

## The City of Clayton Reduces Non-Revenue Water, Improves Customer Service and Operational Efficiency with Hot Rod™



Nestled in the scenic Blue Ridge Mountains, The City of Clayton, Ga. is a small town with a big non-revenue water problem. The International Water Association defines non-revenue water as water that has been produced and is “lost” before it reaches the customer. According to the American Water Works Association, such losses cost public water systems approximately \$2.8 billion in yearly revenue.

### situation

Clayton was plagued with exceptionally high non-revenue water rates in the 50 percent range. The city attributed the problem to leaks in its water system (parts of which have been in place the 1920s) that are exasperated by high pressure levels needed to pump water to more than 3200 service connections throughout Clayton’s mountainous terrain located 2200ft above sea level. And, manual collection of meter readings across Clayton’s expansive service area was prone to human error and took as long as three weeks, making it virtually impossible to isolate leaks.

To help reduce non-revenue water, improve customer service and reduce the amount of time required to collect monthly meter readings, Clayton began searching for an advanced, mobile automatic meter reading (AMR) system that could integrate with its newly replaced commercial and residential water meters.

### action

The city turned to Mueller Systems, a subsidiary of Mueller Water Products, Inc., and leading provider of innovative water infrastructure products and services and technologically advanced metering systems for water, electric and gas systems. Clayton’s Public Works Department decided to implement Mueller Systems’ high performance AMR system, Hot Rod™. The components of the Hot Rod AMR system, which include the Hot Rod™ Radio Transmitter Unit, Street Machine™ Mobile Data Collector, and EZ Reader™ Software, work together to

help utilities reduce the amount of time it takes to manually collect meter reads, more effectively manage water usage, and improve customer service.

**Hot Rod units transmit monthly consumption reads and leak and backflow alerts via radio frequency, while internally storing hourly consumption for up to 170 days (six months) for retrieval.**

Street Machine and EZ Reader Software—Hot Rod's data management tools—automatically collect meter reads and instant data logging alarms as a meter reader drives along a selected route, while providing progress screens and route maps, which display collected readings and meters that still need to have their data collected. Meter locations are graphically represented on route maps by blue icons that disappear as soon as readings are

collected. If a leak, reverse flow, no flow or tamper alarm is received, the corresponding icon will turn a different color, immediately prompting the meter reader to proactively approach customers about possible leaks or other service related issues.



*Tracy Turpin, a meter reader for The City of Clayton, stops to download six months worth of consumption data from a residential meter to investigate an alarm she received while collecting monthly reads along her route.*

## results

Once the Hot Rod AMR System was in place, the city immediately began to experience positive results. According to Moody Barrick, Public Works Director for The City of Clayton, mobile data collection enabled the city to reduce reader error and the time it took to collect monthly readings.

“Our service area is considerably spread out over a rural terrain,” said Barrick. “It used to take us at least three weeks to manually collect readings, a process that was not only time intensive, but also prone to human error. With the Hot Rod AMR System, it takes us 16 hours or less to collect monthly readings from each of our 3200 service connections—using only one meter reader. Mobile data collection has dramatically improved the accuracy of collected readings, and it has reduced our labor costs by approximately \$40,000.”

Data logging and consumption profiling made possible by Hot Rod's storage of 170 days of consumption data and alarms provided Clayton with detailed information that helped identify leaks and track non-revenue water.

As a result of the reduced water loss, which Clayton attributes to Hot Rod as well as its meter replacement project, the city's Public Works Department has experienced an increase in annual revenue of approximately \$100,000.

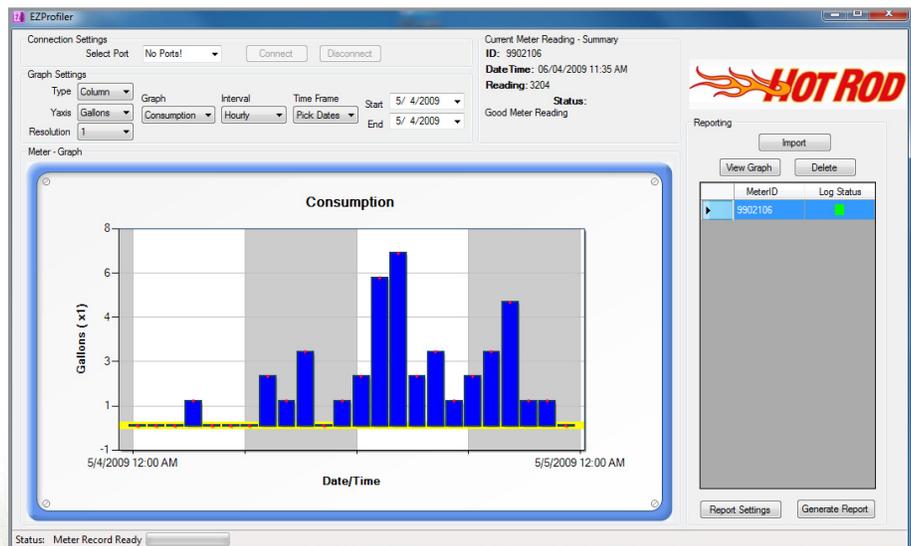
"Prior to leveraging AMR, we were not able to isolate leaks due to limited data and the amount of time it would take to collect readings," said Barrick. "Now, we are able to receive alerts of potential leaks and easily retrieve six months of historical usage data in the field, which we can use to isolate leaks by correlating individual readings with specific zones. This added efficiency is a primary contributor to the reduction in non-revenue water we have experienced following the Hot Rod implementation."

The city also credits alarms and stored consumption data with improved customer service. "The City of Clayton is always looking for new ways to improve the level of service it provides to its customers," said Barrick. "Alarms received through the Hot Rod System enable us to proactively inform customers of potential household water leaks that lose water they might otherwise be unknowingly billed for. Once

an alarm is received, the meter reader can immediately alert the customer, or they can access hourly consumption data to further investigate the problem. Hot Rod is also a great tool that helps our customer service representatives to resolve billing issues; they can retrieve the stored data and talk through it with customers to help them better understand their charges."

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*The Hot Rod AMR System graphically illustrates monthly, daily and hourly water usage rates to meter readers while they are in the field. Not only does such information help meter readers to investigate potential service issues, it also enables The City of Clayton's service representatives to provide historical consumption rates to customers in order to help them better understand their water bills.*



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