

WATER QUALITY ANALYST

DEFINITION

Under general supervision, performs a variety of laboratory tests and analyses of raw and potable water, wastewater, biosolids, and related samples; performs sample collection, provides technical oversight, and conducts laboratory and monitoring testing for various sampling programs and matrices; follows testing procedures, analyzes data, and interprets results in compliance with federal, state, and local requirements; assists in developing, implementing, and coordinating the field sampling and laboratory quality assurance/quality control (QA/QC) and safety programs; performs non-routine investigations and analyses as directed; and performs related duties as assigned.

SUPERVISION RECEIVED AND EXERCISED

Receives general supervision from the Water Quality Superintendent. Exercises no direct supervision over staff.

CLASS CHARACTERISTICS

This is a journey-level classification responsible for performing the full range of laboratory testing and analyses duties as assigned, working independently, and exercising judgment and initiative. Positions at this level receive only occasional instruction or assistance as new or unusual situations arise and are fully aware of the operating procedures and policies of the work unit. This class is distinguished from the Water Quality Superintendent in that the latter is a full supervisory-level class with responsibility for organizing, assigning, supervising, and reviewing the work of laboratory and field staff.

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 typical functions of the job.

- Performs sample collection and conducts a variety of laboratory tests and analyses, and interprets results related to the treatment, quality, and distribution of water, treatment of wastewater, and plant efficiencies; identifies problems and determines probable causes; recommends and/or implements corrective measures.
- Sets up, calibrates, operates, and maintains a variety of standard and specialized laboratory instruments and equipment; performs required safety, quality control, and calibration checks of equipment and instruments; maintains the laboratory in a safe and clean condition.
- Assists in coordinating the District's sampling program and procedures; collects, splits, preserves, and prepares samples for analysis by District laboratory staff and by commercial laboratories; generates chain of custody and bottle labels; reviews and approves results and reports; notifies supervisor of unusual results, changes in testing procedures, and recommendations for running additional analyses; ensures adherence to sampling procedures, reviews authorization of chain of custody at delivery, and oversees filing of compliance documentation.
- Prepares and mixes standard reagents, titrants, microbiological media, and solutions used in laboratory analyses following established procedures.
- Maintains laboratory data and records using the laboratory information management system

- (LIMS); analyzes and validates accuracy of data and results.
- Organizes, implements, and maintains the field and laboratory quality assurance and quality control (QA/QC) program according to TNI standards; develops QA plans; conducts laboratory audits as directed.
 - Assists in the implementation of District's safety program for field and laboratory units including updating safety manual and chemical hygiene plan as needed.
 - Reviews and updates standard operating procedures and Laboratory Quality Assurance Manual (QAM) to ensure compliance with TNI standards and regulatory and reporting requirements.
 - Prepares monitoring and related compliance reports for submittal to local, state, and federal agencies.
 - Assists in developing and modifying test methods and validating new methods according to established guidelines.
 - Assists in overseeing the monitoring, control, inventory, and ordering of laboratory and sampling supplies and equipment.
 - Investigates water quality problems, customer complaints, waste spills, and other related problems to identify source(s) of pollution.
 - Attends and participates in professional group meetings and trainings; stays abreast of and interprets new trends, laws, regulations, and innovations in the field of laboratory services and the impact on the District.
 - Operates, maintains, and cleans equipment, instruments, and vehicles required for the work.
 - Reads, understands, and ensures compliance with the District Safety Manual; attends safety meetings, as required; reports all accidents, violations, or infractions to the supervisor.
 - Responds to public inquiries in a courteous manner; provides information within the area of assignment.
 - Performs related duties as required.

QUALIFICATIONS

Knowledge of:

- Principles, practices, techniques, equipment, and materials required for sample collection and laboratory analyses related to the treatment, quality, and distribution of water, treatment of wastewater, and plant efficiencies.
- Design and implementation of water sampling programs.
- Principles and processes of water treatment and distribution and wastewater collection and treatment.
- Operational characteristics, use of, and maintenance/calibration requirements of modern laboratory and sampling equipment.
- Occupational hazards and standard safety procedures related to laboratory and sampling work.
- Basic and advanced mathematic and statistical techniques.
- Record keeping and filing system methods, principles, and practices.
- Principles and practices of business correspondence and technical report preparation.
- Applicable federal, state, and local laws, codes, and ordinances and District policies and procedures relevant to area(s) of responsibility.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, and District staff.
- The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.

- Modern equipment and communication tools used for business functions and program, project, and task coordination, including computers and software programs relevant to work performed.

Ability to:

- Perform a variety of laboratory analyses of raw and potable water, wastewater, biosolids, and related samples.
- Analyze the results of such tests and make appropriate recommendations for modifications to laboratory procedures and plant operations.
- Use and perform calibration and minor maintenance on a variety of laboratory equipment, including specialized instrumentation.
- Plan and implement sampling, QA/QC, laboratory safety, and specialized research programs.
- Analyze, interpret, summarize, and present technical information and data in an effective manner.
- Research, analyze, evaluate, and develop improvements in or new laboratory methods, procedures, and techniques.
- Prepare clear and concise reports, correspondence, procedures, and other written materials.
- Make accurate mathematical and statistical computations.
- Establish and maintain a variety of filing, record-keeping, and tracking systems.
- Safely and effectively use and operate a vehicle and tools and equipment required for the work.
- Independently organize work, set priorities, meet critical deadlines and follow-up on assignments.
- Use tact, initiative, prudence, and independent judgment within general policy and procedural guidelines.
- Effectively use computer systems, software applications relevant to work performed, and modern business equipment to perform a variety of work tasks.
- Communicate clearly and concisely, both orally and in writing, using appropriate English grammar and syntax.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Education and Experience:

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

Education:

Equivalent to a bachelor's degree from an accredited college or university in chemistry, biochemistry, biology, microbiology, environmental, sanitary, or chemical engineering, natural or physical science.

Experience:

- Four (4) years of experience in a certified drinking water or environmental laboratory conducting analysis of chemical, biological, or microbiological samples including two (2) years of experience applying quality assurance criteria and procedures for environmental monitoring or water/wastewater laboratories.

Licenses and Certifications:

- Possession of a valid California Class C driver's license, to be maintained throughout employment.
- Possession of valid Laboratory Analyst Grade II Certificate issued by the California Water Environment Association.
- Possession of a valid Laboratory Analyst Grade III Certificate issued by the California Water Environment Association within twelve (12) months of hire.

PHYSICAL DEMANDS AND WORKING ENVIRONMENT

The conditions herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential job functions.

ENVIRONMENT

Outdoor and indoor environment; travel from site to site; exposure to noise and all types of weather and temperature conditions; work with or in water; work and/or walk on various surfaces including slippery or uneven surfaces; work on ladders/scaffolds; some tasks may risk exposure to toxic materials.

PHYSICAL

- Level Three

Incumbents require sufficient mobility to work in an office, laboratory, and field environment; travel to various locations to take samples; exert moderate but not constant physical effort, typically involving some combination of climbing and balancing, stooping, kneeling, crouching, lifting, carrying, pushing and pulling; walk, stand, and sit for prolonged periods of time; operate assigned equipment and vehicles; operate office equipment including use of a computer keyboard; ability to verbally communicate to exchange information.

VISION

See in the normal visual range with or without correction; vision sufficient to read computer screens and printed documents; and to operate assigned equipment.

HEARING

Hear in the normal audio range with or without correction.

ADDITIONAL REQUIREMENTS

Incumbents may be required to work evenings, nights, and weekends.