



# Programmatic Groundwater Monitoring Support

TestAmerica has 20+ years of experience in providing RCRA Subtitle D environmental testing support for firms nationwide. Programmatic support lowers the cost of your Groundwater Monitoring Program by using the appropriate methods and tools to help you become and stay compliant. Our services include:

- Sampling Support
- Laboratory Analysis
- Data Delivery



# *It starts with the Proper Sampling & Analysis Plan*

Groundwater databases can have false positive data. False positives are analytes reported as present when they are not actually present in the sample. Laboratory or field contamination, inappropriate method selection or matrix interferences all contribute to false positives. TestAmerica recommends the development of a Quality Project with the development of a Sampling and Analysis Plan (SAP), to provide consistency in project execution from bottles shipment to the field and method selection to data reporting. In addition, TestAmerica can perform a statistical comparisons of current and historical data, prior to the release of the data to the client. This evaluation helps identify potential false positives and inconsistencies.

**Consistency in sample handling, analysis and data delivery is critical for a successful groundwater monitoring program.**

Sharing the SAP with TestAmerica helps to reduce errors and makes managing the program easier, lowering the total cost of ownership.

Programmatic support requires specific site information to ensure consistency in the execution of the program requirements. The information required includes:

## **Points of Contact**

- Program/Project Manager(s)
- Individual Site Contact(s)

## **Project Description**

- Detection Monitoring
- Assessment Monitoring
- Leachate Monitoring

## **Sampling Schedule**

- Quarterly, semiannual and annual programs

## **Coolers and Bottle Shipment**

- Sampling Dates
- Point of Contact and Shipping Address(es)

## **Sample Point Identification**

- Field Sample Points & Field QC Samples IDs

## **Analytical Methods and Reporting Limits**

- EPA Method and Test Description
- Reporting Limits and Units

## **Field Data to be entered into report**

- pH, Specific Conductivity, eH, Sample Depth, Depth to Water, Well Elevation and other data

## **Background Concentrations to compare results**

- MCLs / Groundwater Protection Standards / permit levels as defined for each site

## **Deliverables**

- Final Report(s)
- Electronic Data Deliverables (EDDs)

## A Long-term Approach to Programmatic Groundwater Monitoring

TestAmerica provides support in the three critical areas of Sampling, Laboratory Analysis, and Data Delivery.

### 1. Sampling Support



*Prevent errors and ensure high quality results by working with TestAmerica. The correct sample containers, appropriate preservatives, required legal paperwork, and return shipping instructions all ensure that representative samples are collected in the field and received intact at the laboratory for the designated analyses, preventing potential errors.*

#### **Sampling Kits to the Field**

TestAmerica provides coolers, packing material, and Chains of Custody based on a pre-arranged sampling schedule and bottle order requirements. Sampling kits can contain the following:

- Pre-printed Chains of Custody and bottle labels
- Certified pre-cleaned bottles with the required preservatives, if required
- CapSure® bottles which prevents leakage of preservative from the bottles

#### **Return Sample Kits to the Laboratory**

- Return shipping instructions to the TestAmerica laboratory
- Labels and packing materials, including bubble wrap bags for glass containers, for the safe shipment of the samples back to the TestAmerica laboratory



## 2. Laboratory Analysis

*Establishing requirements prior to the start of the program reduces potential errors.*

### Sample Receipt at the Laboratory

- Chains of Custody are signed, reviewed and compared to the bottles received by the lab
- Confirmation of the preservation of the samples upon arrival

### Sample Point Verification

- Samples will be logged with the exact location IDs

### Appropriate Analytical Methods, Analyte Lists and Reporting Limits

- Methods were selected and defined in the SAP:
  - meet the targeted limits
  - overcome or mitigate any potential matrix interferences

### Management of Field Data

- Field data will be entered so that we can produce a complete final report and EDD
- Field data can include: pH, Specific Conductivity, eH, Sample Depth, Depth to Water, Well Elevation and other measurements

### TestAmerica's Project Manager Approval and Release of Samples for Analysis

- Chains of Custody are reviewed and approved by the TestAmerica Project Manager then sample analysis can proceed
- Laboratory prioritizes analysis based on holding times and due dates identified in our LIMs

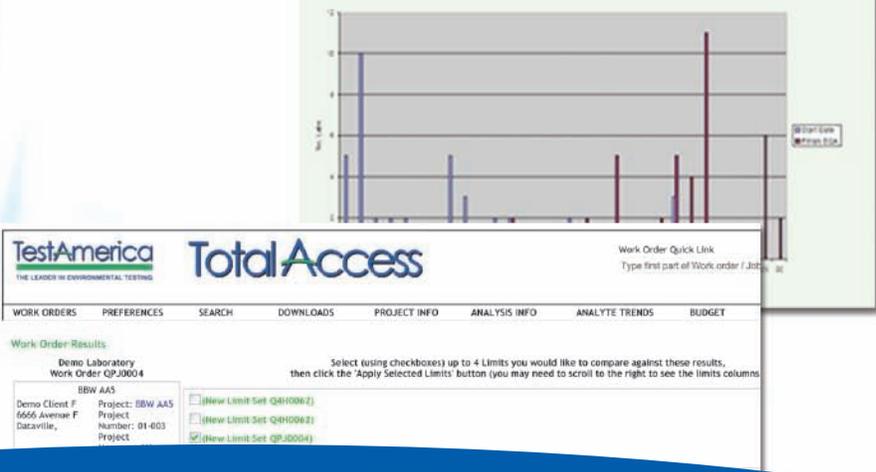
### Client Sample Confirmation for Review and Approval

- Sample confirmation is emailed to the designated client contact for review and approval

## How to Avoid False Positives



TestAmerica's 20+ years of RCRA Subtitle D experience indicates that groundwater databases can have false positive data. False positives are analytes reported as present in the sample when they are not. Our programmatic groundwater monitoring support works on a near-real-time basis to address the areas that can potentially contribute to false positives.



## 3. Data Delivery

*TestAmerica offers a single Laboratory Information System (LIMS) for all data and data reporting, warehousing analytics, and historical data comparison, to protect clients and identify outliers prior to data release to the client.*



### Single Source for All Data

- All data generated comes from a single source: our LIMS

### Historical Data Review

- TestAmerica can perform a historical data comparison over multiple sampling events
- Individual sample points with results that are inconsistent with historical values are further evaluated by the laboratory

### Comparison Site Specific Background

- TestAmerica's Project Manager can generate a report to compare the current data set to the established MCLs, permit levels or background values to evaluate the data prior to the report being issued
- Individual data points that exceed MCLs, permit levels or background values can be further evaluated by the laboratory through a formal verification process

### Laboratory Report

- TestAmerica generates all final reports directly from our LIMS. There is a single source of data in the report
- TestAmerica can provide the final data report to the client in either Level 1, 2, 3, or 4, as specified

### Electronic Data Deliverable (EDD)

- All EDDs directly from our LIMS so there is a single source of data
- EDD specification can be defined in the SAP to provide the data in the format required for upload into the client's statistical analysis

### TotalAccess®

- TotalAccess is TestAmerica's online data portal, which provides access to all data and deliverables
  - \* Final report
  - \* Electronic Data Deliverables
  - \* Invoices
- TotalAccess provides clients direct access to their data for easy download to perform their statistical analysis

## TestAmerica's Sites & Events<sup>SM</sup> Tool in TotalAccess<sup>®</sup>

Sites & Events is TestAmerica's web-based program management tool that was designed specifically for long-term groundwater monitoring programs.

Sites & Events provides the following value added services:

- **Confirmation of Sample Point Identifications** – the applicable well names, sample IDs, test methods and detection limits are pre-defined in our LIMs resulting in consistently accurate data and the ability to review historical data
- **Historical Data Review** – prior to the release of data, laboratory Project Managers and analysts can compare data from the current event to historical results at the site reducing the potential for false positive results
- **Comparison to Site Specific Background** – laboratory Project Managers can compare data from the current event to site specific MCLs, permit levels or background values, prior to the data being released

Sites & Events is an integral part of TestAmerica's TotalAccess web-based data portal. With Sites and Events, clients can review and approve program requirements, as well as request program changes. The programmatic project information in Sites & Events includes:

| 1. Sampling Support   | 2. Laboratory Analysis   | 3. Data Delivery  |
|---|--|---|
| <ul style="list-style-type: none"> <li>• Annual sampling schedule</li> <li>• "Ship to" address for sampling supplies</li> <li>• Site specific sample point identifications including field quality control samples</li> </ul> | <ul style="list-style-type: none"> <li>• All test methods with test descriptions including holding times for each parameter</li> <li>• Reporting limits and units for each parameter</li> <li>• Analytical costs including unit cost and annual program costs</li> </ul> | <ul style="list-style-type: none"> <li>• All data deliverable requirements</li> <li>• Laboratory report</li> <li>• Site specific Electronic Data Deliverables (EDDs)</li> </ul> |

The Sites & Events tool also has a change management tracking feature, which allows clients to request and track the progress of changes to their long term groundwater monitoring program. The change management feature also records all change requests for these routine programs.

## TestAmerica Laboratories, Inc.

is recognized as the leading environmental testing firm in the United States. Operations include a nationwide network of more than 80 locations delivering innovative technical expertise and comprehensive analytical testing services. Through continued investment in people, technology, capital equipment, and infrastructure, TestAmerica has developed an unprecedented combination of resources, experience, and testing capabilities. With nearly 2,400 industry professionals, TestAmerica is well positioned to support clients in both the public and private sector. TestAmerica has the industry's most unique and innovative solutions to address the most challenging opportunities



**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

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**Our goal:**

**Supporting the Quality You Demand,  
The Consistency You Seek and  
The Value You Expect**