

WATER QUALITY SAMPLER 1-3

CLASS DESCRIPTION

General Responsibilities:

This is technical work relating to water quality monitoring and reporting, private well inspection and abandonment, and support for wellhead protection activities for the Madison Water Utility. The work involves the collection, preparation and delivery of samples for testing; using, calibrating and maintaining portable instruments for field testing of basic water quality parameters; private well inspection; surveillance and documentation of improperly abandoned wells and groundwater contamination sources; reporting of test results to Water Utility staff and customers; and responding to water quality complaints.

Employees are expected to progress from a Water Quality Sampler 1 to a Water Quality Sampler 2 as a function of increased experience and independence of action. Work at the Water Quality Sampler 3 level is job-specific and advancement is normally accomplished through a position study or a competitive process.

Water Quality Sampler 1

This is routine technical work relating to water quality monitoring and reporting for the Madison Water Utility. The work is performed under the close to limited supervision of the Water Quality Manager.

Water Quality Sampler 2

This is technical work relating to water quality monitoring and reporting, private well surveying and abandonment, and support for wellhead protection activities for the Madison Water Utility. The work is performed under the general supervision of the Water Quality Manager.

Water Quality Sampler 3

This is advanced-level technical work relating to water quality monitoring and reporting, private well inspection and abandonment, and support for wellhead protection activities for the Madison Water Utility. The work is performed under the general supervision of the Water Quality Manager and may involve the direction of assigned staff.

Examples of Duties and Responsibilities:

Water Quality Sampler 1

Collect water samples from Water Utility facilities, designated sites in the water distribution system, private homes, businesses, or other locations using established procedures. Label and preserve samples according to standard procedures while maintaining sample integrity for a variety of different sample types.

Use and maintain portable instruments for water quality measurements. Perform field measurements for basic water quality parameters including chlorine, hardness, conductivity, turbidity and iron.

Deliver samples to the local certified drinking water laboratories. Pack and ship samples to non-local laboratories.

Receive laboratory reports. Compare test results to established federal, state and internal standards. Enter results into a database and report original and summarized results to the Water Quality section staff and customers.

Respond to water quality complaints/questions from residential and commercial customers related to such concerns as chlorine smell, off taste, water clarity/color, or chemical content.

Gather information, conduct field tests, and/or collect water samples relative to customer complaints, questions, and/or investigations. Document investigative activities.

Perform related work as required.

Water Quality Sampler 2

Perform all the work of a Water Quality Sampler 1 with a greater degree of independence and judgment.

Collect samples from monitoring wells.

Calibrate, use, and maintain portable instruments including colorimeters to measure chlorine, fluoride, iron, and manganese, and multi-parameter probes for measuring pH, oxidation-reduction potential (ORP), conductivity, and dissolved oxygen (DO).

Collect specialty samples for biological, volatile organic, synthetic organic, radiological, and unregulated contaminants from municipal and monitoring wells.

Assist in developing and refining procedures to investigate and resolve production well and distribution system water quality issues.

Lead investigations of water quality complaints.

Investigate private wells and collect well samples for biological and chemical analysis.

Observe and document private well activities, including personal and electronic communications, in a database.

Observe well abandonments to ensure compliance with state and local codes.

Issue citations for non-compliance.

Investigate residential and commercial property locations of suspected private wells and conduct well surveys for potential outdoor cross connections.

Conduct windshield surveys to update containment source inventories.

Water Quality Sampler 3

Perform all the work of a Water Quality Sampler 2 with a greater degree of independence and judgment.

Develop and refine procedures to investigate and resolve production well and distribution system water quality issues.

Review literature, perform studies, and prepare reports on emerging water quality issues.

Inspect private wells, prepare orders for corrective action, including shock chlorination and well abandonment, and certify compliance with the state well code.

Coordinate with DNR, Wisconsin Geological Survey, and UW Extension staff to investigate potential causes of well contamination

Recommend actions to remedy well contamination, including referrals to certified well contractors.

QUALIFICATIONS

Training and Experience:

Water Quality Sampler 1

Generally, positions in this classification will require:

One year of routine laboratory or field sampling work. Such experience would normally have followed completion of at least one year of science course work which included laboratory activities. Pertinent college or other types of post-high school course work may be substituted for the experience and/or course work. Other combinations of training and/or experience which can be demonstrated to result in possession of the knowledge, skills, and abilities necessary to perform the work will also be considered.

Specific training and experience requirements will be established at the time of recruitment.

Water Quality Sampler 2

Generally, positions in this classification will require:

Three years of laboratory or field sampling work, including at least 2 years performing similar work for the Madison Water Utility or similar jurisdiction. Such experience would normally have followed completion of at least one year of science course work which included laboratory activities. Pertinent college or other types of post-high school course

work may be substituted for one year of experience and/or course work. Other combinations of training and/or experience which can be demonstrated to result in possession of the knowledge, skills, and abilities necessary to perform the work will also be considered.

Specific training and experience requirements will be established at the time of recruitment.

Water Quality Sampler 3

Generally, positions in this classification will require:

Four years of laboratory or field sampling work, including at least 3 years performing similar work for the Madison Water Utility or similar jurisdiction. Such experience would normally have followed completion of at least one year of science course work which included laboratory activities. Pertinent college or other types of post-high school course work may be substituted for 1 year of experience and/or course work. Other combinations of training and/or experience which can be demonstrated to result in possession of the knowledge, skills, and abilities necessary to perform the work will also be considered.

Specific training and experience requirements will be established at the time of recruitment.

Knowledge, Skills and Abilities:

Water Quality Sampler 1

Knowledge of basic water chemistry and microbiology as it relates to treatment and supply of drinking water. Knowledge of regulatory standards and monitoring requirements under the federal Safe Drinking Water Act & applicable state law. Knowledge of water sampling techniques and procedures. Knowledge of laboratory principles, terminology, safety precautions and equipment as they relate to water testing. Knowledge of residential plumbing systems including ability to differentiate various pipe materials, potable and non-potable water supplies, and the presence of auxillary hook-ups. Knowledge of and ability to use computers applicable to the duties of the position, including MS Office software packages including Word, Excel, and Access. Ability to follow standard water sampling and field analysis procedures and maintain sample integrity. Ability to use laboratory and sampling equipment. Ability to use equipment such as a propane torch, an adjustable wrench, a pipe wrench, and a screwdriver or utility knife. Ability to compare test results to established standards and make appropriate reports to higher level staff. Ability to visually inspect plumbing installations to identify potential pump components, or factors which may contribute to water quality problems. Ability to read and understand maps; perform spatial queries using GIS-based mapping software. Ability to establish and maintain effective and professional working relationships with other Water Utility staff, the general public, customers and laboratory personnel. Ability to successfully work with multi-cultural communities. Ability to communicate orally and in writing. Ability to work independently and as part of a team. Ability to understand and follow oral and written instructions. Ability to keep complete and accurate records. Ability to operate a motor vehicle. Ability to maintain a professional attitude. Ability to maintain adequate attendance.

Water Quality Sampler 2

Working knowledge of basic water chemistry and microbiology as it relates to treatment and supply of drinking water. Working knowledge of regulatory standards and monitoring requirements under the federal Safe Drinking Water Act & applicable state law. Working knowledge of water sampling techniques and procedures. Working knowledge of laboratory principles, terminology, safety precautions and equipment as they relate to water testing. Working knowledge of and ability to use computers applicable to the duties of the position, including MS Office software packages including Word, Excel, and Access. Working knowledge of plumbing systems including differences between types of pipes and presence of various types of auxiliary hook-ups or pressure reducing valves. Knowledge of private well construction, testing and abandonment ordinances, state and local codes, and other applicable procedures. Ability to follow standard water sampling and field analysis procedures and maintain sample integrity. Ability to use laboratory and sampling equipment. Ability to use equipment such as a propane torch, an adjustable wrench, a pipe wrench, and a screwdriver or utility knife. Ability to compare test results to established standards and make appropriate reports to higher level staff. Ability to visually inspect plumbing installations to identify potential pump and/or private well components, or factors which may contribute to water quality problems. Ability to read and understand maps; perform spatial queries using GIS-based mapping software. Ability to establish and maintain effective and professional working relationships with other Water Utility staff, the general public, customers and laboratory personnel. Ability to successfully work with multi-cultural communities. Ability to communicate orally and in writing. Ability to work independently and as part of a team. Ability to understand and follow oral and written instructions. Ability to keep complete and accurate records. Ability to operate a motor vehicle. Ability to maintain a professional attitude. Ability to maintain adequate attendance.

Water Quality Sampler 3

Thorough knowledge of basic water chemistry and microbiology as it relates to treatment and supply of drinking water. Thorough knowledge of regulatory standards and monitoring requirements under the federal Safe Drinking Water Act & applicable state law. Thorough knowledge of water sampling techniques and procedures. Thorough knowledge of laboratory principles, terminology, safety precautions and equipment as they relate to water testing. Thorough knowledge of and ability to use computers applicable to the duties of the position, including MS Office software packages including Word, Excel, and Access. Working knowledge of plumbing systems including differences between types of pipes and presence of various types of auxiliary hook-ups or pressure reducing valves. Thorough knowledge of private well construction, testing and abandonment ordinances, state and local codes, and other applicable procedures. Ability to follow standard water sampling and field analysis procedures and maintain sample integrity. Ability to use laboratory and sampling equipment. Ability to use equipment such as a propane torch, an adjustable wrench, a pipe wrench, and a screwdriver or utility knife. Ability to compare test results to established standards and make appropriate reports to higher level staff. Ability to visually inspect plumbing installations to identify potential pump and/or private well components, or factors which may contribute to water quality problems. Ability to read and understand maps; perform spatial queries using GIS-based mapping software. Ability to coordinate and direct the activities of assigned staff. Ability to establish and maintain effective and professional working relationships with other Water Utility staff, the general public, customers and laboratory personnel. Ability to successfully work with multi-cultural communities. Ability to communicate orally and in writing. Ability to work independently and as part of a team. Ability to understand and

follow oral and written instructions. Ability to keep complete and accurate records. Ability to operate a motor vehicle. Ability to maintain a professional attitude. Ability to maintain adequate attendance.

Necessary Special Qualifications:

Possession of a valid driver’s license.

Water Quality Sampler 3

Possession of a State of Wisconsin Well Driller or Pump Installer license upon appointment.

Physical Requirements:

Employees in this position will be expected to lift and carry up to 40 pounds on a regular basis (an ice chest containing ice and water samples and small blow torch). In addition, the work requires employees to crouch, kneel, squat, lean, and bend over to obtain water samples. Work involves walking on uneven surfaces, up and down hills, and working in inclement weather to collect samples and perform surveys and site visits. The employee must be able to walk up to 2 miles per day and climb up to 16 flights of stairs in order to access sampling sites. On rare occasions, employees may need to descend and climb back up a narrow, long, steep ladder to the bottom of certain wells to obtain samples. Employees visit approximately 25 sites per shift collecting samples, and must have fine motor skills to open/close sample jars, open small packets of chemicals used in the process, and to write information on bottles and forms. In addition, employees must be able to see color changes in samples and to read calibrate, use and maintain portable instruments for water quality measurements.

Department/Division	Comp. Group	Range
Public Works/Water Utility	16	09
Public Works/Water Utility	16	11
Public Works/Water Utility	16	13

Approved: _____
 Brad Wirtz
 Human Resources Director
 _____ Date