CS-214
Rev 11/2013

Position Code

State of Michigan
Civil Service Commission
Capitol Commons Center, P.O. Box 30002
Lansing, MI 48909

POSITION DESCRIPTION

This position description serves as the official classification document of record for this position. Please complete this form as accurately as you can as the position description is used to determine the proper classification of the position.

2.Employee's Name (Last, First, M.I.)	8.Department/Agency
	Department of Environment, Great Lakes, and Energy
3.Employee Identification Number	**9.Bureau (Institution, Board, or Commission)**
4.Civil Service Position Code Description	**10.Division**
Laboratory Scientist 9-11	Remediation and Redevelopment Division
5.Working Title (What the agency calls the position)	**11.Section**
Laboratory Scientist	Laboratory Services Section
6.Name and Position Code Description of Direct Supervisor	**12.Unit**
Mark Knottnerus, Laboratory Scientist Manager 14	Inorganic Unit
7.Name and Position Code Description of Second Level Supervisor	**13.Work Location (City and Address)/Hours of Work**
Kirby Shane, State Administrative Manager 15	Lansing, 3350 North Martin Luther King Jr. Blvd. 80 hours per pay period

14. General Summary of Function/Purpose of Position

This position serves as a scientist in a multifunction role performing several analyses in the inorganic unit that includes gravimetric analysis for particulate matter (PM) 2.5 filters, Total organic carbon (TOC), low level mercury and metals by ICP and ICPMS.

The position performs complex quantitative chemical analyses of drinking water and environmental water samples using USEPA approved methods and oversees the ambient air particulate matter 2.5 filter program. Additionally, this position also validates analytical data for environmental samples in the Inorganic Unit of Environmental, Great Lakes, and Energy (EGLE) Laboratory. Samples originate from state and federal monitoring and compliance programs. This position uses a variety of complex analytical matrices, techniques and sophisticated laboratory equipment are used for these chemical analyses.

15. Please describe the assigned duties, percent of time spent performing each duty, and what is done to complete each duty.
List the duties from most important to least important. The total percentage of all duties performed must equal 100 percent.

Duty 1

General Summary of Duty 1 **% of Time 40**

Performs gravimetric analysis on particulate matter (PM) 2.5 filters.

Individual tasks related to the duty.

- Weighing pre and post samples for gravimetric analysis on particulate matter (PM) 2.5 filters.
- Analyze and validate sample data.
- Reviewing quality control (QC) data for each batch to ensure that they are within acceptable limits.
- Evaluating any out of limit data and recommending appropriate corrective action.
- Coding results, as necessary.
- Updating SOPs annually.
- Participate in audits regarding procedures.
- Ordering replacement parts and supplies, as necessary.

Duty 2

General Summary of Duty 2 **% of Time 30**

Perform total and dissolved organic carbon analysis for environmental and drinking water samples.

Individual tasks related to the duty.

- Preparing instrument CALs, calibration check standards, and QC sample spiking solutions.
- Reviewing and interpreting computer generated analysis results for completion and accuracy. Determining if and how any reported results will be flagged and coded.
- Accurately upload results into the Laboratory's sample tracking database in order to facilitate timely reporting to clients.
- Performing routine maintenance on the TOC analyzer to assure optimal performance.
- Communicating problems and proposing means of resolution to complete sample analysis to the Unit Manager.
- Perform quarterly method detection limit samples for yearly MDL report.

Duty 3

General Summary of Duty 3 **% of Time 25**

Analysis of metals utilizing ICP & ICPMS instrumentation including sample batching, data entry and validation in LIMS

Individual tasks related to the duty.

- Prepare chemical standards and reagents. Record chemical tracking numbers on batch sheets and tracking in LIMS.
- Analyze samples in accordance with laboratory methods and Standard Operating Procedures.
- Review and validate sample data.
- Review quality control (QC) data for each batch to ensure that QC is within acceptable limits. Evaluating any out of control data and recommend appropriate corrective action.
- Perform Method Detection Limit (MDL) studies, Initial Demonstration of Capability, and any other method specific performance study required for analysis of samples using approved methodology.
- Upload data into the Laboratory Information Management System (LIMS) in a timely manner.
- Perform and document routine and complex instrument troubleshooting and maintenance procedures.
- Order chemical reagents, instrument replacement parts and supplies as necessary.
- Abide by good laboratory safety procedures and adhere to the Laboratory's Chemical Hygiene Plan (CHP).
- Adhere to all procedures defined in the laboratory's Quality Assurance Program Plan.
- Keep apprised of approved methods as promulgated by the EPA.
- Dispose of completed samples following laboratory policy.

Duty 4

General Summary of Duty 4 **% of Time 5**

Perform low level mercury analysis for environmental water samples.

Individual tasks related to the duty.

- Prepare all instrument calibration standards (CALs), calibration check standards, and QC sample spiking solutions.
- Review and interpret computer generated analysis results for completion and accuracy. Determining if and how any reported results will be flagged and coded.
- Perform and evaluate ongoing QC parameters in order to assure the validity of analytical data and to monitor for any trends, biases, and out-of-control conditions that may develop. Taking corrective action if necessary.
- Upload results to the Laboratory's sample tracking database in order to facilitate timely reporting to clients.
- Updating SOP annually.
- Communicating problems and proposing means of resolution relating of the analysis to the Unit Manager.

Duty 5

General Summary of Duty 5 **% of Time _____**

Individual tasks related to the duty.

Duty 6

General Summary of Duty 6 **% of Time _____**

Individual tasks related to the duty.

16. Describe the types of decisions made independently in this position and tell who or what is affected by those decisions.

Determining priorities for analysis of samples based on requested due dates, workload volume, sample matrices, and analyses. Determining if instrumentation is operating within acceptable performance criteria, if samples submitted are acceptable for analysis, and if analytical data is acceptable for reporting based on various QC audits analyzed within a sample preparation batch and instrument analysis. Determining if there are matrix interferences in a sample that may affect data quality and qualifying such samples or using alternate techniques to verify the data's acceptability. Determining what steps to take in instrument troubleshooting based on instrument performance and data analysis. These decisions affect the quality and credibility of the data used in monitoring, regulatory, and enforcement actions as well as project turnaround times.

17. Describe the types of decisions that require the supervisor's review.

Purchase of equipment and/or supplies, situations in which customer assistance issues are not clearly resolvable, determination as to whether a project is important enough to substantially delay sample analysis, due dates of priority 1 samples, and reassignment of Unit staff require supervisory review. Data resulting from the analysis of samples with complex matrix effects, new methods and changes in methodologies require supervisory review. All leave requests need prior approval from the supervisor.

18. What kind of physical effort is used to perform this job? What environmental conditions is this position physically exposed to on the job? Indicate the amount of time and intensity of each activity and condition. Refer to instructions.

Standing or sitting for long periods of time, potential exposure to toxic or hazardous chemicals in environmental samples and laboratory reagents, and standard; laboratory safety hazards due to flammable solvents, flammable and nonflammable compressed gases, and strong acids and bases.

19. List the names and position code descriptions of each classified employee whom this position immediately supervises or oversees on a full-time, on-going basis. (If more than 10, list only classification titles and the number of employees in each classification.)

NAME	CLASS TITLE	NAME	CLASS TITLE

20. This position's responsibilities for the above-listed employees includes the following (check as many as apply):

___Complete and sign service ratings.
___Provide formal written counseling.
___Approve leave requests.
___Approve time and attendance.
___Orally reprimand.
___Assign work.
___Approve work.
___Review work.
___Provide guidance on work methods.
___Train employees in the work.

22. Do you agree with the responses for Items 1 through 20? If not, which items do you disagree with and why?

Agree

23. What are the essential functions of this position?

This position performs gravimetric analysis for particulate matter (PM) 2.5 filters, total organic carbon, metals utilizing ICP & ICP/MS, and serves backup for low-level mercury analysis. Duties also include the ability to ensure good data quality with the use of QC parameters, a thorough knowledge of complex instrumentation and the ability to oversee maintenance and repair to instrumentation.

24. Indicate specifically how the position's duties and responsibilities have changed since the position was last reviewed.

Position is being updated to reflect workload changes within the lab due to changes in sample volumes over the last several years.

25. What is the function of the work area and how does this position fit into that function?

The Inorganic Unit is responsible for determining inorganic constituents in water, soil and other matrices to support the Department's programs. This position provides data used by the Department of Environment, Great Lakes, and Energy to ensure a clean and safe environment for Michigan's citizens.

26. What are the minimum education and experience qualifications needed to perform the essential functions of this position?

EDUCATION:

Possession of a bachelor's degree with a major in chemistry, biochemistry, biology, microbiology, forensic science, or a related pure or applied science.

EXPERIENCE:

Laboratory Scientist 9-11

Professional experience carrying out a variety of tests, analyses, or production and research activities involving chemical, biochemical and biological samples, specimens, and products equivalent to a Laboratory Scientist.

KNOWLEDGE, SKILLS, AND ABILITIES:

The employee in this position must have knowledge of commonly used laboratory techniques, terminology, and equipment. The employee must have some knowledge and training on theory of CVAFS, ICP/ICP-MS, and TOC analyzer operation and know safety procedures for handling hazardous chemicals. In addition, the employee must show good analytical judgment and possess attention to detail, recordkeeping skills, good communication skills in dealing with staff and responding to complex directions, a high level of reliability for job attendance, consistency of work, and the ability to work in a fast paced environment. Computer application programs for laboratory activities and data management.

CERTIFICATES, LICENSES, REGISTRATIONS:

Not Applicable.

NOTE: Civil Service approval of this position does not constitute agreement with or acceptance of the desirable qualifications for this position.

I certify that the information presented in this position description provides a complete and accurate depiction of the duties and responsibilities assigned to this position.

_____ _____

Supervisor's Signature **Date**

TO BE FILLED OUT BY APPOINTING AUTHORITY

Indicate any exceptions or additions to statements of the employee(s) or supervisors.

I certify that the entries on these pages are accurate and complete.

_____ _____

Appointing Authority Signature **Date**

TO BE FILLED OUT BY EMPLOYEE

I certify that the information presented in this position description provides a complete and accurate depiction of the duties and responsibilities assigned to this position.

Employee's Signature	**Date**

NOTE: Make a copy of this form for your records.