FLOW VISUALIZATION

GROUP PROJECT ONE

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For our second project, the rest of group of Epsilon and me did a very standard example of fluid mechanics, the classic mentos in diet coke. Oddly enough as well, this was the hardest project yet to photograph. It was difficult because of the timing needed to capture the best image and also have it in focus rather than the coloring or composition. Out of the twenty something pictures I took, only one was viable for this assignment.

The mentos reaction to diet coke is well documented scientifically and of course in videos. The reaction derives from numerous pores in the candy's outer shell catalyze the release of carbon dioxide inside the liquid, thus creating a rapid expulsion of foam. Gum Arabic and Gelatin are the main compounds than react at a chemical level with the carbon dioxide. Of course this creates the illusion of a geyser bursting from within the coke bottle. The image I chose to use once cropped and properly adjusted actually could be described as a volcanic looking burst or eruption. This is also emphasized by the light we used; mostly yellow it makes the image look far hotter than it actually is. The lens I used when photographing this minor eruption was a 22-60mm wide zoom lens. This combination of glass and plastic allow for a very wide image to be zoomed in or out of creating a distorted picture. However, the image I ended up submitting does not utilize that particular function.

Pushing the foam through a narrow space is what further propels the reaction into the air and with a little bit of luck a student like myself can capture at least one image to turn in. This time, I was able to get this one image that displays the very basic chemical expulsion between gelatin and carbon dioxide.