



February 2021
FLSA: Non-Exempt

LABORATORY TECHNICIAN I / II

DEFINITION

The Laboratory Technician I/II performs a variety of chemical, physical, microbiological, and toxicological analysis of wastewater and biosolids in accordance with Standard Operating Procedures (SOPs) and Federal and State regulations in support of treatment plant operations and regulatory compliance monitoring. In addition, the Laboratory Technician I/II collects samples from the field, enters data in a Laboratory Information Management System (LIMS), and performs other related work as required.

SUPERVISION RECEIVED AND EXERCISED

Positions in this series receive immediate supervision from the Laboratory Supervisor and additional direction from the Environmental Services Superintendent and Environmental Services Director. A Laboratory Technician II may provide direction to a Laboratory Technician I or a Laboratory Aide, and a Laboratory Technician I may provide direction to a Laboratory Aide.

CLASS CHARACTERISTICS

Laboratory Technician I: This is the entry level class in the series. Incumbents perform most of the job duties but are not expected to function with the same amount of skill level and independence as the journey level. Incumbents perform field sampling and a variety of routine analyses on wastewater and biosolids samples in accordance with SOP and quality assurance/quality control (QA/QC) program criteria. Incumbents prepare, calibrate, standardize, and operate a variety of equipment and instruments required for sample collection and analysis. Incumbents calculate and record laboratory analysis results and enter data into the LIMS. Advancement to the Laboratory Technician II level may be granted once the incumbent has demonstrated satisfactory work performance as determined by the Laboratory Supervisor and Environmental Services management and has obtained a CWEA Laboratory Analyst Grade II certificate.

Laboratory Technician II: This is the journey level class in the series. In addition to the characteristics of the Laboratory Technician I, incumbents perform the full range of duties with a significant level of skill and expertise beyond that expected at the entry level. This level is further distinguished from the Laboratory Technician I by the ability to work independently, exercise sound judgment and initiative, and to perform the most complex duties assigned. Assignments are given with the expectation that incumbents have the ability to work productively without close supervision. The Laboratory Technician II participates in LIMS administration, procedure and worksheet development, report generation, staff training, analytical data review, and special projects.

EXAMPLES OF TYPICAL JOB FUNCTIONS (Illustrative Only)

Management reserves the right to add, modify, change, or rescind the work assignments of different positions and to make reasonable accommodations so that qualified employees can perform the essential functions of the job.

- Performs a variety of chemical, physical, microbiological, and toxicological analyses on wastewater and biosolid samples such as Biochemical Oxygen Demand, Total and Volatile Solids, Total and Volatile Suspended Solids, Total Residual Chlorine, pH, Dissolved Oxygen, Conductivity, Hardness, Alkalinity, Ammonia, Enterococcus by Membrane Filtration, Heterotrophic Plate Count, Nitrate-Nitrite, Total Kjeldahl Nitrogen, and Acute Toxicity.

- Collects samples from the wastewater treatment plant, biosolids land application site, and other field locations; operates sampling equipment.
- Calculates results and evaluates sample and QC values against compliance and acceptance criteria; enters data into computer applications and communicates results by radio.
- Recognizes potential or actual problems that may occur in an analytical procedure; recommends corrective action or confers with the Lab Supervisor to find solutions.
- Prepares and standardizes reagents; prepares and sterilizes microbiological media.
- Uses LIMS to log in samples, label containers, maintain reagent and standard inventory, batch samples, enter results, and dispose of containers and samples.
- Assists in maintaining inventory of laboratory chemicals and supplies; monitors stock levels, receives materials, and acquires associated records.
- Maintains the laboratory facilities in a clean and orderly condition; washes and puts away glassware.
- Sets up, calibrates, standardizes, operates, and performs routine maintenance on a variety of equipment, such as benchtop meters and probes, peristaltic pumps, autosamplers, autoclaves, thermometers, and pipets.
- Reviews records and documents for accuracy, clarity, and compliance and informs laboratory staff when corrections are needed.
- Assists the Laboratory Supervisor with training laboratory and operations staff on sampling and testing procedures.
- Other related work as required.

QUALIFICATIONS

Knowledge of:

- Principles and methods of chemical, microbiological, and toxicological analyses of wastewater and associated sampling procedures.
- Laboratory safety practices and procedures.
- Computer based applications including spreadsheets, word processing, and laboratory information management systems.
- Standard laboratory equipment operation and maintenance.
- Familiarity with regulations governing wastewater treatment.
- Basic understanding of laboratory QA/QC.

Ability to:

- Understand and follow oral and written instructions.
- Work with others and accept direction.
- Prepare legible, clear, complete, and technically accurate records and reports.
- Follow established analytical procedures in all activities and apply routine QA/QC protocols.
- Operate and maintain standard laboratory equipment.
- Operate transport equipment between collection sites (vehicle, cart), office and field communication equipment, and laboratory equipment and materials safely and efficiently.
- Use modern office and laboratory equipment and digital resource systems, programs, and hardware.
- Define problems, collect data, establish facts, and draw valid conclusions.
- Accept constructive criticism from supervisors and co-workers.
- Follow safe work practices at all times.
- Walk on uneven surfaces
- Work in inclement weather.
- Communicate with irate or difficult people.
- Work overtime, off hours, and be on standby as needed during wet weather.

Education and Experience:

Any combination of training and experience that would provide the required knowledge, skills, and abilities may be qualifying. A typical way to obtain the required qualifications would be:

Completion of college level courses equivalent to an AS degree in physical or life sciences and two (2) years of experience. Experience may be substituted for education on a one (1) year of experience for one (1) year of education basis up to a maximum of one (1) year. Experience must be in conducting chemical or biological laboratory analyses, ideally in methods applicable to wastewater.

Licenses and Certifications:

Laboratory Technician I: Must possess a current Grade I or higher Laboratory Analyst certificate issued by the California Water Environment Association at the time of application.

Laboratory Technician II: Must possess a current Grade II or higher Laboratory Analyst certificate issued by the California Water Environment Association at the time of application.

Laboratory Technician I / II: Must possess a valid California Class C Driver's License at the time of employment. The ability to drive District vehicles is a specific requirement for this position. For that reason, it is the employee's responsibility to maintain a driving record that is acceptable to the District's insurance carrier or be subject to dismissal.

[Minimum Eligibility Standards for District Vehicle Insurance Coverage.](#)

PHYSICAL DEMANDS

[LINK to the Laboratory Technician I / II Physical Demands](#)

ENVIRONMENTAL CONDITIONS

Employees work in a laboratory setting and may be exposed potentially toxic chemicals and conditions. When working in the field environment, employees are exposed to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, chemicals, mechanical and/or electrical hazards, and hazardous physical substances and fumes. Employees may interact with upset staff and/or public and private representatives in interpreting and enforcing departmental policies and procedures.

WORKING CONDITIONS

This position generates laboratory results and prepares reports; these activities require observing or monitoring data to comply with operating and safety standards. Data is entered and retrieved by keyboard. The work involves alternately standing or sitting for extended periods of time with the ability to move at will. Field activities occasionally require the incumbent to walk over uneven ground and to climb up and down ladders and stairs.

May be required to occasionally work on weekends, holidays, and be available for standby during the wet weather season (November-April).

ADDITIONAL INFORMATION

Disaster Service Worker:

Employees of Vallejo Flood and Wastewater District are, by State and Federal law, Disaster Service Workers. In the event of a declaration of emergency, any employee may be assigned activities which promote the protection of public health and safety or the preservation of lives and property either at the District or within the local area, or your own community.