Triad Support at Five South Dakota UST Sites



Overview

- In the fall of 2004, the South Dakota Petroleum Release Compensation Fund (PRCF) conducted a study to evaluate and report on the effectiveness of using the Triad approach to manage decision uncertainties as they pertain to petroleum release sites across South Dakota.
- Five sites were chosen for the study, which included three active gas stations, one closed gas station, and a railroad fueling site.
- The goal of the study was to apply the principles of the Triad in order to rapidly characterize the sites, develop accurate conceptual site models, establish clear cleanup goals, and move languishing sites toward regulatory closure as rapidly as possible.

Systematic Planning

- Assistance and facilitation for up-front planning provided by EPA's Technical Support experts.
- During an initial planning meeting, team members were given a summary of the previous work performed at each site, and the data gaps that had been identified.
- Once a basic understanding of each site had been reached, a cleanup goal was established and a list of objectives was developed.

Real-Time Measurements

- The Membrane Interface Probe (MIP) technology was chosen to gather real-time data measurements that enabled team members to make decisions in the field, and allowed the conceptual site model to evolve as the data was collected.
- Team members reviewed the results of the field analysis in real-time and determined what specific information was needed in order to eliminate data gaps.

Dynamic Work Strategies

A planning meeting was held each day with each site's respective team members to review site objectives along with a review of the previous day's assessment results to see if any new data gaps had been created from the previous day's assessment activities.

Results

- Using real-time measurements provided the team members with instant and precise results, and decisions were not based on assumptions and incomplete data sets.
- The availability of real-time data allowed for the flexibility of augmenting the project work plan during the same mobilization, minimizing the need for future site visits to collect additional data.
- Results of the study suggest that the Triad approach reduced the overall data collection costs by increasing the amount of data for every dollar spent. Cost comparisons were made for three of the sites where previous assessments had been performed and multiple data gaps still existed. Savings based on use of the Triad approach ranged from 14% to 70% per site, corresponding to a total savings of \$109K for the three sites, compared with funds previously spent to assess these sites.
- The Triad expedited work schedules by allowing stakeholders to establish goals and objectives prior to work initiation and allow for flexible work plans based on the data collected on site.

Triad profile available online at www.triadcentral.org





