

Partnership with Puget Sound Energy: Gas Leak Survey Modernization

NEED: Gas Leak Survey – A requirement for gas utilities*

Gas facility operator compliance:

- Perform a leak survey according to certain prescribed methods regularly
- Above ground facility inspection for corrosion and a variety of other factors which may adversely affect the facilities and create a public safety concern.

HURDLE – Traditional Methodologies

- Rely on the word of the individual technician and their highlighted paper maps indicating which pipes they have walked over.
- Falsification of records is difficult to prevent; many utilities pay heavy fines for discovering - only after in-depth audits by their regulators - that records were incomplete or inaccurate.

APPROACH

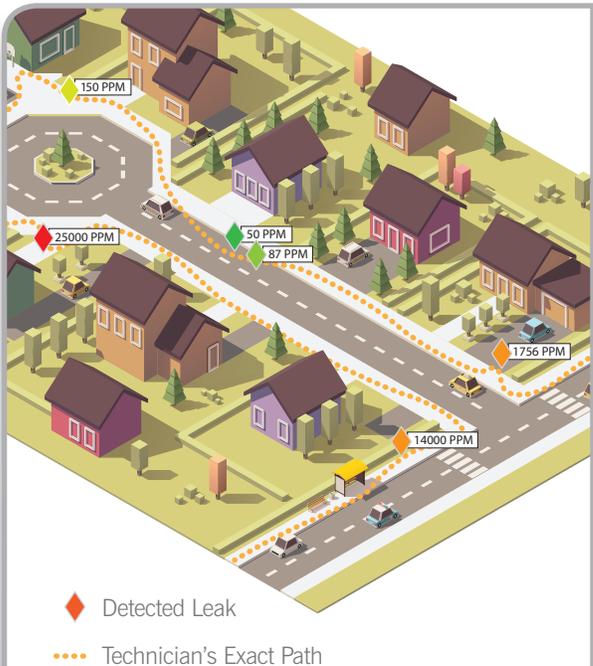
Puget Sound Energy (PSE) partners with Hydromax USA for their Sewer Cross Bore Program. Hydromax USA employs:

- High-accuracy GPS
- Digitized workflows with multiple levels of QC review and QA automation
- A geo-centric tracking and reporting system that delivers high confidence deliverables in a field where there is zero margin for error.

Therefore, it was a natural evolution for PSE to reach out to Hydromax USA to discuss the application of these same processes to Gas Leak Survey.

IMPLEMENTATION REQUIREMENTS – Challenging...

1. Mapping utilized in the field needed to be converted to digital so that collected records of work performed would be harder to falsify than to perform correctly.
2. Records for instrument calibration and operator qualification needed to be incorporated into the workflow so that the work performed was never out of compliance and sufficient documentation was available at a moment's notice to validate that fact.
3. The process for tracking access issues, pipeline markers, pipeline patrols and other special programs needed to be digitized.
4. Deliverable needed to be accessible to all stakeholders in an easy-to-access format while at the same time maintain the required data security and recovery required by a gas utility.



*Mandate PHMSA 49 CFR Part 192.05

SOLUTION

Utilizing the ESRI suite of mobile applications, custom-built workflows, and validation tools Hydromax USA and PSE worked together to create a platform that not only satisfied every compliance requirement, but considerably improved confidence in the adherence to standards for the work performed.

Importance of Details

Over the past three years, Hydromax USA has collected:

- 1,000,000 GPS points at meter locations
- 225,000,000 breadcrumbs indicating the exact path that the technician walked
- 500,000 photos of gas system conditions and corrosion measurements.

This level of detail has allowed PSE to gain better control of their program, but the real power of this paradigm shift has been the ability to use the data collected within the leak survey program in other areas of the company including:

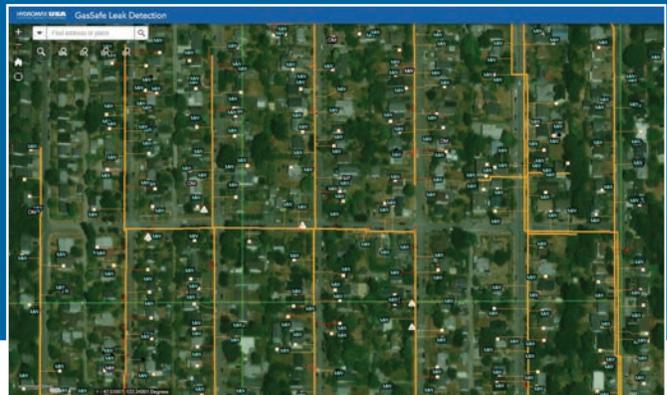
- Internal GIS system
- Corrosion control team
- Sub-contractors who perform leak repairs and other construction tasks
- Emergency responders

Results – The Value of Digital

Stressful Compliance Audits: Mandated by the Utility and Transportation Commission.

Typical Audit Question: “Please provide evidence that the address 1234 E Main St was completed within compliance requirements.” Previously, that meant a trip to map storage, find the right box, right map and search for the correct plat map. Once found, review hand-written notes to ensure compliance. **Time spent? Typically several days.**

With results almost completely digital, data is posted to webmaps to easily view and review. Address or inspection is reviewed with a few clicks of the mouse. **Time spent? Just a few hours.**



“Working with Hydromax USA, PSE continues to have success in the process of moving the Leak Survey Program from a paper documentation process into a digital reporting system – knowing our natural gas infrastructure is being inspected thoroughly, down to who performed the work, the exact time and the location. The digital reporting system gathers various reports and details to help increase productivity and accuracy based on the individual survey technician’s performance.

Utility and Transportation Commission audits are fast and smooth. We respond quickly with objective evidence (photos and GPS breadcrumb trails) of what was documented at particular locations. I can’t say enough about how important a digital reporting system is in maintaining a solid documentation of leak survey inspections.”

– Angela Wingate Gas Operations Quality Control Contract Manager