

Laboratory User's Guide *and* Standard Operating Protocols

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CONTENTS

I	Quality Assurance Manual	3
II	Laboratory User's Guide	3
1	Introduction	4
2	Laboratory Training	4
III	Standard Operating Protocols	5
3	Introduction	8
4	Protocol Overview	8
4.1	Scope and Application	8
4.2	Sample Sizes	8
4.3	Limitations	8
5	Required Training	8
6	Equipment Required	8
7	Reagents and Storage	8
8	Safety Precautions	8
9	Experience User Protocol	8
9.1	Sample Preparation	8
9.2	Test Preparation	8
9.3	Assay Protocol	8
9.4	Instrumentation and Software Protocol	8
10	Data Reduction	8
11	Quality Assurance	8
12	Hints and Troubleshooting Guide	8
13	Additional Information	8

Part I

Quality Assurance Manual

Part II

Laboratory User's Guide

INTRODUCTION

The UNL Water Sciences Laboratory (WSL) provides state-of-the-art analytical facilities and equipment for water-related research across the University of Nebraska system. Students, staff, and faculty using the facility may be quite familiar with available analytical services and equipment, but also must understand procedures and protocols to be followed if they intend to work in the Laboratory. This guide is intended to provide an overview of the equipment, safety precautions, general procedures, and methods used as well as expectation for all users of the facility. Routine standard operating procedures (SOPs) are referenced in this guide. Very often, these protocols and procedures are simply a matter of good laboratory practices (GLP) to be followed in any analytical laboratory. This guide was created in order to promote uniformity and to preserve the quality control (QC) procedures for all data produced at this facility. Established in 1990 to enhance and support NU water research by providing analytical equipment and expertise in environmental and isotopic methods, the facility maintains specialized instrumentation for a wide range of contaminants and for stable isotope mass spectrometry. An experienced technical staff maintains and operates the instrumentation and trains others in its use. The unique mix of advanced technology and technical expertise has helped NU faculty lead in the development and application of new methods for water research.

LABORATORY TRAINING

Most of the following laboratory resources are discussed in detail in specific WSL standard operating procedures (SOPs). All users, including staff and students, should become familiar with the proper use and care of these resources by reading all applicable SOPs. In addition, the laboratory director staff can answer any questions that arise during daily operations. Training of individuals on specific instrumentation depends upon the level of use. Any individual using WSL equipment is responsible for its calibration and general upkeep. It is the users responsibility to learn and understand the proper procedures to be followed when using equipment and to notify the laboratory director or staff of any needed repairs or maintenance.

In general, all WSL users must have documented training for the following:

- Laboratory, chemical, and compressed gas safety
- Laboratory record keeping
- Proper use and locations of common lab equipment (balances, micropipettes, reagents)
- Proper use of refrigerators and freezers throughout the building
- Locations and proper handling and restocking of commonly used supplies and solvents
- Proper handling and replenishment of compressed gas supplies
- Proper cleaning of glassware, equipment, and solvent disposal
- General laboratory organization and housekeeping

The typical sequence for training new WSL users and staff includes the following sequence (all training must be signed off on and finished prior to working in the laboratory):

1. EHS Core Safety Training, available through instructor or on-line at <http://ehs.unl.edu/training/online> , and includes:
 - Core - Injury and Illness Prevention Plan (IIPP)
 - Core - Emergency Preparedness Training
 - Core - Bloodborne Pathogens
 - Core - Chemical Safety Training (4 units)
 - Personal Protection Equipment (PPE)
2. Additional EHS training modules determined by the Training Needs Assessment for EHS-Related Topics
3. General WSL standard operating procedures (WSLSOP) and EHS Safe Operating Procedures (EHSSOP) listed below.
4. Method specific WSL standard operating procedures (WSLSOP) related to the equipment and methods they will use.
5. A scheduled appointment with Autumn Longo, alongo2@unl.edu, to assess laboratory techniques and to complete a written exam.

Part III

Standard Operating Protocols

A long protocol title

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For use with protocols:

18.01.01 INSTRUMENT_ANALYTES_MATRIX

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CONTENTS

INTRODUCTION

PROTOCOL OVERVIEW

Scope and Application

Sample Sizes

Limitations

REQUIRED TRAINING

EQUIPMENT REQUIRED

REAGENTS AND STORAGE

SAFETY PRECAUTIONS

EXPERIENCE USER PROTOCOL

Sample Preparation

Test Preparation

Assay Protocol

Instrumentation and Software Protocol

DATA REDUCTION

QUALITY ASSURANCE

HINTS AND TROUBLESHOOTING GUIDE

ADDITIONAL INFORMATION
