

SENIOR ENVIRONMENTAL CHEMIST (RADIOLOGICAL ANALYSIS)

DISTINGUISHING FEATURES OF THE CLASS: Under the general supervision of the Chief – Environmental Laboratory Services, the incumbent in this class organizes and directs the activities of a specialized area of Environmental Chemistry involving the environmental radiological analyses of drinking water, wastewater, estuarine water, soil, and other environmental samples and performs specialized environmental examinations. Initiates, coordinates and conducts independent scientific research of new and improved methods and procedures for radiological analyses. This position is directly responsible for the coordination of all operations concerning radiological analyses of environmental samples including methods of analysis, instrumentation and its maintenance and repair, supplies and equipment, and analytical workload. Supervision is exercised over a number of professional and technical environmental personnel. The incumbent must maintain a satisfactory rating of performance by the New York State Department of Health for those procedures for which approval is required for the laboratory. Does related work as required.

EXAMPLES OF WORK: (Illustrative Only)

General:

Assists in preparing environmental laboratory budget requests by identifying needs, gathering and compiling appropriate justifications, and evaluating new instrumentation and equipment as to its applicability for environmental radiological work;

Responsible for overseeing installation of new equipment and instrumentation, as well as to its implementation for laboratory use;

Provides consultation and advice to local health department personnel, local water company personnel, private companies and private individuals regarding sampling and analyses programs;

Directs and participates in training personnel in radiological methods of analysis;

Ensures the maintenance of procedural manuals, quality control manuals and instrument manuals;

Ensures the maintenance of statistical data in a manner that will facilitate orderly storage and retrieval;

Responsible for the daily, monthly and other reports requested from the Radiological Chemistry laboratory;

Directs and participates in analyzing quality assurance samples and keeping required quality assurance / quality control records as mandated by federal and state guidelines to maintain laboratory certification;

Keeps abreast of current trends as well as changes in the field of environmental radiological chemistry that may effect operations;

EXAMPLES OF WORK: (Illustrative Only) (Cont'd.)

Responsible for maintaining assigned areas, instrumentation and equipment in a clean and safe manner and at operational readiness;

May be required to give expert testimony in court or before other administrative hearings regarding results and methodology;

Responsible for maintaining N.Y.S. laboratory approval for those parameters for which approval is required by the Environmental Radiological laboratory;

Directs the flow of work into the laboratory and well as workload management;

Uses computer applications or other automated systems such as spreadsheets, word processing, calendar, e-mail and database software in performing work assignments.

Radiological Analysis:

Responsible for the radiological analyses of environmental samples;

Plans, directs, coordinates and performs the radiological analyses of environmental samples utilizing approved methods;

Performs the drinking water analysis for Radon-222;

Other methods that could be eventually required include Gross Alpha, Gross Beta, Photon Emitters, Radioactive Cesium, Iodine-131, Plutonium, Radium-226, Radium-228, Strontium-89, Strontium-90, Uranium, and Tritium;

Plans, directs, coordinates and participates in researching, developing and initiating new approved or improved methods for use in the radiological analysis of environmental samples;

Directs, plans, develops and initiates field sampling collection methods and preservation protocols;

Directs, plans, and initiates protocols for the submission of valid samples to the laboratory, chain of custody, sample accession, and the recording and reporting of results;

May perform other incidental tasks, as needed

Uses computer applications or other automated systems such as spreadsheets, word processing, calendar, e-mail and database software in performing work assignments.

REQUIRED KNOWLEDGE, SKILLS, ABILITIES AND ATTRIBUTES: Thorough knowledge of the principles, practices, techniques, procedures and applications of environmental radiological chemistry; thorough knowledge of the theory and practice of radiochemistry and the instrumentation for radiochemical analysis; good knowledge of computer applications for instrumental analysis and quantitation; good knowledge of basis statistical calculations as they apply to environmental radiochemistry; good knowledge of federal, state and local laws, rules, regulations and policies as they apply to the operation of the environmental radiochemistry laboratory; a high degree of technical competence as well as demonstrated ability in the operation and maintenance of instrumentation for radiological analysis; ability to use computer applications such as spreadsheets, word processing, e-mail and database software; ability to plan and conduct independent professional scientific research to improve laboratory methods and procedures and prepare comprehensive reports of findings and recommendations; ability to plan, organize and supervise professional and technical laboratory personnel; ability to understand, follow and explain technical guidelines; ability to communicate effectively both orally and in writing; ability to follow detailed oral and written instructions; ability to effectively use computer applications such as spreadsheets, word processing, e-mail and database software; accuracy; thoroughness; dependability; initiative; judgment; integrity; physical condition commensurate with the demands of the position.

MINIMUM ACCEPTABLE TRAINING AND EXPERIENCE: A Bachelor's Degree* in Chemistry or Physics which must have included twenty credits in Chemistry and either: (a) a Ph.D.* in radiation or nuclear chemistry and three years experience in the radiological analysis of environmental samples, including one year of supervisory experience; or (b) a Master's Degree* in radiation or nuclear chemistry and four years of experience in the radiological analysis of environmental samples, including one year of supervisory experience; or (c) six years of experience in the radiological analysis of environmental samples, including one year of supervisory experience.

*SPECIAL NOTE: Education beyond the secondary level must be from an institution recognized or accredited by the Board of Regents of the New York State Education Department as a post-secondary, degree-granting institution.

NOTE: Unless otherwise noted, only experience gained after attaining the minimum education level indicated in the minimum qualifications will be considered in evaluating experience.