

## **PUBLIC PAGE**

During the period from 1 Jul 05 to 30 Sep 05, PSI has been working on the following tasks:

- Optimizing Algorithm
- Repeating site characterization measurements to support consultant activities
- Demonstrating triangulation performance
- Interacting with the consultant to develop concepts to compensate for complex geological conditions
- Completing EP-2 fabrication and laboratory testing
- Conducting Data Review and EP-2 Design Review

PSI also fabricated a second data acquisition system as an alternative to the wireless data acquisition system used in the Johnson City field test. [At the site selected for field testing EP-1, PSI chose wireless communication to enable acquisition at long distances between sensors and to acquire data from all sensors simultaneously and synchronously. However, the wireless system introduced non-reproducible artifacts in the data that made it impossible to perform triangulation analysis.]

During this period, NYSEARCH held a review meeting with DOT/OPS in July and held a Design Review meeting with its NYSEARCH sponsors. We also reviewed the issues and recommendations raised by the Independent consultant regarding geophysical constraints and continue to have discussions about how these issues impact the commercial viability and practicality of this system for the intended gas utility application of PIGPEN.

### *Conclusions*

The main conclusions we draw from PSI testing and analyses include:

1. We demonstrated 3.5 m triangulation accuracy at a nominal range of 150 m, thus satisfying the design goal.
2. The algorithm correctly identifies jackhammer and backhoe signatures from several pieces of equipment.
3. The EP-2 system is ready for preliminary field checkout. The EP-2 system fabrication is complete. The Build-2 algorithm is fully implemented and tested on the EP-2 hardware. Laboratory testing is complete.

### *Activities for next period*

During the next period, PSI will perform the following tasks:

- Perform field checkout of EP-2
- Perform field test of EP-2
- Define PIGPEN AP specifications
- Work with NYSEARCH to identify commercialization partner

During the next period, NYSEARCH will perform the following tasks:

- Complete the information exchange and selection of utility interface requirements
- Research and evaluate prospective commercial partners and prepare for (and attempt to schedule) a Technology Transfer meeting with prospective partners
- Evaluate the overall project