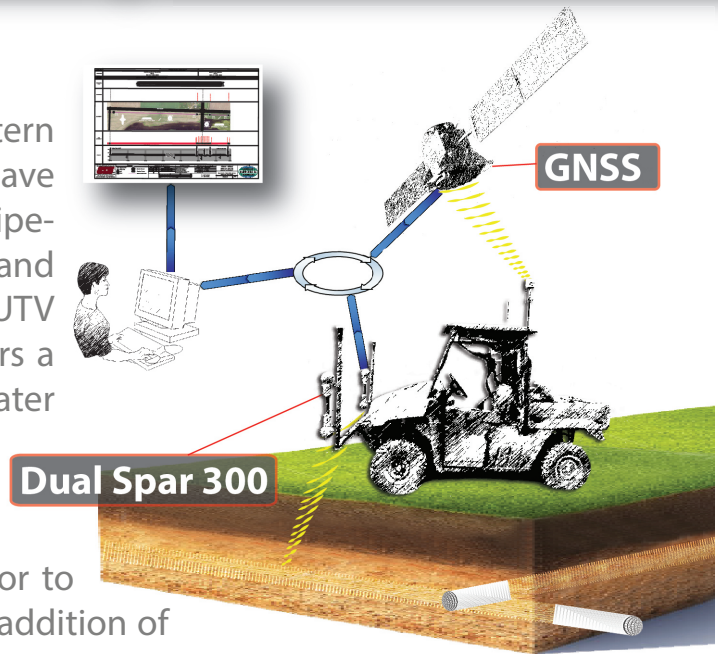


# Buried As-built Pipeline Surveys (Spar Technology)

## Experience

ECS introduced Spar technology to the Eastern Montana-Western Dakota area in 2013 and have extensive experience in conducting buried pipeline and utility surveys to establish position and depth using a single pole mounted or a dual UTV mounted arrangement. Spar technology offers a range up to 50' and even works in a shallow water environment. It is an excellent means to conduct buried as-built pipeline surveys and also a cost effective alternative to vacuum or traditional excavation to expose and survey lines or to confirm or extend ONE-CALL locates with the addition of depth information.



## Commitment

Spar technology was designed to integrate and perform optimally with Trimble GPS survey hardware and software. ECS crews utilize the latest Trimble receivers, data collectors and software allowing full utilization of the Spar technology capabilities. ECS has the capacity to facilitate multiple project locations to be served whether in single or dual unit arrangement. Some of the Spar technology specs and capabilities include:

- Horizontal positional accuracy to one centimeter (for sites located within the ECS proprietary RTN)
- Vertical positional accuracy to 2 centimeters (for sites located within the ECS proprietary RTN)
- Compatible with any standard locating transmitter
- Robust environmental operating range for MT/ND weather conditions
- Intuitive operation and data display to ensure confidence in solutions as data is collected



## Success

As the pioneer and leader of Spar technology implementation in the Eastern Montana and Western North Dakota area, ECS has utilized Spar to as-built and locate pipelines on land and in water environments. We have successfully used Spar technology to complete:

- Hundreds of miles of buried pipeline as-built survey
- Locate pipelines under/on the bed of Lake Sakakawea
- Confirm and extend ONE-CALL data for inclusion on alignment sheets
- Trace existing lines to assist in anomaly, pig and blockage location