



Laboratory Chemist

Purpose of the role:

Under general supervision, performs a variety of tests on potable water, wastewater and receiving water to determine biological, physical and chemical conditions basis and to ensure wastewater treatment plant and water system regulatory compliance; advises plant operations staff regarding treatment efficiency and removal rates; and performs related duties as assigned.

Distinguishing Characteristics:

This is the journey-level position and may be distinguished from the higher classification of Senior Laboratory Chemist by the latter position's responsibility for work coordination, scheduling and assignment.

Essential Duties and Responsibilities:

The following duties are typical for this classification. Incumbents may not perform all of the listed duties and/or may be required to perform additional or different duties from those set forth below to address business needs and changing business practices.

- Performs a variety of laboratory tests, using basic to very sophisticated equipment on water and wastewater samples as necessary to control treatment processes, determine plant efficiencies, and ensure compliance with NPDES and DHS regulatory requirements.
- Collects, preserves, and prepares plant samples for laboratory analysis; performs sample analysis and reports findings.
- Performs bacteriological tests on potable water and wastewater to assure safety, quality and regulatory compliance; conducts special tests and analyses as needed.
- Interprets data obtained from tests; enters laboratory results into computer; maintains a written record of lab results and activities; prepares a variety of technical reports.
- Prepares reagents, standards and other solutions used in daily lab operations.
- Maintains, calibrates and repairs laboratory and sampling equipment; coordinates lab equipment maintenance as necessary.
- Monitors and reviews the results of the quality assurance/control program; analyzes laboratory data and recommends treatment modifications; presents data analysis.

- Utilizes a wide variety of laboratory equipment and instruments including Ion Chromatograph, pH and DO meters, Ion selective electrode, Autoclave, Buret, Pipettor, and atomic absorption spectrophotometer.
- Prepares federal and state reports regarding laboratory methods and operations.
- Maintains cleanliness of the laboratory; cleans and maintains laboratory equipment, instruments, and supplies including glassware.
- Trains staff in use of lab equipment as necessary.
- Assists in conducting and preparing annual inventory reports.
- Performs sample collection duties as required; delivers samples to contract labs as necessary.
- Performs related duties as required.

The following generally describes the knowledge and ability required to enter the job and/or be learned within a short period of time in order to successfully perform the assigned duties.

***Desired
Minimum
Qualifications:***

Knowledge of:

- Laboratory techniques, equipment, terminology, and procedures.
- Theory, principles, practices, methods and chemicals used in complex chemical, bacteriological and physical analysis and testing of water, wastewater, biosolids and compost.
- Proper sample collection procedures and techniques, including operation of automatic samplers.
- Principles and practices of qualitative and quantitative chemistry, biology and bacteriology.
- Methods and processes used in wastewater treatment.
- Principles of microbiology, analytical chemistry and biology applicable to wastewater treatment plant laboratory analyses.
- Common laboratory chemicals, reactions, and precautions.
- Quality assurance/control procedures.
- Mathematical calculations used in chemical analyses.
- Principles and procedures of record keeping.
- Occupational hazards and standard safety practices.
- Office procedures, methods, and equipment including computers and applicable software applications.
- Principles and procedures of record keeping.
- Pertinent federal, state, and local codes, laws, and regulations.

Ability to:

- Perform modern sophisticated chemical analysis.
- Operate computer and complex laboratory equipment.
- Operate an atomic absorption spectrophotometer and ion chromatograph in the analyses of liquid, semisolid, and solid samples.
- Perform complex statistical calculations for quality assurance and quality control studies.

- Analyze and interpret test results.
- Read and interpret regulatory agency quality assurance studies.
- Calibrate, repair and maintain laboratory equipment.
- Prepare clear, accurate and concise records of test results and technical reports.
- Operate office equipment including computers and supporting software applications.
- Learn and apply new information or skills.
- Understand and follow oral and written instructions.
- Communicate clearly and concisely, both orally and in writing.
- Establish and maintain effective working relationships with those contacted in the course of work.
- Respond and perform assigned duties in the event of a City-declared emergency.

Competencies:

- Results Oriented
- Customer-Focused
- Accountable
- Problem Solver and Decision Maker
- Ethical
- Technically Knowledgeable

Any combination of education and experience that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

Education:

A Bachelor's degree from an accredited college or university with major course work in analytical chemistry, organic chemistry, biology, or a related field.

Experience:

Two years of increasingly responsible chemical or biological laboratory experience in the chemical, bacteriological, and physical analyses typically used in a wastewater treatment plant laboratory.

**Education and
Experience
Guidelines:**

Licenses; Certificates; Special Requirements:

A valid Class C California driver's license is required.

A California Water Environmental Association, Laboratory Analyst I Certificate is required.

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.

**Physical and
Environmental
Conditions:**

Physical: Sufficient physical ability to work indoors and outdoors in all weather conditions; sit, stand, walk on level and slippery surfaces, reach, twist, turn, kneel, bend, stoop, squat, crouch, grasp and making repetitive hand movement; lift, carry and push tools, equipment and supplies weighing 25 pounds or more; climb ladders, use power and noise producing tools and equipment, drive motorized vehicles. **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.

Environment: Wastewater treatment plant and field environment; exposure to noise, dust, grease, fumes, gases, potentially hazardous chemicals, and inclement weather conditions including wet and/or humid conditions; work with or around water or wastewater; work on slippery surfaces.

*Class specifications are only intended to present a descriptive summary of the range of duties and responsibilities associated with specified positions. Therefore, specifications **may not include all** duties performed by individuals within a classification. In addition, specifications are intended to outline the **minimum** qualifications necessary for entry into the class and do not necessarily convey the final qualifications of incumbents within the position.*

Pursuant to California Government Code Section 3100, all public employees are required to serve as disaster service workers subject to such disaster service activities as may be assigned to them by their supervisor or by law.

Date Adopted: 7/5/03

Date Revised: