Analyst performs routine maintenance in laboratory.

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.

North Dakota State Laboratory

By the Numbers*

- 24,139 - number of samples received and analyzed by Chemistry Laboratory. Samples arrive in various containers – some specially prepared ahead of collection.

- 464,974 - total analytes determined.

- 7,377 - samples tested for more than 51,524 analytes to help public water systems comply with drinking water rules.

- 1,190 - samples tested for 24,484 analytes related to Devils Lake outlet water quality.

- 2,873 - samples tested for 72,632 analytes for the North Dakota State Water Commission groundwater program.

- 1,019 - samples tested for 57,787 analytes related to oilfield activity.

* Derived from 2015-2017 biennial report

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

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.

- **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.

In 2019, the lab was successfully audited by EPA Region 8 for the determination of regulated parameters in drinking water.

Analyst tests for gasoline octane rating.

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.

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.

- Provides certification for approximately 26 in-state laboratories through triennial on-site audits and monitoring proficiency tests.

- Provides reciprocal certification for approximately 55 out-of-state laboratories through annual review of primary certificates and proficiency tests.

- Provides program and technical support for NDELCP-certified labs.
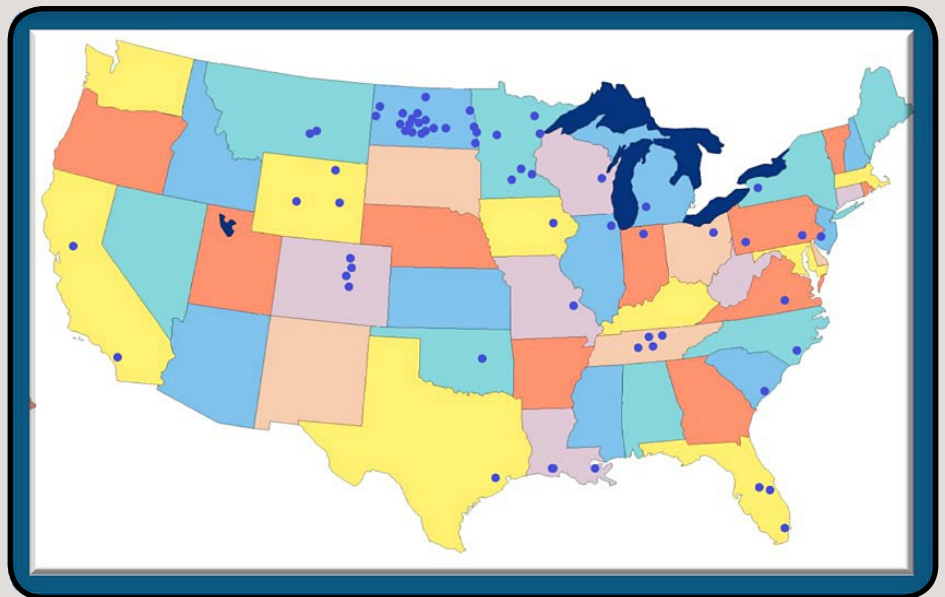
Locations of 2018 NDELCP-certified laboratories