

Purpose: To conduct field and laboratory analysis of physical, chemical and biological characteristics of surface and bottled water samples. Analysis will be performed at sampling sites and in the laboratory using various instruments and methods.

Part 1: Data collection

The class should collect the following data utilizing the provided field equipment for each of the three samples

Sample 1: Surface water (Susquehanna river)

Sample 2: Surface water (Kirby park pond)

Sample 3: Bottled water

#	Parameter	Sample 1	Sample 2	Sample 3
0	Coordinates	41.2427813°N 75.8861840°W	41.251172°N 75.8860346°W	N.A.
1	pH	6.78	7.42	6.07
2	Temperature (°C)	13.7°C	14.7	24.8°C
3	Color (observation)	small brown	marry	transparent
4	Odor	none	sulfuric	re
5	Conductivity (µS)	170.4	264.0	8.30
6	TSS			N.A
7	Phosphate (mg/L)	0.11	0.04	
8	Nitrate (mg/L)	0.2 mg/L	0 mg/L	
9	COD (mg/L)	0		N.A
10	Turbidity (NTU)	8.01	30.9	0.321
11	DO (mg/L)	7.2	8.01	5.33
12	Iron	0 ppm	0 ppm	0 ppm
13	Copper	0.15 ppm	0.3 ppm	0 ppm
14	Bacteria			

Depth

2' 8"

1.3'

0.2' / sec

0.2' / sec

Part 2: Report Preparation

Each student is required to submit a formal laboratory report.

Each report should include the following information

1. Title Page

2. Laboratory Goal

3. Introduction

Sampling Site

Parameters measured

Why were these parameters measured?

4. Significance of Each Parameter

5. Material and Methods – What were the procedures and instrumentation utilized during the analysis

6. Results/Discussion – Include appropriate tables and graphs. Discussion should include, but is not limited to such questions as

Were different results obtained for field vs. lab analytical procedures? If so, why?

Were different results obtained for each of the water samples, If so, Why?

Are these samples appropriate for drinking use? Recreational purposes?

7. Observations or suggestions

8. References – for Significance section

9. Appendices – lab data