

THE CITY OF LOS ANGELES



CIVIL SERVICE COMMISSION

## CLASS SPECIFICATION

6/18/82

LABORATORY TECHNICIAN, 7854

**Summary of Duties:** Performs standardized and non standardized laboratory and field tests involving the physical, chemical, biological or bacteriological analyses of water, sewage, sludge, air, fuel and lubricating oils, paints, gasoline, physical evidence in criminal cases and other material and supplies; operates, adjusts, and makes minor repairs to intricate testing equipment; makes calculations and prepares records and reports on results of tests; supervises and participates in such work; and does related work.

**Distinguishing Features:** A Laboratory Technician follows established procedures or detailed instructions in performing work varying from routine and standardized work which requires adapting a variety of standard tests, treatments and equipment to obtain desired results. Employee may or may not work with direct technical supervision, and may perform research or experimental work under the general supervision of other professional personnel.

Employees in some positions may supervise and participate in the work of a small group or independently perform non-standardized or precise, standardized tests and operate the more intricate equipment. Precise and accurate performance of laboratory tests is required, and the work of employees in this class is checked by a review of the reports submitted or by the development of conditions that indicate proper analysis.

### **Example of Duties:**

- Makes routine bacteriological analyses of water and sewage samples according to standardized procedures;
- Makes field analysis of water samples including alkalinity, odor, hardness, conductivity, pH, and dissolved oxygen;
- Makes routine chemical tests on raw and digested sludge's, water and sewage samples, including tests for volatile, settleable and suspended solids, grease content, volatile acids, alkalinity, free ammonia, sulfides, chemical oxygen demand, biochemical oxygen demand;
- Carbonates, chlorides, and radioactive gamma counts;
- Prepare written reports that may be submitted for permit compliance requirements;
- Performs the more difficult standardized analyses of water quality, sewage, and sludge;
- Makes the preliminary analyses for complex reclamation and industrial waste research projects;
- Sets up, controls and makes precise samples needed for various tests;
- Makes data calculations and tabulations;
- Prepares equipment and supplies for oceanographic testing;
- May supervise employees engaged in such work;
- Performs chemical, physical and biological investigations to develop and modify analytical methods for water analysis, water quality control and treatment;

- Correlates research results and data and prepares graphs and reports;
- Inspects, adjust, tests, calibrates and performs minor repairs to laboratory and field equipment and apparatus;
- Identifies constituents of water and other materials;
- Checks chlorine demand in water;
- Sets up and operates experimental water treatment equipment;
- Maintains logs and records;
- May supervise a small group of employees engaged in such work;
- Makes regular collections and analyses of boiler waters, condensate, steam, condenser and bearing cooling waters, sewage, sludge or beach waters by performing titrations, color comparisons using a comparator, or physical measurements using electronic equipment;
- Tests turbine lubricating, fuel and other oils for viscosity, flash, fire and pour points, sulphur, water and acid content;
- Charges chemical storage tanks and adjusts valves and automatic equipment to maintain proper chemical concentration limits;
- Supervises employees performing such analyses;
- Analyzes test results for detrimental physical and chemical components;
- Recommends remedial treatment of water and the time and amount of blow down necessary on boilers;
- Adapts standard water tests and treatments to plant requirements;
- Compiles records, reports, and data of operations, requisitions chemicals and laboratory supplies;
- Prepares test reagents;
- Prepares manuals of operating procedures;
- Inspects the operation of water demineralization plant to detect operation defects which affect the quality of water used in steam generation, and provides information to operating personnel regarding adjustments required to maintain proper water quality;
- Makes standardized and specialized chemical and related physical tests and analyses on construction and maintenance materials including solvents, paints, oils, paper, rubber, and hardware to determine compliance with purchase specifications;
- Conducts the more difficult and intricate standardized tests on materials used for maintenance, repair and construction;
- Analyzes wood and metal samples to determine causes of such problems as corrosion or decomposition;
- Assists in the sampling and analysis of solid and gaseous emissions from steam plant stacks;
- Obtains samples of natural gas, gaseous insulation, and various explosive or toxic gases in the field;
- Determines the composition of the collected gases using a gas chromatograph and other laboratory apparatus;
- Prepares and sets up air pollution field testing equipment;
- Assists in the cleaning and maintenance of the various laboratory devices, equipment and working area;
- Performs routine calculations required in making tests;
- Writes required reports;
- Prepares various solutions and reagents such as lactose broth, eosin methylene blue, uranyl

zinc acetate, sodium cobaltinitrite, Nessler's reagent, orthotolidine, dissolved oxygen reagent, standard acid and base solutions, and other standard solutions.

### **Qualifications**

Knowledge of:

#### **A general knowledge of:**

- Laboratory techniques, equipment, terminology, and procedures, mathematics, biology and bacteriology;

#### **A working knowledge of:**

- Analytical and quantitative chemistry.

The Ability to:

- Make routine chemical, biological, and bacteriological examinations and routine mathematical calculations quickly and accurately;
- Operate analytical laboratory instruments;
- Understand and carry out oral and written instructions;
- Record test results;
- Prepare reports and keep routine records in a clear and concise manner;
- Assist and work harmoniously with other laboratory workers.

**Requirements:** Completion of two general chemistry courses plus a course in analytical or quantitative chemistry that is required for a science major at a recognized college or university is required.

**License:** A valid California driver's license is required.

**Physical Requirements:** Strength to perform average lifting up to 35 pounds and occasionally over 50 pounds; stamina to stand for long periods and walk frequently; arm, hand, and finger dexterity; good eyesight and color perception, and good speaking and hearing ability.

Persons with disabilities may be able to perform the essential duties of this class with reasonable accommodation. Reasonable accommodation will be evaluated on an individual basis and depend, in part, on the specific requirements for the job, the limitations related to the disability, and the ability of the hiring department to reasonably accommodate the limitations.

**As provided in Civil Service Commission Rule 2.5 and Section 4.55 of the Administrative Code, this specification is descriptive, explanatory and not restrictive. It is not intended to declare what all of the duties, responsibilities, and required qualifications of any position shall be.**