



## The City of Dayton Water Quality and Wastewater Laboratories Choose TITAN® LIMS

Turnkey solution provides custom reporting, tracks regulatory data.

### Organization Profile

The City of Dayton Department of Water provides high-quality potable water, wastewater treatment, and storm water services that meet or exceed all regulatory requirements and community environmental concerns. The Department manages the City's water infrastructure, supply, treatment, distribution, sewer system, reclamation, and environmental efforts.

Drinking Water: The Great Miami Buried Valley Aquifer is one of the largest and most productive aquifer systems in the country and it abundantly supplies drinking water to the City of Dayton and surrounding communities. Rainfall and thousands of miles of rivers and streams recharge this aquifer to create a truly "renewable" resource. The aquifer holds more than a trillion gallons of water, making the area very drought resistant and a dependable water source. This is a valued resource, as the principal water source for an estimated 1.5 million people in southwest Ohio. The U.S. Environmental Protection Agency protects the regional aquifer resource with an award-winning source water protection program, and sole source aquifer designation. The City of Dayton received the first National Exemplary Wellhead Protection Award from the American Water Works Association and has been designated as a Groundwater Guardian Community by the Groundwater Foundation every year since 1995.

Wastewater: The City of Dayton, Division of Wastewater Treatment prevents and controls sanitary water pollution to the Great Miami River, working around the clock, 24 hours a day, 365 days a year, year after year since 1929. The Division of Wastewater treatment serves the City of Dayton and the region, including a large part of Montgomery County which includes Trotwood, Northridge, Riverside, Harrison Township, parts of Randolph Township, Oakwood, Kettering, Greene County, Moraine, and Wright Patterson Air Force Base. The staff of 90 full time employees serves 400,000 people, businesses, and industries by providing for disposal and treatment of all their collective wastewater discharges. The wastewater is treated to remove pollutants to a high degree of purity to meet Ohio EPA issued permit requirements before it is discharged to the Great Miami River.

The WWTP is located at its original 1929 site in the southwest corner of the City of Dayton at river mile 76.1 on the 170.3 miles long Great Miami River. The average daily discharge ranges between 55 to 60 MGD. At this point on the river, the wastewater discharged from the WWTP can contribute up to 40 to 50% of the total river flow during low flow (drought) conditions. This large contribution to river flow requires the wastewater discharged to meet the cleanest water quality standards to protect warm water aquatic animals and plants, as well as, to allow for other designated uses like fishing, boating and skiing.

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The need for clean discharges required major upgrades to City of Dayton's secondary treatment facilities. From 1983 to 1991 near continuous construction upgraded the treatment capacity and capabilities of the treatment plant to a 72,000,000 gallon per day Advanced Wastewater Treatment Facility. The treatment processes now provide preliminary, primary, secondary, advanced secondary (nitrification), filtration, chlorination/de-chlorination and post-aeration to all wastewater.

Sludges collected and removed are stabilized through anaerobic digestion into biosolids, dewatered and used as fertilizer in a land application program on approved farms. The biosolids dewatering and land application program is performed by a private contractor. The average biosolids production is 40 to 45 dry tons per day.

## Their Challenge

The City of Dayton needed a turnkey Laboratory Information Management System for its Water Quality and Wastewater laboratories, spread across five facilities. The historical LIMS was no longer meeting their needs, so there was also a requirement to migrate five years' worth of data from their old COTS LIMS to TITAN® LIMS.

## Our Solution

The ATL Project Team installed the following at the City of Dayton, Ohio facilities: TITAN® LIMS, ATL TITAN® Report Writer, SAS JMP®, TITAN® iMobile – for field data collection, mobile printers for the field and Barcode Starter Packages. ATL engineers migrated 5 years' of data from their legacy COTS LIMS into TITAN®, enabling them to maintain access to this data for reporting and historical trending purposes. Custom reports were created to support compliance with regulatory requirements: Ohio eDMR, eDWR, Regional Air Pollution Control Agency. Additionally, ATL engineers interfaced the following instruments: PE Optima 3300 XL ICP, PE Analyst 600 AA, Leeman Labs Hydraa AA, Varian 3900 GC/MS, Tekmar Dohrmann Phoenix 8800 TOC, Diaonex ICS 1100 IC, PE Analyst 600 and Varian SpectrAA 220.

The project team conducted regular conference calls to review the static table data set up and configuration prior to coming on-site. The team also provided on-site installation and training sessions to ensure that the system was properly configured and that the end-users as well as the system administrators were properly trained. The project was managed under the ATL Advantage Plan that included the project dashboard, project schedule, regular meetings to discuss project progress and all the other tools that ATL leverages to ensure our clients success (checklists, survey's, templates, etc.).

The LIMS ensures that all environmental monitoring and compliance samples are logged, tracked, managed, and that regulatory data is collected and reviewed so that if any results fall outside of control limits the appropriate actions are taken. The LIMS also provides great storage management tracking, preparation and analysis batch organization with instrument integrations, and employee worklists for easily seeing work that needs to be done.

*Accelerated Technology Laboratories (ATL), headquartered in West End, NC, provides laboratory automation solutions to a variety of industries from analytical, environmental, food & beverage, water and wastewater, agriculture, cannabis, chemical, government, public health, biotechnology, clinical testing and manufacturing. ATL's LIMS products are installed in over 600 laboratories around the world and supported by a steadfast commitment to excellence in product quality, support and training. ATL is one of the few LIMS providers that is ISO 9001:2015 certified. For additional information, visit: [www.atlab.com](http://www.atlab.com).*

