Assignment 5

**Task 9-**

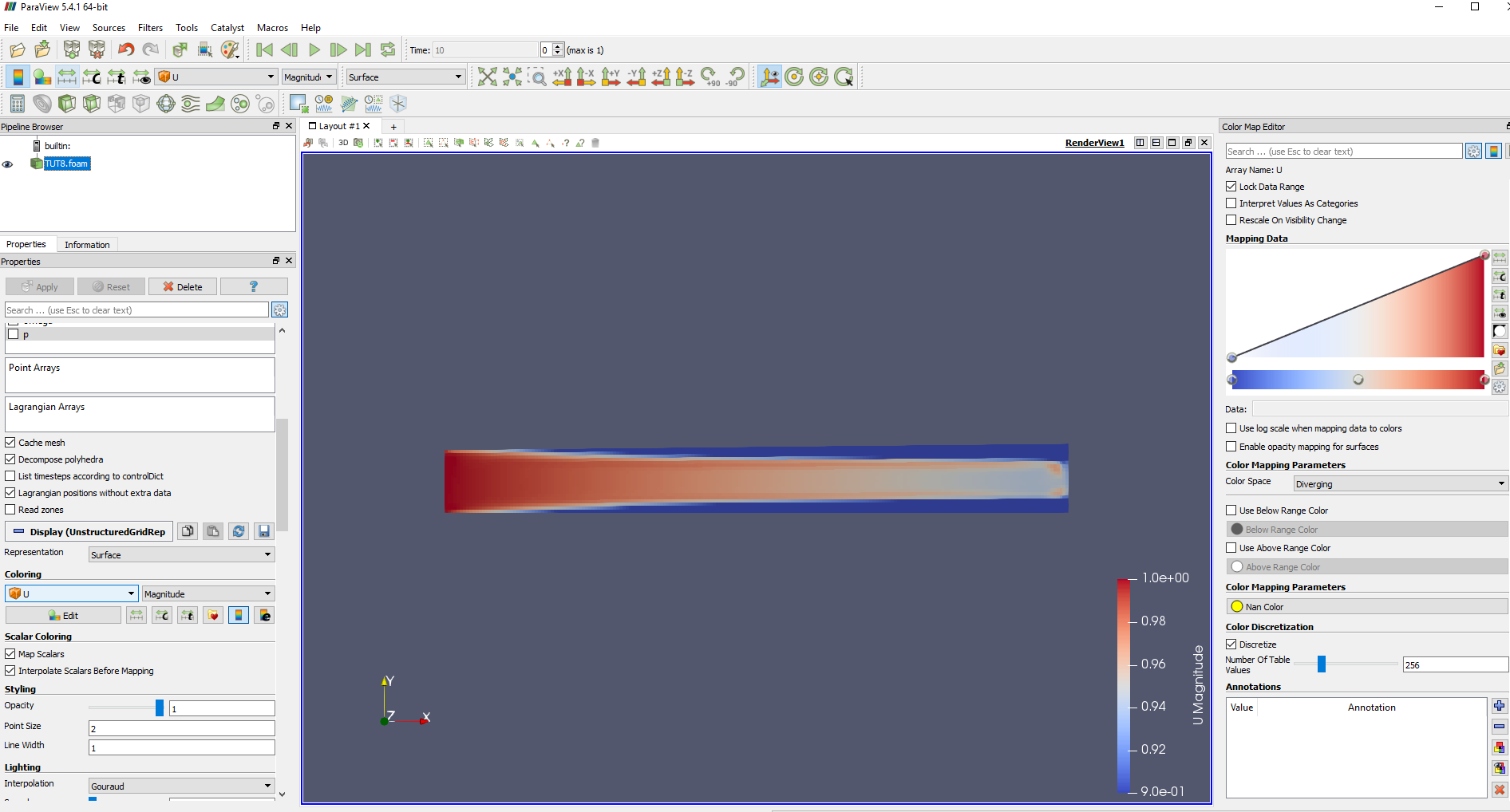
****

Figure 1 - After 10 iterations

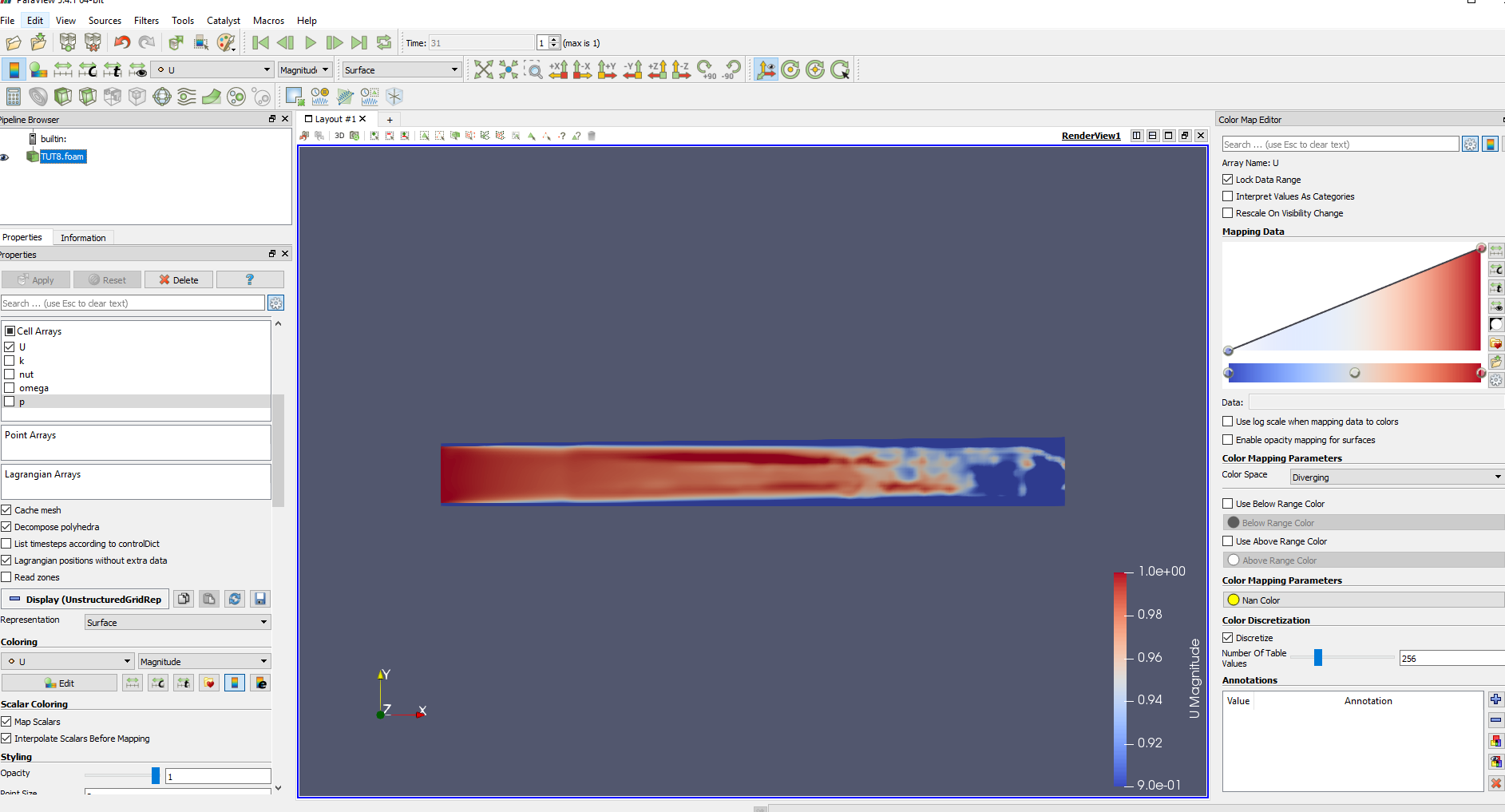


Figure 2 - After 0.1 Convergence

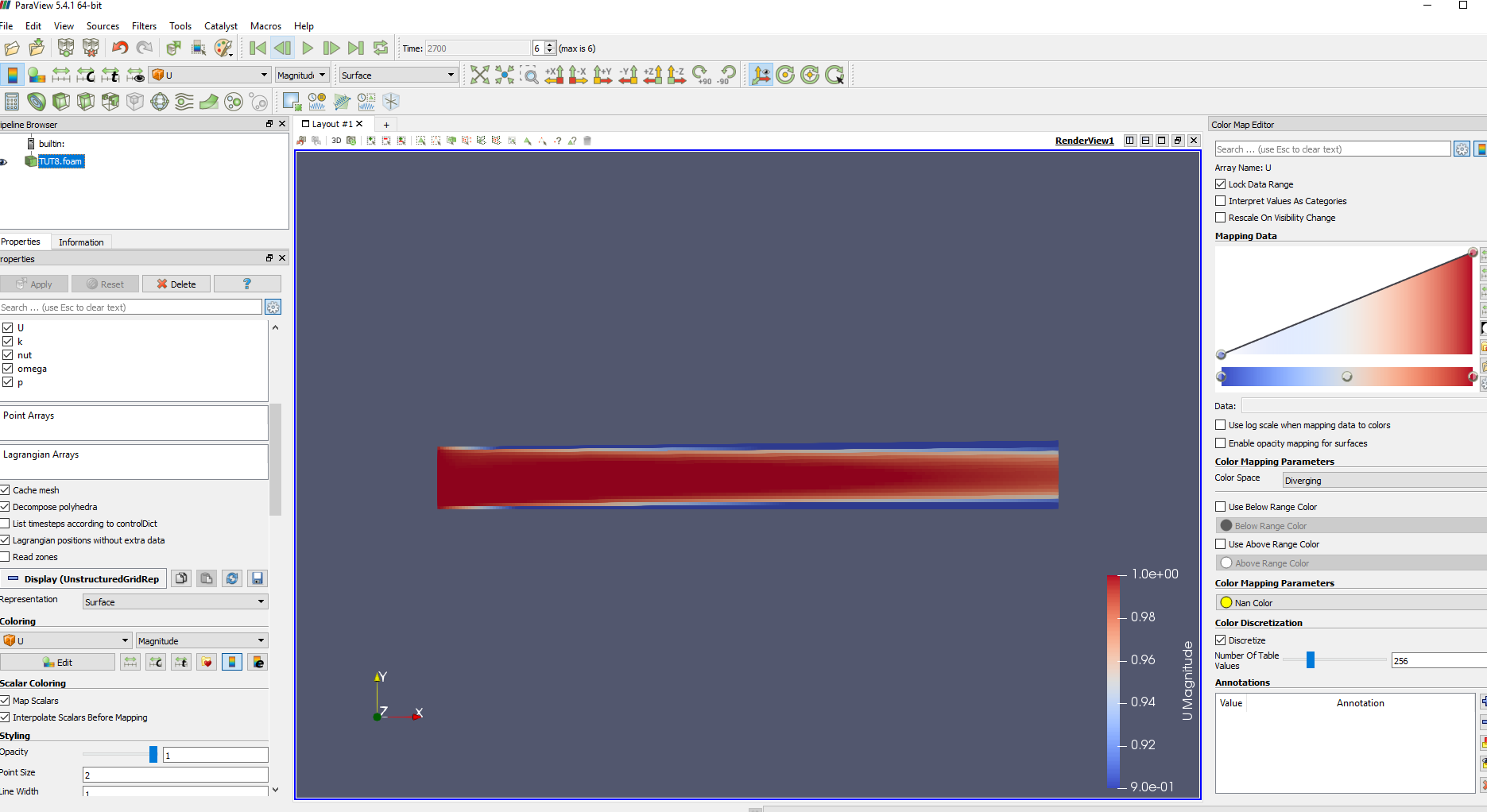


Figure 3 - After 0.001 Convergence

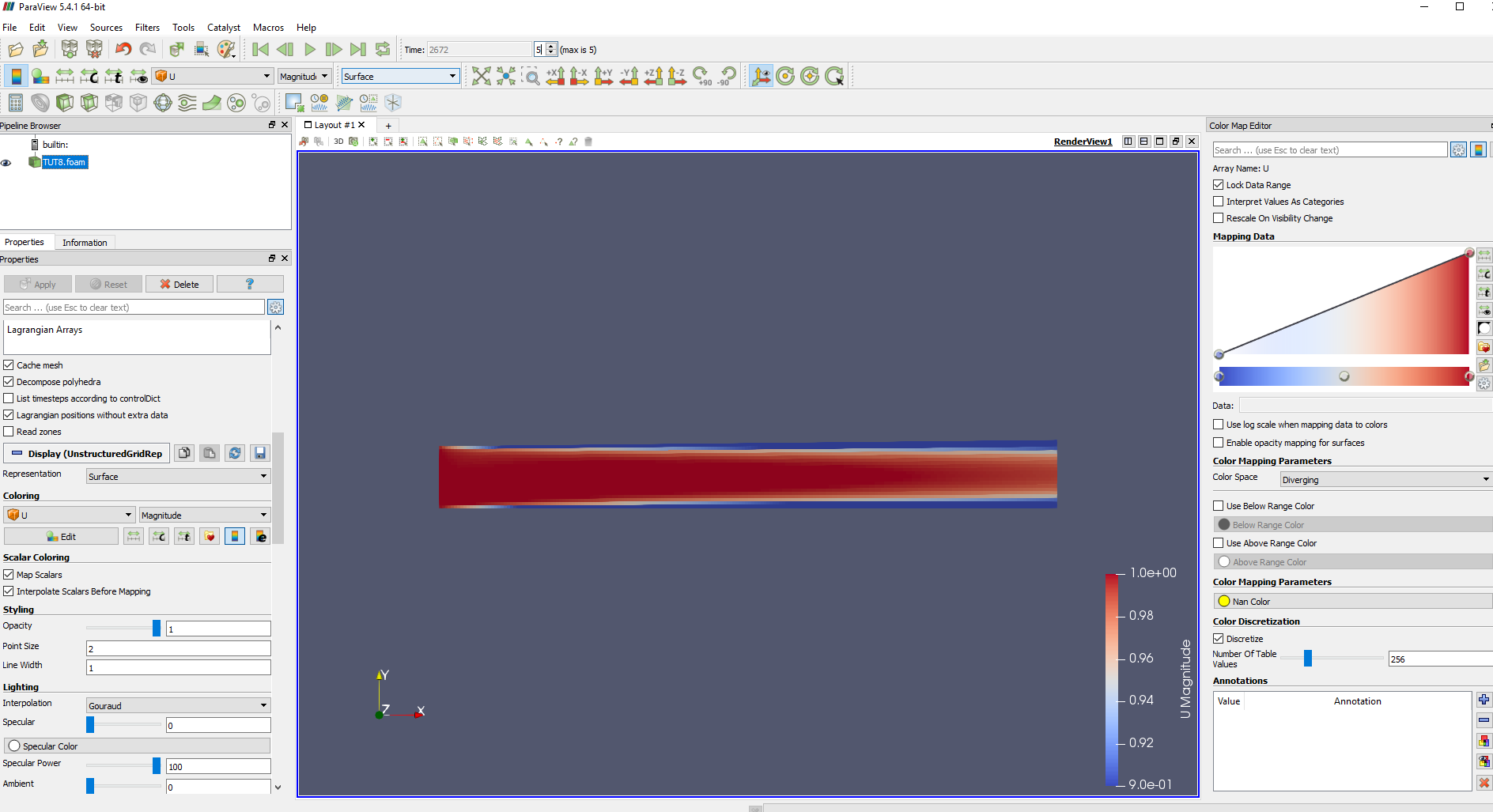


Figure 4 - After fvSolution Convergence

**Task 10-**

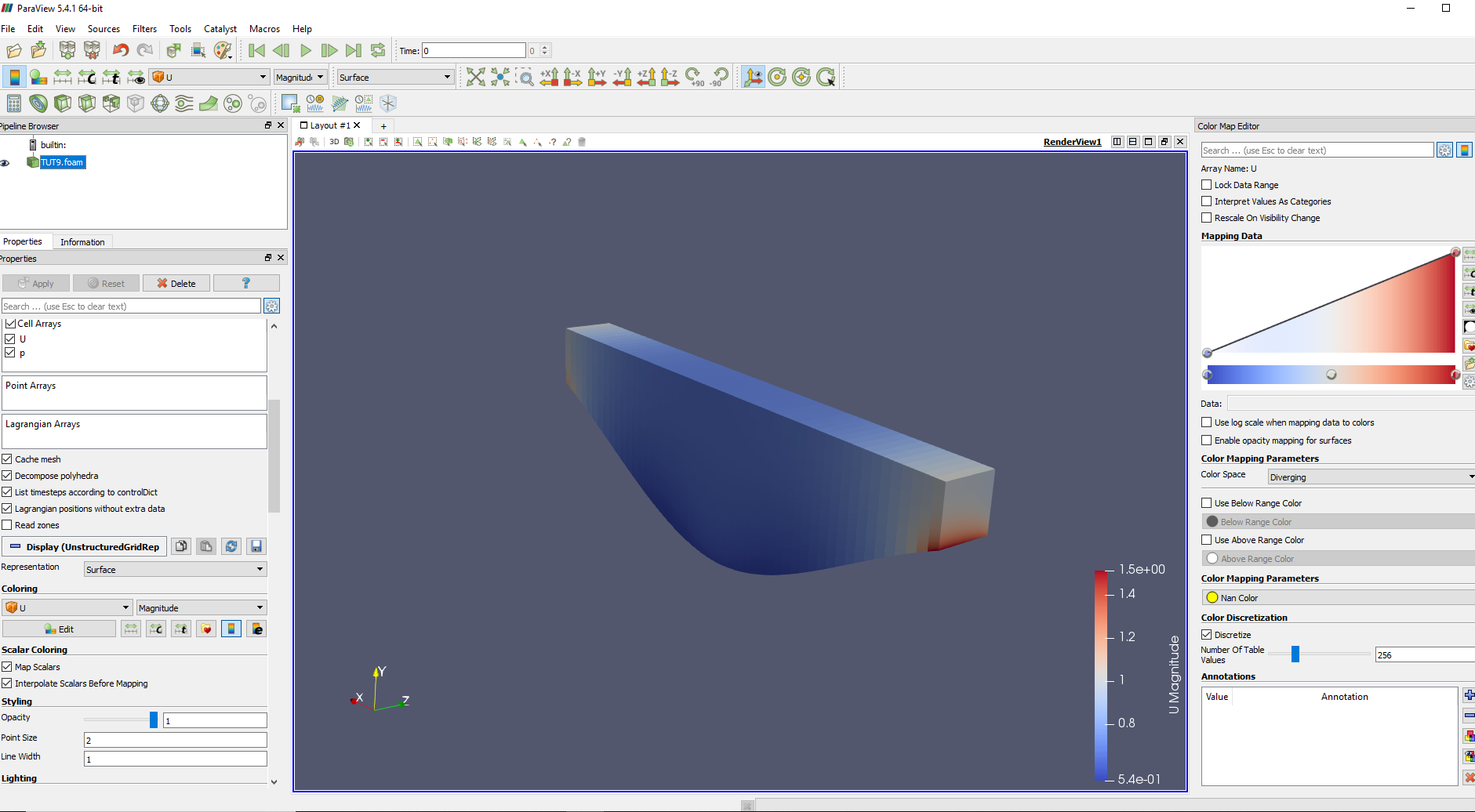
****

Figure 5 - 3D Velocity Profile with Spline

**Task 11-**

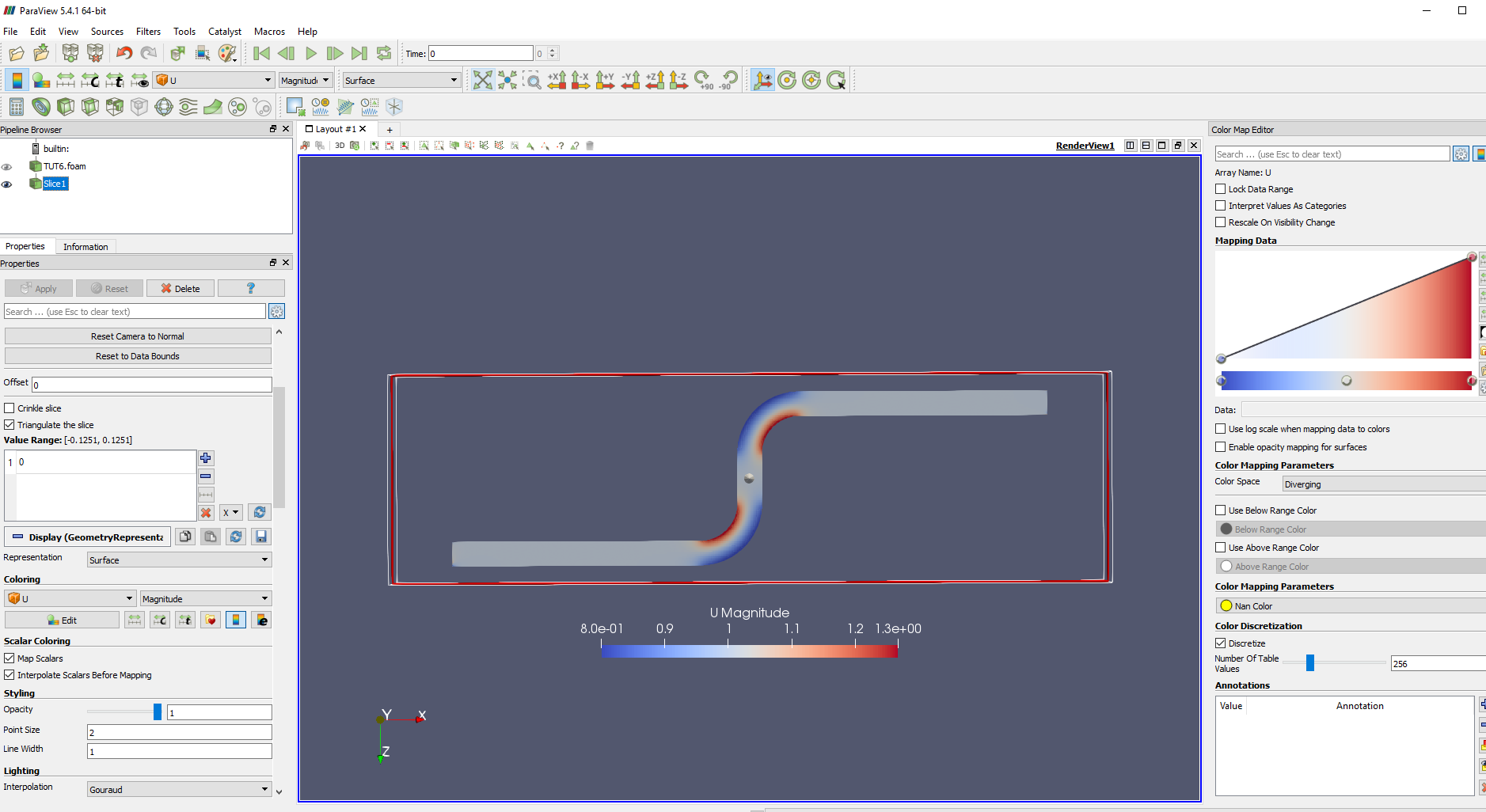
****

Figure 6 - Velocity Profile of the Pipe showing Corner Velocities

**Task 12-**

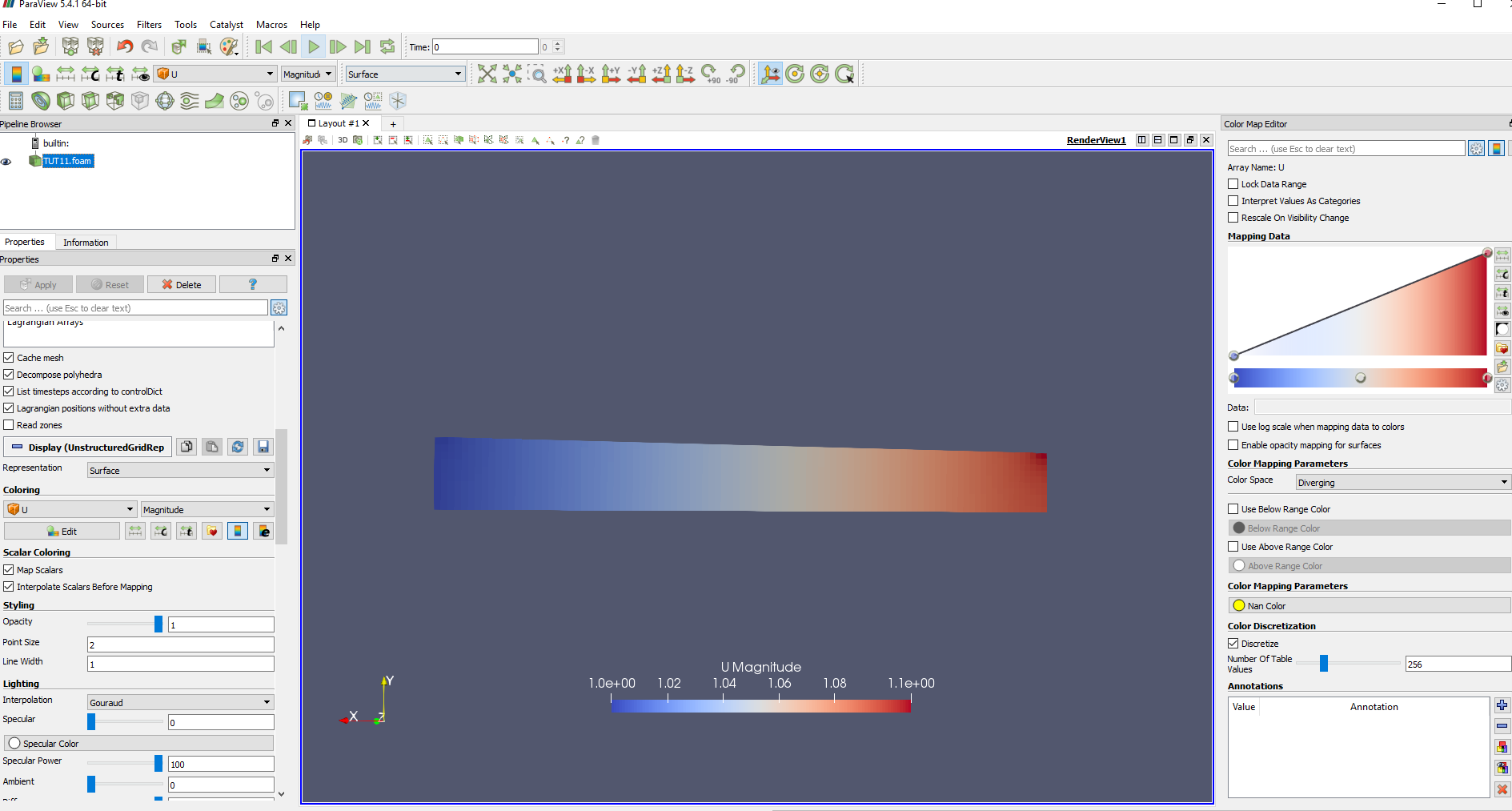
****

Figure 7 - Modified Velocity Profile without changing k BC

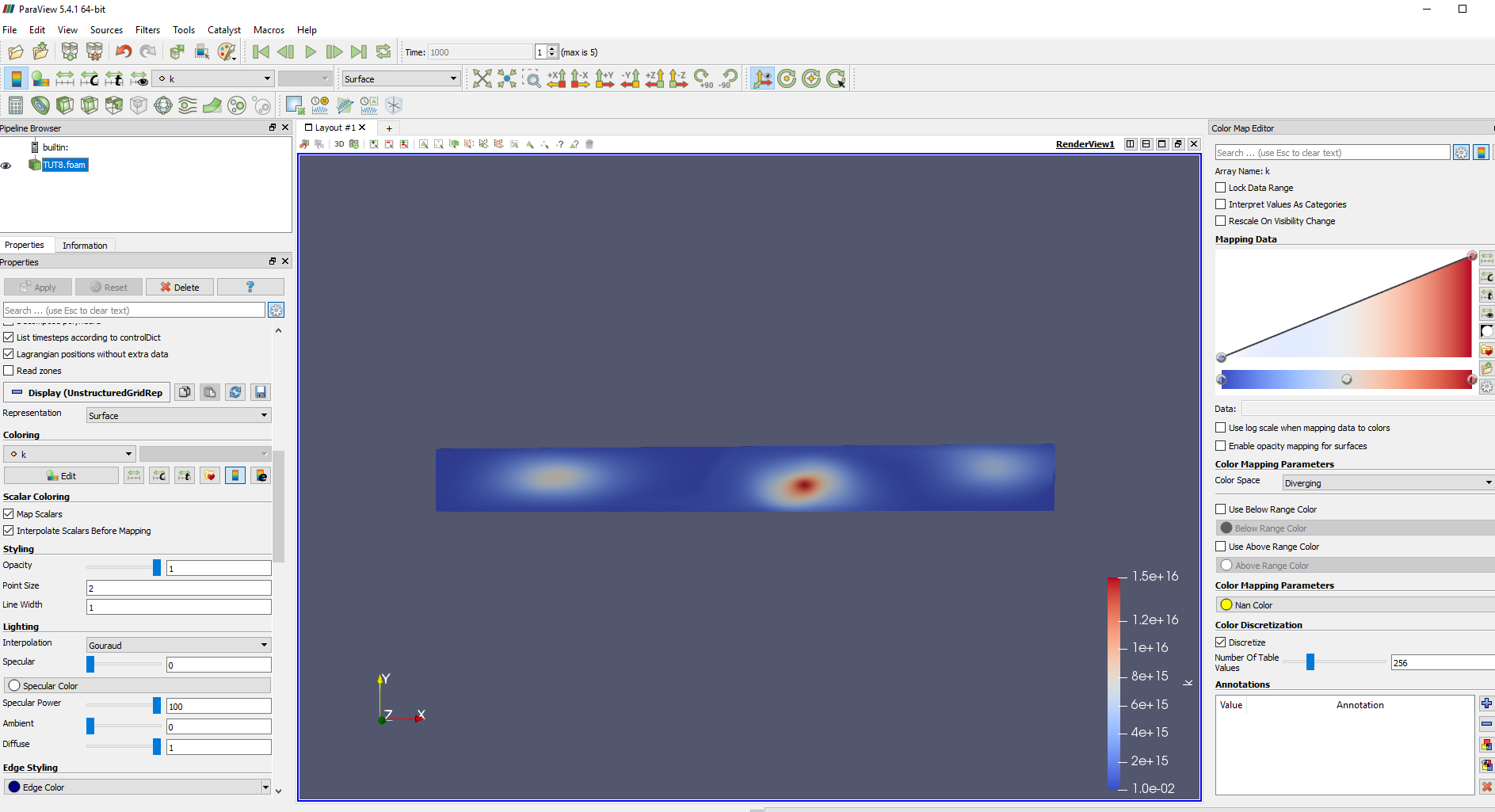


Figure 8 - Very High k-value profile

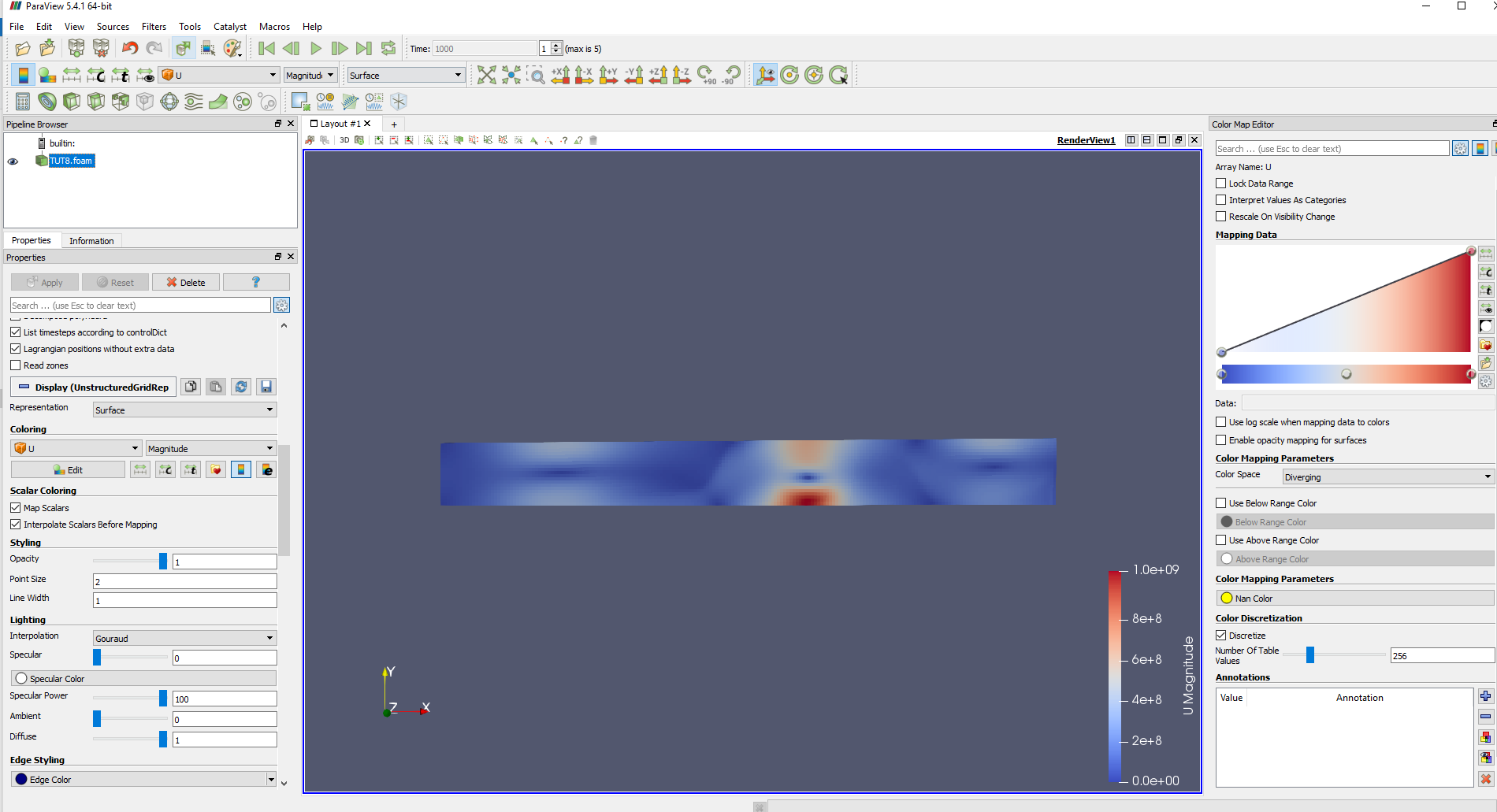


Figure 9 - Velocity profile with a very high k-value

**Task 13-**

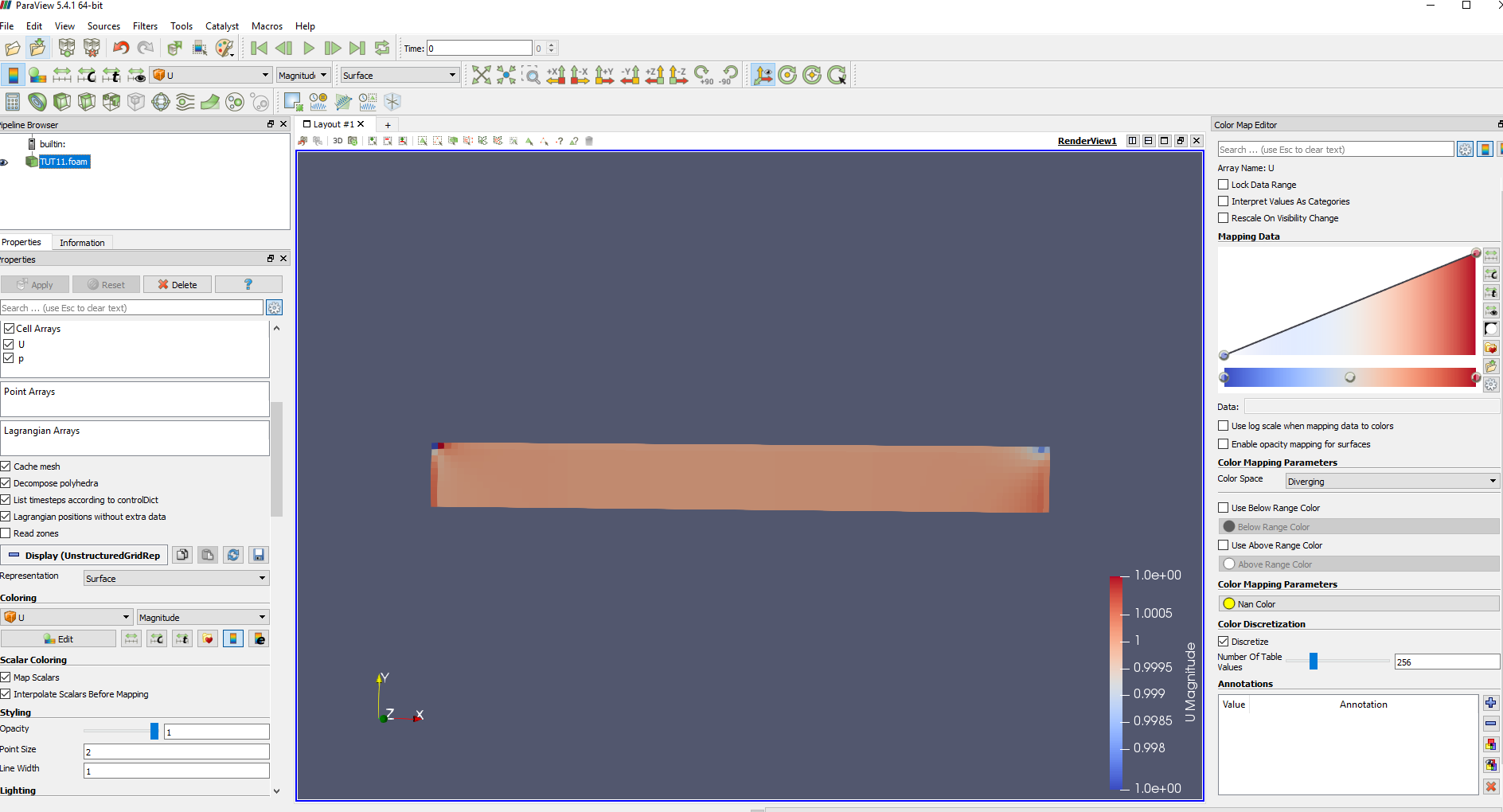
****

Figure 10 - Velocity profile with a moving wall boundary condition

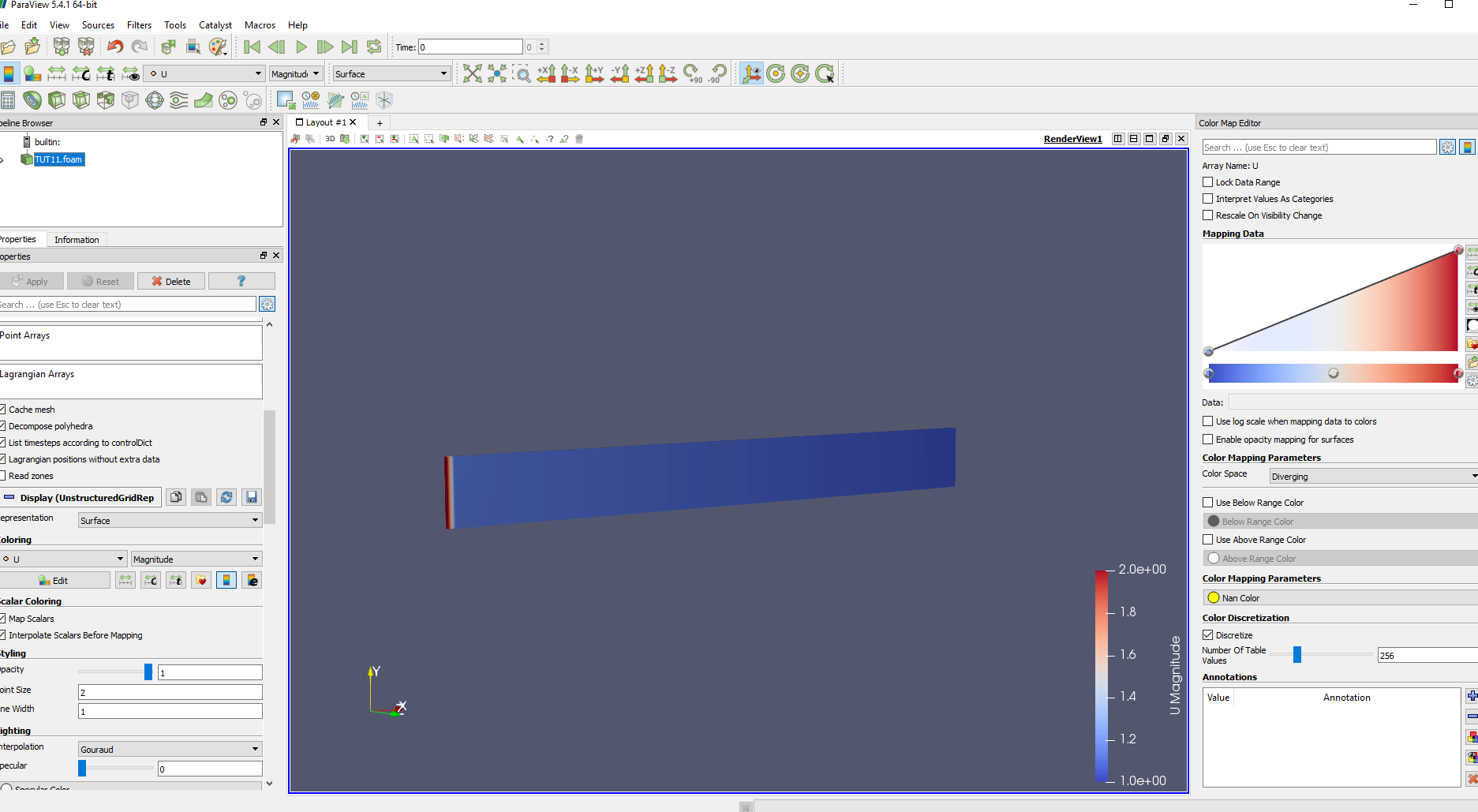


Figure 11 - Velocity profile with a symmetry boundary condition

**Additional Task 1-**

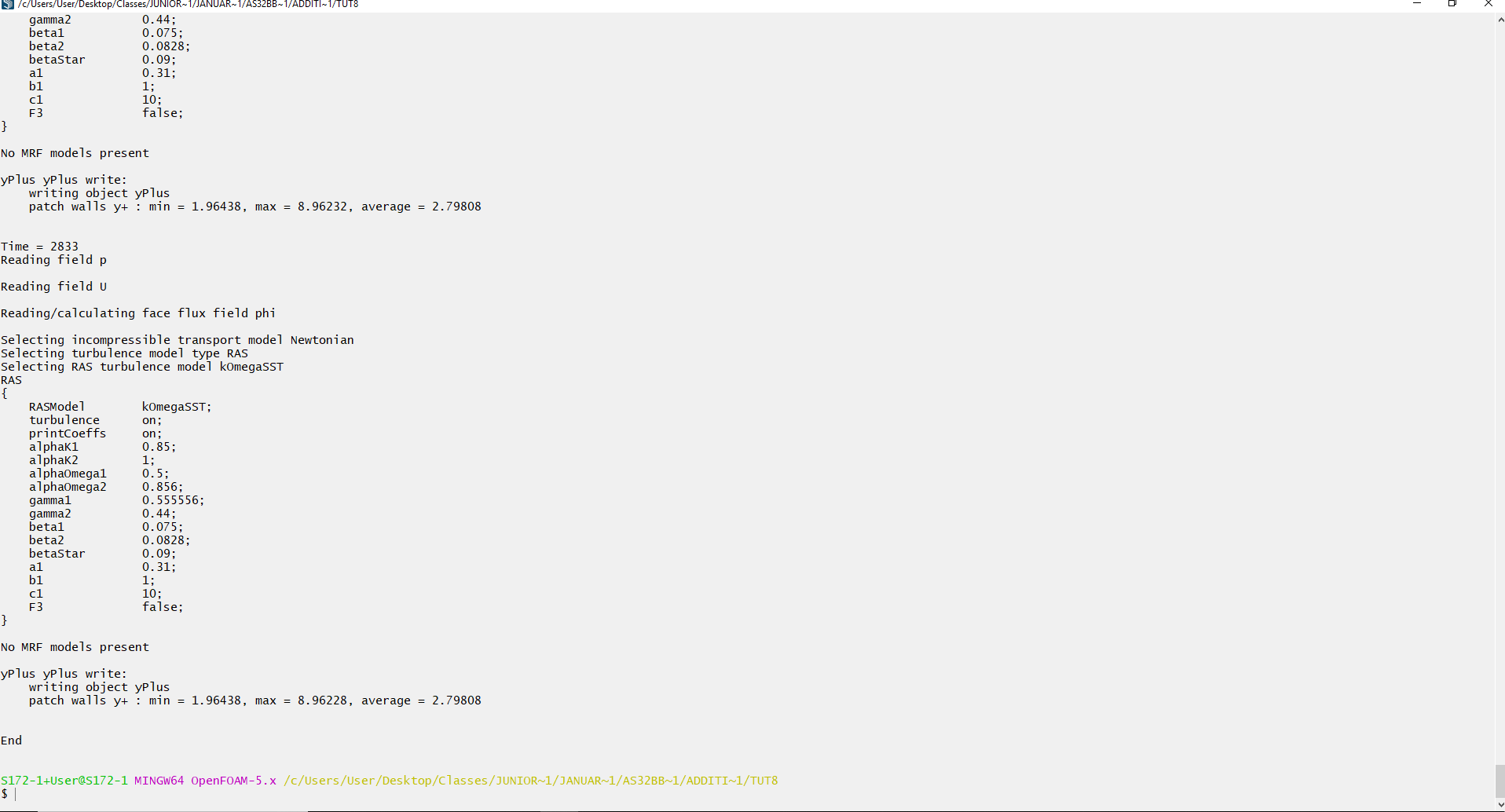
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Figure 12 - yPlusMax data shown at the bottom

**Additional Task 2-**

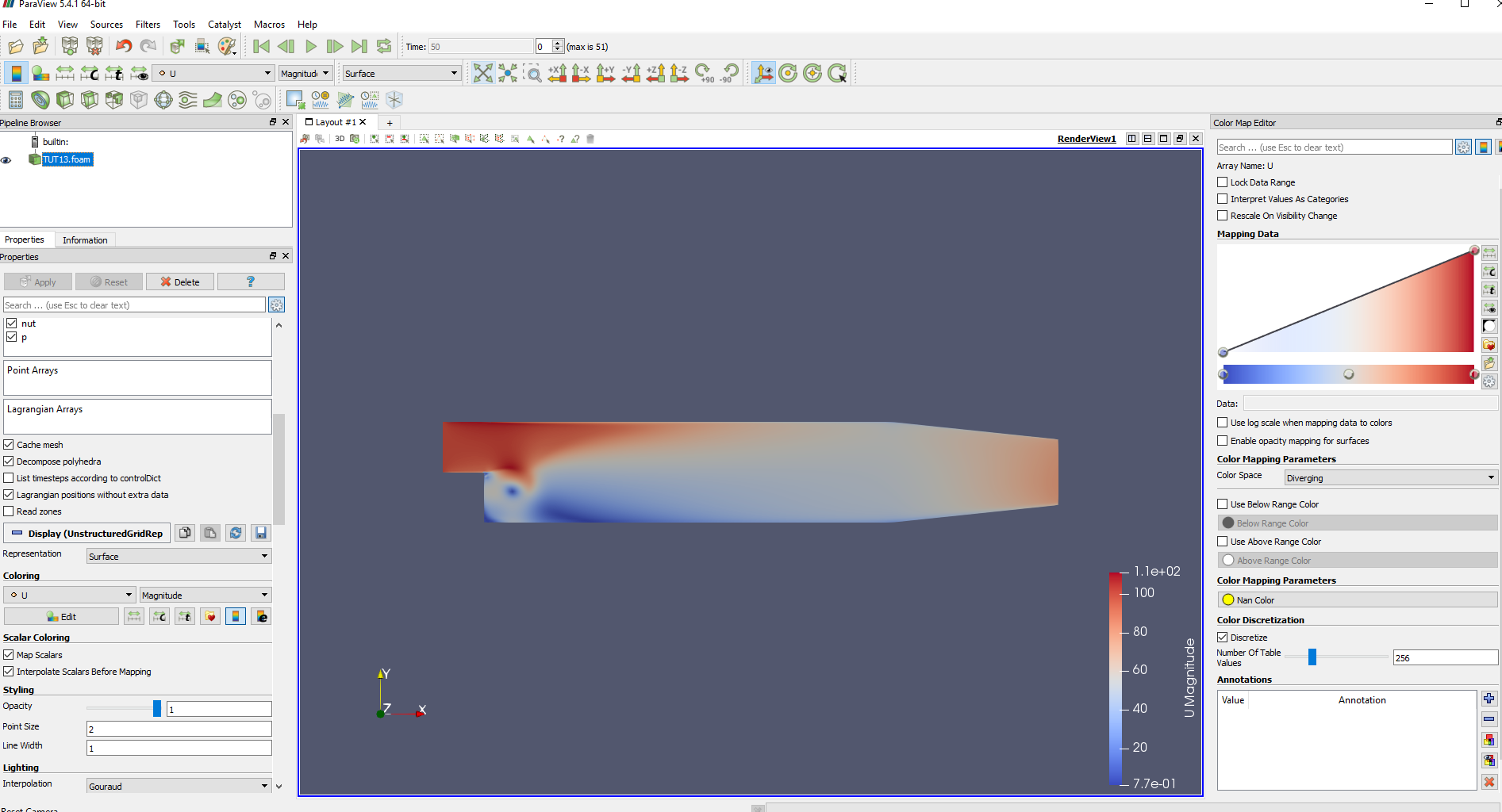
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Figure - Simulation with turbulence and recirculation zone, time 1

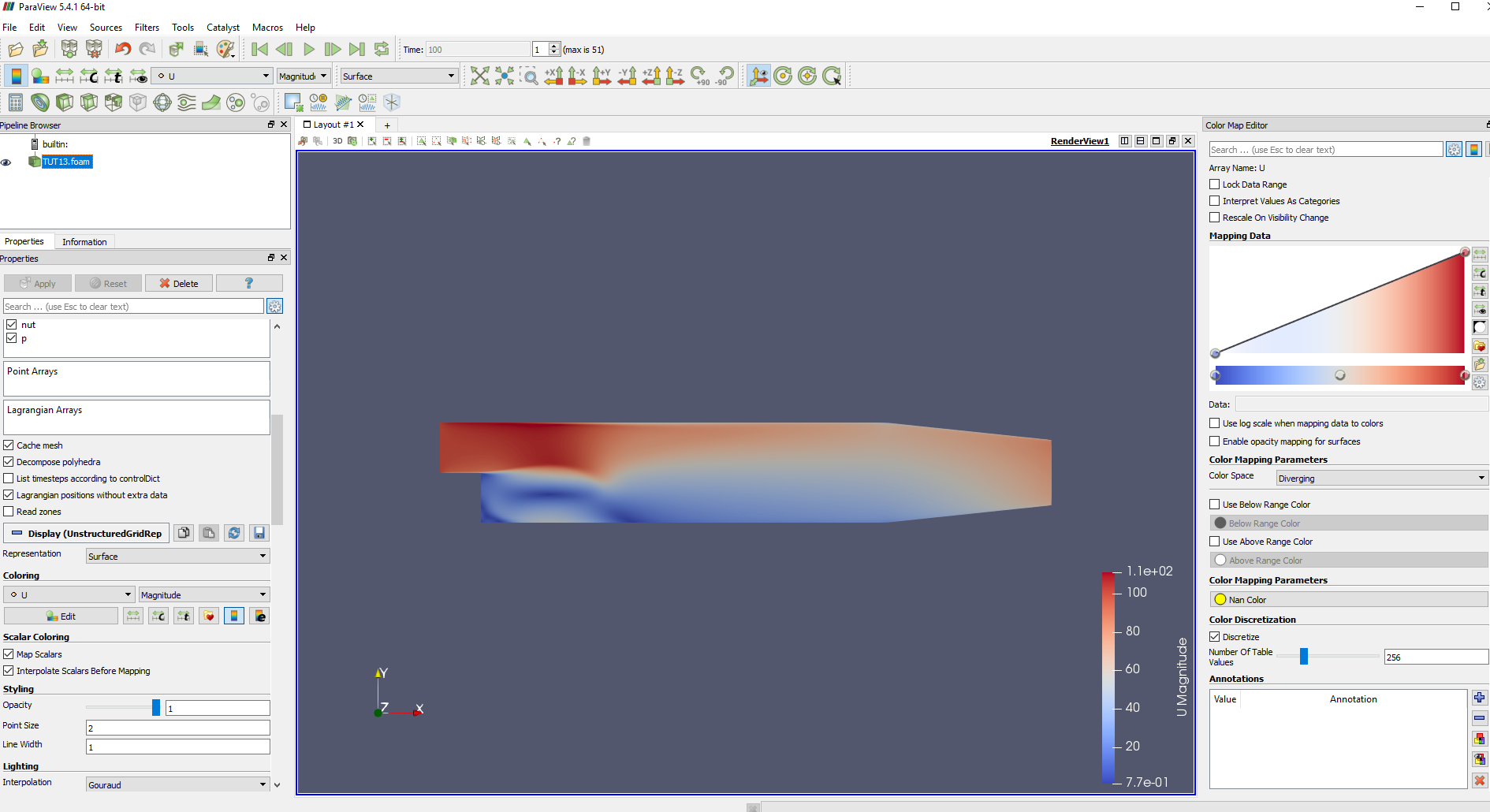
****

Figure - Simulation with turbulence and recirculation zone, time 2

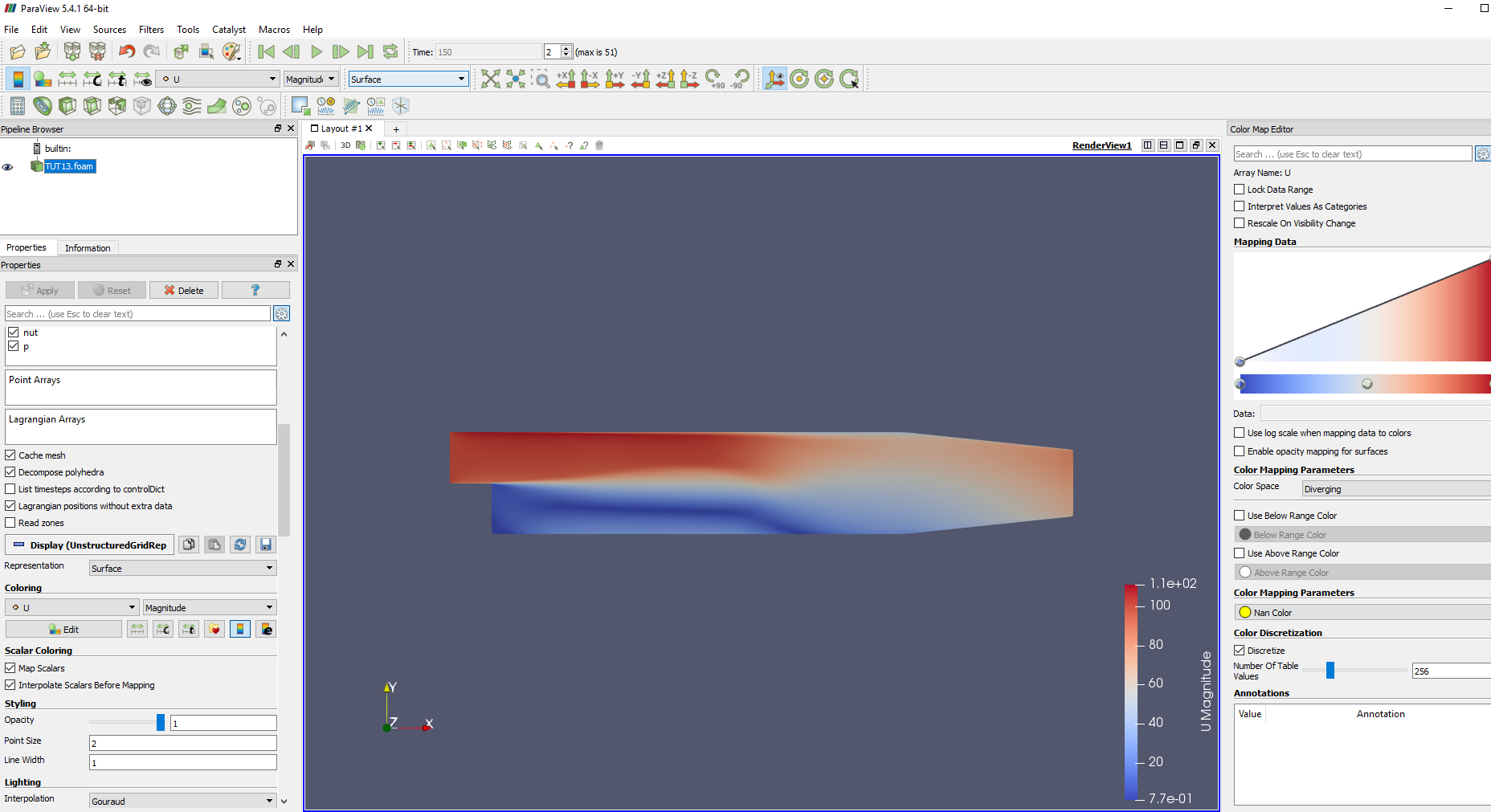
****

Figure - Simulation with turbulence and recirculation zone, time 3

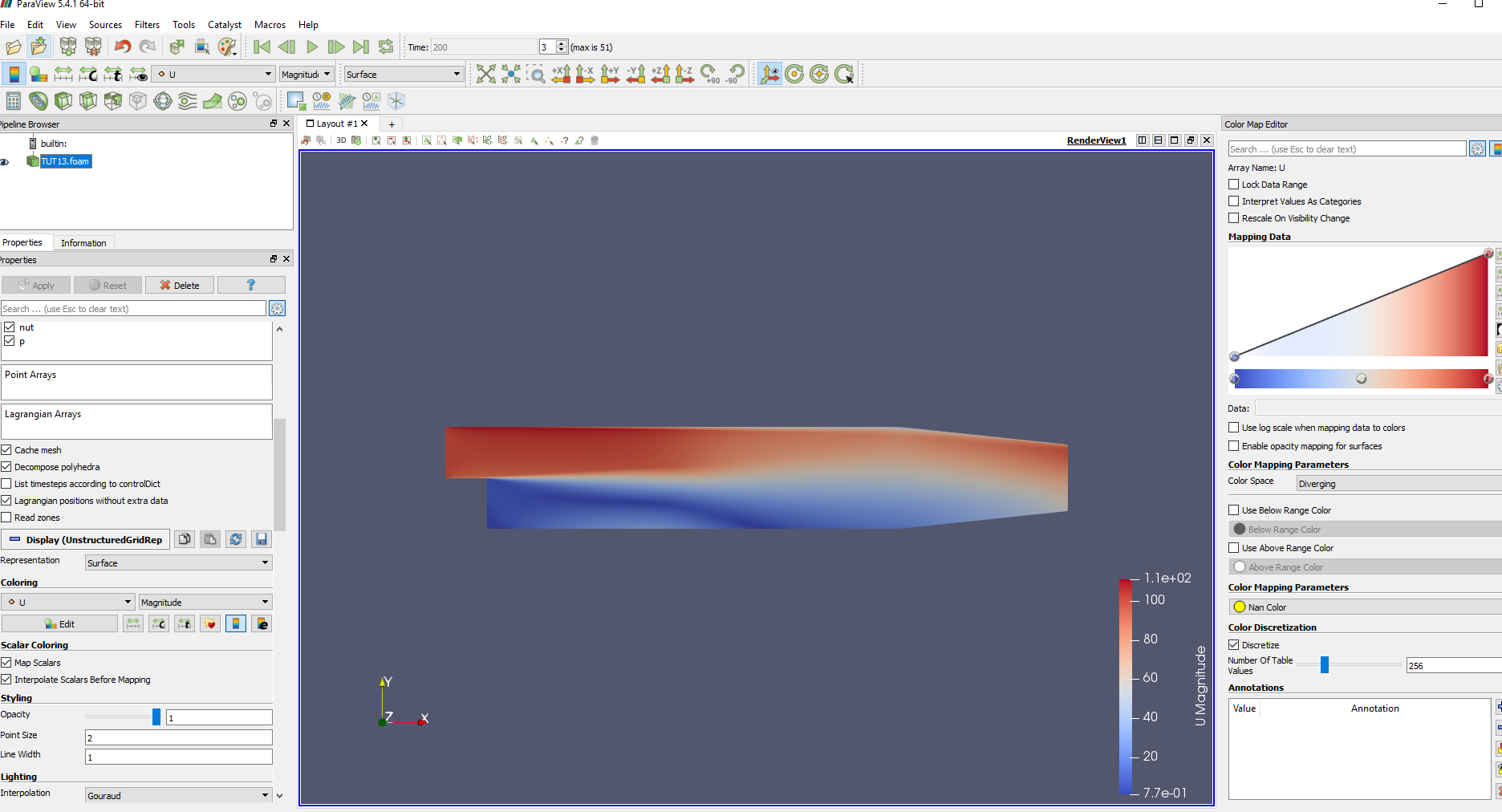
****

Figure - Simulation with turbulence and recirculation zone, time 4

**Additional Task 3-**

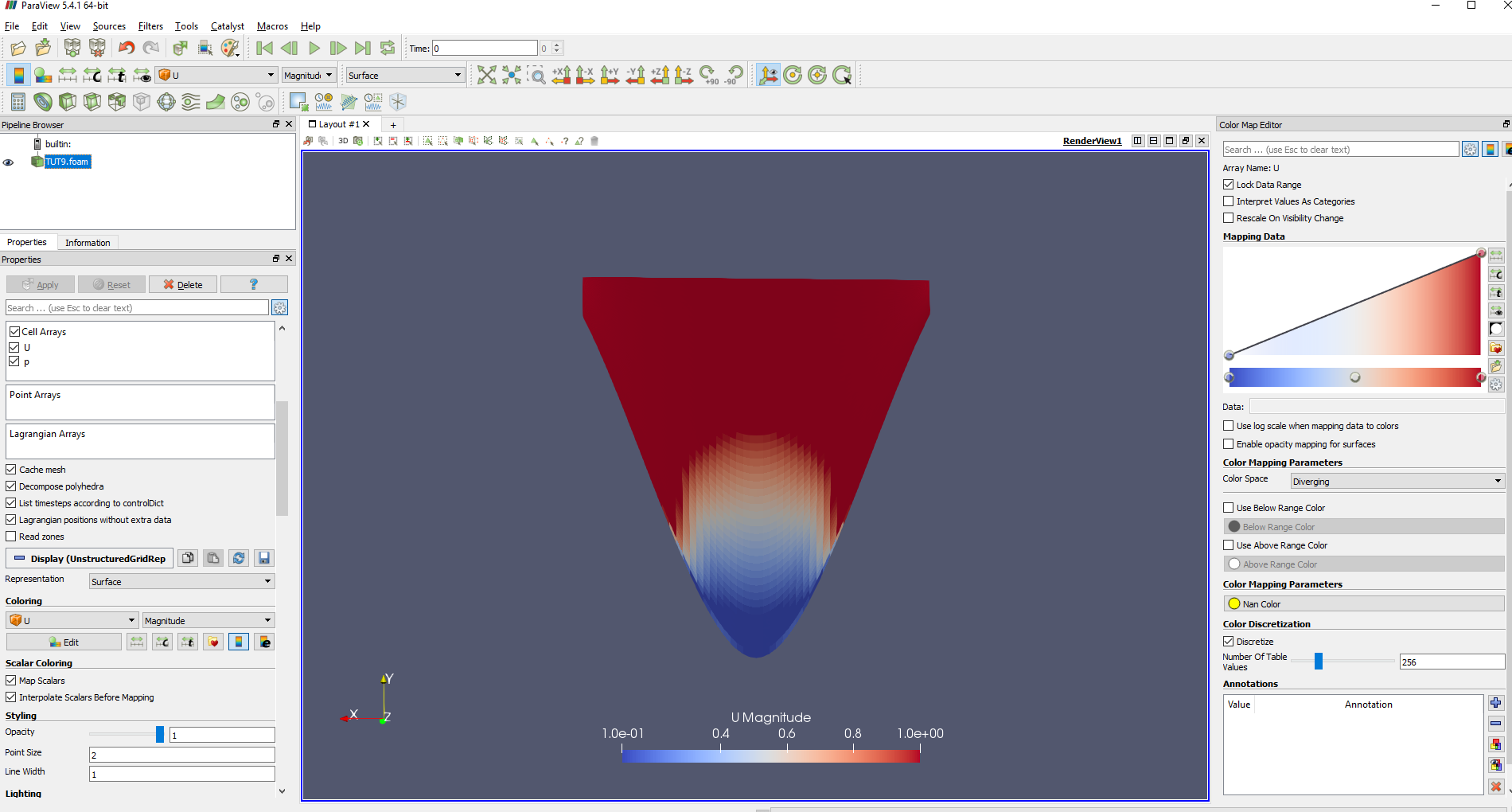
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Figure 17 - Front view of original geometry velocity profile

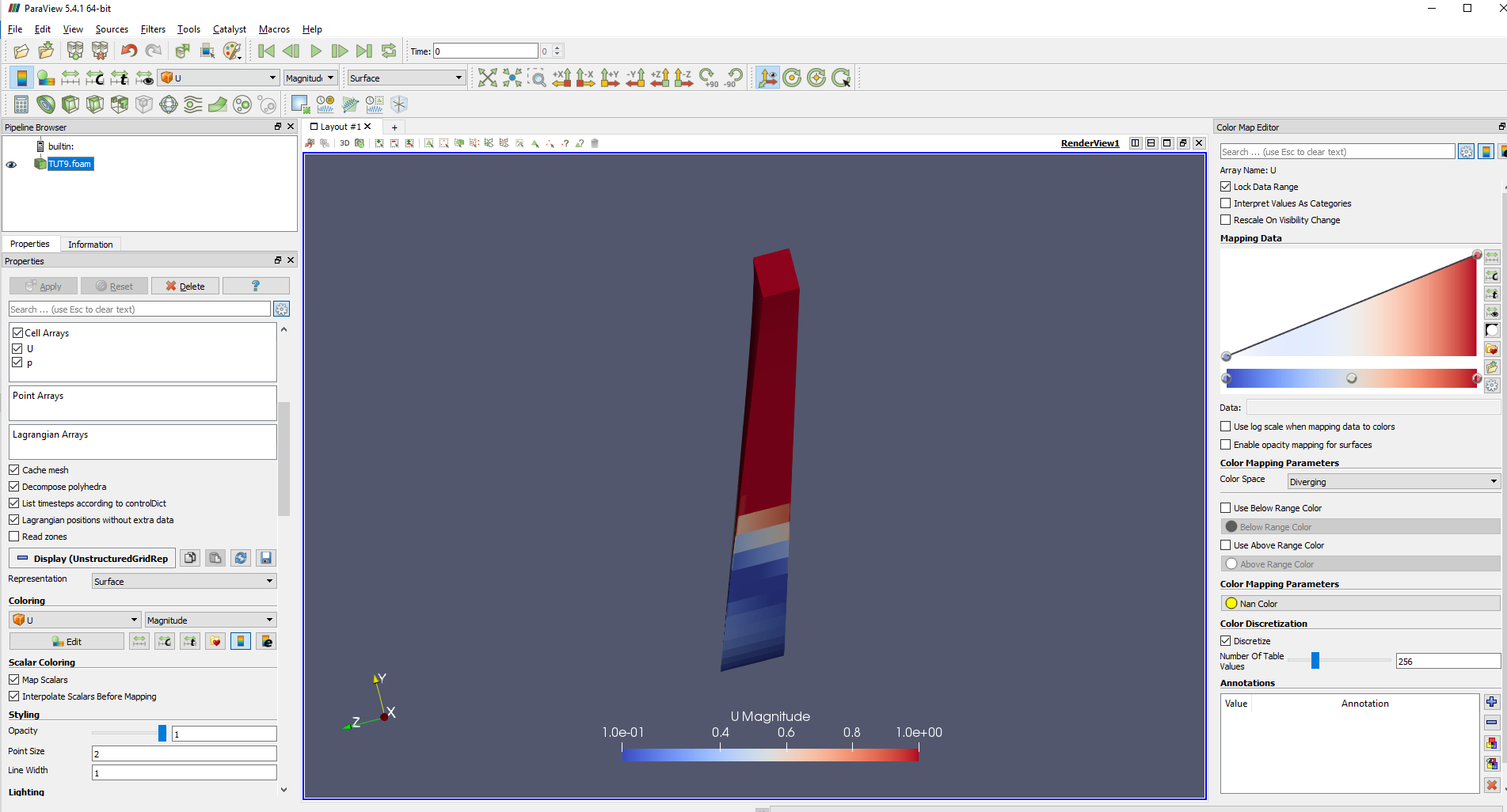
****

Figure 18 - Side view of original geometry velocity profile

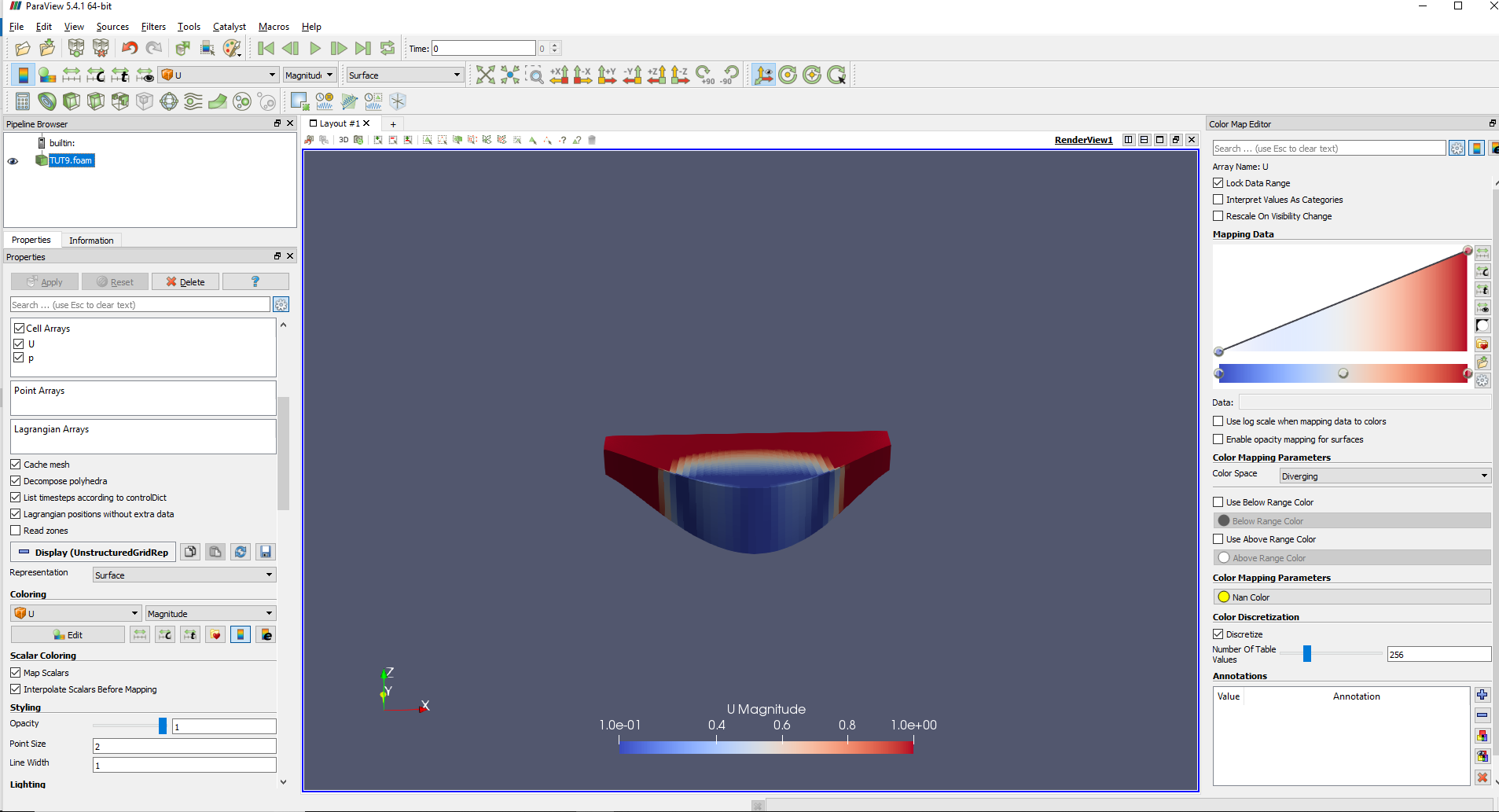
****

Figure 19 - Top view of orignal geometry velocity profile