

## Quarterly Report – Public Page

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Contract Number: 693JK31810009  
Prepared for: DOT/PHMSA  
Project Title: Improved Tools to Locate Buried Pipe in Congested Undergrounds  
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For quarterly period ending: April 30, 2019

### Project Scope

The purpose of this project will be to mitigate third-party pipeline damage and cross bores at the earliest stages through the development and commercialization of a geospatial probe to map existing buried utilities by being inserted inside of a live gas pipeline. This probe will be capable of mapping live underground pipes 3-dimensionally and give accurate locations of utilities. Additionally, a cloud-based data collection system will be created in order to effortlessly collect and store data, so it is easily accessible to the utilities.

### Technical Status

During the third quarter, ReDuct and GTI worked together in order to create a conceptual design for the upgraded Smart Probe alpha-prototype. Pipe sample for 2 and 4 inch PE pipe were created with different access fittings to mock a field condition that would be encountered. 3-D models have been created to design a new probe shell to allow the probe to access a live gas line.

### Results and Conclusions:

GTI and ReDuct have successfully created a 3-D model for the new upgraded Smart Probe. Next steps are to fabricate the alpha prototype and to test its ability to enter and exit a pipe line through several different access fittings.

### Plans for Future Activity:

During the next quarter, the following activities will be conducted:

- Procuring and assembling alpha-prototype for newly design smart probe system
- Developing drawings for new access fitting or modifying an existing fitting to meet the specifications of the new tool.

- Procuring required software and developing a system flow diagram for cloud-based data collection.