

### Group Project 3

The intent of this image was simply to capture the extremely interesting looking flame that is produced by a propane torch. The flame that a propane torch creates is very unique in that it is very long and straight as the gas is under quite a bit of pressure inside the canister.

I have very little information upon which to calculate a Reynolds number other than visual observations. With the gas being pressure and the flame so straight, it is fairly obvious that the flow of the gas is laminar. The length of the entire flame is approximately 3.5" long with the shorter, bright blue sections measuring approximately  $\frac{3}{4}$ ". As to why the propane torch produces the "flame droplets" I have very little idea. I do believe it can be partly attributed to the small holes near the tip of the torch that allow air to burn with the propane.

The photograph was taken at an ISO 400 using a fixed 50mm prime lens. The prime lens allowed the aperture to open up to F4.5 to let in as much light as possible. The shutter speed was set to 1/40 of a second and the flash was not used. Lighting was provided by ambient window light. The camera was steadied by a tripod and was fired with a shutter release cable in an effort to get as sharp as an image as possible.

The image was cropped quite a bit due to the fact that the minimum focus distance prevented the lens from getting any closer to the flame. The final dimensions of the image are 3002 x 1678 pixels and the original image was 10 megapixels. Adobe Lightroom was lightly used to remove a few dust spots as well as enhance some of the outer edges of the flame that were lost in the photograph.

I really like the image a lot because I think the flame is very unique and cannot be easily found elsewhere. I also particularly like the deep blue color of the flame indicating that it is extremely hot. I do wish I had achieved a better focus on the flame but was pleased overall with the result.