

# Groundwater Monitoring and Reporting



## 35 Years Documenting Groundwater Quality

The hands-on technical staff at Groundwater and Environmental Services, Inc. (GES) are industry experts at groundwater monitoring (GWM) and reporting. It is in our name. GES has self-performed these services for more than 35 years working with a wide array of contaminants of concern (COCs) and in diverse settings to support our clients' environmental compliance needs.

Each year, on average, our technical staff complete the following:

- 12,000 site visits to conduct groundwater monitoring activities
- Collect over 25,000 groundwater samples and gauge over 38,000 wells
- Review 6,000 laboratory reports and prepare over 3,700 reports

**First or last event, big or small, GES stands ready.** GES provides GWM services through all phases of a project - from site assessment through remedial progress monitoring, and through long-term and closure monitoring. We offer all of the required technical expertise to plan and execute successful sampling program including in-house environmental professionals who prepare sampling and quality assurance plans detailing the sequence and precise requirements for each sampling event. We provide GWM services at sites across the US, Puerto Rico and the Caribbean. Our field staff are accustomed to working at active refineries, manufacturing and chemical plants, landfills, power utilities, terminals, government and retail petroleum facilities.

In the office, GES' technical staff evaluate the data, and prepare the required reports. We also offer the services of a licensed environmental chemist to assist with selecting the most appropriate analytical methods and field sampling methods for a wide array of contaminants including but not limited to VOCs, SVOCs, metals, PCBs, pesticides, energetics, and emerging contaminants such as PFAS, 1,4 -dioxane, and microplastics.

Value-added services available include:

**Monitoring Well Network Optimization.** GES conducts statistical evaluations using the MAROS software tool to evaluate possible actions to optimize client groundwater monitoring programs making it possible to reduce the well count, sampling frequency, and analytes to be analyzed.

**Data Validation.** GES assesses the accuracy, precision, representativeness, and completeness of the data to ensure that the data are reliable and defensible.

**Data Management and Visualization.** GES manages large amounts of diverse data using industry standard environmental database programs such as Earth Soft's Environmental Quality Information System (EQulS), Locus EIM, and ENFOS. Data analysis and presentation can be further enhanced through the application of GIS using ArcGIS and data visualization software.

## Areas of Expertise

Sampling and Analysis Plans

Quality Assurance Project Plans

Low-flow sampling methods

No-purge sampling methods (passive diffusion bags, Snap samplers)

Synoptic sampling or gauging events

Liquid-level gauging

Data validation

Groundwater database management

Statistical analysis

Compliance and progress reporting

Monitoring well network optimization

Waste management