

# U.S. Geological Survey National Water Quality Laboratory

## Summary

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*The National Water Quality Laboratory (NWQL) offers environmental analytical services, including inorganic, organic, and radiochemical constituents, and provides high-quality, reproducible data. The laboratory specializes in trace- and ultra-trace-level analyses of water, sediment, and tissue, as well as identification of benthic invertebrates. The NWQL also provides specialized services to its customers, including project planning, method development, customized projects, and data management.*

### Areas of Expertise

- inorganic and organic chemistry
- radiochemistry
- trace- and ultratrace-level detection
- different matrices (water, sediment, tissue)
- sorting and identification of benthic invertebrates
- scientifically and legally defensible data
- methods research and development

### Personnel

- diverse staff of about 150 scientists and technicians
- expertise includes chemistry, environmental biology, hydrology, business administration, and geology

### Facilities

- state-of-the-art facility (completed 1999)
- secure facility with chain-of-custody isolation
- high-production capability
- high-efficiency-particle-arresting (HEPA) filtered air to remove airborne contaminants
- source water meets the ASTM International standards for purity; nanopure water used where required
- samples accepted Monday through Saturday

### Technology

- automated sample and error tracking
- automated data review with manual oversight
- automated laboratory procedures where appropriate
- advanced environmental analytical methodologies

### Commitment to Safety, Health, and Environment

- State of Colorado Resource Conservation and Recovery Act compliant
- medical surveillance program for laboratory personnel
- emergency response to spills and injuries/medical emergencies
- ongoing effort to improve and minimize waste streams
- frequent internal safety assessments, inspections, and audits to ensure safe working environment

### Accreditations and Certificates

- National Environmental Laboratory Accreditation Program (NELAP)

- State of Colorado for gross alpha, gross beta and potable constituents regulated by the State
- State of New York potable and nonpotable constituents
- U.S. Environmental Protection Agency (USEPA) for specific organic compounds

### External Validation

#### Performance evaluations

- Environment Canada Federal Provincial Studies
- National Environmental Laboratory Accreditation Program
- National Institute of Standards & Technology (NIST)
- National Oceanic & Atmospheric Administration (NOAA)
- National Research Council Canada (NRC)
- U.S. Environmental Protection Agency
- U.S. Geological Survey (USGS) Branch of Quality Systems
- Environmental Resource Associates
- U.S. Department of Energy Quality Assurance Project Plan through the Environmental Measurements Laboratory

#### Audits

- Colorado State Department of Health & Environment
- National Environmental Laboratory Accreditation Program
- New York State Department of Health
- U.S. Department of Energy (USDOE)
- U.S. Environmental Protection Agency
- USGS Branch of Quality Systems
- USGS Radiological Safety Committee

### Representation on Scientific Committees

- ASTM International (formerly the American Society for Testing and Materials)
- Board of the National Environmental Laboratory Accreditation Conference (NELAC)
- National Environmental Methods Index (NEMI)
- Multi-Agency Radiological Laboratory Analytical Protocols (MARLAP)
- Methods and Data Comparability Board

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