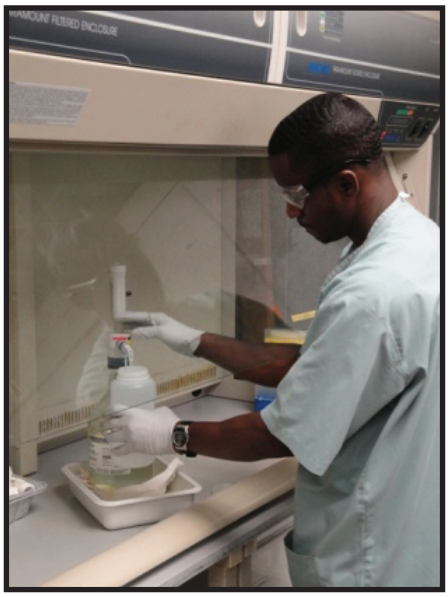


Chemical Analysis Section Summary Report

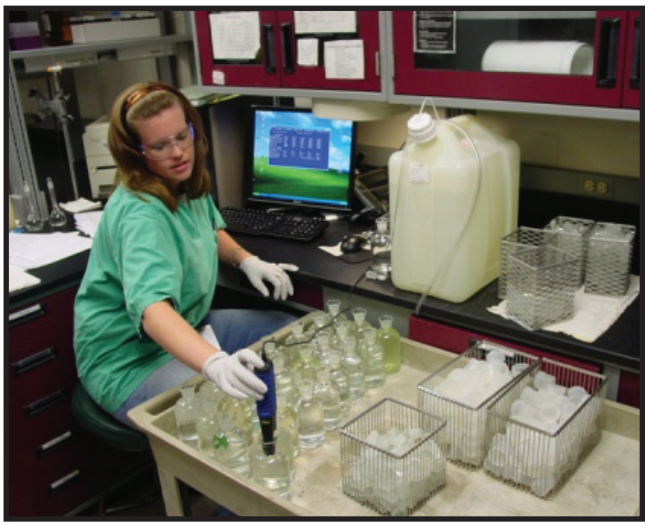
The Chemical Analysis Section serves as the State of Missouri Environmental Laboratory. This section provides analytical testing and support vital in protecting Missouri's residents and natural resources. Chemists and staff in the section use their expertise and state of the art instruments to identify and confirm various contaminants, both natural and man-made. These contaminants include inorganic analytes, organic compounds, synthetic organic compounds, heavy metals and biological contaminants that may affect health, water quality and natural resources.

The chemical analysis section provides the data necessary to evaluate and make decisions concerning the air and water quality in Missouri. In addition, the section also performs drinking water testing, which includes physical properties, metals, inorganic nonmetallic constituents, aggregate organic constituents and organic compounds.

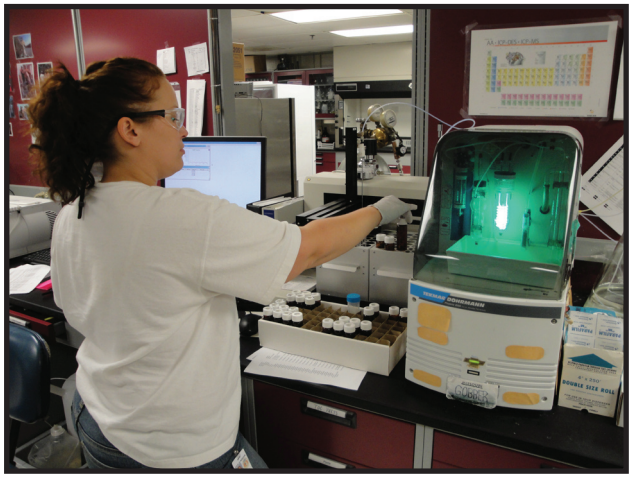
Accomplishments

In fiscal 2011, the Chemical Analysis Section conducted the following work and service:

- Performed chemical analysis on more than 25,100 samples that included more than 74,000 individual tests and 315,600 individual parameters (analytes). This analytical work included samples from the following agencies:
    - Division of Environmental Quality: Air Pollution Control Program, Hazardous Waste Program, Solid Waste Management Program, Public Drinking Water Branch and Water Pollution Control Branch, Environmental Emergency Response, Water Quality Monitoring Section.
    - Division of State Parks.
    - Division of Geology and Land Survey.
    - Missouri Department of Conservation.
    - Missouri Department of Transportation.
    - Missouri Department of Health and Senior Services.
- Performed chemical analysis on 5,000 lead and copper samples for the Public Drinking Water Branch as part of the Environmental Protection Agency's Lead and Copper Rule. This project required coordinating sample collection, sample container shipping and sample receipt performed during a three-month period during the summer; the actual analysis took an additional three months to complete.



- Retained EPA requried certification for drinking water chemical analyses as requested by the Public Drinking Water Branch. This included participating in an annual proficiency testing study for each parameter from a certified proficiency testing provider.
- Continued work on the two-year project for the Water Pollution Control Branch using American Recovery and Reinvestment Act money. This project involved testing in several areas of the laboratory, including the wet chemistry unit. Work began in May 2010 and continued through September 2011.
- Continued to provide technical assistance to our department programs, other state agencies and other laboratories as needed. Such assistance is mostly provided by phone or email and may concern clarification or understanding of a method used at the laboratory, or guidance concerning an acceptable Environmental Protection Agency analytical method.
- Continued to work toward implementing a new method for the Air Pollution Control Program. This new air filter testing method for lead particles in the air by inductively coupled plasma-mass spectrometry included coordination and discussion with an Environmental Protection Agency development laboratory and the Air Pollution Control Program. Following this initial work, we began the implementation process of the actual method into our laboratory. Testing using this new method began with the July 2011 air filters.



- Purchased new water filtration systems for the Wet Laboratory, Metals Laboratory and Extractables Laboratory. These units purify tap water to make Type I and Type II laboratory water used for analytical testing in each laboratory. The Extractables Laboratory also purchased two additional extraction units, allowing greater through-put of samples during busy times. The filtration systems and extraction units were purchased using BASF™ settlement monies.
- Provided water sample results to clients and the public Monday through Friday through the department's website at www.dnr.mo.gov/asp/esp/lims/select.asp.
- Continued to provide a laboratory certification program for drinking water and acting as the state's primacy laboratory for chemical analysis. The laboratory certification program required our laboratory certification officers to make on-site audits at Missouri laboratories and to provide reciprocal certification for non-Missouri laboratories.

Missouri Laboratories	Reciprocal Laboratories (non-Missouri)
Chain of Rocks (St. Louis) – On-site Fiscal 2011 City Utilities of Springfield Howard Bend (St. Louis) – On-site Fiscal 2011 Kansas City Water Services TestAmerica (St. Louis)	ALS Environmental Division American Water - Central Laboratory Environmental Science Corporation Fargo Cass Public Health Environmental Laboratory National Testing Laboratories Ltd. Pace Analytical Services Inc. PDC Laboratories Inc. Underwriters Laboratories Inc.

- Expedited sample analysis of drinking water, surface water, soil and materials in order to provide data for priority health and environmental assessments from various sites including:
  - Compass Plaza (Rogersville) – Testing for Trichloroethene.
  - City of St. Louis Police Department – TO-15 testing (Volatile testing from an evidence canister) used for a vehicular manslaughter case.
  - Lee Chemical – On-going testing for the Hazardous Waste Program.
- Continued to use the early notification system for test results exceeding Environmental Protection Agency-defined maximum contaminant levels and action levels for all applicable drinking water analytes. This notification system is similar to the notification developed for reporting E. coli results exceeding established levels. These notifications are provided via email to groups with direct responsibility for these analytes of interest. For example, benzene has an maximum contaminant level of 5 ug/L in drinking water. Therefore, if the Chemical Analysis Section management confirms a sample with a result that meets or exceeds 5 ug/L, an email notification will be sent within 15 minutes to the Public Drinking Water Branch.
- Continued to use the Sample Condition Upon Receipt Anomaly Report to document issues with samples upon receipt at the laboratory. A copy of each report is sent to the appropriate project manager or regional office director and the Division of Environmental Quality administration in an effort to clarify issues that will better serve our customers.
- The following graphs detail the numbers of samples analyzed per month for each of the respective programs.
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Number of Samples, Tests and Perimeters - Fiscal 2011