



Senior Chemist – Quality Assurance

DEFINITION

Under direction, performs the more technical analytical work to maintain water quality; coordinates and oversees all activities of the laboratory's quality assurance (QA) program to maintain certification under the Environmental Laboratory Accreditation Program (ELAP); develops and coordinates special programs and projects related to quality control (QC); reviews laboratory practices, procedures, and methods to ensure District and regulatory compliance with quality assurance standards, , and performs related work as required. Receives direction from the Water Quality Laboratory Manager and the Water Quality Manager. May provide technical and functional direction over and training to lower-level professional and technical staff.

Distinguishing Characteristics

The Senior Chemist is the advanced journey class in the Chemist classification series. The incumbent plans, monitors and participates in laboratory relating to water quality control, including the review, development and implementation of analytical methods and effectiveness of chemical analytical programs. The incumbent exercises a high level of discretion and independent judgment in coordinating the laboratory's quality assurance program to ensure high quality analytical results. This position reports directly to the Water Quality Laboratory Manager. The quality assurance function of this position is independent from laboratory operations and as such has direct access to the Water Quality Manager. This position is distinguished from the Senior Chemist in that the incumbent performs Senior Chemist duties and serves as the program coordinator for quality assurance activities required to maintain certification under ELAP.

EXAMPLES OF DUTIES

Typical duties may include but are not limited to the following:

- Performs the role of quality assurance for the laboratory to ensure compliance with ELAP requirements.
- Develops, monitors, and maintains the laboratory's quality assurance program in conjunction with and under oversight of the Water Quality Laboratory Manager, to ensure conformance with ELAP requirements
- May perform as backup laboratory analyst for microbiological, chemical, and physical analyses of water with emphasis on more sophisticated analysis and instrumentation such as gas chromatograph and inductively coupled plasma spectrophotometer.
- Interprets and evaluates test results, prepares analytical and statistical reports.
- Recommends operational changes to ensure data and reporting are technically sound and valid.
- Implements and reviews analytical methods and procedures for water quality and analysis.
- Maintains records and quality control checks in conjunction with analytical work.
- Administers the Laboratory Information System (LIMS); review and analyzes reports generated by LIMS.
- Adheres to and monitors quality assurance standards of the laboratory; recommends improvements and modifications; annually reviews and updates the quality assurance manual
- Coordinates, conducts, assists, and/or documents internal audits of laboratory practices and procedures and analytical results as required by the TNI standard.

- Develops and maintains standard operating procedures (SOPs) for laboratory operations and other laboratory documents.
- Monitors state and federal regulations relating to laboratory quality assurance, evaluates impact on laboratory practices, and identifies changes required to comply with regulations.
- Exercises functional and technical direction for staff.
- Instructs and trains subordinates in performing analysis and maintenance of analytical equipment.
- Provides input to supervisor for inclusion in employee performance evaluations.
- Interprets and applies safety rules and regulations to work assignments and ensures adherence to safe work practices and procedures.
- Plans, conducts, and provides technical expertise for special projects and problems.
- Enters and retrieves data and prepares reports and correspondence to staff, District management, and regulatory agencies as required.
- Receives consumer water quality complaints and inquiries and provide information regarding water quality.

QUALIFICATIONS FOR EMPLOYMENT

Knowledge of:

- Principles, methods, calculations, and materials used in the chemical and microbiological testing of water
- Principles and practices of laboratory quality assurance and quality control
- Operation of complex laboratory equipment such as a uv-vis spectrophotometer, gas chromatograph, ion chromatograph, atomic absorption spectrophotometer, total organic carbon analyzer, nephelometer, specific ion analyzer, analytical balance, and an inductively coupled plasma spectrophotometer
- Laboratory practices pertaining to safety, care and maintenance of equipment and materials
- Standard practices for water sampling and related statistical analysis techniques.
- Water system operation, facilities, and applicable state and federal regulations relating to laboratory quality assurance
- Technical report writing, proper spelling, grammar, punctuation, and writing practices
- Computer and software programs to conduct, compile, and/or generate documentation

Ability to:

- Develop and maintain a program for laboratory quality assurance.
- Perform standard QA and QC evaluation procedures.
- perform laboratory analyses in a precise and reliable manner;
- ensure safe and effective of use laboratory equipment and materials;
- make accurate observations and decisions; interpret results of data analysis and make appropriate recommendations to management.
- understand and comply with District operations, facilities, applicable regulations; State and Federal Health codes and standards;
- learn new methods of analysis;
- evaluate data using statistical methods for analysis;
- understand and carry out written or oral instructions;
- independently organize work, set priorities, meet critical deadlines, and follow-up on assignments.
- respond accurately and tactfully to inquiries from the general public;
- communicate and deal effectively with those contacted in the course of work;

- represent the laboratory and District in meetings with other agencies, governmental agencies, various professional and regulatory organizations and in meeting with individuals.
- use computer spreadsheets and databases;
- prepare clear and concise reports, correspondence, policies, procedures, and other written materials;
- depending upon job assignment, drive a vehicle;
- travel to alternative work locations and offsite meetings.

Training and Experience: Any combination equivalent to experience and education that could likely provide the required knowledge and abilities would be qualifying. A typical way to obtain the knowledge and abilities would be:

- Education: Completion of four years of college, resulting in graduation or its equivalent, with major work in chemistry or closely related field. Education must have included course work in analytical chemistry or instrumental analysis,
- Experience: Three (3) years of experience as a professional chemist (journey level) performing water or wastewater analysis, including two (2) years of experience in environmental analysis with an emphasis on laboratory quality assurance/quality control program management.

Other Requirements

- Per California Government Code, Title 1, Division 4, Chapter 8, Section 3100 “all public employees are hereby declared to be disaster service workers subject to such disaster service activities as may be assigned to them by their superiors or by law.”
- Must be willing to work overtime as needed.

Licenses and/or Certifications

- Possession of, or ability to obtain, an appropriate California driver’s license may be required with determinations made on a case-by-case basis at the time of job posting.

Physical Demands and Working Conditions

During the course of performing job duties the employee will need the mobility to work in a standard office setting, operate equipment, which may include office and/or field equipment, or specialized instruments or tools requiring repetitive arm/hand movement and/or the coordinated movement of more than one limb simultaneously; enter and retrieve data from personal computers and terminals via keyboards which is often performed while sitting for extended periods of time. The employee frequently stands, walks, bends at neck and waists, twists at neck and waist, uses simple and power grasping with both hands, uses fine manipulation of both hands and fingers, and may require use of the arms above the shoulder, climb or balance; stoop, kneel or crouch. While working in the field the employee may walk on uneven or un-level ground surfaces such as hills, slopes, ditches or trenches, on or in tanks, and may work at heights up to ten to twelve feet climbing ladders or stairs. The employee is occasionally required to lift and carry short distances objects such as reams of copier paper, office supplies, files, books, printed materials and other packages or equipment weighing up to 25 to 50 pounds. This position requires that the employee demonstrate adequate hearing and speech to converse in person and over the telephone, and vision to read printed materials and use a computer screen.

The noise level in the work environment is quiet to moderate noise. The employee is exposed to outdoor temperature, humidity, wetness and dust. The position may require the ability to work overtime and weekends as needed.

Employees who drive on District business to carry out job-related duties must possess a California driver's license for the class of vehicle driven and meet automobile insurability requirements of the District including review of a recent DMV history. In order to drive and depending on job assignment, individuals must be physically capable of operating the vehicles and equipment safely.

Additional Physical Demands

- Possess specific vision abilities required by this job include close vision, color vision, and ability to adjust focus.
- Exposure to potentially hazardous materials, laboratory chemicals, solvents, microbiological pathogens, odors and fumes.

To be successful in this job, an individual must be able to satisfactorily perform each of the listed duties. These duties are representative of the knowledge, skill and/or ability required for the position. Reasonable accommodations may be made to enable individuals with disabilities to perform the duties and functions of the position. Requests for reasonable accommodation should be directed to the Human Resources Manager.

Established: May 1991
Revised: October 2023
Approved by: Human Resources Manager