

SENIOR ENVIRONMENTAL CHEMIST (INORGANIC)

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 environmental inorganic chemistry metals and conventional analyses of drinking water, wastewater, estuarine water, soil, and other environmental samples, and performs advanced environmental examinations as well as initiating, coordinating and conducting independent scientific research of new and improved methods and procedures for increased sensitivity and specificity. This position is directly responsible for the coordination of all operations concerning metals and wet chemistry analysis including sample and data quality control; preventative maintenance and repairs, and workload assignments. This position either supervises technical laboratory personnel, or functions as the quality assurance/quality control manager in the Environmental division. The incumbent must maintain a satisfactory rating of performance by the New York State Department of Health for those procedures for which approval has been granted to 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 laboratory inorganic 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 training of personnel in the Inorganic Laboratories;

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

Keeps abreast of current trends as well as changes in the field of quality control/assurance that may impact operations;

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

May perform other incidental tasks, as needed.

When assigned as Inorganics Manager:

Supervises subordinate professional and technical staff in the inorganic environmental chemistry analyses of water, wastewater, soil, and other environmental samples, including trace metal analyses, demand, minerals, nutrients, cyanide, phenols, solids and physical analyses;

EXAMPLES OF WORK: (Illustrative Only) (Continued)

Directs the flow of work into the laboratory as well as the workload assignments;

Responsible for the daily, monthly and other reports requested from the Inorganic Laboratory;

Participates in the laboratory's quality assurance program, performs first level verification of LIMS data entry of raw data;

Plans, directs, coordinates and participates in researching, developing and initiating new approved and improved methods for use in the pretreatment of water, wastewater, fish tissue, soil sediment and other related environmental samples to remove interference and to improve sensitivity and specificity;

Responsible for maintaining assigned areas, instrumentation and equipment in a clean and safe manner and at operational readiness, maintains instrument service contracts for their section;

When assigned as Quality Assurance/Quality Control Manager:

Ensures the Quality System is implemented and maintained in accordance with NYSDOH Environmental Laboratory Approval Program (ELAP) accrediting authority requirements and Federal TNI requirements.

Oversees the proficiency testing programs of our accrediting authorities; obtains proficiency testing (PT) materials, distributes, collates and enters PT data in the Health Commerce System (HCS) PT portal. Tracks PT status for maintaining NYSDOH ELAP approval for those parameters granted to the Inorganic Laboratory;

Oversee the quality control and quality assurance activities of staff, which includes data handling of raw test data, calibrations, calculations, test results review, LIMS data entry, and verification and validation of results.

Assures the maintenance of standard operating procedures, LIMS quality control data; maintenance of statistical data in a manner that will facilitate orderly storage and retrieval;

Manages the internal audit program, identifies and records nonconformance, suspending or reordering non-compliant work;

Oversees the daily operation of the Environmental Laboratory Information Management System (LIMS), generates queries and reports relating to sample throughput, research and recommend improvements to LIMS operation, and works with DoIT liaison to troubleshoot software issues;

Reviews and evaluates new technology, methods, and equipment and advises the Laboratory Directors as to such use with respect to quality assurance aspects;

FULL PERFORMANCE KNOWLEDGE, SKILLS, ABILITIES AND ATTRIBUTES: Thorough knowledge of the principles, practices, techniques, procedures and applications of environmental inorganic chemistry; thorough knowledge of the theory and practice of atomic absorption spectrophotometry, inductively coupled plasma (ICP) emission spectroscopy, ICP-mass spectroscopy, UV-Vis spectroscopy, ion chromatography, flow injection auto analyzer systems, total organic analyzers, and selective ion electrodes and probes; knowledge of computer systems and languages used in the acquisition, processing and quantification of spectral data; good knowledge of spectral interpretation, identification and verification; good knowledge of basic statistical calculations as they apply to environmental chemistry; thorough knowledge of federal, state and local laws, rules, regulations and policies as they apply to the operation of the environmental laboratory; ability to operate and maintain a modern ICP system with a high degree of technical competence; 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 the utilization and work assigned to 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 read, write, speak, understand, and communicate in English sufficiently to perform the essential duties of the position; ability to use computer applications such as spreadsheets, word processing, e-mail and LIMS 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 the chemical, environmental, physical or biological sciences, or closely related field, with a minimum of twenty-four (24) credits* in chemistry and four (4) years of environmental inorganic chemistry laboratory experience**, or closely related inorganic chemistry experience in instrumentation and methodology used in an environmental organic chemistry laboratory**, two (2) years of which must have been in a supervisory capacity;

SUBSTITUTION: A Ph.D.* or Master's degree* in the chemistry, environmental, or biological sciences, or a closely related field may substitute two (2) years of the required laboratory experience in Organic Chemistry or closely related field. There is no substitution for the supervisory experience.

**NOTE: Acceptable professional environmental inorganic chemistry experience includes performance of metals and wet chemistry analysis on water, wastewater and soils, utilizing ICP-AES, ICP-MS, UV/Visible absorption spectrometry, Ion Chromatography, Infrared Spectroscopy, and et.al. in accordance with EPA methods and NYSDOH environmental laboratory approval program protocols.

*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.

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J.C.: Competitive
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Job Group: XIII