

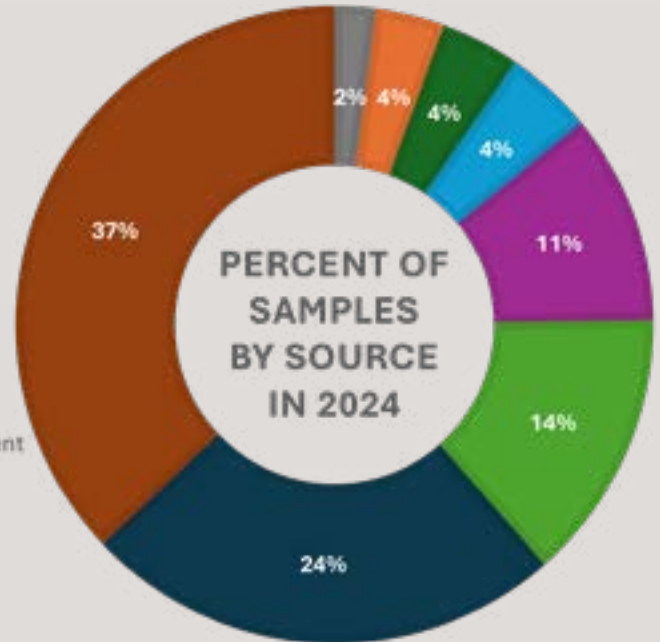


Analyst performs routine maintenance in laboratory.

Chemistry by the Numbers



12,826 Samples Received in 2024



Mission Statement
Our mission is to provide legally defensible quality analytical laboratory services within a reasonable time for the department and the state of North Dakota.

Chemistry Laboratory

Analytical sections include:

- **DEMANDS LAB:** Performs biochemical oxygen demand, total suspended solids and pH tests; provides analytical data to determine compliance with permit requirements of municipal and industrial wastewater discharges.
- **FEED AND FERTILIZER LAB:** Provides analytical data to the North Dakota Department of Agriculture; tests agriculture feeds and fertilizers, pet foods, and lawn and garden fertilizers to determine compliance with labeling.
- **MINERAL LAB:** Tests matrices such as water and soil for major cation and anion parameters or general chemical quality. Typical analyses include sulfates, fluoride, chloride, chemical oxygen demand, nitrate, ammonia and total Kjeldahl nitrogen.
- **ORGANIC LAB:** Provides identification and quantification of insecticides, herbicides, volatile and semi-volatile organic compounds, polychlorinated biphenyls (PCBs) and other synthetic organic compounds in water, soil, river and lake sediments, foliage, fish tissue, sludge, oil, landfill wastes and samples from other environmental sources.



Artist rendering of new North Dakota State Laboratory

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The Chemistry Laboratory provides analytical chemistry data for environmental protection, public health, agricultural and petroleum regulatory programs in the state. The laboratory also maintains a certification program for North Dakota laboratories that provide environmental testing services.

The North Dakota Department of Environmental Quality (NDDEQ) programs use laboratory data to monitor and/or regulate solid and hazardous waste; municipal wastewater; agricultural runoff; surface, ground and drinking water quality; petroleum products; and other media of environmental or public health concern.

Feel free to use this information, but please credit the North Dakota Department of Environmental Quality.

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- **PETROLEUM LAB:** Tests products such as gasoline and diesel for product quality.
- **METALS LAB:** Identifies and quantifies metal concentrations such as sodium, arsenic, lead and copper in drinking water sources and distribution systems, surface and ground water resources, fish, hazardous and solid wastes, river and lake sediments, and other environmental media.

Webster defines an analyte as "a substance that is the subject of chemical analysis."

North Dakota Environmental Laboratory Certification Program (NDELCP)

The NDELCP certifies for regulated parameters analyzed by promulgated methods – methods officially declared as law. The program provides oversight through the certification process of laboratories, providing testing for compliance data to the NDDEQ programs.

It provides certification to ensure compliance with:

- Safe Drinking Water Act, including primary and secondary regulations
- Clean Water Act, including the National Permitted Discharge Elimination System (NPDES), Biosolids Rule, and Coal Combustion Residuals Rule
- Resource Conservation and Recovery Act

It also:

- Provides certification for approximately 15 in-state laboratories through triennial on-site audits and monitoring proficiency tests.
- Provides reciprocal certification for approximately 36 out-of-state laboratories through annual review of primary certificates and proficiency tests.
- Provides program and technical support for NDELCP-certified labs.
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