Nonpoint Source Pollution

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Outdoor
Spring 2013

EDGE PROJECT

Project Summary

In my project I examined nonpoint source pollution. Nonpoint source pollution is pollution were it is hard to determine its source. Examples are: gas, oil, waste matter, heavy metals. 10 different sites here in Cedar City were sampled. To determine what types of nonpoint source pollution are in each sample I used two instruments: an inductively coupled plasma mass spectrometer and a gas chromatography mass spectrometer. When the research is done, the results will determine if Cedar City has a high nonpoint source pollution problem.

Project Highlights

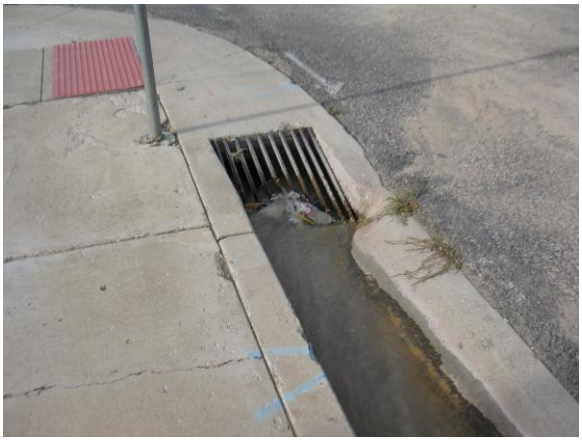
Some of the Outcomes of this project:

- I learned that using an inductively coupled plasma mass spectrometer takes time.
- From the initial results the samples collected contained high levels of aluminum.

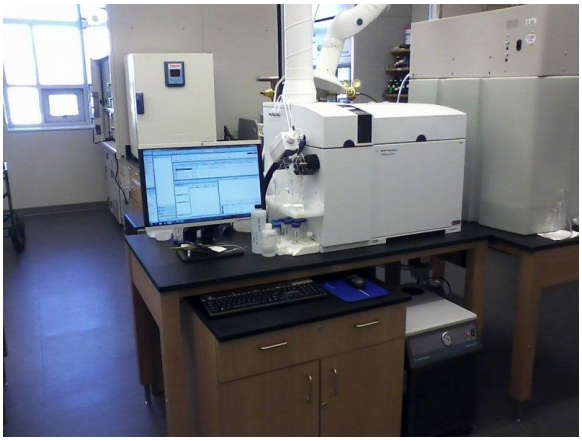
By learning how to use the instruments in this project I will be better suited as a chemist.

From My Journal

In the course of this project I learned that an inductively coupled plasma mass spectrometer is an expensive instrument to use. It cost about $20/hour to run. It amazes me that this instrument can detect metal concentrations to parts per trillion with minimal error. It's been fun working with doctor weaver. He has taught me a lot about how to do chemistry and how to think in an analytical manner. I hope to take this understanding and apply it to future endeavors.



This is a picture of one of the water sample sites. One thing that is troubling is that nonpoint source pollution can get washed to the gutters and then the gutters take the water to the water supply which in the end contaminates it. This at 250 s 1025 w on the tennis court side.



This is a picture of the inductively coupled plasma mass spectrometer. This instrument uses argon gas to ionize metals. It can measure the concentration of metals down to a part per trillion. It cost $20/hour to run so it's not cheap. This on is located in the research room at SUU.