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## INTEROFFICE MEMORANDUM

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**TO:** PROFESSOR SINTANA VERGARA

**FROM:** FRANZISKA DAUMBERGER

**SUBJECT:** ENGR 115

**DATE:** 25 SEPTEMBER, 2020

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**Objective:** The goal of this lab was to test the water of a local source and determine if the water matched the hypotheses I put forth in the water quality handout.

**Background:** The source that was tested was a flume/irrigation ditch. Pictures of the source are attached at the end of the document. One site I tested was in a part of the ditch that had cement lining it (Source 1), and the other site did not have cement lining it (Source 2).

**Methods:** I employed four methods to test the water of my local source. One was a pH test, using tablets to react with the hydronium ions and then testing it against a color on a palette. The second was a turbidity test, which tested the water for cloudiness using a Secchi disk and a bucket. The third method for testing was temperature, which was done using a color-changing strip that was submerged under water for a minute. The fourth method of testing was for measuring dissolved oxygen (DO) in the water, which also used tablets.

**Results:**

	Source 1	Source 2
DO	5	5
Temperature	18	18
Turbidity	10	10
pH	7	7

**Discussion:** The hypotheses that were made before the water was tested held true and agreed with the results that I found. The only hypothesis that was off was that of the turbidity. I hypothesized that the turbidity at the site with the cement lining would be lower because there would be less chance to, but my testing methods were not discrete enough to measure a difference between the two. One errors or issues that might complicate the data would be the amount of time that elapsed between the DO tablets dissolving and the time I compared them against the colors of the

sampling page, which would possibly change the measurement of DO that I observed. Another error or issue that might complicate the data would be accidentally dissolving too many tablets into a sample, either for pH or the DO.

**Conclusion:** This lab enabled me to experience what field testing is like and introduced me to some of the qualities that water is tested for and is important in water quality testing. I also concluded that my water was of normal quality, and while perhaps not suitable to drink without purification, it is relatively clean water.



*Figure 1: The part of the flume with cement lining, the site of Source 1.*