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ENVIRONMENTAL CHEMIST I

This is professional chemistry work in the preparation of quality assurance plans and procedures for the monitoring and testing of environmental samples or in performing assignments necessary to implement a program of environmental chemistry within a geographical area in a regional office.

In quality assurance work, employees perform a variety of tasks in preparing operating procedures for the collection, preparation and testing of environmental samples; evaluating quality assurance activities of the department and local programs; reviewing permit applications and evaluating environmental monitoring data. In the field, employees are responsible for the collection and preservation of environmental monitoring data, performing inspections of water treatment plants or hazardous waste facilities requiring the judgements of a professional chemist, and providing technical assistance to non-chemists in the field offices. Work is performed under the supervision of an Environmental Chemist Supervisor, Environmental Supervisor or Environmental Regional Supervisor and may include other duties as assigned.

I. DIFFICULTY OF WORK:

Variety and Scope - In quality assurance work, employees plan, write and review quality assurance plans; evaluate quality assurance activities of other sections and employees within the department or in approved local programs; review pre-construction monitoring plans submitted in support of PSD applications; and evaluate the accuracy of collected samples. In the field offices, employees direct technicians in the collection and preservation of environmental samples or data from continuous monitors, inspect holders of air, water or hazardous waste permits, and provide technical assistance to non-chemists in a variety of problems related to chemical pollutants and monitoring technology.

Intricacy - In quality assurance work, plans and procedures cover a variety of types of monitoring and their associated methods and equipment. In the field, employees work in a variety of industrial settings where air pollution, water pollution or hazardous wastes are a concern. Work requires an understanding of a variety of industrial processes and pollutants. Employees are involved in administering complex regulations requiring considerable interpretation.

Subject matter Complexity - Employees must have considerable knowledge of the theory and practical application of chemistry to environmental monitoring and control, working knowledge of a variety of industrial processes and their potential for polluting the atmosphere, considerable knowledge of the methods and techniques associated with environmental sampling, and considerable knowledge of federal and state regulations regarding the air, water or hazardous waste programs.

Guidelines - Federal and/or state rules and regulations are available covering most situations. However, they are highly complex requiring considerable interpretation. In addition, the rules and regulations are constantly changing due to new technology and standards governing new pollutants.

II. RESPONSIBILITY:

Nature of Instructions - Tasks are generally outlined by giving the nature of the task, expected results and general timeframes. Within these guidelines, employees are expected to plan, schedule and complete assigned tasks.

Nature of Review - Work is conducted independently without supervisory review except upon request. The more complex or unusual problems are discussed with the immediate supervisor upon completion.

Scope of Decisions - Other departmental employees and local government employees must use quality assurance plans developed. Decisions made by field chemists could affect plant owners and operators and members of the general public in the vicinity of a plant or downstream from a wastewater treatment plant.

Consequence of Decisions - Improperly developed quality assurance plans would have an adverse impact on the quality of data collected. Field decisions could result in increased operating expenses for plant owners or a degradation of the environment.

III. INTERPERSONAL COMMUNICATIONS:

Scope of Contacts - In quality assurance work, employees have contacts with other departmental employees and local governmental officials. In fieldwork, employees have contacts with plant owners and operators, local governmental officials, and members of the general public.

Nature and Purpose - Contacts are to explain regulations, procedures, or violations, to develop compliance schedules, to persuade plant owners to make changes to bring their operations into compliance, or to provide technical assistance.

IV. OTHER WORK DEMANDS:

Hazards - Quality assurance work is generally performed in an office setting. In performing fieldwork, employees are exposed to moving machinery and a variety of potentially hazardous chemicals.

Work Conditions - In performing fieldwork, employees are exposed to inclement weather, noise, fumes and odors.

V. RECRUITMENT STANDARDS:

Knowledges, Skills and Abilities - Considerable knowledge of the theoretical principles of analytical chemistry. Considerable knowledge of laboratory techniques, equipment and terminology. Skill in performing a variety of standardized titration, extraction, purification and related manual procedures. Ability to conduct field inspections and to prepare accurate and concise reports. Ability to handle with tact, consistency and sound judgement the diversity of public contacts demanded in consultative services and enforcement work. Ability to communicate effectively in written and oral form.

Minimum Education and Experience - Graduation from a four-year college or university with a degree in chemistry and two years of work involving the practical application of theoretical chemistry; or an equivalent combination of education and experience.

Minimum Education and Experience for Trainee Appointment - Graduation from a four-year college or university with a degree in chemistry or an equivalent combination of education and experience.