Springs
7,050.0	18.76	0.00	6,991.3	-189.5	-745.6	-111.0	10.00	10.00	
7,083.8	22.15	0.00	7,023.0	-177.7	-745.6	-99.2	10.00	10.00	Niobrara A
7,100.0	23.76	0.00	7,037.9	-171.4	-745.6	-92.9	10.00	10.00	
7,150.0	28.76	0.00	7,082.7	-149.3	-745.6	-70.9	10.00	10.00	
7,200.0	33.76	0.00	7,125.4	-123.4	-745.6	-45.1	10.00	10.00	
7,201.9	33.95	0.00	7,127.0	-122.3	-745.6	-44.1	10.00	10.00	Niobrara B
7,250.0	38.76	0.00	7,165.7	-93.8	-745.6	-15.7	10.00	10.00	
7,280.5	41.81	0.00	7,189.0	-74.1	-745.6	3.9	10.00	10.00	Niobrara C
7,300.0	43.76	0.00	7,203.3	-60.8	-745.6	17.1	10.00	10.00	
7,350.0	48.76	0.00	7,237.9	-24.7	-745.6	53.0	10.00	10.00	
7,400.0	53.76	0.00	7,269.1	14.3	-745.6	91.8	10.00	10.00	
7,450.0	58.76	0.00	7,296.9	55.9	-745.6	133.1	10.00	10.00	
7,500.0	63.76	0.00	7,320.9	99.7	-745.6	176.7	10.00	10.00	
7,550.0	68.76	0.00	7,341.1	145.4	-745.6	222.2	10.00	10.00	
7,596.1	73.37	0.00	7,356.0	189.0	-745.6	265.5	10.00	10.00	Fort Hays
7,600.0	73.76	0.00	7,357.1	192.8	-745.6	269.3	10.00	10.00	
7,650.0	78.76	0.00	7,369.0	241.3	-745.6	317.6	10.00	10.00	
7,700.0	83.76	0.00	7,376.6	290.7	-745.6	366.7	10.00	10.00	
7,729.2	86.69	0.00	7,379.0	319.8	-745.6	395.7	10.00	10.00	Codell
7,750.0	88.76	0.00	7,379.8	340.6	-745.6	416.3	10.00	10.00	
7,758.4	89.60	0.00	7,379.9	349.0	-745.6	424.7	10.00	10.00	7" - 620' FSL, 2349' FEL
7,759.5	89.71	0.00	7,380.0	350.1	-745.6	425.7	10.00	10.00	LP @ 7,380' TVD, 89.71°
7,800.0	89.71	0.00	7,380.2	390.6	-745.6	466.0	0.00	0.00	
7,900.0	89.71	0.00	7,380.7	490.6	-745.6	565.5	0.00	0.00	
8,000.0	89.71	0.00	7,381.2	590.6	-745.6	665.0	0.00	0.00	

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<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
8,100.0	89.71	0.00	7,381.7	690.6	-745.6	764.4	0.00	0.00	
8,200.0	89.71	0.00	7,382.2	790.6	-745.6	863.9	0.00	0.00	
8,300.0	89.71	0.00	7,382.7	890.6	-745.6	963.3	0.00	0.00	
8,400.0	89.71	0.00	7,383.2	990.6	-745.6	1,062.8	0.00	0.00	
8,500.0	89.71	0.00	7,383.7	1,090.6	-745.6	1,162.2	0.00	0.00	
8,600.0	89.71	0.00	7,384.2	1,190.6	-745.6	1,261.7	0.00	0.00	
8,700.0	89.71	0.00	7,384.7	1,290.6	-745.6	1,361.1	0.00	0.00	
8,800.0	89.71	0.00	7,385.2	1,390.6	-745.6	1,460.6	0.00	0.00	
8,900.0	89.71	0.00	7,385.7	1,490.6	-745.6	1,560.1	0.00	0.00	
9,000.0	89.71	0.00	7,386.2	1,590.6	-745.6	1,659.5	0.00	0.00	
9,100.0	89.71	0.00	7,386.7	1,690.6	-745.6	1,759.0	0.00	0.00	
9,200.0	89.71	0.00	7,387.2	1,790.6	-745.6	1,858.4	0.00	0.00	
9,300.0	89.71	0.00	7,387.7	1,890.6	-745.6	1,957.9	0.00	0.00	
9,400.0	89.71	0.00	7,388.2	1,990.6	-745.6	2,057.3	0.00	0.00	
9,500.0	89.71	0.00	7,388.7	2,090.6	-745.6	2,156.8	0.00	0.00	
9,600.0	89.71	0.00	7,389.2	2,190.6	-745.6	2,256.3	0.00	0.00	
9,700.0	89.71	0.00	7,389.7	2,290.6	-745.6	2,355.7	0.00	0.00	
9,800.0	89.71	0.00	7,390.2	2,390.6	-745.6	2,455.2	0.00	0.00	
9,900.0	89.71	0.00	7,390.7	2,490.6	-745.6	2,554.6	0.00	0.00	
10,000.0	89.71	0.00	7,391.2	2,590.6	-745.6	2,654.1	0.00	0.00	
10,100.0	89.71	0.00	7,391.7	2,690.6	-745.6	2,753.5	0.00	0.00	
10,200.0	89.71	0.00	7,392.2	2,790.6	-745.6	2,853.0	0.00	0.00	
10,300.0	89.71	0.00	7,392.7	2,890.6	-745.6	2,952.5	0.00	0.00	
10,400.0	89.71	0.00	7,393.2	2,990.6	-745.6	3,051.9	0.00	0.00	
10,500.0	89.71	0.00	7,393.7	3,090.6	-745.6	3,151.4	0.00	0.00	
10,600.0	89.71	0.00	7,394.2	3,190.6	-745.6	3,250.8	0.00	0.00	
10,700.0	89.71	0.00	7,394.7	3,290.6	-745.6	3,350.3	0.00	0.00	
10,800.0	89.71	0.00	7,395.2	3,390.6	-745.6	3,449.7	0.00	0.00	
10,900.0	89.71	0.00	7,395.7	3,490.6	-745.6	3,549.2	0.00	0.00	
11,000.0	89.71	0.00	7,396.2	3,590.6	-745.6	3,648.6	0.00	0.00	
11,100.0	89.71	0.00	7,396.7	3,690.6	-745.6	3,748.1	0.00	0.00	
11,200.0	89.71	0.00	7,397.2	3,790.6	-745.6	3,847.6	0.00	0.00	
11,300.0	89.71	0.00	7,397.7	3,890.6	-745.6	3,947.0	0.00	0.00	
11,400.0	89.71	0.00	7,398.2	3,990.6	-745.6	4,046.5	0.00	0.00	
11,500.0	89.71	0.00	7,398.7	4,090.6	-745.6	4,145.9	0.00	0.00	
11,600.0	89.71	0.00	7,399.2	4,190.6	-745.6	4,245.4	0.00	0.00	
11,700.0	89.71	0.00	7,399.7	4,290.6	-745.6	4,344.8	0.00	0.00	
11,800.0	89.71	0.00	7,400.2	4,390.6	-745.6	4,444.3	0.00	0.00	
11,900.0	89.71	0.00	7,400.7	4,490.6	-745.6	4,543.8	0.00	0.00	
12,000.0	89.71	0.00	7,401.2	4,590.6	-745.6	4,643.2	0.00	0.00	
12,100.0	89.71	0.00	7,401.7	4,690.6	-745.6	4,742.7	0.00	0.00	
12,200.0	89.71	0.00	7,402.2	4,790.6	-745.6	4,842.1	0.00	0.00	
12,300.0	89.71	0.00	7,402.8	4,890.6	-745.6	4,941.6	0.00	0.00	
12,400.0	89.71	0.00	7,403.3	4,990.6	-745.6	5,041.0	0.00	0.00	
12,500.0	89.71	0.00	7,403.8	5,090.5	-745.6	5,140.5	0.00	0.00	
12,600.0	89.71	0.00	7,404.3	5,190.5	-745.6	5,239.9	0.00	0.00	
12,700.0	89.71	0.00	7,404.8	5,290.5	-745.6	5,339.4	0.00	0.00	
12,800.0	89.71	0.00	7,405.3	5,390.5	-745.6	5,438.9	0.00	0.00	
12,900.0	89.71	0.00	7,405.8	5,490.5	-745.6	5,538.3	0.00	0.00	
13,000.0	89.71	0.00	7,406.3	5,590.5	-745.6	5,637.8	0.00	0.00	
13,100.0	89.71	0.00	7,406.8	5,690.5	-745.6	5,737.2	0.00	0.00	
13,200.0	89.71	0.00	7,407.3	5,790.5	-745.6	5,836.7	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Paragon 25C-31HZ
<b>Company:</b>	Anadarko Petroleum Corporation	<b>TVD Reference:</b>	KB=17' @ 5002.0ft (Original Well Elev)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	KB=17' @ 5002.0ft (Original Well Elev)
<b>Site:</b>	Paragon Pad (S31-T2N-R65W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Paragon 25C-31HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
13,300.0	89.71	0.00	7,407.8	5,890.5	-745.6	5,936.1	0.00	0.00	
13,400.0	89.71	0.00	7,408.3	5,990.5	-745.6	6,035.6	0.00	0.00	
13,500.0	89.71	0.00	7,408.8	6,090.5	-745.6	6,135.1	0.00	0.00	
13,600.0	89.71	0.00	7,409.3	6,190.5	-745.6	6,234.5	0.00	0.00	
13,700.0	89.71	0.00	7,409.8	6,290.5	-745.6	6,334.0	0.00	0.00	
13,800.0	89.71	0.00	7,410.3	6,390.5	-745.6	6,433.4	0.00	0.00	
13,900.0	89.71	0.00	7,410.8	6,490.5	-745.6	6,532.9	0.00	0.00	
14,000.0	89.71	0.00	7,411.3	6,590.5	-745.6	6,632.3	0.00	0.00	
14,100.0	89.71	0.00	7,411.8	6,690.5	-745.6	6,731.8	0.00	0.00	
14,200.0	89.71	0.00	7,412.3	6,790.5	-745.6	6,831.3	0.00	0.00	
14,300.0	89.71	0.00	7,412.8	6,890.5	-745.6	6,930.7	0.00	0.00	
14,400.0	89.71	0.00	7,413.3	6,990.5	-745.6	7,030.2	0.00	0.00	
14,500.0	89.71	0.00	7,413.8	7,090.5	-745.6	7,129.6	0.00	0.00	
14,540.0	89.71	0.00	7,414.0	7,130.5	-745.6	7,169.4	0.00	0.00	TD @ 14,540' MD

### 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									
Paragon 25C-31HZ PB+	0.00	0.00	7,414.0	7,130.5	-745.6	1,277,926.46	3,222,325.47	40.093558	-104.705338
- plan hits target center									
- Point									
Paragon 25C-31HZ VP	0.00	0.00	6,807.0	-220.0	-745.6	1,270,575.92	3,222,325.47	40.073380	-104.705573
- plan hits target center									
- Point									

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
7,758.4	7,379.9	7" - 620' FSL, 2349' FEL		

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,057.0	1,057.0	Fox Hills Base			
4,229.3	4,199.0	Parkman			
4,623.5	4,589.0	Sussex			
7,035.0	6,977.0	Sharon Springs			
7,083.8	7,023.0	Niobrara A			
7,201.9	7,127.0	Niobrara B			
7,280.5	7,189.0	Niobrara C			
7,596.1	7,356.0	Fort Hays			
7,729.2	7,379.0	Codell			

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Paragon 25C-31HZ
<b>Company:</b>	Anadarko Petroleum Corporation	<b>TVD Reference:</b>	KB=17' @ 5002.0ft (Original Well Elev)
<b>Project:</b>	DJ Wattenberg	<b>MD Reference:</b>	KB=17' @ 5002.0ft (Original Well Elev)
<b>Site:</b>	Paragon Pad (S31-T2N-R65W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Paragon 25C-31HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	HZ		
<b>Design:</b>	Plan #1		

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,100.0	1,100.0	0.0	0.0	KOP @ 1,100'
1,518.2	1,516.7	-8.6	-29.2	EOB @ Inc. = 8.36°
6,444.2	6,390.3	-211.4	-716.4	Start 2° Drop
6,862.4	6,807.0	-220.0	-745.6	Start 10° Build
7,759.5	7,380.0	350.1	-745.6	LP @ 7,380' TVD, 89.71°
14,540.0	7,414.0	7,130.5	-745.6	TD @ 14,540' MD