



Georgia Landfills, Inc.  
Button Gwinnett - Arnold Road Landfill

## **Second 2024 Groundwater Monitoring Report**

LAWRENCEVILLE, GEORGIA, 30245

PERMIT #: 067-021D(SL) & 067-037D(SL)

MAY 2024



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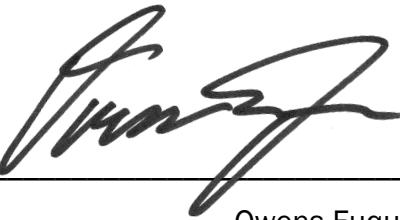
## Certification

I, Chris A. Klamke, certify that I am a qualified groundwater scientist demonstrated by a Georgia state registered professional geologist certification. I have sufficient training and experience in groundwater hydrology and related fields to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport. I further certify that the data in this report have been prepared by me or a subordinate working under my direction. This compliance statement is provided in accordance with the Solid Waste Management Rules of Georgia Chapter 391-3-4-.07(3)(v). As documented in this report, no verified detected constituents were reported at concentrations greater than established standards.



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Chris A. Klamke, P.G.  
Georgia P.G. Registration Number 1635



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Owens Fuquea  
Project Manager

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## **SECTION 1: INTRODUCTION**

On behalf of Georgia Landfills, Inc., Atlantic Coast Consulting, Inc. (ACC) is providing this second 2024 Groundwater Monitoring Report for the Button Gwinnett – Arnold Road Landfill, Permit Numbers 067-021D(SL) and 067-037D(SL). The purpose of this report is to provide a summary and evaluation of the results of the recent groundwater and surface water monitoring event which occurred on October 23-28, 2024, which is required by the Georgia Environmental Protection Division (EPD) Rules for Solid Waste Management 391-3-4-.14. This report includes a professional geologist certification and compliance statement, summary of site conditions, description of sampling and analysis, potentiometric map based on groundwater level measurements recorded for this event, determination of groundwater flow rate and direction, summary of analytical results, and statistical analysis of the analytical data.

## **SECTION 2: BACKGROUND**

### **2.1 Site Description**

Button Gwinnett – Arnold Road Landfill is owned and operated by Chadwick Georgia Landfills, Inc., located at 70 Arnold Road, Lawrenceville, Ga 30245 in Gwinnett County. The facility is permitted by the Georgia Environmental Protection Division (EPD) and ceased accepting waste 1999 and received a closure certificate in March 2000. The site includes approximately 60 acres of permitted footprint with additional buffer.

The groundwater monitoring program at Button Gwinnett Landfill incorporates monitoring wells and protocols, designed to provide early information regarding potential environmental protection issues during the landfill's post-closure period. Field work, sampling methodologies, data evaluation, data quality assurance/quality control (QA/QC), chemical analysis, and statistical analysis were conducted in accordance with the October 1996 EPD-approved Groundwater-Monitoring Plan for Button Gwinnett Landfill (GWMP), the Assessment Monitoring Plan (AMP) submitted to EPD as a permit minor modification in December 2003, and the Georgia Rules for Solid Waste Management, Chapter 391-3-4-.14. Site maps depicting major site features, groundwater monitoring well locations, surface water monitoring locations, and potentiometric surface contours are presented on Figures 1 and 2.

### **2.2 Hydrogeology**

The site is located in the Piedmont physiographic province. The uppermost groundwater occurs in saturated saprolite and shallow bedrock. However, as typical of the Georgia Piedmont, the saprolite and uppermost bedrock at the site are hydraulically interconnected and together comprise a single unconfined aquifer system.

Hydraulic conductivity for the saprolite ranges from 0.32 to 14 feet per day, based on calculations from aquifer "slug" tests performed at selected monitoring wells at the site, as described in the GWMP.

Historically, groundwater flows predominantly east towards the Yellow River. Figure 1 depicts the shallow potentiometric surface and Figure 2 the bedrock potentiometric surface at the site based on groundwater elevations for this event.

## SECTION 3: MONITORING PROGRAM

### 3.1 Groundwater Overview

Groundwater conditions at the facility are monitored by nineteen groundwater monitoring wells and two sentinel wells completed in the uppermost aquifer. The monitoring network consists of:

- Two upgradient monitoring wells (GWA-1A and GWA-2A)
- Fifteen downgradient or sidegradient detection monitoring wells (GWB-2, GWB-3, GWC-1AR, GWC-2A, GWC-2RA, GWC-3A, GWC-3RA, GWC-6A, GWC-7AR, GWC-8A, GWC-8R, GWC-9A, GWC-10, GWC-12A, and GWC-13)
- Two downgradient assessment monitoring wells (GWC-5A and GWC-11)
- Two sentinel wells (OW-2RR and OW-3RR)

Detection and assessment monitoring wells are sampled semi-annually for Appendix I (as per 40 CFR part 258, Subpart E) volatile organic compounds (VOC), metals, and detected Appendix II analytes. Assessment monitoring wells are sampled for the full Appendix II analyte list during the second event, triennially.

Upgradient monitoring well GWA-2A is utilized as a background assessment monitoring well for detected and statistically verified Appendix II specific parameters (currently none) during assessment monitoring events.

Additionally, there are six sentinel wells (OW-1, OW-2RR, OW-3RR, OW-4, OW-5D, and OW-6D) which are not part of the monitoring network. Sentinel wells OW-2RR and OW-3RR are sampled annually to provide additional data to evaluate monitored natural attenuation (MNA) progress and changes in downgradient groundwater quality. The other sentinel wells are utilized for measurements of groundwater elevations and voluntary monitoring of MNA progress and/or changes in downgradient groundwater quality. No VOCs have been detected at the sentinel locations since early 2001.

In accordance with the CAP, two assessment monitoring wells (GWC-5A and GWC-11), two sentinel wells (OW-2RR and OW-3RR), and one detection monitoring well (GWA-1A) are sampled for MNA parameters, including: dissolved oxygen (DO), oxidation-reduction potential (ORP), nitrate (NO<sub>3</sub>), ferrous iron, sulfate (SO<sub>4</sub>), chloride (Cl), and alkalinity, annually in conjunction with the assessment monitoring event. WM may collect additional geochemical indicator parameters at their discretion.

Semi-annual surface water monitoring is performed at four locations: SWB-1, SWC-1, SWC-2, and SWC-3. Each surface water monitoring location is sampled for total metals, chemical oxygen demand (COD), chloride, total cyanide, and total organic carbon. The Phase III underdrain, designated as GWB-1, is sampled semi-annually for the Appendix I parameter list. The monitoring schedule for groundwater and surface water is detailed in Table A.

#### 3.1.1 Monitoring Program Background

In the early 1990s, prior to routine groundwater monitoring, VOCs were first detected in groundwater downgradient to the former maintenance area, which was remediated by excavating the impacted soils. There may be remnant groundwater impacts from the former maintenance area as well as from an alternative off-site source to the west (an adjacent property where fuel tanks and construction equipment have been stored).

Groundwater sampling for the currently approved groundwater monitoring network began following well installation in July 1995. The first and second groundwater sampling reports, submitted by

MidAmerican Waste in 1997, indicated VOC concentrations continued to exceed background in samples from four downgradient monitoring wells (GWC-1A<sup>1</sup>, GWC-2RA, GWC-5A, and GWC-11) as documented in a letter from EPD dated July 14, 1997. Following this letter, assessment monitoring and investigations were initiated under the updated groundwater monitoring plan. Background sampling for inorganic parameters in the approved groundwater monitoring network also began in 1997.

The CAP for the facility was prepared in July 2004 by Jordan, Jones, & Goulding and approved for implementation by EPD in a letter dated August 19, 2004. A five-year post closure and preliminary MNA report was submitted to EPD in a letter dated August 30, 2005. The report demonstrated that MNA and gas system optimization have been successful in reducing groundwater impacts to date and that those programs should be maintained. EPD concurred with this approach in their letter dated September 16, 2005. A CAP Effectiveness Evaluation Report is completed every five years and was most recently submitted to EPD by Atlantic Coast Consulting, Inc. (ACC) on July 30, 2020<sup>2</sup>.

Assessment monitoring is conducted at the facility in response to detected organic compounds in samples collected from groundwater monitoring wells at concentrations statistically higher than background concentrations. In accordance with the AMP, Appendix II exclusive constituents detected in assessment monitoring wells during the full Appendix II assessment event are first resampled and statistically verified for the individual well. If the Appendix II exclusive constituent is statistically verified, the AMP requires that this constituent be added to the analyte list for the site monitoring wells for the subsequent sampling event. In accordance with the AMP, if two consecutive events statistically verify non-exceedances of pre-assessment background, the Director will be notified, Table A will be updated, and the wells (or site) will return to detection monitoring. The corresponding Appendix II specific parameters will then be removed from the analyte list for the detection wells.

Network monitoring wells were sampled for Appendix I parameters. Monitoring wells GWA-1A, GWC-5A, and GWC-11 were sampled for the full list of Appendix II parameters in accordance with the AMP. Monitoring wells GWA-1A, GWA-2A, GWC-5A, GWC-11, and GWC-12A were sampled for MNA parameters plus additional geochemical indicator parameters at WM's discretion. Surface water monitoring locations were sampled for the permit-required list of analytes and the underdrain location was sampled for Appendix I parameters. Table A, the Groundwater Monitoring Schedule, is updated each event and included in this report.

On August 17, 2022, a minor modification was approved by EPD to reduce the frequency of Appendix II sampling from annual to triennial and no longer collect equipment blanks or duplicates. The next full appendix II event is scheduled for the second 2027 event.

### **3.2 Sampling Procedures**

Field activities were performed by personnel from ACC's Alpharetta, Georgia office. Depths to groundwater were measured and recorded for monitoring wells on October 23, 2024. Groundwater samples were collected from the detection and assessment monitoring network wells starting October 23-28, 2024. All samples were submitted to the laboratory for chemical analysis within laboratory analytical holding times.

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<sup>1</sup> GWC-1A was replaced by GWC-1AR in September 2000.

<sup>2</sup> GEOS Submittal ID: 488685

Prior to well purging, ACC measured and recorded depth to water to the nearest hundredth of a foot from a surveyed reference datum (top of PVC casing). Depth to water measurements were used to prepare groundwater potentiometric surface maps and to estimate the hydraulic gradient at the site.

Dedicated QED Well Wizard pumps are installed in groundwater monitoring network wells at Button Gwinnett Landfill. The QED pumps were used in conjunction with a Purge Saver, which is an inline purge cell that allows constant field parameter monitoring. This sampling method purges groundwater at a constant rate from a limited area of well screen near the pump intake.

The sentinel wells do not have dedicated pumps. The sentinel wells sampled during this event were purged and sampled with a peristaltic pump and disposable Teflon™ lined tubing, using Low-Flow (Minimal Drawdown) purging techniques. Each well was purged to field parameter stabilization, and minimal drawdown flow conditions were achieved.

Following purging, samples were collected from the wells in accordance with the GWMP. During sampling, field parameters, including pH, temperature, turbidity, and specific conductance, were recorded on a field sampling log. The groundwater samples were collected from the discharge tube (prior to the flow-through cell) into laboratory-provided containers and placed into laboratory-provided coolers. The samples were then shipped to Geochemical Testing under chain-of-custody documentation. The sample purge data summaries for each well at the site and the chains-of-custody are presented in Appendix A.

Samples from surface water locations SWB-1, SWC-1, SWC-2, and SWC-3 and underdrain location GWB-1 were collected October 23 and 28, 2024. The surface water samples were collected by partially submerging the sample container into the flow with the container opening pointed downstream.

### **3.3 Laboratory Methodology & Certification**

The analytical data contained within this report were provided by an approved commercial laboratory (per Chapter 391-3-26-05) and in accordance with Georgia state law (O.C.G.A. 12-2-9). The accreditation information is as follows:

Laboratory: Geochemical Testing, Somerset, Pennsylvania

Accreditation Agency: National Environmental Laboratory Accreditation Program (NELAP)

Accreditation ID: 56-00306 (PA Lab ID)

Scope: Potable, Non-Potable, Solid and Chemical Materials.

## **SECTION 4: DISCUSSION OF SAMPLING RESULTS**

Groundwater monitoring results were evaluated in accordance with the Georgia Rules for Solid Waste Management, Chapter 391-3-4-14. This evaluation was accomplished by observing physical and analytical data collected during the groundwater monitoring event. Physical data includes groundwater elevations utilized to evaluate the direction and flow rate in the uppermost groundwater unit.

Detected VOC and metals concentrations are compared to groundwater protection standards (GWPS). These comparison standards are U.S. Environmental Protection Agency (USEPA) maximum contaminant levels (MCLs). For analytes that have no established MCL, Alternate Groundwater Protection Standards (AGWPS) were established during the ACM/CAP process based on the USEPA Region III Generic Risk Based Concentrations (RBCs) for tap water. Although this table has been superseded by the Regional Screening Level table, the RBC list will continue to be referenced because it was the approved source of AGWPS.

Analytical laboratory data was evaluated using Combined Shewhart-CUSUM Control Charts and 95% lower confidence limit (LCLs) in accordance with the statistical plan. The data were also compared to MCLs in accordance with 40 Code of Federal Regulations (CFR) 258, Subpart E and AGWPS as established.

#### **4.1 Hydraulic Gradient & Flow Velocity**

The depth to groundwater measurements recorded by ACC during the sampling event were used to calculate potentiometric elevations relative to mean sea level (National Geodetic Vertical Datum of 1929) and develop two potentiometric surface maps. The depth to water measurements collected during this event are provided in Table 1 along with the calculated groundwater elevations. The shallow potentiometric surface map is presented as Figure 1 and a bedrock potentiometric surface map is presented as Figure 2.

The groundwater elevations for this event are consistent with the historical flow direction and gradient. Groundwater flows towards the Yellow River, which meanders east and south of the landfill, with an average hydraulic gradient of approximately 3.8 percent. As is typical in the Piedmont physiographic province, the Yellow River is the probable groundwater discharge area for shallow groundwater at the facility. The calculated average groundwater flow velocity through the saprolite aquifer is approximately 0.63 feet per day or 231 feet per year. Calculations for the groundwater flow rate and direction at Button Gwinnett Landfill are provided in Table 1.

#### **4.2 Groundwater**

The groundwater analytical results for samples collected from Button Gwinnett Landfill were compared to the GWPS for each constituent. Table 2A summarizes Appendix I metals detections in groundwater from the current event. Table 2B summarizes organic compound detections in groundwater from the previous six years, from April 2019 through the current event. Analytical groundwater data are included in Appendix B.

##### **4.2.1 Inorganic Constituents**

No metals were reported at a concentration above a GWPS from samples collected this event. Barium, cobalt, vanadium, and zinc had reported concentrations above laboratory established reporting limits; however, these constituents are naturally occurring in Georgia soils and do not result from landfill impact. An unverified detection of vanadium in monitoring well GWC-12A will be reevaluated during the next monitoring event.

##### **4.2.2 Organic Compound Results**

No VOC concentration exceeded a GWPS in samples collected during this event. Only the verified compound chlorobenzene (GWC-5A and GWC-11) was reported at concentrations above the laboratory established reporting limits.

Historical data indicates chlorinated ethene series compounds reported in samples collected from GWC-5A may result from localized changes in groundwater elevation or flow associated with either a 2004 rain event (elevated chloride concentrations were observed in samples from GWC-1AR at that time) or retention pond construction north of the site. Recent VOC concentrations in downgradient wells (including OW-2RR) have been non-detect, indicating that the organic compound detections in GWC-5A samples continue to be delineated within the property boundary. Chlorinated ethene series compounds have exhibited a long-term downward trend. Notably, neither cis-1,2-dichloroethene nor vinyl chloride were detected in the sample from GWC-5A nor 1,4-dichlorobenzene from GWC-11 during

this event. The facility continues to collect additional parameters to further evaluate VOC detections in these wells.

VOC trends in GWC-11 continue to show substantial improvement compared to historical data. No methane (0% by volume) was detected in the well headspace measurement at the time of sampling. GWC-11 will continue to be monitored during the routine quarterly methane monitoring events.

Since October 2006, MNA and additional geochemical indicator parameter data have been collected from monitoring wells GWA-1A, GWC-5A, GWC-11, and sentinel wells OW-2RR and OW-3RR to better evaluate potential factors affecting the VOC concentrations. MNA data results from the second 2024 event are presented in Table 2C.

#### **4.3 Surface Water**

The surface water analytical results are generally consistent with past sampling events. Surface water monitoring locations SWB-1, SWC-1, SWC-2, and SWC-3 and underdrain GWB-1 were sampled for the permit-required analyte list. Surface water results are summarized in Table 3. Analytical surface water data are included in Appendix B.

### **SECTION 5: STATISTICAL ANALYSIS**

According to EPD's Rules for Solid Waste Management, a determination must be made as to if there is a statistically significant increase (SSI) over background values for each constituent that is part of the groundwater monitoring program.

#### **5.1 Statistical Methodology**

Otter Creek Environmental Services, L.L.C. completed the statistical evaluation, on behalf of WM, for the groundwater analytical data collected from Button Gwinnett Landfill using combined Shewhart-CUSUM Control Charts and the DUMPStat statistical analysis computer model. The program also screens for historical trends using Sen's slope trend test. The 95% LCLs are calculated for confirmed VOC detections in assessment wells.

Groundwater data collected from 1996 through 2006 were used to establish background concentrations for site wells. Network wells have the minimum, eight rounds of background data required for inclusion in statistical analysis. If a parameter is not detected at least 25% of the time, control charts cannot be generated. In these situations, a 99% confidence non-parametric prediction limit is calculated. To reach a 99% confidence level, a minimum of twelve rounds of data are necessary. The two sentinel wells, OW-2RR and OW-3RR, are part of the corrective measures program and are not statistically evaluated. Data from these wells are used to evaluate any potential downgradient impacts.

The Button Gwinnett statistical analysis plan, based on a 1998 evaluation by Dr. Robert Gibbons, is used to evaluate analytical data collected from the site. The plan states that intra-well evaluation using combined Shewhart-CUSUM Control Charts is the statistical method most sensitive to a release. Using combined Shewhart-CUSUM Control Charts minimizes the false negative rates and false positive rates associated with inter-well comparisons. Statistical VOC analysis is performed in accordance with the EPD approved AMP for the facility. The AMP describes a procedure by which 95% Lower Confidence Limits (LCLs) are calculated for confirmed VOCs and are in turn compared to Federal Primary Drinking Water standards (i.e., MCLs).

The statistical calculations and report completed in November 2023 are included as Appendix C.

## 5.2 Detection Monitoring Well Statistics

### 5.2.1 Inorganic Compounds

There were no verified statistical threshold exceedances triggered by metals concentrations in detection monitoring wells this event. A verified statistical exceedance was identified for the CUSUM value of barium in GWA-2A. However, the actual concentration did not exceed the limit; therefore, it is not considered statistically significant.

### 5.2.2 Organic Compounds

No organic compounds were detected above PQLs in detection monitoring wells during this event.

## 5.3 Assessment Monitoring Well Statistics

### 5.3.1 Inorganic Compounds

There is a verified control limit exceedance identified for the CUSUM value of cobalt in the sample from GWC-5. However, the actual concentration did not exceed the limit; therefore, it is not considered statistically significant.

Monitoring wells GWC-5A and GWC-11 are in the assessment monitoring program due to verified statistically significant increases (SSIs) for VOC concentrations. There were no verified exceedances identified for metals concentrations from assessment well samples.

### 5.3.2 Organic Compounds

A 95% LCL is calculated for organic compounds with confirmed detections in assessment monitoring wells using the historically detected concentrations. Statistically verified organic compound detections were identified in samples from assessment monitoring wells GWC-5A (chlorobenzene) and GWC-11 (chlorobenzene). The calculated 95% LCL values for these verified detections were compared to relevant GWPS. Based on this comparison, no LCL level exceeds a relevant GWPS. Historically, there have been exceedances of the upper confidence limit (UCL) identified for vinyl chloride in samples from GWC-5A. No statistically verified organic compound currently exceeds the UCL. A summary of the comparisons is provided in Table 4.

## SECTION 6: SUMMARY AND RECOMMENDATIONS

Overall, VOC concentrations have declined over time due to previously documented corrective actions (most recently in the 2020 CAP Effectiveness Evaluation Report). No verified VOCs were detected at concentrations above GWPS in samples collected this event. Historically, 95% LCL/UCL levels for VOCs in samples from GWC-5A have statistically exceeded one or more GWPS, but there were no 95% LCL/UCL exceedances during this event. This well will continue to be addressed by the CAP until a sustained compliance trend is established and no exceedances of 95% UCL levels are reported. Additionally, 1,4-dichlorobenzene was not detected in GWC-11 this event.

No inorganic constituents were detected at concentrations above GWPS in samples collected during this event

The groundwater flow rate and direction are consistent with previous events. The surface water quality is generally consistent with past sampling events. Monitoring will continue in accordance with the approved plan. The next sampling event is tentatively scheduled for April 2025.

## SECTION 7: REFERENCES

Earth Systems Group, 1996. *Ground-Water Monitoring Plan for Button Gwinnett Landfill* (Arnold Road Landfill) prepared for Mid-American Waste Systems, by Earth Systems Group, Inc. September 6, 1995, Revised July 30, 1996.

Promus Engineering, 2022. "Re: Groundwater Monitoring Plan Permit Minor Modification" – Button Gwinnett Landfill. Promus Engineering. March 7, 2022. Approved by EPD on August 17, 2022. GEOS Submittal ID: 645768.

ACC, 2020. *First 2022 Semi-Annual Groundwater & Surface Water Monitoring Report*, Georgia Landfills, Inc. Button Gwinnett – Arnold Road Landfill. Atlantic Coast Consulting, Inc. June 8, 2020.

## **TABLES**

**Table A**  
**Groundwater Monitoring Schedule**  
**Button Gwinnett MSWLF**



Well ID	Type	Status	Spring	Fall
			Semi-Annual List	Annual List
GWA-1A*	Upgradient/Background	Detection	Appendix I	Appendix I + MNA
GWA-2A	Upgradient/Background	Detection	Appendix I	Appendix I
GWB-2	Sidegradient	Detection	Appendix I	Appendix I
GWB-3	Sidegradient	Detection	Appendix I	Appendix I
GWC-1AR	Downgradient	Detection	Appendix I	Appendix I
GWC-2A	Downgradient	Detection	Appendix I	Appendix I
GWC-2RA	Downgradient	Detection	Appendix I	Appendix I
GWC-3A	Downgradient	Detection	Appendix I	Appendix I
GWC-3RA	Downgradient	Detection	Appendix I	Appendix I
GWC-5A*	Downgradient	Assessment	Appendix I	Appendix I + MNA
GWC-6A	Downgradient	Detection	Appendix I	Appendix I
GWC-7AR	Downgradient	Detection	Appendix I	Appendix I
GWC-8A	Downgradient	Detection	Appendix I	Appendix I
GWC-8R	Downgradient	Detection	Appendix I	Appendix I
GWC-9A	Downgradient	Detection	Appendix I	Appendix I
GWC-10	Downgradient	Detection	Appendix I	Appendix I
GWC-11*	Downgradient	Assessment	Appendix I	Appendix I + MNA
GWC-12A	Downgradient	Detection	Appendix I	Appendix I
GWC-13	Downgradient	Detection	Appendix I	Appendix I

OW-1	Horizontal Delineation	Sentinel	Water-Level Only	Water-Level Only
OW-2RR*	Horizontal Delineation	Sentinel	Appendix I	Appendix I + MNA
OW-3RR*	Horizontal Delineation	Sentinel	Appendix I	Appendix I + MNA
OW-4**	Horizontal Delineation	Sentinel	Appendix I	Appendix I
OW-5D	Vertical Delineation	Sentinel	Water-Level Only	Water-Level Only
OW-6D^	Vertical Delineation	Sentinel	Evaluation	Evaluation

**Notes:** Appendix I includes the Appendix I list specified in 40 CFR 258, Subpart E.

Appendix II includes the Appendix II list specified in 40 CFR 258, Subpart E.

Full Appendix II monitoring is conducted triennially. The next full Appendix II event is scheduled for 2nd 2024.

Any constituent specific to Appendix II detected in a site well during the triennial full All event will be analyzed in all wells during the next semi-annual event.

Assessment Wells: If after two consecutive monitoring events, Appendix II constituents are not detected above background or the relevant laboratory reporting limit, then that well will return to detection monitoring.

Detection Wells: If any Appendix I constituents are detected and statistically verified above background, then that well will enter into assessment monitoring (after an alternate source demonstrations, if conducted). Additional samples will be collected as required by the AMP.

The site may collect additional indicators at their discretion (e.g. TOC, COD, anions, cations, ammonia, etc.).

\* Monitored at least annually for Monitored Natural Attenuation (MNA) parameters dissolved oxygen, ferrous iron, oxidation-reduction potential, chloride, nitrate, sulfate, and total alkalinity.

\*\* Samples are collected from OW-4 only if groundwater monitoring well GWA-2A is dry.

^ OW-6D is voluntarily sampled for MNA plus select geochemical indicators semi-annually for evaluation purposes.

**Table 1**  
**Groundwater Flow Rate Calculation**  
**Button Gwinnett MSWLF**



Equation

$$v = \frac{k (dh/dL)}{P_e}$$

where:  $v$  = ground water velocity  
 $k$  = hydraulic conductivity  
 $dh/dL$  = hydraulic gradient  
 $P_e$  = effective porosity

Values Used in Calculation

	Value	Source
$k =$	4.2 ft/day	see note 1
$dh/dL =$	0.032 unitless 0.043 0.038	GWC-1AR to GWC-5A GWB-3 to GWC-8R AVERAGE
$P_e =$	0.25 unitless	see note 2

Calculation

$$v = \frac{4.2 (0.032)}{0.25} = 0.63 \text{ ft/day}$$

231 ft/yr

Notes

1) Reference: Groundwater Monitoring Plan for Button Gwinnett Landfill (Arnold Road Landfill), July 1996.

**Table 2A**  
**Appendix I Metals in Groundwater Detection Summary**  
**Button Gwinnett MSWLF**



Well ID	Barium (mg/L)	Cobalt (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
<b>MCL or AGWPS</b>	<b>2.0</b>	<b>0.73*</b>	<b>0.037*</b>	<b>11*</b>
GWA-1A	0.06	0.006	--	--
GWA-2A	0.07	--	--	--
GWB-2	0.09	0.024	--	--
GWB-3	0.04	--	--	--
GWC-1AR	0.07	0.006	--	--
GWC-2A	0.13	--	--	--
GWC-2RA	0.04	0.007	--	--
GWC-3A	0.12	--	--	0.1
GWC-3RA	0.1	--	--	--
GWC-5A	0.2	0.015	--	--
GWC-6A	0.07	--	--	0.42
GWC-7AR	0.06	--	--	--
GWC-8A	0.03	--	<u>0.007</u>	--
GWC-8R	0.06	--	--	--
GWC-9A	DRY			
GWC-10	0.01	--	--	--
GWC-11	0.12	--	--	5.4
GWC-12A	0.05	--	<u>0.005</u>	--
GWC-13	0.02	--	--	--
OW-2RR	0.19	--	--	--
OW-3RR	0.02	--	--	--

**Notes:** Groundwater samples collected by ACC on October 23-24, 28, 2024.

Dash (--) indicates analyte was not detected above laboratory established reporting limits.

Bold values indicate exceedances of the maximum contaminant levels (MCL).

Underlined values are current detections that are considered statistically unverified.

\* Indicates that no EPA MCL exists and an alternate GWPS is referenced; AGWPS established within ACM/CAP.

**Acronyms:** MCL = GA Maximum Contaminant Level (Rule 391-3-5-.18 (1))

mg/L = milligrams per liter.

**Table 2B**  
**Organic Compounds in Groundwater Detection Summary**  
**Button Gwinnett MSWLF**



Well & Constituents	Apr-19	Oct-19	Apr-20	Oct-20	Apr-21	Oct-21	Apr-22	Oct-22	Apr-23	Oct-23	Apr-24	Oct-24	Groundwater Protection Standard	
													MCL	
<b><u>GWC-5A:</u></b>														
Chlorobenzene	--	3.7	3.4	4.0	2.7	3.0	2.4	3.4	2.4	3.4	2.8	3.1	--	100
<b><u>GWC-11:</u></b>														
1,4-Dichlorobenzene	20	18	21.4	28.2	28.5	27.4	27.4	20.0	15.5	17.0	11.5	--	--	75
Chlorobenzene	17	19	22.1	31.5	24.4	21.8	17.5	13.7	12.6	17.3	4.9	2.5	--	100

**Notes:** Groundwater samples collected by ACC on October 23-24, 28, 2024.

Constituents not detected during the three most recent events are not shown.

Concentrations and standards reported in micrograms per liter ( $\mu\text{g}/\text{L}$ ).

Dash (--) indicates analyte was not detected above laboratory established reporting limits.

Values shown in boldface type exceed applicable standard.

Underlined values are detections that are considered statistically unverified.

**Acryonyms:** MCL = GA Maximum Contaminant Level (Rule 391-3-5-18 (1))

**Table 2C**  
**Monitored Natural Attenuation Data Summary**  
**Button Gwinnett MSWLF**



Well ID	Cations*					Anions				General Chemistry							
	Calcium (mg/L)	Magnesium (mg/L)	Iron (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Total Alkalinity (mg/L as CaCO <sub>3</sub> )	Chloride (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Ammonia (mg/L)	Dissolved Oxygen (mg/L)	Ferrous Iron (mg/L)	ORP (rel. mV)	pH (S.U.)	Total Organic Carbon (mg/L)	Total Dissolved Solids (mg/L)	
MNA Parameter Well Subset																	
GWA-1A	3.1	1.59	0.55	1.2	4.3	19	5.7	1.18	-	0.9	2.0	100	5.46	-	40		
GWA-2A	NA	NA	NA	NA	NA	10	4.8	7.73	-	-	1.0	0.0	163	5.53	NA	78	
GWC-5A	44.1	6.24	5.02	2.3	22.8	178	18.7	-	3.3	-	0.5	2.4	-4	5.97	2.4	206	
GWC-11	44.4	12.40	3.59	1.6	13.8	248	13.2	0.34	10.8	-	0.5	4.1	-29	6.14	2.9	256	
GWC-12A	NA	NA	NA	NA	NA	110	1	1.64	6	-	0.6	0.0	106	6.35	NA	170	
OW-2RR	NA	NA	NA	NA	NA	95	13.4	-	-	5.54	0.9	2.5	-129	6.61	NA	92	
OW-3RR	NA	NA	NA	NA	NA	13	1.8	0.2	2.9	-	0.9	2.2	143	5.51	NA	-	
Additional Geochemical Parameter Data**																	
GWB-2	NA	NA	NA	NA	NA	12	4.3	NA	NA	-	0.4	NA	230	4.76	NA	58	
GWB-3	NA	NA	NA	NA	NA	11	1.4	NA	NA	-	2.6	NA	23	4.98	NA	-	
GWC-1AR	NA	NA	NA	NA	NA	82	4.3	NA	NA	0.37	0.9	2.7	-62	5.86	NA	128	
GWC-2A	NA	NA	NA	NA	NA	113	4	NA	NA	3.03	1.9	NA	-106	6.60	NA	96	
GWC-2RA	NA	NA	NA	NA	NA	180	3.2	NA	NA	0.2	0.6	NA	-54	6.50	NA	188	
GWC-3A	NA	NA	NA	NA	NA	63	5.8	NA	NA	3.36	0.9	NA	-37	6.15	NA	80	
GWC-3RA	NA	NA	NA	NA	NA	114	4.1	NA	NA	3.93	0.7	NA	-120	6.56	NA	114	
GWC-6A	NA	NA	NA	NA	NA	61	4.1	NA	NA	1.56	0.5	NA	90	6.44	NA	68	
GWC-7AR	NA	NA	NA	NA	NA	91	3.5	NA	NA	-	0.7	NA	76	6.08	NA	102	
GWC-8A	NA	NA	NA	NA	NA	25	-	NA	NA	0.27	0.6	NA	26	5.91	NA	54	
GWC-8R	NA	NA	NA	NA	NA	89	5	NA	NA	-	0.7	NA	30	6.52	NA	130	
GWC-9A	DRY																
GWC-10	NA	NA	NA	NA	NA	50	15.8	NA	NA	-	0.9	NA	158	5.91	NA	96	
GWC-13	NA	NA	NA	NA	NA	63	3.3	NA	NA	-	1.0	NA	77	5.89	NA	96	

**Notes:** Groundwater samples collected by ACC on October 23-24, 28, 2024.

Units are milligrams per liter (mg/L), except for relative millivolts (rel. mV) for ORP and standard units (S.U.) for pH.

Dash (-) indicates analyte was not detected above laboratory established reporting limits.

\* = Analysis of additional Cations not required by CAP added to select wells at WM's discretion.

\*\* = Analysis of Additional Geochemical Data from Compliance Wells added at WM's discretion.

**Acronyms:** ORP = oxidation reduction potential

NA = Not analyzed.

**Table 3**  
**Surface Water Detection Summary**  
**Button Gwinnett MSWLF**



Indicator Parameters (Units)	GWB-1	SWB-1	SWC-1	SWC-2	SWC-3
Chloride (mg/L)	46.6	23.7	6.3	6.4	6.2
Temperature (°C)	28.1	16.7	16.8	16.7	16
pH (S.U.)	6.20	6.73	6.44	6.72	6.82
Specific Conductance ( $\mu\text{mhos}/\text{cm}$ )	433	227	106	105	109
Dissolved Oxygen (mg/L)		6.1	6.7	6.5	5.8
Chemical Oxygen Demand (mg/L)	NA	19	11	10	11
Total Organic Carbon (mg/L)	NA	4.9	2.8	2.9	2.9
<b>Metals (Units)</b>					
Barium (mg/L)	0.13	0.03	0.03	0.04	0.03

**Notes:** Surface water samples collected by ACC on October 23, 2024.

Dash (-) indicates analyte was not detected above laboratory established reporting limits.

Underlined values are detections that are considered statistically unverified.

**Acronyms:** °C = Degrees Celsius.

S.U. = Standard Units.

$\mu\text{mhos}/\text{cm}$  = micromhos per centimeter.

NA = Not analyzed; not required.

mg/L = milligrams per liter.

**Table 4**  
**Assessment Statistical Results**  
**Button Gwinnett MSWLF**



Groundwater Well	Organic Parameters	Measured Concentration	95% LCL ( $\mu\text{g}/\text{L}$ )	95% UCL ( $\mu\text{g}/\text{L}$ )	GWPS ( $\mu\text{g}/\text{L}$ )
GWC-5A	Chlorobenzene	3.1	2.4	3.4	100
GWC-11	1,4-Dichlorobenzene	ND	3.7	19.4	75
	Chlorobenzene	2.5	1.3	17.4	100

**Notes:** 95% LCL is not calculated for constituents that are not considered statistically verified.

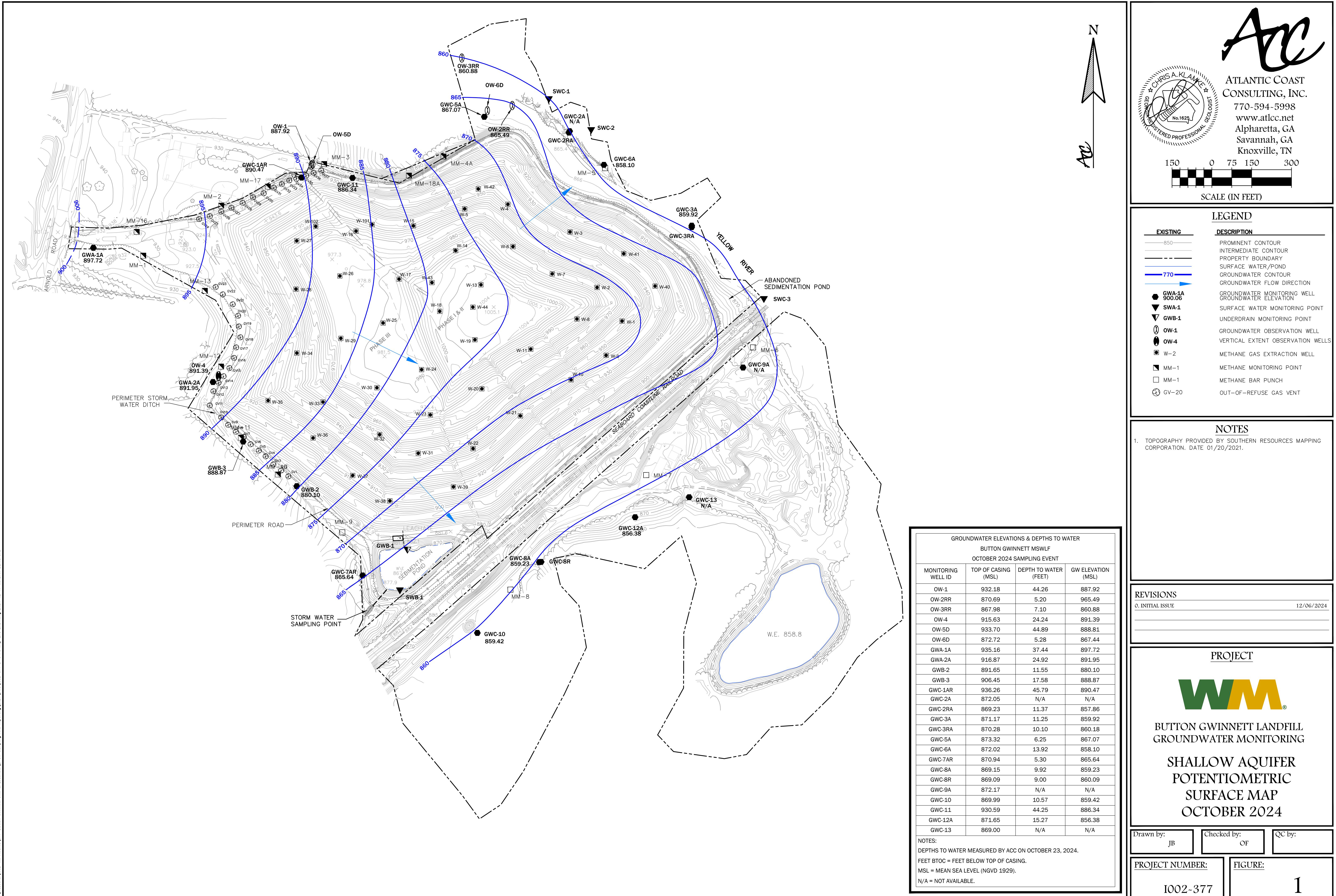
Italics = MCL not established; therefore, AGWPS referenced.

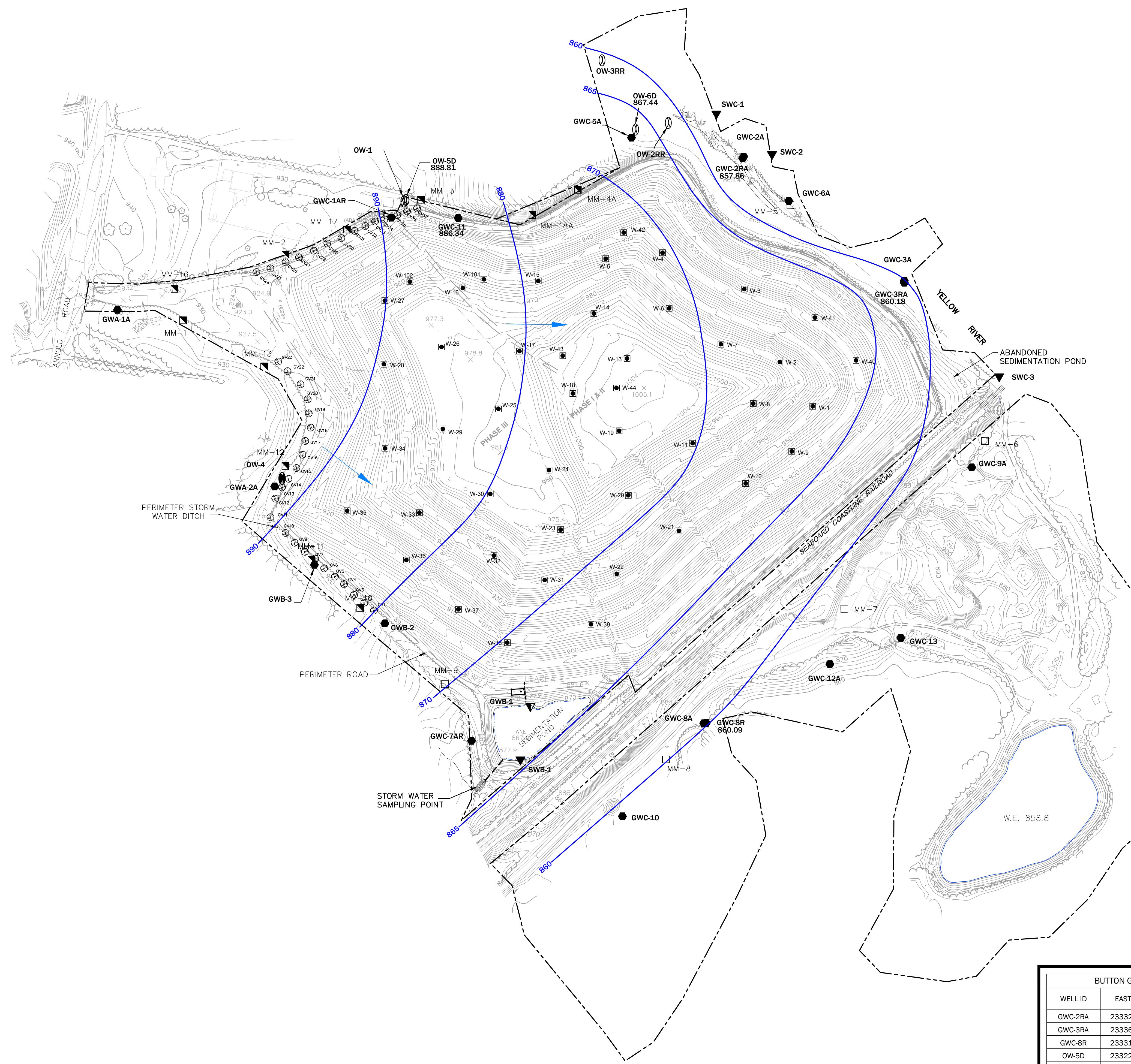
Bold values indicate 95% LCL/UCL concentrations that exceed the GWPS.

ND = not detected above laboratory reporting limit.

All units are shown in micrograms per liter ( $\mu\text{g}/\text{L}$ ).

## **FIGURES**





BUTTON GWINNETT MSWL DEEP AQUIFER GROUNDWATER ELEVATIONS					
WELL ID	EASTING	NORTHING	TOC ELEVATION (MSL)	DEPTH TO WATER (FEET BTOP)	GW ELEVATION (MSL)
GWC-2RA	2333222.3	1427809.0	869.23	11.37	857.86
GWC-3RA	2333684.9	1427452.2	870.28	10.10	860.18
GWC-8R	2333110.8	1426190.0	869.09	9.00	860.09
OW-5D	2332255.1	1427689.4	933.70	44.89	888.81
OW-6D	2332873.3	1427867.8	872.72	5.28	867.44

NOTES:  
DEPTHS TO WATER MEASURED BY ATLANTIC COAST CONSULTING, INC. ON OCTOBER 23, 2024.  
FEET BTOP = FEET BELOW TOP OF CASING.  
MSL = MEAN SEA LEVEL (NGVD 1929).



#### LEGEND

EXISTING	DESCRIPTION
850	PROMINENT CONTOUR
—	INTERMEDIATE CONTOUR
PROPERTY BOUNDARY	PROPERTY BOUNDARY
—	SURFACE WATER/POND
—	GROUNDWATER CONTOUR
—	GROUNDWATER FLOW DIRECTION
GWA-1A 900.06	GROUNDWATER MONITORING WELL
SWA-1	GROUNDWATER ELEVATION
GWB-1	SURFACE WATER MONITORING POINT
MM-1	UNDERDRAIN MONITORING POINT
MM-1	GROUNDWATER OBSERVATION WELL
W-2	VERTICAL EXTENT OBSERVATION WELLS
MM-1	METHANE GAS EXTRACTION WELL
MM-1	METHANE MONITORING POINT
GV-20	METHANE BAR PUNCH
GV-20	OUT-OF-REFUSE GAS VENT

#### NOTES

1. TOPOGRAPHY PROVIDED BY SOUTHERN RESOURCES MAPPING CORPORATION. DATE 01/20/2021.

#### REVISIONS

O. INITIAL ISSUE	12/06/2024

#### PROJECT



BUTTON GWINNETT LANDFILL  
GROUNDWATER MONITORING

## DEEP AQUIFER POTENIOMETRIC SURFACE MAP OCTOBER 2024

Drawn by: JB      Checked by: OF      QC by:

PROJECT NUMBER: IO02-377      FIGURE: 2

## **APPENDICES**

**APPENDIX A**

**LOW-FLOW PURGE DATA SUMMARIES**

# LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
 County: GWINNETT  
 Permit No.: 067-021D(SL) & 067-031(SL)  
 Date: 10-23-24  
 Sampler(s): DAN ARMOUR  
 Company: ACC

Well ID: GWA-1A  
 GW Vel.<sup>1</sup>:  
 Pump<sup>2</sup>: DEDICATED  
 Intake Vel.<sup>3</sup>:  
 Samp. Device: BLADDER PUMP  
 Tubing Type: TEFLON

Elevations (above MSL):	
TOC:	<u>935.16</u>
BOC:	<u>984.06</u>
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	<u>897.72</u>

Time	pH*	T*	SC	ntu	ORP	DO	DTWd	Vol	Comments
0711							37.44		
0721	5.42	16.9	79	3.47	106	1.1		1.00	BEGIN PURGE: 0.10 gpm
0724	5.44	16.9	76	3.81	104	1.0		1.30	
0727	5.44	16.9	75	3.42	102	1.0		1.60	
0730	5.46	16.9	72	3.66	100	0.9	37.90	1.90	
0731	SAMPLE	GWA-1A							CLEAR, NO COLOR
Stability Goal:	+/- 0.1	-	+/- 3%	10%	+/- 10 mv	10%			(for 3 consecutive readings)

Other comments:

PERVIOUS IRON: 2.0 mg/l

#### Footnotes:

- \* - Required
- \*\* - Drawdown should not exceed 4"
- <sup>1</sup> - Well-specific; must be determined by hydraulic conductivity testing.
- <sup>2</sup> - Must be dedicated, or installed 48 hrs prior to sampling.
- <sup>3</sup> - Well-specific; should be based on GW velocity and < 1L/min.
- <sup>4</sup> - Pump intake should be located at or slightly above middle of screened interval.

#### Abbreviations:

- TOC - Top of Casing
- BOC - Bottom of Casing
- TOS - Top of Screen
- BOS - Bottom of Screen
- T - Temperature
- SC - Specific Conductance
- ntu - Nephelometric Turbidity Units
- ORP - Oxidation-Reduction Potential
- DO - Dissolved Oxygen

#### Source:

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue. EPA/540/S-95/504.

# LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
 County: GWINNETT  
 Permit No.: 067-021D(SL) & 067-031(SL)  
 Date: 10-23-24  
 Sampler(s): DAN ARMOUR  
 Company: ACC

Well ID: GWA-2A  
 GW Vel.<sup>1</sup>:  
 Pump<sup>2</sup>: DEDICATED  
 Intake Vel.<sup>3</sup>:  
 Samp. Device: BLADDER PUMP  
 Tubing Type: TEFLON

Elevations (above MSL):	
TOC:	916.87
BOC:	866.64
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	891.95

Time	pH*	T*	SC*	ntu*	ORP*	DO*	DTWMS	HGT	DTWSS	Vol.	Comments
1020							24.92				BEGIN PURGE: 0.10 gpm
1030	5.56	20.8	112	1.46	157	1.1				1.00	
1033	5.56	20.8	112	1.93	159	1.0				1.30	
1036	5.54	20.7	112	1.42	161	1.0				1.60	
1039	5.53	20.7	111	1.68	163	1.0	25.61			1.90	
1040	SAMPLE	GWA-2A									CLEAR, NO COLOR
Stability Goal:	+/- 0.1	-	+/- 3%	10%	+/- 10 mV	10%					(for 3 consecutive readings)

Other comments:

PERROUS IRON: 0.6 mg/l

Footnotes:

- \* - Required
- \*\* - Drawdown should not exceed 4"
- 1 - Well-specific; must be determined by hydraulic conductivity testing.
- 2 - Must be dedicated, or installed 48 hrs prior to sampling.
- 3 - Well-specific; should be based on GW velocity and < 1L/min.
- 4 - Pump intake should be located at or slightly above middle of screened interval.

Abbreviations:

- TOC - Top of Casing
- BOC - Bottom of Casing
- TOS - Top of Screen
- BOS - Bottom of Screen

T - Temperature

SC - Specific Conductance

ntu - Nephelometric Turbidity Units

ORP - Oxidation-Reduction Potential

DO - Dissolved Oxygen

Source:

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue. EPA/540/S-95/504.

# LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTER GWINNETT  
County: GWINNETT  
Permit No.: 067-021D(SL) & 067-037 (SL)  
Date: 10-23-24  
Sampler(s): DANNY ARMOUR  
Company: ACC

Well ID:	GWB-1
GW Vel. <sup>1</sup> :	-
Pump <sup>2</sup> :	-
Intake Vel. <sup>3</sup> :	-
Samp. Device:	PERISTALTIC Pump
Tubing Type:	PE

Elevations (above MSL):	
TOC:	NA
BOC:	
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	NA

#### **Other comments:**

GWB-1 IS AN UNDERDRAIN

### **Foolnotes:**

- Required
  - Drawdown should not exceed 4"
  - Well-specific; must be determined by hydraulic conductivity testing.
  - Must be dedicated, or installed 48 hrs prior to sampling.
  - Well-specific; should be based on GW velocity and < 1L/min.
  - Pump intake should be located at or slightly above middle of screened interval

### **Abbreviations:**

- TOC - Top of Casing**  
**BOC - Bottom of Casing**  
**TOS - Top of Screen**  
**BOS - Bottom of Screen**

### T - Temperature

### **SC - Specific Conductance**

#### **ntu - Nephelometric Turbidity Units**

### **ORP - Oxidation-Reduction Potential**

## **DO - Dissolved Oxygen**

**Source:**

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issues, EPA/540/S-95/024.

## LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
County: GWINNETT  
Permit No.: 067-021D(SL) & 067-031(SL)  
Date: 10-23-24  
Sampler(s): DAN ARMOUR  
Company: ACC

Well ID:	GWB-2
GW Vel. <sup>1</sup> :	
Pump <sup>2</sup> :	DEDICATED
Intake Vel. <sup>3</sup> :	
Samp. Device:	BLADDER PUMP
Tubing Type:	TEFLON

Elevations (above MSL):	
TOC:	891.65
BOC:	871.56
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	880.10

### **Other comments:**

PERROUS IRON: 78

### **Foolnotes:**

- Required
  - Drawdown should not exceed 4"
  - Well-specific; must be determined by hydraulic conductivity testing.
  - Must be dedicated, or installed 48 hrs prior to sampling.
  - Well-specific; should be based on GW velocity and < 1L/min.
  - Pump intake should be located at or slightly above middle of screened interval

#### **Abbreviations:**

- TOC - Top of Casing  
BOC - Bottom of Casing  
TOS - Top of Screen  
BOS - Bottom of Screen**

#### T - Temperatur

#### SC - Specific Conductance

#### **NU - Nephelometric Turbidity Units**

#### **ORP - Oxidation-Reduction Potential**

### DO - Dissolved Oxygen

**Source:**

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue, EPA/E420/02-95/01.

# LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
 County: GWINNETT  
 Permit No.: 067-0210 (SL) # 067-037 (SL)  
 Date: 10-23-24  
 Sampler(s): DANNY ARMOUR  
 Company: AGC

Well ID: GW B-3  
 GW Vel.<sup>1</sup>: \_\_\_\_\_  
 Pump<sup>2</sup>: DEDICATED  
 Intake Vel.<sup>3</sup>: \_\_\_\_\_  
 Samp. Device: BLADDER PUMP  
 Tubing Type: TEFLON

Elevations (above MSL):	
TOC:	906.45
BOC:	878.45
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	888.87

Time	pH*	T*	SC*	ntu*	ORP	DO	DTWAS	Vol.	Comments
1110							17.58		
1120	4.93	18.2	23	1.27	23	2.6		1.10	Begin Purge: 0.11 gpm
1123	4.95	18.2	23	1.44	23	2.7		1.43	
1126	4.97	18.2	23	1.70	23	2.6		1.76	
1129	4.98	18.2	23	1.85	23	2.6	17.81	2.09	
1130	SAMPLE		GW B-3						CLEAR, NO COLOR
Stability Goal:	+/- 0.1	-	+/- 3%	10%	+/- 10 mv	+/- 10%			(for 3 consecutive readings)

Other comments:

FERROUS IRON: NR

Footnotes:

- \* - Required
- \*\* - Drawdown should not exceed 4"
- <sup>1</sup> - Well-specific; must be determined by hydraulic conductivity testing.
- <sup>2</sup> - Must be dedicated, or installed 48 hrs prior to sampling.
- <sup>3</sup> - Well-specific; should be based on GW velocity and < 1L/min.
- <sup>4</sup> - Pump intake should be located at or slightly above middle of screened interval.

Abbreviations:

- TOC - Top of Casing
- BOC - Bottom of Casing
- TOS - Top of Screen
- BOS - Bottom of Screen
- T - Temperature
- SC - Specific Conductance
- ntu - Nephelometric Turbidity Units
- ORP - Oxidation-Reduction Potential
- DO - Dissolved Oxygen

Source:

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue, EPA/540/S-95/504.

# LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
 County: GWINNETT  
 Permit No.: 067-021D(SL) & 067-031(SL)  
 Date: 10-23-24  
 Sampler(s): DAN ARMOUR  
 Company: ACC

Well ID: GWC-1AR  
 GW Vel.<sup>1</sup>: \_\_\_\_\_  
 Pump<sup>2</sup>: DEDICATED  
 Intake Vel.<sup>3</sup>: \_\_\_\_\_  
 Samp. Device: BLADDER PUMP  
 Tubing Type: TEFLON

Elevations (above MSL):	
TOC:	936.26
BOC:	
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	890.53

Time	pH*	T	SC	ntu*	ORP	DO	DTW	Vol.	Comments
0820							45.73		
0830	5.83	22.1	272	3.77	-58	1.0		1.20	BEGIN PURGE: 0.12 gpm
0833	5.84	22.1	272	3.96	-59	0.9		1.56	
0836	5.85	22.2	269	4.77	-61	0.9		1.92	
0839	5.86	22.2	269	4.36	-62	0.9	46.35	2.28	
0840	SAMPLE								CLEAR, NONE
Stability Goal:	+/- 0.1	-	+/- 3%	10%	+/- 10 mV	+/- 10%			(for 3 consecutive readings)

Other comments:

PERROUS IRON: 2.7 mg/l

Footnotes:

- \* - Required
- \*\* - Drawdown should not exceed 4"
- 1 - Well-specific; must be determined by hydraulic conductivity testing.
- 2 - Must be dedicated, or installed 48 hrs prior to sampling.
- 3 - Well-specific; should be based on GW velocity and < 1L/min.
- 4 - Pump intake should be located at or slightly above middle of screened interval.

Abbreviations:

- TOC - Top of Casing
- BOC - Bottom of Casing
- TOS - Top of Screen
- BOS - Bottom of Screen
- T - Temperature
- SC - Specific Conductance
- ntu - Nephelometric Turbidity Units
- ORP - Oxidation-Reduction Potential
- DO - Dissolved Oxygen

Source:

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue. EPA/540/S-95/504.

# LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
 County: GWINNETT  
 Permit No.: 067-021D(SL) & 067-031(SL)  
 Date: 10-24-24  
 Sampler(s): DAN ARMOUR  
 Company: ACC

Well ID: GW C - 2A  
 GW Vel.<sup>1</sup>:  
 Pump<sup>2</sup>: DEDICATED  
 Intake Vel.<sup>3</sup>:  
 Samp. Device: BLADDER PUMP  
 Tubing Type: TEFLON

Elevations (above MSL):	
TOC:	872.05
BOC:	
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	④ NA

Time	pH*	T	SC†	ntu‡	ORP§	DO	DTW¶	HW	WS	Vol.	Comments
1218							④ NA				BEGIN PURGE: 0.10 gpm
1228	6.59	25.7	293	3.88	-106	2.0				1.00	
1231	6.59	25.7	295	3.45	-106	1.9				1.30	
1234	6.59	25.7	296	3.91	-106	1.9				1.60	
1237	6.60	25.7	296	3.46	-106	1.9				1.90	
	6.60										
1238	SAMPLE										CLEAR, NO COLOR
Stability Goal:	+/- 0.1	-	+/- 3%	10%	+/- 10 mv	10%					(for 3 consecutive readings)

Other comments:

PERFOROUS IRON: NR  
④ NA-WATER LEVEL IS BELOW THE TOP OF THE DEDICATED PUMP

Footnotes:

- \* - Required
- \*\* - Drawdown should not exceed 4"
- † - Well-specific; must be determined by hydraulic conductivity testing.
- ‡ - Must be dedicated, or installed 48 hrs prior to sampling.
- § - Well-specific; should be based on GW velocity and < 1L/min.
- ¶ - Pump Intake should be located at or slightly above middle of screened interval.

Abbreviations:

- TOC - Top of Casing
- BOC - Bottom of Casing
- TOS - Top of Screen
- BOS - Bottom of Screen

T - Temperature

SC - Specific Conductance

ntu - Nephelometric Turbidity Units

ORP - Oxidation-Reduction Potential

DO - Dissolved Oxygen

Source:

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue. EPA/540/S-95/504.

# LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
 County: GWINNETT  
 Permit No.: 067-024D(SL) & 067-031(SL)  
 Date: 10-24-24  
 Sampler(s): DAN ARMOUR  
 Company: ACC

Well ID: GWC-2RA  
 GW Vel.<sup>1</sup>: \_\_\_\_\_  
 Pump<sup>2</sup>: DEDICATED  
 Intake Vel.<sup>3</sup>: \_\_\_\_\_  
 Samp. Device: BLADDER PUMP  
 Tubing Type: TEFLON

Elevations (above MSL):	
TOC:	869.99
BOC:	
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	858.102

Time	pH*	T	SC	nlu*	ORP	DO	DTW <sub>S</sub>	DTW <sub>T</sub>	DTW <sub>B</sub>	Vol.	Comments
1250							11.37				BEGIN PURGE! 0.11pm
1300	6.50	24.9	331	6.84	-52	0.6				1.10	
1303	6.50	24.9	331	6.31	-53	0.6				1.43	
1306	6.50	24.9	332	6.74	-53	0.6				1.76	
1309	6.50	24.9	333	6.80	-54	0.6	12.69			2.09	
1310	SAMPLE										CLEAR, NO COLOR
											E
Stability Goal:	+/- 0.1	-	+/- 3%	10%	+/- 10 mV	10%					(for 3 consecutive readings)

Other comments:

PERROUS IRON; NR

Footnotes:

- \* - Required
- \*\* - Drawdown should not exceed 4"
- 1 - Well-specific; must be determined by hydraulic conductivity testing.
- 2 - Must be dedicated, or installed 48 hrs prior to sampling.
- 3 - Well-specific; should be based on GW velocity and < 1L/min.
- 4 - Pump intake should be located at or slightly above middle of screened interval.

Abbreviations:

- TOC - Top of Casing
- BOC - Bottom of Casing
- TOS - Top of Screen
- BOS - Bottom of Screen
- T - Temperature
- SC - Specific Conductance
- nlu - Nephelometric Turbidity Units
- ORP - Oxidation-Reduction Potential
- DO - Dissolved Oxygen

Source:

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue. EPA/540/S-95/504.

# LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
 County: GWINNETT  
 Permit No.: 067-0240(SL) & 067-037(SL)  
 Date: 10-24-94  
 Sampler(s): DAN ARMOUR  
 Company: ACC

Well ID: GW C - 3A  
 GW Vel.<sup>1</sup>:  
 Pump<sup>2</sup>: DEDICATED  
 Intake Vel.<sup>3</sup>:  
 Samp. Device: BLADDER PUMP  
 Tubing Type: TEFLON

Elevations (above MSL):	
TOC:	871.18
BOC:	
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	859.93

Time	pH*	T*	SC*	nlu*	ORP	DO	DTWA*	DTWB*	DTWC*	Vol.	Comments
1032							11.25				
1042	6.16	19.5	180	4.75	-36	1.0				1.00	BEGIN PURGE: 0.10 gpm
1045	6.16	19.6	180	4.62	-36	0.9				1.30	
1048	6.15	19.6	180	4.49	-37	0.9				1.60	
1051	6.15	19.6	180	4.35	-37	0.9	DNA			1.90	
1052	SAMPLE										CLEAR, NO COLOR
Stability Goal:	+/- 0.1	-	+/- 3%	10%	+/- 10 mV	+/- 10%					(for 3 consecutive readings)

Other comments:

PERVIOUS IRON: NR  
⑧ NA-WATER DROPPED BELOW THE DEDICATED PUMP

Footnotes:

- \* - Required
- \*\* - Drawdown should not exceed 4"
- <sup>1</sup> - Well-specific; must be determined by hydraulic conductivity testing.
- <sup>2</sup> - Must be dedicated, or installed 48 hrs prior to sampling.
- <sup>3</sup> - Well-specific; should be based on GW velocity and < 1L/min.
- <sup>4</sup> - Pump intake should be located at or slightly above middle of screened interval.

Abbreviations:

- TOC - Top of Casing
- BOC - Bottom of Casing
- TOS - Top of Screen
- BOS - Bottom of Screen
- T - Temperature
- SC - Specific Conductance
- nlu - Nephelometric Turbidity Units
- ORP - Oxidation-Reduction Potential
- DO - Dissolved Oxygen

Source:

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue. EPA/540/S-95/504.

## LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
County: GWINNETT  
Permit No.: 067-021D(SL) & 067-031(SL)  
Date: 10-24-24  
Sampler(s): DAN ARMOUR  
Company: ACC

Well ID:	GWC-3RA
GW Vel. <sup>1</sup> :	
Pump <sup>2</sup> :	DEDICATED
Intake Vel. <sup>3</sup> :	
Samp. Device:	BLADDER PUMP
Tubing Type:	TEFLON

**Elevations (above MSL):**

TOC: \_\_\_\_\_

BOC: \_\_\_\_\_

TOS: \_\_\_\_\_

BOS: \_\_\_\_\_

Intake<sup>4</sup>: \_\_\_\_\_

GW elev: \_\_\_\_\_

Time	pH*	T°	SC*	Inlu*	VORP	DO	DTW*	Vol	Comments
1111							10.10		
1121	6.55	18.9	288	4.38	-118	0.7		1.00	BEGIN PURGE: 0.10 gpm
1124	6.55	18.9	288	4.58	-118	0.7		1.30	
1127	6.56	18.9	288	4.30	-119	0.7		1.60	
1130	6.56	18.9	288	4.14	-120	0.7	10.00	1.90	
1131	SAMPLE	GWC-3RA							CLEAR, NO COLOR
Stability Goal:	+/- 0.1	-	+/- 3%	10%	+/- 10 mv	10%			(for 3 consecutive readings)

### **Other comments:**

PERFOROUS IRON: NR

### **Foolnotes:**

- Required
  - Drawdown should not exceed 4"
  - Well-specific; must be determined by hydraulic conductivity testing.
  - Must be dedicated, or installed 48 hrs prior to sampling.
  - Well-specific; should be based on GW velocity and < 1L/min.
  - Pump intake should be located at or slightly above middle of screened interval

#### **Abbreviations**

- Abbreviations:**  
TOC - Top of Casing  
BOC - Bottom of Casing  
TOS - Top of Screen  
BOS - Bottom of Screen

### T. Temperature

T = Temperature

SC - Specific Conductance

NTU - Nephelometric Turbidity Units

RH - Nephelometric Turbidity Units  
ORP - Oxidation-Reduction Potential

## **ORP - Oxidation-Reduction Potential**

**Source:**

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue, EPA/E1402-95/F24.

## LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
County: GWINNETT  
Permit No.: 067-021D(SL) & 067-031(SL)  
Date: 10/28/2024  
Sampler(s): DAN ARMOUR  
Company: ACC

Well ID:	GWC-5A
GW Vel. <sup>1</sup> :	
Pump <sup>2</sup> :	DEDICATED
Intake Vel. <sup>3</sup> :	
Samp. Device:	BLADDER PUMP
Tubing Type:	TEFLON

**Elevations (above MSL):**

TOC:	873.32
BOC:	
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	867.07

### **Other comments:**

PERROUS IRON: 24 mg/l

### **Foolnotes:**

- Required
  - Drawdown should not exceed 4"
  - Well-specific; must be determined by hydraulic conductivity testing.
  - Must be dedicated, or installed 48 hrs prior to sampling.
  - Well-specific; should be based on GW velocity and < 1L/min.
  - Pump intake should be located at or slightly above middle of screened interval.

## Abbreviations:

- TOC - Top of Casing  
BOC - Bottom of Casing  
TOS - Top of Screen  
BOS - Bottom of Screen**

T = Temperature

SC - Specific Conductance

NTU = Nephelometric Turbidity Units

ORP - Oxidation-Reduction Potential

DQ - Dissolved Oxygen

**Source:**

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue, EPA/600/S-95/004.

## LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
County: GWINNETT  
Permit No.: 067-021D(SL) & 067-031(SL)  
Date: 10-24-84  
Sampler(s): DAN ARMOUR  
Company: ACC

Well ID: GWC-6A  
GW Vel.<sup>1:</sup> \_\_\_\_\_  
Pump<sup>2:</sup> DEDICATED  
Intake Vel.<sup>3:</sup> \_\_\_\_\_  
Samp. Device: BLADDER PUMP  
Tubing Type: TEFLON

Elevations (above MSL):  
TOC: 872.02  
BOC: \_\_\_\_\_  
TOS: \_\_\_\_\_  
BOS: \_\_\_\_\_  
Intake<sup>4</sup>: \_\_\_\_\_  
GW elev: 858.10

**Other comments:**

PERFORATED IRON: NR

#### **Footnotes:**

- Required
  - Drawdown should not exceed 4"
  - Well-specific; must be determined by hydraulic conductivity testing.
  - Must be dedicated, or installed 48 hrs prior to sampling.
  - Well-specific; should be based on GW velocity and < 1L/min.
  - Pump intake should be located at or slightly above middle of screened interval

#### **Abbreviations:**

- TOC - Top of Casing  
BOC - Bottom of Casing  
TOS - Top of Screen  
BOS - Bottom of Screen**

T - Temperature  
SC - Specific Conductance  
ntu - Nephelometric Turbidity Units  
ORP - Oxidation-Reduction Potential  
DO - Dissolved Oxygen

**Source:**

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. *HPRA: Ground Water Issues*, EPA/600/R-95/014.

# LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
 County: GWINNETT  
 Permit No.: 067-024D(SL) & 067-031(SL)  
 Date: 10-23-24  
 Sampler(s): DAN ARMOUR  
 Company: ACC

Well ID: GW C-7 AR  
 GW Vel.<sup>1</sup>:  
 Pump<sup>2</sup>: DEDICATED  
 Intake Vel.<sup>3</sup>:  
 Samp. Device: BLADDER PUMP  
 Tubing Type: TEFLON

Elevations (above MSL):	
TOC:	870.94
BOC:	851.29
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	865.64

Time	pH*	T*	SC*	ntu*	ORP	DO	DTW*	GWV*	Vol*	Comments
1230							5.30			BEGIN PURGE: 0.12 gpm
1240	6.07	21.5	176	2.77	74	0.8			1.20	
1243	6.07	21.6	177	2.46	72	0.8			1.56	
1246	6.07	21.6	178	2.33	74	0.7			1.92	
1249	6.08	21.6	178	2.22	76	0.7	5.41		2.28	
1250	SAMPLE	GW C-7 AR								CLEAR, NO COLOR
Stability Goal:	+/- 0.1	-	+/- 3%	10%	+/- 10 mV	+/- 10%				(for 3 consecutive readings)

Other comments:

PERVIOUS IRON; NR

Footnotes:

- \* - Required
- \*\* - Drawdown should not exceed 4"
- <sup>1</sup> - Well-specific; must be determined by hydraulic conductivity testing.
- <sup>2</sup> - Must be dedicated, or installed 48 hrs prior to sampling.
- <sup>3</sup> - Well-specific; should be based on GW velocity and < 1L/min.
- <sup>4</sup> - Pump intake should be located at or slightly above middle of screened interval.

Abbreviations:

- TOC - Top of Casing
- BOC - Bottom of Casing
- TOS - Top of Screen
- BOS - Bottom of Screen
- T - Temperature
- SC - Specific Conductance
- ntu - Nephelometric Turbidity Units
- ORP - Oxidation-Reduction Potential
- DO - Dissolved Oxygen

Source:

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue. EPA/540/S-95/504.

# LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
 County: GWINNETT  
 Permit No.: 067-021D(SL) & 067-031(SL)  
 Date: 10-24-24  
 Sampler(s): DAN ARMOUR  
 Company: ACC

Well ID: GWC-8A  
 GW Vel.<sup>1</sup>: \_\_\_\_\_  
 Pump<sup>2</sup>: DEDICATED  
 Intake Vel.<sup>3</sup>: \_\_\_\_\_  
 Samp. Device: BLADDER PUMP  
 Tubing Type: TEFLON

Elevations (above MSL):	
TOC:	869.15
BOC:	853.40
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	859.23

Time	pH*	T	SC	nlu*	ORP	DO	DTW	Vol	Comments
0757							9.92		
0807	5.86	18.5	70	4.34	28	0.7		1.00	BEGIN PURGE: 0.10 gpm
0810	5.88	18.5	69	4.38	27	0.7		1.30	
0813	5.90	18.5	68	4.14	27	0.6		1.60	
0816	5.91	18.5	62	3.82	26	0.6	NA	1.90	
0817	SAMPLE	GWC-8A							CLEAR; Slight Yellow Tint
Stability Goal:	+/- 0.1	-	+/- 3%	10%	+/- 10 mV	+/- 10%			(for 3 consecutive readings)

Other comments:

PERVIOUS IRON; NR

④ NA - WATER LEVEL DROPPED BELOW THE TOP OF THE DEDICATED PUMP

Footnotes:

- \* - Required
- \*\* - Drawdown should not exceed 4"
- 1 - Well-specific; must be determined by hydraulic conductivity testing.
- 2 - Must be dedicated, or installed 48 hrs prior to sampling.
- 3 - Well-specific; should be based on GW velocity and < 1L/min.
- 4 - Pump intake should be located at or slightly above middle of screened interval.

Abbreviations:

- TOC - Top of Casing
- BOC - Bottom of Casing
- TOS - Top of Screen
- BOS - Bottom of Screen
- T - Temperature
- SC - Specific Conductance
- nlu - Nephelometric Turbidity Units
- ORP - Oxidation-Reduction Potential
- DO - Dissolved Oxygen

Source:

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue, EPA/540/S-95/504.

# LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
 County: GWINNETT  
 Permit No.: 067-021D(SL) & 067-031(SL)  
 Date: 10-24-24  
 Sampler(s): DAN ARMOUR  
 Company: ACC

Well ID: GW C - 8R  
 GW Vel.<sup>1</sup>:  
 Pump<sup>2</sup>: DEDICATED  
 Intake Vel.<sup>3</sup>:  
 Samp. Device: BLADDER PUMP  
 Tubing Type: TEFLON

Elevations (above MSL):	
TOC:	<u>869.09</u>
BOC:	<u>837.74</u>
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	<u>860.09</u>

Time	pH*	T*	SC*	ntu*	ORP*	DO*	DTWMS	Vol	Comments
0828							9.00		
0838	6.51	16.8	205	1.38	27	0.7		1.00	BEGIN PURGE: 0.10 gpm
0841	6.51	16.8	205	1.17	29	0.7		1.30	
0844	6.51	16.8	205	0.91	26	0.7		1.60	
0847	6.52	16.8	205	1.06	30	0.7	11.82	1.90	
0848	SAMPLE								CLEAR, NO COLOR
Stability Goal:	+/- 0.1	-	+/- 3%	10%	+/- 10 mv	10%			(for 3 consecutive readings)

Other comments:

PERFOROUS IRON: NR

Footnotes:

- \* - Required
- \*\* - Drawdown should not exceed 4"
- 1 - Well-specific; must be determined by hydraulic conductivity testing.
- 2 - Must be dedicated, or installed 48 hrs prior to sampling.
- 3 - Well-specific; should be based on GW velocity and < 1L/min.
- 4 - Pump intake should be located at or slightly above middle of screened interval.

Abbreviations:

- TOC - Top of Casing
- BOC - Bottom of Casing
- TOS - Top of Screen
- BOS - Bottom of Screen

T - Temperature

SC - Specific Conductance

ntu - Nephelometric Turbidity Units

ORP - Oxidation-Reduction Potential

DO - Dissolved Oxygen

Source:

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue. EPA/540/S-95/504.

# LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
 County: GWINNETT  
 Permit No.: 067-021D(SL) & 067-031(SL)  
 Date: 10-24-24  
 Sampler(s): DAN ARMOUR  
 Company: ACC

Well ID: GWC-9A  
 GW Vel.<sup>1</sup>: \_\_\_\_\_  
 Pump<sup>2</sup>: DEDICATED  
 Intake Vel.<sup>3</sup>: \_\_\_\_\_  
 Samp. Device: BLADDER PUMP  
 Tubing Type: TEFLON

Elevations (above MSL):	
TOC:	872.17
BOC:	
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	ODA

Time	pH*	T*	SC**	ntu***	ORP****	DO*****	DTWS*****	Temp*****	Vol.*****	Comments
1014							ODA			BEGIN PURGE!
										ATTEMPTED TO PURGE/SAMPLE GWC-9A COULD ONLY REMOVE ~0.5 L AND WELL WENT DRY
										DRY WELL NO SAMPLES COLLECTED
Stability Goal:	+/- 0.1	-	+/- 3%	10%	+/- 10 mV	+/- 10%				(for 3 consecutive readings)

Other comments:

PERROUS IRON: NR

ODA - WATER LEVEL IS BELOW THE TOP OF THE DEDICATED PUMP

Footnotes:

- \* - Required
- \*\* - Drawdown should not exceed 4"
- \*\*\* - Well-specific; must be determined by hydraulic conductivity testing.
- \*\*\*\* - Must be dedicated, or installed 48 hrs prior to sampling.
- \*\*\*\*\* - Well-specific; should be based on GW velocity and < 1L/min.
- \*\*\*\*\* - Pump intake should be located at or slightly above middle of screened interval.

Abbreviations:

- TOC - Top of Casing
- BOC - Bottom of Casing
- TOS - Top of Screen
- BOS - Bottom of Screen
- T - Temperature
- SC - Specific Conductance
- ntu - Nephelometric Turbidity Units
- ORP - Oxidation-Reduction Potential
- DO - Dissolved Oxygen

Source:

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue. EPA/540/S-95/504.

## LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GUINNETT  
County: GUINNETT  
Permit No.: 067-021D(SL) & 067-031(SL)  
Date: 10-24-24  
Sampler(s): DAN ARMOUR  
Company: ACC

Well ID: GWC-10  
GW Vel.<sup>1</sup>:  
Pump<sup>2</sup>: DEDICATED  
Intake Vel.<sup>3</sup>:  
Samp. Device: BLADDER PUMP  
Tubing Type: TEFLO

Elevations (above MSL):  
TOC: 869.99  
BOC: \_\_\_\_\_  
TOS: \_\_\_\_\_  
BOS: \_\_\_\_\_  
Intake: \_\_\_\_\_  
GW elev: 859.42

### **Other comments:**

PERFORATED IRON: NR

### **Footnotes:**

- Required
  - Drawdown should not exceed 4"
  - 1. Well-specific; must be determined by hydraulic conductivity testing.
  - 2. Must be dedicated, or installed 48 hrs prior to sampling.
  - 3. Well-specific; should be based on GW velocity and < 1L/min.
  - 4. Pump intake should be located at or slightly above middle of screened interval

## Abbreviations

- TOC - Top of Casing  
BOC - Bottom of Casing  
TOS - Top of Screen  
BOS - Bottom of Screen**

**T - Temperature**  
**SC - Specific Conductance**  
**ntu - Nephelometric Turbidity Units**  
**ORP - Oxidation-Reduction Potential**  
**DO - Dissolved Oxygen**

Source:

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue, EPA/540/C-95/024.

# LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: Button Gwinnett  
 County: GWINNETT  
 Permit No.: 067-0210(SL) & 067-037(SL)  
 Date: 10-23-84  
 Sampler(s): DANNY ARMORE  
 Company: A.C.C.

Well ID: GW C-11  
 GW Vel.<sup>1</sup>: \_\_\_\_\_  
 Pump<sup>2</sup>: DEDICATED  
 Intake Vel.<sup>3</sup>: \_\_\_\_\_  
 Samp. Device: BLADDER PUMP  
 Tubing Type: TEFLON

Elevations (above MSL):	
TOC:	930.59
BOC:	886.19
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	886.34

Time	pH*	T*	SC*	ntu*	ORP*	DO*	DTW*	PPV*	PPS*	Vol.	Comments
0911							44.25				BEGIN PURGE : 0.10 gpm
0921	6.13	22.1	475	1.88	-24	0.6				1.00	
0924	6.14	21.1	475	1.71	-25	0.6				1.30	
0927	6.14	21.1	475	1.83	-27	0.6				1.60	
0930	6.14	21.1	475	1.67	-29	0.5	44.65			1.90	
0931	SAMPLE		GW C-11								CLEAR, NO COLOR
Stability Goal:	+/- 0.1	-	+/- 3%	10%	+/- 10 mV	+/- 10%					(for 3 consecutive readings)

Other comments:

FERROUS IRON: 4.1 mg/l

Footnotes:

- \* - Required
- \*\* - Drawdown should not exceed 4"
- <sup>1</sup> - Well-specific; must be determined by hydraulic conductivity testing.
- <sup>2</sup> - Must be dedicated, or installed 48 hrs prior to sampling.
- <sup>3</sup> - Well-specific; should be based on GW velocity and < 1L/min.
- <sup>4</sup> - Pump intake should be located at or slightly above middle of screened interval.

Abbreviations:

- TOC - Top of Casing
- BOC - Bottom of Casing
- TOS - Top of Screen
- BOS - Bottom of Screen

T - Temperature

SC - Specific Conductance  
 ntu - Nephelometric Turbidity Units  
 ORP - Oxidation-Reduction Potential  
 DO - Dissolved Oxygen

Source:

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue. EPA/540/S-95/504.

# LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
 County: GWINNETT  
 Permit No.: 067-021D(SL) & 067-031(SL)  
 Date: 10-24-24  
 Sampler(s): DAN ARMOUR  
 Company: ACC

Well ID: GW C-12A  
 GW Vel.<sup>1</sup>:  
 Pump<sup>2</sup>: DEDICATED  
 Intake Vel.<sup>3</sup>:  
 Samp. Device: BLADDER PUMP  
 Tubing Type: TEFLON

Elevations (above MSL):	
TOC:	871.65
BOC:	
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	856.38

Time	pH*	T*	SC*	ntu <sup>5</sup>	ORP	DO	DTWIS	DTWOS	DTWSS	Vol.	Comments
0900											
0910	6.35	15.4	153	4.28	104	0.7		15.23		1.00	BEGIN PURGE: 0.10 gpm
0913	6.35	15.4	154	4.45	105	0.7				1.30	
0916	6.35	15.4	154	4.33	105	0.6				1.60	
0919	6.35	15.4	154	4.40	106	0.6	15.75			1.90	
0920	SAMPLE										CLEAR, NO COLOR
Stability Goal:	+/- 0.1	-	+/- 3%	10%	+/- 10 mv	+10%					(for 3 consecutive readings)

Other comments:

PERVIOUS IRON: 0.0 %

Footnotes:

- \* - Required
- \*\* - Drawdown should not exceed 4"
- <sup>1</sup> - Well-specific; must be determined by hydraulic conductivity testing.
- <sup>2</sup> - Must be dedicated, or installed 48 hrs prior to sampling.
- <sup>3</sup> - Well-specific; should be based on GW velocity and < 1L/min.
- <sup>4</sup> - Pump intake should be located at or slightly above middle of screened interval.

Abbreviations:

- TOC - Top of Casing
- BOC - Bottom of Casing
- TOS - Top of Screen
- BOS - Bottom of Screen
- T - Temperature
- SC - Specific Conductance
- ntu - Nephelometric Turbidity Units
- ORP - Oxidation-Reduction Potential
- DO - Dissolved Oxygen

Source:

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue. EPA/540/S-95/504.

# LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
 County: GWINNETT  
 Permit No.: 067-021D(SL) & 067-031(SL)  
 Date: 10-24-24  
 Sampler(s): DAN ARMOUR  
 Company: ACC

Well ID: GWC-13  
 GW Vel.<sup>1</sup>:  
 Pump<sup>2</sup>: DEDICATED  
 Intake Vel.<sup>3</sup>:  
 Samp. Device: BLADDER PUMP  
 Tubing Type: TEFLON

Elevations (above MSL):	
TOC:	<u>869.00</u>
BOC:	
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	<u>0NA</u>

Time	pH*	T*	SC*	ntu*	ORP*	DO*	DTW*	HW*	WS*	Vol	Comments
0936							0NA				BEGIN PURGE: 0.10 gm
0946	5.88	18.0	154	4.77	74	1.1				1.00	
0949	5.89	18.0	153	4.64	75	1.1				1.30	
0952	5.89	17.9	153	4.12	76	1.0				1.60	
0955	5.89	18.0	153	4.65	77	1.0				1.90	
0956	SAMPLE			GWC-13							CLEAR, NO COLOR
Stability Goal:	+/- 0.1	-	+/- 3%	10%	+/- 10 mV	+/- 10%					(for 3 consecutive readings)

Other comments:

PERVIOUS IRON: NR  
 NA - WATER LEVEL IS BELOW THE TOP OF THE DEDICATED PUMP

Footnotes:

- \* - Required
- \*\* - Drawdown should not exceed 4"
- <sup>1</sup> - Well-specific; must be determined by hydraulic conductivity testing.
- <sup>2</sup> - Must be dedicated, or installed 48 hrs prior to sampling.
- <sup>3</sup> - Well-specific; should be based on GW velocity and < 1L/min.
- <sup>4</sup> - Pump intake should be located at or slightly above middle of screened interval.

Abbreviations:

- TOC - Top of Casing
- BOC - Bottom of Casing
- TOS - Top of Screen
- BOS - Bottom of Screen
- T - Temperature
- SC - Specific Conductance
- ntu - Nephelometric Turbidity Units
- ORP - Oxidation-Reduction Potential
- DO - Dissolved Oxygen

Source:

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue. EPA/540/S-95/504.

# LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
 County: GWINNETT  
 Permit No.: 067-021D(SL) & 067-037(SL)  
 Date: 10/28/2024  
 Sampler(s): DAN ARMOUR  
 Company: ACC

Well ID: OW-ZRR  
 GW Vel.<sup>1</sup>:  
 Pump<sup>2</sup>: DEDICATED  
 Intake Vel.<sup>3</sup>:  
 Samp. Device: BLADDER PUMP  
 Tubing Type: TEFLON

Elevation (above MSL):  
 TOC: 870.69  
 BOC:  
 TOS:  
 BOS:  
 Intake<sup>4</sup>:  
 GW elev: 865.49

Time	pH*	T	SC	ntu*	ORP	DO	DTW	HTDW	WTDW	Vol.	Comments
1005							5.20				
1015	6.56	17.9	329	4.2	-121	0.9				1.00	BEGIN PURGE: 0'10
1018	6.59	17.9	330	4.1	-124	0.9				1.30	
1021	6.60	18.0	330	4.5	-128	0.9				1.60	
1024	6.61	18.0	330	4.4	-129	0.9	7.01			1.90	
1025	SAMPLE	OW-ZRR									
	SAMPLE	OW-ZRR									CLEAR, NO color
Stability Goal:	+/- 0.1	-	+/- 3%	10%	+/- 10 mV	+/- 10%					(for 3 consecutive readings)

Other comments:

PERVIOUS IRON: 2.5 mg/L

Footnotes:

- \* - Required
- \*\* - Drawdown should not exceed 4'
- 1 - Well-specific; must be determined by hydraulic conductivity testing.
- 2 - Must be dedicated, or installed 48 hrs prior to sampling.
- 3 - Well-specific; should be based on GW velocity and < 1L/min.
- 4 - Pump intake should be located at or slightly above middle of screened interval.

Abbreviations:

- TOC - Top of Casing
- BOC - Bottom of Casing
- TOS - Top of Screen
- BOS - Bottom of Screen
- T - Temperature
- SC - Specific Conductance
- ntu - Nephelometric Turbidity Units
- ORP - Oxidation-Reduction Potential
- DO - Dissolved Oxygen

Source:

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue. EPA/540/S-95/504.

# LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
 County: GWINNETT  
 Permit No.: 067-021D(SL) & 067-037(SL)  
 Date: 10/28/2024  
 Sampler(s): DAN ARMOUR  
 Company: ACC

Well ID: OW-3RR  
 GW Vel.<sup>1</sup>:  
 Pump<sup>2</sup>: DEDICATED  
 Intake Vel.<sup>3</sup>:  
 Samp. Device: BLADDER PUMP  
 Tubing Type: TEFLON

Elevations (above MSL):	
TOC:	<u>867.98</u>
BOC:	
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	<u>860.88</u>

Time	pH*	T*	SC*	ntu*	ORP*	DO*	DTW&	GWV	Vol	Comments
0930							7.10			
0940	5.61	18.4	40	3.92	125	1.0			1.00	BEGIN PURGE: 0.10 gpm
0943	5.54	18.6	39	3.70	137	1.1			1.30	
0946	5.53	18.7	38	2.93	141	1.0			1.60	
0949	5.51	18.7	38	2.57	143	0.9	7.81		1.90	
0950	<u>SAMPLE OW-3RR</u>									
	<u>SAMPLE OW-3RR</u>									
	<u>CLEAR, NO COLOR</u>									
Stability Goal:	+/- 0.1	-	+/- 3%	10%	+/- 10 mv	10%				(for 3 consecutive readings)

Other comments:

PERROUS IRON: 2.2 mg/l

Footnotes:

- \* - Required
- \*\* - Drawdown should not exceed 4"
- 1 - Well-specific; must be determined by hydraulic conductivity testing.
- 2 - Must be dedicated, or installed 48 hrs prior to sampling.
- 3 - Well-specific; should be based on GW velocity and < 1L/min.
- 4 - Pump intake should be located at or slightly above middle of screened interval.

Abbreviations:

- TOC - Top of Casing
- BOC - Bottom of Casing
- TOS - Top of Screen
- BOS - Bottom of Screen

T - Temperature

SC - Specific Conductance

ntu - Nephelometric Turbidity Units

ORP - Oxidation-Reduction Potential

DO - Dissolved Oxygen

Source:

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue. EPA/540/S-95/504.

# LOW-VOLUME PURGE SAMPLE DATA SHEET

Facility Name: BUTTON GWINNETT  
County: GWINNETT  
Permit No.: 067-021D (SL) #067-037C  
Date: 10-23-24  
Sampler(s): DANNY ARMOUR

Well ID: F B - 1  
GW Vel.<sup>1</sup>:  
Pump<sup>2</sup>:  
Intake Vel.<sup>3</sup>:  
Samp. Device:  
Tubing Type:

Elevations (above MSL):	
TOC:	
BOC:	
TOS:	
BOS:	
Intake <sup>4</sup> :	
GW elev:	

**Other comments:**

FB-1 : COMPLETED USING D.I. H<sub>2</sub>O PROVIDED BY  
GEO CHEM LAB (for 3 consecutive readings)

#### Footnotes:

- - Required
  - - Drawdown should not exceed 4"
  - 1 - Well-specific; must be determined by hydraulic conductivity testing.
  - 2 - Must be dedicated, or installed 48 hrs prior to sampling.
  - 3 - Well-specific; should be based on GW velocity and < 1L/min.
  - 4 - Pump intake should be located at or slightly above middle of screened interval

**Sources:**

## Abbreviations

- TOC - Top of Casing  
BOC - Bottom of Casing  
TOS - Top of Screen  
BOS - Bottom of Screen

T - Temperature  
SC - Specific Conductance  
ntu - Nephelometric Turbidity Units  
ORP - Oxidation-Reduction Potential  
DO - Dissolved Oxygen

Source:

Puls, R.W. and Barcelona, M.J. 1995. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. USEPA - Ground Water Issue. EPA/540/S-95/024

# FIELD INFORMATION FORM

## Surface Water, Stormwater and Leachate



Site Name:

BUTTON  
STREET CONDUIT

Laboratory Use Only / Lab I.D.:

Sample I.D.:

S12-1

### Sampling Method & Equipment

Purge and Sample Equipment:

Sampling Method:  D

D - Direct

Sampling Equipment:  S

D - Dipper

S - Sample Bottle

I - Indirect

T - Transfer Vessel

O - Other

V - Visual

Sample Type:  G

(Grab / Composite (circle one))

### Field Measurements

Sample Date MM/DD/YYYY	Sample Time 24 Hr. Clock	pH (std. Units)	CONDUCTIVITY (umhos/cm @ 25°C)	Temp °C	TURBIDITY (NTUs)	DO mg/L - ppm	eH/ORP (std. Units)
10/28/2024	10:25	6.44	106	16.8	3.22	6.7	12

Record final stabilized field readings.

### Field Observations

Sample Appearance: Odor: Noise Color: None Other: \_\_\_\_\_Sheen Present  Y or  N Foam Present:  Y or  N Floating Solids:  Y or  N

Weather Conditions: (required daily, or as conditions change):

Direction/Speed: NNE / 5 mphPrecipitation:  Y or  NSpecific Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

/ /

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\_\_\_\_\_\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

10/28/2024

DANIEL APPENDA

Date

Name

Signature

All

Company

# FIELD INFORMATION FORM

## Surface Water, Stormwater and Leachate



Site Name: Burton Creek

Laboratory Use Only / Lab I.D.: \_\_\_\_\_

Sample I.D. SW C-2

### Sampling Method & Equipment

Purge and Sample Equipment:

Sampling Method: <input checked="" type="checkbox"/>	D - Direct	Sampling Equipment: <input checked="" type="checkbox"/>	S - Dipper	S - Sample Bottle
	I - Indirect		T - Transfer Vessel	O - Other
	V - Visual			

Sample Type:  Grab / Composite (circle one)

### Field Measurements

Sample Date MM/DD/YYYY	Sample Time 24 Hr. Clock	pH (std. Units)	CONDUCTIVITY (umhos/cm @ 25°C)	Temp °C	TURBIDITY (NTUs)	DO mg/L - ppm	eH/ORP (std. Units)
<u>10/28/2024</u>	<u>1100</u>	<u>6.72</u>	<u>105</u>	<u>16.7</u>	<u>3.16</u>	<u>6.5</u>	<u>14</u>

Record final stabilized field readings.

### Field Observations

Sample Appearance: Odor: Rotten Color: None Other: \_\_\_\_\_

Sheen Present  or  Foam Present:  or  Floating Solids:  or

Weather Conditions: (required daily, or as conditions change):

Direction/Speed: NORTH / 10 MPH Precipitation:  or

Specific Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

1 / 1

10/28/24

DANIEL AUBREY

DANIEL AUBREY

Date

Name

Signature

ASC  
Company

# FIELD INFORMATION FORM

## Surface Water, Stormwater and Leachate



Site Name: Burrard Gutter

Laboratory Use Only / Lab I.D.: \_\_\_\_\_

Sample I.D. SNC-3

### Sampling Method & Equipment

Purge and Sample Equipment:

Sampling Method:  D - Direct

D - Direct

Sampling Equipment:  S

D - Dipper

S - Sample Bottle

I - Indirect

T - Transfer Vessel

O - Other

V - Visual

Sample Type:  G

Grab / Composite (circle one)

### Field Measurements

Sample Date MM/DD/YYYY	Sample Time 24 Hr. Clock	pH (std. Units)	CONDUCTIVITY (umhos/cm @ 25°C)	Temp °C	TURBIDITY (NTUs)	DO mg/L - ppm	eH/ORP (std. Units)
10/28/2024	0230	6.82	109	16.0	3.84	5.8	116

Record final stabilized field readings.

### Field Observations

Sample Appearance: Odor: Natural Color: Light Other: \_\_\_\_\_

Sheen Present  Y or  N Foam Present:  Y or  N Floating Solids:  Y or  N

Weather Conditions: (required daily, or as conditions change):

Direction/Speed: W-N / Calm

Precipitation:  Y or  N

Specific Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

1 / 1

10/28/24

David Monroe

DL

Date

Name

Signature

Acc

Company

# FIELD INFORMATION FORM

## Surface Water, Stormwater and Leachate



Site Name: Burton Grindett

Laboratory Use Only / Lab I.D.: \_\_\_\_\_

Sample I.D. SWB-1

### Sampling Method & Equipment

Purge and Sample Equipment:

Sampling Method:  D - Direct      Sampling Equipment:  S - Dipper  
 I - Indirect       T - Transfer Vessel  
 V - Visual       O - Other

Sample Type:  Grab / Composite (circle one)

### Field Measurements

Sample Date MM/DD/YYYY	Sample Time 24 Hr. Clock	pH (std. Units)	CONDUCTIVITY (umhos/cm @ 25°C)	Temp 'C	TURBIDITY (NTUs)	DO mg/L - ppm	eH/ORP (std. Units)
---------------------------	--------------------------------	--------------------	--------------------------------------	------------	---------------------	---------------------	------------------------

10/28/2024	0745	6.73	227	16.7	11.80	6.1	162
------------	------	------	-----	------	-------	-----	-----

Record final stabilized field readings.

### Field Observations

Sample Appearance: Odor:  None Color:  None Other: \_\_\_\_\_

Sheen Present  Y or  N Foam Present:  Y or  N Floating Solids:  Y or  N

Weather Conditions: (required daily, or as conditions change):

Direction/Speed: NNE / calm Precipitation:  Y or  N

Specific Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

/ /

10/28/24

Dawn Armond

[Signature]

Date

Name

Signature

Ace

Company

**APPENDIX B**

**LABORATORY ANALYTICAL RESULTS**

Tuesday, November 12, 2024

JUDY ARMOUR  
BUTTON GWINNETT LANDFILL  
2901 MECHANICSVILLE ROAD  
NORCROSS, GA 30071

RE: BGwinnett 321S2

Order No.: G2410E76

Dear JUDY ARMOUR:

Geochemical Testing received 3 sample(s) on 10/24/2024 for the analyses presented in the following report.

There were no problems with sample receipt protocols and analyses met the TNI/NELAC, EPA, and laboratory specifications except where noted in the Case Narrative or Laboratory Results.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Joelle Streczywilk  
Environmental Laboratory Manager

Leslie A. Nemeth  
Project Manager

## Geochemical Testing

Date: 12-Nov-24

**CLIENT:** BUTTON GWINNETT LANDFILL  
**Project:** BGwinnett 321S2  
**Lab Order:** G2410E76

## CASE NARRATIVE

No problems were encountered during analysis of this workorder, except if noted in this report.

The analytical data submitted within this report was submitted by an approved analytical laboratory (per Chapter 391-3-26-.05) and in accordance with Georgia state law (O.C.G.A. 12-2-9). The accreditation information follows below:

**LABORATORY:** Geochemical Testing, Somerset, Pennsylvania  
**ACCREDITATION AGENCY:** Pennsylvania National Environmental Laboratory Accreditation Program (NELAP)  
**ACCREDITATION ID:** PA ID# 56-00306  
**SCOPE:** Potable, Non-Potable, Solid and Chemical Materials  
**EXPIRATION DATE:** January 31, 2025

Submitted COC documentation incomplete with the following deficiencies: corrections made without initials/date.

**Glossary:**  
H - Method Hold Time exceeded and is not compliant with 40CFR136 Table II.  
U - The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.  
B - Analyte detected in the associated Method Blank  
Q1 - See case narrative      ND - Not Detected  
MCL - Contaminant Limit      J - Indicates an estimated value.  
Q - Qualifier      QL - Quantitation Limit      DF - Dilution Factor

S - Surrogate Recovery outside accepted recovery limits  
T - Sample received above required temperature and is not compliant with 40CFR136 Table II.  
T1 - Sample received above required temperature  
MDA - Minimum Detectable Activity.  
\*\* - Value exceeds Action Limit  
TICs - Tentatively Identified Compounds.  
E - Value above quantitation range



## Glossary (continued)

1	Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.	M7	Recovery for matrix spike could not be quantified due to matrix interference.
B1	Dilution water blank exceeded method criterion.	M8	Analyte was spiked into the MS, but was not recovered.
C1	CCV recovery above the acceptance limits. Results may be biased high.	M9	Analyte concentration was determined by the method of standard addition (MSA).
C2	CCV recovery below the acceptance limits. Results may be biased low.	N1	The lab does not hold accreditation from PA-DEP for this parameter by this method
C3	ICV recovery above the acceptance limits. Results may be biased high.	N2	PADEP does not accredit labs for this analyte by this method.
C4	ICV recovery below the acceptance limits. Results may be biased low.	N3	The lab is accredited for this method in West Virginia, but not in PA (its primary accrediting body).
C5	Positive values verified by second column confirmation.	N4	PADEP does not accredit labs for this analyte by this method in drinking water.
C6	Confirmation analysis by another detector or chromatographic column was not performed.	O1	The flashpoint tester cannot detect below 50 degrees F.
D1	The analysis did not meet the minimum DO depletion of at least 2 mg/L.	O2	Result is temperature of the sample when flame observed. No flash observed. Result qualified.
D2	The analysis did not meet the minimum residual DO of at least 1 mg/L.	O3	The reporting limits were raised due to the high concentration of non-target compounds.
D3	Sample required dilution due to a matrix interference.	O4	Sample was received with headspace.
D4	Sample was diluted in the extraction steps due to marked matrix interferences.	O5	Sample was received in incorrect container and is not compliant with 40CFR136 Table II.
D5	Sample required dilution due to a chloride interference.	O6	Insufficient sample volume was received to comply with the method.
D6	Sample was diluted and the reporting limits were raised to achieve method compliant internal standard recovery.	P1	The pH of the sample was >2 and is not compliant with 40CFR136 Table II.
D7	Sample was digested at a dilution due to the formation of a post-digestion precipitate.	P2	Sample contained residual chlorine and is not compliant with 40CFR136 Table II
D8	Sample was digested at a dilution to achieve method compliant matrix spike recovery.	P3	The pH of the sample was <10 and is not compliant with 40CFR136 Table II.
D9	Sample was digested at a dilution to meet method compliant digestion criteria.	P4	Field preservation does not meet EPA or method recommendations for this analysis.
E2	Unable to obtain a stable weight within specified limits due to sample matrix. Value is estimated.	P5	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.
F1	Fecal sample tested positive for residual chlorine.	P6	Sample required additional preservative upon receipt.
H1	Due to under-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.	P7	The sample was received unpreserved.
H2	Due to over-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.	P8	The pH of the sample was < 9 and is not compliant with 40 CFR136 Table II.
H3	Sample was re-analyzed outside of hold time due to error during original analysis.	R	Relative Percent Difference (RPD) was above the control limit.
H4	The Nitrite result used to report Nitrate was analyzed past the 48-hour holding time.	R1	RPD above control limits between matrix spike and MS duplicates.
I1	Internal standard recovery above method acceptance limits. Results are estimated.	R2	RPD above the control limit between duplicates.
I2	Internal standard recovery was below method acceptance limits. Results are estimated.	R3	RSD above the control limit between replicates.
IP	One of the instrument performance checks ( ) did not meet the acceptance criteria.	R4	RPD above control limits between Inorganic Carbon check and spike.
L1	LCS above the acceptance limits. Result may be biased high.	R5	RPD above control limits between control sample and control sample duplicates.
L2	LCS below the acceptance limits. Result may be biased low.	S2	Surrogate recovery in the blank was below the control limit.
L3	Analyte was spiked into the LCS, but was not recovered.	S3	Surrogate recovery in the blank was above the control limit.
M1	Matrix Spike recovery above the acceptance limits.	S4	Surrogate recovery in the LCS is above the control limit.
M2	Matrix Spike recovery below the acceptance limits.	S5	Surrogate recovery in the LCS is below the control limit.
M4	The matrix spike failed high for the surrogate.	SR	Analyte recovery was outside the accepted recovery limits and above the control limit for RPD.
M5	The matrix spike failed low for the surrogate.	T3	Target analyte found in trip/field blank.
M6	The reporting limits were raised due to sample matrix interference.	TC	The MS tune check (tailing factor) did not meet the acceptance criteria.

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWA-1A
<b>Lab Order:</b>	G2410E76	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/23/2024 7:31:00 AM
<b>Lab ID:</b>	G2410E76-001	<b>Received Date:</b>	10/24/2024 12:41:00 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	5.46			S.U.		10/23/24 7:31 AM	
Specific Conductance (Field)	72			µmhos/cm		10/23/24 7:31 AM	
Temperature (Field)	16.9			deg C		10/23/24 7:31 AM	
Turbidity (Field)	3.66			NTU		10/23/24 7:31 AM	
<b>INORGANIC NON-METALS</b>							
Total dissolved solids	40	20		mg/L	1	10/28/24 11:20 AM	10/28/24 11:28 AM
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	19	10		mg/L CaCO <sub>3</sub>	1		10/25/24 10:52 AM
<b>INORGANIC NON-METALS</b>							
Chloride	5.7	1.0		mg/L	1	10/28/24 2:44 PM	10/28/24 5:46 PM
Sulfate	< 2.0	2.0		mg/L	1	10/28/24 2:44 PM	10/28/24 5:46 PM
<b>INORGANIC NON-METALS</b>							
Cyanide, total	< 0.020	0.020		mg/L	1		10/28/24 4:02 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	< 0.10	0.10		mg/L as N	1		10/29/24 1:04 PM
<b>INORGANIC NON-METALS</b>							
Nitrate Nitrogen	1.18	0.05		mg/L as N	1	10/28/24 6:53 PM	10/29/24 11:51 AM
<b>INORGANIC NON METALS</b>							
Sulfide	< 1.0	1.0		mg/L	1	10/29/24 9:30 AM	10/29/24 9:50 AM
<b>INORGANIC METALS</b>							
Mercury	< 0.0004	0.0004		mg/L	1	10/28/24 9:00 AM	10/28/24 1:05 PM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/25/24 9:30 AM	10/28/24 9:49 AM
Arsenic	< 10	10		µg/L	1	10/25/24 9:30 AM	10/28/24 9:49 AM
Lead	< 5.0	5.0		µg/L	1	10/25/24 9:30 AM	10/28/24 9:49 AM
Selenium	< 10	10		µg/L	1	10/25/24 9:30 AM	10/28/24 9:49 AM
Thallium	< 2.0	2.0		µg/L	1	10/25/24 9:30 AM	10/28/24 9:49 AM
Zinc	< 5.0	5.0		µg/L	1	10/25/24 9:30 AM	10/28/24 9:49 AM
<b>INORGANIC METALS</b>							
Barium	0.06	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:27 AM
Beryllium	< 0.001	0.001		mg/L	1	10/25/24 9:30 AM	10/28/24 10:27 AM
Cadmium	< 0.002	0.002		mg/L	1	10/25/24 9:30 AM	10/28/24 10:27 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWA-1A
<b>Lab Order:</b>	G2410E76	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/23/2024 7:31:00 AM
<b>Lab ID:</b>	G2410E76-001	<b>Received Date:</b>	10/24/2024 12:41:00 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>INORGANIC METALS</b>							
				Analyst: TMS		EPA 3010 A	EPA 6010 D
Calcium	3.10	0.50		mg/L	1	10/25/24 9:30 AM	10/28/24 10:27 AM
Chromium	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:27 AM
Cobalt	0.006	0.005		mg/L	1	10/25/24 9:30 AM	10/28/24 10:27 AM
Copper	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:27 AM
Iron	0.55	0.06		mg/L	1	10/25/24 9:30 AM	10/28/24 10:27 AM
Magnesium	1.59	0.10		mg/L	1	10/25/24 9:30 AM	10/28/24 10:27 AM
Nickel	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:27 AM
Potassium	1.2	0.5		mg/L	1	10/25/24 9:30 AM	10/28/24 10:27 AM
Silver	< 0.050	0.050		mg/L	1	10/25/24 9:30 AM	10/29/24 10:40 AM
Sodium	4.3	1.0		mg/L	1	10/25/24 9:30 AM	10/28/24 10:27 AM
Tin	< 0.10	0.10		mg/L	1	10/25/24 9:30 AM	10/28/24 10:27 AM
Vanadium	< 0.005	0.005		mg/L	1	10/25/24 9:30 AM	10/28/24 10:27 AM
<b>HERBICIDE ANALYSIS</b>							
				Analyst: NPT		SM 6640 B-06	SM 6640 B-06
2,4,5-T	< 0.500	0.500		µg/L	1	10/28/24 7:30 AM	10/28/24 10:09 PM
2,4-D	< 0.500	0.500		µg/L	1	10/28/24 7:30 AM	10/28/24 10:09 PM
Dinoseb	< 10.0	10.0		µg/L	1	10/28/24 7:30 AM	10/28/24 10:09 PM
Silvex	< 0.500	0.500		µg/L	1	10/28/24 7:30 AM	10/28/24 10:09 PM
Surr: 2,4-Dichlorophenyl acetic acid	101	70-130		%REC	1	10/28/24 7:30 AM	10/28/24 10:09 PM
<b>PCB ANALYSIS</b>							
				Analyst: NEP		EPA 3535A	EPA 8082 A
PCB 1016	< 0.40	0.40		µg/L	1.01	10/25/24 7:30 AM	10/30/24 12:40 AM
PCB 1221	< 0.40	0.40		µg/L	1.01	10/25/24 7:30 AM	10/30/24 12:40 AM
PCB 1232	< 0.40	0.40		µg/L	1.01	10/25/24 7:30 AM	10/30/24 12:40 AM
PCB 1242	< 0.40	0.40		µg/L	1.01	10/25/24 7:30 AM	10/30/24 12:40 AM
PCB 1248	< 0.40	0.40		µg/L	1.01	10/25/24 7:30 AM	10/30/24 12:40 AM
PCB 1254	< 0.40	0.40		µg/L	1.01	10/25/24 7:30 AM	10/30/24 12:40 AM
PCB 1260	< 0.40	0.40		µg/L	1.01	10/25/24 7:30 AM	10/30/24 12:40 AM
Surr: Decachlorobiphenyl	80.3	10-110		%REC	1.01	10/25/24 7:30 AM	10/30/24 12:40 AM
Surr: Tetrachloro-m-xylene	66.2	12-120		%REC	1.01	10/25/24 7:30 AM	10/30/24 12:40 AM
<b>PESTICIDE ANALYSIS</b>							
				Analyst: NEP		EPA 3535A	EPA 8081 B
4,4-DDD	< 0.051	0.051		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
4,4-DDE	< 0.051	0.051		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
4,4-DDT	< 0.051	0.051		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
Aldrin	< 0.051	0.051		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
Alpha BHC	< 0.051	0.051		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
Alpha Endosulfan	< 0.051	0.051		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
Beta BHC	< 0.051	0.051		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
Beta Endosulfan	< 0.051	0.051		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
Chlordane	< 1.0	1.0		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM



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# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWA-1A
<b>Lab Order:</b>	G2410E76	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/23/2024 7:31:00 AM
<b>Lab ID:</b>	G2410E76-001	<b>Received Date:</b>	10/24/2024 12:41:00 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>PESTICIDE ANALYSIS</b>							
				Analyst: NEP		EPA 3535A	EPA 8081 B
Delta BHC	< 0.051	0.051		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
Dieldrin	< 0.051	0.051		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
Endosulfan Sulfate	< 0.051	0.051		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
Endrin	< 0.051	0.051		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
Endrin Aldehyde	< 0.051	0.051		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
Gamma BHC (Lindane)	< 0.051	0.051		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
Heptachlor	< 0.051	0.051		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
Heptachlor epoxide	< 0.051	0.051		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
Methoxychlor	< 0.10	0.10		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
Toxaphene	< 2.0	2.0		µg/L	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
Surr: Decachlorobiphenyl	87.7	10-133		%REC	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
Surr: Tetrachloro-m-xylene	76.8	31-110		%REC	1.01	10/25/24 7:30 AM	10/29/24 7:44 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: NPT		EPA 8011	EPA 8011
1,2-Dibromo-3-chloropropane	< 0.20	0.20		µg/L	1	10/25/24 7:58 AM	10/26/24 4:05 AM
1,2-Dibromoethane	< 0.05	0.05		µg/L	1	10/25/24 7:58 AM	10/26/24 4:05 AM
Surr: 1,1,2,2-Tetrachloroethane	102	60-140		%REC	1	10/25/24 7:58 AM	10/26/24 4:05 AM
<b>SEMI-VOLATILE COMPOUNDS</b>							
				Analyst: ADL		EPA 3520 C	EPA 8270 E
1,2,4,5-Tetrachlorobenzene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
1,2,4-Trichlorobenzene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
1,3-Dinitrobenzene	< 20	20		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
1,4-Naphthoquinone	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
1-Naphthylamine	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
1-Nitrosopiperidine	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
2,3,4,6-Tetrachlorophenol	< 20	20		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
2,4,5-Trichlorophenol	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
2,4,6-Trichlorophenol	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
2,4-Dichlorophenol	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
2,4-Dimethylphenol	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
2,4-Dinitrophenol	< 20	20		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
2,4-Dinitrotoluene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
2,6-Dichlorophenol	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
2,6-Dinitrotoluene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
2-Acetylaminofluorene	< 20	20		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
2-Chloro-Naphthalene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
2-Chlorophenol	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
2-Methylnaphthalene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
2-Methylphenol	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
2-Naphthylamine	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWA-1A
<b>Lab Order:</b>	G2410E76	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/23/2024 7:31:00 AM
<b>Lab ID:</b>	G2410E76-001	<b>Received Date:</b>	10/24/2024 12:41:00 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>SEMI-VOLATILE COMPOUNDS</b>							
			Analyst: ADL			EPA 3520 C	EPA 8270 E
2-Nitroaniline	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
2-Nitrophenol	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
3,3-Dichlorobenzidine	< 20	20		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
3,3-Dimethylbenzidine	< 40	40		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
3,4-Methylphenol	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
3-Methylcholanthrene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
3-Nitroaniline	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
4,6-Dinitro-2-methylphenol	< 20	20		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
4-Aminobiphenyl	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
4-Bromophenylphenoylether	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
4-Chloro-3-methylphenol	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
4-Chloroaniline	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
4-Chlorophenylphenoylether	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
4-Nitroaniline	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
4-Nitrophenol	< 20	20		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
5-Nitro-o-toluidine	< 20	20		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
7,12-Dimethylbenz(a)-anthracene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Acenaphthene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Acenaphthylene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Acetophenone	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Anthracene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Benzo(a)anthracene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Benzo(a)pyrene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Benzo(b)fluoranthene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Benzo(g,h,i)perylene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Benzo(k)fluoranthene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Benzyl Alcohol	< 20	20		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
bis(2-Chloroethoxy)methane	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
bis(2-Chloroethyl)ether	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
bis(2-Chloroisopropyl)ether	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
bis(2-Ethylhexyl)phthalate	< 5.0	5.0		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Butyl benzylphthalate	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Chlorobenzilate	< 20	20		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Chrysene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Dibenzo(a,h)anthracene	< 9.9	9.9	L2	µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Dibenzofuran	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Diethyl Phthalate	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Dimethoate	< 20	20		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Dimethyl Phthalate	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Di-N-Butyl Phthalate	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWA-1A
<b>Lab Order:</b>	G2410E76	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/23/2024 7:31:00 AM
<b>Lab ID:</b>	G2410E76-001	<b>Received Date:</b>	10/24/2024 12:41:00 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>SEMI-VOLATILE COMPOUNDS</b>							
			Analyst: ADL			EPA 3520 C	EPA 8270 E
Di-N-Octylphthalate	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Diphenylamine	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Disulfoton	< 20	20		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Ethyl Methanesulfonate	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Famphur	< 40	40		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Fluoranthene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Fluorene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Hexachlorobenzene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Hexachlorobutadiene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Hexachlorocyclopentadiene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Hexachloroethane	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Hexachloropropene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Indeno(1,2,3-cd)pyrene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Isodrin	< 20	20		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Isophorone	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Isosafrole	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Kepone	< 50	50		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Methapyrilene	< 50	50		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Methyl Methanesulfonate	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Methyl Parathion	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Naphthalene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Nitrobenzene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
N-Nitrosodibutylamine	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
N-Nitrosodiethylamine	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
n-Nitrosodimethylamine	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
n-Nitrosodiphenylamine	< 20	20		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
N-nitrosodipropylamine	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
N-Nitrosomethylalkylamine	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
N-Nitrosopyrrolidine	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
o,o,o-Triethylphosphorothioate	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
o-Toluidine	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Parathion	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
p-Dimethylaminoazobenzene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Pentachlorobenzene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Pentachloronitrobenzene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Pentachlorophenol	< 20	20		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Phenacetin	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Phenanthrene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Phenol	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Phorate	< 20	20		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWA-1A
<b>Lab Order:</b>	G2410E76	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/23/2024 7:31:00 AM
<b>Lab ID:</b>	G2410E76-001	<b>Received Date:</b>	10/24/2024 12:41:00 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>SEMI-VOLATILE COMPOUNDS</b>							
			Analyst: ADL			EPA 3520 C	EPA 8270 E
p-Phenylenediamine	< 800	800		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Pronamide	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Pyrene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Safrole	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
sym-Trinitrobenzene	< 9.9	9.9		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Thionazin	< 20	20		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Diallate	< 20	20		µg/L	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Surr: 2,4,6-Tribromophenol	43.1	34-131		%REC	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Surr: 2-Fluorobiphenyl	79.9	34-118		%REC	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Surr: 2-Fluorophenol	35.1	10-115		%REC	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Surr: Nitrobenzene-d5	80.5	32-119		%REC	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Surr: Phenol-d6	50.5	11-119		%REC	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
Surr: p-Terphenyl-d14	86.0	32-136		%REC	0.99	10/28/24 7:00 AM	10/31/24 7:46 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
			Analyst: MEG			EPA 8260 D	
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	10/25/24 6:39 PM	
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	10/25/24 6:39 PM	
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	10/25/24 6:39 PM	
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	10/25/24 6:39 PM	
1,1-Dichloroethane	< 2.0	2.0		µg/L	1	10/25/24 6:39 PM	
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	10/25/24 6:39 PM	
1,1-Dichloropropene	< 5.0	5.0		µg/L	1	10/25/24 6:39 PM	
1,2,3-Trichloropropane	< 10	10		µg/L	1	10/25/24 6:39 PM	
1,2-Dichlorobenzene	< 10	10		µg/L	1	10/25/24 6:39 PM	
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	10/25/24 6:39 PM	
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	10/25/24 6:39 PM	
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	10/25/24 6:39 PM	
1,3-Dichloropropane	< 5.0	5.0		µg/L	1	10/25/24 6:39 PM	
1,4-Dichlorobenzene	< 10	10		µg/L	1	10/25/24 6:39 PM	
2,2-Dichloropropane	< 5.0	5.0		µg/L	1	10/25/24 6:39 PM	
2-Butanone	< 50.0	50.0		µg/L	1	10/25/24 6:39 PM	
2-chloro-1,3-butadiene	< 5.0	5.0		µg/L	1	10/25/24 6:39 PM	
2-Hexanone	< 10	10		µg/L	1	10/25/24 6:39 PM	
3-Chloro-1-Propene	< 5.0	5.0		µg/L	1	10/25/24 6:39 PM	
4-Methyl-2-Pentanone	< 10	10		µg/L	1	10/25/24 6:39 PM	
Acetone	< 34.0	34.0		µg/L	1	10/25/24 6:39 PM	
Acetonitrile	< 50.0	50.0		µg/L	1	10/25/24 6:39 PM	
Acrolein	< 100	100	P4C1	µg/L	1	10/29/24 2:07 PM	
Acrylonitrile	< 100	100	P4	µg/L	1	10/25/24 6:39 PM	
Benzene	< 5.0	5.0		µg/L	1	10/25/24 6:39 PM	



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWA-1A
<b>Lab Order:</b>	G2410E76	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/23/2024 7:31:00 AM
<b>Lab ID:</b>	G2410E76-001	<b>Received Date:</b>	10/24/2024 12:41:00 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			<b>EPA 8260 D</b>
Bromochloromethane	< 10	10		µg/L	1		10/25/24 6:39 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/25/24 6:39 PM
Bromoform	< 5.0	5.0		µg/L	1		10/29/24 2:07 PM
Bromomethane	< 10	10		µg/L	1		10/25/24 6:39 PM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/25/24 6:39 PM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/25/24 6:39 PM
Chlorobenzene	< 2.0	2.0		µg/L	1		10/25/24 6:39 PM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/25/24 6:39 PM
Chloroethane	< 10	10		µg/L	1		10/25/24 6:39 PM
Chloroform	< 5.0	5.0		µg/L	1		10/25/24 6:39 PM
Chloromethane	< 10	10		µg/L	1		10/25/24 6:39 PM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/25/24 6:39 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/25/24 6:39 PM
Dibromomethane	< 10	10		µg/L	1		10/25/24 6:39 PM
Dichlorodifluoromethane	< 1.0	1.0		µg/L	1		10/25/24 6:39 PM
Ethyl Methacrylate	< 5.0	5.0		µg/L	1		10/25/24 6:39 PM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/25/24 6:39 PM
Iodomethane	< 10	10		µg/L	1		10/25/24 6:39 PM
Isobutyl alcohol	< 200	200		µg/L	1		10/25/24 6:39 PM
Methacrylonitrile	< 10	10		µg/L	1		10/25/24 6:39 PM
Methyl methacrylate	< 5.0	5.0		µg/L	1		10/25/24 6:39 PM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/25/24 6:39 PM
Propionitrile	< 100	100		µg/L	1		10/25/24 6:39 PM
Styrene	< 5.0	5.0		µg/L	1		10/25/24 6:39 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/25/24 6:39 PM
Toluene	< 5.0	5.0		µg/L	1		10/25/24 6:39 PM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/25/24 6:39 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/25/24 6:39 PM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/25/24 6:39 PM
Trichloroethene	< 5.0	5.0		µg/L	1		10/25/24 6:39 PM
Trichlorofluoromethane	< 10	10		µg/L	1		10/25/24 6:39 PM
Vinyl Acetate	< 10	10		µg/L	1		10/25/24 6:39 PM
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/25/24 6:39 PM
Total Xylene	< 10	10		µg/L	1		10/25/24 6:39 PM
Surr: 1,2-Dichloroethane-d4	96.4	70-130		%REC	1		10/25/24 6:39 PM
Surr: 4-Bromofluorobenzene	87.5	70-130		%REC	1		10/25/24 6:39 PM
Surr: Dibromofluoromethane	89.9	70-130		%REC	1		10/25/24 6:39 PM
Surr: Toluene-d8	102	70-130		%REC	1		10/25/24 6:39 PM

<b>INDICATOR ORGANIC PARAMETERS</b>	Analyst: KJW	<b>SM 5310 C-14</b>
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I.D. 56-00306 PA DEP

## Laboratory Results

### Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWA-1A
Lab Order:	G2410E76	Sampled By:	ACC
Project:	BGwinnett 321S2	Collection Date:	10/23/2024 7:31:00 AM
Lab ID:	G2410E76-001	Received Date:	10/24/2024 12:41:00 PM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>INDICATOR ORGANIC PARAMETERS</b>							
Total Organic Carbon	< 1.0	1.0		mg/L	1		10/29/24 10:05 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-11
<b>Lab Order:</b>	G2410E76	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/23/2024 9:31:00 AM
<b>Lab ID:</b>	G2410E76-002	<b>Received Date:</b>	10/24/2024 12:41:00 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	6.14			S.U.		10/23/24 9:31 AM	
Specific Conductance (Field)	475			µmhos/cm		10/23/24 9:31 AM	
Temperature (Field)	21.1			deg C		10/23/24 9:31 AM	
Turbidity (Field)	1.67			NTU		10/23/24 9:31 AM	
<b>INORGANIC NON-METALS</b>							
Total dissolved solids	256	20		mg/L	1	10/28/24 11:20 AM	10/28/24 11:28 AM
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	248	10		mg/L CaCO <sub>3</sub>	1		10/25/24 10:56 AM
<b>INORGANIC NON-METALS</b>							
Chloride	13.2	1.0		mg/L	1	10/28/24 2:44 PM	10/28/24 6:04 PM
Sulfate	10.8	2.0		mg/L	1	10/28/24 2:44 PM	10/28/24 6:04 PM
<b>INORGANIC NON-METALS</b>							
Cyanide, total	< 0.020	0.020		mg/L	1		10/28/24 4:04 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	< 0.10	0.10		mg/L as N	1		10/29/24 1:06 PM
<b>INORGANIC NON-METALS</b>							
Nitrate Nitrogen	0.34	0.05		mg/L as N	1	10/28/24 6:53 PM	10/29/24 11:52 AM
<b>INORGANIC NON METALS</b>							
Sulfide	< 1.0	1.0		mg/L	1	10/29/24 9:30 AM	10/29/24 9:50 AM
<b>INORGANIC METALS</b>							
Mercury	< 0.0004	0.0004		mg/L	1	10/28/24 9:00 AM	10/28/24 1:08 PM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/25/24 9:30 AM	10/28/24 9:52 AM
Arsenic	< 10	10		µg/L	1	10/25/24 9:30 AM	10/28/24 9:52 AM
Lead	< 5.0	5.0		µg/L	1	10/25/24 9:30 AM	10/28/24 9:52 AM
Selenium	< 10	10		µg/L	1	10/25/24 9:30 AM	10/28/24 9:52 AM
Thallium	< 2.0	2.0		µg/L	1	10/25/24 9:30 AM	10/28/24 9:52 AM
Zinc	5.4	5.0		µg/L	1	10/25/24 9:30 AM	10/28/24 9:52 AM
<b>INORGANIC METALS</b>							
Barium	0.12	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:29 AM
Beryllium	< 0.001	0.001		mg/L	1	10/25/24 9:30 AM	10/28/24 10:29 AM
Cadmium	< 0.002	0.002		mg/L	1	10/25/24 9:30 AM	10/28/24 10:29 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-11
<b>Lab Order:</b>	G2410E76	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/23/2024 9:31:00 AM
<b>Lab ID:</b>	G2410E76-002	<b>Received Date:</b>	10/24/2024 12:41:00 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>INORGANIC METALS</b>							
				Analyst: TMS		<b>EPA 3010 A</b>	<b>EPA 6010 D</b>
Calcium	44.4	0.50		mg/L	1	10/25/24 9:30 AM	10/28/24 10:29 AM
Chromium	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:29 AM
Cobalt	< 0.005	0.005		mg/L	1	10/25/24 9:30 AM	10/28/24 10:29 AM
Copper	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:29 AM
Iron	3.59	0.06		mg/L	1	10/25/24 9:30 AM	10/28/24 10:29 AM
Magnesium	12.4	0.10		mg/L	1	10/25/24 9:30 AM	10/28/24 10:29 AM
Nickel	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:29 AM
Potassium	1.6	0.5		mg/L	1	10/25/24 9:30 AM	10/28/24 10:29 AM
Silver	< 0.050	0.050		mg/L	1	10/25/24 9:30 AM	10/29/24 10:43 AM
Sodium	13.8	1.0		mg/L	1	10/25/24 9:30 AM	10/28/24 10:29 AM
Tin	< 0.10	0.10		mg/L	1	10/25/24 9:30 AM	10/28/24 10:29 AM
Vanadium	< 0.005	0.005		mg/L	1	10/25/24 9:30 AM	10/28/24 10:29 AM
<b>HERBICIDE ANALYSIS</b>							
				Analyst: NPT		<b>SM 6640 B-06</b>	<b>SM 6640 B-06</b>
2,4,5-T	< 0.500	0.500		µg/L	1	10/28/24 7:30 AM	10/28/24 10:33 PM
2,4-D	< 0.500	0.500		µg/L	1	10/28/24 7:30 AM	10/28/24 10:33 PM
Dinoseb	< 10.0	10.0		µg/L	1	10/28/24 7:30 AM	10/28/24 10:33 PM
Silvex	< 0.500	0.500		µg/L	1	10/28/24 7:30 AM	10/28/24 10:33 PM
Surr: 2,4-Dichlorophenyl acetic acid	90.3	70-130		%REC	1	10/28/24 7:30 AM	10/28/24 10:33 PM
<b>PCB ANALYSIS</b>							
				Analyst: NEP		<b>EPA 3535A</b>	<b>EPA 8082 A</b>
PCB 1016	< 0.40	0.40		µg/L	1	10/25/24 7:30 AM	10/30/24 1:08 AM
PCB 1221	< 0.40	0.40		µg/L	1	10/25/24 7:30 AM	10/30/24 1:08 AM
PCB 1232	< 0.40	0.40		µg/L	1	10/25/24 7:30 AM	10/30/24 1:08 AM
PCB 1242	< 0.40	0.40		µg/L	1	10/25/24 7:30 AM	10/30/24 1:08 AM
PCB 1248	< 0.40	0.40		µg/L	1	10/25/24 7:30 AM	10/30/24 1:08 AM
PCB 1254	< 0.40	0.40		µg/L	1	10/25/24 7:30 AM	10/30/24 1:08 AM
PCB 1260	< 0.40	0.40		µg/L	1	10/25/24 7:30 AM	10/30/24 1:08 AM
Surr: Decachlorobiphenyl	54.8	10-110		%REC	1	10/25/24 7:30 AM	10/30/24 1:08 AM
Surr: Tetrachloro-m-xylene	62.1	12-120		%REC	1	10/25/24 7:30 AM	10/30/24 1:08 AM
<b>PESTICIDE ANALYSIS</b>							
				Analyst: NEP		<b>EPA 3535A</b>	<b>EPA 8081 B</b>
4,4-DDD	< 0.050	0.050		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM
4,4-DDE	< 0.050	0.050		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM
4,4-DDT	< 0.050	0.050		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM
Aldrin	< 0.050	0.050		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM
Alpha BHC	< 0.050	0.050		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM
Alpha Endosulfan	< 0.050	0.050		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM
Beta BHC	< 0.050	0.050		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM
Beta Endosulfan	< 0.050	0.050		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM
Chlordane	< 1.0	1.0		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM



# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-11
<b>Lab Order:</b>	G2410E76	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/23/2024 9:31:00 AM
<b>Lab ID:</b>	G2410E76-002	<b>Received Date:</b>	10/24/2024 12:41:00 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>PESTICIDE ANALYSIS</b>							
				Analyst: NEP		EPA 3535A	EPA 8081 B
Delta BHC	< 0.050	0.050		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM
Dieldrin	< 0.050	0.050		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM
Endosulfan Sulfate	< 0.050	0.050		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM
Endrin	< 0.050	0.050		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM
Endrin Aldehyde	< 0.050	0.050		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM
Gamma BHC (Lindane)	< 0.050	0.050		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM
Heptachlor	< 0.050	0.050		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM
Heptachlor epoxide	< 0.050	0.050		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM
Methoxychlor	< 0.10	0.10		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM
Toxaphene	< 2.0	2.0		µg/L	1	10/25/24 7:30 AM	10/29/24 9:06 PM
Surr: Decachlorobiphenyl	55.9	10-133		%REC	1	10/25/24 7:30 AM	10/29/24 9:06 PM
Surr: Tetrachloro-m-xylene	64.9	31-110		%REC	1	10/25/24 7:30 AM	10/29/24 9:06 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: NPT		EPA 8011	EPA 8011
1,2-Dibromo-3-chloropropane	< 0.20	0.20		µg/L	1	10/25/24 7:58 AM	10/26/24 4:30 AM
1,2-Dibromoethane	< 0.05	0.05		µg/L	1	10/25/24 7:58 AM	10/26/24 4:30 AM
Surr: 1,1,2,2-Tetrachloroethane	92.5	60-140		%REC	1	10/25/24 7:58 AM	10/26/24 4:30 AM
<b>SEMI-VOLATILE COMPOUNDS</b>							
				Analyst: ADL		EPA 3520 C	EPA 8270 E
1,2,4,5-Tetrachlorobenzene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
1,2,4-Trichlorobenzene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
1,3-Dinitrobenzene	< 20	20		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
1,4-Naphthoquinone	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
1-Naphthylamine	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
1-Nitrosopiperidine	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
2,3,4,6-Tetrachlorophenol	< 20	20		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
2,4,5-Trichlorophenol	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
2,4,6-Trichlorophenol	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
2,4-Dichlorophenol	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
2,4-Dimethylphenol	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
2,4-Dinitrophenol	< 20	20		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
2,4-Dinitrotoluene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
2,6-Dichlorophenol	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
2,6-Dinitrotoluene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
2-Acetylaminofluorene	< 20	20		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
2-Chloro-Naphthalene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
2-Chlorophenol	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
2-Methylnaphthalene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
2-Methylphenol	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
2-Naphthylamine	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM



# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-11
<b>Lab Order:</b>	G2410E76	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/23/2024 9:31:00 AM
<b>Lab ID:</b>	G2410E76-002	<b>Received Date:</b>	10/24/2024 12:41:00 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>SEMI-VOLATILE COMPOUNDS</b>							
				Analyst: ADL		EPA 3520 C	EPA 8270 E
2-Nitroaniline	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
2-Nitrophenol	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
3,3-Dichlorobenzidine	< 20	20		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
3,3-Dimethylbenzidine	< 40	40		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
3,4-Methylphenol	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
3-Methylcholanthrene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
3-Nitroaniline	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
4,6-Dinitro-2-methylphenol	< 20	20		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
4-Aminobiphenyl	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
4-Bromophenylphenoxyether	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
4-Chloro-3-methylphenol	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
4-Chloroaniline	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
4-Chlorophenylphenoxyether	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
4-Nitroaniline	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
4-Nitrophenol	< 20	20		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
5-Nitro-o-toluidine	< 20	20		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
7,12-Dimethylbenz(a)-anthracene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Acenaphthene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Acenaphthylene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Acetophenone	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Anthracene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Benzo(a)anthracene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Benzo(a)pyrene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Benzo(b)fluoranthene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Benzo(g,h,i)perylene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Benzo(k)fluoranthene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Benzyl Alcohol	< 20	20		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
bis(2-Chloroethoxy)methane	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
bis(2-Chloroethyl)ether	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
bis(2-Chloroisopropyl)ether	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
bis(2-Ethylhexyl)phthalate	< 5.0	5.0		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Butyl benzylphthalate	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Chlorobenzilate	< 20	20		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Chrysene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Dibenzo(a,h)anthracene	< 10	10	L2	µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Dibenzofuran	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Diethyl Phthalate	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Dimethoate	< 20	20		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Dimethyl Phthalate	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Di-N-Butyl Phthalate	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-11
<b>Lab Order:</b>	G2410E76	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/23/2024 9:31:00 AM
<b>Lab ID:</b>	G2410E76-002	<b>Received Date:</b>	10/24/2024 12:41:00 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>SEMI-VOLATILE COMPOUNDS</b>							
			Analyst: ADL			EPA 3520 C	EPA 8270 E
Di-N-Octylphthalate	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Diphenylamine	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Disulfoton	< 20	20		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Ethyl Methanesulfonate	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Famphur	< 40	40		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Fluoranthene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Fluorene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Hexachlorobenzene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Hexachlorobutadiene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Hexachlorocyclopentadiene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Hexachloroethane	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Hexachloropropene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Indeno(1,2,3-cd)pyrene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Isodrin	< 20	20		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Isophorone	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Isosafrole	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Kepone	< 50	50		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Methapyrilene	< 50	50		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Methyl Methanesulfonate	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Methyl Parathion	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Naphthalene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Nitrobenzene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
N-Nitrosodibutylamine	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
N-Nitrosodiethylamine	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
n-Nitrosodimethylamine	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
n-Nitrosodiphenylamine	< 20	20		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
N-nitrosodipropylamine	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
N-Nitrosomethylalkylamine	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
N-Nitrosopyrrolidine	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
o,o,o-Triethylphosphorothioate	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
o-Toluidine	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Parathion	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
p-Dimethylaminoazobenzene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Pentachlorobenzene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Pentachloronitrobenzene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Pentachlorophenol	< 20	20		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Phenacetin	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Phenanthrene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Phenol	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Phorate	< 20	20		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-11
<b>Lab Order:</b>	G2410E76	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/23/2024 9:31:00 AM
<b>Lab ID:</b>	G2410E76-002	<b>Received Date:</b>	10/24/2024 12:41:00 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>SEMI-VOLATILE COMPOUNDS</b>							
			Analyst: ADL			EPA 3520 C	EPA 8270 E
p-Phenylenediamine	< 800	800		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Pronamide	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Pyrene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Safrole	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
sym-Trinitrobenzene	< 10	10		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Thionazin	< 20	20		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Diallate	< 20	20		µg/L	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Surr: 2,4,6-Tribromophenol	46.5	34-131		%REC	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Surr: 2-Fluorobiphenyl	77.1	34-118		%REC	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Surr: 2-Fluorophenol	16.4	10-115		%REC	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Surr: Nitrobenzene-d5	76.5	32-119		%REC	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Surr: Phenol-d6	66.8	11-119		%REC	1	10/28/24 7:00 AM	10/31/24 9:16 PM
Surr: p-Terphenyl-d14	79.6	32-136		%REC	1	10/28/24 7:00 AM	10/31/24 9:16 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
			Analyst: MEG			EPA 8260 D	
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	10/25/24 7:03 PM	
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	10/25/24 7:03 PM	
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	10/25/24 7:03 PM	
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	10/25/24 7:03 PM	
1,1-Dichloroethane	< 2.0	2.0		µg/L	1	10/25/24 7:03 PM	
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	10/25/24 7:03 PM	
1,1-Dichloropropene	< 5.0	5.0		µg/L	1	10/25/24 7:03 PM	
1,2,3-Trichloropropane	< 10	10		µg/L	1	10/25/24 7:03 PM	
1,2-Dichlorobenzene	< 10	10		µg/L	1	10/25/24 7:03 PM	
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	10/25/24 7:03 PM	
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	10/25/24 7:03 PM	
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	10/25/24 7:03 PM	
1,3-Dichloropropane	< 5.0	5.0		µg/L	1	10/25/24 7:03 PM	
1,4-Dichlorobenzene	< 10	10		µg/L	1	10/25/24 7:03 PM	
2,2-Dichloropropane	< 5.0	5.0		µg/L	1	10/25/24 7:03 PM	
2-Butanone	< 50.0	50.0		µg/L	1	10/25/24 7:03 PM	
2-chloro-1,3-butadiene	< 5.0	5.0		µg/L	1	10/25/24 7:03 PM	
2-Hexanone	< 10	10		µg/L	1	10/25/24 7:03 PM	
3-Chloro-1-Propene	< 5.0	5.0		µg/L	1	10/25/24 7:03 PM	
4-Methyl-2-Pentanone	< 10	10		µg/L	1	10/25/24 7:03 PM	
Acetone	< 34.0	34.0		µg/L	1	10/25/24 7:03 PM	
Acetonitrile	< 50.0	50.0		µg/L	1	10/25/24 7:03 PM	
Acrolein	< 100	100	P4C1	µg/L	1	10/29/24 2:31 PM	
Acrylonitrile	< 100	100	P4	µg/L	1	10/25/24 7:03 PM	
Benzene	< 5.0	5.0		µg/L	1	10/25/24 7:03 PM	



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-11
<b>Lab Order:</b>	G2410E76	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/23/2024 9:31:00 AM
<b>Lab ID:</b>	G2410E76-002	<b>Received Date:</b>	10/24/2024 12:41:00 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			<b>EPA 8260 D</b>
Bromochloromethane	< 10	10		µg/L	1		10/25/24 7:03 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/25/24 7:03 PM
Bromoform	< 5.0	5.0		µg/L	1		10/29/24 2:31 PM
Bromomethane	< 10	10		µg/L	1		10/25/24 7:03 PM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/25/24 7:03 PM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/25/24 7:03 PM
Chlorobenzene	2.5	2.0		µg/L	1		10/25/24 7:03 PM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/25/24 7:03 PM
Chloroethane	< 10	10		µg/L	1		10/25/24 7:03 PM
Chloroform	< 5.0	5.0		µg/L	1		10/25/24 7:03 PM
Chloromethane	< 10	10		µg/L	1		10/25/24 7:03 PM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/25/24 7:03 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/25/24 7:03 PM
Dibromomethane	< 10	10		µg/L	1		10/25/24 7:03 PM
Dichlorodifluoromethane	< 1.0	1.0		µg/L	1		10/25/24 7:03 PM
Ethyl Methacrylate	< 5.0	5.0		µg/L	1		10/25/24 7:03 PM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/25/24 7:03 PM
Iodomethane	< 10	10		µg/L	1		10/25/24 7:03 PM
Isobutyl alcohol	< 200	200		µg/L	1		10/25/24 7:03 PM
Methacrylonitrile	< 10	10		µg/L	1		10/25/24 7:03 PM
Methyl methacrylate	< 5.0	5.0		µg/L	1		10/25/24 7:03 PM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/25/24 7:03 PM
Propionitrile	< 100	100		µg/L	1		10/25/24 7:03 PM
Styrene	< 5.0	5.0		µg/L	1		10/25/24 7:03 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/25/24 7:03 PM
Toluene	< 5.0	5.0		µg/L	1		10/25/24 7:03 PM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/25/24 7:03 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/25/24 7:03 PM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/25/24 7:03 PM
Trichloroethene	< 5.0	5.0		µg/L	1		10/25/24 7:03 PM
Trichlorofluoromethane	< 10	10		µg/L	1		10/25/24 7:03 PM
Vinyl Acetate	< 10	10		µg/L	1		10/25/24 7:03 PM
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/25/24 7:03 PM
Total Xylene	< 10	10		µg/L	1		10/25/24 7:03 PM
Surr: 1,2-Dichloroethane-d4	97.8	70-130		%REC	1		10/25/24 7:03 PM
Surr: 4-Bromofluorobenzene	85.6	70-130		%REC	1		10/25/24 7:03 PM
Surr: Dibromofluoromethane	91.8	70-130		%REC	1		10/25/24 7:03 PM
Surr: Toluene-d8	105	70-130		%REC	1		10/25/24 7:03 PM

<b>INDICATOR ORGANIC PARAMETERS</b>	Analyst: KJW	<b>SM 5310 C-14</b>
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I.D. 56-00306 PA DEP

## Laboratory Results

### Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWC-11
Lab Order:	G2410E76	Sampled By:	ACC
Project:	BGwinnett 321S2	Collection Date:	10/23/2024 9:31:00 AM
Lab ID:	G2410E76-002	Received Date:	10/24/2024 12:41:00 PM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>INDICATOR ORGANIC PARAMETERS</b>							
Total Organic Carbon	2.9	1.0		mg/L	1		10/30/24 1:38 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	TB-3
<b>Lab Order:</b>	G2410E76	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/23/2024 12:00:01 AM
<b>Lab ID:</b>	G2410E76-003	<b>Received Date:</b>	10/24/2024 12:41:00 PM
<b>Matrix:</b>	AQUEOUS		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: NPT		EPA 8011	EPA 8011
1,2-Dibromo-3-chloropropane	< 0.20	0.20		µg/L	1	10/25/24 7:58 AM	10/26/24 4:55 AM
1,2-Dibromoethane	< 0.05	0.05		µg/L	1	10/25/24 7:58 AM	10/26/24 4:55 AM
Surr: 1,1,2,2-Tetrachloroethane	112	60-140		%REC	1	10/25/24 7:58 AM	10/26/24 4:55 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG		EPA 8260 D	
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
1,1-Dichloroethane	< 2.0	2.0		µg/L	1	10/28/24 11:08 PM	
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
1,1-Dichloropropene	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
1,2,3-Trichloropropane	< 10	10		µg/L	1	10/28/24 11:08 PM	
1,2-Dichlorobenzene	< 10	10		µg/L	1	10/28/24 11:08 PM	
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
1,3-Dichloropropane	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
1,4-Dichlorobenzene	< 10	10		µg/L	1	10/28/24 11:08 PM	
2,2-Dichloropropane	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
2-Butanone	< 50.0	50.0		µg/L	1	10/28/24 11:08 PM	
2-chloro-1,3-butadiene	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
2-Hexanone	< 10	10		µg/L	1	10/28/24 11:08 PM	
3-Chloro-1-Propene	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
4-Methyl-2-Pentanone	< 10	10		µg/L	1	10/28/24 11:08 PM	
Acetone	< 34.0	34.0		µg/L	1	10/28/24 11:08 PM	
Acetonitrile	< 50.0	50.0		µg/L	1	10/28/24 11:08 PM	
Acrolein	< 100	100	P4C1	µg/L	1	10/29/24 2:55 PM	
Acrylonitrile	< 100	100	P4	µg/L	1	10/28/24 11:08 PM	
Benzene	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
Bromochloromethane	< 10	10		µg/L	1	10/28/24 11:08 PM	
Bromodichloromethane	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
Bromoform	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
Bromomethane	< 10	10		µg/L	1	10/28/24 11:08 PM	
Carbon Disulfide	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
Carbon Tetrachloride	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
Chlorobenzene	< 2.0	2.0		µg/L	1	10/28/24 11:08 PM	
Chlorodibromomethane	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	
Chloroethane	< 10	10		µg/L	1	10/28/24 11:08 PM	
Chloroform	< 5.0	5.0		µg/L	1	10/28/24 11:08 PM	



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	TB-3
<b>Lab Order:</b>	G2410E76	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/23/2024 12:00:01 AM
<b>Lab ID:</b>	G2410E76-003	<b>Received Date:</b>	10/24/2024 12:41:00 PM
<b>Matrix:</b>	AQUEOUS		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			<b>EPA 8260 D</b>
Chloromethane	< 10	10		µg/L	1		10/28/24 11:08 PM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/28/24 11:08 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/28/24 11:08 PM
Dibromomethane	< 10	10		µg/L	1		10/28/24 11:08 PM
Dichlorodifluoromethane	< 1.0	1.0		µg/L	1		10/28/24 11:08 PM
Ethyl Methacrylate	< 5.0	5.0		µg/L	1		10/28/24 11:08 PM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/28/24 11:08 PM
Iodomethane	< 10	10		µg/L	1		10/28/24 11:08 PM
Isobutyl alcohol	< 200	200		µg/L	1		10/28/24 11:08 PM
Methacrylonitrile	< 10	10		µg/L	1		10/28/24 11:08 PM
Methyl methacrylate	< 5.0	5.0		µg/L	1		10/28/24 11:08 PM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/28/24 11:08 PM
Propionitrile	< 100	100		µg/L	1		10/28/24 11:08 PM
Styrene	< 5.0	5.0		µg/L	1		10/28/24 11:08 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/28/24 11:08 PM
Toluene	< 5.0	5.0		µg/L	1		10/28/24 11:08 PM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/28/24 11:08 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/28/24 11:08 PM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/28/24 11:08 PM
Trichloroethene	< 5.0	5.0		µg/L	1		10/28/24 11:08 PM
Trichlorofluoromethane	< 10	10		µg/L	1		10/28/24 11:08 PM
Vinyl Acetate	< 10	10		µg/L	1		10/28/24 11:08 PM
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/28/24 11:08 PM
Total Xylene	< 10	10		µg/L	1		10/28/24 11:08 PM
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1		10/28/24 11:08 PM
Surr: 4-Bromofluorobenzene	100	70-130		%REC	1		10/28/24 11:08 PM
Surr: Dibromofluoromethane	98.0	70-130		%REC	1		10/28/24 11:08 PM
Surr: Toluene-d8	102	70-130		%REC	1		10/28/24 11:08 PM



I.D. 56-00306 PA DEP



2005 N. Center Ave.  
Somerset, PA 15501

814/443-1671  
814/445-6666  
FAX: 814/445-6729

Tuesday, November 12, 2024

JUDY ARMOUR  
BUTTON GWINNETT LANDFILL  
2901 MECHANICSVILLE ROAD  
NORCROSS, GA 30071

RE: BGwinnett 221S(a)

Order No.: G2410E81

Dear JUDY ARMOUR:

Geochemical Testing received 7 sample(s) on 10/24/2024 for the analyses presented in the following report.

There were no problems with sample receipt protocols and analyses met the TNI/NELAC, EPA, and laboratory specifications except where noted in the Case Narrative or Laboratory Results.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Joelle Streczywilk  
Environmental Laboratory Manager

Leslie A. Nemeth  
Project Manager



## Geochemical Testing

Date: 12-Nov-24

**CLIENT:** BUTTON GWINNETT LANDFILL  
**Project:** BGwinnett 221S(a)  
**Lab Order:** G2410E81

## CASE NARRATIVE

No problems were encountered during analysis of this workorder, except if noted in this report.

The analytical data submitted within this report was submitted by an approved analytical laboratory (per Chapter 391-3-26-.05) and in accordance with Georgia state law (O.C.G.A. 12-2-9). The accreditation information follows below:

**LABORATORY:** Geochemical Testing, Somerset, Pennsylvania  
**ACCREDITATION AGENCY:** Pennsylvania National Environmental Laboratory Accreditation Program (NELAP)  
**ACCREDITATION ID:** PA ID# 56-00306  
**SCOPE:** Potable, Non-Potable, Solid and Chemical Materials  
**EXPIRATION DATE:** January 31, 2025

**Glossary:**  
H - Method Hold Time exceeded and is not compliant with 40CFR136 Table II.  
U - The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.  
B - Analyte detected in the associated Method Blank  
Q1 - See case narrative      ND - Not Detected  
MCL - Contaminant Limit      J - Indicates an estimated value.  
Q - Qualifier      QL - Quantitation Limit      DF - Dilution Factor

S - Surrogate Recovery outside accepted recovery limits  
T - Sample received above required temperature and is not compliant with 40CFR136 Table II.  
T1 - Sample received above required temperature  
MDA - Minimum Detectable Activity.  
\*\* - Value exceeds Action Limit  
TICs - Tentatively Identified Compounds.  
E - Value above quantitation range



## Glossary (continued)

1	Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.	M7	Recovery for matrix spike could not be quantified due to matrix interference.
B1	Dilution water blank exceeded method criterion.	M8	Analyte was spiked into the MS, but was not recovered.
C1	CCV recovery above the acceptance limits. Results may be biased high.	M9	Analyte concentration was determined by the method of standard addition (MSA).
C2	CCV recovery below the acceptance limits. Results may be biased low.	N1	The lab does not hold accreditation from PA-DEP for this parameter by this method
C3	ICV recovery above the acceptance limits. Results may be biased high.	N2	PADEP does not accredit labs for this analyte by this method.
C4	ICV recovery below the acceptance limits. Results may be biased low.	N3	The lab is accredited for this method in West Virginia, but not in PA (its primary accrediting body).
C5	Positive values verified by second column confirmation.	N4	PADEP does not accredit labs for this analyte by this method in drinking water.
C6	Confirmation analysis by another detector or chromatographic column was not performed.	O1	The flashpoint tester cannot detect below 50 degrees F.
D1	The analysis did not meet the minimum DO depletion of at least 2 mg/L.	O2	Result is temperature of the sample when flame observed. No flash observed. Result qualified.
D2	The analysis did not meet the minimum residual DO of at least 1 mg/L.	O3	The reporting limits were raised due to the high concentration of non-target compounds.
D3	Sample required dilution due to a matrix interference.	O4	Sample was received with headspace.
D4	Sample was diluted in the extraction steps due to marked matrix interferences.	O5	Sample was received in incorrect container and is not compliant with 40CFR136 Table II.
D5	Sample required dilution due to a chloride interference.	O6	Insufficient sample volume was received to comply with the method.
D6	Sample was diluted and the reporting limits were raised to achieve method compliant internal standard recovery.	P1	The pH of the sample was >2 and is not compliant with 40CFR136 Table II.
D7	Sample was digested at a dilution due to the formation of a post-digestion precipitate.	P2	Sample contained residual chlorine and is not compliant with 40CFR136 Table II
D8	Sample was digested at a dilution to achieve method compliant matrix spike recovery.	P3	The pH of the sample was <10 and is not compliant with 40CFR136 Table II.
D9	Sample was digested at a dilution to meet method compliant digestion criteria.	P4	Field preservation does not meet EPA or method recommendations for this analysis.
E2	Unable to obtain a stable weight within specified limits due to sample matrix. Value is estimated.	P5	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.
F1	Fecal sample tested positive for residual chlorine.	P6	Sample required additional preservative upon receipt.
H1	Due to under-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.	P7	The sample was received unpreserved.
H2	Due to over-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.	P8	The pH of the sample was < 9 and is not compliant with 40 CFR136 Table II.
H3	Sample was re-analyzed outside of hold time due to error during original analysis.	R	Relative Percent Difference (RPD) was above the control limit.
H4	The Nitrite result used to report Nitrate was analyzed past the 48-hour holding time.	R1	RPD above control limits between matrix spike and MS duplicates.
I1	Internal standard recovery above method acceptance limits. Results are estimated.	R2	RPD above the control limit between duplicates.
I2	Internal standard recovery was below method acceptance limits. Results are estimated.	R3	RSD above the control limit between replicates.
IP	One of the instrument performance checks ( ) did not meet the acceptance criteria.	R4	RPD above control limits between Inorganic Carbon check and spike.
L1	LCS above the acceptance limits. Result may be biased high.	R5	RPD above control limits between control sample and control sample duplicates.
L2	LCS below the acceptance limits. Result may be biased low.	S2	Surrogate recovery in the blank was below the control limit.
L3	Analyte was spiked into the LCS, but was not recovered.	S3	Surrogate recovery in the blank was above the control limit.
M1	Matrix Spike recovery above the acceptance limits.	S4	Surrogate recovery in the LCS is above the control limit.
M2	Matrix Spike recovery below the acceptance limits.	S5	Surrogate recovery in the LCS is below the control limit.
M4	The matrix spike failed high for the surrogate.	SR	Analyte recovery was outside the accepted recovery limits and above the control limit for RPD.
M5	The matrix spike failed low for the surrogate.	T3	Target analyte found in trip/field blank.
M6	The reporting limits were raised due to sample matrix interference.	TC	The MS tune check (tailing factor) did not meet the acceptance criteria.

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-1AR
<b>Lab Order:</b>	G2410E81	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/23/2024 8:40:00 AM
<b>Lab ID:</b>	G2410E81-001	<b>Received Date:</b>	10/24/2024 1:28:43 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	5.86			S.U.		10/23/24 8:40 AM	
Specific Conductance (Field)	269			µmhos/cm		10/23/24 8:40 AM	
Temperature (Field)	22.2			deg C		10/23/24 8:40 AM	
Turbidity (Field)	4.36			NTU		10/23/24 8:40 AM	
<b>INORGANIC NON-METALS</b>							
Total dissolved solids	128	20		mg/L	1	10/28/24 11:20 AM	10/28/24 11:28 AM
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	82	10		mg/L CaCO <sub>3</sub>	1		10/25/24 11:07 AM
<b>INORGANIC NON-METALS</b>							
Chloride	4.3	1.0		mg/L	1	10/28/24 2:54 PM	10/28/24 6:58 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	0.37	0.10		mg/L as N	1		10/29/24 1:16 PM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/25/24 9:30 AM	10/28/24 9:54 AM
Arsenic	< 10	10		µg/L	1	10/25/24 9:30 AM	10/28/24 9:54 AM
Lead	< 5.0	5.0		µg/L	1	10/25/24 9:30 AM	10/28/24 9:54 AM
Selenium	< 10	10		µg/L	1	10/25/24 9:30 AM	10/28/24 9:54 AM
Thallium	< 2.0	2.0		µg/L	1	10/25/24 9:30 AM	10/28/24 9:54 AM
<b>INORGANIC METALS</b>							
Barium	0.07	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:32 AM
Beryllium	< 0.001	0.001		mg/L	1	10/25/24 9:30 AM	10/28/24 10:32 AM
Cadmium	< 0.002	0.002		mg/L	1	10/25/24 9:30 AM	10/28/24 10:32 AM
Chromium	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:32 AM
Cobalt	0.006	0.005		mg/L	1	10/25/24 9:30 AM	10/28/24 10:32 AM
Copper	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:32 AM
Nickel	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:32 AM
Silver	< 0.050	0.050		mg/L	1	10/25/24 9:30 AM	10/29/24 10:45 AM
Vanadium	< 0.005	0.005		mg/L	1	10/25/24 9:30 AM	10/28/24 10:32 AM
Zinc	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:32 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/25/24 7:27 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

**CLIENT:** BUTTON GWINNETT LANDFILL  
**Lab Order:** G2410E81  
**Project:** BGwinnett 221S(a)  
**Lab ID:** G2410E81-001  
**Matrix:** GROUNDWATER

**Client Sample ID:** GWC-1AR  
**Sampled By:** ACC  
**Collection Date:** 10/23/2024 8:40:00 AM  
**Received Date:** 10/24/2024 1:28:43 PM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			<b>EPA 8260 D</b>
1,1-Dichloroethene	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
1,2,3-Trichloropropane	< 10	10		µg/L	1		10/25/24 7:27 PM
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1		10/29/24 3:19 PM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1		10/25/24 7:27 PM
1,2-Dichlorobenzene	< 10	10		µg/L	1		10/25/24 7:27 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
1,4-Dichlorobenzene	< 10	10		µg/L	1		10/25/24 7:27 PM
2-Butanone	< 50.0	50.0		µg/L	1		10/25/24 7:27 PM
2-Hexanone	< 10	10		µg/L	1		10/25/24 7:27 PM
4-Methyl-2-Pentanone	< 10	10		µg/L	1		10/25/24 7:27 PM
Acetone	< 34.0	34.0		µg/L	1		10/25/24 7:27 PM
Acrylonitrile	< 100	100	P4	µg/L	1		10/25/24 7:27 PM
Benzene	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
Bromochloromethane	< 10	10		µg/L	1		10/25/24 7:27 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
Bromoform	< 5.0	5.0		µg/L	1		10/29/24 3:19 PM
Bromomethane	< 10	10		µg/L	1		10/25/24 7:27 PM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
Chlorobenzene	< 2.0	2.0		µg/L	1		10/25/24 7:27 PM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
Chloroethane	< 10	10		µg/L	1		10/25/24 7:27 PM
Chloroform	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
Chloromethane	< 10	10		µg/L	1		10/25/24 7:27 PM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/25/24 7:27 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
Dibromomethane	< 10	10		µg/L	1		10/25/24 7:27 PM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
Iodomethane	< 10	10		µg/L	1		10/25/24 7:27 PM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
Styrene	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
Toluene	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/25/24 7:27 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/25/24 7:27 PM
Trichloroethene	< 5.0	5.0		µg/L	1		10/25/24 7:27 PM
Trichlorofluoromethane	< 10	10		µg/L	1		10/25/24 7:27 PM
Vinyl Acetate	< 10	10		µg/L	1		10/25/24 7:27 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWC-1AR
Lab Order:	G2410E81	Sampled By:	ACC
Project:	BGwinnett 221S(a)	Collection Date:	10/23/2024 8:40:00 AM
Lab ID:	G2410E81-001	Received Date:	10/24/2024 1:28:43 PM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			EPA 8260 D
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/25/24 7:27 PM
Total Xylene	< 10	10		µg/L	1		10/25/24 7:27 PM
Surr: 1,2-Dichloroethane-d4	99.2	70-130		%REC	1		10/25/24 7:27 PM
Surr: 4-Bromofluorobenzene	88.6	70-130		%REC	1		10/25/24 7:27 PM
Surr: Dibromofluoromethane	91.2	70-130		%REC	1		10/25/24 7:27 PM
Surr: Toluene-d8	104	70-130		%REC	1		10/25/24 7:27 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWB-3
<b>Lab Order:</b>	G2410E81	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/23/2024 11:30:00 AM
<b>Lab ID:</b>	G2410E81-002	<b>Received Date:</b>	10/24/2024 1:28:43 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	4.98			S.U.		10/23/24 11:30 AM	
Specific Conductance (Field)	23			µmhos/cm		10/23/24 11:30 AM	
Temperature (Field)	18.2			deg C		10/23/24 11:30 AM	
Turbidity (Field)	1.85			NTU		10/23/24 11:30 AM	
<b>INORGANIC NON-METALS</b>							
Total dissolved solids	< 20	20		mg/L	1	10/28/24 11:20 AM	10/28/24 11:28 AM
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	11	10		mg/L CaCO <sub>3</sub>	1		10/25/24 11:13 AM
<b>INORGANIC NON-METALS</b>							
Chloride	1.4	1.0		mg/L	1	10/28/24 2:54 PM	10/28/24 8:27 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	< 0.10	0.10		mg/L as N	1		10/29/24 1:21 PM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/25/24 9:30 AM	10/28/24 9:56 AM
Arsenic	< 10	10		µg/L	1	10/25/24 9:30 AM	10/28/24 9:56 AM
Lead	< 5.0	5.0		µg/L	1	10/25/24 9:30 AM	10/28/24 9:56 AM
Selenium	< 10	10		µg/L	1	10/25/24 9:30 AM	10/28/24 9:56 AM
Thallium	< 2.0	2.0		µg/L	1	10/25/24 9:30 AM	10/28/24 9:56 AM
<b>INORGANIC METALS</b>							
Barium	0.04	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:42 AM
Beryllium	< 0.001	0.001		mg/L	1	10/25/24 9:30 AM	10/28/24 10:42 AM
Cadmium	< 0.002	0.002		mg/L	1	10/25/24 9:30 AM	10/28/24 10:42 AM
Chromium	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:42 AM
Cobalt	< 0.005	0.005		mg/L	1	10/25/24 9:30 AM	10/28/24 10:42 AM
Copper	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:42 AM
Nickel	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:42 AM
Silver	< 0.050	0.050		mg/L	1	10/25/24 9:30 AM	10/29/24 10:48 AM
Vanadium	< 0.005	0.005		mg/L	1	10/25/24 9:30 AM	10/28/24 10:42 AM
Zinc	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:42 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/28/24 11:31 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWB-3
<b>Lab Order:</b>	G2410E81	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/23/2024 11:30:00 AM
<b>Lab ID:</b>	G2410E81-002	<b>Received Date:</b>	10/24/2024 1:28:43 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			<b>EPA 8260 D</b>
1,1-Dichloroethene	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
1,2,3-Trichloropropane	< 10	10		µg/L	1		10/28/24 11:31 PM
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1		10/28/24 11:31 PM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1		10/28/24 11:31 PM
1,2-Dichlorobenzene	< 10	10		µg/L	1		10/28/24 11:31 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
1,4-Dichlorobenzene	< 10	10		µg/L	1		10/28/24 11:31 PM
2-Butanone	< 50.0	50.0		µg/L	1		10/28/24 11:31 PM
2-Hexanone	< 10	10		µg/L	1		10/28/24 11:31 PM
4-Methyl-2-Pentanone	< 10	10		µg/L	1		10/28/24 11:31 PM
Acetone	< 34.0	34.0		µg/L	1		10/28/24 11:31 PM
Acrylonitrile	< 100	100	P4	µg/L	1		10/28/24 11:31 PM
Benzene	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
Bromochloromethane	< 10	10		µg/L	1		10/28/24 11:31 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
Bromoform	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
Bromomethane	< 10	10		µg/L	1		10/28/24 11:31 PM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
Chlorobenzene	< 2.0	2.0		µg/L	1		10/28/24 11:31 PM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
Chloroethane	< 10	10		µg/L	1		10/28/24 11:31 PM
Chloroform	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
Chloromethane	< 10	10		µg/L	1		10/28/24 11:31 PM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/28/24 11:31 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
Dibromomethane	< 10	10		µg/L	1		10/28/24 11:31 PM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
Iodomethane	< 10	10		µg/L	1		10/28/24 11:31 PM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
Styrene	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
Toluene	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/28/24 11:31 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/28/24 11:31 PM
Trichloroethene	< 5.0	5.0		µg/L	1		10/28/24 11:31 PM
Trichlorofluoromethane	< 10	10		µg/L	1		10/28/24 11:31 PM
Vinyl Acetate	< 10	10		µg/L	1		10/28/24 11:31 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWB-3
Lab Order:	G2410E81	Sampled By:	ACC
Project:	BGwinnett 221S(a)	Collection Date:	10/23/2024 11:30:00 AM
Lab ID:	G2410E81-002	Received Date:	10/24/2024 1:28:43 PM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			EPA 8260 D
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/28/24 11:31 PM
Total Xylene	< 10	10		µg/L	1		10/28/24 11:31 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%REC	1		10/28/24 11:31 PM
Surr: 4-Bromofluorobenzene	103	70-130		%REC	1		10/28/24 11:31 PM
Surr: Dibromofluoromethane	96.6	70-130		%REC	1		10/28/24 11:31 PM
Surr: Toluene-d8	101	70-130		%REC	1		10/28/24 11:31 PM

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWB-2
<b>Lab Order:</b>	G2410E81	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/23/2024 9:11:00 PM
<b>Lab ID:</b>	G2410E81-003	<b>Received Date:</b>	10/24/2024 1:28:43 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	4.76			S.U.		10/23/24 9:11 PM	
Specific Conductance (Field)	64			µmhos/cm		10/23/24 9:11 PM	
Temperature (Field)	18.6			deg C		10/23/24 9:11 PM	
Turbidity (Field)	2.55			NTU		10/23/24 9:11 PM	
<b>INORGANIC NON-METALS</b>							
Total dissolved solids	58	20		mg/L	1	10/28/24 11:20 AM	10/28/24 11:28 AM
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	12	10		mg/L CaCO <sub>3</sub>	1		10/25/24 11:16 AM
<b>INORGANIC NON-METALS</b>							
Chloride	4.3	1.0		mg/L	1	10/28/24 2:54 PM	10/28/24 8:45 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	< 0.10	0.10		mg/L as N	1		10/29/24 1:22 PM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/25/24 9:30 AM	10/28/24 9:59 AM
Arsenic	< 10	10		µg/L	1	10/25/24 9:30 AM	10/28/24 9:59 AM
Lead	< 5.0	5.0		µg/L	1	10/25/24 9:30 AM	10/28/24 9:59 AM
Selenium	< 10	10		µg/L	1	10/25/24 9:30 AM	10/28/24 9:59 AM
Thallium	< 2.0	2.0		µg/L	1	10/25/24 9:30 AM	10/28/24 9:59 AM
<b>INORGANIC METALS</b>							
Barium	0.09	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:45 AM
Beryllium	< 0.001	0.001		mg/L	1	10/25/24 9:30 AM	10/28/24 10:45 AM
Cadmium	< 0.002	0.002		mg/L	1	10/25/24 9:30 AM	10/28/24 10:45 AM
Chromium	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:45 AM
Cobalt	0.024	0.005		mg/L	1	10/25/24 9:30 AM	10/28/24 10:45 AM
Copper	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:45 AM
Nickel	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:45 AM
Silver	< 0.050	0.050		mg/L	1	10/25/24 9:30 AM	10/29/24 10:50 AM
Vanadium	< 0.005	0.005		mg/L	1	10/25/24 9:30 AM	10/28/24 10:45 AM
Zinc	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:45 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/28/24 11:55 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWB-2
<b>Lab Order:</b>	G2410E81	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/23/2024 9:11:00 PM
<b>Lab ID:</b>	G2410E81-003	<b>Received Date:</b>	10/24/2024 1:28:43 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			<b>EPA 8260 D</b>
1,1-Dichloroethene	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
1,2,3-Trichloropropane	< 10	10		µg/L	1		10/28/24 11:55 PM
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1		10/28/24 11:55 PM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1		10/28/24 11:55 PM
1,2-Dichlorobenzene	< 10	10		µg/L	1		10/28/24 11:55 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
1,4-Dichlorobenzene	< 10	10		µg/L	1		10/28/24 11:55 PM
2-Butanone	< 50.0	50.0		µg/L	1		10/28/24 11:55 PM
2-Hexanone	< 10	10		µg/L	1		10/28/24 11:55 PM
4-Methyl-2-Pentanone	< 10	10		µg/L	1		10/28/24 11:55 PM
Acetone	< 34.0	34.0		µg/L	1		10/28/24 11:55 PM
Acrylonitrile	< 100	100	P4	µg/L	1		10/28/24 11:55 PM
Benzene	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
Bromochloromethane	< 10	10		µg/L	1		10/28/24 11:55 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
Bromoform	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
Bromomethane	< 10	10		µg/L	1		10/28/24 11:55 PM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
Chlorobenzene	< 2.0	2.0		µg/L	1		10/28/24 11:55 PM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
Chloroethane	< 10	10		µg/L	1		10/28/24 11:55 PM
Chloroform	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
Chloromethane	< 10	10		µg/L	1		10/28/24 11:55 PM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/28/24 11:55 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
Dibromomethane	< 10	10		µg/L	1		10/28/24 11:55 PM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
Iodomethane	< 10	10		µg/L	1		10/28/24 11:55 PM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
Styrene	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
Toluene	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/28/24 11:55 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/28/24 11:55 PM
Trichloroethene	< 5.0	5.0		µg/L	1		10/28/24 11:55 PM
Trichlorofluoromethane	< 10	10		µg/L	1		10/28/24 11:55 PM
Vinyl Acetate	< 10	10		µg/L	1		10/28/24 11:55 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWB-2
Lab Order:	G2410E81	Sampled By:	ACC
Project:	BGwinnett 221S(a)	Collection Date:	10/23/2024 9:11:00 PM
Lab ID:	G2410E81-003	Received Date:	10/24/2024 1:28:43 PM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			EPA 8260 D
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/28/24 11:55 PM
Total Xylene	< 10	10		µg/L	1		10/28/24 11:55 PM
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1		10/28/24 11:55 PM
Surr: 4-Bromofluorobenzene	99.5	70-130		%REC	1		10/28/24 11:55 PM
Surr: Dibromofluoromethane	97.6	70-130		%REC	1		10/28/24 11:55 PM
Surr: Toluene-d8	99.9	70-130		%REC	1		10/28/24 11:55 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL			<b>Client Sample ID:</b>	GWC-7AR		
<b>Lab Order:</b>	G2410E81			<b>Sampled By:</b>	ACC		
<b>Project:</b>	BGwinnett 221S(a)			<b>Collection Date:</b>	10/23/2024 12:50:00 PM		
<b>Lab ID:</b>	G2410E81-004			<b>Received Date:</b>	10/24/2024 1:28:43 PM		
<b>Matrix:</b>	GROUNDWATER						
Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>				Analyst:			<b>FIELD</b>
pH (Field)	6.08			S.U.			10/23/24 12:50 PM
Specific Conductance (Field)	178			µmhos/cm			10/23/24 12:50 PM
Temperature (Field)	21.6			deg C			10/23/24 12:50 PM
Turbidity (Field)	2.22			NTU			10/23/24 12:50 PM
<b>INORGANIC NON-METALS</b>				Analyst: LAP		<b>SM 2540 C-15</b>	<b>SM 2540 C-15</b>
Total dissolved solids	102	20		mg/L	1	10/28/24 11:20 AM	10/28/24 11:28 AM
<b>INORGANIC NON-METALS</b>				Analyst: GMG			<b>ASTM D1067-16</b>
Alkalinity to pH 4.5	91	10		mg/L CaCO <sub>3</sub>	1		10/25/24 2:47 PM
<b>INORGANIC NON-METALS</b>				Analyst: ACB		<b>EPA 300.0 REV 2.1</b>	<b>EPA 300.0 REV 2.1</b>
Chloride	3.5	1.0		mg/L	1	10/28/24 2:54 PM	10/28/24 9:03 PM
<b>INORGANIC NON-METALS</b>				Analyst: DMM			<b>EPA 350.1 REV 2.0</b>
Ammonia Nitrogen	< 0.10	0.10		mg/L as N	1		10/29/24 1:24 PM
<b>INORGANIC METALS</b>				Analyst: RLR		<b>EPA 3010 A</b>	<b>EPA 6020 B</b>
Antimony	< 6.0	6.0		µg/L	1	10/25/24 9:30 AM	10/28/24 10:01 AM
Arsenic	< 10	10		µg/L	1	10/25/24 9:30 AM	10/28/24 10:01 AM
Lead	< 5.0	5.0		µg/L	1	10/25/24 9:30 AM	10/28/24 10:01 AM
Selenium	< 10	10		µg/L	1	10/25/24 9:30 AM	10/28/24 10:01 AM
Thallium	< 2.0	2.0		µg/L	1	10/25/24 9:30 AM	10/28/24 10:01 AM
<b>INORGANIC METALS</b>				Analyst: TMS		<b>EPA 3010 A</b>	<b>EPA 6010 D</b>
Barium	0.06	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:47 AM
Beryllium	< 0.001	0.001		mg/L	1	10/25/24 9:30 AM	10/28/24 10:47 AM
Cadmium	< 0.002	0.002		mg/L	1	10/25/24 9:30 AM	10/28/24 10:47 AM
Chromium	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:47 AM
Cobalt	< 0.005	0.005		mg/L	1	10/25/24 9:30 AM	10/28/24 10:47 AM
Copper	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:47 AM
Nickel	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:47 AM
Silver	< 0.050	0.050		mg/L	1	10/25/24 9:30 AM	10/29/24 10:53 AM
Vanadium	< 0.005	0.005		mg/L	1	10/25/24 9:30 AM	10/28/24 10:47 AM
Zinc	< 0.01	0.01		mg/L	1	10/25/24 9:30 AM	10/28/24 10:47 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>				Analyst: MEG			<b>EPA 8260 D</b>
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/29/24 12:19 AM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/29/24 12:19 AM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/29/24 12:19 AM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/29/24 12:19 AM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/29/24 12:19 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-7AR
<b>Lab Order:</b>	G2410E81	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/23/2024 12:50:00 PM
<b>Lab ID:</b>	G2410E81-004	<b>Received Date:</b>	10/24/2024 1:28:43 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			<b>EPA 8260 D</b>
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	10/29/24	12:19 AM
1,2,3-Trichloropropane	< 10	10		µg/L	1	10/29/24	12:19 AM
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1	10/29/24	12:19 AM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1	10/29/24	12:19 AM
1,2-Dichlorobenzene	< 10	10		µg/L	1	10/29/24	12:19 AM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	10/29/24	12:19 AM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	10/29/24	12:19 AM
1,4-Dichlorobenzene	< 10	10		µg/L	1	10/29/24	12:19 AM
2-Butanone	< 50.0	50.0		µg/L	1	10/29/24	12:19 AM
2-Hexanone	< 10	10		µg/L	1	10/29/24	12:19 AM
4-Methyl-2-Pentanone	< 10	10		µg/L	1	10/29/24	12:19 AM
Acetone	< 34.0	34.0		µg/L	1	10/29/24	12:19 AM
Acrylonitrile	< 100	100	P4	µg/L	1	10/29/24	12:19 AM
Benzene	< 5.0	5.0		µg/L	1	10/29/24	12:19 AM
Bromochloromethane	< 10	10		µg/L	1	10/29/24	12:19 AM
Bromodichloromethane	< 5.0	5.0		µg/L	1	10/29/24	12:19 AM
Bromoform	< 5.0	5.0		µg/L	1	10/29/24	12:19 AM
Bromomethane	< 10	10		µg/L	1	10/29/24	12:19 AM
Carbon Disulfide	< 5.0	5.0		µg/L	1	10/29/24	12:19 AM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1	10/29/24	12:19 AM
Chlorobenzene	< 2.0	2.0		µg/L	1	10/29/24	12:19 AM
Chlorodibromomethane	< 5.0	5.0		µg/L	1	10/29/24	12:19 AM
Chloroethane	< 10	10		µg/L	1	10/29/24	12:19 AM
Chloroform	< 5.0	5.0		µg/L	1	10/29/24	12:19 AM
Chloromethane	< 10	10		µg/L	1	10/29/24	12:19 AM
cis-1,2-Dichloroethene	< 10	10		µg/L	1	10/29/24	12:19 AM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	10/29/24	12:19 AM
Dibromomethane	< 10	10		µg/L	1	10/29/24	12:19 AM
Ethylbenzene	< 5.0	5.0		µg/L	1	10/29/24	12:19 AM
Iodomethane	< 10	10		µg/L	1	10/29/24	12:19 AM
Methylene Chloride	< 5.0	5.0		µg/L	1	10/29/24	12:19 AM
Styrene	< 5.0	5.0		µg/L	1	10/29/24	12:19 AM
Tetrachloroethene	< 5.0	5.0		µg/L	1	10/29/24	12:19 AM
Toluene	< 5.0	5.0		µg/L	1	10/29/24	12:19 AM
trans-1,2-Dichloroethene	< 10	10		µg/L	1	10/29/24	12:19 AM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	10/29/24	12:19 AM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1	10/29/24	12:19 AM
Trichloroethene	< 5.0	5.0		µg/L	1	10/29/24	12:19 AM
Trichlorofluoromethane	< 10	10		µg/L	1	10/29/24	12:19 AM
Vinyl Acetate	< 10	10		µg/L	1	10/29/24	12:19 AM



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# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWC-7AR
Lab Order:	G2410E81	Sampled By:	ACC
Project:	BGwinnett 221S(a)	Collection Date:	10/23/2024 12:50:00 PM
Lab ID:	G2410E81-004	Received Date:	10/24/2024 1:28:43 PM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG		<b>EPA 8260 D</b>	
Vinyl Chloride	< 2.0	2.0		µg/L	1	10/29/24	12:19 AM
Total Xylene	< 10	10		µg/L	1	10/29/24	12:19 AM
Surr: 1,2-Dichloroethane-d4	106	70-130		%REC	1	10/29/24	12:19 AM
Surr: 4-Bromofluorobenzene	99.4	70-130		%REC	1	10/29/24	12:19 AM
Surr: Dibromofluoromethane	98.3	70-130		%REC	1	10/29/24	12:19 AM
Surr: Toluene-d8	99.6	70-130		%REC	1	10/29/24	12:19 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWB-1
<b>Lab Order:</b>	G2410E81	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/23/2024 1:30:00 PM
<b>Lab ID:</b>	G2410E81-005	<b>Received Date:</b>	10/24/2024 1:28:43 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	6.2			S.U.		10/23/24 1:30 PM	
Specific Conductance (Field)	433			µmhos/cm		10/23/24 1:30 PM	
Temperature (Field)	28.1			deg C		10/23/24 1:30 PM	
Turbidity (Field)	4.92			NTU		10/23/24 1:30 PM	
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	131	10		mg/L CaCO <sub>3</sub>	1		10/25/24 3:00 PM
<b>INORGANIC NON-METALS</b>							
Chloride	46.6	1.0		mg/L	1	10/28/24 2:54 PM	10/28/24 9:21 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	4.53	0.20		mg/L as N	2		10/30/24 9:47 AM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/30/24 8:50 AM	10/31/24 9:09 AM
Arsenic	< 10	10		µg/L	1	10/30/24 8:50 AM	10/31/24 9:09 AM
Lead	< 5.0	5.0		µg/L	1	10/30/24 8:50 AM	10/31/24 9:09 AM
Selenium	< 10	10		µg/L	1	10/30/24 8:50 AM	10/31/24 9:09 AM
Thallium	< 2.0	2.0		µg/L	1	10/30/24 8:50 AM	10/31/24 9:09 AM
<b>INORGANIC METALS</b>							
Barium	0.13	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 11:37 AM
Beryllium	< 0.001	0.001		mg/L	1	10/30/24 8:50 AM	10/31/24 11:37 AM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 8:50 AM	10/31/24 11:37 AM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 11:37 AM
Cobalt	< 0.005	0.005		mg/L	1	10/30/24 8:50 AM	10/31/24 11:37 AM
Copper	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 11:37 AM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 11:37 AM
Silver	< 0.050	0.050		mg/L	1	10/30/24 8:50 AM	10/31/24 11:37 AM
Vanadium	< 0.005	0.005		mg/L	1	10/30/24 8:50 AM	10/31/24 11:37 AM
Zinc	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 11:37 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/29/24 12:43 AM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/29/24 12:43 AM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/29/24 12:43 AM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/29/24 12:43 AM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/29/24 12:43 AM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1		10/29/24 12:43 AM
1,2,3-Trichloropropane	< 10	10		µg/L	1		10/29/24 12:43 AM



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# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWB-1
<b>Lab Order:</b>	G2410E81	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/23/2024 1:30:00 PM
<b>Lab ID:</b>	G2410E81-005	<b>Received Date:</b>	10/24/2024 1:28:43 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			<b>EPA 8260 D</b>
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1	10/29/24	12:43 AM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1	10/29/24	12:43 AM
1,2-Dichlorobenzene	< 10	10		µg/L	1	10/29/24	12:43 AM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	10/29/24	12:43 AM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	10/29/24	12:43 AM
1,4-Dichlorobenzene	< 10	10		µg/L	1	10/29/24	12:43 AM
2-Butanone	< 50.0	50.0		µg/L	1	10/29/24	12:43 AM
2-Hexanone	< 10	10		µg/L	1	10/29/24	12:43 AM
4-Methyl-2-Pentanone	< 10	10		µg/L	1	10/29/24	12:43 AM
Acetone	< 34.0	34.0		µg/L	1	10/29/24	12:43 AM
Acrylonitrile	< 100	100	P4	µg/L	1	10/29/24	12:43 AM
Benzene	< 5.0	5.0		µg/L	1	10/29/24	12:43 AM
Bromochloromethane	< 10	10		µg/L	1	10/29/24	12:43 AM
Bromodichloromethane	< 5.0	5.0		µg/L	1	10/29/24	12:43 AM
Bromoform	< 5.0	5.0		µg/L	1	10/29/24	12:43 AM
Bromomethane	< 10	10		µg/L	1	10/29/24	12:43 AM
Carbon Disulfide	< 5.0	5.0		µg/L	1	10/29/24	12:43 AM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1	10/29/24	12:43 AM
Chlorobenzene	< 2.0	2.0		µg/L	1	10/29/24	12:43 AM
Chlorodibromomethane	< 5.0	5.0		µg/L	1	10/29/24	12:43 AM
Chloroethane	< 10	10		µg/L	1	10/29/24	12:43 AM
Chloroform	< 5.0	5.0		µg/L	1	10/29/24	12:43 AM
Chloromethane	< 10	10		µg/L	1	10/29/24	12:43 AM
cis-1,2-Dichloroethene	< 10	10		µg/L	1	10/29/24	12:43 AM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	10/29/24	12:43 AM
Dibromomethane	< 10	10		µg/L	1	10/29/24	12:43 AM
Ethylbenzene	< 5.0	5.0		µg/L	1	10/29/24	12:43 AM
Iodomethane	< 10	10		µg/L	1	10/29/24	12:43 AM
Methylene Chloride	< 5.0	5.0		µg/L	1	10/29/24	12:43 AM
Styrene	< 5.0	5.0		µg/L	1	10/29/24	12:43 AM
Tetrachloroethene	< 5.0	5.0		µg/L	1	10/29/24	12:43 AM
Toluene	< 5.0	5.0		µg/L	1	10/29/24	12:43 AM
trans-1,2-Dichloroethene	< 10	10		µg/L	1	10/29/24	12:43 AM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	10/29/24	12:43 AM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1	10/29/24	12:43 AM
Trichloroethene	< 5.0	5.0		µg/L	1	10/29/24	12:43 AM
Trichlorofluoromethane	< 10	10		µg/L	1	10/29/24	12:43 AM
Vinyl Acetate	< 10	10		µg/L	1	10/29/24	12:43 AM
Vinyl Chloride	< 2.0	2.0		µg/L	1	10/29/24	12:43 AM
Total Xylene	< 10	10		µg/L	1	10/29/24	12:43 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWB-1
Lab Order:	G2410E81	Sampled By:	ACC
Project:	BGwinnett 221S(a)	Collection Date:	10/23/2024 1:30:00 PM
Lab ID:	G2410E81-005	Received Date:	10/24/2024 1:28:43 PM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Surr: 1,2-Dichloroethane-d4	105	70-130		%REC	1		10/29/24 12:43 AM
Surr: 4-Bromofluorobenzene	97.8	70-130		%REC	1		10/29/24 12:43 AM
Surr: Dibromofluoromethane	99.5	70-130		%REC	1		10/29/24 12:43 AM
Surr: Toluene-d8	100	70-130		%REC	1		10/29/24 12:43 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	FB-1
<b>Lab Order:</b>	G2410E81	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/23/2024 2:00:00 PM
<b>Lab ID:</b>	G2410E81-006	<b>Received Date:</b>	10/24/2024 1:28:43 PM
<b>Matrix:</b>	AQUEOUS		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	6.80			S.U.		10/23/24 2:00 PM	
Specific Conductance (Field)	5			µmhos/cm		10/23/24 2:00 PM	
Temperature (Field)	24.7			deg C		10/23/24 2:00 PM	
Turbidity (Field)	0.0			NTU		10/23/24 2:00 PM	
<b>INORGANIC METALS</b>							
			Analyst: RLR			EPA 3010 A	EPA 6020 B
Antimony	< 6.0	6.0		µg/L	1	10/30/24 8:50 AM	10/31/24 9:25 AM
Arsenic	< 10	10		µg/L	1	10/30/24 8:50 AM	10/31/24 9:25 AM
Lead	< 5.0	5.0		µg/L	1	10/30/24 8:50 AM	10/31/24 9:25 AM
Selenium	< 10	10		µg/L	1	10/30/24 8:50 AM	10/31/24 9:25 AM
Thallium	< 2.0	2.0		µg/L	1	10/30/24 8:50 AM	10/31/24 9:25 AM
<b>INORGANIC METALS</b>							
			Analyst: TMS			EPA 3010 A	EPA 6010 D
Barium	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 12:20 PM
Beryllium	< 0.001	0.001		mg/L	1	10/30/24 8:50 AM	10/31/24 12:20 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 8:50 AM	10/31/24 12:20 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 12:20 PM
Cobalt	< 0.005	0.005		mg/L	1	10/30/24 8:50 AM	10/31/24 12:20 PM
Copper	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 12:20 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 12:20 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 8:50 AM	10/31/24 12:20 PM
Vanadium	< 0.005	0.005		mg/L	1	10/30/24 8:50 AM	10/31/24 12:20 PM
Zinc	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 12:20 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
			Analyst: MEG			EPA 8260 D	
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	10/29/24 1:07 AM	
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	10/29/24 1:07 AM	
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	10/29/24 1:07 AM	
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	10/29/24 1:07 AM	
1,1-Dichloroethane	< 2.0	2.0		µg/L	1	10/29/24 1:07 AM	
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	10/29/24 1:07 AM	
1,2,3-Trichloropropane	< 10	10		µg/L	1	10/29/24 1:07 AM	
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1	10/29/24 1:07 AM	
1,2-Dibromoethane	< 1.0	1.0		µg/L	1	10/29/24 1:07 AM	
1,2-Dichlorobenzene	< 10	10		µg/L	1	10/29/24 1:07 AM	
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	10/29/24 1:07 AM	
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	10/29/24 1:07 AM	
1,4-Dichlorobenzene	< 10	10		µg/L	1	10/29/24 1:07 AM	
2-Butanone	< 50.0	50.0		µg/L	1	10/29/24 1:07 AM	
2-Hexanone	< 10	10		µg/L	1	10/29/24 1:07 AM	
4-Methyl-2-Pentanone	< 10	10		µg/L	1	10/29/24 1:07 AM	



# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	FB-1
<b>Lab Order:</b>	G2410E81	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/23/2024 2:00:00 PM
<b>Lab ID:</b>	G2410E81-006	<b>Received Date:</b>	10/24/2024 1:28:43 PM
<b>Matrix:</b>	AQUEOUS		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			<b>EPA 8260 D</b>
Acetone	< 34.0	34.0		µg/L	1		10/29/24 1:07 AM
Acrylonitrile	< 100	100	P4	µg/L	1		10/29/24 1:07 AM
Benzene	< 5.0	5.0		µg/L	1		10/29/24 1:07 AM
Bromochloromethane	< 10	10		µg/L	1		10/29/24 1:07 AM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/29/24 1:07 AM
Bromoform	< 5.0	5.0		µg/L	1		10/29/24 1:07 AM
Bromomethane	< 10	10		µg/L	1		10/29/24 1:07 AM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/29/24 1:07 AM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/29/24 1:07 AM
Chlorobenzene	< 2.0	2.0		µg/L	1		10/29/24 1:07 AM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/29/24 1:07 AM
Chloroethane	< 10	10		µg/L	1		10/29/24 1:07 AM
Chloroform	< 5.0	5.0		µg/L	1		10/29/24 1:07 AM
Chloromethane	< 10	10		µg/L	1		10/29/24 1:07 AM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/29/24 1:07 AM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/29/24 1:07 AM
Dibromomethane	< 10	10		µg/L	1		10/29/24 1:07 AM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/29/24 1:07 AM
Iodomethane	< 10	10		µg/L	1		10/29/24 1:07 AM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/29/24 1:07 AM
Styrene	< 5.0	5.0		µg/L	1		10/29/24 1:07 AM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/29/24 1:07 AM
Toluene	< 5.0	5.0		µg/L	1		10/29/24 1:07 AM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/29/24 1:07 AM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/29/24 1:07 AM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/29/24 1:07 AM
Trichloroethene	< 5.0	5.0		µg/L	1		10/29/24 1:07 AM
Trichlorofluoromethane	< 10	10		µg/L	1		10/29/24 1:07 AM
Vinyl Acetate	< 10	10		µg/L	1		10/29/24 1:07 AM
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/29/24 1:07 AM
Total Xylene	< 10	10		µg/L	1		10/29/24 1:07 AM
Surr: 1,2-Dichloroethane-d4	107	70-130		%REC	1		10/29/24 1:07 AM
Surr: 4-Bromofluorobenzene	98.4	70-130		%REC	1		10/29/24 1:07 AM
Surr: Dibromofluoromethane	103	70-130		%REC	1		10/29/24 1:07 AM
Surr: Toluene-d8	98.1	70-130		%REC	1		10/29/24 1:07 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	TB-1
<b>Lab Order:</b>	G2410E81	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/23/2024 12:00:01 AM
<b>Lab ID:</b>	G2410E81-007	<b>Received Date:</b>	10/24/2024 1:28:43 PM
<b>Matrix:</b>	AQUEOUS		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			<b>EPA 8260 D</b>
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/29/24 1:30 AM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
1,2,3-Trichloropropane	< 10	10		µg/L	1		10/29/24 1:30 AM
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1		10/29/24 1:30 AM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1		10/29/24 1:30 AM
1,2-Dichlorobenzene	< 10	10		µg/L	1		10/29/24 1:30 AM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
1,4-Dichlorobenzene	< 10	10		µg/L	1		10/29/24 1:30 AM
2-Butanone	< 50.0	50.0		µg/L	1		10/29/24 1:30 AM
2-Hexanone	< 10	10		µg/L	1		10/29/24 1:30 AM
4-Methyl-2-Pentanone	< 10	10		µg/L	1		10/29/24 1:30 AM
Acetone	< 34.0	34.0		µg/L	1		10/29/24 1:30 AM
Acrylonitrile	< 100	100	P4	µg/L	1		10/29/24 1:30 AM
Benzene	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
Bromochloromethane	< 10	10		µg/L	1		10/29/24 1:30 AM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
Bromoform	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
Bromomethane	< 10	10		µg/L	1		10/29/24 1:30 AM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
Chlorobenzene	< 2.0	2.0		µg/L	1		10/29/24 1:30 AM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
Chloroethane	< 10	10		µg/L	1		10/29/24 1:30 AM
Chloroform	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
Chloromethane	< 10	10		µg/L	1		10/29/24 1:30 AM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/29/24 1:30 AM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
Dibromomethane	< 10	10		µg/L	1		10/29/24 1:30 AM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
Iodomethane	< 10	10		µg/L	1		10/29/24 1:30 AM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
Styrene	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
Toluene	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/29/24 1:30 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	TB-1
Lab Order:	G2410E81	Sampled By:	ACC
Project:	BGwinnett 221S(a)	Collection Date:	10/23/2024 12:00:01 AM
Lab ID:	G2410E81-007	Received Date:	10/24/2024 1:28:43 PM
Matrix:	AQUEOUS		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			EPA 8260 D
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/29/24 1:30 AM
Trichloroethene	< 5.0	5.0		µg/L	1		10/29/24 1:30 AM
Trichlorofluoromethane	< 10	10		µg/L	1		10/29/24 1:30 AM
Vinyl Acetate	< 10	10		µg/L	1		10/29/24 1:30 AM
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/29/24 1:30 AM
Total Xylene	< 10	10		µg/L	1		10/29/24 1:30 AM
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1		10/29/24 1:30 AM
Surr: 4-Bromofluorobenzene	98.0	70-130		%REC	1		10/29/24 1:30 AM
Surr: Dibromofluoromethane	98.1	70-130		%REC	1		10/29/24 1:30 AM
Surr: Toluene-d8	100	70-130		%REC	1		10/29/24 1:30 AM



I.D. 56-00306 PA DEP

Tuesday, November 12, 2024

JUDY ARMOUR  
BUTTON GWINNETT LANDFILL  
2901 MECHANICSVILLE ROAD  
NORCROSS, GA 30071

RE: BGwinnett 221S2(a)

Order No.: G2410E84

Dear JUDY ARMOUR:

Geochemical Testing received 1 sample(s) on 10/24/2024 for the analyses presented in the following report.

There were no problems with sample receipt protocols and analyses met the TNI/NELAC, EPA, and laboratory specifications except where noted in the Case Narrative or Laboratory Results.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Joelle Streczywilk  
Environmental Laboratory Manager

Leslie A. Nemeth  
Project Manager

## Geochemical Testing

Date: 12-Nov-24

**CLIENT:** BUTTON GWINNETT LANDFILL  
**Project:** BGwinnett 221S2(a)  
**Lab Order:** G2410E84

## CASE NARRATIVE

No problems were encountered during analysis of this workorder, except if noted in this report.

The analytical data submitted within this report was submitted by an approved analytical laboratory (per Chapter 391-3-26-.05) and in accordance with Georgia state law (O.C.G.A. 12-2-9). The accreditation information follows below:

**LABORATORY:** Geochemical Testing, Somerset, Pennsylvania  
**ACCREDITATION AGENCY:** Pennsylvania National Environmental Laboratory Accreditation Program (NELAP)  
**ACCREDITATION ID:** PA ID# 56-00306  
**SCOPE:** Potable, Non-Potable, Solid and Chemical Materials  
**EXPIRATION DATE:** January 31, 2025

**Glossary:**  
H - Method Hold Time exceeded and is not compliant with 40CFR136 Table II.  
U - The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.  
B - Analyte detected in the associated Method Blank  
Q1 - See case narrative      ND - Not Detected  
MCL - Contaminant Limit      J - Indicates an estimated value.  
Q - Qualifier      QL - Quantitation Limit      DF - Dilution Factor

S - Surrogate Recovery outside accepted recovery limits  
T - Sample received above required temperature and is not compliant with 40CFR136 Table II.  
T1 - Sample received above required temperature  
MDA - Minimum Detectable Activity.  
\*\* - Value exceeds Action Limit  
TICs - Tentatively Identified Compounds.  
E - Value above quantitation range



## Glossary (continued)

1	Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.	M7	Recovery for matrix spike could not be quantified due to matrix interference.
B1	Dilution water blank exceeded method criterion.	M8	Analyte was spiked into the MS, but was not recovered.
C1	CCV recovery above the acceptance limits. Results may be biased high.	M9	Analyte concentration was determined by the method of standard addition (MSA).
C2	CCV recovery below the acceptance limits. Results may be biased low.	N1	The lab does not hold accreditation from PA-DEP for this parameter by this method
C3	ICV recovery above the acceptance limits. Results may be biased high.	N2	PADEP does not accredit labs for this analyte by this method.
C4	ICV recovery below the acceptance limits. Results may be biased low.	N3	The lab is accredited for this method in West Virginia, but not in PA (its primary accrediting body).
C5	Positive values verified by second column confirmation.	N4	PADEP does not accredit labs for this analyte by this method in drinking water.
C6	Confirmation analysis by another detector or chromatographic column was not performed.	O1	The flashpoint tester cannot detect below 50 degrees F.
D1	The analysis did not meet the minimum DO depletion of at least 2 mg/L.	O2	Result is temperature of the sample when flame observed. No flash observed. Result qualified.
D2	The analysis did not meet the minimum residual DO of at least 1 mg/L.	O3	The reporting limits were raised due to the high concentration of non-target compounds.
D3	Sample required dilution due to a matrix interference.	O4	Sample was received with headspace.
D4	Sample was diluted in the extraction steps due to marked matrix interferences.	O5	Sample was received in incorrect container and is not compliant with 40CFR136 Table II.
D5	Sample required dilution due to a chloride interference.	O6	Insufficient sample volume was received to comply with the method.
D6	Sample was diluted and the reporting limits were raised to achieve method compliant internal standard recovery.	P1	The pH of the sample was >2 and is not compliant with 40CFR136 Table II.
D7	Sample was digested at a dilution due to the formation of a post-digestion precipitate.	P2	Sample contained residual chlorine and is not compliant with 40CFR136 Table II
D8	Sample was digested at a dilution to achieve method compliant matrix spike recovery.	P3	The pH of the sample was <10 and is not compliant with 40CFR136 Table II.
D9	Sample was digested at a dilution to meet method compliant digestion criteria.	P4	Field preservation does not meet EPA or method recommendations for this analysis.
E2	Unable to obtain a stable weight within specified limits due to sample matrix. Value is estimated.	P5	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.
F1	Fecal sample tested positive for residual chlorine.	P6	Sample required additional preservative upon receipt.
H1	Due to under-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.	P7	The sample was received unpreserved.
H2	Due to over-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.	P8	The pH of the sample was < 9 and is not compliant with 40 CFR136 Table II.
H3	Sample was re-analyzed outside of hold time due to error during original analysis.	R	Relative Percent Difference (RPD) was above the control limit.
H4	The Nitrite result used to report Nitrate was analyzed past the 48-hour holding time.	R1	RPD above control limits between matrix spike and MS duplicates.
I1	Internal standard recovery above method acceptance limits. Results are estimated.	R2	RPD above the control limit between duplicates.
I2	Internal standard recovery was below method acceptance limits. Results are estimated.	R3	RSD above the control limit between replicates.
IP	One of the instrument performance checks ( ) did not meet the acceptance criteria.	R4	RPD above control limits between Inorganic Carbon check and spike.
L1	LCS above the acceptance limits. Result may be biased high.	R5	RPD above control limits between control sample and control sample duplicates.
L2	LCS below the acceptance limits. Result may be biased low.	S2	Surrogate recovery in the blank was below the control limit.
L3	Analyte was spiked into the LCS, but was not recovered.	S3	Surrogate recovery in the blank was above the control limit.
M1	Matrix Spike recovery above the acceptance limits.	S4	Surrogate recovery in the LCS is above the control limit.
M2	Matrix Spike recovery below the acceptance limits.	S5	Surrogate recovery in the LCS is below the control limit.
M4	The matrix spike failed high for the surrogate.	SR	Analyte recovery was outside the accepted recovery limits and above the control limit for RPD.
M5	The matrix spike failed low for the surrogate.	T3	Target analyte found in trip/field blank.
M6	The reporting limits were raised due to sample matrix interference.	TC	The MS tune check (tailing factor) did not meet the acceptance criteria.

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL			<b>Client Sample ID:</b>	GWA-2A		
<b>Lab Order:</b>	G2410E84			<b>Sampled By:</b>	ACC		
<b>Project:</b>	BGwinnett 221S2(a)			<b>Collection Date:</b>	10/23/2024 10:40:00 AM		
<b>Lab ID:</b>	G2410E84-001			<b>Received Date:</b>	10/24/2024 1:45:28 PM		
<b>Matrix:</b>	GROUNDWATER						
Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>				Analyst:			<b>FIELD</b>
pH (Field)	5.53			S.U.			10/23/24 10:40 AM
Specific Conductance (Field)	111			µmhos/cm			10/23/24 10:40 AM
Temperature (Field)	20.7			deg C			10/23/24 10:40 AM
Turbidity (Field)	1.68			NTU			10/23/24 10:40 AM
<b>INORGANIC NON-METALS</b>				Analyst: LAP		<b>SM 2540 C-15</b>	<b>SM 2540 C-15</b>
Total dissolved solids	78	20		mg/L	1	10/28/24 11:20 AM	10/28/24 11:28 AM
<b>INORGANIC NON-METALS</b>				Analyst: GMG			<b>ASTM D1067-16</b>
Alkalinity to pH 4.5	10	10		mg/L CaCO <sub>3</sub>	1		10/25/24 3:08 PM
<b>INORGANIC NON-METALS</b>				Analyst: ACB		<b>EPA 300.0 REV 2.1</b>	<b>EPA 300.0 REV 2.1</b>
Chloride	4.8	1.0		mg/L	1	10/28/24 2:54 PM	10/28/24 9:39 PM
Sulfate	< 2.0	2.0		mg/L	1	10/28/24 2:54 PM	10/28/24 9:39 PM
<b>INORGANIC NON-METALS</b>				Analyst: DMM			<b>EPA 350.1 REV 2.0</b>
Ammonia Nitrogen	< 0.10	0.10		mg/L as N	1		10/29/24 1:27 PM
<b>INORGANIC NON-METALS</b>				Analyst: EMF		<b>EPA 353.2 REV 2.0</b>	<b>EPA 353.2 REV 2.0</b>
Nitrate Nitrogen	7.73	0.50		mg/L as N	10	10/28/24 6:53 PM	10/29/24 11:53 AM
<b>INORGANIC METALS</b>				Analyst: RLR		<b>EPA 3010 A</b>	<b>EPA 6020 B</b>
Antimony	< 6.0	6.0		µg/L	1	10/30/24 8:50 AM	10/31/24 9:36 AM
Arsenic	< 10	10		µg/L	1	10/30/24 8:50 AM	10/31/24 9:36 AM
Lead	< 5.0	5.0		µg/L	1	10/30/24 8:50 AM	10/31/24 9:36 AM
Selenium	< 10	10		µg/L	1	10/30/24 8:50 AM	10/31/24 9:36 AM
Thallium	< 2.0	2.0		µg/L	1	10/30/24 8:50 AM	10/31/24 9:36 AM
<b>INORGANIC METALS</b>				Analyst: TMS		<b>EPA 3010 A</b>	<b>EPA 6010 D</b>
Barium	0.07	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 12:23 PM
Beryllium	< 0.001	0.001		mg/L	1	10/30/24 8:50 AM	10/31/24 12:23 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 8:50 AM	10/31/24 12:23 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 12:23 PM
Cobalt	< 0.005	0.005		mg/L	1	10/30/24 8:50 AM	10/31/24 12:23 PM
Copper	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 12:23 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 12:23 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 8:50 AM	10/31/24 12:23 PM
Vanadium	< 0.005	0.005		mg/L	1	10/30/24 8:50 AM	10/31/24 12:23 PM
Zinc	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 12:23 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>				Analyst: MEG			<b>EPA 8260 D</b>
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM



# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWA-2A
<b>Lab Order:</b>	G2410E84	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S2(a)	<b>Collection Date:</b>	10/23/2024 10:40:00 AM
<b>Lab ID:</b>	G2410E84-001	<b>Received Date:</b>	10/24/2024 1:45:28 PM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			<b>EPA 8260 D</b>
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/29/24 1:54 AM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
1,2,3-Trichloropropane	< 10	10		µg/L	1		10/29/24 1:54 AM
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1		10/29/24 1:54 AM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1		10/29/24 1:54 AM
1,2-Dichlorobenzene	< 10	10		µg/L	1		10/29/24 1:54 AM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
1,4-Dichlorobenzene	< 10	10		µg/L	1		10/29/24 1:54 AM
2-Butanone	< 50.0	50.0		µg/L	1		10/29/24 1:54 AM
2-Hexanone	< 10	10		µg/L	1		10/29/24 1:54 AM
4-Methyl-2-Pentanone	< 10	10		µg/L	1		10/29/24 1:54 AM
Acetone	< 34.0	34.0		µg/L	1		10/29/24 1:54 AM
Acrylonitrile	< 100	100	P4	µg/L	1		10/29/24 1:54 AM
Benzene	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
Bromochloromethane	< 10	10		µg/L	1		10/29/24 1:54 AM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
Bromoform	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
Bromomethane	< 10	10		µg/L	1		10/29/24 1:54 AM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
Chlorobenzene	< 2.0	2.0		µg/L	1		10/29/24 1:54 AM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
Chloroethane	< 10	10		µg/L	1		10/29/24 1:54 AM
Chloroform	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
Chloromethane	< 10	10		µg/L	1		10/29/24 1:54 AM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/29/24 1:54 AM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
Dibromomethane	< 10	10		µg/L	1		10/29/24 1:54 AM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
Iodomethane	< 10	10		µg/L	1		10/29/24 1:54 AM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
Styrene	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
Toluene	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/29/24 1:54 AM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWA-2A
Lab Order:	G2410E84	Sampled By:	ACC
Project:	BGwinnett 221S2(a)	Collection Date:	10/23/2024 10:40:00 AM
Lab ID:	G2410E84-001	Received Date:	10/24/2024 1:45:28 PM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			EPA 8260 D
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/29/24 1:54 AM
Trichloroethene	< 5.0	5.0		µg/L	1		10/29/24 1:54 AM
Trichlorofluoromethane	< 10	10		µg/L	1		10/29/24 1:54 AM
Vinyl Acetate	< 10	10		µg/L	1		10/29/24 1:54 AM
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/29/24 1:54 AM
Total Xylene	< 10	10		µg/L	1		10/29/24 1:54 AM
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1		10/29/24 1:54 AM
Surr: 4-Bromofluorobenzene	98.4	70-130		%REC	1		10/29/24 1:54 AM
Surr: Dibromofluoromethane	98.0	70-130		%REC	1		10/29/24 1:54 AM
Surr: Toluene-d8	101	70-130		%REC	1		10/29/24 1:54 AM



I.D. 56-00306 PA DEP

Tuesday, November 12, 2024

JUDY ARMOUR  
BUTTON GWINNETT LANDFILL  
2901 MECHANICSVILLE ROAD  
NORCROSS, GA 30071

RE: BGwinnett 221S(a)

Order No.: G2410F31

Dear JUDY ARMOUR:

Geochemical Testing received 9 sample(s) on 10/25/2024 for the analyses presented in the following report.

There were no problems with sample receipt protocols and analyses met the TNI/NELAC, EPA, and laboratory specifications except where noted in the Case Narrative or Laboratory Results.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Joelle Streczywilk  
Environmental Laboratory Manager

Leslie A. Nemeth  
Project Manager

## Geochemical Testing

Date: 12-Nov-24

**CLIENT:** BUTTON GWINNETT LANDFILL  
**Project:** BGwinnett 221S(a)  
**Lab Order:** G2410F31

## CASE NARRATIVE

No problems were encountered during analysis of this workorder, except if noted in this report.

The analytical data submitted within this report was submitted by an approved analytical laboratory (per Chapter 391-3-26-.05) and in accordance with Georgia state law (O.C.G.A. 12-2-9). The accreditation information follows below:

**LABORATORY:** Geochemical Testing, Somerset, Pennsylvania  
**ACCREDITATION AGENCY:** Pennsylvania National Environmental Laboratory Accreditation Program (NELAP)  
**ACCREDITATION ID:** PA ID# 56-00306  
**SCOPE:** Potable, Non-Potable, Solid and Chemical Materials  
**EXPIRATION DATE:** January 31, 2025

**Glossary:**  
H - Method Hold Time exceeded and is not compliant with 40CFR136 Table II.  
U - The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.  
B - Analyte detected in the associated Method Blank  
Q1 - See case narrative      ND - Not Detected  
MCL - Contaminant Limit      J - Indicates an estimated value.  
Q - Qualifier      QL - Quantitation Limit      DF - Dilution Factor

S - Surrogate Recovery outside accepted recovery limits  
T - Sample received above required temperature and is not compliant with 40CFR136 Table II.  
T1 - Sample received above required temperature  
MDA - Minimum Detectable Activity.  
\*\* - Value exceeds Action Limit  
TICs - Tentatively Identified Compounds.  
E - Value above quantitation range



## Glossary (continued)

1	Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.	M7	Recovery for matrix spike could not be quantified due to matrix interference.
B1	Dilution water blank exceeded method criterion.	M8	Analyte was spiked into the MS, but was not recovered.
C1	CCV recovery above the acceptance limits. Results may be biased high.	M9	Analyte concentration was determined by the method of standard addition (MSA).
C2	CCV recovery below the acceptance limits. Results may be biased low.	N1	The lab does not hold accreditation from PA-DEP for this parameter by this method
C3	ICV recovery above the acceptance limits. Results may be biased high.	N2	PADEP does not accredit labs for this analyte by this method.
C4	ICV recovery below the acceptance limits. Results may be biased low.	N3	The lab is accredited for this method in West Virginia, but not in PA (its primary accrediting body).
C5	Positive values verified by second column confirmation.	N4	PADEP does not accredit labs for this analyte by this method in drinking water.
C6	Confirmation analysis by another detector or chromatographic column was not performed.	O1	The flashpoint tester cannot detect below 50 degrees F.
D1	The analysis did not meet the minimum DO depletion of at least 2 mg/L.	O2	Result is temperature of the sample when flame observed. No flash observed. Result qualified.
D2	The analysis did not meet the minimum residual DO of at least 1 mg/L.	O3	The reporting limits were raised due to the high concentration of non-target compounds.
D3	Sample required dilution due to a matrix interference.	O4	Sample was received with headspace.
D4	Sample was diluted in the extraction steps due to marked matrix interferences.	O5	Sample was received in incorrect container and is not compliant with 40CFR136 Table II.
D5	Sample required dilution due to a chloride interference.	O6	Insufficient sample volume was received to comply with the method.
D6	Sample was diluted and the reporting limits were raised to achieve method compliant internal standard recovery.	P1	The pH of the sample was >2 and is not compliant with 40CFR136 Table II.
D7	Sample was digested at a dilution due to the formation of a post-digestion precipitate.	P2	Sample contained residual chlorine and is not compliant with 40CFR136 Table II
D8	Sample was digested at a dilution to achieve method compliant matrix spike recovery.	P3	The pH of the sample was <10 and is not compliant with 40CFR136 Table II.
D9	Sample was digested at a dilution to meet method compliant digestion criteria.	P4	Field preservation does not meet EPA or method recommendations for this analysis.
E2	Unable to obtain a stable weight within specified limits due to sample matrix. Value is estimated.	P5	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.
F1	Fecal sample tested positive for residual chlorine.	P6	Sample required additional preservative upon receipt.
H1	Due to under-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.	P7	The sample was received unpreserved.
H2	Due to over-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.	P8	The pH of the sample was < 9 and is not compliant with 40 CFR136 Table II.
H3	Sample was re-analyzed outside of hold time due to error during original analysis.	R	Relative Percent Difference (RPD) was above the control limit.
H4	The Nitrite result used to report Nitrate was analyzed past the 48-hour holding time.	R1	RPD above control limits between matrix spike and MS duplicates.
I1	Internal standard recovery above method acceptance limits. Results are estimated.	R2	RPD above the control limit between duplicates.
I2	Internal standard recovery was below method acceptance limits. Results are estimated.	R3	RSD above the control limit between replicates.
IP	One of the instrument performance checks ( ) did not meet the acceptance criteria.	R4	RPD above control limits between Inorganic Carbon check and spike.
L1	LCS above the acceptance limits. Result may be biased high.	R5	RPD above control limits between control sample and control sample duplicates.
L2	LCS below the acceptance limits. Result may be biased low.	S2	Surrogate recovery in the blank was below the control limit.
L3	Analyte was spiked into the LCS, but was not recovered.	S3	Surrogate recovery in the blank was above the control limit.
M1	Matrix Spike recovery above the acceptance limits.	S4	Surrogate recovery in the LCS is above the control limit.
M2	Matrix Spike recovery below the acceptance limits.	S5	Surrogate recovery in the LCS is below the control limit.
M4	The matrix spike failed high for the surrogate.	SR	Analyte recovery was outside the accepted recovery limits and above the control limit for RPD.
M5	The matrix spike failed low for the surrogate.	T3	Target analyte found in trip/field blank.
M6	The reporting limits were raised due to sample matrix interference.	TC	The MS tune check (tailing factor) did not meet the acceptance criteria.

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-10
<b>Lab Order:</b>	G2410F31	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/24/2024 7:40:00 AM
<b>Lab ID:</b>	G2410F31-001	<b>Received Date:</b>	10/25/2024 11:38:07 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	5.91			S.U.		10/24/24 7:40 AM	
Specific Conductance (Field)	170			µmhos/cm		10/24/24 7:40 AM	
Temperature (Field)	17.6			deg C		10/24/24 7:40 AM	
Turbidity (Field)	3.53			NTU		10/24/24 7:40 AM	
<b>INORGANIC NON-METALS</b>							
Total dissolved solids	96	20		mg/L	1	10/29/24 11:20 AM	10/29/24 11:28 AM
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	50	10		mg/L CaCO <sub>3</sub>	1		10/28/24 3:57 PM
<b>INORGANIC NON-METALS</b>							
Chloride	15.8	1.0		mg/L	1	10/29/24 1:34 PM	10/29/24 4:33 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	< 0.10	0.10		mg/L as N	1		10/30/24 11:15 AM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/30/24 8:50 AM	10/31/24 10:12 AM
Arsenic	< 10	10		µg/L	1	10/30/24 8:50 AM	10/31/24 10:12 AM
Lead	< 5.0	5.0		µg/L	1	10/30/24 8:50 AM	10/31/24 10:12 AM
Selenium	< 10	10		µg/L	1	10/30/24 8:50 AM	10/31/24 10:12 AM
Thallium	< 2.0	2.0		µg/L	1	10/30/24 8:50 AM	10/31/24 10:12 AM
<b>INORGANIC METALS</b>							
Barium	0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:01 PM
Beryllium	< 0.001	0.001		mg/L	1	10/30/24 8:50 AM	10/31/24 2:01 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 8:50 AM	10/31/24 2:01 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:01 PM
Cobalt	< 0.005	0.005		mg/L	1	10/30/24 8:50 AM	10/31/24 2:01 PM
Copper	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:01 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:01 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 8:50 AM	10/31/24 2:01 PM
Vanadium	< 0.005	0.005		mg/L	1	10/30/24 8:50 AM	10/31/24 2:01 PM
Zinc	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:01 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/29/24 6:15 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

**CLIENT:** BUTTON GWINNETT LANDFILL  
**Lab Order:** G2410F31  
**Project:** BGwinnett 221S(a)  
**Lab ID:** G2410F31-001  
**Matrix:** GROUNDWATER

**Client Sample ID:** GWC-10  
**Sampled By:** ACC  
**Collection Date:** 10/24/2024 7:40:00 AM  
**Received Date:** 10/25/2024 11:38:07 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			<b>EPA 8260 D</b>
1,1-Dichloroethene	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
1,2,3-Trichloropropane	< 10	10		µg/L	1		10/29/24 6:15 AM
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1		10/29/24 6:15 AM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1		10/29/24 6:15 AM
1,2-Dichlorobenzene	< 10	10		µg/L	1		10/29/24 6:15 AM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
1,4-Dichlorobenzene	< 10	10		µg/L	1		10/29/24 6:15 AM
2-Butanone	< 50.0	50.0		µg/L	1		10/29/24 6:15 AM
2-Hexanone	< 10	10		µg/L	1		10/29/24 6:15 AM
4-Methyl-2-Pentanone	< 10	10		µg/L	1		10/29/24 6:15 AM
Acetone	< 34.0	34.0		µg/L	1		10/29/24 6:15 AM
Acrylonitrile	< 100	100	P4	µg/L	1		10/29/24 6:15 AM
Benzene	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
Bromochloromethane	< 10	10		µg/L	1		10/29/24 6:15 AM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
Bromoform	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
Bromomethane	< 10	10		µg/L	1		10/29/24 6:15 AM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
Chlorobenzene	< 2.0	2.0		µg/L	1		10/29/24 6:15 AM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
Chloroethane	< 10	10		µg/L	1		10/29/24 6:15 AM
Chloroform	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
Chloromethane	< 10	10		µg/L	1		10/29/24 6:15 AM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/29/24 6:15 AM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
Dibromomethane	< 10	10		µg/L	1		10/29/24 6:15 AM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
Iodomethane	< 10	10		µg/L	1		10/29/24 6:15 AM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
Styrene	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
Toluene	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/29/24 6:15 AM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/29/24 6:15 AM
Trichloroethene	< 5.0	5.0		µg/L	1		10/29/24 6:15 AM
Trichlorofluoromethane	< 10	10		µg/L	1		10/29/24 6:15 AM
Vinyl Acetate	< 10	10		µg/L	1		10/29/24 6:15 AM



# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWC-10
Lab Order:	G2410F31	Sampled By:	ACC
Project:	BGwinnett 221S(a)	Collection Date:	10/24/2024 7:40:00 AM
Lab ID:	G2410F31-001	Received Date:	10/25/2024 11:38:07 AM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			EPA 8260 D
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/29/24 6:15 AM
Total Xylene	< 10	10		µg/L	1		10/29/24 6:15 AM
Surr: 1,2-Dichloroethane-d4	105	70-130		%REC	1		10/29/24 6:15 AM
Surr: 4-Bromofluorobenzene	98.7	70-130		%REC	1		10/29/24 6:15 AM
Surr: Dibromofluoromethane	98.4	70-130		%REC	1		10/29/24 6:15 AM
Surr: Toluene-d8	100	70-130		%REC	1		10/29/24 6:15 AM

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-8A
<b>Lab Order:</b>	G2410F31	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/24/2024 8:17:00 AM
<b>Lab ID:</b>	G2410F31-002	<b>Received Date:</b>	10/25/2024 11:38:07 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	5.91			S.U.		10/24/24 8:17 AM	
Specific Conductance (Field)	67			µmhos/cm		10/24/24 8:17 AM	
Temperature (Field)	18.5			deg C		10/24/24 8:17 AM	
Turbidity (Field)	3.97			NTU		10/24/24 8:17 AM	
<b>INORGANIC NON-METALS</b>							
Total dissolved solids	54	20		mg/L	1	10/29/24 11:20 AM	10/29/24 11:28 AM
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	25	10		mg/L CaCO <sub>3</sub>	1		10/28/24 4:06 PM
<b>INORGANIC NON-METALS</b>							
Chloride	< 1.0	1.0		mg/L	1	10/29/24 1:52 PM	10/29/24 7:41 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	0.27	0.10		mg/L as N	1		10/30/24 11:20 AM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/30/24 8:50 AM	10/31/24 10:14 AM
Arsenic	< 10	10		µg/L	1	10/30/24 8:50 AM	10/31/24 10:14 AM
Lead	< 5.0	5.0		µg/L	1	10/30/24 8:50 AM	10/31/24 10:14 AM
Selenium	< 10	10		µg/L	1	10/30/24 8:50 AM	10/31/24 10:14 AM
Thallium	< 2.0	2.0		µg/L	1	10/30/24 8:50 AM	10/31/24 10:14 AM
<b>INORGANIC METALS</b>							
Barium	0.03	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:03 PM
Beryllium	< 0.001	0.001		mg/L	1	10/30/24 8:50 AM	10/31/24 2:03 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 8:50 AM	10/31/24 2:03 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:03 PM
Cobalt	< 0.005	0.005		mg/L	1	10/30/24 8:50 AM	10/31/24 2:03 PM
Copper	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:03 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:03 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 8:50 AM	10/31/24 2:03 PM
Vanadium	0.007	0.005		mg/L	1	10/30/24 8:50 AM	10/31/24 2:03 PM
Zinc	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:03 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/29/24 6:39 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-8A
<b>Lab Order:</b>	G2410F31	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/24/2024 8:17:00 AM
<b>Lab ID:</b>	G2410F31-002	<b>Received Date:</b>	10/25/2024 11:38:07 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			<b>EPA 8260 D</b>
1,1-Dichloroethene	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
1,2,3-Trichloropropane	< 10	10		µg/L	1		10/29/24 6:39 AM
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1		10/29/24 6:39 AM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1		10/29/24 6:39 AM
1,2-Dichlorobenzene	< 10	10		µg/L	1		10/29/24 6:39 AM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
1,4-Dichlorobenzene	< 10	10		µg/L	1		10/29/24 6:39 AM
2-Butanone	< 50.0	50.0		µg/L	1		10/29/24 6:39 AM
2-Hexanone	< 10	10		µg/L	1		10/29/24 6:39 AM
4-Methyl-2-Pentanone	< 10	10		µg/L	1		10/29/24 6:39 AM
Acetone	< 34.0	34.0		µg/L	1		10/29/24 6:39 AM
Acrylonitrile	< 100	100	P4	µg/L	1		10/29/24 6:39 AM
Benzene	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
Bromochloromethane	< 10	10		µg/L	1		10/29/24 6:39 AM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
Bromoform	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
Bromomethane	< 10	10		µg/L	1		10/29/24 6:39 AM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
Chlorobenzene	< 2.0	2.0		µg/L	1		10/29/24 6:39 AM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
Chloroethane	< 10	10		µg/L	1		10/29/24 6:39 AM
Chloroform	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
Chloromethane	< 10	10		µg/L	1		10/29/24 6:39 AM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/29/24 6:39 AM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
Dibromomethane	< 10	10		µg/L	1		10/29/24 6:39 AM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
Iodomethane	< 10	10		µg/L	1		10/29/24 6:39 AM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
Styrene	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
Toluene	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/29/24 6:39 AM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/29/24 6:39 AM
Trichloroethene	< 5.0	5.0		µg/L	1		10/29/24 6:39 AM
Trichlorofluoromethane	< 10	10		µg/L	1		10/29/24 6:39 AM
Vinyl Acetate	< 10	10		µg/L	1		10/29/24 6:39 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWC-8A
Lab Order:	G2410F31	Sampled By:	ACC
Project:	BGwinnett 221S(a)	Collection Date:	10/24/2024 8:17:00 AM
Lab ID:	G2410F31-002	Received Date:	10/25/2024 11:38:07 AM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			EPA 8260 D
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/29/24 6:39 AM
Total Xylene	< 10	10		µg/L	1		10/29/24 6:39 AM
Surr: 1,2-Dichloroethane-d4	108	70-130		%REC	1		10/29/24 6:39 AM
Surr: 4-Bromofluorobenzene	96.7	70-130		%REC	1		10/29/24 6:39 AM
Surr: Dibromofluoromethane	98.5	70-130		%REC	1		10/29/24 6:39 AM
Surr: Toluene-d8	99.1	70-130		%REC	1		10/29/24 6:39 AM

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-8R
<b>Lab Order:</b>	G2410F31	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/24/2024 8:48:00 AM
<b>Lab ID:</b>	G2410F31-003	<b>Received Date:</b>	10/25/2024 11:38:07 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	6.52			S.U.		10/24/24 8:48 AM	
Specific Conductance (Field)	205			µmhos/cm		10/24/24 8:48 AM	
Temperature (Field)	16.8			deg C		10/24/24 8:48 AM	
Turbidity (Field)	1.06			NTU		10/24/24 8:48 AM	
<b>INORGANIC NON-METALS</b>							
Total dissolved solids	130	20		mg/L	1	10/29/24 11:20 AM	10/29/24 11:28 AM
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	89	10		mg/L CaCO <sub>3</sub>	1		10/28/24 4:10 PM
<b>INORGANIC NON-METALS</b>							
Chloride	5.0	1.0		mg/L	1	10/29/24 1:52 PM	10/29/24 7:53 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	< 0.10	0.10		mg/L as N	1		10/30/24 11:21 AM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/30/24 8:50 AM	10/31/24 10:17 AM
Arsenic	< 10	10		µg/L	1	10/30/24 8:50 AM	10/31/24 10:17 AM
Lead	< 5.0	5.0		µg/L	1	10/30/24 8:50 AM	10/31/24 10:17 AM
Selenium	< 10	10		µg/L	1	10/30/24 8:50 AM	10/31/24 10:17 AM
Thallium	< 2.0	2.0		µg/L	1	10/30/24 8:50 AM	10/31/24 10:17 AM
<b>INORGANIC METALS</b>							
Barium	0.06	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:06 PM
Beryllium	< 0.001	0.001		mg/L	1	10/30/24 8:50 AM	10/31/24 2:06 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 8:50 AM	10/31/24 2:06 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:06 PM
Cobalt	< 0.005	0.005		mg/L	1	10/30/24 8:50 AM	10/31/24 2:06 PM
Copper	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:06 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:06 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 8:50 AM	10/31/24 2:06 PM
Vanadium	< 0.005	0.005		mg/L	1	10/30/24 8:50 AM	10/31/24 2:06 PM
Zinc	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:06 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/26/24 8:55 AM



# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-8R
<b>Lab Order:</b>	G2410F31	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/24/2024 8:48:00 AM
<b>Lab ID:</b>	G2410F31-003	<b>Received Date:</b>	10/25/2024 11:38:07 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MTM			<b>EPA 8260 D</b>
1,1-Dichloroethene	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
1,2,3-Trichloropropane	< 10	10		µg/L	1		10/26/24 8:55 AM
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1		10/26/24 8:55 AM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1		10/26/24 8:55 AM
1,2-Dichlorobenzene	< 10	10		µg/L	1		10/26/24 8:55 AM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
1,4-Dichlorobenzene	< 10	10		µg/L	1		10/26/24 8:55 AM
2-Butanone	< 50.0	50.0		µg/L	1		10/26/24 8:55 AM
2-Hexanone	< 10	10		µg/L	1		10/26/24 8:55 AM
4-Methyl-2-Pentanone	< 10	10		µg/L	1		10/26/24 8:55 AM
Acetone	< 34.0	34.0		µg/L	1		10/26/24 8:55 AM
Acrylonitrile	< 100	100	P4	µg/L	1		10/26/24 8:55 AM
Benzene	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
Bromochloromethane	< 10	10		µg/L	1		10/26/24 8:55 AM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
Bromoform	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
Bromomethane	< 10	10		µg/L	1		10/26/24 10:14 AM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
Chlorobenzene	< 2.0	2.0		µg/L	1		10/26/24 8:55 AM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
Chloroethane	< 10	10		µg/L	1		10/26/24 8:55 AM
Chloroform	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
Chloromethane	< 10	10		µg/L	1		10/26/24 8:55 AM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/26/24 8:55 AM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
Dibromomethane	< 10	10		µg/L	1		10/26/24 8:55 AM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
Iodomethane	< 10	10		µg/L	1		10/26/24 8:55 AM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
Styrene	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
Toluene	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/26/24 8:55 AM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/26/24 8:55 AM
Trichloroethene	< 5.0	5.0		µg/L	1		10/26/24 8:55 AM
Trichlorofluoromethane	< 10	10		µg/L	1		10/26/24 8:55 AM
Vinyl Acetate	< 10	10		µg/L	1		10/26/24 8:55 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWC-8R
Lab Order:	G2410F31	Sampled By:	ACC
Project:	BGwinnett 221S(a)	Collection Date:	10/24/2024 8:48:00 AM
Lab ID:	G2410F31-003	Received Date:	10/25/2024 11:38:07 AM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MTM			EPA 8260 D
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/26/24 8:55 AM
Total Xylene	< 10	10		µg/L	1		10/26/24 8:55 AM
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1		10/26/24 8:55 AM
Surr: 4-Bromofluorobenzene	99.3	70-130		%REC	1		10/26/24 8:55 AM
Surr: Dibromofluoromethane	97.9	70-130		%REC	1		10/26/24 8:55 AM
Surr: Toluene-d8	97.8	70-130		%REC	1		10/26/24 8:55 AM

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-13
<b>Lab Order:</b>	G2410F31	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/24/2024 9:56:00 AM
<b>Lab ID:</b>	G2410F31-004	<b>Received Date:</b>	10/25/2024 11:38:07 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	5.89			S.U.		10/24/24 9:56 AM	
Specific Conductance (Field)	153			µmhos/cm		10/24/24 9:56 AM	
Temperature (Field)	18.0			deg C		10/24/24 9:56 AM	
Turbidity (Field)	4.65			NTU		10/24/24 9:56 AM	
<b>INORGANIC NON-METALS</b>							
Total dissolved solids	96	20		mg/L	1	10/29/24 11:20 AM	10/29/24 11:28 AM
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	63	10		mg/L CaCO <sub>3</sub>	1		10/28/24 4:16 PM
<b>INORGANIC NON-METALS</b>							
Chloride	3.3	1.0		mg/L	1	10/30/24 2:24 PM	10/30/24 2:57 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	< 0.10	0.10		mg/L as N	1		10/30/24 11:23 AM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/30/24 8:50 AM	10/31/24 10:19 AM
Arsenic	< 10	10		µg/L	1	10/30/24 8:50 AM	10/31/24 10:19 AM
Lead	< 5.0	5.0		µg/L	1	10/30/24 8:50 AM	10/31/24 10:19 AM
Selenium	< 10	10		µg/L	1	10/30/24 8:50 AM	10/31/24 10:19 AM
Thallium	< 2.0	2.0		µg/L	1	10/30/24 8:50 AM	10/31/24 10:19 AM
<b>INORGANIC METALS</b>							
Barium	0.02	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:08 PM
Beryllium	< 0.001	0.001		mg/L	1	10/30/24 8:50 AM	10/31/24 2:08 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 8:50 AM	10/31/24 2:08 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:08 PM
Cobalt	< 0.005	0.005		mg/L	1	10/30/24 8:50 AM	10/31/24 2:08 PM
Copper	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:08 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:08 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 8:50 AM	10/31/24 2:08 PM
Vanadium	< 0.005	0.005		mg/L	1	10/30/24 8:50 AM	10/31/24 2:08 PM
Zinc	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 2:08 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/26/24 9:19 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-13
<b>Lab Order:</b>	G2410F31	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/24/2024 9:56:00 AM
<b>Lab ID:</b>	G2410F31-004	<b>Received Date:</b>	10/25/2024 11:38:07 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MTM			<b>EPA 8260 D</b>
1,1-Dichloroethene	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
1,2,3-Trichloropropane	< 10	10		µg/L	1		10/26/24 9:19 AM
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1		10/26/24 9:19 AM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1		10/26/24 9:19 AM
1,2-Dichlorobenzene	< 10	10		µg/L	1		10/26/24 9:19 AM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
1,4-Dichlorobenzene	< 10	10		µg/L	1		10/26/24 9:19 AM
2-Butanone	< 50.0	50.0		µg/L	1		10/26/24 9:19 AM
2-Hexanone	< 10	10		µg/L	1		10/26/24 9:19 AM
4-Methyl-2-Pentanone	< 10	10		µg/L	1		10/26/24 9:19 AM
Acetone	< 34.0	34.0		µg/L	1		10/26/24 9:19 AM
Acrylonitrile	< 100	100	P4	µg/L	1		10/26/24 9:19 AM
Benzene	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
Bromochloromethane	< 10	10		µg/L	1		10/26/24 9:19 AM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
Bromoform	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
Bromomethane	< 10	10		µg/L	1		10/28/24 10:37 AM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
Chlorobenzene	< 2.0	2.0		µg/L	1		10/26/24 9:19 AM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
Chloroethane	< 10	10		µg/L	1		10/26/24 9:19 AM
Chloroform	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
Chloromethane	< 10	10		µg/L	1		10/26/24 9:19 AM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/26/24 9:19 AM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
Dibromomethane	< 10	10		µg/L	1		10/26/24 9:19 AM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
Iodomethane	< 10	10		µg/L	1		10/26/24 9:19 AM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
Styrene	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
Toluene	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/26/24 9:19 AM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/26/24 9:19 AM
Trichloroethene	< 5.0	5.0		µg/L	1		10/26/24 9:19 AM
Trichlorofluoromethane	< 10	10		µg/L	1		10/26/24 9:19 AM
Vinyl Acetate	< 10	10		µg/L	1		10/26/24 9:19 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWC-13
Lab Order:	G2410F31	Sampled By:	ACC
Project:	BGwinnett 221S(a)	Collection Date:	10/24/2024 9:56:00 AM
Lab ID:	G2410F31-004	Received Date:	10/25/2024 11:38:07 AM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MTM			EPA 8260 D
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/26/24 9:19 AM
Total Xylene	< 10	10		µg/L	1		10/26/24 9:19 AM
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1		10/26/24 9:19 AM
Surr: 4-Bromofluorobenzene	99.3	70-130		%REC	1		10/26/24 9:19 AM
Surr: Dibromofluoromethane	98.6	70-130		%REC	1		10/26/24 9:19 AM
Surr: Toluene-d8	97.5	70-130		%REC	1		10/26/24 9:19 AM

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-3A
<b>Lab Order:</b>	G2410F31	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/24/2024 10:52:00 AM
<b>Lab ID:</b>	G2410F31-005	<b>Received Date:</b>	10/25/2024 11:38:07 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	6.15			S.U.		10/24/24 10:52 AM	
Specific Conductance (Field)	180			µmhos/cm		10/24/24 10:52 AM	
Temperature (Field)	19.6			deg C		10/24/24 10:52 AM	
Turbidity (Field)	4.35			NTU		10/24/24 10:52 AM	
<b>INORGANIC NON-METALS</b>							
Total dissolved solids	80	20		mg/L	1	10/29/24 11:20 AM	10/29/24 11:28 AM
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	63	10		mg/L CaCO <sub>3</sub>	1		10/28/24 4:21 PM
<b>INORGANIC NON-METALS</b>							
Chloride	5.8	1.0		mg/L	1	10/30/24 2:24 PM	10/30/24 3:38 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	3.36	0.10		mg/L as N	1		10/30/24 11:24 AM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/30/24 8:50 AM	10/31/24 10:05 AM
Arsenic	< 10	10		µg/L	1	10/30/24 8:50 AM	10/31/24 10:05 AM
Lead	< 5.0	5.0		µg/L	1	10/30/24 8:50 AM	10/31/24 10:05 AM
Selenium	< 10	10		µg/L	1	10/30/24 8:50 AM	10/31/24 10:05 AM
Thallium	< 2.0	2.0		µg/L	1	10/30/24 8:50 AM	10/31/24 10:05 AM
<b>INORGANIC METALS</b>							
Barium	0.12	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 1:35 PM
Beryllium	< 0.001	0.001		mg/L	1	10/30/24 8:50 AM	10/31/24 1:35 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 8:50 AM	10/31/24 1:35 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 1:35 PM
Cobalt	< 0.005	0.005		mg/L	1	10/30/24 8:50 AM	10/31/24 1:35 PM
Copper	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 1:35 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 1:35 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 8:50 AM	10/31/24 1:35 PM
Vanadium	< 0.005	0.005		mg/L	1	10/30/24 8:50 AM	10/31/24 1:35 PM
Zinc	0.10	0.01		mg/L	1	10/30/24 8:50 AM	10/31/24 1:35 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/26/24 9:43 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-3A
<b>Lab Order:</b>	G2410F31	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/24/2024 10:52:00 AM
<b>Lab ID:</b>	G2410F31-005	<b>Received Date:</b>	10/25/2024 11:38:07 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MTM			<b>EPA 8260 D</b>
1,1-Dichloroethene	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
1,2,3-Trichloropropane	< 10	10		µg/L	1		10/26/24 9:43 AM
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1		10/26/24 9:43 AM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1		10/26/24 9:43 AM
1,2-Dichlorobenzene	< 10	10		µg/L	1		10/26/24 9:43 AM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
1,4-Dichlorobenzene	< 10	10		µg/L	1		10/26/24 9:43 AM
2-Butanone	< 50.0	50.0		µg/L	1		10/26/24 9:43 AM
2-Hexanone	< 10	10		µg/L	1		10/26/24 9:43 AM
4-Methyl-2-Pentanone	< 10	10		µg/L	1		10/26/24 9:43 AM
Acetone	< 34.0	34.0		µg/L	1		10/26/24 9:43 AM
Acrylonitrile	< 100	100	P4	µg/L	1		10/26/24 9:43 AM
Benzene	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
Bromochloromethane	< 10	10		µg/L	1		10/26/24 9:43 AM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
Bromoform	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
Bromomethane	< 10	10		µg/L	1		10/26/24 11:01 AM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
Chlorobenzene	< 2.0	2.0		µg/L	1		10/26/24 9:43 AM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
Chloroethane	< 10	10		µg/L	1		10/26/24 9:43 AM
Chloroform	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
Chloromethane	< 10	10		µg/L	1		10/26/24 9:43 AM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/26/24 9:43 AM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
Dibromomethane	< 10	10		µg/L	1		10/26/24 9:43 AM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
Iodomethane	< 10	10		µg/L	1		10/26/24 9:43 AM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
Styrene	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
Toluene	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/26/24 9:43 AM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/26/24 9:43 AM
Trichloroethene	< 5.0	5.0		µg/L	1		10/26/24 9:43 AM
Trichlorofluoromethane	< 10	10		µg/L	1		10/26/24 9:43 AM
Vinyl Acetate	< 10	10		µg/L	1		10/26/24 9:43 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWC-3A
Lab Order:	G2410F31	Sampled By:	ACC
Project:	BGwinnett 221S(a)	Collection Date:	10/24/2024 10:52:00 AM
Lab ID:	G2410F31-005	Received Date:	10/25/2024 11:38:07 AM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MTM			EPA 8260 D
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/26/24 9:43 AM
Total Xylene	< 10	10		µg/L	1		10/26/24 9:43 AM
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1		10/26/24 9:43 AM
Surr: 4-Bromofluorobenzene	99.2	70-130		%REC	1		10/26/24 9:43 AM
Surr: Dibromofluoromethane	96.8	70-130		%REC	1		10/26/24 9:43 AM
Surr: Toluene-d8	97.2	70-130		%REC	1		10/26/24 9:43 AM

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-3RA
<b>Lab Order:</b>	G2410F31	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/24/2024 11:31:00 AM
<b>Lab ID:</b>	G2410F31-006	<b>Received Date:</b>	10/25/2024 11:38:07 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	6.56			S.U.		10/24/24 11:31 AM	
Specific Conductance (Field)	288			µmhos/cm		10/24/24 11:31 AM	
Temperature (Field)	18.9			deg C		10/24/24 11:31 AM	
Turbidity (Field)	4.14			NTU		10/24/24 11:31 AM	
<b>INORGANIC NON-METALS</b>							
Total dissolved solids	114	20		mg/L	1	10/31/24 9:20 AM	10/31/24 9:28 AM
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	114	10		mg/L CaCO <sub>3</sub>	1		10/28/24 4:26 PM
<b>INORGANIC NON-METALS</b>							
Chloride	4.1	1.0		mg/L	1	10/30/24 2:24 PM	10/30/24 3:52 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	3.93	0.10		mg/L as N	1		10/30/24 11:26 AM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/30/24 9:40 AM	10/31/24 10:32 AM
Arsenic	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 10:32 AM
Lead	< 5.0	5.0		µg/L	1	10/30/24 9:40 AM	10/31/24 10:32 AM
Selenium	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 10:32 AM
Thallium	< 2.0	2.0		µg/L	1	10/30/24 9:40 AM	10/31/24 10:32 AM
<b>INORGANIC METALS</b>							
Barium	0.10	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:11 PM
Beryllium	< 0.001	0.001		mg/L	1	10/30/24 9:40 AM	10/31/24 2:11 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 9:40 AM	10/31/24 2:11 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:11 PM
Cobalt	< 0.005	0.005		mg/L	1	10/30/24 9:40 AM	10/31/24 2:11 PM
Copper	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:11 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:11 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 9:40 AM	10/31/24 2:11 PM
Vanadium	< 0.005	0.005		mg/L	1	10/30/24 9:40 AM	10/31/24 2:11 PM
Zinc	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:11 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/26/24 10:07 AM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/26/24 10:07 AM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/26/24 10:07 AM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/26/24 10:07 AM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/26/24 10:07 AM



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# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL			<b>Client Sample ID:</b> GWC-3RA			
<b>Lab Order:</b>	G2410F31						
<b>Project:</b>	BGwinnett 221S(a)			<b>Sampled By:</b>	ACC		
<b>Lab ID:</b>	G2410F31-006			<b>Collection Date:</b>	10/24/2024 11:31:00 AM		
<b>Matrix:</b>	GROUNDWATER			<b>Received Date:</b>	10/25/2024 11:38:07 AM		
Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>				Analyst: MTM		<b>EPA 8260 D</b>	
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	10/26/24 10:07 AM	
1,2,3-Trichloropropane	< 10	10		µg/L	1	10/26/24 10:07 AM	
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1	10/26/24 10:07 AM	
1,2-Dibromoethane	< 1.0	1.0		µg/L	1	10/26/24 10:07 AM	
1,2-Dichlorobenzene	< 10	10		µg/L	1	10/26/24 10:07 AM	
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	10/26/24 10:07 AM	
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	10/26/24 10:07 AM	
1,4-Dichlorobenzene	< 10	10		µg/L	1	10/26/24 10:07 AM	
2-Butanone	< 50.0	50.0		µg/L	1	10/26/24 10:07 AM	
2-Hexanone	< 10	10		µg/L	1	10/26/24 10:07 AM	
4-Methyl-2-Pentanone	< 10	10		µg/L	1	10/26/24 10:07 AM	
Acetone	< 34.0	34.0		µg/L	1	10/26/24 10:07 AM	
Acrylonitrile	< 100	100	P4	µg/L	1	10/26/24 10:07 AM	
Benzene	< 5.0	5.0		µg/L	1	10/26/24 10:07 AM	
Bromochloromethane	< 10	10		µg/L	1	10/26/24 10:07 AM	
Bromodichloromethane	< 5.0	5.0		µg/L	1	10/26/24 10:07 AM	
Bromoform	< 5.0	5.0		µg/L	1	10/26/24 10:07 AM	
Bromomethane	< 10	10		µg/L	1	10/28/24 11:25 AM	
Carbon Disulfide	< 5.0	5.0		µg/L	1	10/26/24 10:07 AM	
Carbon Tetrachloride	< 5.0	5.0		µg/L	1	10/26/24 10:07 AM	
Chlorobenzene	< 2.0	2.0		µg/L	1	10/26/24 10:07 AM	
Chlorodibromomethane	< 5.0	5.0		µg/L	1	10/26/24 10:07 AM	
Chloroethane	< 10	10		µg/L	1	10/26/24 10:07 AM	
Chloroform	< 5.0	5.0		µg/L	1	10/26/24 10:07 AM	
Chloromethane	< 10	10		µg/L	1	10/26/24 10:07 AM	
cis-1,2-Dichloroethene	< 10	10		µg/L	1	10/26/24 10:07 AM	
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	10/26/24 10:07 AM	
Dibromomethane	< 10	10		µg/L	1	10/26/24 10:07 AM	
Ethylbenzene	< 5.0	5.0		µg/L	1	10/26/24 10:07 AM	
Iodomethane	< 10	10		µg/L	1	10/26/24 10:07 AM	
Methylene Chloride	< 5.0	5.0		µg/L	1	10/26/24 10:07 AM	
Styrene	< 5.0	5.0		µg/L	1	10/26/24 10:07 AM	
Tetrachloroethene	< 5.0	5.0		µg/L	1	10/26/24 10:07 AM	
Toluene	< 5.0	5.0		µg/L	1	10/26/24 10:07 AM	
trans-1,2-Dichloroethene	< 10	10		µg/L	1	10/26/24 10:07 AM	
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	10/26/24 10:07 AM	
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1	10/26/24 10:07 AM	
Trichloroethene	< 5.0	5.0		µg/L	1	10/26/24 10:07 AM	
Trichlorofluoromethane	< 10	10		µg/L	1	10/26/24 10:07 AM	
Vinyl Acetate	< 10	10		µg/L	1	10/26/24 10:07 AM	



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWC-3RA
Lab Order:	G2410F31	Sampled By:	ACC
Project:	BGwinnett 221S(a)	Collection Date:	10/24/2024 11:31:00 AM
Lab ID:	G2410F31-006	Received Date:	10/25/2024 11:38:07 AM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MTM			EPA 8260 D
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/26/24 10:07 AM
Total Xylene	< 10	10		µg/L	1		10/26/24 10:07 AM
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1		10/26/24 10:07 AM
Surr: 4-Bromofluorobenzene	100	70-130		%REC	1		10/26/24 10:07 AM
Surr: Dibromofluoromethane	98.4	70-130		%REC	1		10/26/24 10:07 AM
Surr: Toluene-d8	97.9	70-130		%REC	1		10/26/24 10:07 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-6A
<b>Lab Order:</b>	G2410F31	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/24/2024 12:04:00 PM
<b>Lab ID:</b>	G2410F31-007	<b>Received Date:</b>	10/25/2024 11:38:07 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	6.44			S.U.		10/24/24 12:04 PM	
Specific Conductance (Field)	168			µmhos/cm		10/24/24 12:04 PM	
Temperature (Field)	21.5			deg C		10/24/24 12:04 PM	
Turbidity (Field)	5.07			NTU		10/24/24 12:04 PM	
<b>INORGANIC NON-METALS</b>							
Total dissolved solids	68	20		mg/L	1	10/29/24 11:20 AM	10/29/24 11:28 AM
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	61	10		mg/L CaCO <sub>3</sub>	1		10/28/24 4:33 PM
<b>INORGANIC NON-METALS</b>							
Chloride	4.1	1.0		mg/L	1	10/30/24 2:24 PM	10/30/24 4:06 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	1.56	0.10		mg/L as N	1		10/30/24 11:27 AM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/30/24 9:40 AM	10/31/24 10:37 AM
Arsenic	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 10:37 AM
Lead	< 5.0	5.0		µg/L	1	10/30/24 9:40 AM	10/31/24 10:37 AM
Selenium	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 10:37 AM
Thallium	< 2.0	2.0		µg/L	1	10/30/24 9:40 AM	10/31/24 10:37 AM
<b>INORGANIC METALS</b>							
Barium	0.07	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:32 PM
Beryllium	< 0.001	0.001		mg/L	1	10/30/24 9:40 AM	10/31/24 2:32 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 9:40 AM	10/31/24 2:32 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:32 PM
Cobalt	< 0.005	0.005		mg/L	1	10/30/24 9:40 AM	10/31/24 2:32 PM
Copper	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:32 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:32 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 9:40 AM	10/31/24 2:32 PM
Vanadium	< 0.005	0.005		mg/L	1	10/30/24 9:40 AM	10/31/24 2:32 PM
Zinc	0.42	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:32 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/26/24 10:31 AM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/26/24 10:31 AM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/26/24 10:31 AM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/26/24 10:31 AM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/26/24 10:31 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-6A
<b>Lab Order:</b>	G2410F31	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/24/2024 12:04:00 PM
<b>Lab ID:</b>	G2410F31-007	<b>Received Date:</b>	10/25/2024 11:38:07 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MTM			<b>EPA 8260 D</b>
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	10/26/24	10:31 AM
1,2,3-Trichloropropane	< 10	10		µg/L	1	10/26/24	10:31 AM
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1	10/26/24	10:31 AM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1	10/26/24	10:31 AM
1,2-Dichlorobenzene	< 10	10		µg/L	1	10/26/24	10:31 AM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	10/26/24	10:31 AM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	10/26/24	10:31 AM
1,4-Dichlorobenzene	< 10	10		µg/L	1	10/26/24	10:31 AM
2-Butanone	< 50.0	50.0		µg/L	1	10/26/24	10:31 AM
2-Hexanone	< 10	10		µg/L	1	10/26/24	10:31 AM
4-Methyl-2-Pentanone	< 10	10		µg/L	1	10/26/24	10:31 AM
Acetone	< 34.0	34.0		µg/L	1	10/26/24	10:31 AM
Acrylonitrile	< 100	100	P4	µg/L	1	10/26/24	10:31 AM
Benzene	< 5.0	5.0		µg/L	1	10/26/24	10:31 AM
Bromochloromethane	< 10	10		µg/L	1	10/26/24	10:31 AM
Bromodichloromethane	< 5.0	5.0		µg/L	1	10/26/24	10:31 AM
Bromoform	< 5.0	5.0		µg/L	1	10/26/24	10:31 AM
Bromomethane	< 10	10		µg/L	1	10/26/24	11:49 AM
Carbon Disulfide	< 5.0	5.0		µg/L	1	10/26/24	10:31 AM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1	10/26/24	10:31 AM
Chlorobenzene	< 2.0	2.0		µg/L	1	10/26/24	10:31 AM
Chlorodibromomethane	< 5.0	5.0		µg/L	1	10/26/24	10:31 AM
Chloroethane	< 10	10		µg/L	1	10/26/24	10:31 AM
Chloroform	< 5.0	5.0		µg/L	1	10/26/24	10:31 AM
Chloromethane	< 10	10		µg/L	1	10/26/24	10:31 AM
cis-1,2-Dichloroethene	< 10	10		µg/L	1	10/26/24	10:31 AM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	10/26/24	10:31 AM
Dibromomethane	< 10	10		µg/L	1	10/26/24	10:31 AM
Ethylbenzene	< 5.0	5.0		µg/L	1	10/26/24	10:31 AM
Iodomethane	< 10	10		µg/L	1	10/26/24	10:31 AM
Methylene Chloride	< 5.0	5.0		µg/L	1	10/26/24	10:31 AM
Styrene	< 5.0	5.0		µg/L	1	10/26/24	10:31 AM
Tetrachloroethene	< 5.0	5.0		µg/L	1	10/26/24	10:31 AM
Toluene	< 5.0	5.0		µg/L	1	10/26/24	10:31 AM
trans-1,2-Dichloroethene	< 10	10		µg/L	1	10/26/24	10:31 AM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	10/26/24	10:31 AM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1	10/26/24	10:31 AM
Trichloroethene	< 5.0	5.0		µg/L	1	10/26/24	10:31 AM
Trichlorofluoromethane	< 10	10		µg/L	1	10/26/24	10:31 AM
Vinyl Acetate	< 10	10		µg/L	1	10/26/24	10:31 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWC-6A
Lab Order:	G2410F31	Sampled By:	ACC
Project:	BGwinnett 221S(a)	Collection Date:	10/24/2024 12:04:00 PM
Lab ID:	G2410F31-007	Received Date:	10/25/2024 11:38:07 AM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MTM			EPA 8260 D
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/26/24 10:31 AM
Total Xylene	< 10	10		µg/L	1		10/26/24 10:31 AM
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1		10/26/24 10:31 AM
Surr: 4-Bromofluorobenzene	98.9	70-130		%REC	1		10/26/24 10:31 AM
Surr: Dibromofluoromethane	98.2	70-130		%REC	1		10/26/24 10:31 AM
Surr: Toluene-d8	97.1	70-130		%REC	1		10/26/24 10:31 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-2A
<b>Lab Order:</b>	G2410F31	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/24/2024 12:38:00 PM
<b>Lab ID:</b>	G2410F31-008	<b>Received Date:</b>	10/25/2024 11:38:07 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	6.60			S.U.		10/24/24 12:38 PM	
Specific Conductance (Field)	296			µmhos/cm		10/24/24 12:38 PM	
Temperature (Field)	25.7			deg C		10/24/24 12:38 PM	
Turbidity (Field)	3.66			NTU		10/24/24 12:38 PM	
<b>INORGANIC NON-METALS</b>							
Total dissolved solids	96	20		mg/L	1	10/29/24 11:20 AM	10/29/24 11:28 AM
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	113	10		mg/L CaCO <sub>3</sub>	1		10/28/24 4:38 PM
<b>INORGANIC NON-METALS</b>							
Chloride	4.0	1.0		mg/L	1	10/30/24 2:24 PM	10/30/24 4:25 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	3.03	0.10		mg/L as N	1		10/30/24 11:29 AM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/30/24 9:40 AM	10/31/24 10:39 AM
Arsenic	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 10:39 AM
Lead	< 5.0	5.0		µg/L	1	10/30/24 9:40 AM	10/31/24 10:39 AM
Selenium	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 10:39 AM
Thallium	< 2.0	2.0		µg/L	1	10/30/24 9:40 AM	10/31/24 10:39 AM
<b>INORGANIC METALS</b>							
Barium	0.13	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:34 PM
Beryllium	< 0.001	0.001		mg/L	1	10/30/24 9:40 AM	10/31/24 2:34 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 9:40 AM	10/31/24 2:34 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:34 PM
Cobalt	< 0.005	0.005		mg/L	1	10/30/24 9:40 AM	10/31/24 2:34 PM
Copper	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:34 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:34 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 9:40 AM	10/31/24 2:34 PM
Vanadium	< 0.005	0.005		mg/L	1	10/30/24 9:40 AM	10/31/24 2:34 PM
Zinc	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:34 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/26/24 10:54 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-2A
<b>Lab Order:</b>	G2410F31	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/24/2024 12:38:00 PM
<b>Lab ID:</b>	G2410F31-008	<b>Received Date:</b>	10/25/2024 11:38:07 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MTM			<b>EPA 8260 D</b>
1,1-Dichloroethene	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
1,2,3-Trichloropropane	< 10	10		µg/L	1		10/26/24 10:54 AM
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1		10/26/24 10:54 AM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1		10/26/24 10:54 AM
1,2-Dichlorobenzene	< 10	10		µg/L	1		10/26/24 10:54 AM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
1,4-Dichlorobenzene	< 10	10		µg/L	1		10/26/24 10:54 AM
2-Butanone	< 50.0	50.0		µg/L	1		10/26/24 10:54 AM
2-Hexanone	< 10	10		µg/L	1		10/26/24 10:54 AM
4-Methyl-2-Pentanone	< 10	10		µg/L	1		10/26/24 10:54 AM
Acetone	< 34.0	34.0		µg/L	1		10/26/24 10:54 AM
Acrylonitrile	< 100	100	P4	µg/L	1		10/26/24 10:54 AM
Benzene	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
Bromochloromethane	< 10	10		µg/L	1		10/26/24 10:54 AM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
Bromoform	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
Bromomethane	< 10	10		µg/L	1		10/28/24 12:12 PM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
Chlorobenzene	< 2.0	2.0		µg/L	1		10/26/24 10:54 AM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
Chloroethane	< 10	10		µg/L	1		10/26/24 10:54 AM
Chloroform	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
Chloromethane	< 10	10		µg/L	1		10/26/24 10:54 AM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/26/24 10:54 AM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
Dibromomethane	< 10	10		µg/L	1		10/26/24 10:54 AM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
Iodomethane	< 10	10		µg/L	1		10/26/24 10:54 AM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
Styrene	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
Toluene	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/26/24 10:54 AM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/26/24 10:54 AM
Trichloroethene	< 5.0	5.0		µg/L	1		10/26/24 10:54 AM
Trichlorofluoromethane	< 10	10		µg/L	1		10/26/24 10:54 AM
Vinyl Acetate	< 10	10		µg/L	1		10/26/24 10:54 AM



# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWC-2A
Lab Order:	G2410F31	Sampled By:	ACC
Project:	BGwinnett 221S(a)	Collection Date:	10/24/2024 12:38:00 PM
Lab ID:	G2410F31-008	Received Date:	10/25/2024 11:38:07 AM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MTM			EPA 8260 D
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/26/24 10:54 AM
Total Xylene	< 10	10		µg/L	1		10/26/24 10:54 AM
Surr: 1,2-Dichloroethane-d4	105	70-130		%REC	1		10/26/24 10:54 AM
Surr: 4-Bromofluorobenzene	99.4	70-130		%REC	1		10/26/24 10:54 AM
Surr: Dibromofluoromethane	99.7	70-130		%REC	1		10/26/24 10:54 AM
Surr: Toluene-d8	97.2	70-130		%REC	1		10/26/24 10:54 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-2RA
<b>Lab Order:</b>	G2410F31	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/24/2024 1:10:00 PM
<b>Lab ID:</b>	G2410F31-009	<b>Received Date:</b>	10/25/2024 11:38:07 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	6.50			S.U.		10/24/24 1:10 PM	
Specific Conductance (Field)	333			µmhos/cm		10/24/24 1:10 PM	
Temperature (Field)	24.9			deg C		10/24/24 1:10 PM	
Turbidity (Field)	6.80			NTU		10/24/24 1:10 PM	
<b>INORGANIC NON-METALS</b>							
Total dissolved solids	188	20		mg/L	1	10/29/24 11:20 AM	10/29/24 11:28 AM
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	180	10		mg/L CaCO <sub>3</sub>	1		10/28/24 4:44 PM
<b>INORGANIC NON-METALS</b>							
Chloride	3.2	1.0		mg/L	1	10/30/24 2:24 PM	10/30/24 4:38 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	0.20	0.10		mg/L as N	1		10/30/24 11:30 AM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/30/24 9:40 AM	10/31/24 10:41 AM
Arsenic	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 10:41 AM
Lead	< 5.0	5.0		µg/L	1	10/30/24 9:40 AM	10/31/24 10:41 AM
Selenium	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 10:41 AM
Thallium	< 2.0	2.0		µg/L	1	10/30/24 9:40 AM	10/31/24 10:41 AM
<b>INORGANIC METALS</b>							
Barium	0.04	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:37 PM
Beryllium	< 0.001	0.001		mg/L	1	10/30/24 9:40 AM	10/31/24 2:37 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 9:40 AM	10/31/24 2:37 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:37 PM
Cobalt	0.007	0.005		mg/L	1	10/30/24 9:40 AM	10/31/24 2:37 PM
Copper	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:37 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:37 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 9:40 AM	10/31/24 2:37 PM
Vanadium	< 0.005	0.005		mg/L	1	10/30/24 9:40 AM	10/31/24 2:37 PM
Zinc	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:37 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/26/24 11:18 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-2RA
<b>Lab Order:</b>	G2410F31	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S(a)	<b>Collection Date:</b>	10/24/2024 1:10:00 PM
<b>Lab ID:</b>	G2410F31-009	<b>Received Date:</b>	10/25/2024 11:38:07 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MTM			<b>EPA 8260 D</b>
1,1-Dichloroethene	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
1,2,3-Trichloropropane	< 10	10		µg/L	1		10/26/24 11:18 AM
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1		10/26/24 11:18 AM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1		10/26/24 11:18 AM
1,2-Dichlorobenzene	< 10	10		µg/L	1		10/26/24 11:18 AM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
1,4-Dichlorobenzene	< 10	10		µg/L	1		10/26/24 11:18 AM
2-Butanone	< 50.0	50.0		µg/L	1		10/26/24 11:18 AM
2-Hexanone	< 10	10		µg/L	1		10/26/24 11:18 AM
4-Methyl-2-Pentanone	< 10	10		µg/L	1		10/26/24 11:18 AM
Acetone	< 34.0	34.0		µg/L	1		10/26/24 11:18 AM
Acrylonitrile	< 100	100	P4	µg/L	1		10/26/24 11:18 AM
Benzene	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
Bromochloromethane	< 10	10		µg/L	1		10/26/24 11:18 AM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
Bromoform	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
Bromomethane	< 10	10		µg/L	1		10/26/24 12:36 PM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
Chlorobenzene	< 2.0	2.0		µg/L	1		10/26/24 11:18 AM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
Chloroethane	< 10	10		µg/L	1		10/26/24 11:18 AM
Chloroform	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
Chloromethane	< 10	10		µg/L	1		10/26/24 11:18 AM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/26/24 11:18 AM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
Dibromomethane	< 10	10		µg/L	1		10/26/24 11:18 AM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
Iodomethane	< 10	10		µg/L	1		10/26/24 11:18 AM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
Styrene	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
Toluene	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/26/24 11:18 AM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/26/24 11:18 AM
Trichloroethene	< 5.0	5.0		µg/L	1		10/26/24 11:18 AM
Trichlorofluoromethane	< 10	10		µg/L	1		10/26/24 11:18 AM
Vinyl Acetate	< 10	10		µg/L	1		10/26/24 11:18 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWC-2RA
Lab Order:	G2410F31	Sampled By:	ACC
Project:	BGwinnett 221S(a)	Collection Date:	10/24/2024 1:10:00 PM
Lab ID:	G2410F31-009	Received Date:	10/25/2024 11:38:07 AM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MTM			EPA 8260 D
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/26/24 11:18 AM
Total Xylene	< 10	10		µg/L	1		10/26/24 11:18 AM
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1		10/26/24 11:18 AM
Surr: 4-Bromofluorobenzene	100	70-130		%REC	1		10/26/24 11:18 AM
Surr: Dibromofluoromethane	97.4	70-130		%REC	1		10/26/24 11:18 AM
Surr: Toluene-d8	98.0	70-130		%REC	1		10/26/24 11:18 AM



I.D. 56-00306 PA DEP



2005 N. Center Ave.  
Somerset, PA 15501

814/443-1671  
814/445-6666  
FAX: 814/445-6729

Tuesday, November 12, 2024

JUDY ARMOUR  
BUTTON GWINNETT LANDFILL  
2901 MECHANICSVILLE ROAD  
NORCROSS, GA 30071

RE: BGwinnett 221S2(a)

Order No.: G2410F33

Dear JUDY ARMOUR:

Geochemical Testing received 2 sample(s) on 10/25/2024 for the analyses presented in the following report.

There were no problems with sample receipt protocols and analyses met the TNI/NELAC, EPA, and laboratory specifications except where noted in the Case Narrative or Laboratory Results.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Joelle Streczywilk  
Environmental Laboratory Manager

Leslie A. Nemeth  
Project Manager



## Geochemical Testing

Date: 12-Nov-24

**CLIENT:** BUTTON GWINNETT LANDFILL  
**Project:** BGwinnett 221S2(a)  
**Lab Order:** G2410F33

## CASE NARRATIVE

No problems were encountered during analysis of this workorder, except if noted in this report.

The analytical data submitted within this report was submitted by an approved analytical laboratory (per Chapter 391-3-26-.05) and in accordance with Georgia state law (O.C.G.A. 12-2-9). The accreditation information follows below:

**LABORATORY:** Geochemical Testing, Somerset, Pennsylvania  
**ACCREDITATION AGENCY:** Pennsylvania National Environmental Laboratory Accreditation Program (NELAP)  
**ACCREDITATION ID:** PA ID# 56-00306  
**SCOPE:** Potable, Non-Potable, Solid and Chemical Materials  
**EXPIRATION DATE:** January 31, 2025

**Glossary:**  
H - Method Hold Time exceeded and is not compliant with 40CFR136 Table II.  
U - The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.  
B - Analyte detected in the associated Method Blank  
Q1 - See case narrative      ND - Not Detected  
MCL - Contaminant Limit      J - Indicates an estimated value.  
Q - Qualifier      QL - Quantitation Limit      DF - Dilution Factor

S - Surrogate Recovery outside accepted recovery limits  
T - Sample received above required temperature and is not compliant with 40CFR136 Table II.  
T1 - Sample received above required temperature  
MDA - Minimum Detectable Activity.  
\*\* - Value exceeds Action Limit  
TICs - Tentatively Identified Compounds.  
E - Value above quantitation range



## Glossary (continued)

1	Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.	M7	Recovery for matrix spike could not be quantified due to matrix interference.
B1	Dilution water blank exceeded method criterion.	M8	Analyte was spiked into the MS, but was not recovered.
C1	CCV recovery above the acceptance limits. Results may be biased high.	M9	Analyte concentration was determined by the method of standard addition (MSA).
C2	CCV recovery below the acceptance limits. Results may be biased low.	N1	The lab does not hold accreditation from PA-DEP for this parameter by this method
C3	ICV recovery above the acceptance limits. Results may be biased high.	N2	PADEP does not accredit labs for this analyte by this method.
C4	ICV recovery below the acceptance limits. Results may be biased low.	N3	The lab is accredited for this method in West Virginia, but not in PA (its primary accrediting body).
C5	Positive values verified by second column confirmation.	N4	PADEP does not accredit labs for this analyte by this method in drinking water.
C6	Confirmation analysis by another detector or chromatographic column was not performed.	O1	The flashpoint tester cannot detect below 50 degrees F.
D1	The analysis did not meet the minimum DO depletion of at least 2 mg/L.	O2	Result is temperature of the sample when flame observed. No flash observed. Result qualified.
D2	The analysis did not meet the minimum residual DO of at least 1 mg/L.	O3	The reporting limits were raised due to the high concentration of non-target compounds.
D3	Sample required dilution due to a matrix interference.	O4	Sample was received with headspace.
D4	Sample was diluted in the extraction steps due to marked matrix interferences.	O5	Sample was received in incorrect container and is not compliant with 40CFR136 Table II.
D5	Sample required dilution due to a chloride interference.	O6	Insufficient sample volume was received to comply with the method.
D6	Sample was diluted and the reporting limits were raised to achieve method compliant internal standard recovery.	P1	The pH of the sample was >2 and is not compliant with 40CFR136 Table II.
D7	Sample was digested at a dilution due to the formation of a post-digestion precipitate.	P2	Sample contained residual chlorine and is not compliant with 40CFR136 Table II
D8	Sample was digested at a dilution to achieve method compliant matrix spike recovery.	P3	The pH of the sample was <10 and is not compliant with 40CFR136 Table II.
D9	Sample was digested at a dilution to meet method compliant digestion criteria.	P4	Field preservation does not meet EPA or method recommendations for this analysis.
E2	Unable to obtain a stable weight within specified limits due to sample matrix. Value is estimated.	P5	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.
F1	Fecal sample tested positive for residual chlorine.	P6	Sample required additional preservative upon receipt.
H1	Due to under-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.	P7	The sample was received unpreserved.
H2	Due to over-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.	P8	The pH of the sample was < 9 and is not compliant with 40 CFR136 Table II.
H3	Sample was re-analyzed outside of hold time due to error during original analysis.	R	Relative Percent Difference (RPD) was above the control limit.
H4	The Nitrite result used to report Nitrate was analyzed past the 48-hour holding time.	R1	RPD above control limits between matrix spike and MS duplicates.
I1	Internal standard recovery above method acceptance limits. Results are estimated.	R2	RPD above the control limit between duplicates.
I2	Internal standard recovery was below method acceptance limits. Results are estimated.	R3	RSD above the control limit between replicates.
IP	One of the instrument performance checks ( ) did not meet the acceptance criteria.	R4	RPD above control limits between Inorganic Carbon check and spike.
L1	LCS above the acceptance limits. Result may be biased high.	R5	RPD above control limits between control sample and control sample duplicates.
L2	LCS below the acceptance limits. Result may be biased low.	S2	Surrogate recovery in the blank was below the control limit.
L3	Analyte was spiked into the LCS, but was not recovered.	S3	Surrogate recovery in the blank was above the control limit.
M1	Matrix Spike recovery above the acceptance limits.	S4	Surrogate recovery in the LCS is above the control limit.
M2	Matrix Spike recovery below the acceptance limits.	S5	Surrogate recovery in the LCS is below the control limit.
M4	The matrix spike failed high for the surrogate.	SR	Analyte recovery was outside the accepted recovery limits and above the control limit for RPD.
M5	The matrix spike failed low for the surrogate.	T3	Target analyte found in trip/field blank.
M6	The reporting limits were raised due to sample matrix interference.	TC	The MS tune check (tailing factor) did not meet the acceptance criteria.

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-12A
<b>Lab Order:</b>	G2410F33	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S2(a)	<b>Collection Date:</b>	10/24/2024 9:20:00 AM
<b>Lab ID:</b>	G2410F33-001	<b>Received Date:</b>	10/25/2024 11:54:57 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	6.35			S.U.		10/24/24 9:20 AM	
Specific Conductance (Field)	154			µmhos/cm		10/24/24 9:20 AM	
Temperature (Field)	15.4			deg C		10/24/24 9:20 AM	
Turbidity (Field)	4.40			NTU		10/24/24 9:20 AM	
<b>INORGANIC NON-METALS</b>							
Total dissolved solids	170	20		mg/L	1	10/29/24 11:20 AM	10/29/24 11:28 AM
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	110	10		mg/L CaCO <sub>3</sub>	1		10/28/24 4:52 PM
<b>INORGANIC NON-METALS</b>							
Chloride	1.0	1.0		mg/L	1	10/30/24 2:24 PM	10/30/24 5:20 PM
Sulfate	6.0	2.0		mg/L	1	10/30/24 2:24 PM	10/30/24 5:20 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	< 0.10	0.10		mg/L as N	1		10/30/24 11:32 AM
<b>INORGANIC NON-METALS</b>							
Nitrate Nitrogen	1.64	0.05		mg/L as N	1	11/06/24 4:44 PM	11/08/24 12:13 PM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/30/24 9:40 AM	10/31/24 10:44 AM
Arsenic	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 10:44 AM
Lead	< 5.0	5.0		µg/L	1	10/30/24 9:40 AM	10/31/24 10:44 AM
Selenium	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 10:44 AM
Thallium	< 2.0	2.0		µg/L	1	10/30/24 9:40 AM	10/31/24 10:44 AM
<b>INORGANIC METALS</b>							
Barium	0.05	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:39 PM
Beryllium	< 0.001	0.001		mg/L	1	10/30/24 9:40 AM	10/31/24 2:39 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 9:40 AM	10/31/24 2:39 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:39 PM
Cobalt	< 0.005	0.005		mg/L	1	10/30/24 9:40 AM	10/31/24 2:39 PM
Copper	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:39 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:39 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 9:40 AM	10/31/24 2:39 PM
Vanadium	0.005	0.005		mg/L	1	10/30/24 9:40 AM	10/31/24 2:39 PM
Zinc	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 2:39 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-12A
<b>Lab Order:</b>	G2410F33	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S2(a)	<b>Collection Date:</b>	10/24/2024 9:20:00 AM
<b>Lab ID:</b>	G2410F33-001	<b>Received Date:</b>	10/25/2024 11:54:57 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MTM			<b>EPA 8260 D</b>
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/26/24 11:42 AM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
1,2,3-Trichloropropane	< 10	10		µg/L	1		10/26/24 11:42 AM
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1		10/26/24 11:42 AM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1		10/26/24 11:42 AM
1,2-Dichlorobenzene	< 10	10		µg/L	1		10/26/24 11:42 AM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
1,4-Dichlorobenzene	< 10	10		µg/L	1		10/26/24 11:42 AM
2-Butanone	< 50.0	50.0		µg/L	1		10/26/24 11:42 AM
2-Hexanone	< 10	10		µg/L	1		10/26/24 11:42 AM
4-Methyl-2-Pentanone	< 10	10		µg/L	1		10/26/24 11:42 AM
Acetone	< 34.0	34.0		µg/L	1		10/26/24 11:42 AM
Acrylonitrile	< 100	100	P4	µg/L	1		10/26/24 11:42 AM
Benzene	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
Bromochloromethane	< 10	10		µg/L	1		10/26/24 11:42 AM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
Bromoform	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
Bromomethane	< 10	10		µg/L	1		10/28/24 1:00 PM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
Chlorobenzene	< 2.0	2.0		µg/L	1		10/26/24 11:42 AM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
Chloroethane	< 10	10		µg/L	1		10/26/24 11:42 AM
Chloroform	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
Chloromethane	< 10	10		µg/L	1		10/26/24 11:42 AM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/26/24 11:42 AM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
Dibromomethane	< 10	10		µg/L	1		10/26/24 11:42 AM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
Iodomethane	< 10	10		µg/L	1		10/26/24 11:42 AM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
Styrene	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
Toluene	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/26/24 11:42 AM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWC-12A
Lab Order:	G2410F33	Sampled By:	ACC
Project:	BGwinnett 221S2(a)	Collection Date:	10/24/2024 9:20:00 AM
Lab ID:	G2410F33-001	Received Date:	10/25/2024 11:54:57 AM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MTM			EPA 8260 D
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/26/24 11:42 AM
Trichloroethene	< 5.0	5.0		µg/L	1		10/26/24 11:42 AM
Trichlorofluoromethane	< 10	10		µg/L	1		10/26/24 11:42 AM
Vinyl Acetate	< 10	10		µg/L	1		10/26/24 11:42 AM
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/26/24 11:42 AM
Total Xylene	< 10	10		µg/L	1		10/26/24 11:42 AM
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1		10/26/24 11:42 AM
Surr: 4-Bromofluorobenzene	99.6	70-130		%REC	1		10/26/24 11:42 AM
Surr: Dibromofluoromethane	98.0	70-130		%REC	1		10/26/24 11:42 AM
Surr: Toluene-d8	97.5	70-130		%REC	1		10/26/24 11:42 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	TB-2
<b>Lab Order:</b>	G2410F33	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S2(a)	<b>Collection Date:</b>	10/24/2024 12:00:01 AM
<b>Lab ID:</b>	G2410F33-002	<b>Received Date:</b>	10/25/2024 11:54:57 AM
<b>Matrix:</b>	AQUEOUS		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MTM			<b>EPA 8260 D</b>
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/26/24 12:06 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
1,2,3-Trichloropropane	< 10	10		µg/L	1		10/26/24 12:06 PM
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1		10/26/24 12:06 PM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1		10/26/24 12:06 PM
1,2-Dichlorobenzene	< 10	10		µg/L	1		10/26/24 12:06 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
1,4-Dichlorobenzene	< 10	10		µg/L	1		10/26/24 12:06 PM
2-Butanone	< 50.0	50.0		µg/L	1		10/26/24 12:06 PM
2-Hexanone	< 10	10		µg/L	1		10/26/24 12:06 PM
4-Methyl-2-Pentanone	< 10	10		µg/L	1		10/26/24 12:06 PM
Acetone	< 34.0	34.0		µg/L	1		10/26/24 12:06 PM
Acrylonitrile	< 100	100	P4	µg/L	1		10/26/24 12:06 PM
Benzene	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
Bromochloromethane	< 10	10		µg/L	1		10/26/24 12:06 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
Bromoform	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
Bromomethane	< 10	10		µg/L	1		10/28/24 1:24 PM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
Chlorobenzene	< 2.0	2.0		µg/L	1		10/26/24 12:06 PM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
Chloroethane	< 10	10		µg/L	1		10/26/24 12:06 PM
Chloroform	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
Chloromethane	< 10	10		µg/L	1		10/26/24 12:06 PM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/26/24 12:06 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
Dibromomethane	< 10	10		µg/L	1		10/26/24 12:06 PM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
Iodomethane	< 10	10		µg/L	1		10/26/24 12:06 PM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
Styrene	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
Toluene	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/26/24 12:06 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	TB-2
Lab Order:	G2410F33	Sampled By:	ACC
Project:	BGwinnett 221S2(a)	Collection Date:	10/24/2024 12:00:01 AM
Lab ID:	G2410F33-002	Received Date:	10/25/2024 11:54:57 AM
Matrix:	AQUEOUS		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MTM			EPA 8260 D
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/26/24 12:06 PM
Trichloroethene	< 5.0	5.0		µg/L	1		10/26/24 12:06 PM
Trichlorofluoromethane	< 10	10		µg/L	1		10/26/24 12:06 PM
Vinyl Acetate	< 10	10		µg/L	1		10/26/24 12:06 PM
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/26/24 12:06 PM
Total Xylene	< 10	10		µg/L	1		10/26/24 12:06 PM
Surr: 1,2-Dichloroethane-d4	105	70-130		%REC	1		10/26/24 12:06 PM
Surr: 4-Bromofluorobenzene	99.0	70-130		%REC	1		10/26/24 12:06 PM
Surr: Dibromofluoromethane	98.7	70-130		%REC	1		10/26/24 12:06 PM
Surr: Toluene-d8	96.6	70-130		%REC	1		10/26/24 12:06 PM



2005 N. Center Ave.  
Somerset, PA 15501

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Tuesday, November 12, 2024

JUDY ARMOUR  
BUTTON GWINNETT LANDFILL  
2901 MECHANICSVILLE ROAD  
NORCROSS, GA 30071

RE: BGwinnett 321S2

Order No.: G2410G47

Dear JUDY ARMOUR:

Geochemical Testing received 2 sample(s) on 10/29/2024 for the analyses presented in the following report.

There were no problems with sample receipt protocols and analyses met the TNI/NELAC, EPA, and laboratory specifications except where noted in the Case Narrative or Laboratory Results.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Joelle Streczywilk  
Environmental Laboratory Manager

Leslie A. Nemeth  
Project Manager



## Geochemical Testing

Date: 12-Nov-24

**CLIENT:** BUTTON GWINNETT LANDFILL  
**Project:** BGwinnett 321S2  
**Lab Order:** G2410G47

## CASE NARRATIVE

No problems were encountered during analysis of this workorder, except if noted in this report.

The analytical data submitted within this report was submitted by an approved analytical laboratory (per Chapter 391-3-26-.05) and in accordance with Georgia state law (O.C.G.A. 12-2-9). The accreditation information follows below:

**LABORATORY:** Geochemical Testing, Somerset, Pennsylvania  
**ACCREDITATION AGENCY:** Pennsylvania National Environmental Laboratory Accreditation Program (NELAP)  
**ACCREDITATION ID:** PA ID# 56-00306  
**SCOPE:** Potable, Non-Potable, Solid and Chemical Materials  
**EXPIRATION DATE:** January 31, 2025

Submitted COC documentation incomplete with the following deficiencies: client made corrections to the COC and did not initial.

**Glossary:**  
H - Method Hold Time exceeded and is not compliant with 40CFR136 Table II.  
U - The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.  
B - Analyte detected in the associated Method Blank  
Q1 - See case narrative      ND - Not Detected  
MCL - Contaminant Limit      J - Indicates an estimated value.  
Q - Qualifier      QL - Quantitation Limit      DF - Dilution Factor

S - Surrogate Recovery outside accepted recovery limits  
T - Sample received above required temperature and is not compliant with 40CFR136 Table II.  
T1 - Sample received above required temperature  
MDA - Minimum Detectable Activity.  
\*\* - Value exceeds Action Limit  
TICs - Tentatively Identified Compounds.  
E - Value above quantitation range



## Glossary (continued)

1	Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.	M7	Recovery for matrix spike could not be quantified due to matrix interference.
B1	Dilution water blank exceeded method criterion.	M8	Analyte was spiked into the MS, but was not recovered.
C1	CCV recovery above the acceptance limits. Results may be biased high.	M9	Analyte concentration was determined by the method of standard addition (MSA).
C2	CCV recovery below the acceptance limits. Results may be biased low.	N1	The lab does not hold accreditation from PA-DEP for this parameter by this method
C3	ICV recovery above the acceptance limits. Results may be biased high.	N2	PADEP does not accredit labs for this analyte by this method.
C4	ICV recovery below the acceptance limits. Results may be biased low.	N3	The lab is accredited for this method in West Virginia, but not in PA (its primary accrediting body).
C5	Positive values verified by second column confirmation.	N4	PADEP does not accredit labs for this analyte by this method in drinking water.
C6	Confirmation analysis by another detector or chromatographic column was not performed.	O1	The flashpoint tester cannot detect below 50 degrees F.
D1	The analysis did not meet the minimum DO depletion of at least 2 mg/L.	O2	Result is temperature of the sample when flame observed. No flash observed. Result qualified.
D2	The analysis did not meet the minimum residual DO of at least 1 mg/L.	O3	The reporting limits were raised due to the high concentration of non-target compounds.
D3	Sample required dilution due to a matrix interference.	O4	Sample was received with headspace.
D4	Sample was diluted in the extraction steps due to marked matrix interferences.	O5	Sample was received in incorrect container and is not compliant with 40CFR136 Table II.
D5	Sample required dilution due to a chloride interference.	O6	Insufficient sample volume was received to comply with the method.
D6	Sample was diluted and the reporting limits were raised to achieve method compliant internal standard recovery.	P1	The pH of the sample was >2 and is not compliant with 40CFR136 Table II.
D7	Sample was digested at a dilution due to the formation of a post-digestion precipitate.	P2	Sample contained residual chlorine and is not compliant with 40CFR136 Table II
D8	Sample was digested at a dilution to achieve method compliant matrix spike recovery.	P3	The pH of the sample was <10 and is not compliant with 40CFR136 Table II.
D9	Sample was digested at a dilution to meet method compliant digestion criteria.	P4	Field preservation does not meet EPA or method recommendations for this analysis.
E2	Unable to obtain a stable weight within specified limits due to sample matrix. Value is estimated.	P5	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.
F1	Fecal sample tested positive for residual chlorine.	P6	Sample required additional preservative upon receipt.
H1	Due to under-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.	P7	The sample was received unpreserved.
H2	Due to over-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.	P8	The pH of the sample was < 9 and is not compliant with 40 CFR136 Table II.
H3	Sample was re-analyzed outside of hold time due to error during original analysis.	R	Relative Percent Difference (RPD) was above the control limit.
H4	The Nitrite result used to report Nitrate was analyzed past the 48-hour holding time.	R1	RPD above control limits between matrix spike and MS duplicates.
I1	Internal standard recovery above method acceptance limits. Results are estimated.	R2	RPD above the control limit between duplicates.
I2	Internal standard recovery was below method acceptance limits. Results are estimated.	R3	RSD above the control limit between replicates.
IP	One of the instrument performance checks ( ) did not meet the acceptance criteria.	R4	RPD above control limits between Inorganic Carbon check and spike.
L1	LCS above the acceptance limits. Result may be biased high.	R5	RPD above control limits between control sample and control sample duplicates.
L2	LCS below the acceptance limits. Result may be biased low.	S2	Surrogate recovery in the blank was below the control limit.
L3	Analyte was spiked into the LCS, but was not recovered.	S3	Surrogate recovery in the blank was above the control limit.
M1	Matrix Spike recovery above the acceptance limits.	S4	Surrogate recovery in the LCS is above the control limit.
M2	Matrix Spike recovery below the acceptance limits.	S5	Surrogate recovery in the LCS is below the control limit.
M4	The matrix spike failed high for the surrogate.	SR	Analyte recovery was outside the accepted recovery limits and above the control limit for RPD.
M5	The matrix spike failed low for the surrogate.	T3	Target analyte found in trip/field blank.
M6	The reporting limits were raised due to sample matrix interference.	TC	The MS tune check (tailing factor) did not meet the acceptance criteria.

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-5A
<b>Lab Order:</b>	G2410G47	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/28/2024 9:10:00 AM
<b>Lab ID:</b>	G2410G47-001	<b>Received Date:</b>	10/29/2024 11:11:30 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	5.97			S.U.		10/28/24 9:10 AM	
Specific Conductance (Field)	409			µmhos/cm		10/28/24 9:10 AM	
Temperature (Field)	17.9			deg C		10/28/24 9:10 AM	
Turbidity (Field)	2.82			NTU		10/28/24 9:10 AM	
<b>INORGANIC NON-METALS</b>							
Total dissolved solids	206	20		mg/L	1	10/30/24 11:20 AM	10/30/24 11:28 AM
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	178	10		mg/L CaCO <sub>3</sub>	1		10/30/24 3:12 PM
<b>INORGANIC NON-METALS</b>							
Chloride	18.7	1.0		mg/L	1	10/30/24 2:53 PM	10/30/24 5:44 PM
Sulfate	3.3	2.0		mg/L	1	10/30/24 2:53 PM	10/30/24 5:44 PM
<b>INORGANIC NON-METALS</b>							
Cyanide, total	< 0.020	0.020		mg/L	1		10/31/24 1:03 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	< 0.10	0.10		mg/L as N	1		11/01/24 9:11 AM
<b>INORGANIC NON-METALS</b>							
Nitrate Nitrogen	< 0.05	0.05		mg/L as N	1	10/30/24 5:30 PM	11/01/24 9:51 AM
<b>INORGANIC NON METALS</b>							
Sulfide	< 1.0	1.0		mg/L	1	10/29/24 1:50 PM	10/29/24 1:59 PM
<b>INORGANIC METALS</b>							
Mercury	< 0.0004	0.0004		mg/L	1	10/30/24 11:00 AM	10/31/24 9:27 AM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/30/24 9:40 AM	10/31/24 11:48 AM
Arsenic	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 11:48 AM
Lead	< 5.0	5.0		µg/L	1	10/30/24 9:40 AM	10/31/24 11:48 AM
Selenium	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 11:48 AM
Thallium	< 2.0	2.0		µg/L	1	10/30/24 9:40 AM	10/31/24 11:48 AM
Zinc	< 5.0	5.0		µg/L	1	10/30/24 9:40 AM	11/01/24 8:48 AM
<b>INORGANIC METALS</b>							
Barium	0.20	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 3:46 PM
Beryllium	< 0.001	0.001		mg/L	1	10/30/24 9:40 AM	10/31/24 3:46 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 9:40 AM	10/31/24 3:46 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-5A
<b>Lab Order:</b>	G2410G47	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/28/2024 9:10:00 AM
<b>Lab ID:</b>	G2410G47-001	<b>Received Date:</b>	10/29/2024 11:11:30 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>INORGANIC METALS</b>							
				Analyst: TMS		EPA 3010 A	EPA 6010 D
Calcium	44.1	0.50		mg/L	1	10/30/24 9:40 AM	10/31/24 3:46 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 3:46 PM
Cobalt	0.015	0.005		mg/L	1	10/30/24 9:40 AM	10/31/24 3:46 PM
Copper	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 3:46 PM
Iron	5.02	0.06		mg/L	1	10/30/24 9:40 AM	10/31/24 3:46 PM
Magnesium	6.24	0.10		mg/L	1	10/30/24 9:40 AM	10/31/24 3:46 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 3:46 PM
Potassium	2.3	0.5		mg/L	1	10/30/24 9:40 AM	10/31/24 3:46 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 9:40 AM	10/31/24 3:46 PM
Sodium	22.8	1.0		mg/L	1	10/30/24 9:40 AM	10/31/24 3:46 PM
Tin	< 0.10	0.10		mg/L	1	10/30/24 9:40 AM	10/31/24 3:46 PM
Vanadium	< 0.005	0.005		mg/L	1	10/30/24 9:40 AM	10/31/24 3:46 PM
<b>HERBICIDE ANALYSIS</b>							
				Analyst: NPT		SM 6640 B-06	SM 6640 B-06
2,4,5-T	< 0.500	0.500		µg/L	1	10/31/24 6:00 AM	10/31/24 11:13 PM
2,4-D	< 0.500	0.500		µg/L	1	10/31/24 6:00 AM	10/31/24 11:13 PM
Dinoseb	< 10.0	10.0		µg/L	1	10/31/24 6:00 AM	10/31/24 11:13 PM
Silvex	< 0.500	0.500		µg/L	1	10/31/24 6:00 AM	10/31/24 11:13 PM
Surr: 2,4-Dichlorophenyl acetic acid	85.9	70-130		%REC	1	10/31/24 6:00 AM	10/31/24 11:13 PM
<b>PCB ANALYSIS</b>							
				Analyst: NEP		EPA 3535A	EPA 8082 A
PCB 1016	< 0.40	0.40		µg/L	0.99	10/30/24 9:00 AM	10/31/24 10:15 PM
PCB 1221	< 0.40	0.40		µg/L	0.99	10/30/24 9:00 AM	10/31/24 10:15 PM
PCB 1232	< 0.40	0.40		µg/L	0.99	10/30/24 9:00 AM	10/31/24 10:15 PM
PCB 1242	< 0.40	0.40		µg/L	0.99	10/30/24 9:00 AM	10/31/24 10:15 PM
PCB 1248	< 0.40	0.40		µg/L	0.99	10/30/24 9:00 AM	10/31/24 10:15 PM
PCB 1254	< 0.40	0.40		µg/L	0.99	10/30/24 9:00 AM	10/31/24 10:15 PM
PCB 1260	< 0.40	0.40		µg/L	0.99	10/30/24 9:00 AM	10/31/24 10:15 PM
Surr: Decachlorobiphenyl	62.2	10-110		%REC	0.99	10/30/24 9:00 AM	10/31/24 10:15 PM
Surr: Tetrachloro-m-xylene	70.1	12-120		%REC	0.99	10/30/24 9:00 AM	10/31/24 10:15 PM
<b>PESTICIDE ANALYSIS</b>							
				Analyst: NEP		EPA 3535A	EPA 8081 B
4,4-DDD	< 0.050	0.050	C1	µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
4,4-DDE	< 0.050	0.050		µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
4,4-DDT	< 0.050	0.050		µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
Aldrin	< 0.050	0.050		µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
Alpha BHC	< 0.050	0.050	C1	µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
Alpha Endosulfan	< 0.050	0.050		µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
Beta BHC	< 0.050	0.050		µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
Beta Endosulfan	< 0.050	0.050		µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
Chlordane	< 0.99	0.99		µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM



# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-5A
<b>Lab Order:</b>	G2410G47	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/28/2024 9:10:00 AM
<b>Lab ID:</b>	G2410G47-001	<b>Received Date:</b>	10/29/2024 11:11:30 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>PESTICIDE ANALYSIS</b>							
				Analyst: NEP		EPA 3535A	EPA 8081 B
Delta BHC	< 0.050	0.050	C1	µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
Dieldrin	< 0.050	0.050		µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
Endosulfan Sulfate	< 0.050	0.050		µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
Endrin	< 0.050	0.050		µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
Endrin Aldehyde	< 0.050	0.050	C1	µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
Gamma BHC (Lindane)	< 0.050	0.050		µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
Heptachlor	< 0.050	0.050		µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
Heptachlor epoxide	< 0.050	0.050		µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
Methoxychlor	< 0.10	0.10		µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
Toxaphene	< 2.0	2.0		µg/L	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
Surr: Decachlorobiphenyl	61.3	10-133		%REC	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
Surr: Tetrachloro-m-xylene	72.6	31-110	C1	%REC	0.99	10/30/24 9:00 AM	10/31/24 9:30 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: NPT		EPA 8011	EPA 8011
1,2-Dibromo-3-chloropropane	< 0.20	0.20		µg/L	1	10/30/24 7:40 AM	10/30/24 5:18 PM
1,2-Dibromoethane	< 0.05	0.05		µg/L	1	10/30/24 7:40 AM	10/30/24 5:18 PM
Surr: 1,1,2,2-Tetrachloroethane	102	60-140		%REC	1	10/30/24 7:40 AM	10/30/24 5:18 PM
<b>SEMI-VOLATILE COMPOUNDS</b>							
				Analyst: ADL		EPA 3520 C	EPA 8270 E
1,2,4,5-Tetrachlorobenzene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
1,2,4-Trichlorobenzene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
1,3-Dinitrobenzene	< 20	20		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
1,4-Naphthoquinone	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
1-Naphthylamine	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
1-Nitrosopiperidine	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
2,3,4,6-Tetrachlorophenol	< 20	20		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
2,4,5-Trichlorophenol	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
2,4,6-Trichlorophenol	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
2,4-Dichlorophenol	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
2,4-Dimethylphenol	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
2,4-Dinitrophenol	< 20	20		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
2,4-Dinitrotoluene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
2,6-Dichlorophenol	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
2,6-Dinitrotoluene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
2-Acetylaminofluorene	< 20	20		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
2-Chloro-Naphthalene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
2-Chlorophenol	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
2-Methylnaphthalene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
2-Methylphenol	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
2-Naphthylamine	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-5A
<b>Lab Order:</b>	G2410G47	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/28/2024 9:10:00 AM
<b>Lab ID:</b>	G2410G47-001	<b>Received Date:</b>	10/29/2024 11:11:30 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>SEMI-VOLATILE COMPOUNDS</b>							
				Analyst: ADL		<b>EPA 3520 C</b>	<b>EPA 8270 E</b>
2-Nitroaniline	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
2-Nitrophenol	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
3,3-Dichlorobenzidine	< 20	20		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
3,3-Dimethylbenzidine	< 40	40		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
3,4-Methylphenol	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
3-Methylcholanthrene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
3-Nitroaniline	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
4,6-Dinitro-2-methylphenol	< 20	20		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
4-Aminobiphenyl	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
4-Bromophenylphenoylether	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
4-Chloro-3-methylphenol	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
4-Chloroaniline	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
4-Chlorophenylphenoylether	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
4-Nitroaniline	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
4-Nitrophenol	< 20	20		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
5-Nitro-o-toluidine	< 20	20		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
7,12-Dimethylbenz(a)-anthracene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Acenaphthene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Acenaphthylene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Acetophenone	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Anthracene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Benzo(a)anthracene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Benzo(a)pyrene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Benzo(b)fluoranthene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Benzo(g,h,i)perylene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Benzo(k)fluoranthene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Benzyl Alcohol	< 20	20		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
bis(2-Chloroethoxy)methane	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
bis(2-Chloroethyl)ether	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
bis(2-Chloroisopropyl)ether	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
bis(2-Ethylhexyl)phthalate	< 5.1	5.1		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Butyl benzylphthalate	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Chlorobenzilate	< 20	20		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Chrysene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Dibenzo(a,h)anthracene	< 10	10	L2	µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Dibenzofuran	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Diethyl Phthalate	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Dimethoate	< 20	20		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Dimethyl Phthalate	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Di-N-Butyl Phthalate	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-5A
<b>Lab Order:</b>	G2410G47	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/28/2024 9:10:00 AM
<b>Lab ID:</b>	G2410G47-001	<b>Received Date:</b>	10/29/2024 11:11:30 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>SEMI-VOLATILE COMPOUNDS</b>							
			Analyst: ADL			<b>EPA 3520 C</b>	<b>EPA 8270 E</b>
Di-N-Octylphthalate	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Diphenylamine	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Disulfoton	< 20	20		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Ethyl Methanesulfonate	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Famphur	< 40	40		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Fluoranthene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Fluorene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Hexachlorobenzene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Hexachlorobutadiene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Hexachlorocyclopentadiene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Hexachloroethane	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Hexachloropropene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Indeno(1,2,3-cd)pyrene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Isodrin	< 20	20		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Isophorone	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Isosafrole	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Kepone	< 50	50		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Methapyrilene	< 50	50		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Methyl Methanesulfonate	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Methyl Parathion	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Naphthalene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Nitrobenzene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
N-Nitrosodibutylamine	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
N-Nitrosodiethylamine	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
n-Nitrosodimethylamine	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
n-Nitrosodiphenylamine	< 20	20		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
N-nitrosodipropylamine	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
N-Nitrosomethylalkylamine	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
N-Nitrosopyrrolidine	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
o,o,o-Triethylphosphorothioate	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
o-Toluidine	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Parathion	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
p-Dimethylaminoazobenzene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Pentachlorobenzene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Pentachloronitrobenzene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Pentachlorophenol	< 20	20		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Phenacetin	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Phenanthrene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Phenol	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Phorate	< 20	20		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-5A
<b>Lab Order:</b>	G2410G47	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/28/2024 9:10:00 AM
<b>Lab ID:</b>	G2410G47-001	<b>Received Date:</b>	10/29/2024 11:11:30 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>SEMI-VOLATILE COMPOUNDS</b>							
			Analyst: ADL			EPA 3520 C	EPA 8270 E
p-Phenylenediamine	< 800	800		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Pronamide	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Pyrene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Safrole	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
sym-Trinitrobenzene	< 10	10		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Thionazin	< 20	20		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Diallate	< 20	20		µg/L	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Surr: 2,4,6-Tribromophenol	42.9	34-131		%REC	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Surr: 2-Fluorobiphenyl	68.9	34-118		%REC	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Surr: 2-Fluorophenol	14.4	10-115		%REC	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Surr: Nitrobenzene-d5	66.7	32-119		%REC	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Surr: Phenol-d6	60.8	11-119		%REC	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
Surr: p-Terphenyl-d14	96.3	32-136		%REC	1.01	10/30/24 7:00 AM	11/01/24 8:51 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
			Analyst: MEG			EPA 8260 D	
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	10/29/24 7:40 PM	
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	10/29/24 7:40 PM	
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	10/29/24 7:40 PM	
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	10/29/24 7:40 PM	
1,1-Dichloroethane	< 2.0	2.0		µg/L	1	10/29/24 7:40 PM	
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	10/29/24 7:40 PM	
1,1-Dichloropropene	< 5.0	5.0		µg/L	1	10/29/24 7:40 PM	
1,2,3-Trichloropropane	< 10	10		µg/L	1	10/29/24 7:40 PM	
1,2-Dichlorobenzene	< 10	10		µg/L	1	10/29/24 7:40 PM	
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	10/29/24 7:40 PM	
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	10/29/24 7:40 PM	
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	10/29/24 7:40 PM	
1,3-Dichloropropane	< 5.0	5.0		µg/L	1	10/29/24 7:40 PM	
1,4-Dichlorobenzene	< 10	10		µg/L	1	10/29/24 7:40 PM	
2,2-Dichloropropane	< 5.0	5.0	C1	µg/L	1	10/29/24 7:40 PM	
2-Butanone	< 50.0	50.0		µg/L	1	10/29/24 7:40 PM	
2-chloro-1,3-butadiene	< 5.0	5.0		µg/L	1	10/29/24 7:40 PM	
2-Hexanone	< 10	10		µg/L	1	10/29/24 7:40 PM	
3-Chloro-1-Propene	< 5.0	5.0		µg/L	1	10/29/24 7:40 PM	
4-Methyl-2-Pentanone	< 10	10		µg/L	1	10/29/24 7:40 PM	
Acetone	< 34.0	34.0		µg/L	1	10/29/24 7:40 PM	
Acetonitrile	< 50.0	50.0		µg/L	1	10/29/24 7:40 PM	
Acrolein	< 100	100	P4C1	µg/L	1	10/29/24 7:40 PM	
Acrylonitrile	< 100	100	P4	µg/L	1	10/29/24 7:40 PM	
Benzene	< 5.0	5.0		µg/L	1	10/29/24 7:40 PM	



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	GWC-5A
<b>Lab Order:</b>	G2410G47	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/28/2024 9:10:00 AM
<b>Lab ID:</b>	G2410G47-001	<b>Received Date:</b>	10/29/2024 11:11:30 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			<b>EPA 8260 D</b>
Bromochloromethane	< 10	10		µg/L	1		10/29/24 7:40 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/29/24 7:40 PM
Bromoform	< 5.0	5.0		µg/L	1		10/29/24 7:40 PM
Bromomethane	< 10	10		µg/L	1		10/29/24 7:40 PM
Carbon Disulfide	< 5.0	5.0	C1	µg/L	1		10/29/24 7:40 PM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/29/24 7:40 PM
Chlorobenzene	3.1	2.0		µg/L	1		10/29/24 7:40 PM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/29/24 7:40 PM
Chloroethane	< 10	10		µg/L	1		10/29/24 7:40 PM
Chloroform	< 5.0	5.0		µg/L	1		10/29/24 7:40 PM
Chloromethane	< 10	10		µg/L	1		10/29/24 7:40 PM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/29/24 7:40 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/29/24 7:40 PM
Dibromomethane	< 10	10		µg/L	1		10/29/24 7:40 PM
Dichlorodifluoromethane	< 1.0	1.0		µg/L	1		10/29/24 7:40 PM
Ethyl Methacrylate	< 5.0	5.0		µg/L	1		10/29/24 7:40 PM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/29/24 7:40 PM
Iodomethane	< 10	10		µg/L	1		10/29/24 7:40 PM
Isobutyl alcohol	< 200	200		µg/L	1		10/29/24 7:40 PM
Methacrylonitrile	< 10	10		µg/L	1		10/29/24 7:40 PM
Methyl methacrylate	< 5.0	5.0		µg/L	1		10/29/24 7:40 PM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/29/24 7:40 PM
Propionitrile	< 100	100		µg/L	1		10/29/24 7:40 PM
Styrene	< 5.0	5.0		µg/L	1		10/29/24 7:40 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/29/24 7:40 PM
Toluene	< 5.0	5.0		µg/L	1		10/29/24 7:40 PM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/29/24 7:40 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/29/24 7:40 PM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/29/24 7:40 PM
Trichloroethene	< 5.0	5.0		µg/L	1		10/29/24 7:40 PM
Trichlorofluoromethane	< 10	10		µg/L	1		10/29/24 7:40 PM
Vinyl Acetate	< 10	10		µg/L	1		10/29/24 7:40 PM
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/29/24 7:40 PM
Total Xylene	< 10	10		µg/L	1		10/29/24 7:40 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1		10/29/24 7:40 PM
Surr: 4-Bromofluorobenzene	95.8	70-130		%REC	1		10/29/24 7:40 PM
Surr: Dibromofluoromethane	103	70-130		%REC	1		10/29/24 7:40 PM
Surr: Toluene-d8	99.6	70-130		%REC	1		10/29/24 7:40 PM

<b>INDICATOR ORGANIC PARAMETERS</b>	Analyst: KJW	<b>SM 5310 C-14</b>
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## Laboratory Results

### Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWC-5A
Lab Order:	G2410G47	Sampled By:	ACC
Project:	BGwinnett 321S2	Collection Date:	10/28/2024 9:10:00 AM
Lab ID:	G2410G47-001	Received Date:	10/29/2024 11:11:30 AM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>INDICATOR ORGANIC PARAMETERS</b>							
Total Organic Carbon	2.4	1.0		mg/L	1		SM 5310 C-14 10/31/24 11:48 PM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	TB-3
<b>Lab Order:</b>	G2410G47	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/28/2024 12:00:01 AM
<b>Lab ID:</b>	G2410G47-002	<b>Received Date:</b>	10/29/2024 11:11:30 AM
<b>Matrix:</b>	AQUEOUS		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: NPT		EPA 8011	EPA 8011
1,2-Dibromo-3-chloropropane	< 0.20	0.20		µg/L	1	10/30/24 7:40 AM	10/30/24 5:43 PM
1,2-Dibromoethane	< 0.05	0.05		µg/L	1	10/30/24 7:40 AM	10/30/24 5:43 PM
Surr: 1,1,2,2-Tetrachloroethane	103	60-140		%REC	1	10/30/24 7:40 AM	10/30/24 5:43 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG		EPA 8260 D	
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	10/29/24 8:04 PM	
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	10/29/24 8:04 PM	
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	10/29/24 8:04 PM	
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	10/29/24 8:04 PM	
1,1-Dichloroethane	< 2.0	2.0		µg/L	1	10/29/24 8:04 PM	
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	10/29/24 8:04 PM	
1,1-Dichloropropene	< 5.0	5.0		µg/L	1	10/29/24 8:04 PM	
1,2,3-Trichloropropane	< 10	10		µg/L	1	10/29/24 8:04 PM	
1,2-Dichlorobenzene	< 10	10		µg/L	1	10/29/24 8:04 PM	
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	10/29/24 8:04 PM	
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	10/29/24 8:04 PM	
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	10/29/24 8:04 PM	
1,3-Dichloropropane	< 5.0	5.0		µg/L	1	10/29/24 8:04 PM	
1,4-Dichlorobenzene	< 10	10		µg/L	1	10/29/24 8:04 PM	
2,2-Dichloropropane	< 5.0	5.0	C1	µg/L	1	10/29/24 8:04 PM	
2-Butanone	< 50.0	50.0		µg/L	1	10/29/24 8:04 PM	
2-chloro-1,3-butadiene	< 5.0	5.0		µg/L	1	10/29/24 8:04 PM	
2-Hexanone	< 10	10		µg/L	1	10/29/24 8:04 PM	
3-Chloro-1-Propene	< 5.0	5.0		µg/L	1	10/29/24 8:04 PM	
4-Methyl-2-Pentanone	< 10	10		µg/L	1	10/29/24 8:04 PM	
Acetone	< 34.0	34.0		µg/L	1	10/29/24 8:04 PM	
Acetonitrile	< 50.0	50.0		µg/L	1	10/29/24 8:04 PM	
Acrolein	< 100	100	P4C1	µg/L	1	10/29/24 8:04 PM	
Acrylonitrile	< 100	100	P4	µg/L	1	10/29/24 8:04 PM	
Benzene	< 5.0	5.0		µg/L	1	10/29/24 8:04 PM	
Bromochloromethane	< 10	10		µg/L	1	10/29/24 8:04 PM	
Bromodichloromethane	< 5.0	5.0		µg/L	1	10/29/24 8:04 PM	
Bromoform	< 5.0	5.0		µg/L	1	10/29/24 8:04 PM	
Bromomethane	< 10	10		µg/L	1	10/29/24 8:04 PM	
Carbon Disulfide	< 5.0	5.0	C1	µg/L	1	10/29/24 8:04 PM	
Carbon Tetrachloride	< 5.0	5.0		µg/L	1	10/29/24 8:04 PM	
Chlorobenzene	< 2.0	2.0		µg/L	1	10/29/24 8:04 PM	
Chlorodibromomethane	< 5.0	5.0		µg/L	1	10/29/24 8:04 PM	
Chloroethane	< 10	10		µg/L	1	10/29/24 8:04 PM	
Chloroform	< 5.0	5.0		µg/L	1	10/29/24 8:04 PM	



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	TB-3
<b>Lab Order:</b>	G2410G47	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 321S2	<b>Collection Date:</b>	10/28/2024 12:00:01 AM
<b>Lab ID:</b>	G2410G47-002	<b>Received Date:</b>	10/29/2024 11:11:30 AM
<b>Matrix:</b>	AQUEOUS		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			<b>EPA 8260 D</b>
Chloromethane	< 10	10		µg/L	1		10/29/24 8:04 PM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/29/24 8:04 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/29/24 8:04 PM
Dibromomethane	< 10	10		µg/L	1		10/29/24 8:04 PM
Dichlorodifluoromethane	< 1.0	1.0		µg/L	1		10/29/24 8:04 PM
Ethyl Methacrylate	< 5.0	5.0		µg/L	1		10/29/24 8:04 PM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/29/24 8:04 PM
Iodomethane	< 10	10		µg/L	1		10/29/24 8:04 PM
Isobutyl alcohol	< 200	200		µg/L	1		10/29/24 8:04 PM
Methacrylonitrile	< 10	10		µg/L	1		10/29/24 8:04 PM
Methyl methacrylate	< 5.0	5.0		µg/L	1		10/29/24 8:04 PM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/29/24 8:04 PM
Propionitrile	< 100	100		µg/L	1		10/29/24 8:04 PM
Styrene	< 5.0	5.0		µg/L	1		10/29/24 8:04 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/29/24 8:04 PM
Toluene	< 5.0	5.0		µg/L	1		10/29/24 8:04 PM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/29/24 8:04 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/29/24 8:04 PM
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/29/24 8:04 PM
Trichloroethene	< 5.0	5.0		µg/L	1		10/29/24 8:04 PM
Trichlorofluoromethane	< 10	10		µg/L	1		10/29/24 8:04 PM
Vinyl Acetate	< 10	10		µg/L	1		10/29/24 8:04 PM
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/29/24 8:04 PM
Total Xylene	< 10	10		µg/L	1		10/29/24 8:04 PM
Surr: 1,2-Dichloroethane-d4	108	70-130		%REC	1		10/29/24 8:04 PM
Surr: 4-Bromofluorobenzene	99.3	70-130		%REC	1		10/29/24 8:04 PM
Surr: Dibromofluoromethane	105	70-130		%REC	1		10/29/24 8:04 PM
Surr: Toluene-d8	100	70-130		%REC	1		10/29/24 8:04 PM



2005 N. Center Ave.  
Somerset, PA 15501

814/443-1671  
814/445-6666  
FAX: 814/445-6729

Tuesday, November 12, 2024

JUDY ARMOUR  
BUTTON GWINNETT LANDFILL  
2901 MECHANICSVILLE ROAD  
NORCROSS, GA 30071

RE: BGwinnett 221S2(a)

Order No.: G2410G49

Dear JUDY ARMOUR:

Geochemical Testing received 2 sample(s) on 10/29/2024 for the analyses presented in the following report.

There were no problems with sample receipt protocols and analyses met the TNI/NELAC, EPA, and laboratory specifications except where noted in the Case Narrative or Laboratory Results.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Joelle Streczywilk  
Environmental Laboratory Manager

Leslie A. Nemeth  
Project Manager



## Geochemical Testing

Date: 12-Nov-24

**CLIENT:** BUTTON GWINNETT LANDFILL  
**Project:** BGwinnett 221S2(a)  
**Lab Order:** G2410G49

## CASE NARRATIVE

No problems were encountered during analysis of this workorder, except if noted in this report.

The analytical data submitted within this report was submitted by an approved analytical laboratory (per Chapter 391-3-26-.05) and in accordance with Georgia state law (O.C.G.A. 12-2-9). The accreditation information follows below:

**LABORATORY:** Geochemical Testing, Somerset, Pennsylvania  
**ACCREDITATION AGENCY:** Pennsylvania National Environmental Laboratory Accreditation Program (NELAP)  
**ACCREDITATION ID:** PA ID# 56-00306  
**SCOPE:** Potable, Non-Potable, Solid and Chemical Materials  
**EXPIRATION DATE:** January 31, 2025

**Glossary:**  
H - Method Hold Time exceeded and is not compliant with 40CFR136 Table II.  
U - The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.  
B - Analyte detected in the associated Method Blank  
Q1 - See case narrative      ND - Not Detected  
MCL - Contaminant Limit      J - Indicates an estimated value.  
Q - Qualifier      QL - Quantitation Limit      DF - Dilution Factor

S - Surrogate Recovery outside accepted recovery limits  
T - Sample received above required temperature and is not compliant with 40CFR136 Table II.  
T1 - Sample received above required temperature  
MDA - Minimum Detectable Activity.  
\*\* - Value exceeds Action Limit  
TICs - Tentatively Identified Compounds.  
E - Value above quantitation range



## Glossary (continued)

1	Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.	M7	Recovery for matrix spike could not be quantified due to matrix interference.
B1	Dilution water blank exceeded method criterion.	M8	Analyte was spiked into the MS, but was not recovered.
C1	CCV recovery above the acceptance limits. Results may be biased high.	M9	Analyte concentration was determined by the method of standard addition (MSA).
C2	CCV recovery below the acceptance limits. Results may be biased low.	N1	The lab does not hold accreditation from PA-DEP for this parameter by this method
C3	ICV recovery above the acceptance limits. Results may be biased high.	N2	PADEP does not accredit labs for this analyte by this method.
C4	ICV recovery below the acceptance limits. Results may be biased low.	N3	The lab is accredited for this method in West Virginia, but not in PA (its primary accrediting body).
C5	Positive values verified by second column confirmation.	N4	PADEP does not accredit labs for this analyte by this method in drinking water.
C6	Confirmation analysis by another detector or chromatographic column was not performed.	O1	The flashpoint tester cannot detect below 50 degrees F.
D1	The analysis did not meet the minimum DO depletion of at least 2 mg/L.	O2	Result is temperature of the sample when flame observed. No flash observed. Result qualified.
D2	The analysis did not meet the minimum residual DO of at least 1 mg/L.	O3	The reporting limits were raised due to the high concentration of non-target compounds.
D3	Sample required dilution due to a matrix interference.	O4	Sample was received with headspace.
D4	Sample was diluted in the extraction steps due to marked matrix interferences.	O5	Sample was received in incorrect container and is not compliant with 40CFR136 Table II.
D5	Sample required dilution due to a chloride interference.	O6	Insufficient sample volume was received to comply with the method.
D6	Sample was diluted and the reporting limits were raised to achieve method compliant internal standard recovery.	P1	The pH of the sample was >2 and is not compliant with 40CFR136 Table II.
D7	Sample was digested at a dilution due to the formation of a post-digestion precipitate.	P2	Sample contained residual chlorine and is not compliant with 40CFR136 Table II
D8	Sample was digested at a dilution to achieve method compliant matrix spike recovery.	P3	The pH of the sample was <10 and is not compliant with 40CFR136 Table II.
D9	Sample was digested at a dilution to meet method compliant digestion criteria.	P4	Field preservation does not meet EPA or method recommendations for this analysis.
E2	Unable to obtain a stable weight within specified limits due to sample matrix. Value is estimated.	P5	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.
F1	Fecal sample tested positive for residual chlorine.	P6	Sample required additional preservative upon receipt.
H1	Due to under-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.	P7	The sample was received unpreserved.
H2	Due to over-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.	P8	The pH of the sample was < 9 and is not compliant with 40 CFR136 Table II.
H3	Sample was re-analyzed outside of hold time due to error during original analysis.	R	Relative Percent Difference (RPD) was above the control limit.
H4	The Nitrite result used to report Nitrate was analyzed past the 48-hour holding time.	R1	RPD above control limits between matrix spike and MS duplicates.
I1	Internal standard recovery above method acceptance limits. Results are estimated.	R2	RPD above the control limit between duplicates.
I2	Internal standard recovery was below method acceptance limits. Results are estimated.	R3	RSD above the control limit between replicates.
IP	One of the instrument performance checks ( ) did not meet the acceptance criteria.	R4	RPD above control limits between Inorganic Carbon check and spike.
L1	LCS above the acceptance limits. Result may be biased high.	R5	RPD above control limits between control sample and control sample duplicates.
L2	LCS below the acceptance limits. Result may be biased low.	S2	Surrogate recovery in the blank was below the control limit.
L3	Analyte was spiked into the LCS, but was not recovered.	S3	Surrogate recovery in the blank was above the control limit.
M1	Matrix Spike recovery above the acceptance limits.	S4	Surrogate recovery in the LCS is above the control limit.
M2	Matrix Spike recovery below the acceptance limits.	S5	Surrogate recovery in the LCS is below the control limit.
M4	The matrix spike failed high for the surrogate.	SR	Analyte recovery was outside the accepted recovery limits and above the control limit for RPD.
M5	The matrix spike failed low for the surrogate.	T3	Target analyte found in trip/field blank.
M6	The reporting limits were raised due to sample matrix interference.	TC	The MS tune check (tailing factor) did not meet the acceptance criteria.

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	OW-2RR
<b>Lab Order:</b>	G2410G49	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S2(a)	<b>Collection Date:</b>	10/28/2024 10:25:00 AM
<b>Lab ID:</b>	G2410G49-001	<b>Received Date:</b>	10/29/2024 11:22:20 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	6.61			S.U.		10/28/24 10:25 AM	
Specific Conductance (Field)	330			µmhos/cm		10/28/24 10:25 AM	
Temperature (Field)	18.0			deg C		10/28/24 10:25 AM	
Turbidity (Field)	4.4			NTU		10/28/24 10:25 AM	
<b>INORGANIC NON-METALS</b>							
Total dissolved solids	92	20		mg/L	1	10/30/24 11:20 AM	10/30/24 11:28 AM
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	95	10		mg/L CaCO <sub>3</sub>	1		10/30/24 3:21 PM
<b>INORGANIC NON-METALS</b>							
Chloride	13.4	1.0		mg/L	1	10/30/24 2:53 PM	10/30/24 6:02 PM
Sulfate	< 2.0	2.0		mg/L	1	10/30/24 2:53 PM	10/30/24 6:02 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	5.54	0.20		mg/L as N	2		11/01/24 10:15 AM
<b>INORGANIC NON-METALS</b>							
Nitrate Nitrogen	< 0.05	0.05		mg/L as N	1	10/30/24 5:30 PM	11/01/24 9:53 AM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/30/24 9:40 AM	10/31/24 11:51 AM
Arsenic	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 11:51 AM
Lead	< 5.0	5.0		µg/L	1	10/30/24 9:40 AM	10/31/24 11:51 AM
Selenium	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 11:51 AM
Thallium	< 2.0	2.0		µg/L	1	10/30/24 9:40 AM	10/31/24 11:51 AM
<b>INORGANIC METALS</b>							
Barium	0.19	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 3:49 PM
Beryllium	< 0.001	0.001		mg/L	1	10/30/24 9:40 AM	10/31/24 3:49 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 9:40 AM	10/31/24 3:49 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 3:49 PM
Cobalt	< 0.005	0.005		mg/L	1	10/30/24 9:40 AM	10/31/24 3:49 PM
Copper	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 3:49 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 3:49 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 9:40 AM	10/31/24 3:49 PM
Vanadium	< 0.005	0.005		mg/L	1	10/30/24 9:40 AM	10/31/24 3:49 PM
Zinc	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 3:49 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	OW-2RR
<b>Lab Order:</b>	G2410G49	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S2(a)	<b>Collection Date:</b>	10/28/2024 10:25:00 AM
<b>Lab ID:</b>	G2410G49-001	<b>Received Date:</b>	10/29/2024 11:22:20 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			<b>EPA 8260 D</b>
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/30/24 12:49 AM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
1,2,3-Trichloropropane	< 10	10		µg/L	1		10/30/24 12:49 AM
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1		10/30/24 12:49 AM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1		10/30/24 12:49 AM
1,2-Dichlorobenzene	< 10	10		µg/L	1		10/30/24 12:49 AM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
1,4-Dichlorobenzene	< 10	10		µg/L	1		10/30/24 12:49 AM
2-Butanone	< 50.0	50.0		µg/L	1		10/30/24 12:49 AM
2-Hexanone	< 10	10		µg/L	1		10/30/24 12:49 AM
4-Methyl-2-Pentanone	< 10	10		µg/L	1		10/30/24 12:49 AM
Acetone	< 34.0	34.0		µg/L	1		10/30/24 12:49 AM
Acrylonitrile	< 100	100	P4	µg/L	1		10/30/24 12:49 AM
Benzene	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
Bromochloromethane	< 10	10		µg/L	1		10/30/24 12:49 AM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
Bromoform	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
Bromomethane	< 10	10		µg/L	1		10/30/24 12:49 AM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
Chlorobenzene	< 2.0	2.0		µg/L	1		10/30/24 12:49 AM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
Chloroethane	< 10	10		µg/L	1		10/30/24 12:49 AM
Chloroform	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
Chloromethane	< 10	10		µg/L	1		10/30/24 12:49 AM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/30/24 12:49 AM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
Dibromomethane	< 10	10		µg/L	1		10/30/24 12:49 AM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
Iodomethane	< 10	10		µg/L	1		10/30/24 12:49 AM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
Styrene	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
Toluene	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/30/24 12:49 AM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	OW-2RR
Lab Order:	G2410G49	Sampled By:	ACC
Project:	BGwinnett 221S2(a)	Collection Date:	10/28/2024 10:25:00 AM
Lab ID:	G2410G49-001	Received Date:	10/29/2024 11:22:20 AM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			EPA 8260 D
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/30/24 12:49 AM
Trichloroethene	< 5.0	5.0		µg/L	1		10/30/24 12:49 AM
Trichlorofluoromethane	< 10	10		µg/L	1		10/30/24 12:49 AM
Vinyl Acetate	< 10	10		µg/L	1		10/30/24 12:49 AM
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/30/24 12:49 AM
Total Xylene	< 10	10		µg/L	1		10/30/24 12:49 AM
Surr: 1,2-Dichloroethane-d4	105	70-130		%REC	1		10/30/24 12:49 AM
Surr: 4-Bromofluorobenzene	97.1	70-130		%REC	1		10/30/24 12:49 AM
Surr: Dibromofluoromethane	101	70-130		%REC	1		10/30/24 12:49 AM
Surr: Toluene-d8	100	70-130		%REC	1		10/30/24 12:49 AM

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	OW-3RR
<b>Lab Order:</b>	G2410G49	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S2(a)	<b>Collection Date:</b>	10/28/2024 9:50:00 AM
<b>Lab ID:</b>	G2410G49-002	<b>Received Date:</b>	10/29/2024 11:22:20 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	5.51			S.U.		10/28/24 9:50 AM	
Specific Conductance (Field)	38			µmhos/cm		10/28/24 9:50 AM	
Temperature (Field)	18.7			deg C		10/28/24 9:50 AM	
Turbidity (Field)	2.57			NTU		10/28/24 9:50 AM	
<b>INORGANIC NON-METALS</b>							
Total dissolved solids	< 20	20		mg/L	1	10/30/24 11:20 AM	10/30/24 11:28 AM
<b>INORGANIC NON-METALS</b>							
Alkalinity to pH 4.5	13	10		mg/L CaCO <sub>3</sub>	1		10/30/24 3:27 PM
<b>INORGANIC NON-METALS</b>							
Chloride	1.8	1.0		mg/L	1	10/30/24 2:53 PM	10/30/24 6:21 PM
Sulfate	2.9	2.0		mg/L	1	10/30/24 2:53 PM	10/30/24 6:21 PM
<b>INORGANIC NON-METALS</b>							
Ammonia Nitrogen	< 0.10	0.10		mg/L as N	1		11/01/24 9:17 AM
<b>INORGANIC NON-METALS</b>							
Nitrate Nitrogen	0.20	0.05		mg/L as N	1	10/30/24 5:30 PM	11/01/24 9:54 AM
<b>INORGANIC METALS</b>							
Antimony	< 6.0	6.0		µg/L	1	10/30/24 9:40 AM	10/31/24 11:53 AM
Arsenic	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 11:53 AM
Lead	< 5.0	5.0		µg/L	1	10/30/24 9:40 AM	10/31/24 11:53 AM
Selenium	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 11:53 AM
Thallium	< 2.0	2.0		µg/L	1	10/30/24 9:40 AM	10/31/24 11:53 AM
<b>INORGANIC METALS</b>							
Barium	0.02	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 3:51 PM
Beryllium	< 0.001	0.001		mg/L	1	10/30/24 9:40 AM	10/31/24 3:51 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 9:40 AM	10/31/24 3:51 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 3:51 PM
Cobalt	< 0.005	0.005		mg/L	1	10/30/24 9:40 AM	10/31/24 3:51 PM
Copper	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 3:51 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 3:51 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 9:40 AM	10/31/24 3:51 PM
Vanadium	< 0.005	0.005		mg/L	1	10/30/24 9:40 AM	10/31/24 3:51 PM
Zinc	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 3:51 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	OW-3RR
<b>Lab Order:</b>	G2410G49	<b>Sampled By:</b>	ACC
<b>Project:</b>	BGwinnett 221S2(a)	<b>Collection Date:</b>	10/28/2024 9:50:00 AM
<b>Lab ID:</b>	G2410G49-002	<b>Received Date:</b>	10/29/2024 11:22:20 AM
<b>Matrix:</b>	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			<b>EPA 8260 D</b>
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
1,1-Dichloroethane	< 2.0	2.0		µg/L	1		10/30/24 1:13 AM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
1,2,3-Trichloropropane	< 10	10		µg/L	1		10/30/24 1:13 AM
1,2-Dibromo-3-chloropropane	1.0	5.0	U	µg/L	1		10/30/24 1:13 AM
1,2-Dibromoethane	< 1.0	1.0		µg/L	1		10/30/24 1:13 AM
1,2-Dichlorobenzene	< 10	10		µg/L	1		10/30/24 1:13 AM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
1,4-Dichlorobenzene	< 10	10		µg/L	1		10/30/24 1:13 AM
2-Butanone	< 50.0	50.0		µg/L	1		10/30/24 1:13 AM
2-Hexanone	< 10	10		µg/L	1		10/30/24 1:13 AM
4-Methyl-2-Pentanone	< 10	10		µg/L	1		10/30/24 1:13 AM
Acetone	< 34.0	34.0		µg/L	1		10/30/24 1:13 AM
Acrylonitrile	< 100	100	P4	µg/L	1		10/30/24 1:13 AM
Benzene	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
Bromochloromethane	< 10	10		µg/L	1		10/30/24 1:13 AM
Bromodichloromethane	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
Bromoform	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
Bromomethane	< 10	10		µg/L	1		10/30/24 1:13 AM
Carbon Disulfide	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
Carbon Tetrachloride	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
Chlorobenzene	< 2.0	2.0		µg/L	1		10/30/24 1:13 AM
Chlorodibromomethane	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
Chloroethane	< 10	10		µg/L	1		10/30/24 1:13 AM
Chloroform	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
Chloromethane	< 10	10		µg/L	1		10/30/24 1:13 AM
cis-1,2-Dichloroethene	< 10	10		µg/L	1		10/30/24 1:13 AM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
Dibromomethane	< 10	10		µg/L	1		10/30/24 1:13 AM
Ethylbenzene	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
Iodomethane	< 10	10		µg/L	1		10/30/24 1:13 AM
Methylene Chloride	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
Styrene	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
Tetrachloroethene	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
Toluene	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
trans-1,2-Dichloroethene	< 10	10		µg/L	1		10/30/24 1:13 AM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	OW-3RR
Lab Order:	G2410G49	Sampled By:	ACC
Project:	BGwinnett 221S2(a)	Collection Date:	10/28/2024 9:50:00 AM
Lab ID:	G2410G49-002	Received Date:	10/29/2024 11:22:20 AM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>							
				Analyst: MEG			EPA 8260 D
trans-1,4-Dichloro-2-butene	< 10	10		µg/L	1		10/30/24 1:13 AM
Trichloroethene	< 5.0	5.0		µg/L	1		10/30/24 1:13 AM
Trichlorofluoromethane	< 10	10		µg/L	1		10/30/24 1:13 AM
Vinyl Acetate	< 10	10		µg/L	1		10/30/24 1:13 AM
Vinyl Chloride	< 2.0	2.0		µg/L	1		10/30/24 1:13 AM
Total Xylene	< 10	10		µg/L	1		10/30/24 1:13 AM
Surr: 1,2-Dichloroethane-d4	105	70-130		%REC	1		10/30/24 1:13 AM
Surr: 4-Bromofluorobenzene	98.2	70-130		%REC	1		10/30/24 1:13 AM
Surr: Dibromofluoromethane	101	70-130		%REC	1		10/30/24 1:13 AM
Surr: Toluene-d8	101	70-130		%REC	1		10/30/24 1:13 AM



I.D. 56-00306 PA DEP



2005 N. Center Ave.  
Somerset, PA 15501

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Tuesday, November 12, 2024

JUDY ARMOUR  
BUTTON GWINNETT LANDFILL  
2901 MECHANICSVILLE ROAD  
NORCROSS, GA 30071

RE: Button Gwinnett Semiannual Surface Water

Order No.: G2410G51

Dear JUDY ARMOUR:

Geochemical Testing received 4 sample(s) on 10/29/2024 for the analyses presented in the following report.

There were no problems with sample receipt protocols and analyses met the TNI/NELAC, EPA, and laboratory specifications except where noted in the Case Narrative or Laboratory Results.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Joelle Streczywilk  
Environmental Laboratory Manager

Leslie A. Nemeth  
Project Manager



## Geochemical Testing

Date: 12-Nov-24

**CLIENT:** BUTTON GWINNETT LANDFILL  
**Project:** Button Gwinnett Semiannual Surface Water  
**Lab Order:** G2410G51

## CASE NARRATIVE

No problems were encountered during analysis of this workorder, except if noted in this report.

The analytical data submitted within this report was submitted by an approved analytical laboratory (per Chapter 391-3-26-.05) and in accordance with Georgia state law (O.C.G.A. 12-2-9). The accreditation information follows below:

**LABORATORY:** Geochemical Testing, Somerset, Pennsylvania  
**ACCREDITATION AGENCY:** Pennsylvania National Environmental Laboratory Accreditation Program (NELAP)  
**ACCREDITATION ID:** PA ID# 56-00306  
**SCOPE:** Potable, Non-Potable, Solid and Chemical Materials  
**EXPIRATION DATE:** January 31, 2025

**Glossary:**  
H - Method Hold Time exceeded and is not compliant with 40CFR136 Table II.  
U - The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.  
B - Analyte detected in the associated Method Blank  
Q1 - See case narrative      ND - Not Detected  
MCL - Contaminant Limit      J - Indicates an estimated value.  
Q - Qualifier      QL - Quantitation Limit      DF - Dilution Factor

S - Surrogate Recovery outside accepted recovery limits  
T - Sample received above required temperature and is not compliant with 40CFR136 Table II.  
T1 - Sample received above required temperature  
MDA - Minimum Detectable Activity.  
\*\* - Value exceeds Action Limit  
TICs - Tentatively Identified Compounds.  
E - Value above quantitation range



## Glossary (continued)

1	Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.	M7	Recovery for matrix spike could not be quantified due to matrix interference.
B1	Dilution water blank exceeded method criterion.	M8	Analyte was spiked into the MS, but was not recovered.
C1	CCV recovery above the acceptance limits. Results may be biased high.	M9	Analyte concentration was determined by the method of standard addition (MSA).
C2	CCV recovery below the acceptance limits. Results may be biased low.	N1	The lab does not hold accreditation from PA-DEP for this parameter by this method
C3	ICV recovery above the acceptance limits. Results may be biased high.	N2	PADEP does not accredit labs for this analyte by this method.
C4	ICV recovery below the acceptance limits. Results may be biased low.	N3	The lab is accredited for this method in West Virginia, but not in PA (its primary accrediting body).
C5	Positive values verified by second column confirmation.	N4	PADEP does not accredit labs for this analyte by this method in drinking water.
C6	Confirmation analysis by another detector or chromatographic column was not performed.	O1	The flashpoint tester cannot detect below 50 degrees F.
D1	The analysis did not meet the minimum DO depletion of at least 2 mg/L.	O2	Result is temperature of the sample when flame observed. No flash observed. Result qualified.
D2	The analysis did not meet the minimum residual DO of at least 1 mg/L.	O3	The reporting limits were raised due to the high concentration of non-target compounds.
D3	Sample required dilution due to a matrix interference.	O4	Sample was received with headspace.
D4	Sample was diluted in the extraction steps due to marked matrix interferences.	O5	Sample was received in incorrect container and is not compliant with 40CFR136 Table II.
D5	Sample required dilution due to a chloride interference.	O6	Insufficient sample volume was received to comply with the method.
D6	Sample was diluted and the reporting limits were raised to achieve method compliant internal standard recovery.	P1	The pH of the sample was >2 and is not compliant with 40CFR136 Table II.
D7	Sample was digested at a dilution due to the formation of a post-digestion precipitate.	P2	Sample contained residual chlorine and is not compliant with 40CFR136 Table II
D8	Sample was digested at a dilution to achieve method compliant matrix spike recovery.	P3	The pH of the sample was <10 and is not compliant with 40CFR136 Table II.
D9	Sample was digested at a dilution to meet method compliant digestion criteria.	P4	Field preservation does not meet EPA or method recommendations for this analysis.
E2	Unable to obtain a stable weight within specified limits due to sample matrix. Value is estimated.	P5	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.
F1	Fecal sample tested positive for residual chlorine.	P6	Sample required additional preservative upon receipt.
H1	Due to under-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.	P7	The sample was received unpreserved.
H2	Due to over-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.	P8	The pH of the sample was < 9 and is not compliant with 40 CFR136 Table II.
H3	Sample was re-analyzed outside of hold time due to error during original analysis.	R	Relative Percent Difference (RPD) was above the control limit.
H4	The Nitrite result used to report Nitrate was analyzed past the 48-hour holding time.	R1	RPD above control limits between matrix spike and MS duplicates.
I1	Internal standard recovery above method acceptance limits. Results are estimated.	R2	RPD above the control limit between duplicates.
I2	Internal standard recovery was below method acceptance limits. Results are estimated.	R3	RSD above the control limit between replicates.
IP	One of the instrument performance checks ( ) did not meet the acceptance criteria.	R4	RPD above control limits between Inorganic Carbon check and spike.
L1	LCS above the acceptance limits. Result may be biased high.	R5	RPD above control limits between control sample and control sample duplicates.
L2	LCS below the acceptance limits. Result may be biased low.	S2	Surrogate recovery in the blank was below the control limit.
L3	Analyte was spiked into the LCS, but was not recovered.	S3	Surrogate recovery in the blank was above the control limit.
M1	Matrix Spike recovery above the acceptance limits.	S4	Surrogate recovery in the LCS is above the control limit.
M2	Matrix Spike recovery below the acceptance limits.	S5	Surrogate recovery in the LCS is below the control limit.
M4	The matrix spike failed high for the surrogate.	SR	Analyte recovery was outside the accepted recovery limits and above the control limit for RPD.
M5	The matrix spike failed low for the surrogate.	T3	Target analyte found in trip/field blank.
M6	The reporting limits were raised due to sample matrix interference.	TC	The MS tune check (tailing factor) did not meet the acceptance criteria.

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	SWB-1
<b>Lab Order:</b>	G2410G51	<b>Sampled By:</b>	ACC
<b>Project:</b>	Button Gwinnett Semiannual Surface Water	<b>Collection Date:</b>	10/28/2024 7:45:00 AM
<b>Lab ID:</b>	G2410G51-001	<b>Received Date:</b>	10/29/2024 11:28:39 AM
<b>Matrix:</b>	SURFACE WATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	6.73			S.U.		10/28/24 7:45 AM	
Specific Conductance (Field)	227			µmhos/cm		10/28/24 7:45 AM	
Temperature (Field)	16.7			deg C		10/28/24 7:45 AM	
Turbidity (Field)	11.80			NTU		10/28/24 7:45 AM	
<b>INDICATOR ORGANIC PARAMETERS</b>							
Chemical Oxygen Demand	19	10		mg/L	1	11/04/24 9:13 AM	11/04/24 12:05 PM
<b>INORGANIC NON-METALS</b>							
Chloride	23.7	1.0		mg/L	1	10/30/24 2:53 PM	10/30/24 6:40 PM
<b>INORGANIC NON-METALS</b>							
Cyanide, total	< 0.020	0.020		mg/L	1		10/31/24 1:05 PM
<b>INORGANIC METALS</b>							
Mercury	< 0.0004	0.0004		mg/L	1	10/30/24 11:00 AM	10/31/24 9:34 AM
<b>INORGANIC METALS</b>							
Arsenic	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 12:02 PM
Lead	< 5.0	5.0		µg/L	1	10/30/24 9:40 AM	10/31/24 12:02 PM
Selenium	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 12:02 PM
<b>INORGANIC METALS</b>							
Barium	0.03	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 4:07 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 9:40 AM	10/31/24 4:07 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 4:07 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 4:07 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 9:40 AM	10/31/24 4:07 PM
Zinc	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 4:07 PM
<b>INDICATOR ORGANIC PARAMETERS</b>							
Total Organic Carbon	4.9	1.0		mg/L	1		11/01/24 3:03 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	SWC-3
<b>Lab Order:</b>	G2410G51	<b>Sampled By:</b>	ACC
<b>Project:</b>	Button Gwinnett Semiannual Surface Water	<b>Collection Date:</b>	10/28/2024 8:30:00 AM
<b>Lab ID:</b>	G2410G51-002	<b>Received Date:</b>	10/29/2024 11:28:39 AM
<b>Matrix:</b>	SURFACE WATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	6.82			S.U.		10/28/24 8:30 AM	
Specific Conductance (Field)	109			µmhos/cm		10/28/24 8:30 AM	
Temperature (Field)	16.0			deg C		10/28/24 8:30 AM	
Turbidity (Field)	3.84			NTU		10/28/24 8:30 AM	
<b>INDICATOR ORGANIC PARAMETERS</b>							
Chemical Oxygen Demand	11	10		mg/L	1	11/04/24 9:13 AM	11/04/24 12:05 PM
<b>INORGANIC NON-METALS</b>							
Chloride	6.2	1.0		mg/L	1	10/30/24 2:53 PM	10/30/24 7:37 PM
<b>INORGANIC NON-METALS</b>							
Cyanide, total	< 0.020	0.020		mg/L	1		10/31/24 1:07 PM
<b>INORGANIC METALS</b>							
Mercury	< 0.0004	0.0004		mg/L	1	10/30/24 11:00 AM	10/31/24 9:36 AM
<b>INORGANIC METALS</b>							
Arsenic	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 12:05 PM
Lead	< 5.0	5.0		µg/L	1	10/30/24 9:40 AM	10/31/24 12:05 PM
Selenium	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 12:05 PM
<b>INORGANIC METALS</b>							
Barium	0.03	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 4:09 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 9:40 AM	10/31/24 4:09 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 4:09 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 4:09 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 9:40 AM	10/31/24 4:09 PM
Zinc	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 4:09 PM
<b>INDICATOR ORGANIC PARAMETERS</b>							
Total Organic Carbon	2.9	1.0		mg/L	1		11/01/24 3:25 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	SWC-1
<b>Lab Order:</b>	G2410G51	<b>Sampled By:</b>	ACC
<b>Project:</b>	Button Gwinnett Semiannual Surface Water	<b>Collection Date:</b>	10/28/2024 10:45:00 AM
<b>Lab ID:</b>	G2410G51-003	<b>Received Date:</b>	10/29/2024 11:28:39 AM
<b>Matrix:</b>	SURFACE WATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	6.44			S.U.		10/28/24 10:45 AM	
Specific Conductance (Field)	106			µmhos/cm		10/28/24 10:45 AM	
Temperature (Field)	16.8			deg C		10/28/24 10:45 AM	
Turbidity (Field)	3.22			NTU		10/28/24 10:45 AM	
<b>INDICATOR ORGANIC PARAMETERS</b>							
Chemical Oxygen Demand	11	10		mg/L	1	11/04/24 9:13 AM	11/04/24 12:05 PM
<b>INORGANIC NON-METALS</b>							
Chloride	6.3	1.0		mg/L	1	10/30/24 2:53 PM	10/30/24 8:33 PM
<b>INORGANIC NON-METALS</b>							
Cyanide, total	< 0.020	0.020		mg/L	1		10/31/24 1:09 PM
<b>INORGANIC METALS</b>							
Mercury	< 0.0004	0.0004		mg/L	1	10/30/24 11:00 AM	10/31/24 9:38 AM
<b>INORGANIC METALS</b>							
Arsenic	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 12:14 PM
Lead	< 5.0	5.0		µg/L	1	10/30/24 9:40 AM	10/31/24 12:14 PM
Selenium	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 12:14 PM
<b>INORGANIC METALS</b>							
Barium	0.03	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 4:20 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 9:40 AM	10/31/24 4:20 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 4:20 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 4:20 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 9:40 AM	10/31/24 4:20 PM
Zinc	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 4:20 PM
<b>INDICATOR ORGANIC PARAMETERS</b>							
Total Organic Carbon	2.8	1.0		mg/L	1		11/01/24 3:46 AM



I.D. 56-00306 PA DEP

# Laboratory Results

## Geochemical Testing

Date: 12-Nov-24

<b>CLIENT:</b>	BUTTON GWINNETT LANDFILL	<b>Client Sample ID:</b>	SWC-2
<b>Lab Order:</b>	G2410G51	<b>Sampled By:</b>	ACC
<b>Project:</b>	Button Gwinnett Semiannual Surface Water	<b>Collection Date:</b>	10/28/2024 11:00:00 AM
<b>Lab ID:</b>	G2410G51-004	<b>Received Date:</b>	10/29/2024 11:28:39 AM
<b>Matrix:</b>	SURFACE WATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
<b>FIELD PARAMETERS</b>							
pH (Field)	6.72			S.U.		10/28/24 11:00 AM	
Specific Conductance (Field)	105			µmhos/cm		10/28/24 11:00 AM	
Temperature (Field)	16.7			deg C		10/28/24 11:00 AM	
Turbidity (Field)	3.16			NTU		10/28/24 11:00 AM	
<b>INDICATOR ORGANIC PARAMETERS</b>							
Chemical Oxygen Demand	10	10		mg/L	1	11/04/24 9:13 AM	11/04/24 12:05 PM
<b>INORGANIC NON-METALS</b>							
Chloride	6.4	1.0		mg/L	1	10/30/24 2:53 PM	10/30/24 8:52 PM
<b>INORGANIC NON-METALS</b>							
Cyanide, total	< 0.020	0.020		mg/L	1		10/31/24 1:11 PM
<b>INORGANIC METALS</b>							
Mercury	< 0.0004	0.0004		mg/L	1	10/30/24 11:00 AM	10/31/24 9:40 AM
<b>INORGANIC METALS</b>							
Arsenic	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 12:16 PM
Lead	< 5.0	5.0		µg/L	1	10/30/24 9:40 AM	10/31/24 12:16 PM
Selenium	< 10	10		µg/L	1	10/30/24 9:40 AM	10/31/24 12:16 PM
<b>INORGANIC METALS</b>							
Barium	0.04	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 4:22 PM
Cadmium	< 0.002	0.002		mg/L	1	10/30/24 9:40 AM	10/31/24 4:22 PM
Chromium	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 4:22 PM
Nickel	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 4:22 PM
Silver	< 0.050	0.050		mg/L	1	10/30/24 9:40 AM	10/31/24 4:22 PM
Zinc	< 0.01	0.01		mg/L	1	10/30/24 9:40 AM	10/31/24 4:22 PM
<b>INDICATOR ORGANIC PARAMETERS</b>							
Total Organic Carbon	2.9	1.0		mg/L	1		11/01/24 4:08 AM



I.D. 56-00306 PA DEP



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814/445-6666  
FAX: 814/445-6729

Wednesday, November 6, 2024

JUDY ARMOUR  
BUTTON GWINNETT LANDFILL  
2901 MECHANICSVILLE ROAD  
NORCROSS, GA 30071

RE: BGwinnett 221S(a)

Order No.: G2411121

Dear JUDY ARMOUR:

Geochemical Testing received 1 sample(s) on 11/5/2024 for the analyses presented in the following report.

There were no problems with sample receipt protocols and analyses met the TNI/NELAC, EPA, and laboratory specifications except where noted in the Case Narrative or Laboratory Results.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Joelle Streczywilk  
Environmental Laboratory Manager

Leslie A. Nemeth  
Project Manager



## Geochemical Testing

Date: 06-Nov-24

**CLIENT:** BUTTON GWINNETT LANDFILL  
**Project:** BGwinnett 221S(a)  
**Lab Order:** G2411121

## CASE NARRATIVE

No problems were encountered during analysis of this workorder, except if noted in this report.

The analytical data submitted within this report was submitted by an approved analytical laboratory (per Chapter 391-3-26-.05) and in accordance with Georgia state law (O.C.G.A. 12-2-9). The accreditation information follows below:

**LABORATORY:** Geochemical Testing, Somerset, Pennsylvania  
**ACCREDITATION AGENCY:** Pennsylvania National Environmental Laboratory Accreditation Program (NELAP)  
**ACCREDITATION ID:** PA ID# 56-00306  
**SCOPE:** Potable, Non-Potable, Solid and Chemical Materials  
**EXPIRATION DATE:** January 31, 2025

**Glossary:**  
H - Method Hold Time exceeded and is not compliant with 40CFR136 Table II.  
U - The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.  
B - Analyte detected in the associated Method Blank  
Q1 - See case narrative      ND - Not Detected  
MCL - Contaminant Limit      J - Indicates an estimated value.  
Q - Qualifier      QL - Quantitation Limit      DF - Dilution Factor

S - Surrogate Recovery outside accepted recovery limits  
T - Sample received above required temperature and is not compliant with 40CFR136 Table II.  
T1 - Sample received above required temperature  
MDA - Minimum Detectable Activity.  
\*\* - Value exceeds Action Limit  
TICs - Tentatively Identified Compounds.  
E - Value above quantitation range



## Glossary (continued)

1	Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.	M7	Recovery for matrix spike could not be quantified due to matrix interference.
B1	Dilution water blank exceeded method criterion.	M8	Analyte was spiked into the MS, but was not recovered.
C1	CCV recovery above the acceptance limits. Results may be biased high.	M9	Analyte concentration was determined by the method of standard addition (MSA).
C2	CCV recovery below the acceptance limits. Results may be biased low.	N1	The lab does not hold accreditation from PA-DEP for this parameter by this method
C3	ICV recovery above the acceptance limits. Results may be biased high.	N2	PADEP does not accredit labs for this analyte by this method.
C4	ICV recovery below the acceptance limits. Results may be biased low.	N3	The lab is accredited for this method in West Virginia, but not in PA (its primary accrediting body).
C5	Positive values verified by second column confirmation.	N4	PADEP does not accredit labs for this analyte by this method in drinking water.
C6	Confirmation analysis by another detector or chromatographic column was not performed.	O1	The flashpoint tester cannot detect below 50 degrees F.
D1	The analysis did not meet the minimum DO depletion of at least 2 mg/L.	O2	Result is temperature of the sample when flame observed. No flash observed. Result qualified.
D2	The analysis did not meet the minimum residual DO of at least 1 mg/L.	O3	The reporting limits were raised due to the high concentration of non-target compounds.
D3	Sample required dilution due to a matrix interference.	O4	Sample was received with headspace.
D4	Sample was diluted in the extraction steps due to marked matrix interferences.	O5	Sample was received in incorrect container and is not compliant with 40CFR136 Table II.
D5	Sample required dilution due to a chloride interference.	O6	Insufficient sample volume was received to comply with the method.
D6	Sample was diluted and the reporting limits were raised to achieve method compliant internal standard recovery.	P1	The pH of the sample was >2 and is not compliant with 40CFR136 Table II.
D7	Sample was digested at a dilution due to the formation of a post-digestion precipitate.	P2	Sample contained residual chlorine and is not compliant with 40CFR136 Table II
D8	Sample was digested at a dilution to achieve method compliant matrix spike recovery.	P3	The pH of the sample was <10 and is not compliant with 40CFR136 Table II.
D9	Sample was digested at a dilution to meet method compliant digestion criteria.	P4	Field preservation does not meet EPA or method recommendations for this analysis.
E2	Unable to obtain a stable weight within specified limits due to sample matrix. Value is estimated.	P5	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.
F1	Fecal sample tested positive for residual chlorine.	P6	Sample required additional preservative upon receipt.
H1	Due to under-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.	P7	The sample was received unpreserved.
H2	Due to over-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.	P8	The pH of the sample was < 9 and is not compliant with 40 CFR136 Table II.
H3	Sample was re-analyzed outside of hold time due to error during original analysis.	R	Relative Percent Difference (RPD) was above the control limit.
H4	The Nitrite result used to report Nitrate was analyzed past the 48-hour holding time.	R1	RPD above control limits between matrix spike and MS duplicates.
I1	Internal standard recovery above method acceptance limits. Results are estimated.	R2	RPD above the control limit between duplicates.
I2	Internal standard recovery was below method acceptance limits. Results are estimated.	R3	RSD above the control limit between replicates.
IP	One of the instrument performance checks ( ) did not meet the acceptance criteria.	R4	RPD above control limits between Inorganic Carbon check and spike.
L1	LCS above the acceptance limits. Result may be biased high.	R5	RPD above control limits between control sample and control sample duplicates.
L2	LCS below the acceptance limits. Result may be biased low.	S2	Surrogate recovery in the blank was below the control limit.
L3	Analyte was spiked into the LCS, but was not recovered.	S3	Surrogate recovery in the blank was above the control limit.
M1	Matrix Spike recovery above the acceptance limits.	S4	Surrogate recovery in the LCS is above the control limit.
M2	Matrix Spike recovery below the acceptance limits.	S5	Surrogate recovery in the LCS is below the control limit.
M4	The matrix spike failed high for the surrogate.	SR	Analyte recovery was outside the accepted recovery limits and above the control limit for RPD.
M5	The matrix spike failed low for the surrogate.	T3	Target analyte found in trip/field blank.
M6	The reporting limits were raised due to sample matrix interference.	TC	The MS tune check (tailing factor) did not meet the acceptance criteria.

# Laboratory Results

## Geochemical Testing

Date: 06-Nov-24

CLIENT:	BUTTON GWINNETT LANDFILL	Client Sample ID:	GWC-9A
Lab Order:	G2411121	Sampled By:	ACC
Project:	BGwinnett 221S(a)	Collection Date:	10/24/2024
Lab ID:	G2411121-001	Received Date:	11/5/2024 5:28:00 AM
Matrix:	GROUNDWATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
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SAMPLE NOT TAKEN				Analyst: LAN			
Sampling Point	No Flow				1		10/24/24 12:00 AM



Quality Assurance Project Report  
Prepared for  
BUTTON GWINNETT LANDFILL  
11/13/2024

David M. Glessner  
Quality Assurance Coordinator

### **Explanatory Notes**

1. Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.
2. Matrix Spike and MS Duplicates are sample specific controls and are not used to evaluate the analytical batch.
3. Laboratory duplicate. If one or both of the values is less than 5 times the PQL, the allowed difference is +/- the PQL.
4. "R" indicates a relative percent difference (RPD) was above the acceptance limit between duplicate QC samples or sample specific duplicates.

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E76  
Project: BGwinnett 321S2

## Analytical QC Summary Report

SampleID: G2410E02-001ADUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311875		
		BatchID: R311875								Analysis Date: 10/25/2024				SeqNo: 8202972
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Alkalinity to pH 4.5	78	mg/L CaCO <sub>3</sub>	10						77	1.3%	20			
SampleID: G2410E36-001ADUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311875		
		BatchID: R311875								Analysis Date: 10/25/2024				SeqNo: 8202998
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Alkalinity to pH 4.5	121	mg/L CaCO <sub>3</sub>	10						122	0.8%	20			
SampleID: G2410E37-004ADUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311875		
		BatchID: R311875								Analysis Date: 10/25/2024				SeqNo: 8203035
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Alkalinity to pH 4.5	183	mg/L CaCO <sub>3</sub>	10						183		20			
SampleID: ALK LCS		SampType: LCS		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311875		
		BatchID: R311875								Analysis Date: 10/25/2024				SeqNo: 8202964
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Alkalinity to pH 4.5	47	mg/L CaCO <sub>3</sub>	10	47.5		98.9%	85	115						
SampleID: ALK LCS		SampType: LCS		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311875		
		BatchID: R311875								Analysis Date: 10/25/2024				SeqNo: 8202989
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Alkalinity to pH 4.5	46	mg/L CaCO <sub>3</sub>	10	47.5		96.8%	85	115						
SampleID: ALK LCS		SampType: LCS		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311875		
		BatchID: R311875								Analysis Date: 10/25/2024				SeqNo: 8203027

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	49	mg/L CaCO3	10	47.5		103.2%	85	115				
<b>SampleID:</b> ALK LCS		<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>			<b>RunNo:</b> 311875		
					<b>BatchID:</b> R311875					<b>Analysis Date:</b> 10/25/2024		<b>SeqNo:</b> 8203061
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	49	mg/L CaCO3	10	47.5		103.2%	85	115				
<b>SampleID:</b> BLANKSA		<b>SampType:</b> BLANK		<b>TestNo:</b> ASTM D7511-17			<b>Prep Date:</b>			<b>RunNo:</b> 311963		
					<b>BatchID:</b> R311963					<b>Analysis Date:</b> 10/28/2024		<b>SeqNo:</b> 8205546
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Cyanide, total	< 0.02	mg/L	0.02									
<b>SampleID:</b> LCS		<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D7511-17			<b>Prep Date:</b>			<b>RunNo:</b> 311963		
					<b>BatchID:</b> R311963					<b>Analysis Date:</b> 10/28/2024		<b>SeqNo:</b> 8205541
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Cyanide, total	0.095	mg/L	0.02	0.1		95.4%	86	114				
<b>SampleID:</b> G2410B62-004BMS		<b>SampType:</b> MS		<b>TestNo:</b> ASTM D7511-17			<b>Prep Date:</b>			<b>RunNo:</b> 311963		
					<b>BatchID:</b> R311963					<b>Analysis Date:</b> 10/28/2024		<b>SeqNo:</b> 8205574
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Cyanide, total	0.048	mg/L	0.02	0.05		95.0%	75	125				
<b>SampleID:</b> G2410B62-004BMSD		<b>SampType:</b> MSD		<b>TestNo:</b> ASTM D7511-17			<b>Prep Date:</b>			<b>RunNo:</b> 311963		
					<b>BatchID:</b> R311963					<b>Analysis Date:</b> 10/28/2024		<b>SeqNo:</b> 8205575
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Cyanide, total	0.045	mg/L	0.02	0.05		90.6%	75	125	0.048	4.7%	20	

Client: BUTTON GWINNETT LANDFILL

## Analytical QC Summary Report

WorkOrder: G2410E76

Project: BGwinnett 321S2

SampleID: CCB		SampType: MBLK		TestNo: ASTM D7511-17				Prep Date:				RunNo: 311963		
		BatchID: R311963				Analysis Date: 10/28/2024				SeqNo: 8205536				

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Cyanide, total	< 0.005	mg/L	0.005										

SampleID: G2410E73-007BDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1				Prep Date: 10/28/2024				RunNo: 312108		
		BatchID: 261409				Analysis Date: 10/28/2024				SeqNo: 8209731				

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	63.9	mg/L	1						64	0.1%	20		
Sulfate	< 2	mg/L	2							20			

SampleID: G2410E81-001BDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1				Prep Date: 10/28/2024				RunNo: 312108		
		BatchID: 261409				Analysis Date: 10/28/2024				SeqNo: 8209745				

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	4.3	mg/L	1						4.31	0.2%	20		
Sulfate	35.5	mg/L	2						35.4	0.2%	20		

SampleID: HRQC-261409		SampType: HRQC		TestNo: EPA 300.0 Rev 2.1				Prep Date: 10/28/2024				RunNo: 312108		
		BatchID: 261409				Analysis Date: 10/28/2024				SeqNo: 8209728				

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	249	mg/L	1	250		99.4%	90	110					
Sulfate	250	mg/L	2	250		99.9%	90	110					

SampleID: HRQC 1000-261409		SampType: HRQC 1000		TestNo: EPA 300.0 Rev 2.1				Prep Date: 10/28/2024				RunNo: 312108		
		BatchID: 261409				Analysis Date: 10/28/2024				SeqNo: 8209729				

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	1010	mg/L	1	1000		100.7%	90	110					
Sulfate	1000	mg/L	2	1000		100.4%	90	110					

Client: BUTTON GWINNETT LANDFILL

## Analytical QC Summary Report

WorkOrder: G2410E76

Project: BGwinnett 321S2

<b>SampleID:</b> LFB-261409		<b>SampType:</b> LFB		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/28/2024			<b>RunNo:</b> 312108		
		<b>BatchID:</b> 261409						<b>Analysis Date:</b> 10/28/2024			<b>SeqNo:</b> 8209724	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	47.9	mg/L	1	50		95.8%	90	110				
Sulfate	49.9	mg/L	2	50		99.8%	90	110				

<b>SampleID:</b> LFB2-261409		<b>SampType:</b> LFB2		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/28/2024			<b>RunNo:</b> 312108		
		<b>BatchID:</b> 261409						<b>Analysis Date:</b> 10/28/2024			<b>SeqNo:</b> 8209725	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	4.98	mg/L	1	5		99.6%	90	110				
Sulfate	5.26	mg/L	2	5		105.2%	90	110				

<b>SampleID:</b> G2410E73-007BLFM		<b>SampType:</b> LFM		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/28/2024			<b>RunNo:</b> 312108		
		<b>BatchID:</b> 261409						<b>Analysis Date:</b> 10/28/2024			<b>SeqNo:</b> 8209732	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	79.4	mg/L	1	15	64	103.1%	80	120				
Sulfate	23.9	mg/L	2	20		119.3%	80	120				

<b>SampleID:</b> G2410E81-001BLFM		<b>SampType:</b> LFM		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/28/2024			<b>RunNo:</b> 312108		
		<b>BatchID:</b> 261409						<b>Analysis Date:</b> 10/28/2024			<b>SeqNo:</b> 8209746	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	21.4	mg/L	1	15	4.31	114.2%	80	120				
Sulfate	57.1	mg/L	2	20	35.4	108.7%	80	120				

<b>SampleID:</b> LRB-261409		<b>SampType:</b> LRB		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/28/2024			<b>RunNo:</b> 312108		
		<b>BatchID:</b> 261409						<b>Analysis Date:</b> 10/28/2024			<b>SeqNo:</b> 8209726	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	< 1	mg/L	1									
Sulfate	< 2	mg/L	2									

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E76  
Project: BGwinnett 321S2

## Analytical QC Summary Report

SampleID: CB-261409		SampType: MBLK		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/28/2024		RunNo: 312108				
		BatchID: 261409				Analysis Date: 10/28/2024		SeqNo: 8209723				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	< 1	mg/L	1									
Sulfate	< 2	mg/L	2									
SampleID: QCS-261409		SampType: QCS		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/28/2024		RunNo: 312108				
		BatchID: 261409				Analysis Date: 10/28/2024		SeqNo: 8209723				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	23.4	mg/L	1	24		97.3%	90	110				
Sulfate	32.3	mg/L	2	32		100.9%	90	110				
SampleID: G2410E72-001ADUP		SampType: DUP		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312010				
		BatchID: R312010				Analysis Date: 10/29/2024		SeqNo: 8207211				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	0.637	mg/L as N	0.1						0.627	1.6%	20	
SampleID: LCS		SampType: LCS		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312010				
		BatchID: R312010				Analysis Date: 10/29/2024		SeqNo: 8207208				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	0.765	mg/L as N	0.1	0.82		93.3%	90	110				
SampleID: CCB		SampType: MBLK		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312010				
		BatchID: R312010				Analysis Date: 10/29/2024		SeqNo: 8207206				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	< 0.1	mg/L as N	0.1									
SampleID: G2410E72-001AMS		SampType: MS		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312010				
		BatchID: R312010				Analysis Date: 10/29/2024		SeqNo: 8207212				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	1.55	mg/L as N	0.1	1	0.627	92.2%	90	110				
<b>SampleID:</b> LCS-261438		<b>SampType:</b> LCS		<b>TestNo:</b> EPA 353.2 Rev 2.0			<b>Prep Date:</b> 10/28/2024			<b>RunNo:</b> 311988		
					<b>BatchID:</b> 261438					<b>Analysis Date:</b> 10/29/2024		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Nitrate Nitrogen	0.968	mg/L as N	0.05	1		96.8%	90	110				
<b>SampleID:</b> MBLK-261438		<b>SampType:</b> MBLK		<b>TestNo:</b> EPA 353.2 Rev 2.0			<b>Prep Date:</b> 10/28/2024			<b>RunNo:</b> 311988		
					<b>BatchID:</b> 261438					<b>Analysis Date:</b> 10/29/2024		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Nitrate Nitrogen	< 0.05	mg/L as N	0.05									
<b>SampleID:</b> LCS1-261332		<b>SampType:</b> LCS1		<b>TestNo:</b> EPA 6010 D			<b>Prep Date:</b> 10/25/2024			<b>RunNo:</b> 311946		
					<b>BatchID:</b> 261332					<b>Analysis Date:</b> 10/28/2024		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	1.06	mg/L	0.01	1		105.7%	79.5	120.4				
Beryllium	0.208	mg/L	0.001	0.2		103.8%	79.5	120.4				
Cadmium	0.427	mg/L	0.002	0.4		106.7%	79.5	120.4				
Calcium	10.4	mg/L	0.1	10		104.3%	79.5	120.4				
Chromium	1.04	mg/L	0.01	1		103.7%	79.5	120.4				
Cobalt	0.419	mg/L	0.005	0.4		104.8%	79.5	120.4				
Copper	1.05	mg/L	0.01	1		105.2%	79.5	120.4				
Iron	10.4	mg/L	0.05	10		104.2%	79.5	120.4				
Magnesium	2.08	mg/L	0.1	2		103.9%	79.5	120.4				
Nickel	1.05	mg/L	0.01	1		104.9%	79.5	120.4				
Potassium	10.6	mg/L	0.5	10		105.6%	79.5	120.4				
Sodium	10.5	mg/L	0.2	10		104.5%	79.5	120.4				
Tin	1.17	mg/L	0.1	1		117.4%	79.5	120.4				
Vanadium	0.412	mg/L	0.005	0.4		103.1%	79.5	120.4				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

<b>SampleID:</b> LCS1-261332	<b>SampType:</b> LCS1	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/25/2024	<b>RunNo:</b> 311984
	<b>BatchID:</b> 261332		<b>Analysis Date:</b> 10/29/2024	<b>SeqNo:</b> 8206267

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Silver	0.011	mg/L	0.005	0.01		110.0%	79.5	120.4				

<b>SampleID:</b> PB-261332	<b>SampType:</b> PB	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/25/2024	<b>RunNo:</b> 311946
	<b>BatchID:</b> 261332		<b>Analysis Date:</b> 10/28/2024	<b>SeqNo:</b> 8204880

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	< 0.01	mg/L	0.01									
Beryllium	< 0.001	mg/L	0.001									
Cadmium	< 0.002	mg/L	0.002									
Calcium	< 0.1	mg/L	0.1									
Chromium	< 0.01	mg/L	0.01									
Cobalt	< 0.005	mg/L	0.005									
Copper	< 0.01	mg/L	0.01									
Iron	< 0.05	mg/L	0.05									
Magnesium	< 0.1	mg/L	0.1									
Nickel	< 0.01	mg/L	0.01									
Potassium	< 0.5	mg/L	0.5									
Sodium	< 0.2	mg/L	0.2									
Tin	< 0.1	mg/L	0.1									
Vanadium	< 0.005	mg/L	0.005									

<b>SampleID:</b> PB-261332	<b>SampType:</b> PB	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/25/2024	<b>RunNo:</b> 311984
	<b>BatchID:</b> 261332		<b>Analysis Date:</b> 10/29/2024	<b>SeqNo:</b> 8206264

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Silver	< 0.005	mg/L	0.005									

<b>SampleID:</b> G2410E68-005FDUP	<b>SampType:</b> DUP	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/25/2024	<b>RunNo:</b> 311946
	<b>BatchID:</b> 261332		<b>Analysis Date:</b> 10/28/2024	<b>SeqNo:</b> 8204883

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	0.15	mg/L	0.01						0.154	2.9%	20	
Beryllium	< 0.001	mg/L	0.001								20	
Cadmium	< 0.002	mg/L	0.002								20	
Calcium	5.85	mg/L	0.1						6.08	3.9%	20	
Chromium	< 0.01	mg/L	0.01								20	
Cobalt	0.0128	mg/L	0.005						0.0134	4.6%	20	
Copper	< 0.01	mg/L	0.01								20	
Iron	0.0912	mg/L	0.05						0.0956	4.7%	20	
Magnesium	10.3	mg/L	0.1						10.7	3.2%	20	
Nickel	0.141	mg/L	0.01						0.146	3.4%	20	
Potassium	0.621	mg/L	0.5						0.647	4.1%	20	
Sodium	6.48	mg/L	0.2						6.81	4.9%	20	
Tin	< 0.1	mg/L	0.1								20	
Vanadium	< 0.005	mg/L	0.005								20	

SampleID: G2410E68-005FDUP	SampType: DUP	TestNo: EPA 6010 D	Prep Date: 10/25/2024	RunNo: 311984
	BatchID: 261332		Analysis Date: 10/29/2024	SeqNo: 8206273

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Silver	< 0.005	mg/L	0.005								20	

SampleID: G2410E68-005FMS	SampType: MS	TestNo: EPA 6010 D	Prep Date: 10/25/2024	RunNo: 311946
	BatchID: 261332		Analysis Date: 10/28/2024	SeqNo: 8204884

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	1.21	mg/L	0.01	1	0.154	105.3%	75	125				
Beryllium	0.209	mg/L	0.001	0.2		104.5%	75	125				
Cadmium	0.424	mg/L	0.002	0.4		106.1%	75	125				
Calcium	16.2	mg/L	0.1	10	6.08	101.6%	75	125				
Chromium	1.04	mg/L	0.01	1		104.0%	75	125				
Cobalt	0.428	mg/L	0.005	0.4	0.0134	103.6%	75	125				
Copper	1.05	mg/L	0.01	1		105.4%	75	125				
Iron	10.5	mg/L	0.05	10	0.0956	104.5%	75	125				

Client: BUTTON GWINNETT LANDFILL

## Analytical QC Summary Report

WorkOrder: G2410E76

Project: BGwinnett 321S2

Magnesium	12.4	mg/L	0.1	2	10.7	85.2%	75	125					
Nickel	1.17	mg/L	0.01	1	0.146	102.6%	75	125					
Potassium	11.2	mg/L	0.5	10	0.647	105.5%	75	125					
Sodium	16.8	mg/L	0.2	10	6.81	99.9%	75	125					
Tin	1.18	mg/L	0.1	1		118.0%	75	125					
Vanadium	0.413	mg/L	0.005	0.4		103.3%	75	125					

SampleID: G2410E68-005FMS	SampType: MS	TestNo: EPA 6010 D	Prep Date: 10/25/2024	RunNo: 311984
	BatchID: 261332		Analysis Date: 10/29/2024	SeqNo: 8206279

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Silver	0.0112	mg/L	0.005	0.01		112.0%	75	125				

SampleID: LCS2-261334	SampType: LCS2	TestNo: EPA 6020 B	Prep Date: 10/25/2024	RunNo: 311975
	BatchID: 261334		Analysis Date: 10/28/2024	SeqNo: 8206064

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	5.99	µg/L	1	6		99.8%	79.5	120.45				
Arsenic	8.93	µg/L	1	10		89.3%	79.5	120.45				
Lead	4.9	µg/L	1	5		98.0%	79.5	120.45				
Selenium	18.5	µg/L	1	20		92.3%	79.5	120.45				
Thallium	1.91	µg/L	0.2	2		95.5%	79.5	120.45				
Zinc	44.9	µg/L	5	50		89.9%	79.5	120.45				

SampleID: G2410E81-004DMS	SampType: MS	TestNo: EPA 6020 B	Prep Date: 10/25/2024	RunNo: 311975
	BatchID: 261334		Analysis Date: 10/28/2024	SeqNo: 8206106

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	6.01	µg/L	1	6		100.1%	75	125				
Arsenic	9.25	µg/L	1	10		92.5%	75	125				
Lead	4.87	µg/L	1	5		97.4%	75	125				
Selenium	17.9	µg/L	1	20		89.7%	75	125				
Thallium	1.91	µg/L	0.2	2		95.6%	75	125				
Zinc	48.3	µg/L	5	50	3	90.6%	75	125				

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E76  
Project: BGwinnett 321S2

## Analytical QC Summary Report

<b>SampleID:</b> PB-261334	<b>SampType:</b> PB			<b>TestNo:</b> EPA 6020 B			<b>Prep Date:</b> 10/25/2024			<b>RunNo:</b> 311975		
	<b>BatchID:</b> 261334			<b>Analysis Date:</b> 10/28/2024			<b>SeqNo:</b> 8206060					

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	< 1	µg/L	1					0.5				
Arsenic	< 1	µg/L	1					0.5				
Lead	< 1	µg/L	1					0.2				
Selenium	< 1	µg/L	1					0.5				
Thallium	< 0.2	µg/L	0.2					0.1				
Zinc	< 5	µg/L	5					2				

<b>SampleID:</b> G2410E68-005FDUP	<b>SampType:</b> DUP			<b>TestNo:</b> EPA 6020 B			<b>Prep Date:</b> 10/25/2024			<b>RunNo:</b> 311975		
	<b>BatchID:</b> 261334			<b>Analysis Date:</b> 10/28/2024			<b>SeqNo:</b> 8206071					

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	< 1	µg/L	1							20		
Arsenic	< 1	µg/L	1							20		
Lead	< 1	µg/L	1							20		
Selenium	< 1	µg/L	1							20		
Thallium	< 0.2	µg/L	0.2							20		
Zinc	6.54	µg/L	5						7	6.7%	20	

<b>SampleID:</b> G2410E70-002FMS	<b>SampType:</b> MS			<b>TestNo:</b> EPA 6020 B			<b>Prep Date:</b> 10/25/2024			<b>RunNo:</b> 311975		
	<b>BatchID:</b> 261334			<b>Analysis Date:</b> 10/28/2024			<b>SeqNo:</b> 8206076					

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	5.88	µg/L	1	6		98.0%	75	125				
Arsenic	8.88	µg/L	1	10		88.8%	75	125				
Lead	4.84	µg/L	1	5		96.9%	75	125				
Selenium	19.2	µg/L	1	20	1.22	90.1%	75	125				
Thallium	1.9	µg/L	0.2	2		94.9%	75	125				
Zinc	45.2	µg/L	5	50		90.4%	75	125				

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E76  
Project: BGwinnett 321S2

## Analytical QC Summary Report

SampleID: LCS-261367		SampType: LCS		TestNo: EPA 7470A				Prep Date: 10/28/2024			RunNo: 311936		
		BatchID: 261367								Analysis Date: 10/28/2024			SeqNo: 8204783
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Mercury	0.00195	mg/L	0.0002	0.002		97.5%	85	115					
SampleID: G2410E76-001KMS		SampType: MS		TestNo: EPA 7470A				Prep Date: 10/28/2024			RunNo: 311936		
		BatchID: 261367								Analysis Date: 10/28/2024			SeqNo: 8204805
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Mercury	0.00189	mg/L	0.0002	0.002		94.5%	85	115					
SampleID: PB-261367		SampType: PB		TestNo: EPA 7470A				Prep Date: 10/28/2024			RunNo: 311936		
		BatchID: 261367								Analysis Date: 10/28/2024			SeqNo: 8204778
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Mercury	< 0.0002	mg/L	0.0002										
SampleID: LCS-261309		SampType: LCS		TestNo: EPA 8011				Prep Date: 10/25/2024			RunNo: 311910		
		BatchID: 261309								Analysis Date: 10/26/2024			SeqNo: 8204210
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
1,2-Dibromo-3-chloropropane	0.137	µg/L	0.04	0.125		109.6%	60	140					
1,2-Dibromoethane	0.137	µg/L	0.04	0.125		109.6%	60	140					
Surr: 1,1,2,2-Tetrachloroethane	0.301	µg/L	0	0.286		105.2%	60	140					
SampleID: MBLK-261309		SampType: MBLK		TestNo: EPA 8011				Prep Date: 10/25/2024			RunNo: 311910		
		BatchID: 261309								Analysis Date: 10/26/2024			SeqNo: 8204192
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
1,2-Dibromo-3-chloropropane	< 0.04	µg/L	0.04										
1,2-Dibromoethane	< 0.04	µg/L	0.04										
Surr: 1,1,2,2-Tetrachloroethane	0.62	µg/L	0	0.571		108.6%	60	140					

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E76  
Project: BGwinnett 321S2

## Analytical QC Summary Report

<b>SampleID:</b> G2410E70-002DMS		<b>SampType:</b> MS		<b>TestNo:</b> EPA 8011			<b>Prep Date:</b> 10/25/2024			<b>RunNo:</b> 311910		
		<b>BatchID:</b> 261309						<b>Analysis Date:</b> 10/26/2024			<b>SeqNo:</b> 8204197	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2-Dibromo-3-chloropropane	0.145	µg/L	0.04	0.125		116.0%	60	140				
1,2-Dibromoethane	0.145	µg/L	0.04	0.125		116.0%	60	140				
Surr: 1,1,2,2-Tetrachloroethane	0.325	µg/L	0	0.286		113.6%	60	140				

<b>SampleID:</b> G2410E70-002DMSD		<b>SampType:</b> MSD		<b>TestNo:</b> EPA 8011			<b>Prep Date:</b> 10/25/2024			<b>RunNo:</b> 311910		
		<b>BatchID:</b> 261309						<b>Analysis Date:</b> 10/26/2024			<b>SeqNo:</b> 8204198	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2-Dibromo-3-chloropropane	0.137	µg/L	0.04						0.145	5.7%	20	
1,2-Dibromoethane	0.136	µg/L	0.04						0.145	6.4%	20	
Surr: 1,1,2,2-Tetrachloroethane	0.31	µg/L	0	0.286		108.4%	60	140	0.325			

<b>SampleID:</b> LCS-261313		<b>SampType:</b> LCS		<b>TestNo:</b> EPA 8081 B			<b>Prep Date:</b> 10/25/2024			<b>RunNo:</b> 312024		
		<b>BatchID:</b> 261313						<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8207699	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
4,4-DDD	0.17	µg/L	0.05	0.25		68.7%	50	120				
4,4-DDE	0.19	µg/L	0.05	0.25		74.4%	50	110				
4,4-DDT	0.22	µg/L	0.05	0.25		86.5%	50	130				
Aldrin	0.17	µg/L	0.05	0.25		68.6%	50	100				
Alpha BHC	0.17	µg/L	0.05	0.25		66.8%	50	110				
Alpha Endosulfan	0.19	µg/L	0.05	0.25		75.8%	50	110				
Beta BHC	0.16	µg/L	0.05	0.25		63.4%	50	110				
Beta Endosulfan	0.19	µg/L	0.05	0.25		76.7%	50	130				
Chlordane	< 1	µg/L	1				45	119				
Delta BHC	0.18	µg/L	0.05	0.25		70.8%	50	110				
Dieldrin	0.19	µg/L	0.05	0.25		74.6%	50	120				
Endosulfan Sulfate	0.16	µg/L	0.05	0.25		62.5%	50	130				
Endrin	0.19	µg/L	0.05	0.25		76.9%	50	130				
Endrin Aldehyde	0.18	µg/L	0.05	0.25		73.1%	50	130				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Gamma BHC (Lindane)	0.18	µg/L	0.05	0.25		70.5%	50	110				
Heptachlor	0.17	µg/L	0.05	0.25		69.3%	50	110				
Heptachlor epoxide	0.18	µg/L	0.05	0.25		73.1%	50	110				
Methoxychlor	0.19	µg/L	0.05	0.25		77.6%	50	130				
Toxaphene	< 2	µg/L	2				41	126				
Surr: Decachlorobiphenyl	0.19	µg/L	0	0.25		74.6%	10	133				
Surr: Tetrachloro-m-xylene	0.16	µg/L	0	0.25		62.3%	31	110				

SampleID: TOX LCS-261313	SampType: LCS	TestNo: EPA 8081 B	Prep Date: 10/25/2024	RunNo: 312024
	BatchID: 261313		Analysis Date: 10/29/2024	SeqNo: 8207700

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Toxaphene	4.1	µg/L	2	5		82.1%	41	126				
Surr: Decachlorobiphenyl	0.13	µg/L	0	0.5		26.2%	10	133				
Surr: Tetrachloro-m-xylene	0.33	µg/L	0	0.5		66.6%	31	110				

SampleID: CHLOR LCS-261313	SampType: LCS	TestNo: EPA 8081 B	Prep Date: 10/25/2024	RunNo: 312024
	BatchID: 261313		Analysis Date: 10/29/2024	SeqNo: 8207702

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chlordane	3.7	µg/L	1	5		73.6%	45	119				
Surr: Decachlorobiphenyl	0.098	µg/L	0	0.5		19.7%	10	133				
Surr: Tetrachloro-m-xylene	0.35	µg/L	0	0.5		69.2%	31	110				

SampleID: LCS-261313	SampType: LCS	TestNo: EPA 8081 B	Prep Date: 10/25/2024	RunNo: 312024
	BatchID: 261313		Analysis Date: 10/29/2024	SeqNo: 8207728

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
4,4-DDD	0.19	µg/L	0.05	0.25		74.1%	50	120				
4,4-DDE	0.19	µg/L	0.05	0.25		75.0%	50	110				
4,4-DDT	0.23	µg/L	0.05	0.25		90.3%	50	130				
Aldrin	0.18	µg/L	0.05	0.25		70.2%	50	100				
Alpha BHC	0.18	µg/L	0.05	0.25		70.3%	50	110				
Alpha Endosulfan	0.19	µg/L	0.05	0.25		74.2%	50	110				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Beta BHC	0.16	µg/L	0.05	0.25		65.8%	50	110					
Beta Endosulfan	0.19	µg/L	0.05	0.25		77.3%	50	130					
Chlordane	< 1	µg/L	1				45	119					
Delta BHC	0.18	µg/L	0.05	0.25		73.3%	50	110					
Dieldrin	0.19	µg/L	0.05	0.25		76.3%	50	120					
Endosulfan Sulfate	0.2	µg/L	0.05	0.25		80.4%	50	130					
Endrin	0.19	µg/L	0.05	0.25		76.8%	50	130					
Endrin Aldehyde	0.2	µg/L	0.05	0.25		80.3%	50	130					
Gamma BHC (Lindane)	0.18	µg/L	0.05	0.25		72.6%	50	110					
Heptachlor	0.19	µg/L	0.05	0.25		75.5%	50	110					
Heptachlor epoxide	0.19	µg/L	0.05	0.25		75.9%	50	110					
Methoxychlor	0.21	µg/L	0.05	0.25		83.9%	50	130					
Toxaphene	< 2	µg/L	2				41	126					
Surr: Decachlorobiphenyl	0.19	µg/L	0	0.25		77.7%	10	133					
Surr: Tetrachloro-m-xylene	0.16	µg/L	0	0.25		64.2%	31	110					

SampleID: TOX LCS-261313	SampType: LCS	TestNo: EPA 8081 B	Prep Date: 10/25/2024	RunNo: 312024
	BatchID: 261313		Analysis Date: 10/29/2024	SeqNo: 8207729

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Toxaphene	4.1	µg/L	2	5		82.0%	41	126				
Surr: Decachlorobiphenyl	0.14	µg/L	0	0.5		28.9%	10	133				
Surr: Tetrachloro-m-xylene	0.35	µg/L	0	0.5		70.3%	31	110				

SampleID: CHLOR LCS-261313	SampType: LCS	TestNo: EPA 8081 B	Prep Date: 10/25/2024	RunNo: 312024
	BatchID: 261313		Analysis Date: 10/29/2024	SeqNo: 8207731

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chlordane	3.9	µg/L	1	5		78.4%	45	119				
Surr: Decachlorobiphenyl	0.1	µg/L	0	0.5		20.9%	10	133				
Surr: Tetrachloro-m-xylene	0.36	µg/L	0	0.5		72.2%	31	110				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

<b>SampleID:</b> TOX LCSD-261313		<b>SampType:</b> LCSD		<b>TestNo:</b> EPA 8081 B			<b>Prep Date:</b> 10/25/2024			<b>RunNo:</b> 312024		
		<b>BatchID:</b> 261313						<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8207701	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Toxaphene	4.3	µg/L	2	5		85.2%	41	126	4.1	3.7%	20	
Surr: Decachlorobiphenyl	0.17	µg/L	0	0.5		33.9%	10	133	0.13		20	
Surr: Tetrachloro-m-xylene	0.35	µg/L	0	0.5		69.8%	31	110	0.33		20	

<b>SampleID:</b> CHLOR LCSD-261313		<b>SampType:</b> LCSD		<b>TestNo:</b> EPA 8081 B			<b>Prep Date:</b> 10/25/2024			<b>RunNo:</b> 312024		
		<b>BatchID:</b> 261313						<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8207703	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chlordane	3.5	µg/L	1	5		70.2%	45	119	3.7	4.8%	20	
Surr: Decachlorobiphenyl	0.17	µg/L	0	0.5		33.4%	10	133	0.098		20	
Surr: Tetrachloro-m-xylene	0.34	µg/L	0	0.5		68.9%	31	110	0.35		20	

<b>SampleID:</b> TOX LCSD-261313		<b>SampType:</b> LCSD		<b>TestNo:</b> EPA 8081 B			<b>Prep Date:</b> 10/25/2024			<b>RunNo:</b> 312024		
		<b>BatchID:</b> 261313						<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8207730	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Toxaphene	3.9	µg/L	2	5		77.1%	41	126	4.1	6.3%	20	
Surr: Decachlorobiphenyl	0.18	µg/L	0	0.5		35.1%	10	133	0.14		20	
Surr: Tetrachloro-m-xylene	0.35	µg/L	0	0.5		70.4%	31	110	0.35		20	

<b>SampleID:</b> CHLOR LCSD-261313		<b>SampType:</b> LCSD		<b>TestNo:</b> EPA 8081 B			<b>Prep Date:</b> 10/25/2024			<b>RunNo:</b> 312024		
		<b>BatchID:</b> 261313						<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8207732	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chlordane	3.8	µg/L	1	5		75.4%	45	119	3.9	4.0%	20	
Surr: Decachlorobiphenyl	0.18	µg/L	0	0.5		35.6%	10	133	0.1		20	
Surr: Tetrachloro-m-xylene	0.35	µg/L	0	0.5		70.5%	31	110	0.36		20	

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E76  
Project: BGwinnett 321S2

## Analytical QC Summary Report

<b>SampleID:</b> MBLK-261313	<b>SampType:</b> MBLK	<b>TestNo:</b> EPA 8081 B	<b>Prep Date:</b> 10/25/2024	<b>RunNo:</b> 312024
	<b>BatchID:</b> 261313		<b>Analysis Date:</b> 10/29/2024	<b>SeqNo:</b> 8207697

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
4,4-DDD	< 0.05	µg/L	0.05									
4,4-DDE	< 0.05	µg/L	0.05									
4,4-DDT	< 0.05	µg/L	0.05									
Aldrin	< 0.05	µg/L	0.05									
Alpha BHC	< 0.05	µg/L	0.05									
Alpha Endosulfan	< 0.05	µg/L	0.05									
Beta BHC	< 0.05	µg/L	0.05									
Beta Endosulfan	< 0.05	µg/L	0.05									
Chlordane	< 1	µg/L	1									
Delta BHC	< 0.05	µg/L	0.05									
Dieldrin	< 0.05	µg/L	0.05									
Endosulfan Sulfate	< 0.05	µg/L	0.05									
Endrin	< 0.05	µg/L	0.05									
Endrin Aldehyde	< 0.05	µg/L	0.05									
Gamma BHC (Lindane)	< 0.05	µg/L	0.05									
Heptachlor	< 0.05	µg/L	0.05									
Heptachlor epoxide	< 0.05	µg/L	0.05									
Methoxychlor	< 0.05	µg/L	0.05									
Toxaphene	< 2	µg/L	2									
Surr: Decachlorobiphenyl	0.096	µg/L	0	0.5		19.1%	10	133				
Surr: Tetrachloro-m-xylene	0.33	µg/L	0	0.5		66.7%	31	110				

<b>SampleID:</b> MBLK-261313	<b>SampType:</b> MBLK	<b>TestNo:</b> EPA 8081 B	<b>Prep Date:</b> 10/25/2024	<b>RunNo:</b> 312024
	<b>BatchID:</b> 261313		<b>Analysis Date:</b> 10/29/2024	<b>SeqNo:</b> 8207727

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
4,4-DDD	< 0.05	µg/L	0.05									
4,4-DDE	< 0.05	µg/L	0.05									
4,4-DDT	< 0.05	µg/L	0.05									

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Aldrin	< 0.05	µg/L	0.05									
Alpha BHC	< 0.05	µg/L	0.05									
Alpha Endosulfan	< 0.05	µg/L	0.05									
Beta BHC	< 0.05	µg/L	0.05									
Beta Endosulfan	< 0.05	µg/L	0.05									
Chlordane	< 1	µg/L	1									
Delta BHC	< 0.05	µg/L	0.05									
Dieldrin	< 0.05	µg/L	0.05									
Endosulfan Sulfate	< 0.05	µg/L	0.05									
Endrin	< 0.05	µg/L	0.05									
Endrin Aldehyde	< 0.05	µg/L	0.05									
Gamma BHC (Lindane)	< 0.05	µg/L	0.05									
Heptachlor	< 0.05	µg/L	0.05									
Heptachlor epoxide	< 0.05	µg/L	0.05									
Methoxychlor	< 0.05	µg/L	0.05									
Toxaphene	< 2	µg/L	2									
Surr: Decachlorobiphenyl	0.1	µg/L	0	0.5		20.4%	10	133				
Surr: Tetrachloro-m-xylene	0.35	µg/L	0	0.5		69.9%	31	110				

SampleID: G2410E76-001FMS

SampType: MS

TestNo: EPA 8081 B

Prep Date: 10/25/2024

RunNo: 312024

BatchID: 261313

Analysis Date: 10/29/2024

SeqNo: 8207710

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
4,4-DDD	0.19	µg/L	0.051	0.25		73.6%	36	134				
4,4-DDE	0.21	µg/L	0.051	0.25		81.4%	34	119				
4,4-DDT	0.24	µg/L	0.051	0.25		94.2%	32	130				
Aldrin	0.21	µg/L	0.051	0.25		84.0%	25	110				
Alpha BHC	0.21	µg/L	0.051	0.25		83.9%	39	113				
Alpha Endosulfan	0.22	µg/L	0.051	0.25		86.3%	28	125				
Beta BHC	0.18	µg/L	0.051	0.25		70.8%	46	114				
Beta Endosulfan	0.22	µg/L	0.051	0.25		87.6%	34	122				
Chlordane	< 1	µg/L	1				45	119				
Delta BHC	0.2	µg/L	0.051	0.25		77.9%	39	133				
Dieldrin	0.22	µg/L	0.051	0.25		88.9%	31	121				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Endosulfan Sulfate	0.18	µg/L	0.051	0.25		70.1%	39	123				
Endrin	0.23	µg/L	0.051	0.25		92.3%	48	132				
Endrin Aldehyde	0.21	µg/L	0.051	0.25		84.7%	33	118				
Gamma BHC (Lindane)	0.21	µg/L	0.051	0.25		83.5%	38	115				
Heptachlor	0.21	µg/L	0.051	0.25		83.6%	38	116				
Heptachlor epoxide	0.21	µg/L	0.051	0.25		84.8%	41	112				
Methoxychlor	0.22	µg/L	0.051	0.25		87.9%	37	138				
Toxaphene	< 2	µg/L	2				41	126				
Surr: Decachlorobiphenyl	0.2	µg/L	0	0.25		81.1%	10	133				
Surr: Tetrachloro-m-xylene	0.21	µg/L	0	0.25		82.5%	31	110				

SampleID: G2410E76-001FMSD	SampType: MSD	TestNo: EPA 8081 B	Prep Date: 10/25/2024	RunNo: 312024
	BatchID: 261313		Analysis Date: 10/29/2024	SeqNo: 8207711

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
4,4-DDD	0.17	µg/L	0.051						0.19	9.1%	41	
4,4-DDE	0.18	µg/L	0.051						0.21	12.9%	59	
4,4-DDT	0.21	µg/L	0.051						0.24	14.3%	51	
Aldrin	0.18	µg/L	0.051						0.21	16.6%	44	
Alpha BHC	0.19	µg/L	0.051						0.21	9.7%	29	
Alpha Endosulfan	0.19	µg/L	0.051						0.22	14.0%	36	
Beta BHC	0.15	µg/L	0.051						0.18	17.1%	26	
Beta Endosulfan	0.19	µg/L	0.051						0.22	14.8%	39	
Chlordane	< 1	µg/L	1									20
Delta BHC	0.18	µg/L	0.051						0.2	7.0%	38	
Dieldrin	0.19	µg/L	0.051						0.22	18.4%	36	
Endosulfan Sulfate	0.16	µg/L	0.051						0.18	10.4%	35	
Endrin	0.2	µg/L	0.051						0.23	15.2%	34	
Endrin Aldehyde	0.16	µg/L	0.051						0.21	26.9%	35	
Gamma BHC (Lindane)	0.19	µg/L	0.051						0.21	9.7%	36	
Heptachlor	0.18	µg/L	0.051						0.21	15.9%	31	
Heptachlor epoxide	0.18	µg/L	0.051						0.21	16.0%	32	
Methoxychlor	0.2	µg/L	0.051						0.22	9.0%	39	
Toxaphene	< 2	µg/L	2									20

Client: BUTTON GWINNETT LANDFILL

## Analytical QC Summary Report

WorkOrder: G2410E76

Project: BGwinnett 321S2

Surr: Decachlorobiphenyl	0.18	µg/L	0	0.25		70.6%	10	133	0.2		20		
Surr: Tetrachloro-m-xylene	0.19	µg/L	0	0.25		74.8%	31	110	0.21		20		

<b>SampleID:</b> LCS-261312	<b>SampType:</b> LCS	<b>TestNo:</b> EPA 8082 A	<b>Prep Date:</b> 10/25/2024	<b>RunNo:</b> 312023
		<b>BatchID:</b> 261312	<b>Analysis Date:</b> 10/29/2024	<b>SeqNo:</b> 8207654

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
PCB 1016	3.7	µg/L	0.4	5		73.8%	57	120					
PCB 1221	< 0.4	µg/L	0.4										
PCB 1232	< 0.4	µg/L	0.4										
PCB 1242	< 0.4	µg/L	0.4										
PCB 1248	< 0.4	µg/L	0.4										
PCB 1254	< 0.4	µg/L	0.4										
PCB 1260	3.8	µg/L	0.4	5		75.3%	43	108					
Surr: Decachlorobiphenyl	0.082	µg/L	0	0.5		16.3%	10	110					
Surr: Tetrachloro-m-xylene	0.34	µg/L	0	0.5		68.0%	12	120					

<b>SampleID:</b> LCS-261312	<b>SampType:</b> LCS	<b>TestNo:</b> EPA 8082 A	<b>Prep Date:</b> 10/25/2024	<b>RunNo:</b> 312023
		<b>BatchID:</b> 261312	<b>Analysis Date:</b> 10/29/2024	<b>SeqNo:</b> 8207688

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
PCB 1016	4	µg/L	0.4	5		80.6%	57	120					
PCB 1221	< 0.4	µg/L	0.4										
PCB 1232	< 0.4	µg/L	0.4										
PCB 1242	< 0.4	µg/L	0.4										
PCB 1248	< 0.4	µg/L	0.4										
PCB 1254	< 0.4	µg/L	0.4										
PCB 1260	4.5	µg/L	0.4	5		89.2%	43	108					
Surr: Decachlorobiphenyl	0.1	µg/L	0	0.5		20.7%	10	110					
Surr: Tetrachloro-m-xylene	0.41	µg/L	0	0.5		82.8%	12	120					

<b>SampleID:</b> MBLK-261312	<b>SampType:</b> MBLK	<b>TestNo:</b> EPA 8082 A	<b>Prep Date:</b> 10/25/2024	<b>RunNo:</b> 312023
		<b>BatchID:</b> 261312	<b>Analysis Date:</b> 10/29/2024	<b>SeqNo:</b> 8207650

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
PCB 1016	< 0.4	µg/L	0.4									
PCB 1221	< 0.4	µg/L	0.4									
PCB 1232	< 0.4	µg/L	0.4									
PCB 1242	< 0.4	µg/L	0.4									
PCB 1248	< 0.4	µg/L	0.4									
PCB 1254	< 0.4	µg/L	0.4									
PCB 1260	< 0.4	µg/L	0.4									
Surr: Decachlorobiphenyl	0.1	µg/L	0	0.5		20.5%	10	110				
Surr: Tetrachloro-m-xylene	0.35	µg/L	0	0.5		70.9%	12	120				

SampleID: MBLK-261312	SampType: MBLK	TestNo: EPA 8082 A	Prep Date: 10/25/2024	RunNo: 312023
	BatchID: 261312		Analysis Date: 10/29/2024	SeqNo: 8207687

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
PCB 1016	< 0.4	µg/L	0.4									
PCB 1221	< 0.4	µg/L	0.4									
PCB 1232	< 0.4	µg/L	0.4									
PCB 1242	< 0.4	µg/L	0.4									
PCB 1248	< 0.4	µg/L	0.4									
PCB 1254	< 0.4	µg/L	0.4									
PCB 1260	< 0.4	µg/L	0.4									
Surr: Decachlorobiphenyl	0.13	µg/L	0	0.5		25.9%	10	110				
Surr: Tetrachloro-m-xylene	0.44	µg/L	0	0.5		89.0%	12	120				

SampleID: G2410E76-002FMS	SampType: MS	TestNo: EPA 8082 A	Prep Date: 10/25/2024	RunNo: 312023
	BatchID: 261312		Analysis Date: 10/30/2024	SeqNo: 8207680

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
PCB 1016	3.6	µg/L	0.4	5.1		71.6%	45	118				
PCB 1221	< 0.4	µg/L	0.4									
PCB 1232	< 0.4	µg/L	0.4									
PCB 1242	< 0.4	µg/L	0.4									
PCB 1248	< 0.4	µg/L	0.4									

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

PCB 1254	< 0.4	µg/L	0.4										
PCB 1260	3.9	µg/L	0.4	5.1		76.7%	20	122					
Surr: Decachlorobiphenyl	0.32	µg/L	0	0.51		63.2%	10	110					
Surr: Tetrachloro-m-xylene	0.33	µg/L	0	0.51		65.7%	12	120					

SampleID: G2410E76-002FMSD	SampType: MSD	TestNo: EPA 8082 A	Prep Date: 10/25/2024	RunNo: 312023
	BatchID: 261312		Analysis Date: 10/30/2024	SeqNo: 8207683

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
PCB 1016	3.7	µg/L	0.4						3.6	2.5%	31		
PCB 1221	< 0.4	µg/L	0.4								20		
PCB 1232	< 0.4	µg/L	0.4								20		
PCB 1242	< 0.4	µg/L	0.4								20		
PCB 1248	< 0.4	µg/L	0.4								20		
PCB 1254	< 0.4	µg/L	0.4								20		
PCB 1260	4.1	µg/L	0.4						3.9	4.5%	35		
Surr: Decachlorobiphenyl	0.35	µg/L	0	0.51		68.4%	10	110	0.32				
Surr: Tetrachloro-m-xylene	0.34	µg/L	0	0.51		67.8%	12	120	0.33				

SampleID: 20 PPB LCS	SampType: LCS	TestNo: EPA 8260 D	Prep Date:	RunNo: 311937
	BatchID: R311937		Analysis Date: 10/25/2024	SeqNo: 8204743

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
1,1,1,2-Tetrachloroethane	19.4	µg/L	1	20		96.8%	81	125					
1,1,1-Trichloroethane	17.8	µg/L	1	20		89.0%	71	125					
1,1,2,2-Tetrachloroethane	21.1	µg/L	1	20		105.7%	80	116					
1,1,2-Trichloroethane	21.1	µg/L	1	20		105.4%	83	126					
1,1-Dichloroethane	18.7	µg/L	1	20		93.7%	73	122					
1,1-Dichloroethene	19.1	µg/L	1	20		95.7%	74	121					
1,1-Dichloropropene	19.1	µg/L	1	20		95.3%	74	120					
1,2,3-Trichloropropane	18	µg/L	1	20		89.9%	77	118					
1,2-Dichlorobenzene	20.5	µg/L	1	20		102.6%	85	119					
1,2-Dichloroethane	19.9	µg/L	1	20		99.6%	72	123					
1,2-Dichloropropane	21.1	µg/L	1	20		105.7%	83	122					

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

1,3-Dichlorobenzene	18.9	µg/L	1	20		94.4%	82	119			
1,3-Dichloropropane	21	µg/L	1	20		104.9%	80	118			
1,4-Dichlorobenzene	18.7	µg/L	1	20		93.4%	83	120			
2,2-Dichloropropane	17.1	µg/L	1	20		85.3%	32	157			
2-Butanone	20.4	µg/L	5	20		101.9%	61	125			
2-chloro-1,3-butadiene	19.7	µg/L	1	20		98.5%	70	124			
2-Hexanone	20.8	µg/L	5	20		104.2%	58	132			
2-Methyl-1-propanol	186	µg/L	50	200		93.2%	29	163			
3-Chloro-1-Propene	17.7	µg/L	1	20		88.3%	65	127			
4-Methyl-2-Pentanone	21.4	µg/L	1	20		107.0%	68	127			
Acetone	19.9	µg/L	10	20		99.7%	60	133			
Acetonitrile	194	µg/L	20	200		97.2%	61	132			
Allyl chloride	17.7	µg/L	1	20		88.3%	65	127			
Benzene	18.6	µg/L	1	20		93.2%	76	122			
Bromochloromethane	20	µg/L	1	20		100.0%	78	124			
Bromodichloromethane	19.2	µg/L	1	20		95.9%	71	138			
Bromomethane	19	µg/L	1	20		95.2%	47	152			
Carbon Disulfide	15.8	µg/L	1	20		79.2%	63	123			
Carbon Tetrachloride	17.2	µg/L	1	20		86.1%	68	133			
Chlorobenzene	19.9	µg/L	1	20		99.3%	83	118			
Chlorodibromomethane	17.8	µg/L	1	20		88.9%	74	131			
Chloroethane	24.1	µg/L	1	20		120.5%	56	127			
Chloroform	18.5	µg/L	1	20		92.5%	73	123			
Chloromethane	22.2	µg/L	1	20		111.2%	65	129			
Chloroprene	19.7	µg/L	1	20		98.5%	70	124			
cis-1,2-Dichloroethene	19.4	µg/L	1	20		97.0%	75	121			
cis-1,3-Dichloropropene	19.8	µg/L	1	20		98.8%	71	129			
Dibromomethane	20.3	µg/L	1	20		101.4%	83	118			
Dichlorobromomethane	19.2	µg/L	1	20		95.9%	56	145			
Dichlorodifluoromethane	15.4	µg/L	1	20		76.9%	60	138			
Ethyl Methacrylate	20.5	µg/L	1	20		102.7%	72	126			
Ethylbenzene	20	µg/L	1	20		99.9%	84	120			
Iodomethane	19.5	µg/L	5	20		97.6%	29	162			
Isobutyl alcohol	186	µg/L	50	200		93.2%	29	163			

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Methacrylonitrile	222	µg/L	10	200		111.1%	69	126				
Methyl Ethyl Ketone	20.4	µg/L	5	20		101.9%	72	131				
Methyl methacrylate	21.4	µg/L	1	20		106.9%	74	122				
Methylene Chloride	18.9	µg/L	1	20		94.3%	73	133				
Propionitrile	222	µg/L	10	200		110.9%	63	129				
Styrene	19.6	µg/L	1	20		98.2%	88	116				
Tetrachloroethene	19.9	µg/L	1	20		99.7%	76	127				
Toluene	19.8	µg/L	1	20		98.8%	80	118				
trans-1,2-Dichloroethene	19.1	µg/L	1	20		95.3%	73	120				
trans-1,3-Dichloropropene	18.9	µg/L	1	20		94.7%	70	126				
trans-1,4-Dichloro-2-butene	18.3	µg/L	2	20		91.3%	46	137				
Trichloroethene	21.2	µg/L	1	20		106.2%	73	123				
Trichlorofluoromethane	18.6	µg/L	1	20		92.8%	69	125				
Trichloromethane	18.5	µg/L	1	20		92.5%	73	123				
Vinyl Acetate	18.9	µg/L	1	20		94.7%	67	131				
Vinyl Chloride	21.6	µg/L	1	20		107.9%	56	125				
Total Xylene	59.8	µg/L	2	60		99.7%	87	116				
Surr: 1,2-Dichloroethane-d4	27.5	µg/L	0	30		91.7%	70	130				
Surr: 4-Bromofluorobenzene	26.4	µg/L	0	30		88.0%	70	130				
Surr: Dibromofluoromethane	27.4	µg/L	0	30		91.2%	70	130				
Surr: Toluene-d8	31.1	µg/L	0	30		103.7%	70	130				

SampleID: 20 PPB LCS

SampType: LCS

TestNo: EPA 8260 D

Prep Date:

RunNo: 312000

BatchID: R312000

Analysis Date: 10/28/2024

SeqNo: 8206648

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	21.8	µg/L	1	20		109.0%	81	125				
1,1,1-Trichloroethane	21.2	µg/L	1	20		105.8%	71	125				
1,1,2,2-Tetrachloroethane	20.2	µg/L	1	20		100.8%	80	116				
1,1,2-Trichloroethane	21.2	µg/L	1	20		105.9%	83	126				
1,1-Dichloroethane	20.9	µg/L	1	20		104.6%	73	122				
1,1-Dichloroethene	22.4	µg/L	1	20		112.2%	74	121				
1,1-Dichloropropene	21.8	µg/L	1	20		109.2%	74	120				
1,2,3-Trichloropropane	20.8	µg/L	1	20		103.8%	77	118				

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

1,2-Dichlorobenzene	19.6	µg/L	1	20		97.8%	85	119			
1,2-Dichloroethane	20.8	µg/L	1	20		103.8%	72	123			
1,2-Dichloropropane	21.3	µg/L	1	20		106.3%	83	122			
1,3-Dichlorobenzene	19.6	µg/L	1	20		98.0%	82	119			
1,3-Dichloropropane	20.5	µg/L	1	20		102.6%	80	118			
1,4-Dichlorobenzene	19.4	µg/L	1	20		97.2%	83	120			
2,2-Dichloropropane	22	µg/L	1	20		109.9%	32	157			
2-Butanone	21.4	µg/L	5	20		107.0%	61	125			
2-chloro-1,3-butadiene	22.6	µg/L	1	20		113.0%	70	124			
2-Hexanone	21.3	µg/L	5	20		106.4%	58	132			
2-Methyl-1-propanol	225	µg/L	50	200		112.3%	29	163			
3-Chloro-1-Propene	22	µg/L	1	20		109.9%	65	127			
4-Methyl-2-Pentanone	21.8	µg/L	1	20		109.2%	68	127			
Acetone	18.7	µg/L	10	20		93.3%	60	133			
Acetonitrile	212	µg/L	20	200		105.8%	61	132			
Allyl chloride	22	µg/L	1	20		109.9%	65	127			
Benzene	20	µg/L	1	20		100.2%	76	122			
Bromochloromethane	21.3	µg/L	1	20		106.5%	78	124			
Bromodichloromethane	21.9	µg/L	1	20		109.5%	71	138			
Bromoform	20.7	µg/L	1	20		103.7%	71	125			
Bromomethane	17.2	µg/L	1	20		85.9%	47	152			
Carbon Disulfide	21.8	µg/L	1	20		109.2%	63	123			
Carbon Tetrachloride	22.8	µg/L	1	20		113.9%	68	133			
Chlorobenzene	19.7	µg/L	1	20		98.4%	83	118			
Chlorodibromomethane	20.3	µg/L	1	20		101.3%	74	131			
Chloroethane	23.1	µg/L	1	20		115.5%	56	127			
Chloroform	20.6	µg/L	1	20		102.9%	73	123			
Chloromethane	19.8	µg/L	1	20		99.2%	65	129			
Chloroprene	22.6	µg/L	1	20		113.0%	70	124			
cis-1,2-Dichloroethene	21.3	µg/L	1	20		106.3%	75	121			
cis-1,3-Dichloropropene	22.1	µg/L	1	20		110.4%	71	129			
Dibromomethane	20.9	µg/L	1	20		104.4%	83	118			
Dichlorobromomethane	21.9	µg/L	1	20		109.5%	56	145			
Dichlorodifluoromethane	19.6	µg/L	1	20		97.9%	60	138			

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Ethyl Methacrylate	21.3	µg/L	1	20		106.7%	72	126					
Ethylbenzene	19.9	µg/L	1	20		99.3%	84	120					
Iodomethane	22	µg/L	5	20		110.1%	29	162					
Isobutyl alcohol	225	µg/L	50	200		112.3%	29	163					
Methacrylonitrile	218	µg/L	10	200		108.8%	69	126					
Methyl Ethyl Ketone	21.4	µg/L	5	20		107.0%	72	131					
Methyl methacrylate	22.7	µg/L	1	20		113.4%	74	122					
Methylene Chloride	19.3	µg/L	1	20		96.5%	73	133					
Propionitrile	223	µg/L	10	200		111.5%	63	129					
Styrene	20.4	µg/L	1	20		101.8%	88	116					
Tetrachloroethylene	21.1	µg/L	1	20		105.3%	76	127					
Toluene	20.2	µg/L	1	20		101.2%	80	118					
trans-1,2-Dichloroethene	21.4	µg/L	1	20		107.0%	73	120					
trans-1,3-Dichloropropene	22.4	µg/L	1	20		111.9%	70	126					
trans-1,4-Dichloro-2-butene	20.5	µg/L	2	20		102.6%	46	137					
Tribromomethane	20.7	µg/L	1	20		103.7%	71	125					
Trichloroethene	21.2	µg/L	1	20		106.2%	73	123					
Trichlorofluoromethane	21.2	µg/L	1	20		106.2%	69	125					
Trichloromethane	20.6	µg/L	1	20		102.9%	73	123					
Vinyl Acetate	20.7	µg/L	1	20		103.6%	67	131					
Vinyl Chloride	20	µg/L	1	20		99.8%	56	125					
Total Xylene	60.5	µg/L	2	60		100.9%	87	116					
Surr: 1,2-Dichloroethane-d4	30.3	µg/L	0	30		101.0%	70	130					
Surr: 4-Bromofluorobenzene	29.2	µg/L	0	30		97.3%	70	130					
Surr: Dibromofluoromethane	30.9	µg/L	0	30		103.1%	70	130					
Surr: Toluene-d8	29.5	µg/L	0	30		98.4%	70	130					

SampleID: 20 PPB LCS

SampType: LCS

TestNo: EPA 8260 D

Prep Date:

RunNo: 312022

BatchID: R312022

Analysis Date: 10/29/2024

SeqNo: 8207609

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Bromoform	20.7	µg/L	1	20		103.6%	71	125					
Tribromomethane	20.7	µg/L	1	20		103.6%	71	125					

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E76  
Project: BGwinnett 321S2

## Analytical QC Summary Report

SampleID: BLANK		SampType: MBLK		TestNo: EPA 8260 D			Prep Date:			RunNo: 311937		
		BatchID: R311937							Analysis Date: 10/25/2024		SeqNo: 8204748	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	< 1	µg/L	1									
1,1,1-Trichloroethane	< 1	µg/L	1									
1,1,2,2-Tetrachloroethane	< 1	µg/L	1									
1,1,2-Trichloroethane	< 1	µg/L	1									
1,1-Dichloroethane	< 1	µg/L	1									
1,1-Dichloroethene	< 1	µg/L	1									
1,1-Dichloropropene	< 1	µg/L	1									
1,2,3-Trichloropropane	< 1	µg/L	1									
1,2-Dichlorobenzene	< 1	µg/L	1									
1,2-Dichloroethane	< 1	µg/L	1									
1,2-Dichloropropane	< 1	µg/L	1									
1,3-Dichlorobenzene	< 1	µg/L	1									
1,3-Dichloropropane	< 1	µg/L	1									
1,4-Dichlorobenzene	< 1	µg/L	1									
2,2-Dichloropropane	< 1	µg/L	1									
2-Butanone	< 5	µg/L	5									
2-chloro-1,3-butadiene	< 1	µg/L	1									
2-Hexanone	< 5	µg/L	5									
2-Methyl-1-propanol	< 50	µg/L	50									
3-Chloro-1-Propene	< 1	µg/L	1									
4-Methyl-2-Pentanone	< 1	µg/L	1									
Acetone	< 10	µg/L	10									
Acetonitrile	< 20	µg/L	20									
Allyl chloride	< 1	µg/L	1									
Benzene	< 1	µg/L	1									
Bromochloromethane	< 1	µg/L	1									
Bromodichloromethane	< 1	µg/L	1									
Bromomethane	< 1	µg/L	1									
Carbon Disulfide	< 1	µg/L	1									

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Carbon Tetrachloride	< 1	µg/L	1									
Chlorobenzene	< 1	µg/L	1									
Chlorodibromomethane	< 1	µg/L	1									
Chloroethane	< 1	µg/L	1									
Chloroform	< 1	µg/L	1									
Chloromethane	< 1	µg/L	1									
Chloroprene	< 1	µg/L	1									
cis-1,2-Dichloroethene	< 1	µg/L	1									
cis-1,3-Dichloropropene	< 1	µg/L	1									
Dibromomethane	< 1	µg/L	1									
Dichlorobromomethane	< 1	µg/L	1									
Dichlorodifluoromethane	< 1	µg/L	1									
Ethyl Methacrylate	< 1	µg/L	1									
Ethylbenzene	< 1	µg/L	1									
Iodomethane	< 5	µg/L	5									
Isobutyl alcohol	< 50	µg/L	50									
Methacrylonitrile	< 10	µg/L	10									
Methyl Ethyl Ketone	< 5	µg/L	5									
Methyl methacrylate	< 1	µg/L	1									
Methylene Chloride	< 1	µg/L	1									
Propionitrile	< 10	µg/L	10									
Styrene	< 1	µg/L	1									
Tetrachloroethene	< 1	µg/L	1									
Toluene	< 1	µg/L	1									
trans-1,2-Dichloroethene	< 1	µg/L	1									
trans-1,3-Dichloropropene	< 1	µg/L	1									
trans-1,4-Dichloro-2-butene	< 2	µg/L	2									
Trichloroethene	< 1	µg/L	1									
Trichlorofluoromethane	< 1	µg/L	1									
Trichloromethane	< 1	µg/L	1									
Vinyl Acetate	< 1	µg/L	1									
Vinyl Chloride	< 1	µg/L	1									
Total Xylene	< 2	µg/L	2									
Surr: 1,2-Dichloroethane-d4	27.5	µg/L	0	30		91.7%	70	130				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Surr: 4-Bromofluorobenzene	26.3	µg/L	0	30		87.8%	70	130					
Surr: Dibromofluoromethane	26.3	µg/L	0	30		87.7%	70	130					
Surr: Toluene-d8	31.3	µg/L	0	30		104.2%	70	130					

SampleID: BLANK	SampType: MBLK	TestNo: EPA 8260 D	Prep Date:	RunNo: 312000
		BatchID: R312000	Analysis Date: 10/28/2024	SeqNo: 8206660

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	< 1	µg/L	1									
1,1,1-Trichloroethane	< 1	µg/L	1									
1,1,2,2-Tetrachloroethane	< 1	µg/L	1									
1,1,2-Trichloroethane	< 1	µg/L	1									
1,1-Dichloroethane	< 1	µg/L	1									
1,1-Dichloroethene	< 1	µg/L	1									
1,1-Dichloropropene	< 1	µg/L	1									
1,2,3-Trichloropropane	< 1	µg/L	1									
1,2-Dichlorobenzene	< 1	µg/L	1									
1,2-Dichloroethane	< 1	µg/L	1									
1,2-Dichloropropane	< 1	µg/L	1									
1,3-Dichlorobenzene	< 1	µg/L	1									
1,3-Dichloropropane	< 1	µg/L	1									
1,4-Dichlorobenzene	< 1	µg/L	1									
2,2-Dichloropropane	< 1	µg/L	1									
2-Butanone	< 5	µg/L	5									
2-chloro-1,3-butadiene	< 1	µg/L	1									
2-Hexanone	< 5	µg/L	5									
2-Methyl-1-propanol	< 50	µg/L	50									
3-Chloro-1-Propene	< 1	µg/L	1									
4-Methyl-2-Pentanone	< 1	µg/L	1									
Acetone	< 10	µg/L	10									
Acetonitrile	< 20	µg/L	20									
Allyl chloride	< 1	µg/L	1									
Benzene	< 1	µg/L	1									
Bromochloromethane	< 1	µg/L	1									

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Trichloromethane	< 1	µg/L	1										
Vinyl Acetate	< 1	µg/L	1										
Vinyl Chloride	< 1	µg/L	1										
Total Xylene	< 2	µg/L	2										
Surr: 1,2-Dichloroethane-d4	31.1	µg/L	0	30		103.5%	70	130					
Surr: 4-Bromofluorobenzene	30.4	µg/L	0	30		101.4%	70	130					
Surr: Dibromofluoromethane	30	µg/L	0	30		100.0%	70	130					
Surr: Toluene-d8	30.3	µg/L	0	30		100.9%	70	130					

SampleID: BLANK	SampType: MBLK	TestNo: EPA 8260 D	Prep Date:	RunNo: 312022
		BatchID: R312022	Analysis Date: 10/29/2024	SeqNo: 8207614

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Bromoform	< 1	µg/L	1									
Tribromomethane	< 1	µg/L	1									

SampleID: G2410D87-001GMS	SampType: MS	TestNo: EPA 8260 D	Prep Date:	RunNo: 311937
		BatchID: R311937	Analysis Date: 10/25/2024	SeqNo: 8204760

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	18.8	µg/L	1	20		94.1%	76	117				
1,1,1-Trichloroethane	18.7	µg/L	1	20		93.3%	72	122				
1,1,2,2-Tetrachloroethane	20	µg/L	1	20		100.2%	72	110				
1,1,2-Trichloroethane	19.9	µg/L	1	20		99.4%	76	126				
1,1-Dichloroethane	19	µg/L	1	20		94.9%	66	126				
1,1-Dichloroethene	19.9	µg/L	1	20		99.3%	66	121				
1,1-Dichloropropene	20.4	µg/L	1	20		101.9%	71	120				
1,2,3-Trichloropropane	17.4	µg/L	1	20		86.9%	72	112				
1,2-Dichlorobenzene	20.4	µg/L	1	20		102.0%	76	108				
1,2-Dichloroethane	19.8	µg/L	1	20		98.9%	69	116				
1,2-Dichloropropane	21	µg/L	1	20		104.9%	78	122				
1,3-Dichlorobenzene	18.6	µg/L	1	20		93.2%	71	120				
1,3-Dichloropropane	19.9	µg/L	1	20		99.5%	76	110				
1,4-Dichlorobenzene	18.9	µg/L	1	20		94.7%	70	121				

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

2,2-Dichloropropane	19.2	µg/L	1	20		95.9%	29	160			
2-chloro-1,3-butadiene	21	µg/L	1	20		105.0%	74	122			
2-Hexanone	20.3	µg/L	5	20		101.4%	63	120			
2-Methyl-1-propanol	181	µg/L	50	200		90.3%	37	145			
3-Chloro-1-Propene	19.4	µg/L	1	20		97.2%	64	124			
4-Methyl-2-Pentanone	20.2	µg/L	1	20		101.2%	68	116			
Acetone	18.7	µg/L	10	20		93.4%	51	133			
Acetonitrile	191	µg/L	20	200		95.7%	50	134			
Acrylonitrile	20.6	µg/L	5	20		103.0%	64	122			
Benzene	19	µg/L	1	20		95.1%	52	125			
Bromochloromethane	19.9	µg/L	1	20		99.3%	71	117			
Bromodichloromethane	18.6	µg/L	1	20		93.1%	68	132			
Bromomethane	20.3	µg/L	1	20		101.7%	40	156			
Carbon Disulfide	17.2	µg/L	1	20		85.9%	60	123			
Carbon Tetrachloride	18.3	µg/L	1	20		91.4%	67	132			
Chlorobenzene	19.7	µg/L	1	20		98.3%	78	111			
Chlorodibromomethane	17	µg/L	1	20		85.0%	70	123			
Chloroethane	25.3	µg/L	1	20		126.3%	46	132			
Chloromethane	23.5	µg/L	1	20		117.6%	51	129			
cis-1,2-Dichloroethene	19.5	µg/L	1	20		97.7%	71	117			
cis-1,3-Dichloropropene	19.6	µg/L	1	20		97.8%	71	117			
Dibromomethane	19.7	µg/L	1	20		98.4%	77	110			
Dichlorobromomethane	18.6	µg/L	1	20		93.1%	74	117			
Dichlorodifluoromethane	18.1	µg/L	1	20		90.6%	34	140			
Ethyl Methacrylate	19.2	µg/L	1	20		96.2%	71	127			
Ethylbenzene	19.9	µg/L	1	20		99.6%	72	122			
Iodomethane	20.1	µg/L	5	20		100.5%	34	150			
Methacrylonitrile	211	µg/L	10	200		105.4%	65	119			
Methyl Ethyl Ketone	20.4	µg/L	5	20		101.8%	59	121			
Methyl methacrylate	20.3	µg/L	1	20		101.3%	71	121			
Methylene Chloride	19	µg/L	1	20		95.0%	64	121			
Propionitrile	206	µg/L	10	200		102.9%	59	122			
Styrene	19.1	µg/L	1	20		95.4%	78	117			
Tetrachloroethene	19.9	µg/L	1	20		99.6%	67	122			

Client: BUTTON GWINNETT LANDFILL  
 WorkOrder: G2410E76  
 Project: BGwinnett 321S2

## Analytical QC Summary Report

Toluene	20	µg/L	1	20		100.0%	75	115				
trans-1,2-Dichloroethene	19.8	µg/L	1	20		99.2%	69	118				
trans-1,3-Dichloropropene	18.4	µg/L	1	20		92.2%	66	122				
trans-1,4-Dichloro-2-butene	18.5	µg/L	2	20		92.6%	46	131				
Trichloroethene	21.3	µg/L	1	20		106.5%	75	117				
Trichlorofluoromethane	19.6	µg/L	1	20		98.2%	69	125				
Trichloromethane	18.8	µg/L	1	20		94.2%	69	117				
Vinyl Acetate	18.5	µg/L	1	20		92.7%	46	126				
Vinyl Chloride	22.9	µg/L	1	20		114.3%	54	128				
Total Xylene	59.4	µg/L	2	60		99.0%	72	120				
Surr: 1,2-Dichloroethane-d4	27.3	µg/L	0	30		90.9%	70	130				
Surr: 4-Bromofluorobenzene	26.6	µg/L	0	30		88.8%	70	130				
Surr: Dibromofluoromethane	27.6	µg/L	0	30		91.8%	70	130				
Surr: Toluene-d8	30.7	µg/L	0	30		102.2%	70	130				

SampleID: G2410E68-003GMS	SampType: MS	TestNo: EPA 8260 D	Prep Date:	RunNo: 312000
		BatchID: R312000	Analysis Date: 10/28/2024	SeqNo: 8206671

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	21.9	µg/L	1	20		109.5%	76	117				
1,1,1-Trichloroethane	22	µg/L	1	20		110.2%	72	122				
1,1,2,2-Tetrachloroethane	20.6	µg/L	1	20		103.0%	72	110				
1,1,2-Trichloroethane	20.6	µg/L	1	20		103.1%	76	126				
1,1-Dichloroethane	21	µg/L	1	20		104.8%	66	126				
1,1-Dichloroethene	22.9	µg/L	1	20		114.5%	66	121				
1,1-Dichloropropene	22.8	µg/L	1	20		114.1%	71	120				
1,2,3-Trichloropropane	20.9	µg/L	1	20		104.6%	72	112				
1,2-Dichlorobenzene	20.2	µg/L	1	20		101.1%	76	108				
1,2-Dichloroethane	20.8	µg/L	1	20		104.0%	69	116				
1,2-Dichloropropane	21.2	µg/L	1	20		106.2%	78	122				
1,3-Dichlorobenzene	20.3	µg/L	1	20		101.5%	71	120				
1,3-Dichloropropane	20.3	µg/L	1	20		101.3%	76	110				
1,4-Dichlorobenzene	19.9	µg/L	1	20		99.6%	70	121				
2,2-Dichloropropane	22.8	µg/L	1	20		113.9%	29	160				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

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## Analytical QC Summary Report

2-chloro-1,3-butadiene	23.4	µg/L	1	20		117.2%	74	122				
2-Hexanone	21	µg/L	5	20		105.0%	63	120				
2-Methyl-1-propanol	209	µg/L	50	200		104.5%	37	145				
3-Chloro-1-Propene	23	µg/L	1	20		115.0%	64	124				
4-Methyl-2-Pentanone	20	µg/L	1	20		100.2%	68	116				
Acetone	17.7	µg/L	10	20		88.7%	51	133				
Acetonitrile	215	µg/L	20	200		107.7%	50	134				
Acrylonitrile	21.5	µg/L	5	20		107.7%	64	122				
Benzene	20.5	µg/L	1	20		102.5%	52	125				
Bromochloromethane	21.5	µg/L	1	20		107.3%	71	117				
Bromodichloromethane	22.1	µg/L	1	20		110.3%	68	132				
Bromomethane	17.6	µg/L	1	20		88.1%	40	156				
Carbon Disulfide	22.5	µg/L	1	20		112.7%	60	123				
Carbon Tetrachloride	23.8	µg/L	1	20		119.2%	67	132				
Chlorobenzene	20.1	µg/L	1	20		100.3%	78	111				
Chlorodibromomethane	20.3	µg/L	1	20		101.5%	70	123				
Chloroethane	24.4	µg/L	1	20		122.0%	46	132				
Chloromethane	20.8	µg/L	1	20		104.0%	51	129				
cis-1,2-Dichloroethene	21.7	µg/L	1	20		108.3%	71	117				
cis-1,3-Dichloropropene	22	µg/L	1	20		109.8%	71	117				
Dibromomethane	20.8	µg/L	1	20		103.8%	77	110				
Dichlorobromomethane	22.1	µg/L	1	20		110.3%	74	117				
Dichlorodifluoromethane	16.7	µg/L	1	20		83.7%	34	140				
Ethyl Methacrylate	20.7	µg/L	1	20		103.3%	71	127				
Ethylbenzene	20.4	µg/L	1	20		102.0%	72	122				
Iodomethane	22.4	µg/L	5	20		111.9%	34	150				
Methacrylonitrile	212	µg/L	10	200		105.9%	65	119				
Methyl Ethyl Ketone	21.4	µg/L	5	20		106.8%	59	121				
Methyl methacrylate	21.4	µg/L	1	20		107.1%	71	121				
Methylene Chloride	19.8	µg/L	1	20		99.0%	64	121				
Propionitrile	215	µg/L	10	200		107.5%	59	122				
Styrene	20.3	µg/L	1	20		101.4%	78	117				
Tetrachloroethene	19.6	µg/L	1	20		98.2%	67	122				
Toluene	20.5	µg/L	1	20		102.5%	75	115				

Client: BUTTON GWINNETT LANDFILL

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## Analytical QC Summary Report

trans-1,2-Dichloroethene	22	µg/L	1	20		109.8%	69	118				
trans-1,3-Dichloropropene	22.4	µg/L	1	20		112.2%	66	122				
trans-1,4-Dichloro-2-butene	20.8	µg/L	2	20		104.1%	46	131				
Tribromomethane	20.9	µg/L	1	20		104.7%	65	117				
Trichloroethene	21.6	µg/L	1	20		108.1%	75	117				
Trichlorofluoromethane	22	µg/L	1	20		110.2%	69	125				
Trichloromethane	20.8	µg/L	1	20		104.0%	69	117				
Vinyl Acetate	19.8	µg/L	1	20		99.1%	46	126				
Vinyl Chloride	20.7	µg/L	1	20		103.3%	54	128				
Total Xylene	62.2	µg/L	2	60		103.7%	72	120				
Surr: 1,2-Dichloroethane-d4	30.3	µg/L	0	30		101.0%	70	130				
Surr: 4-Bromofluorobenzene	30.6	µg/L	0	30		102.1%	70	130				
Surr: Dibromofluoromethane	30.7	µg/L	0	30		102.3%	70	130				
Surr: Toluene-d8	30	µg/L	0	30		100.1%	70	130				

SampleID: G2410E68-005GMS	SampType: MS	TestNo: EPA 8260 D	Prep Date:	RunNo: 312022
	BatchID: R312022		Analysis Date: 10/29/2024	SeqNo: 8207621

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Acrolein	26.7	µg/L	10	20		133.5%	8	140				
Tribromomethane	20.4	µg/L	1	20		101.8%	65	117				

SampleID: G2410D87-001GMSD	SampType: MSD	TestNo: EPA 8260 D	Prep Date:	RunNo: 311937
	BatchID: R311937		Analysis Date: 10/25/2024	SeqNo: 8204763

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	18.9	µg/L	1						18.8	0.6%	11	
1,1,1-Trichloroethane	18.9	µg/L	1						18.7	1.3%	12	
1,1,2,2-Tetrachloroethane	19.8	µg/L	1						20	1.2%	14	
1,1,2-Trichloroethane	20.2	µg/L	1						19.9	1.8%	15	
1,1-Dichloroethane	19.3	µg/L	1						19	1.8%	12	
1,1-Dichloroethene	20.8	µg/L	1						19.9	4.7%	14	
1,1-Dichloropropene	20.7	µg/L	1						20.4	1.6%	13	
1,2,3-Trichloropropane	17.2	µg/L	1						17.4	1.0%	14	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

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1,2-Dichlorobenzene	20.5	µg/L	1					20.4	0.5%	13	
1,2-Dichloroethane	20.1	µg/L	1					19.8	1.5%	11	
1,2-Dichloropropane	21.1	µg/L	1					21	0.4%	12	
1,3-Dichlorobenzene	18.9	µg/L	1					18.6	1.4%	16	
1,3-Dichloropropane	20.4	µg/L	1					19.9	2.4%	17	
1,4-Dichlorobenzene	18.8	µg/L	1					18.9	0.5%	16	
2,2-Dichloropropane	18.8	µg/L	1					19.2	1.8%	13	
2-chloro-1,3-butadiene	21.2	µg/L	1					21	1.0%	20.9	
2-Hexanone	19.7	µg/L	5					20.3	2.7%	18	
2-Methyl-1-propanol	165	µg/L	50					181	8.7%	24	
3-Chloro-1-Propene	19.6	µg/L	1					19.4	0.8%	24	
4-Methyl-2-Pentanone	20.2	µg/L	1					20.2	0.4%	18	
Acetone	18.5	µg/L	10					18.7	0.7%	23	
Acetonitrile	192	µg/L	20					191	0.6%	28	
Acrylonitrile	20.7	µg/L	5					20.6	0.7%	16	
Benzene	19.3	µg/L	1					19	1.3%	15	
Bromochloromethane	20.1	µg/L	1					19.9	1.1%	12	
Bromodichloromethane	19.2	µg/L	1					18.6	3.2%	18	
Bromomethane	19.8	µg/L	1					20.3	2.8%	22	
Carbon Disulfide	17	µg/L	1					17.2	1.3%	13	
Carbon Tetrachloride	18.4	µg/L	1					18.3	0.9%	12	
Chlorobenzene	19.9	µg/L	1					19.7	1.2%	10	
Chlorodibromomethane	16.9	µg/L	1					17	0.7%	16	
Chloroethane	25.2	µg/L	1					25.3	0.4%	17	
Chloromethane	23.7	µg/L	1					23.5	0.8%	16	
cis-1,2-Dichloroethene	20.1	µg/L	1					19.5	2.6%	12	
cis-1,3-Dichloropropene	20.1	µg/L	1					19.6	2.6%	16	
Dibromomethane	20	µg/L	1					19.7	1.5%	14	
Dichlorobromomethane	19.2	µg/L	1					18.6	3.2%	13	
Dichlorodifluoromethane	16.1	µg/L	1					18.1	11.8%	18	
Ethyl Methacrylate	19.4	µg/L	1					19.2	1.0%	17	
Ethylbenzene	20.3	µg/L	1					19.9	2.1%	16	
Iodomethane	20.2	µg/L	5					20.1	0.6%	19	
Methacrylonitrile	210	µg/L	10					211	0.6%	14	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

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## Analytical QC Summary Report

Methyl Ethyl Ketone	19.5	µg/L	5						20.4	4.1%	21	
Methyl methacrylate	19.8	µg/L	1						20.3	2.2%	14	
Methylene Chloride	19.2	µg/L	1						19	1.1%	17	
Propionitrile	203	µg/L	10						206	1.4%	22	
Styrene	19.1	µg/L	1						19.1	0.2%	12	
Tetrachloroethene	20.4	µg/L	1						19.9	2.1%	16	
Toluene	20.4	µg/L	1						20	2.1%	13	
trans-1,2-Dichloroethene	19.9	µg/L	1						19.8	0.5%	13	
trans-1,3-Dichloropropene	18.5	µg/L	1						18.4	0.3%	15	
trans-1,4-Dichloro-2-butene	18.3	µg/L	2						18.5	0.9%	17	
Trichloroethene	21.5	µg/L	1						21.3	1.0%	11	
Trichlorofluoromethane	19.4	µg/L	1						19.6	1.0%	15	
Trichloromethane	18.9	µg/L	1						18.8	0.6%	12	
Vinyl Acetate	18.6	µg/L	1						18.5	0.1%	11	
Vinyl Chloride	22.6	µg/L	1						22.9	1.2%	15	
Total Xylene	60.6	µg/L	2						59.4		18	
Surr: 1,2-Dichloroethane-d4	27.8	µg/L	0	30		92.6%	70	130	27.3			
Surr: 4-Bromofluorobenzene	26.3	µg/L	0	30		87.7%	70	130	26.6			
Surr: Dibromofluoromethane	28.2	µg/L	0	30		94.1%	70	130	27.6			
Surr: Toluene-d8	30.9	µg/L	0	30		102.9%	70	130	30.7			

SampleID: G2410E68-003GMSD	SampType: MSD	TestNo: EPA 8260 D	Prep Date:	RunNo: 312000
	BatchID: R312000		Analysis Date: 10/28/2024	SeqNo: 8206688

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	21.4	µg/L	1						21.9	2.2%	11	
1,1,1-Trichloroethane	21.7	µg/L	1						22	1.3%	12	
1,1,2,2-Tetrachloroethane	19	µg/L	1						20.6	7.9%	14	
1,1,2-Trichloroethane	20.1	µg/L	1						20.6	2.3%	15	
1,1-Dichloroethane	20.6	µg/L	1						21	1.8%	12	
1,1-Dichloroethene	22.8	µg/L	1						22.9	0.3%	14	
1,1-Dichloropropene	22.2	µg/L	1						22.8	2.7%	13	
1,2,3-Trichloropropane	19.8	µg/L	1						20.9	5.6%	14	
1,2-Dichlorobenzene	19.3	µg/L	1						20.2	4.6%	13	

Client: BUTTON GWINNETT LANDFILL

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## Analytical QC Summary Report

1,2-Dichloroethane	20.6	µg/L	1					20.8	0.7%	11	
1,2-Dichloropropane	21.1	µg/L	1					21.2	0.5%	12	
1,3-Dichlorobenzene	19.5	µg/L	1					20.3	3.9%	16	
1,3-Dichloropropane	20.2	µg/L	1					20.3	0.5%	17	
1,4-Dichlorobenzene	19.3	µg/L	1					19.9	3.2%	16	
2,2-Dichloropropane	22.1	µg/L	1					22.8	3.0%	13	
2-chloro-1,3-butadiene	22.8	µg/L	1					23.4	2.6%	20.9	
2-Hexanone	20.3	µg/L	5					21	3.5%	18	
2-Methyl-1-propanol	210	µg/L	50					209	0.5%	24	
3-Chloro-1-Propene	22.6	µg/L	1					23	1.9%	24	
4-Methyl-2-Pentanone	19.7	µg/L	1					20	1.7%	18	
Acetone	16.6	µg/L	10					17.7	6.7%	23	
Acetonitrile	208	µg/L	20					215	3.3%	28	
Acrylonitrile	20.8	µg/L	5					21.5	3.5%	16	
Benzene	20.2	µg/L	1					20.5	1.4%	15	
Bromochloromethane	21.6	µg/L	1					21.5	0.9%	12	
Bromodichloromethane	21.6	µg/L	1					22.1	1.9%	18	
Bromomethane	17.5	µg/L	1					17.6	0.8%	22	
Carbon Disulfide	22.2	µg/L	1					22.5	1.7%	13	
Carbon Tetrachloride	23.4	µg/L	1					23.8	1.7%	12	
Chlorobenzene	19.7	µg/L	1					20.1	1.7%	10	
Chlorodibromomethane	19.9	µg/L	1					20.3	2.3%	16	
Chloroethane	22.4	µg/L	1					24.4	8.6%	17	
Chloromethane	20.4	µg/L	1					20.8	1.8%	16	
cis-1,2-Dichloroethene	20.9	µg/L	1					21.7	3.7%	12	
cis-1,3-Dichloropropene	21.5	µg/L	1					22	2.1%	16	
Dibromomethane	20.5	µg/L	1					20.8	1.5%	14	
Dichlorobromomethane	21.6	µg/L	1					22.1	1.9%	13	
Dichlorodifluoromethane	17.5	µg/L	1					16.7	4.7%	18	
Ethyl Methacrylate	20.4	µg/L	1					20.7	1.2%	17	
Ethylbenzene	19.6	µg/L	1					20.4	3.9%	16	
Iodomethane	21.6	µg/L	5					22.4	3.3%	19	
Methacrylonitrile	206	µg/L	10					212	2.6%	14	
Methyl Ethyl Ketone	20.5	µg/L	5					21.4	4.3%	21	

Client: BUTTON GWINNETT LANDFILL  
 WorkOrder: G2410E76  
 Project: BGwinnett 321S2

## Analytical QC Summary Report

Methyl methacrylate	20.7	µg/L	1						21.4	3.5%	14	
Methylene Chloride	19.6	µg/L	1						19.8	0.8%	17	
Propionitrile	206	µg/L	10						215	4.3%	22	
Styrene	19.6	µg/L	1						20.3	3.1%	12	
Tetrachloroethene	19.3	µg/L	1						19.6	1.9%	16	
Toluene	20.2	µg/L	1						20.5	1.3%	13	
trans-1,2-Dichloroethene	21.7	µg/L	1						22	1.4%	13	
trans-1,3-Dichloropropene	22.2	µg/L	1						22.4	1.3%	15	
trans-1,4-Dichloro-2-butene	19.2	µg/L	2						20.8	8.0%	17	
Tribromomethane	19.6	µg/L	1						20.9	6.5%	14	
Trichloroethene	21.3	µg/L	1						21.6	1.5%	11	
Trichlorofluoromethane	21.6	µg/L	1						22	2.2%	15	
Trichloromethane	20.4	µg/L	1						20.8	1.8%	12	
Vinyl Acetate	19.5	µg/L	1						19.8	1.5%	11	
Vinyl Chloride	20	µg/L	1						20.7	3.2%	15	
Total Xylene	60	µg/L	2						62.2		18	
Surr: 1,2-Dichloroethane-d4	30	µg/L	0	30		100.0%	70	130	30.3			
Surr: 4-Bromofluorobenzene	30.1	µg/L	0	30		100.4%	70	130	30.6			
Surr: Dibromofluoromethane	30.8	µg/L	0	30		102.7%	70	130	30.7			
Surr: Toluene-d8	29.7	µg/L	0	30		99.1%	70	130	30			

SampleID: G2410E68-005GMSD	SampType: MSD	TestNo: EPA 8260 D	Prep Date:	RunNo: 312022
	BatchID: R312022		Analysis Date: 10/29/2024	SeqNo: 8207632

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Acrolein	25.5	µg/L	10						26.7	4.5%	25	
Tribromomethane	19.8	µg/L	1						20.4	2.6%	14	

SampleID: LCS APSDOC-261404	SampType: LCS	TestNo: EPA 8270 E	Prep Date: 10/28/2024	RunNo: 312185
	BatchID: 261404		Analysis Date: 10/31/2024	SeqNo: 8212481

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2,4-Trichlorobenzene	30	µg/L	10	50		59.3%	33	95				
1,4-Naphthoquinone	2.6	µg/L	0	50		5.3%	4	125				

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

2,3,4,6-Tetrachlorophenol	50	µg/L	20	50		100.2%	35	134			
2,4,5-Trichlorophenol	45	µg/L	10	50		89.8%	40	134			
2,4,6-Trichlorophenol	43	µg/L	10	50		86.5%	41	133			
2,4-Dichlorophenol	40	µg/L	10	50		81.0%	27	115			
2,4-Dimethylphenol	43	µg/L	10	50		85.5%	39	144			
2,4-Dinitrophenol	41	µg/L	20	50		82.6%	32	138			
2,4-Dinitrotoluene	50	µg/L	10	50		100.3%	39	142			
2,6-Dichlorophenol	40	µg/L	10	50		80.9%	39	123			
2,6-Dinitrotoluene	50	µg/L	10	50		99.4%	43	130			
2-Chloro-Naphthalene	39	µg/L	10	50		78.2%	42	112			
2-Chlorophenol	37	µg/L	10	50		73.6%	38	108			
2-Methyl-4,6-dinitrophenol	45	µg/L	20	50		89.5%	31	126			
2-Methylnaphthalene	35	µg/L	10	50		70.9%	40	110			
2-Methylphenol	40	µg/L	10	50		80.3%	32	107			
2-Nitroaniline	47	µg/L	10	50		93.3%	46	121			
2-Nitrophenol	39	µg/L	10	50		77.1%	29	104			
3,3-Dichlorobenzidine	51	µg/L	20	50		102.5%	29	140			
3-Methylphenol	41	µg/L	10	50		81.7%	31	113			
3-Nitroaniline	47	µg/L	10	50		94.7%	33	125			
4,6-Dinitro-2-methylphenol	45	µg/L	20	50		89.5%	31	126			
4-Bromophenylphenoylether	45	µg/L	10	50		90.9%	45	125			
4-Chloro-3-methylphenol	43	µg/L	10	50		86.8%	38	119			
4-Chloroaniline	36	µg/L	10	50		71.5%	31	108			
4-Chlorophenylphenoylether	44	µg/L	10	50		88.5%	43	135			
4-Methylphenol	41	µg/L	10	50		81.7%	31	113			
4-Nitroaniline	48	µg/L	10	50		96.8%	47	131			
4-Nitrophenol	46	µg/L	20	50		92.3%	33	136			
Acenaphthene	44	µg/L	10	50		87.4%	38	118			
Acenaphthylene	43	µg/L	10	50		86.1%	44	126			
Acetophenone	38	µg/L	10	50		75.9%	32	126			
Anthracene	45	µg/L	10	50		90.0%	46	128			
Benzo(a)anthracene	48	µg/L	10	50		96.7%	45	132			
Benzo(a)pyrene	47	µg/L	10	50		93.8%	42	127			
Benzo(b)fluoranthene	47	µg/L	10	50		94.9%	40	122			

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Benzo(g,h,i)perylene	48	µg/L	10	50		96.0%	29	133				
Benzo(k)fluoranthene	48	µg/L	10	50		97.0%	39	125				
Benzyl Alcohol	47	µg/L	20	50		94.4%	31	141				
bis(2-Chloroethoxy)methane	40	µg/L	10	50		79.1%	39	108				
bis(2-Chloroethyl)ether	38	µg/L	10	50		75.3%	36	108				
bis(2-Chloroisopropyl)ether	50	µg/L	10	50		99.6%	35	119				
bis(2-Ethylhexyl)phthalate	53	µg/L	5	50		105.0%	25	125				
Butyl benzylphthalate	39	µg/L	10	50		77.5%	30	114				
Chrysene	25	µg/L	10	50		49.1%	38	124				
Di-N-Butyl Phthalate	39	µg/L	10	50		78.7%	32	119				
Di-N-Octylphthalate	52	µg/L	10	50		103.7%	35	131				
Dibenzo(a,h)anthracene	15	µg/L	10	50		29.5%	32	125				S
Dibenzofuran	41	µg/L	10	50		81.2%	42	104				
Diethyl Phthalate	17	µg/L	10	50		33.5%	10	114				
Dimethyl Phthalate	5.2	µg/L	0	50		10.4%	7	128				
Ethyl Methanesulfonate	35	µg/L	10	50		70.4%	38	118				
Fluoranthene	48	µg/L	10	50		95.9%	47	136				
Fluorene	45	µg/L	10	50		89.9%	41	127				
Hexachlorobenzene	46	µg/L	10	50		92.4%	41	122				
Hexachlorobutadiene	22	µg/L	10	50		44.5%	25	105				
Hexachlorocyclopentadiene	15	µg/L	0	50		29.3%	10	132				
Hexachloroethane	20	µg/L	10	50		39.7%	21	107				
Indeno(1,2,3-cd)pyrene	48	µg/L	10	50		95.8%	30	126				
Isophorone	46	µg/L	10	50		92.0%	45	133				
m,p-Cresol	41	µg/L	10	50		81.7%	31	112				
Methyl Methanesulfonate	32	µg/L	10	50		63.7%	19	93				
n-Nitrosodimethylamine	35	µg/L	10	50		69.2%	17	105				
n-Nitrosodiphenylamine	53	µg/L	20	50		106.4%	44	149				
N-nitrosodipropylamine	45	µg/L	10	50		89.8%	44	120				
Naphthalene	34	µg/L	10	50		68.3%	35	110				
Nitrobenzene	38	µg/L	10	50		75.4%	38	98				
o-Cresol	40	µg/L	10	50		80.3%	32	107				
Pentachloronitrobenzene	50	µg/L	10	50		99.0%	43	122				
Pentachlorophenol	46	µg/L	20	50		92.4%	20	130				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Phenanthrene	45	µg/L	10	50		89.1%	43	120					
Phenol	38	µg/L	10	50		75.4%	11	118					
Pyrene	47	µg/L	10	50		94.7%	47	116					
3,4-Methylphenol	41	µg/L	10	50		81.7%	31	113					
Surr: 2,4,6-Tribromophenol	75	µg/L	0	75		100.0%	34	131					
Surr: 2-Fluorobiphenyl	58	µg/L	0	75		76.9%	34	118					
Surr: 2-Fluorophenol	51	µg/L	0	75		68.1%	10	115					
Surr: Nitrobenzene-d5	55	µg/L	0	75		73.5%	32	119					
Surr: p-Terphenyl-d14	68	µg/L	0	75		91.0%	32	136					
Surr: Phenol-d6	57	µg/L	0	75		76.3%	11	119					

SampleID: APP II- 261404

SampType: LCS

TestNo: EPA 8270 E

Prep Date: 10/28/2024

RunNo: 312185

BatchID: 261404

Analysis Date: 10/31/2024

SeqNo: 8212483

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
1,2,4,5-Tetrachlorobenzene	37	µg/L	10	50		74.5%	38	121					
1,3-Dinitrobenzene	49	µg/L	20	50		98.1%	38	125					
1-Naphthylamine	47	µg/L	10	50		93.1%	17	105					
1-Nitrosopiperidine	46	µg/L	10	50		92.1%	40	122					
2-Acetylaminofluorene	51	µg/L	20	50		102.7%	45	128					
2-Naphthylamine	47	µg/L	10	50		94.7%	18	106					
3,3-Dimethylbenzidine	35	µg/L	20	50		69.9%	10	108					
3-Methylcholanthrene	48	µg/L	10	50		96.9%	35	131					
4-Aminobiphenyl	48	µg/L	10	50		95.3%	15	121					
5-Nitro-o-toluidine	51	µg/L	20	50		101.9%	41	127					
7,12-Dimethylbenz(a)-anthracene	50	µg/L	10	50		99.7%	42	122					
Chlorobenzilate	20	µg/L	10	50		40.1%	12	109					
cis-Diallate	33	µg/L	10	35		94.8%	32	136					
Diallate-A	33	µg/L	20	35		94.8%	32	136					
Diallate-B	14	µg/L	0	15		95.8%	46	128					
Dimethoate	4	µg/L	0	50		7.9%	5	110					
Diphenylamine	49	µg/L	10	50		97.7%	40	132					
Disulfoton	46	µg/L	20	50		92.6%	31	114					

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Famphur	23	µg/L	20	50		46.7%	10	105			
Hexachloropropene	13	µg/L	10	50		25.6%	12	108			
Isodrin	46	µg/L	20	50		92.1%	35	122			
Isosafrole	43	µg/L	10	50		85.8%	42	120			
Kepone	51	µg/L	40	50		102.6%	10	120			
Methapyriene	33	µg/L	20	50		65.2%	21	114			
Methyl Parathion	45	µg/L	10	50		90.7%	33	114			
N-Nitrosodibutylamine	45	µg/L	10	50		89.8%	42	125			
N-Nitrosodiethylamine	40	µg/L	10	50		80.8%	35	110			
N-Nitrosomethylethylamine	39	µg/L	10	50		77.9%	25	113			
N-Nitrosopyrrolidine	45	µg/L	10	50		91.0%	33	118			
o,o,o-Triethylphosphorothioate	42	µg/L	10	50		84.1%	43	107			
o-Toluidine	43	µg/L	10	50		86.1%	18	115			
p-Dimethylaminoazobenzene	54	µg/L	10	50		108.1%	38	125			
p-Phenylenediamine	56	µg/L	20	50		111.1%	14	116			
Parathion	55	µg/L	10	50		109.7%	44	124			
Pentachlorobenzene	44	µg/L	10	50		88.1%	35	125			
Phenacetin	51	µg/L	10	50		101.5%	55	125			
Phorate	40	µg/L	20	50		80.9%	32	111			
Pronamide	50	µg/L	10	50		99.5%	40	130			
Safrole	39	µg/L	10	50		78.8%	41	112			
sym-Trinitrobenzene	42	µg/L	10	50		84.5%	39	139			
Thionazin	48	µg/L	20	50		95.7%	36	121			
trans-Diallate	14	µg/L	10	15		95.8%	46	128			
Diallate	48	µg/L	20	50		95.1%	23	134			
Surr: 2,4,6-Tribromophenol	76	µg/L	0	75		101.8%	34	131			
Surr: 2-Fluorobiphenyl	62	µg/L	0	75		82.3%	34	118			
Surr: 2-Fluorophenol	53	µg/L	0	75		71.1%	10	115			
Surr: Nitrobenzene-d5	58	µg/L	0	75		77.5%	32	119			
Surr: p-Terphenyl-d14	70	µg/L	0	75		93.5%	32	136			
Surr: Phenol-d6	61	µg/L	0	75		81.1%	11	119			

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E76  
Project: BGwinnett 321S2

## Analytical QC Summary Report

<b>SampleID:</b> APP II APSDOC-261404	<b>SampType:</b> LCS	<b>TestNo:</b> EPA 8270 E	<b>Prep Date:</b> 10/28/2024	<b>RunNo:</b> 312185
	<b>BatchID:</b> 261404		<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8212484

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2,4,5-Tetrachlorobenzene	36	µg/L	10	50		72.0%	38	121				
1,3-Dinitrobenzene	50	µg/L	20	50		100.0%	38	125				
1-Naphthylamine	45	µg/L	10	50		89.8%	17	105				
1-Nitrosopiperidine	45	µg/L	10	50		89.9%	40	122				
2-Acetylaminofluorene	51	µg/L	20	50		101.9%	45	128				
2-Naphthylamine	49	µg/L	10	50		97.7%	18	106				
3,3-Dimethylbenzidine	38	µg/L	20	50		75.1%	10	108				
3-Methylcholanthrene	46	µg/L	10	50		91.3%	35	131				
4-Aminobiphenyl	48	µg/L	10	50		95.2%	15	121				
5-Nitro-o-toluidine	51	µg/L	20	50		101.9%	41	127				
7,12-Dimethylbenz(a)-anthracene	53	µg/L	10	50		106.1%	42	122				
Chlorobenzilate	52	µg/L	10	50		104.3%	12	109				
cis-Diallate	33	µg/L	10	35		94.0%	32	136				
Diallate-A	33	µg/L	20	35		94.0%	32	136				
Diallate-B	14	µg/L	0	15		94.3%	46	128				
Dimethoate	47	µg/L	20	50		95.0%	5	110				
Diphenylamine	50	µg/L	10	50		99.3%	40	132				
Disulfoton	48	µg/L	20	50		95.2%	31	114				
Famphur	19	µg/L	0	50		38.0%	10	105				
Hexachloropropene	19	µg/L	0	50		38.9%	12	108				
Isodrin	44	µg/L	20	50		87.2%	35	122				
Isosafrole	43	µg/L	10	50		86.8%	42	120				
Kepone	23	µg/L	0	50		47.0%	10	120				
Methapyrilene	35	µg/L	20	50		69.8%	21	114				
Methyl Parathion	49	µg/L	10	50		97.6%	33	114				
N-Nitrosodibutylamine	45	µg/L	10	50		89.3%	42	125				
N-Nitrosodiethylamine	41	µg/L	10	50		81.9%	35	110				
N-Nitrosomethylethylamine	40	µg/L	10	50		79.1%	25	113				
N-Nitrosopyrrolidine	45	µg/L	10	50		89.7%	33	118				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

o,o,o-Triethylphosphorothioate	42	µg/L	10	50		84.6%	43	107				
o-Toluidine	44	µg/L	10	50		87.1%	18	115				
p-Dimethylaminoazobenzene	53	µg/L	10	50		105.3%	38	125				
p-Phenylenediamine	35	µg/L	20	50		70.7%	14	116				
Parathion	56	µg/L	10	50		111.2%	44	124				
Pentachlorobenzene	43	µg/L	10	50		85.7%	35	125				
Phenacetin	49	µg/L	10	50		98.5%	55	125				
Phorate	48	µg/L	20	50		95.1%	32	111				
Pronamide	49	µg/L	10	50		97.1%	40	130				
Safrole	40	µg/L	10	50		79.9%	41	112				
sym-Trinitrobenzene	50	µg/L	10	50		99.9%	39	139				
Thionazin	54	µg/L	20	50		108.2%	36	121				
trans-Diallate	14	µg/L	10	15		94.3%	46	128				
Diallate	47	µg/L	20	50		94.1%	23	134				
Surr: 2,4,6-Tribromophenol	74	µg/L	0	75		98.6%	34	131				
Surr: 2-Fluorobiphenyl	61	µg/L	0	75		81.9%	34	118				
Surr: 2-Fluorophenol	51	µg/L	0	75		68.2%	10	115				
Surr: Nitrobenzene-d5	61	µg/L	0	75		80.8%	32	119				
Surr: p-Terphenyl-d14	69	µg/L	0	75		92.2%	32	136				
Surr: Phenol-d6	58	µg/L	0	75		76.9%	11	119				

SampleID: APP II APSDOC2-261404	SampType: LCS	TestNo: EPA 8270 E	Prep Date: 10/28/2024	RunNo: 312185
	BatchID: 261404		Analysis Date: 10/31/2024	SeqNo: 8212485

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2,4,5-Tetrachlorobenzene	37	µg/L	10	50		74.6%	38	121				
1,3-Dinitrobenzene	50	µg/L	20	50		99.6%	38	125				
1-Naphthylamine	46	µg/L	10	50		91.4%	17	105				
1-Nitrosopiperidine	45	µg/L	10	50		90.8%	40	122				
2-Acetylaminofluorene	50	µg/L	20	50		100.4%	45	128				
2-Naphthylamine	49	µg/L	10	50		97.6%	18	106				
3,3-Dimethylbenzidine	38	µg/L	20	50		75.7%	10	108				
3-Methylcholanthrene	47	µg/L	10	50		93.6%	35	131				
4-Aminobiphenyl	49	µg/L	10	50		97.7%	15	121				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

5-Nitro-o-toluidine	50	µg/L	20	50		100.3%	41	127				
7,12-Dimethylbenz(a)-anthracene	49	µg/L	10	50		97.4%	42	122				
Chlorobenzilate	52	µg/L	10	50		103.8%	12	109				
cis-Diallate	33	µg/L	10	35		95.5%	32	136				
Diallate-A	33	µg/L	20	35		95.5%	32	136				
Diallate-B	14	µg/L	0	15		96.3%	46	128				
Dimethoate	48	µg/L	20	50		96.6%	5	110				
Diphenylamine	50	µg/L	10	50		99.6%	40	132				
Disulfoton	49	µg/L	20	50		97.5%	31	114				
Famphur	17	µg/L	0	50		33.6%	10	105				
Hexachloropropene	20	µg/L	0	50		40.3%	12	108				
Isodrin	44	µg/L	20	50		88.1%	35	122				
Isosafrole	45	µg/L	10	50		90.2%	42	120				
Kepone	22	µg/L	0	50		43.6%	10	120				
Methapyrilene	36	µg/L	20	50		72.9%	21	114				
Methyl Parathion	50	µg/L	10	50		99.4%	33	114				
N-Nitrosodibutylamine	46	µg/L	10	50		92.2%	42	125				
N-Nitrosodiethylamine	43	µg/L	10	50		85.4%	35	110				
N-Nitrosomethylethylamine	40	µg/L	10	50		80.0%	25	113				
N-Nitrosopyrrolidine	45	µg/L	10	50		90.4%	33	118				
o,o,o-Triethylphosphorothioate	44	µg/L	10	50		87.5%	43	107				
o-Toluidine	44	µg/L	10	50		88.6%	18	115				
p-Dimethylaminoazobenzene	53	µg/L	10	50		107.0%	38	125				
p-Phenylenediamine	37	µg/L	20	50		74.2%	14	116				
Parathion	56	µg/L	10	50		112.2%	44	124				
Pentachlorobenzene	44	µg/L	10	50		87.8%	35	125				
Phenacetin	50	µg/L	10	50		99.9%	55	125				
Phorate	49	µg/L	20	50		97.3%	32	111				
Pronamide	50	µg/L	10	50		99.0%	40	130				
Safrole	42	µg/L	10	50		83.5%	41	112				
sym-Trinitrobenzene	51	µg/L	10	50		101.8%	39	139				
Thionazin	54	µg/L	20	50		107.4%	36	121				
trans-Diallate	14	µg/L	10	15		96.3%	46	128				

Client: BUTTON GWINNETT LANDFILL  
 WorkOrder: G2410E76  
 Project: BGwinnett 321S2

## Analytical QC Summary Report

Diallate	48	µg/L	20	50		95.8%	23	134				
Surr: 2,4,6-Tribromophenol	76	µg/L	0	75		102.0%	34	131				
Surr: 2-Fluorobiphenyl	63	µg/L	0	75		84.2%	34	118				
Surr: 2-Fluorophenol	55	µg/L	0	75		73.6%	10	115				
Surr: Nitrobenzene-d5	63	µg/L	0	75		84.1%	32	119				
Surr: p-Terphenyl-d14	68	µg/L	0	75		91.1%	32	136				
Surr: Phenol-d6	62	µg/L	0	75		82.4%	11	119				

SampleID: APP II APSDOC3-261404	SampType: LCS	TestNo: EPA 8270 E	Prep Date: 10/28/2024	RunNo: 312185
	BatchID: 261404		Analysis Date: 10/31/2024	SeqNo: 8212486

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2,4,5-Tetrachlorobenzene	39	µg/L	10	50		77.3%	38	121				
1,3-Dinitrobenzene	51	µg/L	20	50		101.6%	38	125				
1-Naphthylamine	48	µg/L	10	50		96.7%	17	105				
1-Nitrosopiperidine	46	µg/L	10	50		92.3%	40	122				
2-Acetylaminofluorene	51	µg/L	20	50		101.7%	45	128				
2-Naphthylamine	50	µg/L	10	50		99.2%	18	106				
3,3-Dimethylbenzidine	38	µg/L	20	50		75.7%	10	108				
3-Methylcholanthrene	48	µg/L	10	50		95.9%	35	131				
4-Aminobiphenyl	50	µg/L	10	50		99.3%	15	121				
5-Nitro-o-toluidine	51	µg/L	20	50		102.1%	41	127				
7,12-Dimethylbenz(a)-anthracene	49	µg/L	10	50		99.0%	42	122				
Chlorobenzilate	52	µg/L	10	50		103.9%	12	109				
cis-Diallate	34	µg/L	10	35		96.3%	32	136				
Diallate-A	34	µg/L	20	35		96.3%	32	136				
Diallate-B	15	µg/L	0	15		97.7%	46	128				
Dimethoate	48	µg/L	20	50		96.8%	5	110				
Diphenylamine	51	µg/L	10	50		101.9%	40	132				
Disulfoton	49	µg/L	20	50		98.1%	31	114				
Famphur	17	µg/L	0	50		34.8%	10	105				
Hexachloropropene	24	µg/L	10	50		47.4%	12	108				
Isodrin	44	µg/L	20	50		88.9%	35	122				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Isosafrole	45	µg/L	10	50		90.1%	42	120				
Kepone	23	µg/L	0	50		46.0%	10	120				
Methapyrilene	35	µg/L	20	50		70.3%	21	114				
Methyl Parathion	51	µg/L	10	50		101.2%	33	114				
N-Nitrosodibutylamine	47	µg/L	10	50		94.3%	42	125				
N-Nitrosodiethylamine	44	µg/L	10	50		87.5%	35	110				
N-Nitrosomethylethylamine	41	µg/L	10	50		81.6%	25	113				
N-Nitrosopyrrolidine	46	µg/L	10	50		92.4%	33	118				
o,o,o-Triethylphosphorothioate	45	µg/L	10	50		89.1%	43	107				
o-Toluidine	46	µg/L	10	50		91.3%	18	115				
p-Dimethylaminoazobenzene	53	µg/L	10	50		106.6%	38	125				
p-Phenylenediamine	37	µg/L	20	50		74.5%	14	116				
Parathion	56	µg/L	10	50		111.8%	44	124				
Pentachlorobenzene	45	µg/L	10	50		89.1%	35	125				
Phenacetin	50	µg/L	10	50		100.5%	55	125				
Phorate	49	µg/L	20	50		98.5%	32	111				
Pronamide	51	µg/L	10	50		101.5%	40	130				
Safrole	42	µg/L	10	50		85.0%	41	112				
sym-Trinitrobenzene	51	µg/L	10	50		102.3%	39	139				
Thionazin	55	µg/L	20	50		109.0%	36	121				
trans-Diallate	15	µg/L	10	15		97.7%	46	128				
Diallate	48	µg/L	20	50		96.7%	23	134				
Surr: 2,4,6-Tribromophenol	77	µg/L	0	75		102.5%	34	131				
Surr: 2-Fluorobiphenyl	65	µg/L	0	75		86.7%	34	118				
Surr: 2-Fluorophenol	54	µg/L	0	75		71.9%	10	115				
Surr: Nitrobenzene-d5	65	µg/L	0	75		86.2%	32	119				
Surr: p-Terphenyl-d14	70	µg/L	0	75		92.9%	32	136				
Surr: Phenol-d6	58	µg/L	0	75		78.0%	11	119				

SampleID: APP II APSDOC4-261404

SampType: LCS

TestNo: EPA 8270 E

Prep Date: 10/28/2024

RunNo: 312185

BatchID: 261404

Analysis Date: 10/31/2024

SeqNo: 8212487

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2,4,5-Tetrachlorobenzene	37	µg/L	10	50		74.8%	38	121				

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

1,3-Dinitrobenzene	48	µg/L	20	50		96.3%	38	125			
1-Naphthylamine	45	µg/L	10	50		89.8%	17	105			
1-Nitrosopiperidine	46	µg/L	10	50		92.7%	40	122			
2-Acetylaminofluorene	50	µg/L	20	50		99.7%	45	128			
2-Naphthylamine	49	µg/L	10	50		97.5%	18	106			
3,3-Dimethylbenzidine	37	µg/L	20	50		74.0%	10	108			
3-Methylcholanthrene	47	µg/L	10	50		93.4%	35	131			
4-Aminobiphenyl	49	µg/L	10	50		97.3%	15	121			
5-Nitro-o-toluidine	50	µg/L	20	50		100.6%	41	127			
7,12-Dimethylbenz(a)-anthracene	48	µg/L	10	50		96.3%	42	122			
Chlorobenzilate	52	µg/L	10	50		103.2%	12	109			
cis-Diallate	33	µg/L	10	35		94.5%	32	136			
Diallate-A	33	µg/L	20	35		94.5%	32	136			
Diallate-B	14	µg/L	0	15		95.2%	46	128			
Dimethoate	48	µg/L	20	50		95.3%	5	110			
Diphenylamine	50	µg/L	10	50		100.1%	40	132			
Disulfoton	49	µg/L	20	50		97.0%	31	114			
Famphur	16	µg/L	0	50		32.5%	10	105			
Hexachloropropene	19	µg/L	10	50		38.8%	12	108			
Isodrin	44	µg/L	20	50		88.8%	35	122			
Isosafrole	45	µg/L	10	50		90.0%	42	120			
Kepone	23	µg/L	0	50		45.2%	10	120			
Methapyrilene	37	µg/L	20	50		75.0%	21	114			
Methyl Parathion	50	µg/L	10	50		99.7%	33	114			
N-Nitrosodibutylamine	46	µg/L	10	50		92.7%	42	125			
N-Nitrosodiethylamine	43	µg/L	10	50		85.5%	35	110			
N-Nitrosomethylmethane	41	µg/L	10	50		81.7%	25	113			
N-Nitrosopyrrolidine	46	µg/L	10	50		92.9%	33	118			
o,o,o-Triethylphosphorothioate	44	µg/L	10	50		87.8%	43	107			
o-Toluidine	45	µg/L	10	50		90.0%	18	115			
p-Dimethylaminoazobenzene	53	µg/L	10	50		105.4%	38	125			
p-Phenylenediamine	35	µg/L	20	50		70.4%	14	116			
Parathion	56	µg/L	10	50		111.3%	44	124			

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Pentachlorobenzene	45	µg/L	10	50		89.2%	35	125				
Phenacetin	50	µg/L	10	50		99.6%	55	125				
Phorate	48	µg/L	20	50		95.6%	32	111				
Pronamide	50	µg/L	10	50		100.2%	40	130				
Safrole	42	µg/L	10	50		83.1%	41	112				
sym-Trinitrobenzene	50	µg/L	10	50		100.4%	39	139				
Thionazin	54	µg/L	20	50		108.3%	36	121				
trans-Diallate	14	µg/L	10	15		95.2%	46	128				
Diallate	47	µg/L	20	50		94.7%	23	134				
Surr: 2,4,6-Tribromophenol	76	µg/L	0	75		100.9%	34	131				
Surr: 2-Fluorobiphenyl	63	µg/L	0	75		84.0%	34	118				
Surr: 2-Fluorophenol	56	µg/L	0	75		74.7%	10	115				
Surr: Nitrobenzene-d5	63	µg/L	0	75		83.4%	32	119				
Surr: p-Terphenyl-d14	68	µg/L	0	75		91.2%	32	136				
Surr: Phenol-d6	63	µg/L	0	75		84.4%	11	119				

SampleID: LCSD APSDOC-261404

SampType: LCSD

TestNo: EPA 8270 E

Prep Date: 10/28/2024

RunNo: 312185

BatchID: 261404

Analysis Date: 10/31/2024

SeqNo: 8212482

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2,4-Trichlorobenzene	32	µg/L	10	50		64.0%	33	95	30	7.8%	36	
1,4-Naphthoquinone	2.5	µg/L	0	50		5.0%	4	125	2.6	5.0%	31	
2,3,4,6-Tetrachlorophenol	53	µg/L	20	50		105.5%	35	134	50	5.2%	47	
2,4,5-Trichlorophenol	47	µg/L	10	50		94.6%	40	134	45	5.1%	51	
2,4,6-Trichlorophenol	47	µg/L	10	50		94.1%	41	133	43	8.5%	25	
2,4-Dichlorophenol	43	µg/L	10	50		86.8%	27	115	40	6.9%	37	
2,4-Dimethylphenol	47	µg/L	10	50		93.2%	39	144	43	8.5%	32	
2,4-Dinitrophenol	48	µg/L	20	50		95.0%	32	138	41	14.0%	70	
2,4-Dinitrotoluene	52	µg/L	10	50		104.2%	39	142	50	3.8%	35	
2,6-Dichlorophenol	44	µg/L	10	50		87.2%	39	123	40	7.5%	31	
2,6-Dinitrotoluene	53	µg/L	10	50		106.7%	43	130	50	7.0%	29	
2-Chloro-Naphthalene	43	µg/L	10	50		86.0%	42	112	39	9.4%	33	
2-Chlorophenol	40	µg/L	10	50		79.9%	38	108	37	8.3%	45	
2-Methyl-4,6-dinitrophenol	48	µg/L	20	50		95.0%	31	126	45	6.0%	53	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

2-Methylnaphthalene	40	µg/L	10	50		79.1%	40	110	35	10.9%	30	
2-Methylphenol	43	µg/L	10	50		85.5%	32	107	40	6.3%	32	
2-Nitroaniline	51	µg/L	10	50		101.5%	46	121	47	8.4%	23	
2-Nitrophenol	42	µg/L	10	50		85.0%	29	104	39	9.6%	38	
3,3-Dichlorobenzidine	54	µg/L	20	50		107.0%	29	140	51	4.3%	71	
3-Methylphenol	45	µg/L	10	50		89.1%	31	113	41	8.8%	34	
3-Nitroaniline	51	µg/L	10	50		101.2%	33	125	47	6.7%	26	
4,6-Dinitro-2-methylphenol	48	µg/L	20	50		95.0%	31	126	45	6.0%	53	
4-Bromophenylphenylether	48	µg/L	10	50		96.7%	45	125	45	6.2%	25	
4-Chloro-3-methylphenol	46	µg/L	10	50		92.7%	38	119	43	6.6%	42	
4-Chloroaniline	39	µg/L	10	50		77.1%	31	108	36	7.5%	25	
4-Chlorophenylphenylether	48	µg/L	10	50		96.4%	43	135	44	8.6%	25	
4-Methylphenol	45	µg/L	10	50		89.1%	31	113	41	8.8%	34	
4-Nitroaniline	50	µg/L	10	50		100.8%	47	131	48	4.1%	24	
4-Nitrophenol	47	µg/L	20	50		94.9%	33	136	46	2.7%	61	
Acenaphthene	48	µg/L	10	50		95.3%	38	118	44	8.7%	32	
Acenaphthylene	47	µg/L	10	50		93.7%	44	126	43	8.4%	32	
Acetophenone	41	µg/L	10	50		82.6%	32	126	38	8.4%	43	
Anthracene	47	µg/L	10	50		93.5%	46	128	45	3.8%	22	
Benzo(a)anthracene	50	µg/L	10	50		100.2%	45	132	48	3.5%	27	
Benzo(a)pyrene	48	µg/L	10	50		95.9%	42	127	47	2.2%	33	
Benzo(b)fluoranthene	49	µg/L	10	50		99.0%	40	122	47	4.2%	24	
Benzo(g,h,i)perylene	48	µg/L	10	50		96.2%	29	133	48	0.3%	31	
Benzo(k)fluoranthene	51	µg/L	10	50		102.8%	39	125	48	5.8%	24	
Benzyl Alcohol	51	µg/L	20	50		101.4%	31	141	47	7.1%	50	
bis(2-Chloroethoxy)methane	43	µg/L	10	50		86.1%	39	108	40	8.5%	36	
bis(2-Chloroethyl)ether	40	µg/L	10	50		80.2%	36	108	38	6.3%	36	
bis(2-Chloroisopropyl)ether	53	µg/L	10	50		106.3%	35	119	50	6.4%	36	
bis(2-Ethylhexyl)phthalate	55	µg/L	5	50		109.3%	25	125	53	4.0%	36	
Butyl benzylphthalate	42	µg/L	10	50		84.3%	30	114	39	8.3%	54	
Chrysene	25	µg/L	10	50		50.5%	38	124	25	2.8%	30	
Di-N-Butyl Phthalate	42	µg/L	10	50		83.5%	32	119	39	5.8%	38	
Di-N-Octylphthalate	54	µg/L	10	50		108.2%	35	131	52	4.3%	49	
Dibenzo(a,h)anthracene	15	µg/L	0	50		30.2%	32	125	15	2.5%	31	S

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Dibenzofuran	45	µg/L	10	50		89.3%	42	104	41	9.5%	51	
Diethyl Phthalate	19	µg/L	10	50		38.1%	10	114	17	12.9%	53	
Dimethyl Phthalate	5.9	µg/L	0	50		11.8%	7	128	5.2	12.3%	48	
Ethyl Methanesulfonate	38	µg/L	10	50		75.7%	38	118	35	7.1%	37	
Fluoranthene	49	µg/L	10	50		97.9%	47	136	48	2.0%	25	
Fluorene	48	µg/L	10	50		96.3%	41	127	45	6.9%	30	
Hexachlorobenzene	48	µg/L	10	50		96.1%	41	122	46	4.0%	34	
Hexachlorobutadiene	23	µg/L	10	50		46.7%	25	105	22	4.9%	39	
Hexachlorocyclopentadiene	17	µg/L	10	50		34.0%	10	132	15	15.1%	68	
Hexachloroethane	20	µg/L	10	50		39.9%	21	107	20	0.4%	54	
Indeno(1,2,3-cd)pyrene	48	µg/L	10	50		96.8%	30	126	48	1.0%	37	
Isophorone	50	µg/L	10	50		100.2%	45	133	46	8.5%	31	
m,p-Cresol	45	µg/L	10	50		89.1%	31	112	41	8.8%	39	
Methyl Methanesulfonate	35	µg/L	10	50		69.1%	19	93	32	8.3%	41	
n-Nitrosodimethylamine	37	µg/L	10	50		73.7%	17	105	35	6.3%	37	
n-Nitrosodiphenylamine	56	µg/L	20	50		111.8%	44	149	53	5.0%	26	
N-nitrosodipropylamine	49	µg/L	10	50		97.6%	44	120	45	8.3%	33	
Naphthalene	37	µg/L	10	50		74.8%	35	110	34	9.1%	34	
Nitrobenzene	41	µg/L	10	50		82.2%	38	98	38	8.6%	35	
o-Cresol	43	µg/L	10	50		85.5%	32	107	40	6.3%	32	
Pentachloronitrobenzene	52	µg/L	10	50		104.4%	43	122	50	5.3%	25	
Pentachlorophenol	49	µg/L	20	50		98.5%	20	130	46	6.4%	48	
Phenanthrene	46	µg/L	10	50		91.9%	43	120	45	3.2%	24	
Phenol	40	µg/L	10	50		80.3%	11	118	38	6.2%	65	
Pyrene	49	µg/L	10	50		97.7%	47	116	47	3.1%	24	
3,4-Methylphenol	45	µg/L	10	50		89.1%	31	113	41		39	
Surr: 2,4,6-Tribromophenol	77	µg/L	0	75		102.9%	34	131	75			
Surr: 2-Fluorobiphenyl	62	µg/L	0	75		83.3%	34	118	58			
Surr: 2-Fluorophenol	54	µg/L	0	75		72.1%	10	115	51			
Surr: Nitrobenzene-d5	60	µg/L	0	75		79.4%	32	119	55			
Surr: p-Terphenyl-d14	70	µg/L	0	75		92.9%	32	136	68			
Surr: Phenol-d6	61	µg/L	0	75		81.6%	11	119	57			

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E76  
Project: BGwinnett 321S2

## Analytical QC Summary Report

<b>SampleID:</b> MBLK-261404	<b>SampType:</b> MBLK	<b>TestNo:</b> EPA 8270 E	<b>Prep Date:</b> 10/28/2024	<b>RunNo:</b> 312185
	<b>BatchID:</b> 261404		<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8212479

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2,4,5-Tetrachlorobenzene	< 10	µg/L	10									
1,2,4-Trichlorobenzene	< 10	µg/L	10									
1,3-Dinitrobenzene	< 20	µg/L	20									
1,4-Naphthoquinone	< 10	µg/L	10									
1-Naphthylamine	< 10	µg/L	10									
1-Nitrosopiperidine	< 10	µg/L	10									
2,3,4,6-Tetrachlorophenol	< 20	µg/L	20									
2,4,5-Trichlorophenol	< 10	µg/L	10									
2,4,6-Trichlorophenol	< 10	µg/L	10									
2,4-Dichlorophenol	< 10	µg/L	10									
2,4-Dimethylphenol	< 10	µg/L	10									
2,4-Dinitrophenol	< 20	µg/L	20									
2,4-Dinitrotoluene	< 10	µg/L	10									
2,6-Dichlorophenol	< 10	µg/L	10									
2,6-Dinitrotoluene	< 10	µg/L	10									
2-Acetylaminofluorene	< 20	µg/L	20									
2-Chloro-Naphthalene	< 10	µg/L	10									
2-Chlorophenol	< 10	µg/L	10									
2-Methyl-4,6-dinitrophenol	< 20	µg/L	20									
2-Methylnaphthalene	< 10	µg/L	10									
2-Methylphenol	< 10	µg/L	10									
2-Naphthylamine	< 10	µg/L	10									
2-Nitroaniline	< 10	µg/L	10									
2-Nitrophenol	< 10	µg/L	10									
3,3-Dichlorobenzidine	< 20	µg/L	20									
3,3-Dimethylbenzidine	< 20	µg/L	20									
3-Methylcholanthrene	< 10	µg/L	10									
3-Nitroaniline	< 10	µg/L	10									
4,6-Dinitro-2-methylphenol	< 20	µg/L	20									

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

o-Toluidine	< 10	µg/L	10										
p-Dimethylaminoazobenzene	< 10	µg/L	10										
p-Phenylenediamine	< 20	µg/L	20										
Parathion	< 10	µg/L	10										
Pentachlorobenzene	< 10	µg/L	10										
Pentachloronitrobenzene	< 10	µg/L	10										
Pentachlorophenol	< 20	µg/L	20										
Phenacetin	< 10	µg/L	10										
Phenanthrene	< 10	µg/L	10										
Phenol	< 10	µg/L	10										
Phorate	< 20	µg/L	20										
Pronamide	< 10	µg/L	10										
Pyrene	< 10	µg/L	10										
Safrole	< 10	µg/L	10										
sym-Trinitrobenzene	< 10	µg/L	10										
Thionazin	< 20	µg/L	20										
trans-Diallate	< 10	µg/L	10										
3,4-Methylphenol	< 10	µg/L	10										
Diallate	< 20	µg/L	20										
Surr: 2,4,6-Tribromophenol	67	µg/L	0	75		89.2%	34	131					
Surr: 2-Fluorobiphenyl	57	µg/L	0	75		76.7%	34	118					
Surr: 2-Fluorophenol	53	µg/L	0	75		70.8%	10	115					
Surr: Nitrobenzene-d5	59	µg/L	0	75		78.3%	32	119					
Surr: p-Terphenyl-d14	70	µg/L	0	75		93.9%	32	136					
Surr: Phenol-d6	57	µg/L	0	75		76.7%	11	119					

SampleID: BLANK-261389

SampType: BLANK

TestNo: SM 2540 C-15

Prep Date: 10/28/2024

RunNo: 311971

BatchID: 261389

Analysis Date: 10/28/2024

SeqNo: 8205839

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	< 20	mg/L	20									

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

SampleID: G2410E68-002ADUP		SampType: DUP	TestNo: SM 2540 C-15				Prep Date: 10/28/2024			RunNo: 311971		
		BatchID: 261389				Analysis Date: 10/28/2024				SeqNo: 8205929		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	122	mg/L	20						126	3.2%	10	
SampleID: G2410E76-001IDUP		SampType: DUP	TestNo: SM 2540 C-15				Prep Date: 10/28/2024			RunNo: 311971		
		BatchID: 261389				Analysis Date: 10/28/2024				SeqNo: 8205962		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	36	mg/L	20						40	10.5%	10	R
SampleID: LCS-261389		SampType: LCS	TestNo: SM 2540 C-15				Prep Date: 10/28/2024			RunNo: 311971		
		BatchID: 261389				Analysis Date: 10/28/2024				SeqNo: 8206048		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	258	mg/L	20	292		88.4%	79	106				
SampleID: LCS-261430		SampType: LCS	TestNo: SM 4500-S2- D-11				Prep Date: 10/29/2024			RunNo: 312050		
		BatchID: 261430				Analysis Date: 10/29/2024				SeqNo: 8208357		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Sulfide	0.485	mg/L	0.1	0.5		97.0%	90	110				
SampleID: LCS-261430		SampType: LCS	TestNo: SM 4500-S2- D-11				Prep Date: 10/29/2024			RunNo: 312050		
		BatchID: 261430				Analysis Date: 10/29/2024				SeqNo: 8208373		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Sulfide	0.47	mg/L	0.1	0.5		94.0%	90	110				
SampleID: G2410E75-007CLFM		SampType: LFM	TestNo: SM 4500-S2- D-11				Prep Date: 10/29/2024			RunNo: 312050		
		BatchID: 261430				Analysis Date: 10/29/2024				SeqNo: 8208369		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Sulfide	0.227	mg/L	0.1	0.25		90.8%	75	125				H

Client: BUTTON GWINNETT LANDFILL

## Analytical QC Summary Report

WorkOrder: G2410E76

Project: BGwinnett 321S2

<b>SampleID:</b> G2410E98-001NLFM		<b>SampType:</b> LFM		<b>TestNo:</b> SM 4500-S2- D-11			<b>Prep Date:</b> 10/29/2024			<b>RunNo:</b> 312050		
		<b>BatchID:</b> 261430						<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8208379	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Sulfide	< 0.1	mg/L	0.1	0.25	0.056	5.2%	75	125				S
<b>SampleID:</b> G2410E75-007CLFMD		<b>SampType:</b> LFMD		<b>TestNo:</b> SM 4500-S2- D-11			<b>Prep Date:</b> 10/29/2024			<b>RunNo:</b> 312050		
		<b>BatchID:</b> 261430						<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8208370	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Sulfide	0.243	mg/L	0.1	0.25		97.2%	75	125	0.227	6.8%	20	H
<b>SampleID:</b> G2410E98-001NLFMD		<b>SampType:</b> LFMD		<b>TestNo:</b> SM 4500-S2- D-11			<b>Prep Date:</b> 10/29/2024			<b>RunNo:</b> 312050		
		<b>BatchID:</b> 261430						<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8208380	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Sulfide	< 0.1	mg/L	0.1	0.25	0.056	2.0%	75	125	0.069		20	S
<b>SampleID:</b> BLANK-261430		<b>SampType:</b> MBLK		<b>TestNo:</b> SM 4500-S2- D-11			<b>Prep Date:</b> 10/29/2024			<b>RunNo:</b> 312050		
		<b>BatchID:</b> 261430						<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8208356	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Sulfide	< 0.1	mg/L	0.1									
<b>SampleID:</b> BLANK-261430		<b>SampType:</b> MBLK		<b>TestNo:</b> SM 4500-S2- D-11			<b>Prep Date:</b> 10/29/2024			<b>RunNo:</b> 312050		
		<b>BatchID:</b> 261430						<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8208372	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Sulfide	< 0.1	mg/L	0.1									
<b>SampleID:</b> LCS		<b>SampType:</b> LCS		<b>TestNo:</b> SM 5310 C-14			<b>Prep Date:</b>			<b>RunNo:</b> 312027		
		<b>BatchID:</b> R312027						<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8207837	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total Organic Carbon	5.45	mg/L	1	5		108.9%	90	110				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

SampleID: QC Blank		SampType: MBLK		TestNo: SM 5310 C-14				Prep Date:				RunNo: 312027		
		BatchID: R312027				Analysis Date: 10/29/2024				SeqNo: 8207831				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Total Organic Carbon	< 1	mg/L	1											
SampleID: Blank		SampType: MBLK		TestNo: SM 5310 C-14				Prep Date:				RunNo: 312027		
		BatchID: R312027				Analysis Date: 10/29/2024				SeqNo: 8207890				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Total Organic Carbon	< 1	mg/L	1											
SampleID: Blank		SampType: MBLK		TestNo: SM 5310 C-14				Prep Date:				RunNo: 312027		
		BatchID: R312027				Analysis Date: 10/30/2024				SeqNo: 8207937				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Total Organic Carbon	< 1	mg/L	1											
SampleID: G2410E96-001DMS		SampType: MS		TestNo: SM 5310 C-14				Prep Date:				RunNo: 312027		
		BatchID: R312027				Analysis Date: 10/29/2024				SeqNo: 8207846				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Total Organic Carbon	11	mg/L	1	10	1.15	98.0%	85	115						
SampleID: G2410E76-001JMS		SampType: MS		TestNo: SM 5310 C-14				Prep Date:				RunNo: 312027		
		BatchID: R312027				Analysis Date: 10/29/2024				SeqNo: 8207903				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Total Organic Carbon	10.2	mg/L	1	10		101.8%	85	115						
SampleID: G2410E96-001DMSD		SampType: MSD		TestNo: SM 5310 C-14				Prep Date:				RunNo: 312027		
		BatchID: R312027				Analysis Date: 10/29/2024				SeqNo: 8207849				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Total Organic Carbon	11.2	mg/L	1		1.15				11	2.5%	15			

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E76  
Project: BGwinnett 321S2

## Analytical QC Summary Report

<b>SampleID:</b> G2410E76-001JMSD	<b>SampType:</b> MSD	<b>TestNo:</b> SM 5310 C-14	<b>Prep Date:</b>	<b>RunNo:</b> 312027
		<b>BatchID:</b> R312027	<b>Analysis Date:</b> 10/29/2024	<b>SeqNo:</b> 8207909

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total Organic Carbon	10.3	mg/L	1						10.2	1.0%	15	

<b>SampleID:</b> LCS-261369	<b>SampType:</b> LCS	<b>TestNo:</b> SM 6640 B-06	<b>Prep Date:</b> 10/28/2024	<b>RunNo:</b> 311954
		<b>BatchID:</b> 261369	<b>Analysis Date:</b> 10/28/2024	<b>SeqNo:</b> 8205203

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
2,4,5-T	3.85	µg/L	0.5	4		96.2%	70	130				
2,4-D	3.99	µg/L	0.5	4		99.8%	70	130				
Dinoseb	3.96	µg/L	0.5	4		98.9%	70	130				
Silvex	4.01	µg/L	0.5	4		100.2%	70	130				
Surr: 2,4-Dichlorophenyl acetic acid	7.95	µg/L	0	8		99.4%	70	130				

<b>SampleID:</b> MBLK-261369	<b>SampType:</b> MBLK	<b>TestNo:</b> SM 6640 B-06	<b>Prep Date:</b> 10/28/2024	<b>RunNo:</b> 311954
		<b>BatchID:</b> 261369	<b>Analysis Date:</b> 10/28/2024	<b>SeqNo:</b> 8205181

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
2,4,5-T	< 0.5	µg/L	0.5									
2,4-D	< 0.5	µg/L	0.5									
Dinoseb	< 0.5	µg/L	0.5									
Silvex	< 0.5	µg/L	0.5									
Surr: 2,4-Dichlorophenyl acetic acid	10	µg/L	0	10		100.2%	70	130				

<b>SampleID:</b> G2410E62-001BMS	<b>SampType:</b> MS	<b>TestNo:</b> SM 6640 B-06	<b>Prep Date:</b> 10/28/2024	<b>RunNo:</b> 311954
		<b>BatchID:</b> 261369	<b>Analysis Date:</b> 10/28/2024	<b>SeqNo:</b> 8205198

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
2,4,5-T	0.038	mg/L	0.005	0.04		94.9%	70	130				
2,4-D	0.0416	mg/L	0.005	0.04		104.0%	70	130				
Dinoseb	0.0396	mg/L	0.005	0.04		99.0%	70	130				

Client: BUTTON GWINNETT LANDFILL

## Analytical QC Summary Report

WorkOrder: G2410E76

Project: BGwinnett 321S2

Silvex	0.0403	mg/L	0.005	0.04		100.9%	70	130				
Surr: 2,4-Dichlorophenyl acetic acid	0.0752	mg/L	0	0.08		94.0%	70	130				

<b>SampleID:</b> G2410E62-001BMSD	<b>SampType:</b> MSD	<b>TestNo:</b> SM 6640 B-06	<b>Prep Date:</b> 10/28/2024	<b>RunNo:</b> 311954
	<b>BatchID:</b> 261369		<b>Analysis Date:</b> 10/28/2024	<b>SeqNo:</b> 8205199

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
2,4,5-T	0.0376	mg/L	0.005						0.038		20	
2,4-D	0.0424	mg/L	0.005						0.0416	1.9%	20	
Dinoseb	0.0393	mg/L	0.005						0.0396		20	
Silvex	0.04	mg/L	0.005						0.0403	0.8%	20	
Surr: 2,4-Dichlorophenyl acetic acid	0.0755	mg/L	0	0.08		94.4%	70	130	0.0752		20	

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E76  
Project: BGwinnett 321S2

## Analytical QC Summary Report

Prep Batch: 261309			Prep Start Date: 10/25/2024 7:58:27 AM					Technician: Kenneth J. Ward		
Prep Code: PREP_8011			Prep End Date: 10/25/2024 12:43:02 PM					Prep Factor Units: MI		
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End	
G2410E76-001B	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	35	35		1.000	10/25/2024 7:58:28 AM	10/25/2024 12:43:02 PM	
G2410E76-002B	GWC-11	Groundwater	10/23/2024 9:31:00 AM	35	35		1.000	10/25/2024 7:58:28 AM	10/25/2024 12:43:02 PM	
G2410E76-003A	TB-3	Aqueous	10/23/2024 12:00:01 AM	35	35		1.000	10/25/2024 7:58:28 AM	10/25/2024 12:43:02 PM	
LCS-261309		Aqueous	10/25/2024 12:00:00 AM	35	35		1.000	10/25/2024 7:58:28 AM	10/25/2024 12:43:02 PM	
MBLK-261309		Aqueous	10/25/2024 12:00:00 AM	35	35		1.000	10/25/2024 7:58:28 AM	10/25/2024 12:43:02 PM	
G2410E70-001D	MW-3	Groundwater	10/23/2024 2:48:00 PM	35	35		1.000	10/25/2024 7:58:28 AM	10/25/2024 12:43:02 PM	
G2410E70-002D	MW-24	Groundwater	10/23/2024 1:40:00 PM	35	35		1.000	10/25/2024 7:58:28 AM	10/25/2024 12:43:02 PM	
G2410E70-002DMS		Aqueous	10/25/2024 12:00:00 AM	35	35		1.000	10/25/2024 7:58:28 AM	10/25/2024 12:43:02 PM	
G2410E70-002DMSD		Aqueous	10/25/2024 12:00:00 AM	35	35		1.000	10/25/2024 7:58:28 AM	10/25/2024 12:43:02 PM	
G2410E70-003D	MW-27	Groundwater	10/23/2024 3:53:00 PM	35	35		1.000	10/25/2024 7:58:28 AM	10/25/2024 12:43:02 PM	
G2410E78-001B	Active LF Leachate	Aqueous	10/22/2024 8:00:00 PM	35	35		1.000	10/25/2024 7:58:28 AM	10/25/2024 12:43:02 PM	
G2410E78-002A	8011 Trip Blank	Aqueous	10/24/2024 12:58:00 PM	35	35		1.000	10/25/2024 7:58:28 AM	10/25/2024 12:43:02 PM	
G2410E79-001B	Closed Comp	Aqueous	10/22/2024 7:20:00 PM	35	35		1.000	10/25/2024 7:58:28 AM	10/25/2024 12:43:02 PM	
G2410E79-002A	8011 Trip Blank	Aqueous	10/22/2024 7:20:00 PM	35	35		1.000	10/25/2024 7:58:28 AM	10/25/2024 12:43:02 PM	
Prep Batch: 261312			Prep Start Date: 10/25/2024 7:30:00 AM					Technician: Lindsey R. Rummel		
Prep Code: ORPR_PCB_SPE			Prep End Date: 10/25/2024 12:33:37 PM					Prep Factor Units: MI		
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End	
G2410412-008A	1221 1254 GC8 MDL 2	Groundwater	10/7/2024 5:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:33:37 PM	
G2410412-010A	1232 GC5 MDL 2	Groundwater	10/7/2024 5:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:33:37 PM	
G2410412-012A	1232 GC8 MDL 2	Groundwater	10/7/2024 5:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:33:37 PM	
G2410412-014A	1242 GC5 MDL 2	Groundwater	10/7/2024 5:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:33:37 PM	
G2410412-016A	1242 GC8 MDL 2	Groundwater	10/7/2024 5:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:33:37 PM	
G2410412-018A	1248 GC5 MDL 2	Groundwater	10/7/2024 5:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:33:37 PM	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

G2410E76-001F	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	990	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:33:37 PM
G2410E76-002F	GWC-11	Groundwater	10/23/2024 9:31:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:33:37 PM
G2410E76-002FMS		Aqueous	10/25/2024 12:00:00 AM	990	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:33:37 PM
G2410E76-002FMSD		Aqueous	10/25/2024 12:00:00 AM	990	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:33:37 PM
G2410E78-001D	Active LF Leachate	Waste Water	10/22/2024 8:00:00 PM	990	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:33:37 PM
LCS-261312		Aqueous	10/25/2024 12:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:33:37 PM
MBLK-261312		Aqueous	10/25/2024 12:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:33:37 PM
G2410412-002A	1016 1260 GC5 MDL-2	Groundwater	10/7/2024 5:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:33:37 PM
G2410412-004A	1016 1260 GC8 MDL 2	Groundwater	10/7/2024 5:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:33:37 PM
G2410412-006A	1221 1254 GC5 MDL 2	Groundwater	10/7/2024 5:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:33:37 PM
G2410412-020A	1248 GC8 MDL 2	Groundwater	10/7/2024 5:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:33:37 PM

**Prep Batch:** 261313**Prep Code:** ORPR\_PEST\_SPE**Prep Batch Report****Prep Start Date:** 10/25/2024 7:30:00 AM**Prep End Date:** 10/25/2024 12:34:26 PM**Technician:** Lindsey R. Rummel**Prep Factor Units:** mL

Sample ID	Client SampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
CHLOR LCS-261313		Aqueous	10/25/2024 12:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:34:26 PM
CHLOR LCSD-261313		Aqueous	10/25/2024 12:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:34:26 PM
G2410E76-001F	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	990	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:34:26 PM
G2410E76-001FMS		Aqueous	10/25/2024 12:00:00 AM	990	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:34:26 PM
G2410E76-001FMSD		Aqueous	10/25/2024 12:00:00 AM	990	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:34:26 PM
G2410E76-002F	GWC-11	Groundwater	10/23/2024 9:31:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:34:26 PM
LCS-261313		Aqueous	10/25/2024 12:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:34:26 PM
MBLK-261313		Aqueous	10/25/2024 12:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:34:26 PM
TOX LCS-261313		Aqueous	10/25/2024 12:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:34:26 PM
TOX LCSD-261313		Aqueous	10/25/2024 12:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:34:26 PM
G2410407-002A	PEST SPE MDL 2	Groundwater	10/7/2024 5:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:34:26 PM
G2410407-004A	CHLOR SPE MDL 2	Groundwater	10/7/2024 5:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:34:26 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

G2410407-006A	TOX SPE MDL 2	Groundwater	10/7/2024 5:00:00 AM	1000	10		0.010	10/25/2024 7:30:00 AM	10/25/2024 12:34:26 PM
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Prep Batch: 261332 Prep Code: MEPR6010_3010			Prep Batch Report Prep Start Date: 10/25/2024 9:30:00 AM Prep End Date: 10/25/2024 3:15:00 PM					Technician: Kristy L Botteicher Prep Factor Units: mL		
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Sample ID	Client SampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410E70-001F	MW-3	Groundwater	10/23/2024 2:48:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E70-002F	MW-24	Groundwater	10/23/2024 1:40:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E70-003F	MW-27	Groundwater	10/23/2024 3:53:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E76-001K	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E76-002K	GWC-11	Groundwater	10/23/2024 9:31:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E81-001D	GWC-1AR	Groundwater	10/23/2024 8:40:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E68-005F	MW-18	Groundwater	10/23/2024 11:22:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E68-005FDUP		Aqueous	10/25/2024 12:00:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E68-005FMS		Aqueous	10/25/2024 12:00:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E68-006F	MW-21R	Groundwater	10/23/2024 11:15:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E68-007F	MW-23R	Groundwater	10/23/2024 12:40:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E81-002D	GWB-3	Groundwater	10/23/2024 11:30:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E81-003D	GWB-2	Groundwater	10/23/2024 9:11:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E81-004D	GWC-7AR	Groundwater	10/23/2024 12:50:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
LCS1-261332		Aqueous	10/25/2024 12:00:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
PB-261332		Aqueous	10/25/2024 12:00:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM

Prep Batch: 261334 Prep Code: MEPR6020_3010			Prep Batch Report Prep Start Date: 10/25/2024 9:30:00 AM Prep End Date: 10/25/2024 3:15:00 PM					Technician: Kristy L Botteicher Prep Factor Units:		
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Sample ID	Client SampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410E68-005F	MW-18	Groundwater	10/23/2024 11:22:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E68-005FDUP			10/25/2024 12:00:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E68-006F	MW-21R	Groundwater	10/23/2024 11:15:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

G2410E68-007F	MW-23R	Groundwater	10/23/2024 12:40:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E70-001F	MW-3	Groundwater	10/23/2024 2:48:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E70-002F	MW-24	Groundwater	10/23/2024 1:40:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E70-002FMS			10/25/2024 12:00:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E70-003F	MW-27	Groundwater	10/23/2024 3:53:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E76-001K	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E76-002K	GWC-11	Groundwater	10/23/2024 9:31:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E81-001D	GWC-1AR	Groundwater	10/23/2024 8:40:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E81-002D	GWB-3	Groundwater	10/23/2024 11:30:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E81-003D	GWB-2	Groundwater	10/23/2024 9:11:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E81-004D	GWC-7AR	Groundwater	10/23/2024 12:50:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E81-004DMS			10/25/2024 12:00:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
LCS2-261334			10/25/2024 12:00:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
PB-261334			10/25/2024 12:00:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM

Prep Batch: 261367

Prep Code: HG\_7470\_PREP

## Prep Batch Report

Prep Start Date: 10/28/2024 9:00:00 AM

Prep End Date: 10/28/2024 11:00:00 AM

Technician: Kristy L Botteicher

Prep Factor Units: mL

Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410E76-001K	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	25	25		1.000	10/28/2024 9:00:00 AM	10/28/2024 11:00:00 AM
G2410E76-001KMS		Aqueous	10/28/2024 12:00:00 AM	25	25		1.000	10/28/2024 9:00:00 AM	10/28/2024 11:00:00 AM
G2410E76-002K	GWC-11	Groundwater	10/23/2024 9:31:00 AM	25	25		1.000	10/28/2024 9:00:00 AM	10/28/2024 11:00:00 AM
LCS-261367		Aqueous	10/28/2024 12:00:00 AM	25	25		1.000	10/28/2024 9:00:00 AM	10/28/2024 11:00:00 AM
PB-261367		Aqueous	10/28/2024 12:00:00 AM	25	25		1.000	10/28/2024 9:00:00 AM	10/28/2024 11:00:00 AM
G2410E47-001D	GWB-15	Groundwater	10/22/2024 9:10:00 AM	25	25		1.000	10/28/2024 9:00:00 AM	10/28/2024 11:00:00 AM
G2410E47-002D	GWC-101RR	Groundwater	10/21/2024 3:13:00 PM	25	25		1.000	10/28/2024 9:00:00 AM	10/28/2024 11:00:00 AM
G2410F44-001F	SWA-4	Surface Water	10/23/2024 11:45:00 AM	25	25		1.000	10/28/2024 9:00:00 AM	10/28/2024 11:00:00 AM
G2410F44-002F	SWA-1	Surface Water	10/23/2024 12:45:00 PM	25	25		1.000	10/28/2024 9:00:00 AM	10/28/2024 11:00:00 AM
G2410F44-003F	SWA-3	Surface Water	10/23/2024 1:10:00 PM	25	25		1.000	10/28/2024 9:00:00 AM	10/28/2024 11:00:00 AM
G2410F44-004F	TSW-2(G)	Surface Water	10/23/2024 2:00:00 PM	25	25		1.000	10/28/2024 9:00:00 AM	10/28/2024 11:00:00 AM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

G2410F44-005F	SWC-2	Surface Water	10/23/2024 2:45:00 PM	25	25		1.000	10/28/2024 9:00:00 AM	10/28/2024 11:00:00 AM
G2410F44-006F	SWC-3	Surface Water	10/23/2024 2:15:00 PM	25	25		1.000	10/28/2024 9:00:00 AM	10/28/2024 11:00:00 AM
G2410F44-007F	SWC-7	Surface Water	10/23/2024 1:45:00 PM	25	25		1.000	10/28/2024 9:00:00 AM	10/28/2024 11:00:00 AM

Prep Batch: 261369			Prep Batch Report					Technician: Lindsey R. Rummel		
Prep Code: ORPR_HERB_SM			Prep Start Date: 10/28/2024 7:30:00 AM				Prep Factor Units: mL			
Sample ID	Client Samp ID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End	
G2410E76-001C	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	40	40		1.000	10/28/2024 7:30:00 AM	10/28/2024 3:36:53 PM	
G2410E76-002C	GWC-11	Groundwater	10/23/2024 9:31:00 AM	40	40		1.000	10/28/2024 7:30:00 AM	10/28/2024 3:36:53 PM	
G2410E98-001G	Untreated Leachate	Leachate	10/24/2024 11:45:00 AM	4	40	D4	10.000	10/28/2024 7:30:00 AM	10/28/2024 3:36:53 PM	
ICV-261369		Aqueous	10/28/2024 12:00:00 AM	40	40		1.000	10/28/2024 7:30:00 AM	10/28/2024 3:36:53 PM	
LCS-261369		Aqueous	10/28/2024 12:00:00 AM	40	40		1.000	10/28/2024 7:30:00 AM	10/28/2024 3:36:53 PM	
MBLK-261369		Aqueous	10/28/2024 12:00:00 AM	40	40		1.000	10/28/2024 7:30:00 AM	10/28/2024 3:36:53 PM	
STD 1-261369		Aqueous	10/28/2024 12:00:00 AM	40	40		1.000	10/28/2024 7:30:00 AM	10/28/2024 3:36:53 PM	
STD 2-261369		Aqueous	10/28/2024 12:00:00 AM	40	40		1.000	10/28/2024 7:30:00 AM	10/28/2024 3:36:53 PM	
STD 3-261369		Aqueous	10/28/2024 12:00:00 AM	40	40		1.000	10/28/2024 7:30:00 AM	10/28/2024 3:36:53 PM	
STD 4-261369		Aqueous	10/28/2024 12:00:00 AM	40	40		1.000	10/28/2024 7:30:00 AM	10/28/2024 3:36:53 PM	
STD 5-261369		Aqueous	10/28/2024 12:00:00 AM	40	40		1.000	10/28/2024 7:30:00 AM	10/28/2024 3:36:53 PM	
STD 6-261369		Aqueous	10/28/2024 12:00:00 AM	40	40		1.000	10/28/2024 7:30:00 AM	10/28/2024 3:36:53 PM	
G2410B73-001A	24J1876-02	Aqueous	10/16/2024 3:30:00 PM	4	40		10.000	10/28/2024 7:30:00 AM	10/28/2024 3:36:53 PM	
G2410C14-001A	TCLP Blank RSWC-9 -55-3	Solid	10/20/2024 9:00:00 AM	4	40		10.000	10/28/2024 7:30:00 AM	10/28/2024 3:36:53 PM	
G2410C52-001C	Attachment 15	Leachate	10/21/2024 1:00:00 PM	4	40		10.000	10/28/2024 7:30:00 AM	10/28/2024 3:36:53 PM	
G2410E62-001B	Sludge	Sludge	10/23/2024 11:45:00 AM	4	40		10.000	10/28/2024 7:30:00 AM	10/28/2024 3:36:53 PM	
G2410E62-001BMS		Aqueous	10/28/2024 12:00:00 AM	4	40		10.000	10/28/2024 7:30:00 AM	10/28/2024 3:36:53 PM	
G2410E62-001BMSD		Aqueous	10/28/2024 12:00:00 AM	4	40		10.000	10/28/2024 7:30:00 AM	10/28/2024 3:36:53 PM	

Prep Batch: 261389			Prep Batch Report					Technician: Laykin A. Pritts		
Prep Code: WATERPR_TDS			Prep Start Date: 10/28/2024 11:20:00 AM				Prep Factor Units: mL			

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
Blank-261389			10/28/2024 12:00:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-002A	MW-13R	Groundwater	10/23/2024 2:40:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-002ADUP			10/28/2024 12:00:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-005A	MW-18	Groundwater	10/23/2024 11:22:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-006A	MW-21R	Groundwater	10/23/2024 11:15:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-007A	MW-23R	Groundwater	10/23/2024 12:40:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-008A	Field Blank 2	Groundwater	10/23/2024 4:24:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E70-001A	MW-3	Groundwater	10/23/2024 2:48:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E70-002A	MW-24	Groundwater	10/23/2024 1:40:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E70-003A	MW-27	Groundwater	10/23/2024 3:53:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E76-001I	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E76-001IDUP			10/28/2024 12:00:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E76-002I	GWC-11	Groundwater	10/23/2024 9:31:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E81-001C	GWC-1AR	Groundwater	10/23/2024 8:40:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E81-002C	GWB-3	Groundwater	10/23/2024 11:30:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E81-003C	GWB-2	Groundwater	10/23/2024 9:11:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E81-004C	GWC-7AR	Groundwater	10/23/2024 12:50:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410F42-001A	SHC-14	Surface Water	10/23/2024 12:00:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
LCS-261389			10/28/2024 12:00:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-003A	MW-14	Groundwater	10/23/2024 1:33:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-004A	MW-15	Groundwater	10/23/2024 12:27:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E84-001C	GWA-2A	Groundwater	10/23/2024 10:40:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410F40-001A	LMP-1	Leachate	10/23/2024 3:05:00 PM	10	50		5.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM

Prep Batch: 261404

Prep Code: SVOA\_EXTRACTION

## Prep Batch Report

Prep Start Date: 10/28/2024 7:00:00 AM

Prep End Date: 10/31/2024 1:01:12 PM

Technician: Lindsey R. Rummel

Prep Factor Units: mL

Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
APP II APSDOC-261404		Aqueous	10/28/2024 12:00:00 AM	1000	1		0.001	10/28/2024 7:00:00 AM	10/31/2024 1:01:12 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

APP II APSDOC2-261404		Aqueous	10/28/2024 12:00:00 AM	1000	1	0.001	10/28/2024 7:00:00 AM	10/31/2024 1:01:12 PM
APP II APSDOC3-261404		Aqueous	10/28/2024 12:00:00 AM	1000	1	0.001	10/28/2024 7:00:00 AM	10/31/2024 1:01:12 PM
APP II APSDOC4-261404		Aqueous	10/28/2024 12:00:00 AM	1000	1	0.001	10/28/2024 7:00:00 AM	10/31/2024 1:01:12 PM
APP II- 261404		Aqueous	10/28/2024 12:00:00 AM	1000	1	0.001	10/28/2024 7:00:00 AM	10/31/2024 1:01:12 PM
G2410E76-001G	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	1010	1	0.001	10/28/2024 7:00:00 AM	10/31/2024 1:01:12 PM
G2410E76-002G	GWC-11	Groundwater	10/23/2024 9:31:00 AM	1000	1	0.001	10/28/2024 7:00:00 AM	10/31/2024 1:01:12 PM
LCS APSDOC-261404		Aqueous	10/28/2024 12:00:00 AM	1000	1	0.001	10/28/2024 7:00:00 AM	10/31/2024 1:01:12 PM
LCSD APSDOC-261404		Aqueous	10/28/2024 12:00:00 AM	1000	1	0.001	10/28/2024 7:00:00 AM	10/31/2024 1:01:12 PM
MBLK-261404		Aqueous	10/28/2024 12:00:00 AM	1000	1	0.001	10/28/2024 7:00:00 AM	10/31/2024 1:01:12 PM

**Prep Batch:** 261409  
**Prep Code:** INPR\_IC

**Prep Batch Report**  
**Prep Start Date:** 10/28/2024 2:54:00 PM  
**Prep End Date:** 10/28/2024 2:54:00 PM

**Technician:** Adam C. Brown  
**Prep Factor Units:** mL

Sample ID	Client Samp ID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
CB-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
G2410E73-007B	MW-27D	Groundwater	10/22/2024 2:08:00 PM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E73-007BDUP		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E73-007BLFM		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-001B	MW-36D	Groundwater	10/22/2024 1:51:00 PM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-002B	MW-38D	Groundwater	10/22/2024 8:10:00 AM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-003B	MW-39D	Groundwater	10/22/2024 4:46:00 PM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-004B	MW-40D	Groundwater	10/22/2024 5:50:00 PM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E76-001D	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E76-002D	GWC-11	Groundwater	10/23/2024 9:31:00 AM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E78-001C	Active LF Leachate	Waste Water	10/22/2024 8:00:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E79-001C	Closed Comp	Waste Water	10/22/2024 7:20:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-001B	GWC-1AR	Groundwater	10/23/2024 8:40:00 AM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-001BDUP		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

G2410E81-001BLFM		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-002B	GWB-3	Groundwater	10/23/2024 11:30:00 AM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-003B	GWB-2	Groundwater	10/23/2024 9:11:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-004B	GWC-7AR	Groundwater	10/23/2024 12:50:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-005C	GWB-1	Groundwater	10/23/2024 1:30:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E84-001B	GWA-2A	Groundwater	10/23/2024 10:40:00 AM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
HRQC 1000-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
HRQC-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
IPC-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
LFB-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
LFB2-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
LRB-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
QCS-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
G2410E75-005B	MW-40DR	Groundwater	10/22/2024 5:24:00 PM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-006B	MW-41D	Groundwater	10/22/2024 6:25:00 PM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-007B	Dup 1	Groundwater	10/22/2024 12:00:00 AM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E92-001B	Gray Lagoon 001	Aqueous	10/23/2024 4:30:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E92-002B	Spruce Run 001	Surface Water	10/23/2024 4:30:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM

Prep Batch: 261430

Prep Code: INPR\_SULFIDE

## Prep Batch Report

Prep Start Date: 10/29/2024 4:34:00 PM

Prep End Date: 10/29/2024 4:40:00 PM

Technician: Brandon L. Bash

Prep Factor Units: mL

Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
Blank-261430		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM
CCV-261430		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM
G2410C25-008A	MDL 2024 Q4 Part 2A 8	MDL	10/21/2024 7:00:00 AM	100	100	H	1.000	10/29/2024 9:30:00 AM	10/29/2024 9:50:00 AM
G2410E38-002F	001 Inf Comp	Waste Water	10/23/2024 12:10:00 PM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM
G2410E48-002F	001 Comp Day 1	Waste Water	10/23/2024 12:30:00 PM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM
G2410E75-001C	MW-36D	Groundwater	10/22/2024 1:51:00 PM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

G2410E75-004C	MW-40D	Groundwater	10/22/2024 5:50:00 PM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM
G2410E75-005C	MW-40DR	Groundwater	10/22/2024 5:24:00 PM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM
G2410E75-007C	Dup 1	Groundwater	10/22/2024 12:00:00 AM	100	100	H	1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM
G2410E75-007CLFM		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM
G2410E75-007CLFMD		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM
G2410E76-001H	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	100	100		1.000	10/29/2024 9:30:00 AM	10/29/2024 9:50:00 AM
G2410E76-002H	GWC-11	Groundwater	10/23/2024 9:31:00 AM	100	100		1.000	10/29/2024 9:30:00 AM	10/29/2024 9:50:00 AM
G2410E98-001N	Untreated Leachate	Leachate	10/24/2024 11:45:00 AM	100	100		1.000	10/29/2024 9:30:00 AM	10/29/2024 9:50:00 AM
G2410E98-001NLFM		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 9:30:00 AM	10/29/2024 9:50:00 AM
G2410E98-001NLFMD		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 9:30:00 AM	10/29/2024 9:50:00 AM
LCS-261430		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM
LOQ-261430		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM
G2410E41-002F	003 Comp Day 1	Waste Water	10/23/2024 12:36:00 PM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM
G2410E53-002F	004 Comp Day 1	Waste Water	10/23/2024 1:00:00 PM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM
G2410E55-002F	002 Comp Day 1	Waste Water	10/23/2024 1:25:00 PM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM
G2410E73-005C	MW-20D	Groundwater	10/22/2024 1:25:00 PM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM
G2410G47-001H	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	100	100		1.000	10/29/2024 1:50:00 PM	10/29/2024 1:59:00 PM
G2410G74-001N	NPDES Program	Leachate	10/29/2024 2:00:00 PM	100	100		1.000	10/29/2024 4:34:00 PM	10/29/2024 4:40:00 PM

Prep Batch: 261438

Prep Code: INPR\_NO3

## Prep Batch Report

Prep Start Date: 10/28/2024 6:53:00 PM

Prep End Date: 10/28/2024 7:27:00 PM

Technician: Holly N. Montgomery

Prep Factor Units: mL

Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410E65-002A	Effluent Comp	Waste Water	10/23/2024 12:20:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E73-005A	MW-20D	Groundwater	10/22/2024 1:25:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E75-001A	MW-36D	Groundwater	10/22/2024 1:51:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E75-004A	MW-40D	Groundwater	10/22/2024 5:50:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E75-005A	MW-40DR	Groundwater	10/22/2024 5:24:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E75-007A	Dup 1	Groundwater	10/22/2024 12:00:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E75-007ADUP		Groundwater	10/29/2024 12:00:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

G2410E75-007AMS		Groundwater	10/29/2024 12:00:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E76-001E	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E76-002E	GWC-11	Groundwater	10/23/2024 9:31:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E78-001A	Active LF Leachate	Waste Water	10/22/2024 8:00:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E79-001A	Closed Comp	Waste Water	10/22/2024 7:20:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E84-001A	GWA-2A	Groundwater	10/23/2024 10:40:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E98-001B	Untreated Leachate	Leachate	10/24/2024 11:45:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
LCS-261438		Aqueous	10/29/2024 12:00:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
MBLK-261438		Aqueous	10/29/2024 12:00:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410D82-003B	F-Dup2	Groundwater	10/22/2024 1:30:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410D82-004B	MW-4RR	Groundwater	10/22/2024 12:36:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410D82-005B	MW-11B	Groundwater	10/22/2024 10:02:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410D82-006B	MW-11A	Groundwater	10/22/2024 9:11:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410D82-006BDUP		Groundwater	10/29/2024 12:00:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410D82-006BMS		Groundwater	10/29/2024 12:00:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E60-001A	Cell 4 Secondary	Groundwater	10/23/2024 7:24:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410F18-001B	Leachate Comp	Leachate	10/24/2024 12:30:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E76  
Project: BGwinnett 321S2

## Analytical QC Summary Report

### Batch Reference Report

Client Samp ID	Test No	Batch ID
GWA-1A	ASTM D1067-16	R311875
GWC-11	ASTM D1067-16	R311875
GWA-1A	ASTM D7511-17	R311963
GWC-11	ASTM D7511-17	R311963
GWA-1A	EPA 300.0 Rev 2.1	261409
GWC-11	EPA 300.0 Rev 2.1	261409
GWA-1A	EPA 350.1 Rev 2.0	R312010
GWC-11	EPA 350.1 Rev 2.0	R312010
GWA-1A	EPA 353.2 Rev 2.0	261438
GWC-11	EPA 353.2 Rev 2.0	261438
GWA-1A	EPA 6010 D	261332
GWC-11	EPA 6010 D	261332
GWA-1A	EPA 6020 B	261334
GWC-11	EPA 6020 B	261334
GWA-1A	EPA 7470A	261367
GWC-11	EPA 7470A	261367
GWA-1A	EPA 8011	261309
GWC-11	EPA 8011	261309
TB-3	EPA 8011	261309
GWA-1A	EPA 8081 B	261313
GWC-11	EPA 8081 B	261313
GWA-1A	EPA 8082 A	261312
GWC-11	EPA 8082 A	261312
GWA-1A	EPA 8260 D	R311937

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

GWA-1A	EPA 8260 D	R312022
GWC-11	EPA 8260 D	R311937
GWC-11	EPA 8260 D	R312022
TB-3	EPA 8260 D	R312000
TB-3	EPA 8260 D	R312022
GWA-1A	EPA 8270 E	261404
GWC-11	EPA 8270 E	261404
GWA-1A	SM 2540 C-15	261389
GWC-11	SM 2540 C-15	261389
GWA-1A	SM 4500-S2- D-11	261430
GWC-11	SM 4500-S2- D-11	261430
GWA-1A	SM 5310 C-14	R312027
GWC-11	SM 5310 C-14	R312027
GWA-1A	SM 6640 B-06	261369
GWC-11	SM 6640 B-06	261369

**Table I ON Qualifiers**

Qualifier	Description
<b>1</b>	Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.
<b>B</b>	Analyte detected in the associated method Blank.
<b>B1</b>	Dilution water blank exceeded method criterion.
<b>C1</b>	CCV recovery above the acceptance limits. Results may be biased high.
<b>C2</b>	CCV recovery below the acceptance limits. Results may be biased low.
<b>C3</b>	ICV recovery above the acceptance limits. Results may be biased high.
<b>C4</b>	ICV recovery below the acceptance limits. Results may be biased low.
<b>C5</b>	Positive values verified by second column confirmation.
<b>C6</b>	Confirmation analysis by another detector or chromatographic column was not performed.
<b>D1</b>	The analysis did not meet the minimum DO depletion of at least 2 mg/L.
<b>D2</b>	The analysis did not meet the minimum residual DO of at least 1 mg/L.
<b>D3</b>	Sample required dilution due to a matrix interference.
<b>D4</b>	Sample was diluted in the extraction steps due to marked matrix interferences.
<b>D5</b>	Sample required dilution due to a chloride interference.
<b>D6</b>	Sample was diluted and the reporting limits were raised to achieve method compliant internal standard recovery.
<b>D7</b>	Sample was digested at a dilution due to the formation of a post-digestion precipitate.
<b>D8</b>	Sample was digested at a dilution to achieve method compliant matrix spike recovery.
<b>D9</b>	Sample was digested at a dilution to meet method compliant digestion criteria.
<b>E</b>	Value above quantitation range.
<b>E2</b>	Unable to obtain a stable weight within specified limits due to sample matrix. Value is estimated.
<b>F1</b>	Fecal sample tested positive for residual chlorine.
<b>H</b>	Method Hold Time exceeded and is not compliant with 40CFR136 Table II.
<b>H1</b>	Due to under-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.
<b>H2</b>	Due to over-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.
<b>H3</b>	Sample was re-analyzed outside of hold time due to error during original analysis.
<b>H4</b>	The Nitrite result used to report Nitrate was analyzed past the 48-hour holding time.
<b>I1</b>	Internal standard recovery above method acceptance limits. Results are estimated.
<b>I2</b>	Internal standard recovery was below method acceptance limits. Results are estimated.
<b>IP</b>	One of the instrument performance checks ( ) did not meet the acceptance criteria.
<b>J</b>	Indicates an estimated value.

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

<b>L1</b>	LCS above the acceptance limits. Result may be biased high.
<b>L2</b>	LCS below the acceptance limits. Result may be biased low.
<b>L3</b>	Analyte was spiked into the LCS, but was not recovered.
<b>M1</b>	Matrix Spike recovery above the acceptance limits.
<b>M2</b>	Matrix Spike recovery below the acceptance limits.
<b>M4</b>	The matrix spike failed high for the surrogate.
<b>M5</b>	The matrix spike failed low for the surrogate.
<b>M6</b>	The reporting limits were raised due to sample matrix interference.
<b>M7</b>	Recovery for matrix spike could not be quantified due to matrix interference.
<b>M8</b>	Analyte was spiked into the MS, but was not recovered.
<b>M9</b>	Analyte concentration was determined by the method of standard addition (MSA).
<b>N1</b>	The lab does not hold accreditation from PA-DEP for this parameter by this method
<b>N2</b>	PADEP does not accredit labs for this analyte by this method.
<b>N3</b>	The lab is accredited for this method in West Virginia, but not in PA (its primary accrediting body).
<b>N4</b>	PADEP does not accredit labs for this analyte by this method in drinking water.
<b>ND</b>	Not Detected.
<b>O1</b>	The flashpoint tester cannot detect below 50 degrees F.
<b>O2</b>	Result is temperature of the sample when flame observed. No flash observed. Result qualified.
<b>O3</b>	The reporting limits were raised due to the high concentration of non-target compounds.
<b>O4</b>	Sample was received with headspace.
<b>O5</b>	Sample was received in incorrect container and is not compliant with 40CFR136 Table II.
<b>O6</b>	Insufficient sample volume was received to comply with the method.
<b>P1</b>	The pH of the sample was >2 and is not compliant with 40CFR136 Table II.
<b>P2</b>	Sample contained residual chlorine and is not compliant with 40CFR136 Table II
<b>P3</b>	The pH of the sample was <10 and is not compliant with 40CFR136 Table II.
<b>P4</b>	Field preservation does not meet EPA or method recommendations for this analysis.
<b>P5</b>	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.
<b>P6</b>	Sample required additional preservative upon receipt.
<b>P7</b>	The sample was received unpreserved.
<b>P8</b>	The pH of the sample was < 9 and is not compliant with 40 CFR136 Table II.
<b>Q1</b>	Qualified Data See Case Narrative.
<b>R</b>	Relative Percent Difference (RPD) was above the control limit.
<b>R1</b>	RPD above control limits between matrix spike and MS duplicates.

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E76

Project: BGwinnett 321S2

## Analytical QC Summary Report

R2	RPD above the control limit between duplicates.
R3	RSD above the control limit between replicates.
R4	RPD above control limits between Inorganic Carbon check and spike.
R5	RPD above control limits between control sample and control sample duplicates.
S	Recovery for the spiked control sample outside accepted limits.
S2	Surrogate recovery in the blank was below the control limit.
S3	Surrogate recovery in the blank was above the control limit.
S4	Surrogate recovery in the LCS is above the control limit.
S5	Surrogate recovery in the LCS is below the control limit.
SR	Analyte recovery was outside the accepted recovery limits and above the control limit for RPD.
T	Sample temperature received outside the regulatory limit and is not compliant with 40CFR Part136 Table II (for NPW samples).
T1	Sample temperature received outside the regulatory limit. (Primarily for SCM samples).
T3	Target analyte found in trip/field blank.
TC	The MS tune check (tailing factor) did not meet the acceptance criteria.
U	The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.

**Note 1:** Other comments to clarify test results may be used. Examples include MCL (Contaminant Limit), and MDA (minimum detectable activity). The Q1 code requires additional qualifier information be described in the Case Narrative.

**Note 2:** NA is used in the Laboratory QC report as "Not Applicable."



Quality Assurance Project Report  
Prepared for  
BUTTON GWINNETT LANDFILL  
11/13/2024

David M. Glessner  
Quality Assurance Coordinator

### **Explanatory Notes**

1. Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.
2. Matrix Spike and MS Duplicates are sample specific controls and are not used to evaluate the analytical batch.
3. Laboratory duplicate. If one or both of the values is less than 5 times the PQL, the allowed difference is +/- the PQL.
4. "R" indicates a relative percent difference (RPD) was above the acceptance limit between duplicate QC samples or sample specific duplicates.

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E81  
Project: BGwinnett 221S(a)

## Analytical QC Summary Report

SampleID: G2410E02-001ADUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311875	
		BatchID: R311875				Analysis Date: 10/25/2024				SeqNo: 8202972			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Alkalinity to pH 4.5	78	mg/L CaCO <sub>3</sub>	10						77	1.3%	20		
SampleID: G2410E36-001ADUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311875	
		BatchID: R311875				Analysis Date: 10/25/2024				SeqNo: 8202998			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Alkalinity to pH 4.5	121	mg/L CaCO <sub>3</sub>	10						122	0.8%	20		
SampleID: G2410E37-004ADUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311875	
		BatchID: R311875				Analysis Date: 10/25/2024				SeqNo: 8203035			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Alkalinity to pH 4.5	183	mg/L CaCO <sub>3</sub>	10						183		20		
SampleID: G2410F00-001ADUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311896	
		BatchID: R311896				Analysis Date: 10/25/2024				SeqNo: 8203689			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Alkalinity to pH 4.5	35	mg/L CaCO <sub>3</sub>	10						35		20		
SampleID: G2410E81-004CDUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311896	
		BatchID: R311896				Analysis Date: 10/25/2024				SeqNo: 8203743			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Alkalinity to pH 4.5	92	mg/L CaCO <sub>3</sub>	10						91	1.1%	20		
SampleID: G2410E99-002DDUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311896	
		BatchID: R311896				Analysis Date: 10/25/2024				SeqNo: 8203791			

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	395	mg/L CaCO3	10						391	1.0%	20	
<b>SampleID:</b> G2410E99-004DDUP			<b>SampType:</b> DUP		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>		<b>RunNo:</b> 311896		
					<b>BatchID:</b> R311896					<b>Analysis Date:</b> 10/25/2024		<b>SeqNo:</b> 8203833
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	1370	mg/L CaCO3	10						1360	0.7%	20	
<b>SampleID:</b> ALK LCS			<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>		<b>RunNo:</b> 311875		
					<b>BatchID:</b> R311875					<b>Analysis Date:</b> 10/25/2024		<b>SeqNo:</b> 8202964
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	47	mg/L CaCO3	10	47.5		98.9%	85	115				
<b>SampleID:</b> ALK LCS			<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>		<b>RunNo:</b> 311875		
					<b>BatchID:</b> R311875					<b>Analysis Date:</b> 10/25/2024		<b>SeqNo:</b> 8202989
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	46	mg/L CaCO3	10	47.5		96.8%	85	115				
<b>SampleID:</b> ALK LCS			<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>		<b>RunNo:</b> 311875		
					<b>BatchID:</b> R311875					<b>Analysis Date:</b> 10/25/2024		<b>SeqNo:</b> 8203027
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	49	mg/L CaCO3	10	47.5		103.2%	85	115				
<b>SampleID:</b> ALK LCS			<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>		<b>RunNo:</b> 311875		
					<b>BatchID:</b> R311875					<b>Analysis Date:</b> 10/25/2024		<b>SeqNo:</b> 8203061
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	49	mg/L CaCO3	10	47.5		103.2%	85	115				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

<b>SampleID:</b> ALK LCS		<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>			<b>RunNo:</b> 311896		
		<b>BatchID:</b> R311896						<b>Analysis Date:</b> 10/25/2024			<b>SeqNo:</b> 8203670	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	51	mg/L CaCO3	10	47.5		107.4%	85	115				
<b>SampleID:</b> ALK LCS		<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>			<b>RunNo:</b> 311896		
		<b>BatchID:</b> R311896						<b>Analysis Date:</b> 10/25/2024			<b>SeqNo:</b> 8203737	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	48	mg/L CaCO3	10	47.5		101.1%	85	115				
<b>SampleID:</b> ALK LCS		<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>			<b>RunNo:</b> 311896		
		<b>BatchID:</b> R311896						<b>Analysis Date:</b> 10/25/2024			<b>SeqNo:</b> 8203766	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	47	mg/L CaCO3	10	47.5		98.9%	85	115				
<b>SampleID:</b> ALK LCS		<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>			<b>RunNo:</b> 311896		
		<b>BatchID:</b> R311896						<b>Analysis Date:</b> 10/25/2024			<b>SeqNo:</b> 8203816	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	48	mg/L CaCO3	10	47.5		101.1%	85	115				
<b>SampleID:</b> ALK LCS		<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>			<b>RunNo:</b> 311896		
		<b>BatchID:</b> R311896						<b>Analysis Date:</b> 10/25/2024			<b>SeqNo:</b> 8203889	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	48	mg/L CaCO3	10	47.5		101.1%	85	115				
<b>SampleID:</b> G2410E73-007BDUP		<b>SampType:</b> DUP		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/28/2024			<b>RunNo:</b> 312108		
		<b>BatchID:</b> 261409						<b>Analysis Date:</b> 10/28/2024			<b>SeqNo:</b> 8209731	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	63.9	mg/L	1						64	0.1%	20	

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E81  
Project: BGwinnett 221S(a)

## Analytical QC Summary Report

SampleID: G2410E81-001BDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/28/2024		RunNo: 312108				
		BatchID: 261409				Analysis Date: 10/28/2024		SeqNo: 8209745				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	4.3	mg/L	1						4.31	0.2%	20	
SampleID: HRQC-261409		SampType: HRQC		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/28/2024		RunNo: 312108				
		BatchID: 261409				Analysis Date: 10/28/2024		SeqNo: 8209728				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	249	mg/L	1	250		99.4%	90	110				
SampleID: HRQC 1000-261409		SampType: HRQC 1000		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/28/2024		RunNo: 312108				
		BatchID: 261409				Analysis Date: 10/28/2024		SeqNo: 8209729				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	1010	mg/L	1	1000		100.7%	90	110				
SampleID: LFB-261409		SampType: LFB		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/28/2024		RunNo: 312108				
		BatchID: 261409				Analysis Date: 10/28/2024		SeqNo: 8209724				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	47.9	mg/L	1	50		95.8%	90	110				
SampleID: LFB2-261409		SampType: LFB2		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/28/2024		RunNo: 312108				
		BatchID: 261409				Analysis Date: 10/28/2024		SeqNo: 8209725				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	4.98	mg/L	1	5		99.6%	90	110				
SampleID: G2410E73-007BLFM		SampType: LFM		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/28/2024		RunNo: 312108				
		BatchID: 261409				Analysis Date: 10/28/2024		SeqNo: 8209732				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	79.4	mg/L	1	15	64	103.1%	80	120				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

SampleID: G2410E81-001BLFM		SampType: LFM		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/28/2024		RunNo: 312108	
		BatchID: 261409				Analysis Date: 10/28/2024		SeqNo: 8209746	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval
Chloride	21.4	mg/L	1	15	4.31	114.2%	80	120	RPD
SampleID: LRB-261409		SampType: LRB		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/28/2024		RunNo: 312108	
		BatchID: 261409				Analysis Date: 10/28/2024		SeqNo: 8209726	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval
Chloride	< 1	mg/L	1						RPD
SampleID: CB-261409		SampType: MBLK		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/28/2024		RunNo: 312108	
		BatchID: 261409				Analysis Date: 10/28/2024		SeqNo: 8209723	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval
Chloride	< 1	mg/L	1						RPD
SampleID: QCS-261409		SampType: QCS		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/28/2024		RunNo: 312108	
		BatchID: 261409				Analysis Date: 10/28/2024		SeqNo: 8209727	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval
Chloride	23.4	mg/L	1	24		97.3%	90	110	RPD
SampleID: G2410E81-001ADUP		SampType: DUP		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312011	
		BatchID: R312011				Analysis Date: 10/29/2024		SeqNo: 8207240	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval
Ammonia Nitrogen	0.362	mg/L as N	0.1						RPD
SampleID: G2410E96-001ADUP		SampType: DUP		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312011	
		BatchID: R312011				Analysis Date: 10/29/2024		SeqNo: 8207254	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval
Ammonia Nitrogen	< 0.1	mg/L as N	0.1						RPD

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E81  
Project: BGwinnett 221S(a)

## Analytical QC Summary Report

SampleID: G2410E75-001ADUP		SampType: DUP		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312031				
		BatchID: R312031				Analysis Date: 10/30/2024		SeqNo: 8208631				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	2.08	mg/L as N	0.2						2.1	1.1%	20	
SampleID: G2410F14-001BDUP		SampType: DUP		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312031				
		BatchID: R312031				Analysis Date: 10/30/2024		SeqNo: 8208650				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	< 0.1	mg/L as N	0.1						0.0637		20	
SampleID: LCS		SampType: LCS		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312011				
		BatchID: R312011				Analysis Date: 10/29/2024		SeqNo: 8207237				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	0.757	mg/L as N	0.1	0.82		92.4%	90	110				
SampleID: LCS		SampType: LCS		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312031				
		BatchID: R312031				Analysis Date: 10/30/2024		SeqNo: 8208629				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	0.845	mg/L as N	0.1	0.82		103.0%	90	110				
SampleID: CCB		SampType: MBLK		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312011				
		BatchID: R312011				Analysis Date: 10/29/2024		SeqNo: 8207235				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	< 0.1	mg/L as N	0.1									
SampleID: CCB		SampType: MBLK		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312031				
		BatchID: R312031				Analysis Date: 10/30/2024		SeqNo: 8208627				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	< 0.1	mg/L as N	0.1									

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E81  
Project: BGwinnett 221S(a)

## Analytical QC Summary Report

SampleID: G2410E81-001AMS		SampType: MS	TestNo: EPA 350.1 Rev 2.0			Prep Date:			RunNo: 312011			
		BatchID: R312011			Analysis Date: 10/29/2024			SeqNo: 8207241				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	1.31	mg/L as N	0.1	1	0.372	93.6%	90	110				
SampleID: G2410E96-001AMS		SampType: MS	TestNo: EPA 350.1 Rev 2.0			Prep Date:			RunNo: 312011			
		BatchID: R312011			Analysis Date: 10/29/2024			SeqNo: 8207255				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	0.898	mg/L as N	0.1	1		89.8%	89.5	110				
SampleID: G2410E75-001AMS		SampType: MS	TestNo: EPA 350.1 Rev 2.0			Prep Date:			RunNo: 312031			
		BatchID: R312031			Analysis Date: 10/30/2024			SeqNo: 8208632				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	4	mg/L as N	0.2	2	2.1	95.0%	90	110				
SampleID: G2410F14-001BMS		SampType: MS	TestNo: EPA 350.1 Rev 2.0			Prep Date:			RunNo: 312031			
		BatchID: R312031			Analysis Date: 10/30/2024			SeqNo: 8208651				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	1.16	mg/L as N	0.1	1	0.0637	109.9%	90	110				
SampleID: LCS1-261332		SampType: LCS1	TestNo: EPA 6010 D			Prep Date: 10/25/2024			RunNo: 311946			
		BatchID: 261332			Analysis Date: 10/28/2024			SeqNo: 8204881				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	1.06	mg/L	0.01	1		105.7%	79.5	120.4				
Beryllium	0.208	mg/L	0.001	0.2		103.8%	79.5	120.4				
Cadmium	0.427	mg/L	0.002	0.4		106.7%	79.5	120.4				
Chromium	1.04	mg/L	0.01	1		103.7%	79.5	120.4				
Cobalt	0.419	mg/L	0.005	0.4		104.8%	79.5	120.4				
Copper	1.05	mg/L	0.01	1		105.2%	79.5	120.4				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Nickel	1.05	mg/L	0.01	1		104.9%	79.5	120.4					
Vanadium	0.412	mg/L	0.005	0.4		103.1%	79.5	120.4					
Zinc	1.04	mg/L	0.01	1		104.3%	79.5	120.4					

<b>SampleID:</b> LCS1-261332	<b>SampType:</b> LCS1	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/25/2024	<b>RunNo:</b> 311984
		<b>BatchID:</b> 261332	<b>Analysis Date:</b> 10/29/2024	<b>SeqNo:</b> 8206267

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Silver	0.011	mg/L	0.005	0.01		110.0%	79.5	120.4					

<b>SampleID:</b> LCS1-261486	<b>SampType:</b> LCS1	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312171
		<b>BatchID:</b> 261486	<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8212002

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Barium	1.09	mg/L	0.01	1		109.2%	79.5	120.4					
Beryllium	0.213	mg/L	0.001	0.2		106.6%	79.5	120.4					
Cadmium	0.42	mg/L	0.002	0.4		104.9%	79.5	120.4					
Chromium	1.07	mg/L	0.01	1		107.3%	79.5	120.4					
Cobalt	0.431	mg/L	0.005	0.4		107.7%	79.5	120.4					
Copper	1.06	mg/L	0.01	1		106.0%	79.5	120.4					
Nickel	1.06	mg/L	0.01	1		105.8%	79.5	120.4					
Silver	0.0099	mg/L	0.005	0.01		99.0%	79.5	120.4					
Vanadium	0.418	mg/L	0.005	0.4		104.4%	79.5	120.4					
Zinc	1.04	mg/L	0.01	1		103.9%	79.5	120.4					

<b>SampleID:</b> PB-261332	<b>SampType:</b> PB	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/25/2024	<b>RunNo:</b> 311946
		<b>BatchID:</b> 261332	<b>Analysis Date:</b> 10/28/2024	<b>SeqNo:</b> 8204880

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Barium	< 0.01	mg/L	0.01										
Beryllium	< 0.001	mg/L	0.001										
Cadmium	< 0.002	mg/L	0.002										
Chromium	< 0.01	mg/L	0.01										
Cobalt	< 0.005	mg/L	0.005										

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Copper	< 0.01	mg/L	0.01										
Nickel	< 0.01	mg/L	0.01										
Vanadium	< 0.005	mg/L	0.005										
Zinc	< 0.01	mg/L	0.01										

<b>SampleID:</b> PB-261332	<b>SampType:</b> PB	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/25/2024	<b>RunNo:</b> 311984
	<b>BatchID:</b> 261332		<b>Analysis Date:</b> 10/29/2024	<b>SeqNo:</b> 8206264

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Silver	< 0.005	mg/L	0.005									

<b>SampleID:</b> PB-261486	<b>SampType:</b> PB	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312171
	<b>BatchID:</b> 261486		<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8212001

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	< 0.01	mg/L	0.01									
Beryllium	< 0.001	mg/L	0.001									
Cadmium	< 0.002	mg/L	0.002									
Chromium	< 0.01	mg/L	0.01									
Cobalt	< 0.005	mg/L	0.005									
Copper	< 0.01	mg/L	0.01									
Nickel	< 0.01	mg/L	0.01									
Silver	< 0.005	mg/L	0.005									
Vanadium	< 0.005	mg/L	0.005									
Zinc	< 0.01	mg/L	0.01									

<b>SampleID:</b> G2410E68-005FDUP	<b>SampType:</b> DUP	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/25/2024	<b>RunNo:</b> 311946
	<b>BatchID:</b> 261332		<b>Analysis Date:</b> 10/28/2024	<b>SeqNo:</b> 8204883

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	0.15	mg/L	0.01						0.154	2.9%	20	
Beryllium	< 0.001	mg/L	0.001								20	
Cadmium	< 0.002	mg/L	0.002								20	
Chromium	< 0.01	mg/L	0.01								20	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Cobalt	0.0128	mg/L	0.005							0.0134	4.6%	20		
Copper	< 0.01	mg/L	0.01									20		
Nickel	0.141	mg/L	0.01							0.146	3.4%	20		
Vanadium	< 0.005	mg/L	0.005									20		
Zinc	< 0.01	mg/L	0.01							0.0072		20		

<b>SampleID:</b> G2410E68-005FDUP	<b>SampType:</b> DUP	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/25/2024	<b>RunNo:</b> 311984
		<b>BatchID:</b> 261332	<b>Analysis Date:</b> 10/29/2024	<b>SeqNo:</b> 8206273

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Silver	< 0.005	mg/L	0.005								20			

<b>SampleID:</b> G2410E81-005DDUP	<b>SampType:</b> DUP	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312171
		<b>BatchID:</b> 261486	<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8211985

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Barium	0.127	mg/L	0.01						0.132	4.2%	20			
Beryllium	< 0.001	mg/L	0.001								20			
Cadmium	< 0.002	mg/L	0.002								20			
Chromium	< 0.01	mg/L	0.01								20			
Cobalt	< 0.005	mg/L	0.005						0.0025		20			
Copper	< 0.01	mg/L	0.01								20			
Nickel	< 0.01	mg/L	0.01								20			
Silver	< 0.005	mg/L	0.005								20			
Vanadium	< 0.005	mg/L	0.005								20			
Zinc	< 0.01	mg/L	0.01						0.0099		20			

<b>SampleID:</b> G2410E68-005FMS	<b>SampType:</b> MS	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/25/2024	<b>RunNo:</b> 311946
		<b>BatchID:</b> 261332	<b>Analysis Date:</b> 10/28/2024	<b>SeqNo:</b> 8204884

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Barium	1.21	mg/L	0.01	1	0.154	105.3%	75	125						
Beryllium	0.209	mg/L	0.001	0.2		104.5%	75	125						
Cadmium	0.424	mg/L	0.002	0.4		106.1%	75	125						

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Chromium	1.04	mg/L	0.01	1		104.0%	75	125									
Cobalt	0.428	mg/L	0.005	0.4	0.0134	103.6%	75	125									
Copper	1.05	mg/L	0.01	1		105.4%	75	125									
Nickel	1.17	mg/L	0.01	1	0.146	102.6%	75	125									
Vanadium	0.413	mg/L	0.005	0.4		103.3%	75	125									
Zinc	1.05	mg/L	0.01	1	0.0072	103.9%	75	125									
<b>SampleID:</b> G2410E68-005FMS		<b>SampType:</b> MS		<b>TestNo:</b> EPA 6010 D			<b>Prep Date:</b> 10/25/2024		<b>RunNo:</b> 311984								
						<b>BatchID:</b> 261332						<b>Analysis Date:</b> 10/29/2024	<b>SeqNo:</b> 8206279				
<b>SampleID:</b> G2410E81-005DMS		<b>SampType:</b> MS		<b>TestNo:</b> EPA 6010 D			<b>Prep Date:</b> 10/30/2024		<b>RunNo:</b> 312171								
						<b>BatchID:</b> 261486						<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8211986				
Barium	1.21	mg/L	0.01	1	0.132	107.7%	75	125									
Beryllium	0.212	mg/L	0.001	0.2		105.8%	75	125									
Cadmium	0.415	mg/L	0.002	0.4		103.7%	75	125									
Chromium	1.05	mg/L	0.01	1		105.1%	75	125									
Cobalt	0.424	mg/L	0.005	0.4	0.0025	105.4%	75	125									
Copper	1.06	mg/L	0.01	1		106.0%	75	125									
Nickel	1.04	mg/L	0.01	1		104.4%	75	125									
Silver	0.0104	mg/L	0.005	0.01		104.0%	75	125									
Vanadium	0.418	mg/L	0.005	0.4		104.4%	75	125									
Zinc	1.03	mg/L	0.01	1	0.0099	102.3%	75	125									
<b>SampleID:</b> G2410E84-001DMS		<b>SampType:</b> MS		<b>TestNo:</b> EPA 6010 D			<b>Prep Date:</b> 10/30/2024		<b>RunNo:</b> 312171								
						<b>BatchID:</b> 261486						<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8212008				
Barium	1.15	mg/L	0.01	1	0.0724	107.5%	75	125									
Beryllium	0.208	mg/L	0.001	0.2		104.2%	75	125									

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Cadmium	0.409	mg/L	0.002	0.4		102.2%	75	125				
Chromium	1.05	mg/L	0.01	1		104.8%	75	125				
Cobalt	0.419	mg/L	0.005	0.4		104.9%	75	125				
Copper	1.04	mg/L	0.01	1		104.0%	75	125				
Nickel	1.03	mg/L	0.01	1		102.8%	75	125				
Silver	0.0097	mg/L	0.005	0.01		97.0%	75	125				
Vanadium	0.411	mg/L	0.005	0.4		102.9%	75	125				
Zinc	1.01	mg/L	0.01	1		101.2%	75	125				

SampleID: G2410E81-005DDUP	SampType: DUP	TestNo: EPA 6020 B	Prep Date: 10/30/2024	RunNo: 312157
	BatchID: 261488		Analysis Date: 10/31/2024	SeqNo: 8211183

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	< 1	µg/L	1								20	
Arsenic	< 1	µg/L	1								20	
Lead	< 1	µg/L	1								20	
Selenium	< 1	µg/L	1								20	
Thallium	< 0.2	µg/L	0.2								20	

SampleID: LCS2-261334	SampType: LCS2	TestNo: EPA 6020 B	Prep Date: 10/25/2024	RunNo: 311975
	BatchID: 261334		Analysis Date: 10/28/2024	SeqNo: 8206064

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	5.99	µg/L	1	6		99.8%	79.5	120.45				
Arsenic	8.93	µg/L	1	10		89.3%	79.5	120.45				
Lead	4.9	µg/L	1	5		98.0%	79.5	120.45				
Selenium	18.5	µg/L	1	20		92.3%	79.5	120.45				
Thallium	1.91	µg/L	0.2	2		95.5%	79.5	120.45				

SampleID: LCS2-261488	SampType: LCS2	TestNo: EPA 6020 B	Prep Date: 10/30/2024	RunNo: 312157
	BatchID: 261488		Analysis Date: 10/31/2024	SeqNo: 8211177

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	6.24	µg/L	1	6		104.0%	79.5	120.45				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Arsenic	9.74	µg/L	1	10		97.4%	79.5	120.45					
Lead	5.26	µg/L	1	5		105.2%	79.5	120.45					
Selenium	19.3	µg/L	1	20		96.4%	79.5	120.45					
Thallium	2.08	µg/L	0.2	2		103.9%	79.5	120.45					

SampleID: G2410E81-004DMS	SampType: MS	TestNo: EPA 6020 B	Prep Date: 10/25/2024	RunNo: 311975
	BatchID: 261334		Analysis Date: 10/28/2024	SeqNo: 8206106

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Antimony	6.01	µg/L	1	6		100.1%	75	125					
Arsenic	9.25	µg/L	1	10		92.5%	75	125					
Lead	4.87	µg/L	1	5		97.4%	75	125					
Selenium	17.9	µg/L	1	20		89.7%	75	125					
Thallium	1.91	µg/L	0.2	2		95.6%	75	125					

SampleID: G2410E81-006AMS	SampType: MS	TestNo: EPA 6020 B	Prep Date: 10/30/2024	RunNo: 312157
	BatchID: 261488		Analysis Date: 10/31/2024	SeqNo: 8211210

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Antimony	5.82	µg/L	1	6		97.0%	75	125					
Arsenic	9.21	µg/L	1	10		92.1%	75	125					
Lead	4.99	µg/L	1	5		99.7%	75	125					
Selenium	18.9	µg/L	1	20		94.3%	75	125					
Thallium	2	µg/L	0.2	2		100.2%	75	125					

SampleID: PB-261334	SampType: PB	TestNo: EPA 6020 B	Prep Date: 10/25/2024	RunNo: 311975
	BatchID: 261334		Analysis Date: 10/28/2024	SeqNo: 8206060

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Antimony	< 1	µg/L	1					0.5					
Arsenic	< 1	µg/L	1					0.5					
Lead	< 1	µg/L	1					0.2					
Selenium	< 1	µg/L	1					0.5					
Thallium	< 0.2	µg/L	0.2					0.1					

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

**SampleID:** PB-261488

**SampType:** PB

**TestNo:** EPA 6020 B

**Prep Date:** 10/30/2024

**RunNo:** 312157

**BatchID:** 261488

**Analysis Date:** 10/31/2024

**SeqNo:** 8211174

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	< 1	µg/L	1					0.5				
Arsenic	< 1	µg/L	1					0.5				
Lead	< 1	µg/L	1					0.2				
Selenium	< 1	µg/L	1					0.5				
Thallium	< 0.2	µg/L	0.2					0.1				

**SampleID:** G2410E68-005FDUP

**SampType:** DUP

**TestNo:** EPA 6020 B

**Prep Date:** 10/25/2024

**RunNo:** 311975

**BatchID:** 261334

**Analysis Date:** 10/28/2024

**SeqNo:** 8206071

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	< 1	µg/L	1							20		
Arsenic	< 1	µg/L	1							20		
Lead	< 1	µg/L	1							20		
Selenium	< 1	µg/L	1							20		
Thallium	< 0.2	µg/L	0.2							20		

**SampleID:** G2410E70-002FMS

**SampType:** MS

**TestNo:** EPA 6020 B

**Prep Date:** 10/25/2024

**RunNo:** 311975

**BatchID:** 261334

**Analysis Date:** 10/28/2024

**SeqNo:** 8206076

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	5.88	µg/L	1	6		98.0%	75	125				
Arsenic	8.88	µg/L	1	10		88.8%	75	125				
Lead	4.84	µg/L	1	5		96.9%	75	125				
Selenium	19.2	µg/L	1	20	1.22	90.1%	75	125				
Thallium	1.9	µg/L	0.2	2		94.9%	75	125				

**SampleID:** 20 PPB LCS

**SampType:** LCS

**TestNo:** EPA 8260 D

**Prep Date:**

**RunNo:** 311937

**BatchID:** R311937

**Analysis Date:** 10/25/2024

**SeqNo:** 8204743

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	19.4	µg/L	1	20		96.8%	81	125				
1,1,1-Trichloroethane	17.8	µg/L	1	20		89.0%	71	125				
1,1,2,2-Tetrachloroethane	21.1	µg/L	1	20		105.7%	80	116				
1,1,2-Trichloroethane	21.1	µg/L	1	20		105.4%	83	126				
1,1-Dichloroethane	18.7	µg/L	1	20		93.7%	73	122				
1,1-Dichloroethene	19.1	µg/L	1	20		95.7%	74	121				
1,2,3-Trichloropropane	18	µg/L	1	20		89.9%	77	118				
1,2-Dibromoethane	20	µg/L	1	20		99.9%	83	119				
1,2-Dichlorobenzene	20.5	µg/L	1	20		102.6%	85	119				
1,2-Dichloroethane	19.9	µg/L	1	20		99.6%	72	123				
1,2-Dichloropropane	21.1	µg/L	1	20		105.7%	83	122				
1,4-Dichlorobenzene	18.7	µg/L	1	20		93.4%	83	120				
2-Butanone	20.4	µg/L	5	20		101.9%	61	125				
2-Hexanone	20.8	µg/L	5	20		104.2%	58	132				
4-Methyl-2-Pentanone	21.4	µg/L	1	20		107.0%	68	127				
Acetone	19.9	µg/L	10	20		99.7%	60	133				
Benzene	18.6	µg/L	1	20		93.2%	76	122				
Bromochloromethane	20	µg/L	1	20		100.0%	78	124				
Bromodichloromethane	19.2	µg/L	1	20		95.9%	71	138				
Bromomethane	19	µg/L	1	20		95.2%	47	152				
Carbon Disulfide	15.8	µg/L	1	20		79.2%	63	123				
Carbon Tetrachloride	17.2	µg/L	1	20		86.1%	68	133				
Chlorobenzene	19.9	µg/L	1	20		99.3%	83	118				
Chlorodibromomethane	17.8	µg/L	1	20		88.9%	74	131				
Chloroethane	24.1	µg/L	1	20		120.5%	56	127				
Chloroform	18.5	µg/L	1	20		92.5%	73	123				
Chloromethane	22.2	µg/L	1	20		111.2%	65	129				
cis-1,2-Dichloroethene	19.4	µg/L	1	20		97.0%	75	121				
cis-1,3-Dichloropropene	19.8	µg/L	1	20		98.8%	71	129				
Dibromomethane	20.3	µg/L	1	20		101.4%	83	118				
Dichlorobromomethane	19.2	µg/L	1	20		95.9%	56	145				
Ethylbenzene	20	µg/L	1	20		99.9%	84	120				
Iodomethane	19.5	µg/L	5	20		97.6%	29	162				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Methyl Ethyl Ketone	20.4	µg/L	5	20		101.9%	72	131				
Methylene Chloride	18.9	µg/L	1	20		94.3%	73	133				
Styrene	19.6	µg/L	1	20		98.2%	88	116				
Tetrachloroethene	19.9	µg/L	1	20		99.7%	76	127				
Toluene	19.8	µg/L	1	20		98.8%	80	118				
trans-1,2-Dichloroethene	19.1	µg/L	1	20		95.3%	73	120				
trans-1,3-Dichloropropene	18.9	µg/L	1	20		94.7%	70	126				
trans-1,4-Dichloro-2-butene	18.3	µg/L	2	20		91.3%	46	137				
Trichloroethene	21.2	µg/L	1	20		106.2%	73	123				
Trichlorofluoromethane	18.6	µg/L	1	20		92.8%	69	125				
Trichloromethane	18.5	µg/L	1	20		92.5%	73	123				
Vinyl Acetate	18.9	µg/L	1	20		94.7%	67	131				
Vinyl Chloride	21.6	µg/L	1	20		107.9%	56	125				
Total Xylene	59.8	µg/L	2	60		99.7%	87	116				
Surr: 1,2-Dichloroethane-d4	27.5	µg/L	0	30		91.7%	70	130				
Surr: 4-Bromofluorobenzene	26.4	µg/L	0	30		88.0%	70	130				
Surr: Dibromofluoromethane	27.4	µg/L	0	30		91.2%	70	130				
Surr: Toluene-d8	31.1	µg/L	0	30		103.7%	70	130				

SampleID: 20 PPB LCS

SampType: LCS

TestNo: EPA 8260 D

Prep Date:

RunNo: 312000

BatchID: R312000

Analysis Date: 10/28/2024

SeqNo: 8206648

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	21.8	µg/L	1	20		109.0%	81	125				
1,1,1-Trichloroethane	21.2	µg/L	1	20		105.8%	71	125				
1,1,2,2-Tetrachloroethane	20.2	µg/L	1	20		100.8%	80	116				
1,1,2-Trichloroethane	21.2	µg/L	1	20		105.9%	83	126				
1,1-Dichloroethane	20.9	µg/L	1	20		104.6%	73	122				
1,1-Dichloroethene	22.4	µg/L	1	20		112.2%	74	121				
1,2,3-Trichloropropane	20.8	µg/L	1	20		103.8%	77	118				
1,2-Dibromo-3-chloropropane	19.6	µg/L	5	20		97.9%	64	126				
1,2-Dibromoethane	21.2	µg/L	1	20		105.8%	83	119				
1,2-Dichlorobenzene	19.6	µg/L	1	20		97.8%	85	119				
1,2-Dichloroethane	20.8	µg/L	1	20		103.8%	72	123				

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

1,2-Dichloropropane	21.3	µg/L	1	20		106.3%	83	122			
1,4-Dichlorobenzene	19.4	µg/L	1	20		97.2%	83	120			
2-Butanone	21.4	µg/L	5	20		107.0%	61	125			
2-Hexanone	21.3	µg/L	5	20		106.4%	58	132			
4-Methyl-2-Pentanone	21.8	µg/L	1	20		109.2%	68	127			
Acetone	18.7	µg/L	10	20		93.3%	60	133			
Benzene	20	µg/L	1	20		100.2%	76	122			
Bromochloromethane	21.3	µg/L	1	20		106.5%	78	124			
Bromodichloromethane	21.9	µg/L	1	20		109.5%	71	138			
Bromoform	20.7	µg/L	1	20		103.7%	71	125			
Bromomethane	17.2	µg/L	1	20		85.9%	47	152			
Carbon Disulfide	21.8	µg/L	1	20		109.2%	63	123			
Carbon Tetrachloride	22.8	µg/L	1	20		113.9%	68	133			
Chlorobenzene	19.7	µg/L	1	20		98.4%	83	118			
Chlorodibromomethane	20.3	µg/L	1	20		101.3%	74	131			
Chloroethane	23.1	µg/L	1	20		115.5%	56	127			
Chloroform	20.6	µg/L	1	20		102.9%	73	123			
Chloromethane	19.8	µg/L	1	20		99.2%	65	129			
cis-1,2-Dichloroethene	21.3	µg/L	1	20		106.3%	75	121			
cis-1,3-Dichloropropene	22.1	µg/L	1	20		110.4%	71	129			
Dibromomethane	20.9	µg/L	1	20		104.4%	83	118			
Dichlorobromomethane	21.9	µg/L	1	20		109.5%	56	145			
Ethylbenzene	19.9	µg/L	1	20		99.3%	84	120			
Iodomethane	22	µg/L	5	20		110.1%	29	162			
Methyl Ethyl Ketone	21.4	µg/L	5	20		107.0%	72	131			
Methylene Chloride	19.3	µg/L	1	20		96.5%	73	133			
Styrene	20.4	µg/L	1	20		101.8%	88	116			
Tetrachloroethene	21.1	µg/L	1	20		105.3%	76	127			
Toluene	20.2	µg/L	1	20		101.2%	80	118			
trans-1,2-Dichloroethene	21.4	µg/L	1	20		107.0%	73	120			
trans-1,3-Dichloropropene	22.4	µg/L	1	20		111.9%	70	126			
trans-1,4-Dichloro-2-butene	20.5	µg/L	2	20		102.6%	46	137			
Tribromomethane	20.7	µg/L	1	20		103.7%	71	125			
Trichloroethene	21.2	µg/L	1	20		106.2%	73	123			

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Trichlorofluoromethane	21.2	µg/L	1	20		106.2%	69	125					
Trichloromethane	20.6	µg/L	1	20		102.9%	73	123					
Vinyl Acetate	20.7	µg/L	1	20		103.6%	67	131					
Vinyl Chloride	20	µg/L	1	20		99.8%	56	125					
Total Xylene	60.5	µg/L	2	60		100.9%	87	116					
Surr: 1,2-Dichloroethane-d4	30.3	µg/L	0	30		101.0%	70	130					
Surr: 4-Bromofluorobenzene	29.2	µg/L	0	30		97.3%	70	130					
Surr: Dibromofluoromethane	30.9	µg/L	0	30		103.1%	70	130					
Surr: Toluene-d8	29.5	µg/L	0	30		98.4%	70	130					

SampleID: 20 PPB LCS	SampType: LCS	TestNo: EPA 8260 D	Prep Date:	RunNo: 312022
	BatchID: R312022		Analysis Date: 10/29/2024	SeqNo: 8207609

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
1,2-Dibromo-3-chloropropane	20.7	µg/L	5	20		103.6%	64	126					
Bromoform	20.7	µg/L	1	20		103.6%	71	125					
Tribromomethane	20.7	µg/L	1	20		103.6%	71	125					

SampleID: BLANK	SampType: MBLK	TestNo: EPA 8260 D	Prep Date:	RunNo: 311937
	BatchID: R311937		Analysis Date: 10/25/2024	SeqNo: 8204748

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
1,1,1,2-Tetrachloroethane	< 1	µg/L	1										
1,1,1-Trichloroethane	< 1	µg/L	1										
1,1,2,2-Tetrachloroethane	< 1	µg/L	1										
1,1,2-Trichloroethane	< 1	µg/L	1										
1,1-Dichloroethane	< 1	µg/L	1										
1,1-Dichloroethene	< 1	µg/L	1										
1,2,3-Trichloropropane	< 1	µg/L	1										
1,2-Dibromoethane	< 1	µg/L	1										
1,2-Dichlorobenzene	< 1	µg/L	1										
1,2-Dichloroethane	< 1	µg/L	1										
1,2-Dichloropropane	< 1	µg/L	1										
1,4-Dichlorobenzene	< 1	µg/L	1										

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Total Xylene	< 2	µg/L	2										
Surr: 1,2-Dichloroethane-d4	27.5	µg/L	0	30		91.7%	70	130					
Surr: 4-Bromofluorobenzene	26.3	µg/L	0	30		87.8%	70	130					
Surr: Dibromofluoromethane	26.3	µg/L	0	30		87.7%	70	130					
Surr: Toluene-d8	31.3	µg/L	0	30		104.2%	70	130					
<b>SampleID:</b> BLANK		<b>SampType:</b> MBLK		<b>TestNo:</b> EPA 8260 D			<b>Prep Date:</b>			<b>RunNo:</b> 312000			
										<b>Analysis Date:</b> 10/28/2024			
										<b>SeqNo:</b> 8206660			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
1,1,1,2-Tetrachloroethane	< 1	µg/L	1										
1,1,1-Trichloroethane	< 1	µg/L	1										
1,1,2,2-Tetrachloroethane	< 1	µg/L	1										
1,1,2-Trichloroethane	< 1	µg/L	1										
1,1-Dichloroethane	< 1	µg/L	1										
1,1-Dichloroethene	< 1	µg/L	1										
1,2,3-Trichloropropane	< 1	µg/L	1										
1,2-Dibromo-3-chloropropane	< 5	µg/L	5										
1,2-Dibromoethane	< 1	µg/L	1										
1,2-Dichlorobenzene	< 1	µg/L	1										
1,2-Dichloroethane	< 1	µg/L	1										
1,2-Dichloropropane	< 1	µg/L	1										
1,4-Dichlorobenzene	< 1	µg/L	1										
2-Butanone	< 5	µg/L	5										
2-Hexanone	< 5	µg/L	5										
4-Methyl-2-Pentanone	< 1	µg/L	1										
Acetone	< 10	µg/L	10										
Benzene	< 1	µg/L	1										
Bromochloromethane	< 1	µg/L	1										
Bromodichloromethane	< 1	µg/L	1										
Bromoform	< 1	µg/L	1										
Bromomethane	< 1	µg/L	1										
Carbon Disulfide	< 1	µg/L	1										
Carbon Tetrachloride	< 1	µg/L	1										

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Chlorobenzene	< 1	µg/L	1						
Chlorodibromomethane	< 1	µg/L	1						
Chloroethane	< 1	µg/L	1						
Chloroform	< 1	µg/L	1						
Chloromethane	< 1	µg/L	1						
cis-1,2-Dichloroethene	< 1	µg/L	1						
cis-1,3-Dichloropropene	< 1	µg/L	1						
Dibromomethane	< 1	µg/L	1						
Dichlorobromomethane	< 1	µg/L	1						
Ethylbenzene	< 1	µg/L	1						
Iodomethane	< 5	µg/L	5						
Methyl Ethyl Ketone	< 5	µg/L	5						
Methylene Chloride	< 1	µg/L	1						
Styrene	< 1	µg/L	1						
Tetrachloroethene	< 1	µg/L	1						
Toluene	< 1	µg/L	1						
trans-1,2-Dichloroethene	< 1	µg/L	1						
trans-1,3-Dichloropropene	< 1	µg/L	1						
trans-1,4-Dichloro-2-butene	< 2	µg/L	2						
Tribromomethane	< 1	µg/L	1						
Trichloroethene	< 1	µg/L	1						
Trichlorofluoromethane	< 1	µg/L	1						
Trichloromethane	< 1	µg/L	1						
Vinyl Acetate	< 1	µg/L	1						
Vinyl Chloride	< 1	µg/L	1						
Total Xylene	< 2	µg/L	2						
Surr: 1,2-Dichloroethane-d4	31.1	µg/L	0	30		103.5%	70	130	
Surr: 4-Bromofluorobenzene	30.4	µg/L	0	30		101.4%	70	130	
Surr: Dibromofluoromethane	30	µg/L	0	30		100.0%	70	130	
Surr: Toluene-d8	30.3	µg/L	0	30		100.9%	70	130	

**SampleID:** BLANK

**SampType:** MBLK

TestNo: EPA 8260 D

Prep Date:

RunNo: 312022

BatchID: R312022

Analysis Date: 10/29/2024

SeqNo: 8207614

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2-Dibromo-3-chloropropane	< 5	µg/L	5									
Bromoform	< 1	µg/L	1									
Tribromomethane	< 1	µg/L	1									

SampleID: G2410D87-001GMS

SampType: MS

TestNo: EPA 8260 D

Prep Date:

RunNo: 311937

BatchID: R311937

Analysis Date: 10/25/2024

SeqNo: 8204760

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	18.8	µg/L	1	20		94.1%	76	117				
1,1,1-Trichloroethane	18.7	µg/L	1	20		93.3%	72	122				
1,1,2,2-Tetrachloroethane	20	µg/L	1	20		100.2%	72	110				
1,1,2-Trichloroethane	19.9	µg/L	1	20		99.4%	76	126				
1,1-Dichloroethane	19	µg/L	1	20		94.9%	66	126				
1,1-Dichloroethene	19.9	µg/L	1	20		99.3%	66	121				
1,2,3-Trichloropropane	17.4	µg/L	1	20		86.9%	72	112				
1,2-Dibromoethane	19.2	µg/L	1	20		95.9%	75	113				
1,2-Dichlorobenzene	20.4	µg/L	1	20		102.0%	76	108				
1,2-Dichloroethane	19.8	µg/L	1	20		98.9%	69	116				
1,2-Dichloropropane	21	µg/L	1	20		104.9%	78	122				
1,4-Dichlorobenzene	18.9	µg/L	1	20		94.7%	70	121				
2-Hexanone	20.3	µg/L	5	20		101.4%	63	120				
4-Methyl-2-Pentanone	20.2	µg/L	1	20		101.2%	68	116				
Acetone	18.7	µg/L	10	20		93.4%	51	133				
Acrylonitrile	20.6	µg/L	5	20		103.0%	64	122				
Benzene	19	µg/L	1	20		95.1%	52	125				
Bromochloromethane	19.9	µg/L	1	20		99.3%	71	117				
Bromodichloromethane	18.6	µg/L	1	20		93.1%	68	132				
Bromomethane	20.3	µg/L	1	20		101.7%	40	156				
Carbon Disulfide	17.2	µg/L	1	20		85.9%	60	123				
Carbon Tetrachloride	18.3	µg/L	1	20		91.4%	67	132				
Chlorobenzene	19.7	µg/L	1	20		98.3%	78	111				
Chlorodibromomethane	17	µg/L	1	20		85.0%	70	123				
Chloroethane	25.3	µg/L	1	20		126.3%	46	132				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Chloromethane	23.5	µg/L	1	20		117.6%	51	129					
cis-1,2-Dichloroethene	19.5	µg/L	1	20		97.7%	71	117					
cis-1,3-Dichloropropene	19.6	µg/L	1	20		97.8%	71	117					
Dibromomethane	19.7	µg/L	1	20		98.4%	77	110					
Dichlorobromomethane	18.6	µg/L	1	20		93.1%	74	117					
Ethylbenzene	19.9	µg/L	1	20		99.6%	72	122					
Iodomethane	20.1	µg/L	5	20		100.5%	34	150					
Methyl Ethyl Ketone	20.4	µg/L	5	20		101.8%	59	121					
Methylene Chloride	19	µg/L	1	20		95.0%	64	121					
Styrene	19.1	µg/L	1	20		95.4%	78	117					
Tetrachloroethene	19.9	µg/L	1	20		99.6%	67	122					
Toluene	20	µg/L	1	20		100.0%	75	115					
trans-1,2-Dichloroethene	19.8	µg/L	1	20		99.2%	69	118					
trans-1,3-Dichloropropene	18.4	µg/L	1	20		92.2%	66	122					
trans-1,4-Dichloro-2-butene	18.5	µg/L	2	20		92.6%	46	131					
Trichloroethene	21.3	µg/L	1	20		106.5%	75	117					
Trichlorofluoromethane	19.6	µg/L	1	20		98.2%	69	125					
Trichloromethane	18.8	µg/L	1	20		94.2%	69	117					
Vinyl Acetate	18.5	µg/L	1	20		92.7%	46	126					
Vinyl Chloride	22.9	µg/L	1	20		114.3%	54	128					
Total Xylene	59.4	µg/L	2	60		99.0%	72	120					
Surr: 1,2-Dichloroethane-d4	27.3	µg/L	0	30		90.9%	70	130					
Surr: 4-Bromofluorobenzene	26.6	µg/L	0	30		88.8%	70	130					
Surr: Dibromofluoromethane	27.6	µg/L	0	30		91.8%	70	130					
Surr: Toluene-d8	30.7	µg/L	0	30		102.2%	70	130					

SampleID: G2410E68-003GMS

SampType: MS

TestNo: EPA 8260 D

Prep Date:

RunNo: 312000

BatchID: R312000

Analysis Date: 10/28/2024

SeqNo: 8206671

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	21.9	µg/L	1	20		109.5%	76	117				
1,1,1-Trichloroethane	22	µg/L	1	20		110.2%	72	122				
1,1,2,2-Tetrachloroethane	20.6	µg/L	1	20		103.0%	72	110				
1,1,2-Trichloroethane	20.6	µg/L	1	20		103.1%	76	126				

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

1,1-Dichloroethane	21	µg/L	1	20		104.8%	66	126			
1,1-Dichloroethene	22.9	µg/L	1	20		114.5%	66	121			
1,2,3-Trichloropropane	20.9	µg/L	1	20		104.6%	72	112			
1,2-Dibromo-3-chloropropane	19	µg/L	5	20		94.9%	57	121			
1,2-Dibromoethane	20.6	µg/L	1	20		103.0%	75	113			
1,2-Dichlorobenzene	20.2	µg/L	1	20		101.1%	76	108			
1,2-Dichloroethane	20.8	µg/L	1	20		104.0%	69	116			
1,2-Dichloropropane	21.2	µg/L	1	20		106.2%	78	122			
1,4-Dichlorobenzene	19.9	µg/L	1	20		99.6%	70	121			
2-Hexanone	21	µg/L	5	20		105.0%	63	120			
4-Methyl-2-Pentanone	20	µg/L	1	20		100.2%	68	116			
Acetone	17.7	µg/L	10	20		88.7%	51	133			
Acrylonitrile	21.5	µg/L	5	20		107.7%	64	122			
Benzene	20.5	µg/L	1	20		102.5%	52	125			
Bromochloromethane	21.5	µg/L	1	20		107.3%	71	117			
Bromodichloromethane	22.1	µg/L	1	20		110.3%	68	132			
Bromomethane	17.6	µg/L	1	20		88.1%	40	156			
Carbon Disulfide	22.5	µg/L	1	20		112.7%	60	123			
Carbon Tetrachloride	23.8	µg/L	1	20		119.2%	67	132			
Chlorobenzene	20.1	µg/L	1	20		100.3%	78	111			
Chlorodibromomethane	20.3	µg/L	1	20		101.5%	70	123			
Chloroethane	24.4	µg/L	1	20		122.0%	46	132			
Chloromethane	20.8	µg/L	1	20		104.0%	51	129			
cis-1,2-Dichloroethene	21.7	µg/L	1	20		108.3%	71	117			
cis-1,3-Dichloropropene	22	µg/L	1	20		109.8%	71	117			
Dibromomethane	20.8	µg/L	1	20		103.8%	77	110			
Dichlorobromomethane	22.1	µg/L	1	20		110.3%	74	117			
Ethylbenzene	20.4	µg/L	1	20		102.0%	72	122			
Iodomethane	22.4	µg/L	5	20		111.9%	34	150			
Methyl Ethyl Ketone	21.4	µg/L	5	20		106.8%	59	121			
Methylene Chloride	19.8	µg/L	1	20		99.0%	64	121			
Styrene	20.3	µg/L	1	20		101.4%	78	117			
Tetrachloroethene	19.6	µg/L	1	20		98.2%	67	122			
Toluene	20.5	µg/L	1	20		102.5%	75	115			

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

trans-1,2-Dichloroethene	22	µg/L	1	20		109.8%	69	118				
trans-1,3-Dichloropropene	22.4	µg/L	1	20		112.2%	66	122				
trans-1,4-Dichloro-2-butene	20.8	µg/L	2	20		104.1%	46	131				
Tribromomethane	20.9	µg/L	1	20		104.7%	65	117				
Trichloroethene	21.6	µg/L	1	20		108.1%	75	117				
Trichlorofluoromethane	22	µg/L	1	20		110.2%	69	125				
Trichloromethane	20.8	µg/L	1	20		104.0%	69	117				
Vinyl Acetate	19.8	µg/L	1	20		99.1%	46	126				
Vinyl Chloride	20.7	µg/L	1	20		103.3%	54	128				
Total Xylene	62.2	µg/L	2	60		103.7%	72	120				
Surr: 1,2-Dichloroethane-d4	30.3	µg/L	0	30		101.0%	70	130				
Surr: 4-Bromofluorobenzene	30.6	µg/L	0	30		102.1%	70	130				
Surr: Dibromofluoromethane	30.7	µg/L	0	30		102.3%	70	130				
Surr: Toluene-d8	30	µg/L	0	30		100.1%	70	130				

SampleID: G2410E68-005GMS	SampType: MS	TestNo: EPA 8260 D	Prep Date:	RunNo: 312022
	BatchID: R312022		Analysis Date: 10/29/2024	SeqNo: 8207621

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2-Dibromo-3-chloropropane	18.9	µg/L	5	20		94.4%	57	121				
Tribromomethane	20.4	µg/L	1	20		101.8%	65	117				

SampleID: G2410D87-001GMSD	SampType: MSD	TestNo: EPA 8260 D	Prep Date:	RunNo: 311937
	BatchID: R311937		Analysis Date: 10/25/2024	SeqNo: 8204763

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	18.9	µg/L	1						18.8	0.6%	11	
1,1,1-Trichloroethane	18.9	µg/L	1						18.7	1.3%	12	
1,1,2,2-Tetrachloroethane	19.8	µg/L	1						20	1.2%	14	
1,1,2-Trichloroethane	20.2	µg/L	1						19.9	1.8%	15	
1,1-Dichloroethane	19.3	µg/L	1						19	1.8%	12	
1,1-Dichloroethene	20.8	µg/L	1						19.9	4.7%	14	
1,2,3-Trichloropropene	17.2	µg/L	1						17.4	1.0%	14	
1,2-Dibromoethane	19.5	µg/L	1						19.2	1.7%	17	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

1,2-Dichlorobenzene	20.5	µg/L	1				20.4	0.5%	13	
1,2-Dichloroethane	20.1	µg/L	1				19.8	1.5%	11	
1,2-Dichloropropane	21.1	µg/L	1				21	0.4%	12	
1,4-Dichlorobenzene	18.8	µg/L	1				18.9	0.5%	16	
2-Hexanone	19.7	µg/L	5				20.3	2.7%	18	
4-Methyl-2-Pentanone	20.2	µg/L	1				20.2	0.4%	18	
Acetone	18.5	µg/L	10				18.7	0.7%	23	
Acrylonitrile	20.7	µg/L	5				20.6	0.7%	16	
Benzene	19.3	µg/L	1				19	1.3%	15	
Bromochloromethane	20.1	µg/L	1				19.9	1.1%	12	
Bromodichloromethane	19.2	µg/L	1				18.6	3.2%	18	
Bromomethane	19.8	µg/L	1				20.3	2.8%	22	
Carbon Disulfide	17	µg/L	1				17.2	1.3%	13	
Carbon Tetrachloride	18.4	µg/L	1				18.3	0.9%	12	
Chlorobenzene	19.9	µg/L	1				19.7	1.2%	10	
Chlorodibromomethane	16.9	µg/L	1				17	0.7%	16	
Chloroethane	25.2	µg/L	1				25.3	0.4%	17	
Chloromethane	23.7	µg/L	1				23.5	0.8%	16	
cis-1,2-Dichloroethene	20.1	µg/L	1				19.5	2.6%	12	
cis-1,3-Dichloropropene	20.1	µg/L	1				19.6	2.6%	16	
Dibromomethane	20	µg/L	1				19.7	1.5%	14	
Dichlorobromomethane	19.2	µg/L	1				18.6	3.2%	13	
Ethylbenzene	20.3	µg/L	1				19.9	2.1%	16	
Iodomethane	20.2	µg/L	5				20.1	0.6%	19	
Methyl Ethyl Ketone	19.5	µg/L	5				20.4	4.1%	21	
Methylene Chloride	19.2	µg/L	1				19	1.1%	17	
Styrene	19.1	µg/L	1				19.1	0.2%	12	
Tetrachloroethene	20.4	µg/L	1				19.9	2.1%	16	
Toluene	20.4	µg/L	1				20	2.1%	13	
trans-1,2-Dichloroethene	19.9	µg/L	1				19.8	0.5%	13	
trans-1,3-Dichloropropene	18.5	µg/L	1				18.4	0.3%	15	
trans-1,4-Dichloro-2-butene	18.3	µg/L	2				18.5	0.9%	17	
Trichloroethene	21.5	µg/L	1				21.3	1.0%	11	
Trichlorofluoromethane	19.4	µg/L	1				19.6	1.0%	15	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Trichloromethane	18.9	µg/L	1						18.8	0.6%	12	
Vinyl Acetate	18.6	µg/L	1						18.5	0.1%	11	
Vinyl Chloride	22.6	µg/L	1						22.9	1.2%	15	
Total Xylene	60.6	µg/L	2						59.4		18	
Surr: 1,2-Dichloroethane-d4	27.8	µg/L	0	30		92.6%	70	130	27.3			
Surr: 4-Bromofluorobenzene	26.3	µg/L	0	30		87.7%	70	130	26.6			
Surr: Dibromofluoromethane	28.2	µg/L	0	30		94.1%	70	130	27.6			
Surr: Toluene-d8	30.9	µg/L	0	30		102.9%	70	130	30.7			

SampleID: G2410E68-003GMSD	SampType: MSD	TestNo: EPA 8260 D	Prep Date:	RunNo: 312000
		BatchID: R312000	Analysis Date: 10/28/2024	SeqNo: 8206688

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	21.4	µg/L	1						21.9	2.2%	11	
1,1,1-Trichloroethane	21.7	µg/L	1						22	1.3%	12	
1,1,2,2-Tetrachloroethane	19	µg/L	1						20.6	7.9%	14	
1,1,2-Trichloroethane	20.1	µg/L	1						20.6	2.3%	15	
1,1-Dichloroethane	20.6	µg/L	1						21	1.8%	12	
1,1-Dichloroethene	22.8	µg/L	1						22.9	0.3%	14	
1,2,3-Trichloropropane	19.8	µg/L	1						20.9	5.6%	14	
1,2-Dibromo-3-chloropropane	18.2	µg/L	5						19	4.3%	20	
1,2-Dibromoethane	20.2	µg/L	1						20.6	2.1%	17	
1,2-Dichlorobenzene	19.3	µg/L	1						20.2	4.6%	13	
1,2-Dichloroethane	20.6	µg/L	1						20.8	0.7%	11	
1,2-Dichloropropane	21.1	µg/L	1						21.2	0.5%	12	
1,4-Dichlorobenzene	19.3	µg/L	1						19.9	3.2%	16	
2-Hexanone	20.3	µg/L	5						21	3.5%	18	
4-Methyl-2-Pentanone	19.7	µg/L	1						20	1.7%	18	
Acetone	16.6	µg/L	10						17.7	6.7%	23	
Acrylonitrile	20.8	µg/L	5						21.5	3.5%	16	
Benzene	20.2	µg/L	1						20.5	1.4%	15	
Bromochloromethane	21.6	µg/L	1						21.5	0.9%	12	
Bromodichloromethane	21.6	µg/L	1						22.1	1.9%	18	
Bromomethane	17.5	µg/L	1						17.6	0.8%	22	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Carbon Disulfide	22.2	µg/L	1					22.5	1.7%	13	
Carbon Tetrachloride	23.4	µg/L	1					23.8	1.7%	12	
Chlorobenzene	19.7	µg/L	1					20.1	1.7%	10	
Chlorodibromomethane	19.9	µg/L	1					20.3	2.3%	16	
Chloroethane	22.4	µg/L	1					24.4	8.6%	17	
Chloromethane	20.4	µg/L	1					20.8	1.8%	16	
cis-1,2-Dichloroethene	20.9	µg/L	1					21.7	3.7%	12	
cis-1,3-Dichloropropene	21.5	µg/L	1					22	2.1%	16	
Dibromomethane	20.5	µg/L	1					20.8	1.5%	14	
Dichlorobromomethane	21.6	µg/L	1					22.1	1.9%	13	
Ethylbenzene	19.6	µg/L	1					20.4	3.9%	16	
Iodomethane	21.6	µg/L	5					22.4	3.3%	19	
Methyl Ethyl Ketone	20.5	µg/L	5					21.4	4.3%	21	
Methylene Chloride	19.6	µg/L	1					19.8	0.8%	17	
Styrene	19.6	µg/L	1					20.3	3.1%	12	
Tetrachloroethene	19.3	µg/L	1					19.6	1.9%	16	
Toluene	20.2	µg/L	1					20.5	1.3%	13	
trans-1,2-Dichloroethene	21.7	µg/L	1					22	1.4%	13	
trans-1,3-Dichloropropene	22.2	µg/L	1					22.4	1.3%	15	
trans-1,4-Dichloro-2-butene	19.2	µg/L	2					20.8	8.0%	17	
Tribromomethane	19.6	µg/L	1					20.9	6.5%	14	
Trichloroethene	21.3	µg/L	1					21.6	1.5%	11	
Trichlorofluoromethane	21.6	µg/L	1					22	2.2%	15	
Trichloromethane	20.4	µg/L	1					20.8	1.8%	12	
Vinyl Acetate	19.5	µg/L	1					19.8	1.5%	11	
Vinyl Chloride	20	µg/L	1					20.7	3.2%	15	
Total Xylene	60	µg/L	2					62.2		18	
Surr: 1,2-Dichloroethane-d4	30	µg/L	0	30		100.0%	70	130	30.3		
Surr: 4-Bromofluorobenzene	30.1	µg/L	0	30		100.4%	70	130	30.6		
Surr: Dibromofluoromethane	30.8	µg/L	0	30		102.7%	70	130	30.7		
Surr: Toluene-d8	29.7	µg/L	0	30		99.1%	70	130	30		

Client: BUTTON GWINNETT LANDFILL

## Analytical QC Summary Report

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

<b>SampleID:</b> G2410E68-005GMSD	<b>SampType:</b> MSD	<b>TestNo:</b> EPA 8260 D	<b>Prep Date:</b>	<b>RunNo:</b> 312022
		<b>BatchID:</b> R312022	<b>Analysis Date:</b> 10/29/2024	<b>SeqNo:</b> 8207632

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2-Dibromo-3-chloropropane	17.4	µg/L	5						18.9	8.3%	20	
Tribromomethane	19.8	µg/L	1						20.4	2.6%	14	

<b>SampleID:</b> BLANK-261389	<b>SampType:</b> BLANK	<b>TestNo:</b> SM 2540 C-15	<b>Prep Date:</b> 10/28/2024	<b>RunNo:</b> 311971
		<b>BatchID:</b> 261389	<b>Analysis Date:</b> 10/28/2024	<b>SeqNo:</b> 8205839

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	< 20	mg/L	20									

<b>SampleID:</b> G2410E68-002ADUP	<b>SampType:</b> DUP	<b>TestNo:</b> SM 2540 C-15	<b>Prep Date:</b> 10/28/2024	<b>RunNo:</b> 311971
		<b>BatchID:</b> 261389	<b>Analysis Date:</b> 10/28/2024	<b>SeqNo:</b> 8205929

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	122	mg/L	20						126	3.2%	10	

<b>SampleID:</b> G2410E76-001IDUP	<b>SampType:</b> DUP	<b>TestNo:</b> SM 2540 C-15	<b>Prep Date:</b> 10/28/2024	<b>RunNo:</b> 311971
		<b>BatchID:</b> 261389	<b>Analysis Date:</b> 10/28/2024	<b>SeqNo:</b> 8205962

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	36	mg/L	20						40	10.5%	10	R

<b>SampleID:</b> LCS-261389	<b>SampType:</b> LCS	<b>TestNo:</b> SM 2540 C-15	<b>Prep Date:</b> 10/28/2024	<b>RunNo:</b> 311971
		<b>BatchID:</b> 261389	<b>Analysis Date:</b> 10/28/2024	<b>SeqNo:</b> 8206048

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	258	mg/L	20	292		88.4%	79	106				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Prep Batch Report			Prep Start Date: 10/25/2024 9:30:00 AM					Technician: Kristy L Botteicher		
Prep Batch: 261332			Prep End Date: 10/25/2024 3:15:00 PM					Prep Factor Units: mL		
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End	
G2410E68-005F	MW-18	Groundwater	10/23/2024 11:22:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
G2410E68-005FDUP		Aqueous	10/25/2024 12:00:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
G2410E68-005FMS		Aqueous	10/25/2024 12:00:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
G2410E68-006F	MW-21R	Groundwater	10/23/2024 11:15:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
G2410E68-007F	MW-23R	Groundwater	10/23/2024 12:40:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
G2410E70-001F	MW-3	Groundwater	10/23/2024 2:48:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
G2410E70-002F	MW-24	Groundwater	10/23/2024 1:40:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
G2410E70-003F	MW-27	Groundwater	10/23/2024 3:53:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
G2410E76-001K	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
G2410E76-002K	GWC-11	Groundwater	10/23/2024 9:31:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
G2410E81-001D	GWC-1AR	Groundwater	10/23/2024 8:40:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
G2410E81-002D	GWB-3	Groundwater	10/23/2024 11:30:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
G2410E81-003D	GWB-2	Groundwater	10/23/2024 9:11:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
G2410E81-004D	GWC-7AR	Groundwater	10/23/2024 12:50:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
LCS1-261332		Aqueous	10/25/2024 12:00:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
PB-261332		Aqueous	10/25/2024 12:00:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	

Prep Batch Report			Prep Start Date: 10/25/2024 9:30:00 AM					Technician: Kristy L Botteicher		
Prep Batch: 261334			Prep End Date: 10/25/2024 3:15:00 PM					Prep Factor Units:		
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End	
G2410E68-005F	MW-18	Groundwater	10/23/2024 11:22:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
G2410E68-005FDUP			10/25/2024 12:00:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
G2410E68-006F	MW-21R	Groundwater	10/23/2024 11:15:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
G2410E68-007F	MW-23R	Groundwater	10/23/2024 12:40:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	
G2410E70-001F	MW-3	Groundwater	10/23/2024 2:48:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

G2410E70-002F	MW-24	Groundwater	10/23/2024 1:40:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E70-002FMS			10/25/2024 12:00:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E70-003F	MW-27	Groundwater	10/23/2024 3:53:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E76-001K	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E76-002K	GWC-11	Groundwater	10/23/2024 9:31:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E81-001D	GWC-1AR	Groundwater	10/23/2024 8:40:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E81-002D	GWB-3	Groundwater	10/23/2024 11:30:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E81-003D	GWB-2	Groundwater	10/23/2024 9:11:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E81-004D	GWC-7AR	Groundwater	10/23/2024 12:50:00 PM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
G2410E81-004DMS			10/25/2024 12:00:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
LCS2-261334			10/25/2024 12:00:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM
PB-261334			10/25/2024 12:00:00 AM	50	50		1.000	10/25/2024 9:30:00 AM	10/25/2024 3:15:00 PM

## Prep Batch Report

Prep Start Date: 10/28/2024 11:20:00 AM

Prep End Date: 10/28/2024 11:25:00 AM

Technician: Laykin A. Pritts

Prep Factor Units: mL

Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
Blank-261389			10/28/2024 12:00:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-002A	MW-13R	Groundwater	10/23/2024 2:40:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-002ADUP			10/28/2024 12:00:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-003A	MW-14	Groundwater	10/23/2024 1:33:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-004A	MW-15	Groundwater	10/23/2024 12:27:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-005A	MW-18	Groundwater	10/23/2024 11:22:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-006A	MW-21R	Groundwater	10/23/2024 11:15:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-007A	MW-23R	Groundwater	10/23/2024 12:40:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-008A	Field Blank 2	Groundwater	10/23/2024 4:24:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E70-001A	MW-3	Groundwater	10/23/2024 2:48:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E70-002A	MW-24	Groundwater	10/23/2024 1:40:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E70-003A	MW-27	Groundwater	10/23/2024 3:53:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E76-001I	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

G2410E76-001IDUP			10/28/2024 12:00:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E76-002I	GWC-11	Groundwater	10/23/2024 9:31:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E81-001C	GWC-1AR	Groundwater	10/23/2024 8:40:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E81-002C	GW-B-3	Groundwater	10/23/2024 11:30:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E81-003C	GW-B-2	Groundwater	10/23/2024 9:11:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E81-004C	GWC-7AR	Groundwater	10/23/2024 12:50:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E84-001C	GWA-2A	Groundwater	10/23/2024 10:40:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410F40-001A	LMP-1	Leachate	10/23/2024 3:05:00 PM	10	50		5.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410F42-001A	SHC-14	Surface Water	10/23/2024 12:00:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
LCS-261389			10/28/2024 12:00:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM

**Prep Batch:** 261409**Prep Code:** INPR\_IC**Prep Batch Report****Prep Start Date:** 10/28/2024 2:54:00 PM**Prep End Date:** 10/28/2024 2:54:00 PM**Technician:** Adam C. Brown**Prep Factor Units:** mL

Sample ID	Client Samp ID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
CB-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
G2410E73-007B	MW-27D	Groundwater	10/22/2024 2:08:00 PM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E73-007BDUP		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E73-007BLFM		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-001B	MW-36D	Groundwater	10/22/2024 1:51:00 PM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-002B	MW-38D	Groundwater	10/22/2024 8:10:00 AM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-003B	MW-39D	Groundwater	10/22/2024 4:46:00 PM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-004B	MW-40D	Groundwater	10/22/2024 5:50:00 PM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-005B	MW-40DR	Groundwater	10/22/2024 5:24:00 PM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-006B	MW-41D	Groundwater	10/22/2024 6:25:00 PM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-007B	Dup 1	Groundwater	10/22/2024 12:00:00 AM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E76-001D	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E76-002D	GWC-11	Groundwater	10/23/2024 9:31:00 AM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E78-001C	Active LF Leachate	Waste Water	10/22/2024 8:00:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E79-001C	Closed Comp	Waste Water	10/22/2024 7:20:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

G2410E81-001B	GWC-1AR	Groundwater	10/23/2024 8:40:00 AM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-001BDUP		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-001BLFM		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-002B	GWB-3	Groundwater	10/23/2024 11:30:00 AM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-003B	GWB-2	Groundwater	10/23/2024 9:11:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-004B	GWC-7AR	Groundwater	10/23/2024 12:50:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-005C	GWB-1	Groundwater	10/23/2024 1:30:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E84-001B	GWA-2A	Groundwater	10/23/2024 10:40:00 AM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E92-001B	Gray Lagoon 001	Aqueous	10/23/2024 4:30:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E92-002B	Spruce Run 001	Surface Water	10/23/2024 4:30:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
HRQC 1000-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
HRQC-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
IPC-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
LFB-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
LFB2-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
LRB-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
QCS-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM

## Prep Batch Report

Prep Batch: 261486  
 Prep Code: MEPR6010\_3010

Prep Start Date: 10/30/2024 8:50:00 AM  
 Prep End Date: 10/30/2024 2:20:00 PM

Technician: Adam D. Moschgat  
 Prep Factor Units: mL

Sample ID	Client SampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410E42-001B	85A & SA	Solid	10/23/2024 10:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E81-005D	GWB-1	Groundwater	10/23/2024 1:30:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E81-005DDUP		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E81-005DMS		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E81-006A	FB-1	Aqueous	10/23/2024 2:00:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E84-001D	GWA-2A	Groundwater	10/23/2024 10:40:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F23-001F	MSW Leachate Tank	Waste Water	10/24/2024 2:15:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F25-001F	MW-28	Groundwater	10/24/2024 3:08:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

G2410F25-002F	MW-29	Groundwater	10/24/2024 2:05:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F26-001F	MW-12R	Groundwater	10/24/2024 12:38:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F26-002F	MW-16R	Groundwater	10/24/2024 11:05:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F27-001D	SW-14	Surface Water	10/24/2024 10:40:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F27-002D	SW-11	Surface Water	10/24/2024 11:15:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
LCS1-261486		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
PB-261486		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM

**Prep Batch:** 261488  
**Prep Code:** MEPR6020\_3010

**Prep Batch Report**

**Prep Start Date:** 10/30/2024 8:50:00 AM  
**Prep End Date:** 10/30/2024 2:20:00 PM

**Technician:** Adam D. Moschgat  
**Prep Factor Units:**

Sample ID	Client Samp ID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410E81-005D	GWB-1	Groundwater	10/23/2024 1:30:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E81-005DDUP			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E81-006A	FB-1	Aqueous	10/23/2024 2:00:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E81-006AMS			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E84-001D	GWA-2A	Groundwater	10/23/2024 10:40:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F23-001F	MSW Leachate Tank	Waste Water	10/24/2024 2:15:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F25-001F	MW-28	Groundwater	10/24/2024 3:08:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F25-002F	MW-29	Groundwater	10/24/2024 2:05:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F26-001F	MW-12R	Groundwater	10/24/2024 12:38:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F26-002F	MW-16R	Groundwater	10/24/2024 11:05:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F27-001D	SW-14	Surface Water	10/24/2024 10:40:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F27-002D	SW-11	Surface Water	10/24/2024 11:15:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
LCS2-261488			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
PB-261488			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E81  
Project: BGwinnett 221S(a)

## Analytical QC Summary Report

### Batch Reference Report

Client Samp ID	Test No	Batch ID
GWB-1	ASTM D1067-16	R311896
GWB-2	ASTM D1067-16	R311875
GWB-3	ASTM D1067-16	R311875
GWC-1AR	ASTM D1067-16	R311875
GWC-7AR	ASTM D1067-16	R311896
GWB-1	EPA 300.0 Rev 2.1	261409
GWB-2	EPA 300.0 Rev 2.1	261409
GWB-3	EPA 300.0 Rev 2.1	261409
GWC-1AR	EPA 300.0 Rev 2.1	261409
GWC-7AR	EPA 300.0 Rev 2.1	261409
GWB-1	EPA 350.1 Rev 2.0	R312031
GWB-2	EPA 350.1 Rev 2.0	R312011
GWB-3	EPA 350.1 Rev 2.0	R312011
GWC-1AR	EPA 350.1 Rev 2.0	R312011
GWC-7AR	EPA 350.1 Rev 2.0	R312011
FB-1	EPA 6010 D	261486
GWB-1	EPA 6010 D	261486
GWB-2	EPA 6010 D	261332
GWB-3	EPA 6010 D	261332
GWC-1AR	EPA 6010 D	261332
GWC-7AR	EPA 6010 D	261332
FB-1	EPA 6020 B	261488
GWB-1	EPA 6020 B	261488
GWB-2	EPA 6020 B	261334

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

GWB-3	EPA 6020 B	261334
GWC-1AR	EPA 6020 B	261334
GWC-7AR	EPA 6020 B	261334
FB-1	EPA 8260 D	R312000
GWB-1	EPA 8260 D	R312000
GWB-2	EPA 8260 D	R312000
GWB-3	EPA 8260 D	R312000
GWC-1AR	EPA 8260 D	R311937
GWC-1AR	EPA 8260 D	R312022
GWC-7AR	EPA 8260 D	R312000
TB-1	EPA 8260 D	R312000
GWB-2	SM 2540 C-15	261389
GWB-3	SM 2540 C-15	261389
GWC-1AR	SM 2540 C-15	261389
GWC-7AR	SM 2540 C-15	261389

**Table I ON Qualifiers**

Qualifier	Description
<b>1</b>	Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.
<b>B</b>	Analyte detected in the associated method Blank.
<b>B1</b>	Dilution water blank exceeded method criterion.
<b>C1</b>	CCV recovery above the acceptance limits. Results may be biased high.
<b>C2</b>	CCV recovery below the acceptance limits. Results may be biased low.
<b>C3</b>	ICV recovery above the acceptance limits. Results may be biased high.
<b>C4</b>	ICV recovery below the acceptance limits. Results may be biased low.
<b>C5</b>	Positive values verified by second column confirmation.
<b>C6</b>	Confirmation analysis by another detector or chromatographic column was not performed.
<b>D1</b>	The analysis did not meet the minimum DO depletion of at least 2 mg/L.
<b>D2</b>	The analysis did not meet the minimum residual DO of at least 1 mg/L.
<b>D3</b>	Sample required dilution due to a matrix interference.
<b>D4</b>	Sample was diluted in the extraction steps due to marked matrix interferences.
<b>D5</b>	Sample required dilution due to a chloride interference.
<b>D6</b>	Sample was diluted and the reporting limits were raised to achieve method compliant internal standard recovery.
<b>D7</b>	Sample was digested at a dilution due to the formation of a post-digestion precipitate.
<b>D8</b>	Sample was digested at a dilution to achieve method compliant matrix spike recovery.
<b>D9</b>	Sample was digested at a dilution to meet method compliant digestion criteria.
<b>E</b>	Value above quantitation range.
<b>E2</b>	Unable to obtain a stable weight within specified limits due to sample matrix. Value is estimated.
<b>F1</b>	Fecal sample tested positive for residual chlorine.
<b>H</b>	Method Hold Time exceeded and is not compliant with 40CFR136 Table II.
<b>H1</b>	Due to under-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.
<b>H2</b>	Due to over-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.
<b>H3</b>	Sample was re-analyzed outside of hold time due to error during original analysis.
<b>H4</b>	The Nitrite result used to report Nitrate was analyzed past the 48-hour holding time.
<b>I1</b>	Internal standard recovery above method acceptance limits. Results are estimated.
<b>I2</b>	Internal standard recovery was below method acceptance limits. Results are estimated.
<b>IP</b>	One of the instrument performance checks ( ) did not meet the acceptance criteria.
<b>J</b>	Indicates an estimated value.

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

<b>L1</b>	LCS above the acceptance limits. Result may be biased high.
<b>L2</b>	LCS below the acceptance limits. Result may be biased low.
<b>L3</b>	Analyte was spiked into the LCS, but was not recovered.
<b>M1</b>	Matrix Spike recovery above the acceptance limits.
<b>M2</b>	Matrix Spike recovery below the acceptance limits.
<b>M4</b>	The matrix spike failed high for the surrogate.
<b>M5</b>	The matrix spike failed low for the surrogate.
<b>M6</b>	The reporting limits were raised due to sample matrix interference.
<b>M7</b>	Recovery for matrix spike could not be quantified due to matrix interference.
<b>M8</b>	Analyte was spiked into the MS, but was not recovered.
<b>M9</b>	Analyte concentration was determined by the method of standard addition (MSA).
<b>N1</b>	The lab does not hold accreditation from PA-DEP for this parameter by this method
<b>N2</b>	PADEP does not accredit labs for this analyte by this method.
<b>N3</b>	The lab is accredited for this method in West Virginia, but not in PA (its primary accrediting body).
<b>N4</b>	PADEP does not accredit labs for this analyte by this method in drinking water.
<b>ND</b>	Not Detected.
<b>O1</b>	The flashpoint tester cannot detect below 50 degrees F.
<b>O2</b>	Result is temperature of the sample when flame observed. No flash observed. Result qualified.
<b>O3</b>	The reporting limits were raised due to the high concentration of non-target compounds.
<b>O4</b>	Sample was received with headspace.
<b>O5</b>	Sample was received in incorrect container and is not compliant with 40CFR136 Table II.
<b>O6</b>	Insufficient sample volume was received to comply with the method.
<b>P1</b>	The pH of the sample was >2 and is not compliant with 40CFR136 Table II.
<b>P2</b>	Sample contained residual chlorine and is not compliant with 40CFR136 Table II
<b>P3</b>	The pH of the sample was <10 and is not compliant with 40CFR136 Table II.
<b>P4</b>	Field preservation does not meet EPA or method recommendations for this analysis.
<b>P5</b>	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.
<b>P6</b>	Sample required additional preservative upon receipt.
<b>P7</b>	The sample was received unpreserved.
<b>P8</b>	The pH of the sample was < 9 and is not compliant with 40 CFR136 Table II.
<b>Q1</b>	Qualified Data See Case Narrative.
<b>R</b>	Relative Percent Difference (RPD) was above the control limit.
<b>R1</b>	RPD above control limits between matrix spike and MS duplicates.

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E81

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

R2	RPD above the control limit between duplicates.
R3	RSD above the control limit between replicates.
R4	RPD above control limits between Inorganic Carbon check and spike.
R5	RPD above control limits between control sample and control sample duplicates.
S	Recovery for the spiked control sample outside accepted limits.
S2	Surrogate recovery in the blank was below the control limit.
S3	Surrogate recovery in the blank was above the control limit.
S4	Surrogate recovery in the LCS is above the control limit.
S5	Surrogate recovery in the LCS is below the control limit.
SR	Analyte recovery was outside the accepted recovery limits and above the control limit for RPD.
T	Sample temperature received outside the regulatory limit and is not compliant with 40CFR Part136 Table II (for NPW samples).
T1	Sample temperature received outside the regulatory limit. (Primarily for SCM samples).
T3	Target analyte found in trip/field blank.
TC	The MS tune check (tailing factor) did not meet the acceptance criteria.
U	The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.

**Note 1:** Other comments to clarify test results may be used. Examples include MCL (Contaminant Limit), and MDA (minimum detectable activity). The Q1 code requires additional qualifier information be described in the Case Narrative.

**Note 2:** NA is used in the Laboratory QC report as "Not Applicable."



Quality Assurance Project Report  
Prepared for  
BUTTON GWINNETT LANDFILL  
11/13/2024

David M. Glessner  
Quality Assurance Coordinator

### **Explanatory Notes**

1. Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.
2. Matrix Spike and MS Duplicates are sample specific controls and are not used to evaluate the analytical batch.
3. Laboratory duplicate. If one or both of the values is less than 5 times the PQL, the allowed difference is +/- the PQL.
4. "R" indicates a relative percent difference (RPD) was above the acceptance limit between duplicate QC samples or sample specific duplicates.

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E84  
Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

SampleID: G2410F00-001ADUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311896		
		BatchID: R311896								Analysis Date: 10/25/2024				SeqNo: 8203689
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Alkalinity to pH 4.5	35	mg/L CaCO <sub>3</sub>	10							35		20		
SampleID: G2410E81-004CDUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311896		
		BatchID: R311896								Analysis Date: 10/25/2024				SeqNo: 8203743
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Alkalinity to pH 4.5	92	mg/L CaCO <sub>3</sub>	10							91	1.1%	20		
SampleID: G2410E99-002DDUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311896		
		BatchID: R311896								Analysis Date: 10/25/2024				SeqNo: 8203791
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Alkalinity to pH 4.5	395	mg/L CaCO <sub>3</sub>	10							391	1.0%	20		
SampleID: G2410E99-004DDUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311896		
		BatchID: R311896								Analysis Date: 10/25/2024				SeqNo: 8203833
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Alkalinity to pH 4.5	1370	mg/L CaCO <sub>3</sub>	10							1360	0.7%	20		
SampleID: ALK LCS		SampType: LCS		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311896		
		BatchID: R311896								Analysis Date: 10/25/2024				SeqNo: 8203670
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Alkalinity to pH 4.5	51	mg/L CaCO <sub>3</sub>	10	47.5		107.4%	85	115						
SampleID: ALK LCS		SampType: LCS		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311896		
		BatchID: R311896								Analysis Date: 10/25/2024				SeqNo: 8203737

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	48	mg/L CaCO3	10	47.5		101.1%	85	115				
<b>SampleID:</b> ALK LCS		<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>			<b>RunNo:</b> 311896		
					<b>BatchID:</b> R311896					<b>Analysis Date:</b> 10/25/2024		<b>SeqNo:</b> 8203766
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	47	mg/L CaCO3	10	47.5		98.9%	85	115				
<b>SampleID:</b> ALK LCS		<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>			<b>RunNo:</b> 311896		
					<b>BatchID:</b> R311896					<b>Analysis Date:</b> 10/25/2024		<b>SeqNo:</b> 8203816
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	48	mg/L CaCO3	10	47.5		101.1%	85	115				
<b>SampleID:</b> ALK LCS		<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>			<b>RunNo:</b> 311896		
					<b>BatchID:</b> R311896					<b>Analysis Date:</b> 10/25/2024		<b>SeqNo:</b> 8203889
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	48	mg/L CaCO3	10	47.5		101.1%	85	115				
<b>SampleID:</b> G2410E73-007BDUP		<b>SampType:</b> DUP		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/28/2024			<b>RunNo:</b> 312108		
					<b>BatchID:</b> 261409					<b>Analysis Date:</b> 10/28/2024		<b>SeqNo:</b> 8209731
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	63.9	mg/L	1						64	0.1%	20	
Sulfate	< 2	mg/L	2								20	
<b>SampleID:</b> G2410E81-001BDUP		<b>SampType:</b> DUP		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/28/2024			<b>RunNo:</b> 312108		
					<b>BatchID:</b> 261409					<b>Analysis Date:</b> 10/28/2024		<b>SeqNo:</b> 8209745
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	4.3	mg/L	1						4.31	0.2%	20	
Sulfate	35.5	mg/L	2						35.4	0.2%	20	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

<b>SampleID:</b> HRQC-261409		<b>SampType:</b> HRQC		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/28/2024			<b>RunNo:</b> 312108		
		<b>BatchID:</b> 261409						<b>Analysis Date:</b> 10/28/2024			<b>SeqNo:</b> 8209728	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	249	mg/L	1	250		99.4%	90	110				
Sulfate	250	mg/L	2	250		99.9%	90	110				

<b>SampleID:</b> HRQC 1000-261409		<b>SampType:</b> HRQC 1000		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/28/2024			<b>RunNo:</b> 312108		
		<b>BatchID:</b> 261409						<b>Analysis Date:</b> 10/28/2024			<b>SeqNo:</b> 8209729	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	1010	mg/L	1	1000		100.7%	90	110				
Sulfate	1000	mg/L	2	1000		100.4%	90	110				

<b>SampleID:</b> LFB-261409		<b>SampType:</b> LFB		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/28/2024			<b>RunNo:</b> 312108		
		<b>BatchID:</b> 261409						<b>Analysis Date:</b> 10/28/2024			<b>SeqNo:</b> 8209724	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	47.9	mg/L	1	50		95.8%	90	110				
Sulfate	49.9	mg/L	2	50		99.8%	90	110				

<b>SampleID:</b> LFB2-261409		<b>SampType:</b> LFB2		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/28/2024			<b>RunNo:</b> 312108		
		<b>BatchID:</b> 261409						<b>Analysis Date:</b> 10/28/2024			<b>SeqNo:</b> 8209725	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	4.98	mg/L	1	5		99.6%	90	110				
Sulfate	5.26	mg/L	2	5		105.2%	90	110				

<b>SampleID:</b> G2410E73-007BLFM		<b>SampType:</b> LFM		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/28/2024			<b>RunNo:</b> 312108		
		<b>BatchID:</b> 261409						<b>Analysis Date:</b> 10/28/2024			<b>SeqNo:</b> 8209732	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	79.4	mg/L	1	15	64	103.1%	80	120				
Sulfate	23.9	mg/L	2	20		119.3%	80	120				

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E84  
Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

SampleID: G2410E81-001BLFM		SampType: LFM		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/28/2024		RunNo: 312108				
		BatchID: 261409				Analysis Date: 10/28/2024		SeqNo: 8209746				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	21.4	mg/L	1	15	4.31	114.2%	80	120				
Sulfate	57.1	mg/L	2	20	35.4	108.7%	80	120				
SampleID: LRB-261409		SampType: LRB		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/28/2024		RunNo: 312108				
		BatchID: 261409				Analysis Date: 10/28/2024		SeqNo: 8209726				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	< 1	mg/L	1									
Sulfate	< 2	mg/L	2									
SampleID: CB-261409		SampType: MBLK		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/28/2024		RunNo: 312108				
		BatchID: 261409				Analysis Date: 10/28/2024		SeqNo: 8209723				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	< 1	mg/L	1									
Sulfate	< 2	mg/L	2									
SampleID: QCS-261409		SampType: QCS		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/28/2024		RunNo: 312108				
		BatchID: 261409				Analysis Date: 10/28/2024		SeqNo: 8209727				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	23.4	mg/L	1	24		97.3%	90	110				
Sulfate	32.3	mg/L	2	32		100.9%	90	110				
SampleID: G2410E81-001ADUP		SampType: DUP		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312011				
		BatchID: R312011				Analysis Date: 10/29/2024		SeqNo: 8207240				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	0.362	mg/L as N	0.1						0.372	2.8%	20	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

SampleID: G2410E96-001ADUP		SampType: DUP		TestNo: EPA 350.1 Rev 2.0			Prep Date:			RunNo: 312011		
		BatchID: R312011						Analysis Date: 10/29/2024			SeqNo: 8207254	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	< 0.1	mg/L as N	0.1								20	
SampleID: LCS		SampType: LCS		TestNo: EPA 350.1 Rev 2.0			Prep Date:			RunNo: 312011		
		BatchID: R312011						Analysis Date: 10/29/2024			SeqNo: 8207237	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	0.757	mg/L as N	0.1	0.82		92.4%	90	110				
SampleID: CCB		SampType: MBLK		TestNo: EPA 350.1 Rev 2.0			Prep Date:			RunNo: 312011		
		BatchID: R312011						Analysis Date: 10/29/2024			SeqNo: 8207235	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	< 0.1	mg/L as N	0.1									
SampleID: G2410E81-001AMS		SampType: MS		TestNo: EPA 350.1 Rev 2.0			Prep Date:			RunNo: 312011		
		BatchID: R312011						Analysis Date: 10/29/2024			SeqNo: 8207241	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	1.31	mg/L as N	0.1	1	0.372	93.6%	90	110				
SampleID: G2410E96-001AMS		SampType: MS		TestNo: EPA 350.1 Rev 2.0			Prep Date:			RunNo: 312011		
		BatchID: R312011						Analysis Date: 10/29/2024			SeqNo: 8207255	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	0.898	mg/L as N	0.1	1		89.8%	89.5	110				
SampleID: LCS-261438		SampType: LCS		TestNo: EPA 353.2 Rev 2.0			Prep Date: 10/28/2024			RunNo: 311988		
		BatchID: 261438						Analysis Date: 10/29/2024			SeqNo: 8206407	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Nitrate Nitrogen	0.968	mg/L as N	0.05	1		96.8%	90	110				

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E84  
Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

<b>SampleID:</b> MBLK-261438	<b>SampType:</b> MBLK	<b>TestNo:</b> EPA 353.2 Rev 2.0	<b>Prep Date:</b> 10/28/2024	<b>RunNo:</b> 311988
	<b>BatchID:</b> 261438		<b>Analysis Date:</b> 10/29/2024	<b>SeqNo:</b> 8206405

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Nitrate Nitrogen	< 0.05	mg/L as N	0.05									

<b>SampleID:</b> LCS1-261486	<b>SampType:</b> LCS1	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312171
	<b>BatchID:</b> 261486		<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8212002

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	1.09	mg/L	0.01	1		109.2%	79.5	120.4				
Beryllium	0.213	mg/L	0.001	0.2		106.6%	79.5	120.4				
Cadmium	0.42	mg/L	0.002	0.4		104.9%	79.5	120.4				
Chromium	1.07	mg/L	0.01	1		107.3%	79.5	120.4				
Cobalt	0.431	mg/L	0.005	0.4		107.7%	79.5	120.4				
Copper	1.06	mg/L	0.01	1		106.0%	79.5	120.4				
Nickel	1.06	mg/L	0.01	1		105.8%	79.5	120.4				
Silver	0.0099	mg/L	0.005	0.01		99.0%	79.5	120.4				
Vanadium	0.418	mg/L	0.005	0.4		104.4%	79.5	120.4				
Zinc	1.04	mg/L	0.01	1		103.9%	79.5	120.4				

<b>SampleID:</b> PB-261486	<b>SampType:</b> PB	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312171
	<b>BatchID:</b> 261486		<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8212001

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	< 0.01	mg/L	0.01									
Beryllium	< 0.001	mg/L	0.001									
Cadmium	< 0.002	mg/L	0.002									
Chromium	< 0.01	mg/L	0.01									
Cobalt	< 0.005	mg/L	0.005									
Copper	< 0.01	mg/L	0.01									
Nickel	< 0.01	mg/L	0.01									
Silver	< 0.005	mg/L	0.005									
Vanadium	< 0.005	mg/L	0.005									

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Zinc	< 0.01	mg/L	0.01										
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<b>SampleID:</b> G2410E81-005DDUP	<b>SampType:</b> DUP	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312171
	<b>BatchID:</b> 261486		<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8211985

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Barium	0.127	mg/L	0.01						0.132	4.2%	20		
Beryllium	< 0.001	mg/L	0.001								20		
Cadmium	< 0.002	mg/L	0.002								20		
Chromium	< 0.01	mg/L	0.01								20		
Cobalt	< 0.005	mg/L	0.005						0.0025		20		
Copper	< 0.01	mg/L	0.01								20		
Nickel	< 0.01	mg/L	0.01								20		
Silver	< 0.005	mg/L	0.005								20		
Vanadium	< 0.005	mg/L	0.005								20		
Zinc	< 0.01	mg/L	0.01						0.0099		20		

<b>SampleID:</b> G2410E81-005DMS	<b>SampType:</b> MS	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312171
	<b>BatchID:</b> 261486		<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8211986

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Barium	1.21	mg/L	0.01	1	0.132	107.7%	75	125					
Beryllium	0.212	mg/L	0.001	0.2		105.8%	75	125					
Cadmium	0.415	mg/L	0.002	0.4		103.7%	75	125					
Chromium	1.05	mg/L	0.01	1		105.1%	75	125					
Cobalt	0.424	mg/L	0.005	0.4	0.0025	105.4%	75	125					
Copper	1.06	mg/L	0.01	1		106.0%	75	125					
Nickel	1.04	mg/L	0.01	1		104.4%	75	125					
Silver	0.0104	mg/L	0.005	0.01		104.0%	75	125					
Vanadium	0.418	mg/L	0.005	0.4		104.4%	75	125					
Zinc	1.03	mg/L	0.01	1	0.0099	102.3%	75	125					

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

<b>SampleID:</b> G2410E84-001DMS		<b>SampType:</b> MS		<b>TestNo:</b> EPA 6010 D			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312171		
		<b>BatchID:</b> 261486						<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8212008	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	1.15	mg/L	0.01	1	0.0724	107.5%	75	125				
Beryllium	0.208	mg/L	0.001	0.2		104.2%	75	125				
Cadmium	0.409	mg/L	0.002	0.4		102.2%	75	125				
Chromium	1.05	mg/L	0.01	1		104.8%	75	125				
Cobalt	0.419	mg/L	0.005	0.4		104.9%	75	125				
Copper	1.04	mg/L	0.01	1		104.0%	75	125				
Nickel	1.03	mg/L	0.01	1		102.8%	75	125				
Silver	0.0097	mg/L	0.005	0.01		97.0%	75	125				
Vanadium	0.411	mg/L	0.005	0.4		102.9%	75	125				
Zinc	1.01	mg/L	0.01	1		101.2%	75	125				

<b>SampleID:</b> G2410E81-005DDUP		<b>SampType:</b> DUP		<b>TestNo:</b> EPA 6020 B			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312157		
		<b>BatchID:</b> 261488						<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8211183	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	< 1	µg/L	1								20	
Arsenic	< 1	µg/L	1								20	
Lead	< 1	µg/L	1								20	
Selenium	< 1	µg/L	1								20	
Thallium	< 0.2	µg/L	0.2								20	

<b>SampleID:</b> LCS2-261488		<b>SampType:</b> LCS2		<b>TestNo:</b> EPA 6020 B			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312157		
		<b>BatchID:</b> 261488						<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8211177	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	6.24	µg/L	1	6		104.0%	79.5	120.45				
Arsenic	9.74	µg/L	1	10		97.4%	79.5	120.45				
Lead	5.26	µg/L	1	5		105.2%	79.5	120.45				
Selenium	19.3	µg/L	1	20		96.4%	79.5	120.45				
Thallium	2.08	µg/L	0.2	2		103.9%	79.5	120.45				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

<b>SampleID:</b> G2410E81-006AMS	<b>SampType:</b> MS	<b>TestNo:</b> EPA 6020 B	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312157
		<b>BatchID:</b> 261488	<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8211210

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	5.82	µg/L	1	6		97.0%	75	125				
Arsenic	9.21	µg/L	1	10		92.1%	75	125				
Lead	4.99	µg/L	1	5		99.7%	75	125				
Selenium	18.9	µg/L	1	20		94.3%	75	125				
Thallium	2	µg/L	0.2	2		100.2%	75	125				

<b>SampleID:</b> PB-261488	<b>SampType:</b> PB	<b>TestNo:</b> EPA 6020 B	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312157
		<b>BatchID:</b> 261488	<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8211174

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	< 1	µg/L	1					0.5				
Arsenic	< 1	µg/L	1					0.5				
Lead	< 1	µg/L	1					0.2				
Selenium	< 1	µg/L	1					0.5				
Thallium	< 0.2	µg/L	0.2					0.1				

<b>SampleID:</b> 20 PPB LCS	<b>SampType:</b> LCS	<b>TestNo:</b> EPA 8260 D	<b>Prep Date:</b>	<b>RunNo:</b> 312000
		<b>BatchID:</b> R312000	<b>Analysis Date:</b> 10/28/2024	<b>SeqNo:</b> 8206648

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	21.8	µg/L	1	20		109.0%	81	125				
1,1,1-Trichloroethane	21.2	µg/L	1	20		105.8%	71	125				
1,1,2,2-Tetrachloroethane	20.2	µg/L	1	20		100.8%	80	116				
1,1,2-Trichloroethane	21.2	µg/L	1	20		105.9%	83	126				
1,1-Dichloroethane	20.9	µg/L	1	20		104.6%	73	122				
1,1-Dichloroethene	22.4	µg/L	1	20		112.2%	74	121				
1,2,3-Trichloropropane	20.8	µg/L	1	20		103.8%	77	118				
1,2-Dibromo-3-chloropropane	19.6	µg/L	5	20		97.9%	64	126				
1,2-Dibromoethane	21.2	µg/L	1	20		105.8%	83	119				
1,2-Dichlorobenzene	19.6	µg/L	1	20		97.8%	85	119				

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

1,2-Dichloroethane	20.8	µg/L	1	20		103.8%	72	123			
1,2-Dichloropropane	21.3	µg/L	1	20		106.3%	83	122			
1,4-Dichlorobenzene	19.4	µg/L	1	20		97.2%	83	120			
2-Butanone	21.4	µg/L	5	20		107.0%	61	125			
2-Hexanone	21.3	µg/L	5	20		106.4%	58	132			
4-Methyl-2-Pentanone	21.8	µg/L	1	20		109.2%	68	127			
Acetone	18.7	µg/L	10	20		93.3%	60	133			
Benzene	20	µg/L	1	20		100.2%	76	122			
Bromochloromethane	21.3	µg/L	1	20		106.5%	78	124			
Bromodichloromethane	21.9	µg/L	1	20		109.5%	71	138			
Bromoform	20.7	µg/L	1	20		103.7%	71	125			
Bromomethane	17.2	µg/L	1	20		85.9%	47	152			
Carbon Disulfide	21.8	µg/L	1	20		109.2%	63	123			
Carbon Tetrachloride	22.8	µg/L	1	20		113.9%	68	133			
Chlorobenzene	19.7	µg/L	1	20		98.4%	83	118			
Chlorodibromomethane	20.3	µg/L	1	20		101.3%	74	131			
Chloroethane	23.1	µg/L	1	20		115.5%	56	127			
Chloroform	20.6	µg/L	1	20		102.9%	73	123			
Chloromethane	19.8	µg/L	1	20		99.2%	65	129			
cis-1,2-Dichloroethene	21.3	µg/L	1	20		106.3%	75	121			
cis-1,3-Dichloropropene	22.1	µg/L	1	20		110.4%	71	129			
Dibromomethane	20.9	µg/L	1	20		104.4%	83	118			
Dichlorobromomethane	21.9	µg/L	1	20		109.5%	56	145			
Ethylbenzene	19.9	µg/L	1	20		99.3%	84	120			
Iodomethane	22	µg/L	5	20		110.1%	29	162			
Methyl Ethyl Ketone	21.4	µg/L	5	20		107.0%	72	131			
Methylene Chloride	19.3	µg/L	1	20		96.5%	73	133			
Styrene	20.4	µg/L	1	20		101.8%	88	116			
Tetrachloroethene	21.1	µg/L	1	20		105.3%	76	127			
Toluene	20.2	µg/L	1	20		101.2%	80	118			
trans-1,2-Dichloroethene	21.4	µg/L	1	20		107.0%	73	120			
trans-1,3-Dichloropropene	22.4	µg/L	1	20		111.9%	70	126			
trans-1,4-Dichloro-2-butene	20.5	µg/L	2	20		102.6%	46	137			
Tribromomethane	20.7	µg/L	1	20		103.7%	71	125			

Client: BUTTON GWINNETT LANDFILL  
 WorkOrder: G2410E84  
 Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Trichloroethene	21.2	µg/L	1	20		106.2%	73	123				
Trichlorofluoromethane	21.2	µg/L	1	20		106.2%	69	125				
Trichloromethane	20.6	µg/L	1	20		102.9%	73	123				
Vinyl Acetate	20.7	µg/L	1	20		103.6%	67	131				
Vinyl Chloride	20	µg/L	1	20		99.8%	56	125				
Total Xylene	60.5	µg/L	2	60		100.9%	87	116				
Surr: 1,2-Dichloroethane-d4	30.3	µg/L	0	30		101.0%	70	130				
Surr: 4-Bromofluorobenzene	29.2	µg/L	0	30		97.3%	70	130				
Surr: Dibromofluoromethane	30.9	µg/L	0	30		103.1%	70	130				
Surr: Toluene-d8	29.5	µg/L	0	30		98.4%	70	130				

SampleID: BLANK	SampType: MBLK	TestNo: EPA 8260 D	Prep Date:	RunNo: 312000
		BatchID: R312000	Analysis Date: 10/28/2024	SeqNo: 8206660

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	< 1	µg/L	1									
1,1,1-Trichloroethane	< 1	µg/L	1									
1,1,2,2-Tetrachloroethane	< 1	µg/L	1									
1,1,2-Trichloroethane	< 1	µg/L	1									
1,1-Dichloroethane	< 1	µg/L	1									
1,1-Dichloroethene	< 1	µg/L	1									
1,2,3-Trichloropropane	< 1	µg/L	1									
1,2-Dibromo-3-chloropropane	< 5	µg/L	5									
1,2-Dibromoethane	< 1	µg/L	1									
1,2-Dichlorobenzene	< 1	µg/L	1									
1,2-Dichloroethane	< 1	µg/L	1									
1,2-Dichloropropane	< 1	µg/L	1									
1,4-Dichlorobenzene	< 1	µg/L	1									
2-Butanone	< 5	µg/L	5									
2-Hexanone	< 5	µg/L	5									
4-Methyl-2-Pentanone	< 1	µg/L	1									
Acetone	< 10	µg/L	10									
Benzene	< 1	µg/L	1									
Bromochloromethane	< 1	µg/L	1									

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Bromodichloromethane	< 1	µg/L	1					
Bromoform	< 1	µg/L	1					
Bromomethane	< 1	µg/L	1					
Carbon Disulfide	< 1	µg/L	1					
Carbon Tetrachloride	< 1	µg/L	1					
Chlorobenzene	< 1	µg/L	1					
Chlorodibromomethane	< 1	µg/L	1					
Chloroethane	< 1	µg/L	1					
Chloroform	< 1	µg/L	1					
Chloromethane	< 1	µg/L	1					
cis-1,2-Dichloroethene	< 1	µg/L	1					
cis-1,3-Dichloropropene	< 1	µg/L	1					
Dibromomethane	< 1	µg/L	1					
Dichlorobromomethane	< 1	µg/L	1					
Ethylbenzene	< 1	µg/L	1					
Iodomethane	< 5	µg/L	5					
Methyl Ethyl Ketone	< 5	µg/L	5					
Methylene Chloride	< 1	µg/L	1					
Styrene	< 1	µg/L	1					
Tetrachloroethene	< 1	µg/L	1					
Toluene	< 1	µg/L	1					
trans-1,2-Dichloroethene	< 1	µg/L	1					
trans-1,3-Dichloropropene	< 1	µg/L	1					
trans-1,4-Dichloro-2-butene	< 2	µg/L	2					
Tribromomethane	< 1	µg/L	1					
Trichloroethene	< 1	µg/L	1					
Trichlorofluoromethane	< 1	µg/L	1					
Trichloromethane	< 1	µg/L	1					
Vinyl Acetate	< 1	µg/L	1					
Vinyl Chloride	< 1	µg/L	1					
Total Xylene	< 2	µg/L	2					
Surr: 1,2-Dichloroethane-d4	31.1	µg/L	0	30	103.5%	70	130	
Surr: 4-Bromofluorobenzene	30.4	µg/L	0	30	101.4%	70	130	
Surr: Dibromofluoromethane	30	µg/L	0	30	100.0%	70	130	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Surr: Toluene-d8	30.3	µg/L	0	30		100.9%	70	130					
<b>SampleID:</b> G2410E68-003GMS		<b>SampType:</b> MS		<b>TestNo:</b> EPA 8260 D		<b>Prep Date:</b>			<b>RunNo:</b> 312000				
				<b>BatchID:</b> R312000					<b>Analysis Date:</b> 10/28/2024		<b>SeqNo:</b> 8206671		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
1,1,1,2-Tetrachloroethane	21.9	µg/L	1	20		109.5%	76	117					
1,1,1-Trichloroethane	22	µg/L	1	20		110.2%	72	122					
1,1,2,2-Tetrachloroethane	20.6	µg/L	1	20		103.0%	72	110					
1,1,2-Trichloroethane	20.6	µg/L	1	20		103.1%	76	126					
1,1-Dichloroethane	21	µg/L	1	20		104.8%	66	126					
1,1-Dichloroethene	22.9	µg/L	1	20		114.5%	66	121					
1,2,3-Trichloropropane	20.9	µg/L	1	20		104.6%	72	112					
1,2-Dibromo-3-chloropropane	19	µg/L	5	20		94.9%	57	121					
1,2-Dibromoethane	20.6	µg/L	1	20		103.0%	75	113					
1,2-Dichlorobenzene	20.2	µg/L	1	20		101.1%	76	108					
1,2-Dichloroethane	20.8	µg/L	1	20		104.0%	69	116					
1,2-Dichloropropane	21.2	µg/L	1	20		106.2%	78	122					
1,4-Dichlorobenzene	19.9	µg/L	1	20		99.6%	70	121					
2-Hexanone	21	µg/L	5	20		105.0%	63	120					
4-Methyl-2-Pentanone	20	µg/L	1	20		100.2%	68	116					
Acetone	17.7	µg/L	10	20		88.7%	51	133					
Acrylonitrile	21.5	µg/L	5	20		107.7%	64	122					
Benzene	20.5	µg/L	1	20		102.5%	52	125					
Bromochloromethane	21.5	µg/L	1	20		107.3%	71	117					
Bromodichloromethane	22.1	µg/L	1	20		110.3%	68	132					
Bromomethane	17.6	µg/L	1	20		88.1%	40	156					
Carbon Disulfide	22.5	µg/L	1	20		112.7%	60	123					
Carbon Tetrachloride	23.8	µg/L	1	20		119.2%	67	132					
Chlorobenzene	20.1	µg/L	1	20		100.3%	78	111					
Chlorodibromomethane	20.3	µg/L	1	20		101.5%	70	123					
Chloroethane	24.4	µg/L	1	20		122.0%	46	132					
Chloromethane	20.8	µg/L	1	20		104.0%	51	129					
cis-1,2-Dichloroethene	21.7	µg/L	1	20		108.3%	71	117					

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

cis-1,3-Dichloropropene	22	µg/L	1	20		109.8%	71	117				
Dibromomethane	20.8	µg/L	1	20		103.8%	77	110				
Dichlorobromomethane	22.1	µg/L	1	20		110.3%	74	117				
Ethylbenzene	20.4	µg/L	1	20		102.0%	72	122				
Iodomethane	22.4	µg/L	5	20		111.9%	34	150				
Methyl Ethyl Ketone	21.4	µg/L	5	20		106.8%	59	121				
Methylene Chloride	19.8	µg/L	1	20		99.0%	64	121				
Styrene	20.3	µg/L	1	20		101.4%	78	117				
Tetrachloroethene	19.6	µg/L	1	20		98.2%	67	122				
Toluene	20.5	µg/L	1	20		102.5%	75	115				
trans-1,2-Dichloroethene	22	µg/L	1	20		109.8%	69	118				
trans-1,3-Dichloropropene	22.4	µg/L	1	20		112.2%	66	122				
trans-1,4-Dichloro-2-butene	20.8	µg/L	2	20		104.1%	46	131				
Tribromomethane	20.9	µg/L	1	20		104.7%	65	117				
Trichloroethene	21.6	µg/L	1	20		108.1%	75	117				
Trichlorofluoromethane	22	µg/L	1	20		110.2%	69	125				
Trichloromethane	20.8	µg/L	1	20		104.0%	69	117				
Vinyl Acetate	19.8	µg/L	1	20		99.1%	46	126				
Vinyl Chloride	20.7	µg/L	1	20		103.3%	54	128				
Total Xylene	62.2	µg/L	2	60		103.7%	72	120				
Surr: 1,2-Dichloroethane-d4	30.3	µg/L	0	30		101.0%	70	130				
Surr: 4-Bromofluorobenzene	30.6	µg/L	0	30		102.1%	70	130				
Surr: Dibromofluoromethane	30.7	µg/L	0	30		102.3%	70	130				
Surr: Toluene-d8	30	µg/L	0	30		100.1%	70	130				

SampleID: G2410E68-003GMSD

SampType: MSD

TestNo: EPA 8260 D

Prep Date:

RunNo: 312000

BatchID: R312000

Analysis Date: 10/28/2024

SeqNo: 8206688

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	21.4	µg/L	1						21.9	2.2%	11	
1,1,1-Trichloroethane	21.7	µg/L	1						22	1.3%	12	
1,1,2,2-Tetrachloroethane	19	µg/L	1						20.6	7.9%	14	
1,1,2-Trichloroethane	20.1	µg/L	1						20.6	2.3%	15	
1,1-Dichloroethane	20.6	µg/L	1						21	1.8%	12	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

1,1-Dichloroethene	22.8	µg/L	1				22.9	0.3%	14	
1,2,3-Trichloropropane	19.8	µg/L	1				20.9	5.6%	14	
1,2-Dibromo-3-chloropropane	18.2	µg/L	5				19	4.3%	20	
1,2-Dibromoethane	20.2	µg/L	1				20.6	2.1%	17	
1,2-Dichlorobenzene	19.3	µg/L	1				20.2	4.6%	13	
1,2-Dichloroethane	20.6	µg/L	1				20.8	0.7%	11	
1,2-Dichloropropane	21.1	µg/L	1				21.2	0.5%	12	
1,4-Dichlorobenzene	19.3	µg/L	1				19.9	3.2%	16	
2-Hexanone	20.3	µg/L	5				21	3.5%	18	
4-Methyl-2-Pentanone	19.7	µg/L	1				20	1.7%	18	
Acetone	16.6	µg/L	10				17.7	6.7%	23	
Acrylonitrile	20.8	µg/L	5				21.5	3.5%	16	
Benzene	20.2	µg/L	1				20.5	1.4%	15	
Bromochloromethane	21.6	µg/L	1				21.5	0.9%	12	
Bromodichloromethane	21.6	µg/L	1				22.1	1.9%	18	
Bromomethane	17.5	µg/L	1				17.6	0.8%	22	
Carbon Disulfide	22.2	µg/L	1				22.5	1.7%	13	
Carbon Tetrachloride	23.4	µg/L	1				23.8	1.7%	12	
Chlorobenzene	19.7	µg/L	1				20.1	1.7%	10	
Chlorodibromomethane	19.9	µg/L	1				20.3	2.3%	16	
Chloroethane	22.4	µg/L	1				24.4	8.6%	17	
Chloromethane	20.4	µg/L	1				20.8	1.8%	16	
cis-1,2-Dichloroethene	20.9	µg/L	1				21.7	3.7%	12	
cis-1,3-Dichloropropene	21.5	µg/L	1				22	2.1%	16	
Dibromomethane	20.5	µg/L	1				20.8	1.5%	14	
Dichlorobromomethane	21.6	µg/L	1				22.1	1.9%	13	
Ethylbenzene	19.6	µg/L	1				20.4	3.9%	16	
Iodomethane	21.6	µg/L	5				22.4	3.3%	19	
Methyl Ethyl Ketone	20.5	µg/L	5				21.4	4.3%	21	
Methylene Chloride	19.6	µg/L	1				19.8	0.8%	17	
Styrene	19.6	µg/L	1				20.3	3.1%	12	
Tetrachloroethene	19.3	µg/L	1				19.6	1.9%	16	
Toluene	20.2	µg/L	1				20.5	1.3%	13	
trans-1,2-Dichloroethene	21.7	µg/L	1				22	1.4%	13	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

trans-1,3-Dichloropropene	22.2	µg/L	1							22.4	1.3%	15	
trans-1,4-Dichloro-2-butene	19.2	µg/L	2							20.8	8.0%	17	
Tribromomethane	19.6	µg/L	1							20.9	6.5%	14	
Trichloroethene	21.3	µg/L	1							21.6	1.5%	11	
Trichlorofluoromethane	21.6	µg/L	1							22	2.2%	15	
Trichloromethane	20.4	µg/L	1							20.8	1.8%	12	
Vinyl Acetate	19.5	µg/L	1							19.8	1.5%	11	
Vinyl Chloride	20	µg/L	1							20.7	3.2%	15	
Total Xylene	60	µg/L	2							62.2		18	
Surr: 1,2-Dichloroethane-d4	30	µg/L	0	30		100.0%	70	130		30.3			
Surr: 4-Bromofluorobenzene	30.1	µg/L	0	30		100.4%	70	130		30.6			
Surr: Dibromofluoromethane	30.8	µg/L	0	30		102.7%	70	130		30.7			
Surr: Toluene-d8	29.7	µg/L	0	30		99.1%	70	130		30			

SampleID: BLANK-261389	SampType: BLANK	TestNo: SM 2540 C-15	Prep Date: 10/28/2024	RunNo: 311971
	BatchID: 261389		Analysis Date: 10/28/2024	SeqNo: 8205839

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	< 20	mg/L	20									

SampleID: G2410E68-002ADUP	SampType: DUP	TestNo: SM 2540 C-15	Prep Date: 10/28/2024	RunNo: 311971
	BatchID: 261389		Analysis Date: 10/28/2024	SeqNo: 8205929

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	122	mg/L	20						126	3.2%	10	

SampleID: G2410E76-001IDUP	SampType: DUP	TestNo: SM 2540 C-15	Prep Date: 10/28/2024	RunNo: 311971
	BatchID: 261389		Analysis Date: 10/28/2024	SeqNo: 8205962

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	36	mg/L	20						40	10.5%	10	R

SampleID: LCS-261389	SampType: LCS	TestNo: SM 2540 C-15	Prep Date: 10/28/2024	RunNo: 311971
	BatchID: 261389		Analysis Date: 10/28/2024	SeqNo: 8206048

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	258	mg/L	20	292		88.4%	79	106				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Prep Batch Report									
Prep Start Date: 10/28/2024 11:20:00 AM			Technician: Laykin A. Pritts						
Prep End Date: 10/28/2024 11:25:00 AM			Prep Factor Units: mL						
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	
Prep Batch:	261389	Prep Code:	WATERPR_TDS	Prep Start Date:	10/28/2024 11:20:00 AM	Prep End Date:	10/28/2024 11:25:00 AM <th>Prep Factor Units:</th> <td>mL</td>	Prep Factor Units:	mL
Blank-261389			10/28/2024 12:00:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-005A	MW-18	Groundwater	10/23/2024 11:22:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-006A	MW-21R	Groundwater	10/23/2024 11:15:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-007A	MW-23R	Groundwater	10/23/2024 12:40:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-008A	Field Blank 2	Groundwater	10/23/2024 4:24:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E70-001A	MW-3	Groundwater	10/23/2024 2:48:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E70-002A	MW-24	Groundwater	10/23/2024 1:40:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E76-001I	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E76-001IDUP			10/28/2024 12:00:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E76-002I	GWC-11	Groundwater	10/23/2024 9:31:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E81-001C	GWC-1AR	Groundwater	10/23/2024 8:40:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E81-002C	GWB-3	Groundwater	10/23/2024 11:30:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E81-003C	GWB-2	Groundwater	10/23/2024 9:11:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E81-004C	GWC-7AR	Groundwater	10/23/2024 12:50:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E84-001C	GWA-2A	Groundwater	10/23/2024 10:40:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
LCS-261389			10/28/2024 12:00:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-002A	MW-13R	Groundwater	10/23/2024 2:40:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-002ADUP			10/28/2024 12:00:00 AM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-003A	MW-14	Groundwater	10/23/2024 1:33:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E68-004A	MW-15	Groundwater	10/23/2024 12:27:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410E70-003A	MW-27	Groundwater	10/23/2024 3:53:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410F40-001A	LMP-1	Leachate	10/23/2024 3:05:00 PM	10	50		5.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM
G2410F42-001A	SHC-14	Surface Water	10/23/2024 12:00:00 PM	50	50		1.000	10/28/2024 11:20:00 AM	10/28/2024 11:25:00 AM

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410E84  
Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Prep Batch Report									
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
CB-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
G2410E73-007B	MW-27D	Groundwater	10/22/2024 2:08:00 PM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E73-007BDUP		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E73-007BLFM		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-001B	MW-36D	Groundwater	10/22/2024 1:51:00 PM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-002B	MW-38D	Groundwater	10/22/2024 8:10:00 AM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-003B	MW-39D	Groundwater	10/22/2024 4:46:00 PM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-004B	MW-40D	Groundwater	10/22/2024 5:50:00 PM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-005B	MW-40DR	Groundwater	10/22/2024 5:24:00 PM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-006B	MW-41D	Groundwater	10/22/2024 6:25:00 PM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E75-007B	Dup 1	Groundwater	10/22/2024 12:00:00 AM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E76-001D	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E76-002D	GWC-11	Groundwater	10/23/2024 9:31:00 AM	100	100		1.000	10/28/2024 2:44:00 PM	10/28/2024 2:44:00 PM
G2410E78-001C	Active LF Leachate	Waste Water	10/22/2024 8:00:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E79-001C	Closed Comp	Waste Water	10/22/2024 7:20:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-001B	GWC-1AR	Groundwater	10/23/2024 8:40:00 AM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-001BDUP		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-001BLFM		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-002B	GWB-3	Groundwater	10/23/2024 11:30:00 AM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-003B	GWB-2	Groundwater	10/23/2024 9:11:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-004B	GWC-7AR	Groundwater	10/23/2024 12:50:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E81-005C	GWB-1	Groundwater	10/23/2024 1:30:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E84-001B	GWA-2A	Groundwater	10/23/2024 10:40:00 AM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E92-001B	Gray Lagoon 001	Aqueous	10/23/2024 4:30:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM
G2410E92-002B	Spruce Run 001	Surface Water	10/23/2024 4:30:00 PM	100	100		1.000	10/28/2024 2:54:00 PM	10/28/2024 2:54:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

HRQC 1000-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
HRQC-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
IPC-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
LFB-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
LFB2-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
LRB-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM
QCS-261409		Aqueous	10/28/2024 12:00:00 AM	100	100		1.000	10/28/2024 9:44:00 AM	10/28/2024 9:44:00 AM

**Prep Batch:** 261438  
**Prep Code:** INPR\_NO3

**Prep Batch Report**

**Prep Start Date:** 10/28/2024 6:53:00 PM  
**Prep End Date:** 10/28/2024 7:27:00 PM

**Technician:** Holly N. Montgomery  
**Prep Factor Units:** mL

Sample ID	Client Samp ID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410D82-003B	F-Dup2	Groundwater	10/22/2024 1:30:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410D82-004B	MW-4RR	Groundwater	10/22/2024 12:36:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E65-002A	Effluent Comp	Waste Water	10/23/2024 12:20:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E75-001A	MW-36D	Groundwater	10/22/2024 1:51:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E75-004A	MW-40D	Groundwater	10/22/2024 5:50:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E75-005A	MW-40DR	Groundwater	10/22/2024 5:24:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E75-007A	Dup 1	Groundwater	10/22/2024 12:00:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E75-007ADUP		Groundwater	10/29/2024 12:00:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E75-007AMS		Groundwater	10/29/2024 12:00:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E76-001E	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E76-002E	GWC-11	Groundwater	10/23/2024 9:31:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E78-001A	Active LF Leachate	Waste Water	10/22/2024 8:00:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E79-001A	Closed Comp	Waste Water	10/22/2024 7:20:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E84-001A	GWA-2A	Groundwater	10/23/2024 10:40:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
LCS-261438		Aqueous	10/29/2024 12:00:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
MBLK-261438		Aqueous	10/29/2024 12:00:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410D82-005B	MW-11B	Groundwater	10/22/2024 10:02:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410D82-006B	MW-11A	Groundwater	10/22/2024 9:11:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

G2410D82-006BDUP		Groundwater	10/29/2024 12:00:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410D82-006BMS		Groundwater	10/29/2024 12:00:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E60-001A	Cell 4 Secondary	Groundwater	10/23/2024 7:24:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E73-005A	MW-20D	Groundwater	10/22/2024 1:25:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410E98-001B	Untreated Leachate	Leachate	10/24/2024 11:45:00 AM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM
G2410F18-001B	Leachate Comp	Leachate	10/24/2024 12:30:00 PM	50	50		1.000	10/28/2024 6:53:00 PM	10/28/2024 7:27:00 PM

**Prep Batch:** 261486**Prep Code:** MEPR6010\_3010**Prep Batch Report****Prep Start Date:** 10/30/2024 8:50:00 AM**Prep End Date:** 10/30/2024 2:20:00 PM**Technician:** Adam D. Moschgat**Prep Factor Units:** mL

Sample ID	Client SampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410E42-001B	85A & SA	Solid	10/23/2024 10:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E81-005D	GWB-1	Groundwater	10/23/2024 1:30:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E81-005DDUP		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E81-005DMS		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E81-006A	FB-1	Aqueous	10/23/2024 2:00:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E84-001D	GWA-2A	Groundwater	10/23/2024 10:40:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F23-001F	MSW Leachate Tank	Waste Water	10/24/2024 2:15:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F25-001F	MW-28	Groundwater	10/24/2024 3:08:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F25-002F	MW-29	Groundwater	10/24/2024 2:05:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F26-001F	MW-12R	Groundwater	10/24/2024 12:38:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F26-002F	MW-16R	Groundwater	10/24/2024 11:05:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F27-001D	SW-14	Surface Water	10/24/2024 10:40:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F27-002D	SW-11	Surface Water	10/24/2024 11:15:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
LCS1-261486		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
PB-261486		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM

**Prep Batch Report****Prep Start Date:** 10/30/2024 8:50:00 AM**Prep End Date:** 10/30/2024 2:20:00 PM**Technician:** Adam D. Moschgat**Prep Factor Units:**

<b>Prep Batch:</b> 261488	<b>Prep Start Date:</b> 10/30/2024 8:50:00 AM	<b>Technician:</b> Adam D. Moschgat
<b>Prep Code:</b> MEPR6020_3010	<b>Prep End Date:</b> 10/30/2024 2:20:00 PM	<b>Prep Factor Units:</b>

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410E81-005D	GWB-1	Groundwater	10/23/2024 1:30:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E81-005DDUP			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E81-006A	FB-1	Aqueous	10/23/2024 2:00:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E81-006AMS			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E84-001D	GWA-2A	Groundwater	10/23/2024 10:40:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F23-001F	MSW Leachate Tank	Waste Water	10/24/2024 2:15:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F25-001F	MW-28	Groundwater	10/24/2024 3:08:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F25-002F	MW-29	Groundwater	10/24/2024 2:05:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F26-001F	MW-12R	Groundwater	10/24/2024 12:38:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F26-002F	MW-16R	Groundwater	10/24/2024 11:05:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F27-001D	SW-14	Surface Water	10/24/2024 10:40:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F27-002D	SW-11	Surface Water	10/24/2024 11:15:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
LCS2-261488			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
PB-261488			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

### Batch Reference Report

Client Samp ID	Test No	Batch ID
GWA-2A	ASTM D1067-16	R311896
GWA-2A	EPA 300.0 Rev 2.1	261409
GWA-2A	EPA 350.1 Rev 2.0	R312011
GWA-2A	EPA 353.2 Rev 2.0	261438
GWA-2A	EPA 6010 D	261486
GWA-2A	EPA 6020 B	261488
GWA-2A	EPA 8260 D	R312000
GWA-2A	SM 2540 C-15	261389

**Table I ON Qualifiers**

Qualifier	Description
<b>1</b>	Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.
<b>B</b>	Analyte detected in the associated method Blank.
<b>B1</b>	Dilution water blank exceeded method criterion.
<b>C1</b>	CCV recovery above the acceptance limits. Results may be biased high.
<b>C2</b>	CCV recovery below the acceptance limits. Results may be biased low.
<b>C3</b>	ICV recovery above the acceptance limits. Results may be biased high.
<b>C4</b>	ICV recovery below the acceptance limits. Results may be biased low.
<b>C5</b>	Positive values verified by second column confirmation.
<b>C6</b>	Confirmation analysis by another detector or chromatographic column was not performed.
<b>D1</b>	The analysis did not meet the minimum DO depletion of at least 2 mg/L.
<b>D2</b>	The analysis did not meet the minimum residual DO of at least 1 mg/L.
<b>D3</b>	Sample required dilution due to a matrix interference.
<b>D4</b>	Sample was diluted in the extraction steps due to marked matrix interferences.
<b>D5</b>	Sample required dilution due to a chloride interference.
<b>D6</b>	Sample was diluted and the reporting limits were raised to achieve method compliant internal standard recovery.
<b>D7</b>	Sample was digested at a dilution due to the formation of a post-digestion precipitate.
<b>D8</b>	Sample was digested at a dilution to achieve method compliant matrix spike recovery.
<b>D9</b>	Sample was digested at a dilution to meet method compliant digestion criteria.
<b>E</b>	Value above quantitation range.
<b>E2</b>	Unable to obtain a stable weight within specified limits due to sample matrix. Value is estimated.
<b>F1</b>	Fecal sample tested positive for residual chlorine.
<b>H</b>	Method Hold Time exceeded and is not compliant with 40CFR136 Table II.
<b>H1</b>	Due to under-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.
<b>H2</b>	Due to over-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.
<b>H3</b>	Sample was re-analyzed outside of hold time due to error during original analysis.
<b>H4</b>	The Nitrite result used to report Nitrate was analyzed past the 48-hour holding time.
<b>I1</b>	Internal standard recovery above method acceptance limits. Results are estimated.
<b>I2</b>	Internal standard recovery was below method acceptance limits. Results are estimated.
<b>IP</b>	One of the instrument performance checks ( ) did not meet the acceptance criteria.
<b>J</b>	Indicates an estimated value.

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

<b>L1</b>	LCS above the acceptance limits. Result may be biased high.
<b>L2</b>	LCS below the acceptance limits. Result may be biased low.
<b>L3</b>	Analyte was spiked into the LCS, but was not recovered.
<b>M1</b>	Matrix Spike recovery above the acceptance limits.
<b>M2</b>	Matrix Spike recovery below the acceptance limits.
<b>M4</b>	The matrix spike failed high for the surrogate.
<b>M5</b>	The matrix spike failed low for the surrogate.
<b>M6</b>	The reporting limits were raised due to sample matrix interference.
<b>M7</b>	Recovery for matrix spike could not be quantified due to matrix interference.
<b>M8</b>	Analyte was spiked into the MS, but was not recovered.
<b>M9</b>	Analyte concentration was determined by the method of standard addition (MSA).
<b>N1</b>	The lab does not hold accreditation from PA-DEP for this parameter by this method
<b>N2</b>	PADEP does not accredit labs for this analyte by this method.
<b>N3</b>	The lab is accredited for this method in West Virginia, but not in PA (its primary accrediting body).
<b>N4</b>	PADEP does not accredit labs for this analyte by this method in drinking water.
<b>ND</b>	Not Detected.
<b>O1</b>	The flashpoint tester cannot detect below 50 degrees F.
<b>O2</b>	Result is temperature of the sample when flame observed. No flash observed. Result qualified.
<b>O3</b>	The reporting limits were raised due to the high concentration of non-target compounds.
<b>O4</b>	Sample was received with headspace.
<b>O5</b>	Sample was received in incorrect container and is not compliant with 40CFR136 Table II.
<b>O6</b>	Insufficient sample volume was received to comply with the method.
<b>P1</b>	The pH of the sample was >2 and is not compliant with 40CFR136 Table II.
<b>P2</b>	Sample contained residual chlorine and is not compliant with 40CFR136 Table II
<b>P3</b>	The pH of the sample was <10 and is not compliant with 40CFR136 Table II.
<b>P4</b>	Field preservation does not meet EPA or method recommendations for this analysis.
<b>P5</b>	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.
<b>P6</b>	Sample required additional preservative upon receipt.
<b>P7</b>	The sample was received unpreserved.
<b>P8</b>	The pH of the sample was < 9 and is not compliant with 40 CFR136 Table II.
<b>Q1</b>	Qualified Data See Case Narrative.
<b>R</b>	Relative Percent Difference (RPD) was above the control limit.
<b>R1</b>	RPD above control limits between matrix spike and MS duplicates.

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410E84

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

R2	RPD above the control limit between duplicates.
R3	RSD above the control limit between replicates.
R4	RPD above control limits between Inorganic Carbon check and spike.
R5	RPD above control limits between control sample and control sample duplicates.
S	Recovery for the spiked control sample outside accepted limits.
S2	Surrogate recovery in the blank was below the control limit.
S3	Surrogate recovery in the blank was above the control limit.
S4	Surrogate recovery in the LCS is above the control limit.
S5	Surrogate recovery in the LCS is below the control limit.
SR	Analyte recovery was outside the accepted recovery limits and above the control limit for RPD.
T	Sample temperature received outside the regulatory limit and is not compliant with 40CFR Part136 Table II (for NPW samples).
T1	Sample temperature received outside the regulatory limit. (Primarily for SCM samples).
T3	Target analyte found in trip/field blank.
TC	The MS tune check (tailing factor) did not meet the acceptance criteria.
U	The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.

**Note 1:** Other comments to clarify test results may be used. Examples include MCL (Contaminant Limit), and MDA (minimum detectable activity). The Q1 code requires additional qualifier information be described in the Case Narrative.

**Note 2:** NA is used in the Laboratory QC report as "Not Applicable."



Quality Assurance Project Report  
Prepared for  
BUTTON GWINNETT LANDFILL  
11/13/2024

David M. Glessner  
Quality Assurance Coordinator

**Explanatory Notes**

1. Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.
2. Matrix Spike and MS Duplicates are sample specific controls and are not used to evaluate the analytical batch.
3. Laboratory duplicate. If one or both of the values is less than 5 times the PQL, the allowed difference is +/- the PQL.
4. "R" indicates a relative percent difference (RPD) was above the acceptance limit between duplicate QC samples or sample specific duplicates.

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410F31  
Project: BGwinnett 221S(a)

## Analytical QC Summary Report

SampleID: G2410E97-003CDUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311959	
		BatchID: R311959				Analysis Date: 10/28/2024				SeqNo: 8205220			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Alkalinity to pH 4.5	308	mg/L CaCO <sub>3</sub>	10						305	1.0%	20		
SampleID: G2410F31-001CDUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311959	
		BatchID: R311959				Analysis Date: 10/28/2024				SeqNo: 8205392			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Alkalinity to pH 4.5	51	mg/L CaCO <sub>3</sub>	10						50	2.0%	20		
SampleID: G2410F42-001ADUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311959	
		BatchID: R311959				Analysis Date: 10/28/2024				SeqNo: 8205491			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Alkalinity to pH 4.5	67	mg/L CaCO <sub>3</sub>	10						66	1.5%	20		
SampleID: G2410F52-005ADUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311959	
		BatchID: R311959				Analysis Date: 10/28/2024				SeqNo: 8205609			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Alkalinity to pH 4.5	14	mg/L CaCO <sub>3</sub>	10						14		20		
SampleID: ALK LCS		SampType: LCS		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311959	
		BatchID: R311959				Analysis Date: 10/28/2024				SeqNo: 8205211			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Alkalinity to pH 4.5	49	mg/L CaCO <sub>3</sub>	10	47.5		103.2%	85	115					
SampleID: ALK LCS		SampType: LCS		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311959	
		BatchID: R311959				Analysis Date: 10/28/2024				SeqNo: 8205267			

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	49	mg/L CaCO3	10	47.5		103.2%	85	115				
<b>SampleID:</b> ALK LCS		<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>			<b>RunNo:</b> 311959		
					<b>BatchID:</b> R311959					<b>Analysis Date:</b> 10/28/2024		<b>SeqNo:</b> 8205366
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	47	mg/L CaCO3	10	47.5		98.9%	85	115				
<b>SampleID:</b> ALK LCS		<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>			<b>RunNo:</b> 311959		
					<b>BatchID:</b> R311959					<b>Analysis Date:</b> 10/28/2024		<b>SeqNo:</b> 8205478
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	49	mg/L CaCO3	10	47.5		103.2%	85	115				
<b>SampleID:</b> ALK LCS		<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>			<b>RunNo:</b> 311959		
					<b>BatchID:</b> R311959					<b>Analysis Date:</b> 10/28/2024		<b>SeqNo:</b> 8205588
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	47	mg/L CaCO3	10	47.5		98.9%	85	115				
<b>SampleID:</b> ALK LCS		<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>			<b>RunNo:</b> 311959		
					<b>BatchID:</b> R311959					<b>Analysis Date:</b> 10/28/2024		<b>SeqNo:</b> 8205637
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	48	mg/L CaCO3	10	47.5		101.1%	85	115				
<b>SampleID:</b> G2410F25-002EDUP		<b>SampType:</b> DUP		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/29/2024			<b>RunNo:</b> 312064		
					<b>BatchID:</b> 261440					<b>Analysis Date:</b> 10/29/2024		<b>SeqNo:</b> 8208574
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	2.33	mg/L	1						2.33	0.1%	20	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

SampleID: G2410546-004FDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/29/2024		RunNo: 312064				
		BatchID: 261440				Analysis Date: 10/29/2024		SeqNo: 8208577				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	6.97	mg/L	1						6.95	0.4%	20	
SampleID: G2410718-002CDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/29/2024		RunNo: 312064				
		BatchID: 261440				Analysis Date: 10/29/2024		SeqNo: 8208579				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	2470	mg/L	2						2470	0.1%	20	
SampleID: G2410718-005CDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/29/2024		RunNo: 312064				
		BatchID: 261440				Analysis Date: 10/29/2024		SeqNo: 8208581				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	2470	mg/L	10						2470	0.1%	20	
SampleID: G2410735-001EDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/29/2024		RunNo: 312064				
		BatchID: 261440				Analysis Date: 10/29/2024		SeqNo: 8208584				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	132	mg/L	1						132	0.0%	20	
SampleID: G2410F26-001EDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/29/2024		RunNo: 312064				
		BatchID: 261440				Analysis Date: 10/29/2024		SeqNo: 8208591				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	5.54	mg/L	1						5.55	0.1%	20	
SampleID: G2410735-003EDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/29/2024		RunNo: 312064				
		BatchID: 261440				Analysis Date: 10/29/2024		SeqNo: 8208596				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	71.7	mg/L	1						71.5	0.3%	20	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

SampleID: G2410F27-002BDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/29/2024		RunNo: 312064				
		BatchID: 261440				Analysis Date: 10/29/2024		SeqNo: 8208606				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	7.57	mg/L	1						7.57	0.0%	20	
SampleID: G2410B53-003DDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/29/2024		RunNo: 312064				
		BatchID: 261440				Analysis Date: 10/29/2024		SeqNo: 8208609				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	63.6	mg/L	1						63.7	0.1%	20	
SampleID: G2410D82-005CDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/29/2024		RunNo: 312064				
		BatchID: 261440				Analysis Date: 10/29/2024		SeqNo: 8208611				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	2610	mg/L	5						2610	0.0%	20	
SampleID: G2410F27-003BDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/29/2024		RunNo: 312138				
		BatchID: 261448				Analysis Date: 10/29/2024		SeqNo: 8210654				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	6.14	mg/L	1						6.14	0.1%	20	
SampleID: G2410F31-001BDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/29/2024		RunNo: 312138				
		BatchID: 261448				Analysis Date: 10/29/2024		SeqNo: 8210667				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	15.8	mg/L	1						15.8	0.0%	20	
SampleID: G2410F31-004BDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1		Prep Date: 10/30/2024		RunNo: 312261				
		BatchID: 261536				Analysis Date: 10/30/2024		SeqNo: 8214567				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	3.25	mg/L	1						3.26	0.3%	20	

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410F31  
Project: BGwinnett 221S(a)

## Analytical QC Summary Report

SampleID: G2410F42-001CDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1			Prep Date: 10/30/2024			RunNo: 312261		
		BatchID: 261536						Analysis Date: 10/30/2024			SeqNo: 8214593	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	14.6	mg/L	1						14.6	0.3%	20	
SampleID: G2410F47-001CDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1			Prep Date: 10/30/2024			RunNo: 312261		
		BatchID: 261536						Analysis Date: 10/30/2024			SeqNo: 8214620	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	1.03	mg/L	1						1.04	0.3%	20	
SampleID: HRQC-261440		SampType: HRQC		TestNo: EPA 300.0 Rev 2.1			Prep Date: 10/29/2024			RunNo: 312064		
		BatchID: 261440						Analysis Date: 10/29/2024			SeqNo: 8208570	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	246	mg/L	1	250		98.4%	90	110				
SampleID: HRQC-261448		SampType: HRQC		TestNo: EPA 300.0 Rev 2.1			Prep Date: 10/29/2024			RunNo: 312138		
		BatchID: 261448						Analysis Date: 10/29/2024			SeqNo: 8210651	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	244	mg/L	1	250		97.7%	90	110				
SampleID: HRQC-261536		SampType: HRQC		TestNo: EPA 300.0 Rev 2.1			Prep Date: 10/30/2024			RunNo: 312261		
		BatchID: 261536						Analysis Date: 10/30/2024			SeqNo: 8214562	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	244	mg/L	1	250		97.7%	90	110				
SampleID: HRQC 1000-261440		SampType: HRQC 1000		TestNo: EPA 300.0 Rev 2.1			Prep Date: 10/29/2024			RunNo: 312064		
		BatchID: 261440						Analysis Date: 10/29/2024			SeqNo: 8208572	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	974	mg/L	1	1000		97.4%	90	110				

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410F31  
Project: BGwinnett 221S(a)

## Analytical QC Summary Report

SampleID: HRQC 1000-261448		SampType: HRQC 1000	TestNo: EPA 300.0 Rev 2.1	Prep Date: 10/29/2024	RunNo: 312138								
BatchID: 261448		Analysis Date: 10/29/2024		SeqNo: 8210652									
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	963	mg/L	1	1000		96.3%	90	110					
SampleID: HRQC 1000-261536		SampType: HRQC 1000	TestNo: EPA 300.0 Rev 2.1	Prep Date: 10/30/2024	RunNo: 312261								
BatchID: 261536		Analysis Date: 10/30/2024		SeqNo: 8214563									
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	961	mg/L	1	1000		96.1%	90	110					
SampleID: LFB-261440		SampType: LFB	TestNo: EPA 300.0 Rev 2.1	Prep Date: 10/29/2024	RunNo: 312064								
BatchID: 261440		Analysis Date: 10/29/2024		SeqNo: 8208566									
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	49	mg/L	1	50		98.0%	90	110					
SampleID: LFB-261448		SampType: LFB	TestNo: EPA 300.0 Rev 2.1	Prep Date: 10/29/2024	RunNo: 312138								
BatchID: 261448		Analysis Date: 10/29/2024		SeqNo: 8210647									
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	46.2	mg/L	1	50		92.5%	90	110					
SampleID: LFB-261536		SampType: LFB	TestNo: EPA 300.0 Rev 2.1	Prep Date: 10/30/2024	RunNo: 312261								
BatchID: 261536		Analysis Date: 10/30/2024		SeqNo: 8214555									
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	46.3	mg/L	1	50		92.6%	90	110					
SampleID: LFB2-261440		SampType: LFB2	TestNo: EPA 300.0 Rev 2.1	Prep Date: 10/29/2024	RunNo: 312064								
BatchID: 261440		Analysis Date: 10/29/2024		SeqNo: 8208567									
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	4.87	mg/L	1	5		97.5%	90	110					

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410F31  
Project: BGwinnett 221S(a)

## Analytical QC Summary Report

SampleID: LFB2-261448		SampType: LFB2		TestNo: EPA 300.0 Rev 2.1				Prep Date: 10/29/2024			RunNo: 312138		
		BatchID: 261448				Analysis Date: 10/29/2024				SeqNo: 8210648			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	4.68	mg/L	1	5		93.6%	90	110					
SampleID: LFB2-261536		SampType: LFB2		TestNo: EPA 300.0 Rev 2.1				Prep Date: 10/30/2024			RunNo: 312261		
		BatchID: 261536				Analysis Date: 10/30/2024				SeqNo: 8214556			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	4.67	mg/L	1	5		93.5%	90	110					
SampleID: G2410F25-002ELFM		SampType: LFM		TestNo: EPA 300.0 Rev 2.1				Prep Date: 10/29/2024			RunNo: 312064		
		BatchID: 261440				Analysis Date: 10/29/2024				SeqNo: 8208575			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	18.2	mg/L	1	15	2.33	106.0%	80	120					
SampleID: G2410F26-001ELFM		SampType: LFM		TestNo: EPA 300.0 Rev 2.1				Prep Date: 10/29/2024			RunNo: 312064		
		BatchID: 261440				Analysis Date: 10/29/2024				SeqNo: 8208593			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	20.6	mg/L	1	15	5.55	100.4%	80	120					
SampleID: G2410F27-002BLFM		SampType: LFM		TestNo: EPA 300.0 Rev 2.1				Prep Date: 10/29/2024			RunNo: 312064		
		BatchID: 261440				Analysis Date: 10/29/2024				SeqNo: 8208607			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	22.3	mg/L	1	15	7.57	98.3%	80	120					
SampleID: G2410F27-003BLFM		SampType: LFM		TestNo: EPA 300.0 Rev 2.1				Prep Date: 10/29/2024			RunNo: 312138		
		BatchID: 261448				Analysis Date: 10/29/2024				SeqNo: 8210655			

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	20.8	mg/L	1	15	6.14	97.6%	80	120				
<b>SampleID:</b> G2410F31-001BLFM			<b>SampType:</b> LFM		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/29/2024		<b>RunNo:</b> 312138		
			<b>BatchID:</b> 261448				<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8210668		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	28.4	mg/L	1	15	15.8	84.3%	80	120				
<b>SampleID:</b> G2410F31-004BLFM			<b>SampType:</b> LFM		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024		<b>RunNo:</b> 312261		
			<b>BatchID:</b> 261536				<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8214569		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	18.4	mg/L	1	15	3.26	100.6%	80	120				
<b>SampleID:</b> G2410F42-001CLFM			<b>SampType:</b> LFM		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024		<b>RunNo:</b> 312261		
			<b>BatchID:</b> 261536				<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8214595		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	28	mg/L	1	15	14.6	89.1%	80	120				
<b>SampleID:</b> G2410F47-001CLFM			<b>SampType:</b> LFM		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024		<b>RunNo:</b> 312261		
			<b>BatchID:</b> 261536				<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8214622		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	17.8	mg/L	1	15	1.04	112.1%	80	120				
<b>SampleID:</b> LRB-261440			<b>SampType:</b> LRB		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/29/2024		<b>RunNo:</b> 312064		
			<b>BatchID:</b> 261440				<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8208568		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	< 1	mg/L	1									

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

SampleID: LRB-261448		SampType: LRB		TestNo: EPA 300.0 Rev 2.1				Prep Date: 10/29/2024			RunNo: 312138		
		BatchID: 261448				Analysis Date: 10/29/2024				SeqNo: 8210649			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	< 1	mg/L	1										
SampleID: LRB-261536		SampType: LRB		TestNo: EPA 300.0 Rev 2.1				Prep Date: 10/30/2024			RunNo: 312261		
		BatchID: 261536				Analysis Date: 10/30/2024				SeqNo: 8214558			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	< 1	mg/L	1										
SampleID: CB-261448		SampType: MBLK		TestNo: EPA 300.0 Rev 2.1				Prep Date: 10/29/2024			RunNo: 312138		
		BatchID: 261448				Analysis Date: 10/29/2024				SeqNo: 8210646			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	< 1	mg/L	1										
SampleID: CB-261536		SampType: MBLK		TestNo: EPA 300.0 Rev 2.1				Prep Date: 10/30/2024			RunNo: 312261		
		BatchID: 261536				Analysis Date: 10/30/2024				SeqNo: 8214553			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	< 1	mg/L	1										
SampleID: QCS-261440		SampType: QCS		TestNo: EPA 300.0 Rev 2.1				Prep Date: 10/29/2024			RunNo: 312064		
		BatchID: 261440				Analysis Date: 10/29/2024				SeqNo: 8208569			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	23.3	mg/L	1	24		97.1%	90	110					
SampleID: QCS-261448		SampType: QCS		TestNo: EPA 300.0 Rev 2.1				Prep Date: 10/29/2024			RunNo: 312138		
		BatchID: 261448				Analysis Date: 10/29/2024				SeqNo: 8210650			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	22.2	mg/L	1	24		92.5%	90	110					

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410F31  
Project: BGwinnett 221S(a)

## Analytical QC Summary Report

SampleID: QCS-261536		SampType: QCS		TestNo: EPA 300.0 Rev 2.1			Prep Date: 10/30/2024			RunNo: 312261		
		BatchID: 261536						Analysis Date: 10/30/2024			SeqNo: 8214560	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	22.6	mg/L	1	24		94.1%	90	110				
SampleID: G2410A75-001CDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1			Prep Date: 10/29/2024			RunNo: 312064		
		BatchID: 261440						Analysis Date: 10/29/2024			SeqNo: 8208624	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	5.06	mg/L	1						5.04	0.2%	20	
SampleID: G2410A75-002CDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1			Prep Date: 10/29/2024			RunNo: 312064		
		BatchID: 261440						Analysis Date: 10/29/2024			SeqNo: 8208626	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	16.4	mg/L	1						16.4	0.1%	20	
SampleID: G2410F26-002BDUP		SampType: DUP		TestNo: EPA 350.1 Rev 2.0			Prep Date:			RunNo: 312068		
		BatchID: R312068						Analysis Date: 10/30/2024			SeqNo: 8208692	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	< 0.1	mg/L as N	0.1								20	
SampleID: G2410F31-001ADUP		SampType: DUP		TestNo: EPA 350.1 Rev 2.0			Prep Date:			RunNo: 312068		
		BatchID: R312068						Analysis Date: 10/30/2024			SeqNo: 8208706	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	< 0.1	mg/L as N	0.1								20	
SampleID: LCS		SampType: LCS		TestNo: EPA 350.1 Rev 2.0			Prep Date:			RunNo: 312068		
		BatchID: R312068						Analysis Date: 10/30/2024			SeqNo: 8208690	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	0.82	mg/L as N	0.1	0.82		100.0%	90	110				

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410F31  
Project: BGwinnett 221S(a)

## Analytical QC Summary Report

SampleID: CCB		SampType: MBLK		TestNo: EPA 350.1 Rev 2.0				Prep Date:			RunNo: 312068		
		BatchID: R312068				Analysis Date: 10/30/2024				SeqNo: 8208688			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Ammonia Nitrogen	< 0.1	mg/L as N	0.1										
SampleID: G2410F26-002BMS		SampType: MS		TestNo: EPA 350.1 Rev 2.0				Prep Date:			RunNo: 312068		
		BatchID: R312068				Analysis Date: 10/30/2024				SeqNo: 8208693			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Ammonia Nitrogen	1.03	mg/L as N	0.1	1		103.5%	90	110					
SampleID: G2410F31-001AMS		SampType: MS		TestNo: EPA 350.1 Rev 2.0				Prep Date:			RunNo: 312068		
		BatchID: R312068				Analysis Date: 10/30/2024				SeqNo: 8208707			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Ammonia Nitrogen	1.07	mg/L as N	0.1	1		106.6%	90	110					
SampleID: LCS1-261491		SampType: LCS1		TestNo: EPA 6010 D				Prep Date: 10/30/2024			RunNo: 312171		
		BatchID: 261491				Analysis Date: 10/31/2024				SeqNo: 8212028			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Barium	1.1	mg/L	0.01	1		109.8%	79.5	120.4					
Beryllium	0.213	mg/L	0.001	0.2		106.3%	79.5	120.4					
Cadmium	0.418	mg/L	0.002	0.4		104.5%	79.5	120.4					
Chromium	1.07	mg/L	0.01	1		107.2%	79.5	120.4					
Cobalt	0.43	mg/L	0.005	0.4		107.6%	79.5	120.4					
Copper	1.06	mg/L	0.01	1		106.4%	79.5	120.4					
Nickel	1.05	mg/L	0.01	1		105.3%	79.5	120.4					
Silver	0.0098	mg/L	0.005	0.01		98.0%	79.5	120.4					
Vanadium	0.417	mg/L	0.005	0.4		104.3%	79.5	120.4					
Zinc	1.03	mg/L	0.01	1		103.0%	79.5	120.4					

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

<b>SampleID:</b> LCS1-261494	<b>SampType:</b> LCS1		<b>TestNo:</b> EPA 6010 D			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312171		
	<b>BatchID:</b> 261494			<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8212055				

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	1.09	mg/L	0.01	1		109.4%	79.5	120.4				
Beryllium	0.211	mg/L	0.001	0.2		105.7%	79.5	120.4				
Cadmium	0.415	mg/L	0.002	0.4		103.7%	79.5	120.4				
Chromium	1.06	mg/L	0.01	1		106.4%	79.5	120.4				
Cobalt	0.427	mg/L	0.005	0.4		106.7%	79.5	120.4				
Copper	1.05	mg/L	0.01	1		104.8%	79.5	120.4				
Nickel	1.04	mg/L	0.01	1		103.9%	79.5	120.4				
Silver	0.0104	mg/L	0.005	0.01		104.0%	79.5	120.4				
Vanadium	0.412	mg/L	0.005	0.4		103.1%	79.5	120.4				
Zinc	1.01	mg/L	0.01	1		100.9%	79.5	120.4				

<b>SampleID:</b> PB-261491	<b>SampType:</b> PB		<b>TestNo:</b> EPA 6010 D			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312171		
	<b>BatchID:</b> 261491			<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8212027				

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	< 0.01	mg/L	0.01									
Beryllium	< 0.001	mg/L	0.001									
Cadmium	< 0.002	mg/L	0.002									
Chromium	< 0.01	mg/L	0.01									
Cobalt	< 0.005	mg/L	0.005									
Copper	< 0.01	mg/L	0.01									
Nickel	< 0.01	mg/L	0.01									
Silver	< 0.005	mg/L	0.005									
Vanadium	< 0.005	mg/L	0.005									
Zinc	< 0.01	mg/L	0.01									

<b>SampleID:</b> PB-261494	<b>SampType:</b> PB		<b>TestNo:</b> EPA 6010 D			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312171		
	<b>BatchID:</b> 261494			<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8212054				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	< 0.01	mg/L	0.01									
Beryllium	< 0.001	mg/L	0.001									
Cadmium	< 0.002	mg/L	0.002									
Chromium	< 0.01	mg/L	0.01									
Cobalt	< 0.005	mg/L	0.005									
Copper	< 0.01	mg/L	0.01									
Nickel	< 0.01	mg/L	0.01									
Silver	< 0.005	mg/L	0.005									
Vanadium	< 0.005	mg/L	0.005									
Zinc	< 0.01	mg/L	0.01									

SampleID: G2410F27-003DDUP	SampType: DUP	TestNo: EPA 6010 D	Prep Date: 10/30/2024	RunNo: 312171
	BatchID: 261491		Analysis Date: 10/31/2024	SeqNo: 8212022

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	0.0406	mg/L	0.01						0.0408	0.5%	20	
Beryllium	< 0.001	mg/L	0.001								20	
Cadmium	< 0.002	mg/L	0.002								20	
Chromium	< 0.01	mg/L	0.01								20	
Cobalt	< 0.005	mg/L	0.005								20	
Copper	< 0.01	mg/L	0.01								20	
Nickel	< 0.01	mg/L	0.01								20	
Silver	< 0.005	mg/L	0.005								20	
Vanadium	< 0.005	mg/L	0.005								20	
Zinc	< 0.01	mg/L	0.01								20	

SampleID: G2410F31-006DDUP	SampType: DUP	TestNo: EPA 6010 D	Prep Date: 10/30/2024	RunNo: 312171
	BatchID: 261494		Analysis Date: 10/31/2024	SeqNo: 8212056

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	0.0974	mg/L	0.01						0.0977	0.3%	20	
Beryllium	< 0.001	mg/L	0.001								20	
Cadmium	< 0.002	mg/L	0.002								20	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Chromium	< 0.01	mg/L	0.01									20	
Cobalt	< 0.005	mg/L	0.005									20	
Copper	< 0.01	mg/L	0.01									20	
Nickel	< 0.01	mg/L	0.01									20	
Silver	< 0.005	mg/L	0.005									20	
Vanadium	< 0.005	mg/L	0.005									20	
Zinc	< 0.01	mg/L	0.01									20	

SampleID: G2410F27-003DMS	SampType: MS	TestNo: EPA 6010 D	Prep Date: 10/30/2024	RunNo: 312171
	BatchID: 261491		Analysis Date: 10/31/2024	SeqNo: 8212023

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Barium	1.13	mg/L	0.01	1	0.0408	109.4%	75	125					
Beryllium	0.212	mg/L	0.001	0.2		105.8%	75	125					
Cadmium	0.416	mg/L	0.002	0.4		104.0%	75	125					
Chromium	1.07	mg/L	0.01	1		106.7%	75	125					
Cobalt	0.428	mg/L	0.005	0.4		107.0%	75	125					
Copper	1.06	mg/L	0.01	1		105.7%	75	125					
Nickel	1.04	mg/L	0.01	1		104.2%	75	125					
Silver	0.0098	mg/L	0.005	0.01		98.0%	75	125					
Vanadium	0.419	mg/L	0.005	0.4		104.7%	75	125					
Zinc	1.02	mg/L	0.01	1		102.4%	75	125					

SampleID: G2410F27-004CMS	SampType: MS	TestNo: EPA 6010 D	Prep Date: 10/30/2024	RunNo: 312171
	BatchID: 261491		Analysis Date: 10/31/2024	SeqNo: 8212039

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Barium	1.07	mg/L	0.01	1		107.4%	75	125					
Beryllium	0.208	mg/L	0.001	0.2		103.8%	75	125					
Cadmium	0.408	mg/L	0.002	0.4		101.9%	75	125					
Chromium	1.05	mg/L	0.01	1		104.6%	75	125					
Cobalt	0.419	mg/L	0.005	0.4		104.7%	75	125					
Copper	1.04	mg/L	0.01	1		103.6%	75	125					
Nickel	1.03	mg/L	0.01	1		102.6%	75	125					

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Silver	0.0096	mg/L	0.005	0.01		96.0%	75	125					
Vanadium	0.406	mg/L	0.005	0.4		101.5%	75	125					
Zinc	0.994	mg/L	0.01	1		99.4%	75	125					

SampleID: G2410F31-006DMS	SampType: MS	TestNo: EPA 6010 D	Prep Date: 10/30/2024	RunNo: 312171
	BatchID: 261494		Analysis Date: 10/31/2024	SeqNo: 8212057

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Barium	1.17	mg/L	0.01	1	0.0977	107.3%	75	125					
Beryllium	0.208	mg/L	0.001	0.2		104.0%	75	125					
Cadmium	0.406	mg/L	0.002	0.4		101.5%	75	125					
Chromium	1.04	mg/L	0.01	1		104.0%	75	125					
Cobalt	0.418	mg/L	0.005	0.4		104.5%	75	125					
Copper	1.04	mg/L	0.01	1		104.1%	75	125					
Nickel	1.02	mg/L	0.01	1		101.6%	75	125					
Silver	0.0097	mg/L	0.005	0.01		97.0%	75	125					
Vanadium	0.407	mg/L	0.005	0.4		101.9%	75	125					
Zinc	0.98	mg/L	0.01	1		98.0%	75	125					

SampleID: G2410F44-002FMS	SampType: MS	TestNo: EPA 6010 D	Prep Date: 10/30/2024	RunNo: 312171
	BatchID: 261494		Analysis Date: 10/31/2024	SeqNo: 8212070

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Barium	1.14	mg/L	0.01	1	0.0107	112.5%	75	125					
Beryllium	0.218	mg/L	0.001	0.2		109.0%	75	125					
Cadmium	0.425	mg/L	0.002	0.4		106.3%	75	125					
Chromium	1.1	mg/L	0.01	1		109.5%	75	125					
Cobalt	0.438	mg/L	0.005	0.4		109.6%	75	125					
Copper	1.08	mg/L	0.01	1		108.3%	75	125					
Nickel	1.07	mg/L	0.01	1		107.2%	75	125					
Silver	0.0102	mg/L	0.005	0.01		102.0%	75	125					
Vanadium	0.423	mg/L	0.005	0.4		105.8%	75	125					
Zinc	1.02	mg/L	0.01	1		102.3%	75	125					

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

**SampleID:** G2410F31-006DDUP

**SampType:** DUP

**TestNo:** EPA 6020 B

**Prep Date:** 10/30/2024

**RunNo:** 312157

**BatchID:** 261496

**Analysis Date:** 10/31/2024

**SeqNo:** 8211294

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	< 1	µg/L	1								20	
Arsenic	< 1	µg/L	1								20	
Lead	< 1	µg/L	1								20	
Selenium	< 1	µg/L	1								20	
Thallium	< 0.2	µg/L	0.2								20	

**SampleID:** LCS2-261493

**SampType:** LCS2

**TestNo:** EPA 6020 B

**Prep Date:** 10/30/2024

**RunNo:** 312157

**BatchID:** 261493

**Analysis Date:** 10/31/2024

**SeqNo:** 8211228

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	5.89	µg/L	1	6		98.1%	79.5	120.45				
Arsenic	9.24	µg/L	1	10		92.4%	79.5	120.45				
Lead	5.07	µg/L	1	5		101.4%	79.5	120.45				
Selenium	18.6	µg/L	1	20		93.2%	79.5	120.45				
Thallium	2.03	µg/L	0.2	2		101.6%	79.5	120.45				

**SampleID:** LCS2-261496

**SampType:** LCS2

**TestNo:** EPA 6020 B

**Prep Date:** 10/30/2024

**RunNo:** 312157

**BatchID:** 261496

**Analysis Date:** 10/31/2024

**SeqNo:** 8211277

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	5.82	µg/L	1	6		97.0%	79.5	120.45				
Arsenic	9.39	µg/L	1	10		93.9%	79.5	120.45				
Lead	5.08	µg/L	1	5		101.6%	79.5	120.45				
Selenium	19	µg/L	1	20		94.8%	79.5	120.45				
Thallium	2.02	µg/L	0.2	2		100.8%	79.5	120.45				

**SampleID:** G2410F31-005DMS

**SampType:** MS

**TestNo:** EPA 6020 B

**Prep Date:** 10/30/2024

**RunNo:** 312157

**BatchID:** 261493

**Analysis Date:** 10/31/2024

**SeqNo:** 8211255

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	5.89	µg/L	1	6		98.1%	75	125				
Arsenic	10.7	µg/L	1	10	1.39	92.8%	75	125				
Lead	5.4	µg/L	1	5	0.362	100.7%	75	125				
Selenium	19.1	µg/L	1	20		95.4%	75	125				
Thallium	2.04	µg/L	0.2	2		102.2%	75	125				

SampleID: PB-261493	SampType: PB	TestNo: EPA 6020 B	Prep Date: 10/30/2024	RunNo: 312157
	BatchID: 261493		Analysis Date: 10/31/2024	SeqNo: 8211224

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	< 1	µg/L	1					0.5				
Arsenic	< 1	µg/L	1					0.5				
Lead	< 1	µg/L	1					0.2				
Selenium	< 1	µg/L	1					0.5				
Thallium	< 0.2	µg/L	0.2					0.1				

SampleID: PB-261496	SampType: PB	TestNo: EPA 6020 B	Prep Date: 10/30/2024	RunNo: 312157
	BatchID: 261496		Analysis Date: 10/31/2024	SeqNo: 8211274

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	< 1	µg/L	1					0.5				
Arsenic	< 1	µg/L	1					0.5				
Lead	< 1	µg/L	1					0.2				
Selenium	< 1	µg/L	1					0.5				
Thallium	< 0.2	µg/L	0.2					0.1				

SampleID: G2410F27-003DDUP	SampType: DUP	TestNo: EPA 6020 B	Prep Date: 10/30/2024	RunNo: 312157
	BatchID: 261493		Analysis Date: 10/31/2024	SeqNo: 8211233

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	< 1	µg/L	1							20		
Arsenic	< 1	µg/L	1							20		
Lead	< 1	µg/L	1					0.251		20		

Client: BUTTON GWINNETT LANDFILL

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## Analytical QC Summary Report

Selenium	< 1	µg/L	1								20	
Thallium	< 0.2	µg/L	0.2								20	

SampleID: G2410F44-001FMS	SampType: MS	TestNo: EPA 6020 B	Prep Date: 10/30/2024	RunNo: 312157
	BatchID: 261496		Analysis Date: 10/31/2024	SeqNo: 8211338

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	5.96	µg/L	1	6		99.4%	75	125				
Arsenic	9.31	µg/L	1	10		93.1%	75	125				
Lead	5.17	µg/L	1	5		103.4%	75	125				
Selenium	18.5	µg/L	1	20		92.4%	75	125				
Thallium	2.06	µg/L	0.2	2		103.0%	75	125				

SampleID: G2410F50-002DMS	SampType: MS	TestNo: EPA 6020 B	Prep Date: 10/30/2024	RunNo: 312157
	BatchID: 261496		Analysis Date: 10/31/2024	SeqNo: 8211370

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	6.04	µg/L	1	6		100.6%	75	125				
Arsenic	22.1	µg/L	1	10	12.3	97.2%	75	125				
Lead	7.65	µg/L	1	5	2.51	102.8%	75	125				
Selenium	19.4	µg/L	1	20		97.1%	75	125				
Thallium	2.27	µg/L	0.2	2	0.188	103.9%	75	125				

SampleID: 20 PPB LCS	SampType: LCS	TestNo: EPA 8260 D	Prep Date:	RunNo: 311917
	BatchID: R311917		Analysis Date: 10/26/2024	SeqNo: 8204295

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	20.5	µg/L	1	20		102.7%	81	125				
1,1,1-Trichloroethane	20.2	µg/L	1	20		101.0%	71	125				
1,1,2,2-Tetrachloroethane	20	µg/L	1	20		100.0%	80	116				
1,1,2-Trichloroethane	20.5	µg/L	1	20		102.7%	83	126				
1,1-Dichloroethane	20.1	µg/L	1	20		100.5%	73	122				
1,1-Dichloroethene	20.6	µg/L	1	20		103.1%	74	121				
1,2,3-Trichloropropane	19.6	µg/L	1	20		98.2%	77	118				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

1,2-Dibromo-3-chloropropane	20.9	µg/L	5	20		104.4%	64	126				
1,2-Dibromoethane	20.8	µg/L	1	20		104.1%	83	119				
1,2-Dichlorobenzene	19.1	µg/L	1	20		95.3%	85	119				
1,2-Dichloroethane	20.8	µg/L	1	20		104.1%	72	123				
1,2-Dichloropropane	20.1	µg/L	1	20		100.4%	83	122				
1,4-Dichlorobenzene	18.9	µg/L	1	20		94.7%	83	120				
2-Butanone	20.6	µg/L	5	20		103.0%	61	125				
2-Hexanone	20.3	µg/L	5	20		101.6%	58	132				
4-Methyl-2-Pentanone	20.5	µg/L	1	20		102.7%	68	127				
Acetone	22.1	µg/L	10	20		110.4%	60	133				
Benzene	19.7	µg/L	1	20		98.3%	76	122				
Bromochloromethane	20.7	µg/L	1	20		103.7%	78	124				
Bromodichloromethane	20.9	µg/L	1	20		104.3%	71	138				
Bromoform	19	µg/L	1	20		94.8%	71	125				
Carbon Disulfide	19.7	µg/L	1	20		98.5%	63	123				
Carbon Tetrachloride	20.9	µg/L	1	20		104.6%	68	133				
Chlorobenzene	19.1	µg/L	1	20		95.7%	83	118				
Chlorodibromomethane	21.4	µg/L	1	20		107.2%	74	131				
Chloroethane	20	µg/L	1	20		99.9%	56	127				
Chloroform	20.2	µg/L	1	20		100.9%	73	123				
Chloromethane	17.6	µg/L	1	20		88.0%	65	129				
cis-1,2-Dichloroethene	20.5	µg/L	1	20		102.4%	75	121				
cis-1,3-Dichloropropene	20.7	µg/L	1	20		103.4%	71	129				
Dibromomethane	19.4	µg/L	1	20		96.9%	83	118				
Dichlorobromomethane	20.9	µg/L	1	20		104.3%	56	145				
Ethylbenzene	18.9	µg/L	1	20		94.6%	84	120				
Iodomethane	18.6	µg/L	5	20		93.1%	29	162				
Methyl Ethyl Ketone	20.6	µg/L	5	20		103.0%	72	131				
Methylene Chloride	19.6	µg/L	1	20		98.0%	73	133				
Styrene	19.7	µg/L	1	20		98.4%	88	116				
Tetrachloroethene	20.9	µg/L	1	20		104.7%	76	127				
Toluene	19.3	µg/L	1	20		96.4%	80	118				
trans-1,2-Dichloroethene	20.5	µg/L	1	20		102.7%	73	120				
trans-1,3-Dichloropropene	20.9	µg/L	1	20		104.6%	70	126				

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Project: BGwinnett 221S(a)

## Analytical QC Summary Report

trans-1,4-Dichloro-2-butene	19.4	µg/L	2	20		96.9%	46	137					
Tribromomethane	19	µg/L	1	20		94.8%	71	125					
Trichloroethene	20	µg/L	1	20		100.1%	73	123					
Trichlorofluoromethane	19.9	µg/L	1	20		99.4%	69	125					
Trichloromethane	20.2	µg/L	1	20		100.9%	73	123					
Vinyl Acetate	20.2	µg/L	1	20		100.8%	67	131					
Vinyl Chloride	18	µg/L	1	20		89.9%	56	125					
Total Xylene	57.9	µg/L	2	60		96.4%	87	116					
Surr: 1,2-Dichloroethane-d4	30.3	µg/L	0	30		101.0%	70	130					
Surr: 4-Bromofluorobenzene	29.9	µg/L	0	30		99.8%	70	130					
Surr: Dibromofluoromethane	30.9	µg/L	0	30		102.9%	70	130					
Surr: Toluene-d8	29.4	µg/L	0	30		98.1%	70	130					

SampleID: 20 PPB LCS	SampType: LCS	TestNo: EPA 8260 D	Prep Date:	RunNo: 311953
	BatchID: R311953		Analysis Date: 10/28/2024	SeqNo: 8205082

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Bromomethane	16.1	µg/L	1	20		80.3%	47	152				

SampleID: 20 PPB LCS	SampType: LCS	TestNo: EPA 8260 D	Prep Date:	RunNo: 312000
	BatchID: R312000		Analysis Date: 10/28/2024	SeqNo: 8206648

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	21.8	µg/L	1	20		109.0%	81	125				
1,1,1-Trichloroethane	21.2	µg/L	1	20		105.8%	71	125				
1,1,2,2-Tetrachloroethane	20.2	µg/L	1	20		100.8%	80	116				
1,1,2-Trichloroethane	21.2	µg/L	1	20		105.9%	83	126				
1,1-Dichloroethane	20.9	µg/L	1	20		104.6%	73	122				
1,1-Dichloroethene	22.4	µg/L	1	20		112.2%	74	121				
1,2,3-Trichloropropane	20.8	µg/L	1	20		103.8%	77	118				
1,2-Dibromo-3-chloropropane	19.6	µg/L	5	20		97.9%	64	126				
1,2-Dibromoethane	21.2	µg/L	1	20		105.8%	83	119				
1,2-Dichlorobenzene	19.6	µg/L	1	20		97.8%	85	119				
1,2-Dichloroethane	20.8	µg/L	1	20		103.8%	72	123				

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

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## Analytical QC Summary Report

1,2-Dichloropropane	21.3	µg/L	1	20		106.3%	83	122			
1,4-Dichlorobenzene	19.4	µg/L	1	20		97.2%	83	120			
2-Butanone	21.4	µg/L	5	20		107.0%	61	125			
2-Hexanone	21.3	µg/L	5	20		106.4%	58	132			
4-Methyl-2-Pentanone	21.8	µg/L	1	20		109.2%	68	127			
Acetone	18.7	µg/L	10	20		93.3%	60	133			
Benzene	20	µg/L	1	20		100.2%	76	122			
Bromochloromethane	21.3	µg/L	1	20		106.5%	78	124			
Bromodichloromethane	21.9	µg/L	1	20		109.5%	71	138			
Bromoform	20.7	µg/L	1	20		103.7%	71	125			
Bromomethane	17.2	µg/L	1	20		85.9%	47	152			
Carbon Disulfide	21.8	µg/L	1	20		109.2%	63	123			
Carbon Tetrachloride	22.8	µg/L	1	20		113.9%	68	133			
Chlorobenzene	19.7	µg/L	1	20		98.4%	83	118			
Chlorodibromomethane	20.3	µg/L	1	20		101.3%	74	131			
Chloroethane	23.1	µg/L	1	20		115.5%	56	127			
Chloroform	20.6	µg/L	1	20		102.9%	73	123			
Chloromethane	19.8	µg/L	1	20		99.2%	65	129			
cis-1,2-Dichloroethene	21.3	µg/L	1	20		106.3%	75	121			
cis-1,3-Dichloropropene	22.1	µg/L	1	20		110.4%	71	129			
Dibromomethane	20.9	µg/L	1	20		104.4%	83	118			
Dichlorobromomethane	21.9	µg/L	1	20		109.5%	56	145			
Ethylbenzene	19.9	µg/L	1	20		99.3%	84	120			
Iodomethane	22	µg/L	5	20		110.1%	29	162			
Methyl Ethyl Ketone	21.4	µg/L	5	20		107.0%	72	131			
Methylene Chloride	19.3	µg/L	1	20		96.5%	73	133			
Styrene	20.4	µg/L	1	20		101.8%	88	116			
Tetrachloroethene	21.1	µg/L	1	20		105.3%	76	127			
Toluene	20.2	µg/L	1	20		101.2%	80	118			
trans-1,2-Dichloroethene	21.4	µg/L	1	20		107.0%	73	120			
trans-1,3-Dichloropropene	22.4	µg/L	1	20		111.9%	70	126			
trans-1,4-Dichloro-2-butene	20.5	µg/L	2	20		102.6%	46	137			
Tribromomethane	20.7	µg/L	1	20		103.7%	71	125			
Trichloroethene	21.2	µg/L	1	20		106.2%	73	123			

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

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## Analytical QC Summary Report

Trichlorofluoromethane	21.2	µg/L	1	20		106.2%	69	125				
Trichloromethane	20.6	µg/L	1	20		102.9%	73	123				
Vinyl Acetate	20.7	µg/L	1	20		103.6%	67	131				
Vinyl Chloride	20	µg/L	1	20		99.8%	56	125				
Total Xylene	60.5	µg/L	2	60		100.9%	87	116				
Surr: 1,2-Dichloroethane-d4	30.3	µg/L	0	30		101.0%	70	130				
Surr: 4-Bromofluorobenzene	29.2	µg/L	0	30		97.3%	70	130				
Surr: Dibromofluoromethane	30.9	µg/L	0	30		103.1%	70	130				
Surr: Toluene-d8	29.5	µg/L	0	30		98.4%	70	130				

SampleID: BLANK	SampType: MBLK	TestNo: EPA 8260 D	Prep Date:	RunNo: 311917
	BatchID: R311917		Analysis Date: 10/26/2024	SeqNo: 8204300

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	< 1	µg/L	1									
1,1,1-Trichloroethane	< 1	µg/L	1									
1,1,2,2-Tetrachloroethane	< 1	µg/L	1									
1,1,2-Trichloroethane	< 1	µg/L	1									
1,1-Dichloroethane	< 1	µg/L	1									
1,1-Dichloroethene	< 1	µg/L	1									
1,2,3-Trichloropropane	< 1	µg/L	1									
1,2-Dibromo-3-chloropropane	< 5	µg/L	5									
1,2-Dibromoethane	< 1	µg/L	1									
1,2-Dichlorobenzene	< 1	µg/L	1									
1,2-Dichloroethane	< 1	µg/L	1									
1,2-Dichloropropane	< 1	µg/L	1									
1,4-Dichlorobenzene	< 1	µg/L	1									
2-Butanone	< 5	µg/L	5									
2-Hexanone	< 5	µg/L	5									
4-Methyl-2-Pentanone	< 1	µg/L	1									
Acetone	< 10	µg/L	10									
Benzene	< 1	µg/L	1									
Bromochloromethane	< 1	µg/L	1									
Bromodichloromethane	< 1	µg/L	1									

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## Analytical QC Summary Report

Bromoform	< 1	µg/L	1								
Carbon Disulfide	< 1	µg/L	1								
Carbon Tetrachloride	< 1	µg/L	1								
Chlorobenzene	< 1	µg/L	1								
Chlorodibromomethane	< 1	µg/L	1								
Chloroethane	< 1	µg/L	1								
Chloroform	< 1	µg/L	1								
Chloromethane	< 1	µg/L	1								
cis-1,2-Dichloroethene	< 1	µg/L	1								
cis-1,3-Dichloropropene	< 1	µg/L	1								
Dibromomethane	< 1	µg/L	1								
Dichlorobromomethane	< 1	µg/L	1								
Ethylbenzene	< 1	µg/L	1								
Iodomethane	< 5	µg/L	5								
Methyl Ethyl Ketone	< 5	µg/L	5								
Methylene Chloride	< 1	µg/L	1								
Styrene	< 1	µg/L	1								
Tetrachloroethene	< 1	µg/L	1								
Toluene	< 1	µg/L	1								
trans-1,2-Dichloroethene	< 1	µg/L	1								
trans-1,3-Dichloropropene	< 1	µg/L	1								
trans-1,4-Dichloro-2-butene	< 2	µg/L	2								
Tribromomethane	< 1	µg/L	1								
Trichloroethene	< 1	µg/L	1								
Trichlorofluoromethane	< 1	µg/L	1								
Trichloromethane	< 1	µg/L	1								
Vinyl Acetate	< 1	µg/L	1								
Vinyl Chloride	< 1	µg/L	1								
Total Xylene	< 2	µg/L	2								
Surr: 1,2-Dichloroethane-d4	30.7	µg/L	0	30		102.2%	70	130			
Surr: 4-Bromofluorobenzene	29.9	µg/L	0	30		99.7%	70	130			
Surr: Dibromofluoromethane	29.3	µg/L	0	30		97.5%	70	130			
Surr: Toluene-d8	29.5	µg/L	0	30		98.4%	70	130			

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## Analytical QC Summary Report

<b>SampleID:</b> BLANK	<b>SampType:</b> MBLK	<b>TestNo:</b> EPA 8260 D	<b>Prep Date:</b>	<b>RunNo:</b> 311953
		<b>BatchID:</b> R311953	<b>Analysis Date:</b> 10/28/2024	<b>SeqNo:</b> 8205086

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Bromomethane	< 1	µg/L	1									

<b>SampleID:</b> BLANK	<b>SampType:</b> MBLK	<b>TestNo:</b> EPA 8260 D	<b>Prep Date:</b>	<b>RunNo:</b> 312000
		<b>BatchID:</b> R312000	<b>Analysis Date:</b> 10/28/2024	<b>SeqNo:</b> 8206660

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	< 1	µg/L	1									
1,1,1-Trichloroethane	< 1	µg/L	1									
1,1,2,2-Tetrachloroethane	< 1	µg/L	1									
1,1,2-Trichloroethane	< 1	µg/L	1									
1,1-Dichloroethane	< 1	µg/L	1									
1,1-Dichloroethene	< 1	µg/L	1									
1,2,3-Trichloropropane	< 1	µg/L	1									
1,2-Dibromo-3-chloropropane	< 5	µg/L	5									
1,2-Dibromoethane	< 1	µg/L	1									
1,2-Dichlorobenzene	< 1	µg/L	1									
1,2-Dichloroethane	< 1	µg/L	1									
1,2-Dichloropropane	< 1	µg/L	1									
1,4-Dichlorobenzene	< 1	µg/L	1									
2-Butanone	< 5	µg/L	5									
2-Hexanone	< 5	µg/L	5									
4-Methyl-2-Pentanone	< 1	µg/L	1									
Acetone	< 10	µg/L	10									
Benzene	< 1	µg/L	1									
Bromochloromethane	< 1	µg/L	1									
Bromodichloromethane	< 1	µg/L	1									
Bromoform	< 1	µg/L	1									
Bromomethane	< 1	µg/L	1									
Carbon Disulfide	< 1	µg/L	1									

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## Analytical QC Summary Report

Carbon Tetrachloride	< 1	µg/L	1									
Chlorobenzene	< 1	µg/L	1									
Chlorodibromomethane	< 1	µg/L	1									
Chloroethane	< 1	µg/L	1									
Chloroform	< 1	µg/L	1									
Chloromethane	< 1	µg/L	1									
cis-1,2-Dichloroethene	< 1	µg/L	1									
cis-1,3-Dichloropropene	< 1	µg/L	1									
Dibromomethane	< 1	µg/L	1									
Dichlorobromomethane	< 1	µg/L	1									
Ethylbenzene	< 1	µg/L	1									
Iodomethane	< 5	µg/L	5									
Methyl Ethyl Ketone	< 5	µg/L	5									
Methylene Chloride	< 1	µg/L	1									
Styrene	< 1	µg/L	1									
Tetrachloroethene	< 1	µg/L	1									
Toluene	< 1	µg/L	1									
trans-1,2-Dichloroethene	< 1	µg/L	1									
trans-1,3-Dichloropropene	< 1	µg/L	1									
trans-1,4-Dichloro-2-butene	< 2	µg/L	2									
Tribromomethane	< 1	µg/L	1									
Trichloroethene	< 1	µg/L	1									
Trichlorofluoromethane	< 1	µg/L	1									
Trichloromethane	< 1	µg/L	1									
Vinyl Acetate	< 1	µg/L	1									
Vinyl Chloride	< 1	µg/L	1									
Total Xylene	< 2	µg/L	2									
Surr: 1,2-Dichloroethane-d4	31.1	µg/L	0	30		103.5%	70	130				
Surr: 4-Bromofluorobenzene	30.4	µg/L	0	30		101.4%	70	130				
Surr: Dibromofluoromethane	30	µg/L	0	30		100.0%	70	130				
Surr: Toluene-d8	30.3	µg/L	0	30		100.9%	70	130				

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410F31  
Project: BGwinnett 221S(a)

## Analytical QC Summary Report

SampleID: G2410E58-004DMS		SampType: MS		TestNo: EPA 8260 D			Prep Date:			RunNo: 311917		
		BatchID: R311917							Analysis Date: 10/26/2024		SeqNo: 8204305	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	20	µg/L	1	20		100.0%	76	117				
1,1,1-Trichloroethane	21.3	µg/L	1	20		106.4%	72	122				
1,1,2,2-Tetrachloroethane	18.9	µg/L	1	20		94.5%	72	110				
1,1,2-Trichloroethane	19.2	µg/L	1	20		95.9%	76	126				
1,1-Dichloroethane	20.2	µg/L	1	20		100.8%	66	126				
1,1-Dichloroethene	21.9	µg/L	1	20		109.7%	66	121				
1,2,3-Trichloropropane	18.6	µg/L	1	20		93.0%	72	112				
1,2-Dibromo-3-chloropropane	19.1	µg/L	5	20		95.3%	57	121				
1,2-Dibromoethane	19.4	µg/L	1	20		97.1%	75	113				
1,2-Dichlorobenzene	18.3	µg/L	1	20		91.5%	76	108				
1,2-Dichloroethane	19.7	µg/L	1	20		98.3%	69	116				
1,2-Dichloropropane	19.4	µg/L	1	20		96.9%	78	122				
1,4-Dichlorobenzene	18.2	µg/L	1	20		90.9%	70	121				
2-Butanone	18.6	µg/L	5	20		93.0%	59	118				
2-Hexanone	18.3	µg/L	5	20		91.6%	63	120				
4-Methyl-2-Pentanone	19	µg/L	1	20		94.9%	68	116				
Acetone	20.4	µg/L	10	20		101.9%	51	133				
Benzene	19.6	µg/L	1	20		97.8%	52	125				
Bromochloromethane	19.8	µg/L	1	20		98.8%	71	117				
Bromodichloromethane	20.2	µg/L	1	20		100.9%	68	132				
Bromoform	18.1	µg/L	1	20		90.5%	65	117				
Carbon Disulfide	21.2	µg/L	1	20		106.0%	60	123				
Carbon Tetrachloride	22.4	µg/L	1	20		112.1%	67	132				
Chlorobenzene	18.9	µg/L	1	20		94.5%	78	111				
Chlorodibromomethane	20.3	µg/L	1	20		101.4%	70	123				
Chloroethane	20.6	µg/L	1	20		103.2%	46	132				
Chloroform	19.9	µg/L	1	20		99.6%	69	117				
Chloromethane	17.9	µg/L	1	20		89.5%	51	129				
cis-1,2-Dichloroethene	20.1	µg/L	1	20		100.3%	71	117				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

cis-1,3-Dichloropropene	19.9	µg/L	1	20		99.4%	71	117				
Dibromomethane	18.2	µg/L	1	20		91.1%	77	110				
Dichlorobromomethane	20.2	µg/L	1	20		100.9%	74	117				
Ethylbenzene	19.1	µg/L	1	20		95.7%	72	122				
Iodomethane	20.1	µg/L	5	20		100.3%	34	150				
Methyl Ethyl Ketone	18.6	µg/L	5	20		93.0%	59	121				
Methylene Chloride	18.7	µg/L	1	20		93.5%	64	121				
Styrene	19	µg/L	1	20		94.9%	78	117				
Tetrachloroethene	19	µg/L	1	20		95.1%	67	122				
Toluene	19.4	µg/L	1	20		96.8%	75	115				
trans-1,2-Dichloroethene	21.1	µg/L	1	20		105.6%	69	118				
trans-1,3-Dichloropropene	20.1	µg/L	1	20		100.4%	66	122				
trans-1,4-Dichloro-2-butene	19.1	µg/L	2	20		95.8%	46	131				
Tribromomethane	18.1	µg/L	1	20		90.5%	65	117				
Trichloroethene	20.4	µg/L	1	20		102.0%	75	117				
Trichlorofluoromethane	21.3	µg/L	1	20		106.3%	69	125				
Trichloromethane	19.9	µg/L	1	20		99.6%	69	117				
Vinyl Acetate	18.2	µg/L	1	20		90.8%	46	126				
Vinyl Chloride	19.3	µg/L	1	20		96.4%	54	128				
Total Xylene	57.9	µg/L	2	60		96.5%	72	120				
Surr: 1,2-Dichloroethane-d4	29.8	µg/L	0	30		99.5%	70	130				
Surr: 4-Bromofluorobenzene	30.2	µg/L	0	30		100.7%	70	130				
Surr: Dibromofluoromethane	31	µg/L	0	30		103.3%	70	130				
Surr: Toluene-d8	29.5	µg/L	0	30		98.3%	70	130				

SampleID: G2410E73-001EMS	SampType: MS	TestNo: EPA 8260 D	Prep Date:	RunNo: 311953
	BatchID: R311953		Analysis Date: 10/28/2024	SeqNo: 8205094

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Bromomethane	16.2	µg/L	1	20		81.2%	40	156				

SampleID: G2410E58-004DMSD	SampType: MSD	TestNo: EPA 8260 D	Prep Date:	RunNo: 311917
	BatchID: R311917		Analysis Date: 10/26/2024	SeqNo: 8204309

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	19.9	µg/L	1						20	0.3%	11	
1,1,1-Trichloroethane	21.4	µg/L	1						21.3	0.8%	12	
1,1,2,2-Tetrachloroethane	18.7	µg/L	1						18.9	0.9%	14	
1,1,2-Trichloroethane	19.3	µg/L	1						19.2	0.6%	15	
1,1-Dichloroethane	20.2	µg/L	1						20.2	0.4%	12	
1,1-Dichloroethene	22.1	µg/L	1						21.9	0.7%	14	
1,2,3-Trichloropropane	18.5	µg/L	1						18.6	0.8%	14	
1,2-Dibromo-3-chloropropane	18.9	µg/L	5						19.1	1.1%	20	
1,2-Dibromoethane	19.6	µg/L	1						19.4	0.7%	17	
1,2-Dichlorobenzene	18.1	µg/L	1						18.3	1.0%	13	
1,2-Dichloroethane	19.6	µg/L	1						19.7	0.4%	11	
1,2-Dichloropropane	19.5	µg/L	1						19.4	0.6%	12	
1,4-Dichlorobenzene	18.1	µg/L	1						18.2	0.6%	16	
2-Butanone	18.8	µg/L	5						18.6	1.2%	23	
2-Hexanone	18.8	µg/L	5						18.3	2.7%	18	
4-Methyl-2-Pentanone	19.2	µg/L	1						19	1.4%	18	
Acetone	20.9	µg/L	10						20.4	2.8%	23	
Benzene	19.7	µg/L	1						19.6	0.6%	15	
Bromochloromethane	19.7	µg/L	1						19.8	0.1%	12	
Bromodichloromethane	20.2	µg/L	1						20.2	0.1%	18	
Bromoform	17.7	µg/L	1						18.1	2.4%	14	
Carbon Disulfide	21.3	µg/L	1						21.2	0.3%	13	
Carbon Tetrachloride	22.5	µg/L	1						22.4	0.2%	12	
Chlorobenzene	18.8	µg/L	1						18.9	0.6%	10	
Chlorodibromomethane	20.2	µg/L	1						20.3	0.3%	16	
Chloroethane	20.6	µg/L	1						20.6	0.3%	17	
Chloroform	19.8	µg/L	1						19.9	0.7%	13	
Chloromethane	18.3	µg/L	1						17.9	2.3%	16	
cis-1,2-Dichloroethene	20.2	µg/L	1						20.1	0.6%	12	
cis-1,3-Dichloropropene	19.7	µg/L	1						19.9	1.0%	16	
Dibromomethane	18.2	µg/L	1						18.2	0.2%	14	
Dichlorobromomethane	20.2	µg/L	1						20.2	0.1%	13	
Ethylbenzene	19.1	µg/L	1						19.1	0.2%	16	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Iodomethane	19.7	µg/L	5						20.1	1.8%	19	
Methyl Ethyl Ketone	18.8	µg/L	5						18.6	1.2%	21	
Methylene Chloride	19	µg/L	1						18.7	1.8%	17	
Styrene	19	µg/L	1						19	0.3%	12	
Tetrachloroethene	18.9	µg/L	1						19	0.9%	16	
Toluene	19.4	µg/L	1						19.4	0.0%	13	
trans-1,2-Dichloroethene	21.2	µg/L	1						21.1	0.2%	13	
trans-1,3-Dichloropropene	19.9	µg/L	1						20.1	0.9%	15	
trans-1,4-Dichloro-2-butene	18.8	µg/L	2						19.1	1.8%	17	
Tribromomethane	17.7	µg/L	1						18.1	2.4%	14	
Trichloroethene	20.3	µg/L	1						20.4	0.4%	11	
Trichlorofluoromethane	21.8	µg/L	1						21.3	2.7%	15	
Trichloromethane	19.8	µg/L	1						19.9	0.7%	12	
Vinyl Acetate	18.2	µg/L	1						18.2	0.1%	11	
Vinyl Chloride	19.5	µg/L	1						19.3	1.2%	15	
Total Xylene	57.7	µg/L	2						57.9		18	
Surr: 1,2-Dichloroethane-d4	30.1	µg/L	0	30		100.5%	70	130	29.8			
Surr: 4-Bromofluorobenzene	30.1	µg/L	0	30		100.3%	70	130	30.2			
Surr: Dibromofluoromethane	31	µg/L	0	30		103.4%	70	130	31			
Surr: Toluene-d8	29.2	µg/L	0	30		97.4%	70	130	29.5			

SampleID: G2410E73-001EMSD	SampType: MSD	TestNo: EPA 8260 D	Prep Date:	RunNo: 311953
	BatchID: R311953		Analysis Date: 10/28/2024	SeqNo: 8205100

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Bromomethane	16.3	µg/L	1						16.2	0.4%	22	

SampleID: G2410E68-003GMS	SampType: MS	TestNo: EPA 8260 D	Prep Date:	RunNo: 312000
	BatchID: R312000		Analysis Date: 10/28/2024	SeqNo: 8206671

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	21.9	µg/L	1	20		109.5%	76	117				
1,1,1-Trichloroethane	22	µg/L	1	20		110.2%	72	122				
1,1,2,2-Tetrachloroethane	20.6	µg/L	1	20		103.0%	72	110				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

1,1,2-Trichloroethane	20.6	µg/L	1	20		103.1%	76	126				
1,1-Dichloroethane	21	µg/L	1	20		104.8%	66	126				
1,1-Dichloroethene	22.9	µg/L	1	20		114.5%	66	121				
1,2,3-Trichloropropane	20.9	µg/L	1	20		104.6%	72	112				
1,2-Dibromo-3-chloropropane	19	µg/L	5	20		94.9%	57	121				
1,2-Dibromoethane	20.6	µg/L	1	20		103.0%	75	113				
1,2-Dichlorobenzene	20.2	µg/L	1	20		101.1%	76	108				
1,2-Dichloroethane	20.8	µg/L	1	20		104.0%	69	116				
1,2-Dichloropropane	21.2	µg/L	1	20		106.2%	78	122				
1,4-Dichlorobenzene	19.9	µg/L	1	20		99.6%	70	121				
2-Hexanone	21	µg/L	5	20		105.0%	63	120				
4-Methyl-2-Pentanone	20	µg/L	1	20		100.2%	68	116				
Acetone	17.7	µg/L	10	20		88.7%	51	133				
Acrylonitrile	21.5	µg/L	5	20		107.7%	64	122				
Benzene	20.5	µg/L	1	20		102.5%	52	125				
Bromochloromethane	21.5	µg/L	1	20		107.3%	71	117				
Bromodichloromethane	22.1	µg/L	1	20		110.3%	68	132				
Bromomethane	17.6	µg/L	1	20		88.1%	40	156				
Carbon Disulfide	22.5	µg/L	1	20		112.7%	60	123				
Carbon Tetrachloride	23.8	µg/L	1	20		119.2%	67	132				
Chlorobenzene	20.1	µg/L	1	20		100.3%	78	111				
Chlorodibromomethane	20.3	µg/L	1	20		101.5%	70	123				
Chloroethane	24.4	µg/L	1	20		122.0%	46	132				
Chloromethane	20.8	µg/L	1	20		104.0%	51	129				
cis-1,2-Dichloroethene	21.7	µg/L	1	20		108.3%	71	117				
cis-1,3-Dichloropropene	22	µg/L	1	20		109.8%	71	117				
Dibromomethane	20.8	µg/L	1	20		103.8%	77	110				
Dichlorobromomethane	22.1	µg/L	1	20		110.3%	74	117				
Ethylbenzene	20.4	µg/L	1	20		102.0%	72	122				
Iodomethane	22.4	µg/L	5	20		111.9%	34	150				
Methyl Ethyl Ketone	21.4	µg/L	5	20		106.8%	59	121				
Methylene Chloride	19.8	µg/L	1	20		99.0%	64	121				
Styrene	20.3	µg/L	1	20		101.4%	78	117				
Tetrachloroethene	19.6	µg/L	1	20		98.2%	67	122				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Toluene	20.5	µg/L	1	20		102.5%	75	115				
trans-1,2-Dichloroethene	22	µg/L	1	20		109.8%	69	118				
trans-1,3-Dichloropropene	22.4	µg/L	1	20		112.2%	66	122				
trans-1,4-Dichloro-2-butene	20.8	µg/L	2	20		104.1%	46	131				
Tribromomethane	20.9	µg/L	1	20		104.7%	65	117				
Trichloroethene	21.6	µg/L	1	20		108.1%	75	117				
Trichlorofluoromethane	22	µg/L	1	20		110.2%	69	125				
Trichloromethane	20.8	µg/L	1	20		104.0%	69	117				
Vinyl Acetate	19.8	µg/L	1	20		99.1%	46	126				
Vinyl Chloride	20.7	µg/L	1	20		103.3%	54	128				
Total Xylene	62.2	µg/L	2	60		103.7%	72	120				
Surr: 1,2-Dichloroethane-d4	30.3	µg/L	0	30		101.0%	70	130				
Surr: 4-Bromofluorobenzene	30.6	µg/L	0	30		102.1%	70	130				
Surr: Dibromofluoromethane	30.7	µg/L	0	30		102.3%	70	130				
Surr: Toluene-d8	30	µg/L	0	30		100.1%	70	130				

SampleID: G2410E68-003GMSD

SampType: MSD

TestNo: EPA 8260 D

Prep Date:

RunNo: 312000

BatchID: R312000

Analysis Date: 10/28/2024

SeqNo: 8206688

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	21.4	µg/L	1						21.9	2.2%	11	
1,1,1-Trichloroethane	21.7	µg/L	1						22	1.3%	12	
1,1,2,2-Tetrachloroethane	19	µg/L	1						20.6	7.9%	14	
1,1,2-Trichloroethane	20.1	µg/L	1						20.6	2.3%	15	
1,1-Dichloroethane	20.6	µg/L	1						21	1.8%	12	
1,1-Dichloroethene	22.8	µg/L	1						22.9	0.3%	14	
1,2,3-Trichloropropane	19.8	µg/L	1						20.9	5.6%	14	
1,2-Dibromo-3-chloropropane	18.2	µg/L	5						19	4.3%	20	
1,2-Dibromoethane	20.2	µg/L	1						20.6	2.1%	17	
1,2-Dichlorobenzene	19.3	µg/L	1						20.2	4.6%	13	
1,2-Dichloroethane	20.6	µg/L	1						20.8	0.7%	11	
1,2-Dichloropropane	21.1	µg/L	1						21.2	0.5%	12	
1,4-Dichlorobenzene	19.3	µg/L	1						19.9	3.2%	16	
2-Hexanone	20.3	µg/L	5						21	3.5%	18	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

4-Methyl-2-Pentanone	19.7	µg/L	1				20	1.7%	18	
Acetone	16.6	µg/L	10				17.7	6.7%	23	
Acrylonitrile	20.8	µg/L	5				21.5	3.5%	16	
Benzene	20.2	µg/L	1				20.5	1.4%	15	
Bromochloromethane	21.6	µg/L	1				21.5	0.9%	12	
Bromodichloromethane	21.6	µg/L	1				22.1	1.9%	18	
Bromomethane	17.5	µg/L	1				17.6	0.8%	22	
Carbon Disulfide	22.2	µg/L	1				22.5	1.7%	13	
Carbon Tetrachloride	23.4	µg/L	1				23.8	1.7%	12	
Chlorobenzene	19.7	µg/L	1				20.1	1.7%	10	
Chlorodibromomethane	19.9	µg/L	1				20.3	2.3%	16	
Chloroethane	22.4	µg/L	1				24.4	8.6%	17	
Chloromethane	20.4	µg/L	1				20.8	1.8%	16	
cis-1,2-Dichloroethene	20.9	µg/L	1				21.7	3.7%	12	
cis-1,3-Dichloropropene	21.5	µg/L	1				22	2.1%	16	
Dibromomethane	20.5	µg/L	1				20.8	1.5%	14	
Dichlorobromomethane	21.6	µg/L	1				22.1	1.9%	13	
Ethylbenzene	19.6	µg/L	1				20.4	3.9%	16	
Iodomethane	21.6	µg/L	5				22.4	3.3%	19	
Methyl Ethyl Ketone	20.5	µg/L	5				21.4	4.3%	21	
Methylene Chloride	19.6	µg/L	1				19.8	0.8%	17	
Styrene	19.6	µg/L	1				20.3	3.1%	12	
Tetrachloroethene	19.3	µg/L	1				19.6	1.9%	16	
Toluene	20.2	µg/L	1				20.5	1.3%	13	
trans-1,2-Dichloroethene	21.7	µg/L	1				22	1.4%	13	
trans-1,3-Dichloropropene	22.2	µg/L	1				22.4	1.3%	15	
trans-1,4-Dichloro-2-butene	19.2	µg/L	2				20.8	8.0%	17	
Tribromomethane	19.6	µg/L	1				20.9	6.5%	14	
Trichloroethene	21.3	µg/L	1				21.6	1.5%	11	
Trichlorofluoromethane	21.6	µg/L	1				22	2.2%	15	
Trichloromethane	20.4	µg/L	1				20.8	1.8%	12	
Vinyl Acetate	19.5	µg/L	1				19.8	1.5%	11	
Vinyl Chloride	20	µg/L	1				20.7	3.2%	15	
Total Xylene	60	µg/L	2				62.2		18	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Surr: 1,2-Dichloroethane-d4	30	µg/L	0	30		100.0%	70	130	30.3				
Surr: 4-Bromofluorobenzene	30.1	µg/L	0	30		100.4%	70	130	30.6				
Surr: Dibromofluoromethane	30.8	µg/L	0	30		102.7%	70	130	30.7				
Surr: Toluene-d8	29.7	µg/L	0	30		99.1%	70	130	30				
<b>SampleID:</b> BLANK-261466		<b>SampType:</b> BLANK		<b>TestNo:</b> SM 2540 C-15		<b>Prep Date:</b> 10/29/2024		<b>RunNo:</b> 312032					
<b>BatchID:</b> 261466				<b>Analysis Date:</b> 10/29/2024				<b>SeqNo:</b> 8207950					
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Total dissolved solids	< 20	mg/L	20										
<b>SampleID:</b> BLANK-261598		<b>SampType:</b> BLANK		<b>TestNo:</b> SM 2540 C-15		<b>Prep Date:</b> 10/31/2024		<b>RunNo:</b> 312150					
<b>BatchID:</b> 261598				<b>Analysis Date:</b> 10/31/2024				<b>SeqNo:</b> 8210926					
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Total dissolved solids	< 20	mg/L	20										
<b>SampleID:</b> G2410F14-001GDUP		<b>SampType:</b> DUP		<b>TestNo:</b> SM 2540 C-15		<b>Prep Date:</b> 10/29/2024		<b>RunNo:</b> 312032					
<b>BatchID:</b> 261466				<b>Analysis Date:</b> 10/29/2024				<b>SeqNo:</b> 8207984					
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Total dissolved solids	340	mg/L	20						342	0.6%	10		
<b>SampleID:</b> G2410F31-001CDUP		<b>SampType:</b> DUP		<b>TestNo:</b> SM 2540 C-15		<b>Prep Date:</b> 10/29/2024		<b>RunNo:</b> 312032					
<b>BatchID:</b> 261466				<b>Analysis Date:</b> 10/29/2024				<b>SeqNo:</b> 8208002					
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Total dissolved solids	92	mg/L	20						96	4.3%	10		
<b>SampleID:</b> G2410F31-006CDUP		<b>SampType:</b> DUP		<b>TestNo:</b> SM 2540 C-15		<b>Prep Date:</b> 10/31/2024		<b>RunNo:</b> 312150					
<b>BatchID:</b> 261598				<b>Analysis Date:</b> 10/31/2024				<b>SeqNo:</b> 8210928					
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Total dissolved solids	118	mg/L	20						114	3.4%	10		

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

<b>SampleID:</b> G2410H20-006BDUP		<b>SampType:</b> DUP		<b>TestNo:</b> SM 2540 C-15			<b>Prep Date:</b> 10/31/2024			<b>RunNo:</b> 312150		
		<b>BatchID:</b> 261598						<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8210953	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	2980	mg/L	20						2980	0.1%	10	
<b>SampleID:</b> G2410H37-002ADUP		<b>SampType:</b> DUP		<b>TestNo:</b> SM 2540 C-15			<b>Prep Date:</b> 10/31/2024			<b>RunNo:</b> 312150		
		<b>BatchID:</b> 261598						<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8210963	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	356	mg/L	20						354	0.6%	10	
<b>SampleID:</b> LCS-261466		<b>SampType:</b> LCS		<b>TestNo:</b> SM 2540 C-15			<b>Prep Date:</b> 10/29/2024			<b>RunNo:</b> 312032		
		<b>BatchID:</b> 261466						<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8208017	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	256	mg/L	20	292		87.7%	79	106				
<b>SampleID:</b> LCS-261598		<b>SampType:</b> LCS		<b>TestNo:</b> SM 2540 C-15			<b>Prep Date:</b> 10/31/2024			<b>RunNo:</b> 312150		
		<b>BatchID:</b> 261598						<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8210966	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	236	mg/L	20	292		80.8%	79	106				

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410F31  
Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Prep Batch Report		Prep Start Date: 10/29/2024 1:52:00 PM							Technician: Adam C. Brown		
Prep Batch: 261440			Prep End Date: 10/29/2024 1:52:00 PM				Prep Factor Units: mL				
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End		
CB-261440		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 7:44:00 AM	10/29/2024 7:44:00 AM		
G2410F26-002E	MW-16R	Groundwater	10/24/2024 11:05:00 AM	100	100		1.000	10/29/2024 11:46:00 AM	10/29/2024 11:46:00 AM		
G2410F27-001B	SW-14	Surface Water	10/24/2024 10:40:00 AM	100	100		1.000	10/29/2024 11:25:00 AM	10/29/2024 11:25:00 AM		
G2410F27-002B	SW-11	Surface Water	10/24/2024 11:15:00 AM	100	100		1.000	10/29/2024 11:58:00 AM	10/29/2024 11:58:00 AM		
G2410F27-002BDUP		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:58:00 AM	10/29/2024 11:58:00 AM		
G2410F27-002BLFM		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:58:00 AM	10/29/2024 11:58:00 AM		
G2410F27-004B	Field Blank-FB-SW	Surface Water	10/24/2024 12:40:00 PM	100	100		1.000	10/29/2024 1:52:00 PM	10/29/2024 1:52:00 PM		
G2410F31-002B	GWC-8A	Groundwater	10/24/2024 8:17:00 AM	100	100		1.000	10/29/2024 1:52:00 PM	10/29/2024 1:52:00 PM		
G2410F31-003B	GWC-8R	Groundwater	10/24/2024 8:48:00 AM	100	100		1.000	10/29/2024 1:52:00 PM	10/29/2024 1:52:00 PM		
HRQC 1000-261440		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 7:44:00 AM	10/29/2024 7:44:00 AM		
HRQC-261440		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 7:44:00 AM	10/29/2024 7:44:00 AM		
IPC-261440		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 7:44:00 AM	10/29/2024 7:44:00 AM		
LFB-261440		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 7:44:00 AM	10/29/2024 7:44:00 AM		
LFB2-261440		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 7:44:00 AM	10/29/2024 7:44:00 AM		
LRB-261440		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 7:44:00 AM	10/29/2024 7:44:00 AM		
QCS-261440		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 7:44:00 AM	10/29/2024 7:44:00 AM		
G2410546-004F	MW-26D	Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:25:00 AM	10/29/2024 11:25:00 AM		
G2410546-004FDUP		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:25:00 AM	10/29/2024 11:25:00 AM		
G2410718-002C	L-CELL 4A	Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:25:00 AM	10/29/2024 11:25:00 AM		
G2410718-002CDUP		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:25:00 AM	10/29/2024 11:25:00 AM		
G2410718-005C	DUP	Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:25:00 AM	10/29/2024 11:25:00 AM		
G2410718-005CDUP		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:25:00 AM	10/29/2024 11:25:00 AM		
G2410735-001E	SWM-3	Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:25:00 AM	10/29/2024 11:25:00 AM		
G2410735-001EDUP		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:25:00 AM	10/29/2024 11:25:00 AM		
G2410735-003E	SWM-1	Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:46:00 AM	10/29/2024 11:46:00 AM		

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

G2410735-003EDUP		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:46:00 AM	10/29/2024 11:46:00 AM
G2410909-001C	SP-1	Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:46:00 AM	10/29/2024 11:46:00 AM
G2410909-001CDUP		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:46:00 AM	10/29/2024 11:46:00 AM
G2410914-001C	SW-2/Main Leachate	Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:46:00 AM	10/29/2024 11:46:00 AM
G2410914-001CDUP		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:46:00 AM	10/29/2024 11:46:00 AM
G2410A75-001C	Outfall 001	Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:46:00 AM	10/29/2024 11:46:00 AM
G2410A75-001CDUP		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:46:00 AM	10/29/2024 11:46:00 AM
G2410A75-002C	Outfall 002	Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:58:00 AM	10/29/2024 11:58:00 AM
G2410A75-002CDUP		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:58:00 AM	10/29/2024 11:58:00 AM
G2410D82-005C	MW-11B	Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:58:00 AM	10/29/2024 11:58:00 AM
G2410D82-005CDUP		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:58:00 AM	10/29/2024 11:58:00 AM
G2410F25-002E	MW-29	Groundwater	10/24/2024 2:05:00 PM	100	100		1.000	10/29/2024 11:25:00 AM	10/29/2024 11:25:00 AM
G2410F25-002EDUP		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:25:00 AM	10/29/2024 11:25:00 AM
G2410F25-002ELFM		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:25:00 AM	10/29/2024 11:25:00 AM
G2410F26-001E	MW-12R	Groundwater	10/24/2024 12:38:00 PM	100	100		1.000	10/29/2024 11:46:00 AM	10/29/2024 11:46:00 AM
G2410F26-001EDUP		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:46:00 AM	10/29/2024 11:46:00 AM
G2410F26-001ELFM		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:46:00 AM	10/29/2024 11:46:00 AM
G2410B53-003D	GWC-7	Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:58:00 AM	10/29/2024 11:58:00 AM
G2410B53-003DDUP		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 11:58:00 AM	10/29/2024 11:58:00 AM

## Prep Batch Report

Prep Batch: 261448

Prep Code: INPR\_IC

Prep Start Date: 10/29/2024 1:34:00 PM

Prep End Date: 10/29/2024 1:34:00 PM

Technician: Adam C. Brown

Prep Factor Units: mL

Sample ID	Client Samp ID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
CB-261448		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 7:49:00 AM	10/29/2024 7:49:00 AM
G2410F27-003B	SW-9	Surface Water	10/24/2024 12:30:00 PM	100	100		1.000	10/29/2024 1:15:00 PM	10/29/2024 1:15:00 PM
G2410F27-003BDUP		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 1:15:00 PM	10/29/2024 1:15:00 PM
G2410F27-003BLFM		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 1:15:00 PM	10/29/2024 1:15:00 PM
G2410F31-001B	GWC-10	Groundwater	10/24/2024 7:40:00 AM	100	100		1.000	10/29/2024 1:34:00 PM	10/29/2024 1:34:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

G2410F31-001BDUP		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 1:34:00 PM	10/29/2024 1:34:00 PM
G2410F31-001BLFM		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 1:34:00 PM	10/29/2024 1:34:00 PM
G2410G39-009D	MP-13B	Groundwater	10/28/2024 2:45:00 PM	100	100		1.000	10/29/2024 1:34:00 PM	10/29/2024 1:34:00 PM
HRQC 1000-261448		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 7:49:00 AM	10/29/2024 7:49:00 AM
HRQC-261448		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 7:49:00 AM	10/29/2024 7:49:00 AM
IPC-261448		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 7:49:00 AM	10/29/2024 7:49:00 AM
LFB-261448		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 7:49:00 AM	10/29/2024 7:49:00 AM
LFB2-261448		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 7:49:00 AM	10/29/2024 7:49:00 AM
LRB-261448		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 7:49:00 AM	10/29/2024 7:49:00 AM
QCS-261448		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 7:49:00 AM	10/29/2024 7:49:00 AM
G2410G06-001E	W-27B	Groundwater	10/28/2024 8:39:00 AM	100	100		1.000	10/29/2024 1:15:00 PM	10/29/2024 1:15:00 PM
G2410G06-002E	W-27A	Groundwater	10/28/2024 10:00:00 AM	100	100		1.000	10/29/2024 1:15:00 PM	10/29/2024 1:15:00 PM
G2410G06-003E	W-27SG	Groundwater	10/28/2024 10:39:00 AM	100	100		1.000	10/29/2024 1:15:00 PM	10/29/2024 1:15:00 PM
G2410G06-004E	W-29B	Groundwater	10/28/2024 11:24:00 AM	100	100		1.000	10/29/2024 1:15:00 PM	10/29/2024 1:15:00 PM
G2410G06-005E	W-29A	Groundwater	10/28/2024 11:59:00 AM	100	100		1.000	10/29/2024 1:15:00 PM	10/29/2024 1:15:00 PM
G2410G06-006E	W-29SG	Groundwater	10/28/2024 12:39:00 PM	100	100		1.000	10/29/2024 1:15:00 PM	10/29/2024 1:15:00 PM
G2410G06-007E	W-30A	Groundwater	10/28/2024 1:26:00 PM	100	100		1.000	10/29/2024 1:15:00 PM	10/29/2024 1:15:00 PM
G2410G06-008E	F-Blank	Aqueous	10/28/2024 2:15:00 PM	100	100		1.000	10/29/2024 1:15:00 PM	10/29/2024 1:15:00 PM
G2410G38-004A	T440	Waste Water	10/28/2024 8:45:00 AM	100	100		1.000	10/29/2024 1:15:00 PM	10/29/2024 1:15:00 PM
G2410G39-001D	MP-17	Groundwater	10/28/2024 9:35:00 AM	100	100		1.000	10/29/2024 1:34:00 PM	10/29/2024 1:34:00 PM
G2410G39-002D	TB-2	Groundwater	10/28/2024 10:45:00 AM	100	100		1.000	10/29/2024 1:34:00 PM	10/29/2024 1:34:00 PM
G2410G39-003D	MP-1	Groundwater	10/28/2024 11:25:00 AM	100	100		1.000	10/29/2024 1:34:00 PM	10/29/2024 1:34:00 PM
G2410G39-004D	MP-1 DUP	Groundwater	10/28/2024 11:25:00 AM	100	100		1.000	10/29/2024 1:34:00 PM	10/29/2024 1:34:00 PM
G2410G39-005D	TB-4	Groundwater	10/28/2024 12:35:00 PM	100	100		1.000	10/29/2024 1:34:00 PM	10/29/2024 1:34:00 PM
G2410G39-006D	MP-3	Groundwater	10/28/2024 1:10:00 PM	100	100		1.000	10/29/2024 1:34:00 PM	10/29/2024 1:34:00 PM
G2410G39-007D	MP-19	Groundwater	10/28/2024 1:45:00 PM	100	100		1.000	10/29/2024 1:34:00 PM	10/29/2024 1:34:00 PM
G2410G39-008D	MP-13A	Groundwater	10/28/2024 2:30:00 PM	100	100		1.000	10/29/2024 1:34:00 PM	10/29/2024 1:34:00 PM

## Prep Batch Report

Prep Batch: 261466

Prep Code: WATERPR\_TDS

Prep Start Date: 10/29/2024 11:20:00 AM

Prep End Date: 10/29/2024 11:25:00 AM

Technician: Laykin A. Pritts

Prep Factor Units: mL

Client: BUTTON GWINNETT LANDFILL  
 WorkOrder: G2410F31  
 Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
Blank-261466			10/29/2024 12:00:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F26-001A	MW-12R	Groundwater	10/24/2024 12:38:00 PM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F26-002A	MW-16R	Groundwater	10/24/2024 11:05:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F31-001C	GWC-10	Groundwater	10/24/2024 7:40:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F31-001CDUP			10/29/2024 12:00:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F31-002C	GWC-8A	Groundwater	10/24/2024 8:17:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F31-003C	GWC-8R	Groundwater	10/24/2024 8:48:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F31-004C	GWC-13	Groundwater	10/24/2024 9:56:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F31-005C	GWC-3A	Groundwater	10/24/2024 10:52:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F31-006C	GWC-3RA	Groundwater	10/24/2024 11:31:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F31-007C	GWC-6A	Groundwater	10/24/2024 12:04:00 PM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F31-008C	GWC-2A	Groundwater	10/24/2024 12:38:00 PM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F31-009C	GWC-2RA	Groundwater	10/24/2024 1:10:00 PM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
LCS-261466			10/29/2024 12:00:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F14-001G	SW-1	Surface Water	10/24/2024 12:30:00 PM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F14-001GDUP			10/29/2024 12:00:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F18-001A	Leachate Comp	Leachate	10/24/2024 12:30:00 PM	10	50		5.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F19-001C	RO Feed	Waste Water	10/24/2024 11:00:00 AM	10	50		5.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F22-001G	MW-1	Groundwater	10/24/2024 11:15:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F22-002G	MW-2	Groundwater	10/24/2024 11:30:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F23-001A	MSW Leachate Tank	Waste Water	10/24/2024 2:15:00 PM	10	50		5.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F25-001A	MW-28	Groundwater	10/24/2024 3:08:00 PM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F25-002A	MW-29	Groundwater	10/24/2024 2:05:00 PM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM
G2410F33-001C	GWC-12A	Groundwater	10/24/2024 9:20:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM

			Prep Batch Report								
Prep Batch:	261491	Prep Start Date:	10/30/2024 8:50:00 AM	Technician:	Adam D. Moschgat	Prep Code:	MEPR6010_3010	Prep End Date:	10/30/2024 2:20:00 PM <th>Prep Factor Units:</th> <td>mL</td>	Prep Factor Units:	mL

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410E62-001B	Sludge	Sludge	10/23/2024 11:45:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F13-001D	TANCD4	Gas Condensate	10/24/2024 8:50:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F27-003D	SW-9	Surface Water	10/24/2024 12:30:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F27-003DDUP		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F27-003DMS		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F27-004C	Field Blank-FB-SW	Surface Water	10/24/2024 12:40:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F27-004CMS		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F29-001B	Finished Mulch	Solid	10/24/2024 8:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F30-001E	MSW Leachate	Waste Water	10/24/2024 2:35:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F31-001D	GWC-10	Groundwater	10/24/2024 7:40:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F31-002D	GWC-8A	Groundwater	10/24/2024 8:17:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F31-003D	GWC-8R	Groundwater	10/24/2024 8:48:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F31-004D	GWC-13	Groundwater	10/24/2024 9:56:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F31-005D	GWC-3A	Groundwater	10/24/2024 10:52:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
LCS1-261491		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
PB-261491		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410G20-001B	TCLP Blank RSWC-9 -55-13	Solid	10/28/2024 10:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410G20-002B	TCLP Blank RSWC-9 -55-12	Solid	10/28/2024 10:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410G20-004A	SPLP 1 Blank RSWC-9-55-14	Solid	10/28/2024 10:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410G95-001A	TCLP Metals RSWC-9-56-2	Solid	10/29/2024 10:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM

## Prep Batch Report

Prep Start Date: 10/30/2024 8:50:00 AM

Prep End Date: 10/30/2024 2:20:00 PM

Technician: Adam D. Moschgat

Prep Factor Units:

Prep Batch: 261493

Prep Code: MEPR6020\_3010

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410E45-001D	TMC-1		10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F27-003D	SW-9	Surface Water	10/24/2024 12:30:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F27-003DDUP			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F27-004C	Field Blank-FB-SW	Surface Water	10/24/2024 12:40:00 PM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F31-001D	GWC-10	Groundwater	10/24/2024 7:40:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F31-002D	GWC-8A	Groundwater	10/24/2024 8:17:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F31-003D	GWC-8R	Groundwater	10/24/2024 8:48:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F31-004D	GWC-13	Groundwater	10/24/2024 9:56:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F31-005D	GWC-3A	Groundwater	10/24/2024 10:52:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410F31-005DMS			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
LCS2-261493			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
PB-261493			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM
G2410E68-006F	MW-21R		10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 8:50:00 AM	10/30/2024 2:20:00 PM

## Prep Batch Report

Prep Start Date: 10/30/2024 9:40:00 AM

Prep End Date: 10/30/2024 3:10:00 PM

Technician: Adam D. Moschgat

Prep Factor Units: mL

Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410F31-006D	GWC-3RA	Groundwater	10/24/2024 11:31:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F31-006DDUP		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F31-006DMS		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F31-007D	GWC-6A	Groundwater	10/24/2024 12:04:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F31-008D	GWC-2A	Groundwater	10/24/2024 12:38:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F31-009D	GWC-2RA	Groundwater	10/24/2024 1:10:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F33-001D	GWC-12A	Groundwater	10/24/2024 9:20:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F40-001E	LMP-1	Leachate	10/23/2024 3:05:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F42-001D	SHC-14	Surface Water	10/23/2024 12:00:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F42-002D	SWB-2	Surface Water	10/23/2024 2:40:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F44-001F	SWA-4	Surface Water	10/23/2024 11:45:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

G2410F44-002F	SWA-1	Surface Water	10/23/2024 12:45:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F44-002FMS		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F44-003F	SWA-3	Surface Water	10/23/2024 1:10:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F44-004F	TSW-2(G)	Surface Water	10/23/2024 2:00:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F44-005F	SWC-2	Surface Water	10/23/2024 2:45:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F44-006F	SWC-3	Surface Water	10/23/2024 2:15:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F44-007F	SWC-7	Surface Water	10/23/2024 1:45:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F47-002A	GWA-2	Groundwater	10/24/2024 10:40:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F50-001D	GWC-13	Groundwater	10/23/2024 9:55:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F50-002D	GWC-42	Groundwater	10/22/2024 1:00:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
LCS1-261494		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
PB-261494		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM

## Prep Batch Report

Prep Start Date: 10/30/2024 9:40:00 AM

Prep End Date: 10/30/2024 3:10:00 PM

Technician: Adam D. Moschgat

Prep Factor Units:

Sample ID	Client Samp ID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410F31-006D	GWC-3RA	Groundwater	10/24/2024 11:31:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F31-006DDUP			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F31-007D	GWC-6A	Groundwater	10/24/2024 12:04:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F31-008D	GWC-2A	Groundwater	10/24/2024 12:38:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F31-009D	GWC-2RA	Groundwater	10/24/2024 1:10:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F33-001D	GWC-12A	Groundwater	10/24/2024 9:20:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F40-001E	LMP-1	Leachate	10/23/2024 3:05:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F42-001D	SHC-14	Surface Water	10/23/2024 12:00:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F42-002D	SWB-2	Surface Water	10/23/2024 2:40:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F44-001F	SWA-4	Surface Water	10/23/2024 11:45:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F44-001FMS			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F44-002F	SWA-1	Surface Water	10/23/2024 12:45:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F44-003F	SWA-3	Surface Water	10/23/2024 1:10:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

G2410F44-004F	TSW-2(G)	Surface Water	10/23/2024 2:00:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F44-005F	SWC-2	Surface Water	10/23/2024 2:45:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F44-006F	SWC-3	Surface Water	10/23/2024 2:15:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F44-007F	SWC-7	Surface Water	10/23/2024 1:45:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F47-002A	GWA-2	Groundwater	10/24/2024 10:40:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F50-001D	GWC-13	Groundwater	10/23/2024 9:55:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F50-002D	GWC-42	Groundwater	10/22/2024 1:00:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F50-002DMS			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
LCS2-261496			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
PB-261496			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM

**Prep Batch:** 261536**Prep Code:** INPR\_IC**Prep Batch Report****Prep Start Date:** 10/30/2024 2:24:00 PM**Prep End Date:** 10/30/2024 2:24:00 PM**Technician:** Adam C. Brown**Prep Factor Units:** mL

Sample ID	Client SampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
CB-261536		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:41:00 AM	10/30/2024 7:41:00 AM
G2410F31-004B	GWC-13	Groundwater	10/24/2024 9:56:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F31-004BDUP		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F31-004BLFM		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F31-005B	GWC-3A	Groundwater	10/24/2024 10:52:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F31-006B	GWC-3RA	Groundwater	10/24/2024 11:31:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F31-007B	GWC-6A	Groundwater	10/24/2024 12:04:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F31-008B	GWC-2A	Groundwater	10/24/2024 12:38:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F31-009B	GWC-2RA	Groundwater	10/24/2024 1:10:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F32-001B	M-001-22	Surface Water	10/22/2024 12:12:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F32-002B	M-2A-22	Surface Water	10/22/2024 12:00:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F33-001B	GWC-12A	Groundwater	10/24/2024 9:20:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F40-001C	LMP-1	Leachate	10/23/2024 3:05:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F42-001C	SHC-14	Surface Water	10/23/2024 12:00:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F42-001CDUP		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

G2410F42-001CLFM		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F42-002C	SWB-2	Surface Water	10/23/2024 2:40:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F44-001C	SWA-4	Surface Water	10/23/2024 11:45:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F44-002C	SWA-1	Surface Water	10/23/2024 12:45:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F44-003C	SWA-3	Surface Water	10/23/2024 1:10:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F44-004C	TSW-2(G)	Surface Water	10/23/2024 2:00:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F44-005C	SWC-2	Surface Water	10/23/2024 2:45:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F44-006C	SWC-3	Surface Water	10/23/2024 2:15:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F44-007C	SWC-7	Surface Water	10/23/2024 1:45:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F47-001C	GWA-2	Groundwater	10/23/2024 11:25:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F47-001CDUP		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F47-001CLFM		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F50-001C	GWC-13	Groundwater	10/23/2024 9:55:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F50-002C	GWC-42	Groundwater	10/22/2024 1:00:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F52-001C	GWB-27	Groundwater	10/23/2024 9:15:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F52-002C	GWC-14	Groundwater	10/23/2024 9:05:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F52-003C	TMC-4	Groundwater	10/23/2024 9:50:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F52-004C	GWC-19	Groundwater	10/23/2024 10:05:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F52-005C	GWC-34	Groundwater	10/23/2024 12:30:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F87-001C	Snack Room	Aqueous	10/28/2024 10:05:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410G03-001B	Weekly DI	Aqueous	10/28/2024 2:20:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410G11-001A	Millcreek/Challenge r/001	Aqueous	10/17/2024 10:10:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
HRQC 1000-261536		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:41:00 AM	10/30/2024 7:41:00 AM
HRQC-261536		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:41:00 AM	10/30/2024 7:41:00 AM
IPC-261536		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:41:00 AM	10/30/2024 7:41:00 AM
LFB-261536		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:41:00 AM	10/30/2024 7:41:00 AM
LFB2-261536		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:41:00 AM	10/30/2024 7:41:00 AM
LRB-261536		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:41:00 AM	10/30/2024 7:41:00 AM
QCS-261536		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:41:00 AM	10/30/2024 7:41:00 AM

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410F31  
Project: BGwinnett 221S(a)

## Analytical QC Summary Report

Prep Batch Report			Prep Start Date: 10/31/2024 9:20:00 AM						Technician: Laykin A. Pritts		
Prep Batch: 261598			Prep End Date: 10/31/2024 9:25:00 AM						Prep Factor Units: mL		
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End		
Blank-261598			10/31/2024 12:00:00 AM	50	50		1.000	10/31/2024 9:20:00 AM	10/31/2024 9:25:00 AM		
G2410F31-006C	GWC-3RA		10/31/2024 12:00:00 AM	50	50		1.000	10/31/2024 9:20:00 AM	10/31/2024 9:25:00 AM		
G2410F31-006CDUP			10/31/2024 12:00:00 AM	50	50		1.000	10/31/2024 9:20:00 AM	10/31/2024 9:25:00 AM		
G2410G43-001B	Braze Waste Water	Waste Water	10/22/2024 8:00:00 AM	50	50		1.000	10/31/2024 9:20:00 AM	10/31/2024 9:25:00 AM		
G2410H20-006B	Leachate Collection	Groundwater	10/29/2024 1:25:00 PM	50	50		1.000	10/31/2024 9:20:00 AM	10/31/2024 9:25:00 AM		
G2410H20-006BDUP			10/31/2024 12:00:00 AM	50	50		1.000	10/31/2024 9:20:00 AM	10/31/2024 9:25:00 AM		
G2410H20-007B	MP-12	Groundwater	10/29/2024 2:35:00 PM	50	50		1.000	10/31/2024 9:20:00 AM	10/31/2024 9:25:00 AM		
G2410H24-001A	MW-7I(S)	Groundwater	10/29/2024 12:35:00 PM	50	50		1.000	10/31/2024 9:20:00 AM	10/31/2024 9:25:00 AM		
G2410H24-002A	MW-8I	Groundwater	10/29/2024 10:05:00 AM	50	50		1.000	10/31/2024 9:20:00 AM	10/31/2024 9:25:00 AM		
G2410H24-003A	MW-8S	Groundwater	10/29/2024 11:08:00 AM	50	50		1.000	10/31/2024 9:20:00 AM	10/31/2024 9:25:00 AM		
G2410H24-004A	MW-9S	Groundwater	10/29/2024 10:00:00 AM	50	50		1.000	10/31/2024 9:20:00 AM	10/31/2024 9:25:00 AM		
G2410H24-006A	Dup -1	Aqueous	10/29/2024 12:00:00 AM	50	50		1.000	10/31/2024 9:20:00 AM	10/31/2024 9:25:00 AM		
G2410H31-001E	Effluent Comp	Waste Water	10/29/2024 12:05:00 PM	10	50		5.000	10/31/2024 9:20:00 AM	10/31/2024 9:25:00 AM		
G2410H37-001A	FUP-1R2	Groundwater	10/29/2024 9:00:00 AM	50	50		1.000	10/31/2024 9:20:00 AM	10/31/2024 9:25:00 AM		
G2410H37-002A	B-78R	Groundwater	10/29/2024 1:10:00 PM	50	50		1.000	10/31/2024 9:20:00 AM	10/31/2024 9:25:00 AM		
G2410H37-002ADUP			10/31/2024 12:00:00 AM	50	50		1.000	10/31/2024 9:20:00 AM	10/31/2024 9:25:00 AM		
G2410H37-003A	GA-2R2	Groundwater	10/29/2024 1:55:00 PM	50	50		1.000	10/31/2024 9:20:00 AM	10/31/2024 9:25:00 AM		
LCS-261598			10/31/2024 12:00:00 AM	50	50		1.000	10/31/2024 9:20:00 AM	10/31/2024 9:25:00 AM		

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410F31  
Project: BGwinnett 221S(a)

## Analytical QC Summary Report

### Batch Reference Report

Client Samp ID	Test No	Batch ID
GWC-10	ASTM D1067-16	R311959
GWC-13	ASTM D1067-16	R311959
GWC-2A	ASTM D1067-16	R311959
GWC-2RA	ASTM D1067-16	R311959
GWC-3A	ASTM D1067-16	R311959
GWC-3RA	ASTM D1067-16	R311959
GWC-6A	ASTM D1067-16	R311959
GWC-8A	ASTM D1067-16	R311959
GWC-8R	ASTM D1067-16	R311959
GWC-10	EPA 300.0 Rev 2.1	261448
GWC-13	EPA 300.0 Rev 2.1	261536
GWC-2A	EPA 300.0 Rev 2.1	261536
GWC-2RA	EPA 300.0 Rev 2.1	261536
GWC-3A	EPA 300.0 Rev 2.1	261536
GWC-3RA	EPA 300.0 Rev 2.1	261536
GWC-6A	EPA 300.0 Rev 2.1	261536
GWC-8A	EPA 300.0 Rev 2.1	261440
GWC-8R	EPA 300.0 Rev 2.1	261440
GWC-10	EPA 350.1 Rev 2.0	R312068
GWC-13	EPA 350.1 Rev 2.0	R312068
GWC-2A	EPA 350.1 Rev 2.0	R312068
GWC-2RA	EPA 350.1 Rev 2.0	R312068
GWC-3A	EPA 350.1 Rev 2.0	R312068
GWC-3RA	EPA 350.1 Rev 2.0	R312068

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410F31  
Project: BGwinnett 221S(a)

## Analytical QC Summary Report

GWC-6A	EPA 350.1 Rev 2.0	R312068
GWC-8A	EPA 350.1 Rev 2.0	R312068
GWC-8R	EPA 350.1 Rev 2.0	R312068
GWC-10	EPA 6010 D	261491
GWC-13	EPA 6010 D	261491
GWC-2A	EPA 6010 D	261494
GWC-2RA	EPA 6010 D	261494
GWC-3A	EPA 6010 D	261491
GWC-3RA	EPA 6010 D	261494
GWC-6A	EPA 6010 D	261494
GWC-8A	EPA 6010 D	261491
GWC-8R	EPA 6010 D	261491
GWC-10	EPA 6020 B	261493
GWC-13	EPA 6020 B	261493
GWC-2A	EPA 6020 B	261496
GWC-2RA	EPA 6020 B	261496
GWC-3A	EPA 6020 B	261493
GWC-3RA	EPA 6020 B	261496
GWC-6A	EPA 6020 B	261496
GWC-8A	EPA 6020 B	261493
GWC-8R	EPA 6020 B	261493
GWC-10	EPA 8260 D	R312000
GWC-13	EPA 8260 D	R311917
GWC-13	EPA 8260 D	R311953
GWC-2A	EPA 8260 D	R311917
GWC-2A	EPA 8260 D	R311953

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410F31  
Project: BGwinnett 221S(a)

## Analytical QC Summary Report

GWC-2RA	EPA 8260 D	R311917
GWC-2RA	EPA 8260 D	R311953
GWC-3A	EPA 8260 D	R311917
GWC-3A	EPA 8260 D	R311953
GWC-3RA	EPA 8260 D	R311917
GWC-3RA	EPA 8260 D	R311953
GWC-6A	EPA 8260 D	R311917
GWC-6A	EPA 8260 D	R311953
GWC-8A	EPA 8260 D	R312000
GWC-8R	EPA 8260 D	R311917
GWC-8R	EPA 8260 D	R311953
GWC-10	SM 2540 C-15	261466
GWC-13	SM 2540 C-15	261466
GWC-2A	SM 2540 C-15	261466
GWC-2RA	SM 2540 C-15	261466
GWC-3A	SM 2540 C-15	261466
GWC-3RA	SM 2540 C-15	261598
GWC-6A	SM 2540 C-15	261466
GWC-8A	SM 2540 C-15	261466
GWC-8R	SM 2540 C-15	261466

**Table I ON Qualifiers**

Qualifier	Description
<b>1</b>	Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.
<b>B</b>	Analyte detected in the associated method Blank.
<b>B1</b>	Dilution water blank exceeded method criterion.
<b>C1</b>	CCV recovery above the acceptance limits. Results may be biased high.
<b>C2</b>	CCV recovery below the acceptance limits. Results may be biased low.
<b>C3</b>	ICV recovery above the acceptance limits. Results may be biased high.
<b>C4</b>	ICV recovery below the acceptance limits. Results may be biased low.
<b>C5</b>	Positive values verified by second column confirmation.
<b>C6</b>	Confirmation analysis by another detector or chromatographic column was not performed.
<b>D1</b>	The analysis did not meet the minimum DO depletion of at least 2 mg/L.
<b>D2</b>	The analysis did not meet the minimum residual DO of at least 1 mg/L.
<b>D3</b>	Sample required dilution due to a matrix interference.
<b>D4</b>	Sample was diluted in the extraction steps due to marked matrix interferences.
<b>D5</b>	Sample required dilution due to a chloride interference.
<b>D6</b>	Sample was diluted and the reporting limits were raised to achieve method compliant internal standard recovery.
<b>D7</b>	Sample was digested at a dilution due to the formation of a post-digestion precipitate.
<b>D8</b>	Sample was digested at a dilution to achieve method compliant matrix spike recovery.
<b>D9</b>	Sample was digested at a dilution to meet method compliant digestion criteria.
<b>E</b>	Value above quantitation range.
<b>E2</b>	Unable to obtain a stable weight within specified limits due to sample matrix. Value is estimated.
<b>F1</b>	Fecal sample tested positive for residual chlorine.
<b>H</b>	Method Hold Time exceeded and is not compliant with 40CFR136 Table II.
<b>H1</b>	Due to under-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.
<b>H2</b>	Due to over-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.
<b>H3</b>	Sample was re-analyzed outside of hold time due to error during original analysis.
<b>H4</b>	The Nitrite result used to report Nitrate was analyzed past the 48-hour holding time.
<b>I1</b>	Internal standard recovery above method acceptance limits. Results are estimated.
<b>I2</b>	Internal standard recovery was below method acceptance limits. Results are estimated.
<b>IP</b>	One of the instrument performance checks ( ) did not meet the acceptance criteria.
<b>J</b>	Indicates an estimated value.

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

<b>L1</b>	LCS above the acceptance limits. Result may be biased high.
<b>L2</b>	LCS below the acceptance limits. Result may be biased low.
<b>L3</b>	Analyte was spiked into the LCS, but was not recovered.
<b>M1</b>	Matrix Spike recovery above the acceptance limits.
<b>M2</b>	Matrix Spike recovery below the acceptance limits.
<b>M4</b>	The matrix spike failed high for the surrogate.
<b>M5</b>	The matrix spike failed low for the surrogate.
<b>M6</b>	The reporting limits were raised due to sample matrix interference.
<b>M7</b>	Recovery for matrix spike could not be quantified due to matrix interference.
<b>M8</b>	Analyte was spiked into the MS, but was not recovered.
<b>M9</b>	Analyte concentration was determined by the method of standard addition (MSA).
<b>N1</b>	The lab does not hold accreditation from PA-DEP for this parameter by this method
<b>N2</b>	PADEP does not accredit labs for this analyte by this method.
<b>N3</b>	The lab is accredited for this method in West Virginia, but not in PA (its primary accrediting body).
<b>N4</b>	PADEP does not accredit labs for this analyte by this method in drinking water.
<b>ND</b>	Not Detected.
<b>O1</b>	The flashpoint tester cannot detect below 50 degrees F.
<b>O2</b>	Result is temperature of the sample when flame observed. No flash observed. Result qualified.
<b>O3</b>	The reporting limits were raised due to the high concentration of non-target compounds.
<b>O4</b>	Sample was received with headspace.
<b>O5</b>	Sample was received in incorrect container and is not compliant with 40CFR136 Table II.
<b>O6</b>	Insufficient sample volume was received to comply with the method.
<b>P1</b>	The pH of the sample was >2 and is not compliant with 40CFR136 Table II.
<b>P2</b>	Sample contained residual chlorine and is not compliant with 40CFR136 Table II
<b>P3</b>	The pH of the sample was <10 and is not compliant with 40CFR136 Table II.
<b>P4</b>	Field preservation does not meet EPA or method recommendations for this analysis.
<b>P5</b>	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.
<b>P6</b>	Sample required additional preservative upon receipt.
<b>P7</b>	The sample was received unpreserved.
<b>P8</b>	The pH of the sample was < 9 and is not compliant with 40 CFR136 Table II.
<b>Q1</b>	Qualified Data See Case Narrative.
<b>R</b>	Relative Percent Difference (RPD) was above the control limit.
<b>R1</b>	RPD above control limits between matrix spike and MS duplicates.

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F31

Project: BGwinnett 221S(a)

## Analytical QC Summary Report

R2	RPD above the control limit between duplicates.
R3	RSD above the control limit between replicates.
R4	RPD above control limits between Inorganic Carbon check and spike.
R5	RPD above control limits between control sample and control sample duplicates.
S	Recovery for the spiked control sample outside accepted limits.
S2	Surrogate recovery in the blank was below the control limit.
S3	Surrogate recovery in the blank was above the control limit.
S4	Surrogate recovery in the LCS is above the control limit.
S5	Surrogate recovery in the LCS is below the control limit.
SR	Analyte recovery was outside the accepted recovery limits and above the control limit for RPD.
T	Sample temperature received outside the regulatory limit and is not compliant with 40CFR Part136 Table II (for NPW samples).
T1	Sample temperature received outside the regulatory limit. (Primarily for SCM samples).
T3	Target analyte found in trip/field blank.
TC	The MS tune check (tailing factor) did not meet the acceptance criteria.
U	The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.

**Note 1:** Other comments to clarify test results may be used. Examples include MCL (Contaminant Limit), and MDA (minimum detectable activity). The Q1 code requires additional qualifier information be described in the Case Narrative.

**Note 2:** NA is used in the Laboratory QC report as "Not Applicable."



Quality Assurance Project Report  
Prepared for  
BUTTON GWINNETT LANDFILL  
11/13/2024

David M. Glessner  
Quality Assurance Coordinator

### **Explanatory Notes**

1. Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.
2. Matrix Spike and MS Duplicates are sample specific controls and are not used to evaluate the analytical batch.
3. Laboratory duplicate. If one or both of the values is less than 5 times the PQL, the allowed difference is +/- the PQL.
4. "R" indicates a relative percent difference (RPD) was above the acceptance limit between duplicate QC samples or sample specific duplicates.

Client: BUTTON GWINNETT LANDFILL

## Analytical QC Summary Report

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

SampleID: G2410E97-003CDUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311959		
		BatchID: R311959								Analysis Date: 10/28/2024				SeqNo: 8205220
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Alkalinity to pH 4.5	308	mg/L CaCO <sub>3</sub>	10						305	1.0%	20			
SampleID: G2410F31-001CDUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311959		
		BatchID: R311959								Analysis Date: 10/28/2024				SeqNo: 8205392
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Alkalinity to pH 4.5	51	mg/L CaCO <sub>3</sub>	10						50	2.0%	20			
SampleID: G2410F42-001ADUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311959		
		BatchID: R311959								Analysis Date: 10/28/2024				SeqNo: 8205491
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Alkalinity to pH 4.5	67	mg/L CaCO <sub>3</sub>	10						66	1.5%	20			
SampleID: G2410F52-005ADUP		SampType: DUP		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311959		
		BatchID: R311959								Analysis Date: 10/28/2024				SeqNo: 8205609
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Alkalinity to pH 4.5	14	mg/L CaCO <sub>3</sub>	10						14		20			
SampleID: ALK LCS		SampType: LCS		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311959		
		BatchID: R311959								Analysis Date: 10/28/2024				SeqNo: 8205211
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual		
Alkalinity to pH 4.5	49	mg/L CaCO <sub>3</sub>	10	47.5		103.2%	85	115						
SampleID: ALK LCS		SampType: LCS		TestNo: ASTM D1067-16				Prep Date:				RunNo: 311959		
		BatchID: R311959								Analysis Date: 10/28/2024				SeqNo: 8205267

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	49	mg/L CaCO3	10	47.5		103.2%	85	115				
<b>SampleID:</b> ALK LCS		<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>			<b>RunNo:</b> 311959		
					<b>BatchID:</b> R311959					<b>Analysis Date:</b> 10/28/2024		<b>SeqNo:</b> 8205366
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	47	mg/L CaCO3	10	47.5		98.9%	85	115				
<b>SampleID:</b> ALK LCS		<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>			<b>RunNo:</b> 311959		
					<b>BatchID:</b> R311959					<b>Analysis Date:</b> 10/28/2024		<b>SeqNo:</b> 8205478
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	49	mg/L CaCO3	10	47.5		103.2%	85	115				
<b>SampleID:</b> ALK LCS		<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>			<b>RunNo:</b> 311959		
					<b>BatchID:</b> R311959					<b>Analysis Date:</b> 10/28/2024		<b>SeqNo:</b> 8205588
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	47	mg/L CaCO3	10	47.5		98.9%	85	115				
<b>SampleID:</b> ALK LCS		<b>SampType:</b> LCS		<b>TestNo:</b> ASTM D1067-16			<b>Prep Date:</b>			<b>RunNo:</b> 311959		
					<b>BatchID:</b> R311959					<b>Analysis Date:</b> 10/28/2024		<b>SeqNo:</b> 8205637
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	48	mg/L CaCO3	10	47.5		101.1%	85	115				
<b>SampleID:</b> G2410F31-004BDUP		<b>SampType:</b> DUP		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312261		
					<b>BatchID:</b> 261536					<b>Analysis Date:</b> 10/30/2024		<b>SeqNo:</b> 8214567
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	3.25	mg/L	1						3.26	0.3%	20	
Sulfate	11.7	mg/L	2						11.7	0.1%	20	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

<b>SampleID:</b> G2410F42-001CDUP		<b>SampType:</b> DUP		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312261		
		<b>BatchID:</b> 261536						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8214593	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	14.6	mg/L	1						14.6	0.3%	20	
Sulfate	10.7	mg/L	2						10.8	0.5%	20	

<b>SampleID:</b> G2410F47-001CDUP		<b>SampType:</b> DUP		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312261		
		<b>BatchID:</b> 261536						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8214620	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	1.03	mg/L	1						1.04	0.3%	20	
Sulfate	< 2	mg/L	2								20	

<b>SampleID:</b> HRQC-261536		<b>SampType:</b> HRQC		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312261		
		<b>BatchID:</b> 261536						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8214562	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	244	mg/L	1	250		97.7%	90	110				
Sulfate	244	mg/L	2	250		97.5%	90	110				

<b>SampleID:</b> HRQC 1000-261536		<b>SampType:</b> HRQC 1000		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312261		
		<b>BatchID:</b> 261536						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8214563	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	961	mg/L	1	1000		96.1%	90	110				
Sulfate	921	mg/L	2	1000		92.1%	90	110				

<b>SampleID:</b> LFB-261536		<b>SampType:</b> LFB		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312261		
		<b>BatchID:</b> 261536						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8214555	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	46.3	mg/L	1	50		92.6%	90	110				
Sulfate	47.1	mg/L	2	50		94.2%	90	110				

Client: BUTTON GWINNETT LANDFILL

## Analytical QC Summary Report

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

<b>SampleID:</b> LFB2-261536		<b>SampType:</b> LFB2		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312261		
		<b>BatchID:</b> 261536					<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8214556		

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	4.67	mg/L	1	5		93.5%	90	110				
Sulfate	4.92	mg/L	2	5		98.5%	90	110				

<b>SampleID:</b> G2410F31-004BLFM		<b>SampType:</b> LFM		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312261		
		<b>BatchID:</b> 261536					<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8214569		

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	18.4	mg/L	1	15	3.26	100.6%	80	120				
Sulfate	31.1	mg/L	2	20	11.7	96.6%	80	120				

<b>SampleID:</b> G2410F42-001CLFM		<b>SampType:</b> LFM		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312261		
		<b>BatchID:</b> 261536					<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8214595		

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	28	mg/L	1	15	14.6	89.1%	80	120				
Sulfate	30.8	mg/L	2	20	10.8	100.1%	80	120				

<b>SampleID:</b> G2410F47-001CLFM		<b>SampType:</b> LFM		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312261		
		<b>BatchID:</b> 261536					<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8214622		

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	17.8	mg/L	1	15	1.04	112.1%	80	120				
Sulfate	23.1	mg/L	2	20		115.3%	80	120				

<b>SampleID:</b> LRB-261536		<b>SampType:</b> LRB		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312261		
		<b>BatchID:</b> 261536					<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8214558		

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	< 1	mg/L	1									
Sulfate	< 2	mg/L	2									

Client: BUTTON GWINNETT LANDFILL

## Analytical QC Summary Report

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

<b>SampleID:</b> CB-261536		<b>SampType:</b> MBLK		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312261		
		<b>BatchID:</b> 261536						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8214553	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	< 1	mg/L	1									
Sulfate	< 2	mg/L	2									

<b>SampleID:</b> QCS-261536		<b>SampType:</b> QCS		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312261		
		<b>BatchID:</b> 261536						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8214560	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	22.6	mg/L	1	24		94.1%	90	110				
Sulfate	30.8	mg/L	2	32		96.2%	90	110				

<b>SampleID:</b> G2410F26-002BDUP		<b>SampType:</b> DUP		<b>TestNo:</b> EPA 350.1 Rev 2.0			<b>Prep Date:</b>			<b>RunNo:</b> 312068		
		<b>BatchID:</b> R312068						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8208692	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	< 0.1	mg/L as N	0.1								20	

<b>SampleID:</b> G2410F31-001ADUP		<b>SampType:</b> DUP		<b>TestNo:</b> EPA 350.1 Rev 2.0			<b>Prep Date:</b>			<b>RunNo:</b> 312068		
		<b>BatchID:</b> R312068						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8208706	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	< 0.1	mg/L as N	0.1								20	

<b>SampleID:</b> LCS		<b>SampType:</b> LCS		<b>TestNo:</b> EPA 350.1 Rev 2.0			<b>Prep Date:</b>			<b>RunNo:</b> 312068		
		<b>BatchID:</b> R312068						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8208690	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	0.82	mg/L as N	0.1	0.82		100.0%	90	110				

<b>SampleID:</b> CCB		<b>SampType:</b> MBLK		<b>TestNo:</b> EPA 350.1 Rev 2.0			<b>Prep Date:</b>			<b>RunNo:</b> 312068		
		<b>BatchID:</b> R312068						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8208688	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	< 0.1	mg/L as N	0.1									
<b>SampleID:</b> G2410F26-002BMS		<b>SampType:</b> MS		<b>TestNo:</b> EPA 350.1 Rev 2.0			<b>Prep Date:</b>			<b>RunNo:</b> 312068		
					<b>BatchID:</b> R312068					<b>Analysis Date:</b> 10/30/2024		<b>SeqNo:</b> 8208693
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	1.03	mg/L as N	0.1	1		103.5%	90	110				
<b>SampleID:</b> G2410F31-001AMS		<b>SampType:</b> MS		<b>TestNo:</b> EPA 350.1 Rev 2.0			<b>Prep Date:</b>			<b>RunNo:</b> 312068		
					<b>BatchID:</b> R312068					<b>Analysis Date:</b> 10/30/2024		<b>SeqNo:</b> 8208707
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	1.07	mg/L as N	0.1	1		106.6%	90	110				
<b>SampleID:</b> G2410F33-001ADUP		<b>SampType:</b> DUP		<b>TestNo:</b> EPA 353.2 Rev 2.0			<b>Prep Date:</b> 11/6/2024			<b>RunNo:</b> 312537		
					<b>BatchID:</b> 261968					<b>Analysis Date:</b> 11/8/2024		<b>SeqNo:</b> 8223360
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Nitrate Nitrogen	< 0.05	mg/L as N	0.05						1.64		20	
<b>SampleID:</b> LCS-261968		<b>SampType:</b> LCS		<b>TestNo:</b> EPA 353.2 Rev 2.0			<b>Prep Date:</b> 11/6/2024			<b>RunNo:</b> 312537		
					<b>BatchID:</b> 261968					<b>Analysis Date:</b> 11/8/2024		<b>SeqNo:</b> 8223350
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Nitrate Nitrogen	0.967	mg/L as N	0.05	1		96.7%	90	110				
<b>SampleID:</b> MBLK-261968		<b>SampType:</b> MBLK		<b>TestNo:</b> EPA 353.2 Rev 2.0			<b>Prep Date:</b> 11/6/2024			<b>RunNo:</b> 312537		
					<b>BatchID:</b> 261968					<b>Analysis Date:</b> 11/8/2024		<b>SeqNo:</b> 8223346
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Nitrate Nitrogen	< 0.05	mg/L as N	0.05									

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

<b>SampleID:</b> LCS1-261494	<b>SampType:</b> LCS1		<b>TestNo:</b> EPA 6010 D			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312171		
	<b>BatchID:</b> 261494			<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8212055				

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	1.09	mg/L	0.01	1		109.4%	79.5	120.4				
Beryllium	0.211	mg/L	0.001	0.2		105.7%	79.5	120.4				
Cadmium	0.415	mg/L	0.002	0.4		103.7%	79.5	120.4				
Chromium	1.06	mg/L	0.01	1		106.4%	79.5	120.4				
Cobalt	0.427	mg/L	0.005	0.4		106.7%	79.5	120.4				
Copper	1.05	mg/L	0.01	1		104.8%	79.5	120.4				
Nickel	1.04	mg/L	0.01	1		103.9%	79.5	120.4				
Silver	0.0104	mg/L	0.005	0.01		104.0%	79.5	120.4				
Vanadium	0.412	mg/L	0.005	0.4		103.1%	79.5	120.4				
Zinc	1.01	mg/L	0.01	1		100.9%	79.5	120.4				

<b>SampleID:</b> PB-261494	<b>SampType:</b> PB		<b>TestNo:</b> EPA 6010 D			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312171		
	<b>BatchID:</b> 261494			<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8212054				

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	< 0.01	mg/L	0.01									
Beryllium	< 0.001	mg/L	0.001									
Cadmium	< 0.002	mg/L	0.002									
Chromium	< 0.01	mg/L	0.01									
Cobalt	< 0.005	mg/L	0.005									
Copper	< 0.01	mg/L	0.01									
Nickel	< 0.01	mg/L	0.01									
Silver	< 0.005	mg/L	0.005									
Vanadium	< 0.005	mg/L	0.005									
Zinc	< 0.01	mg/L	0.01									

<b>SampleID:</b> G2410F31-006DDUP	<b>SampType:</b> DUP		<b>TestNo:</b> EPA 6010 D			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312171		
	<b>BatchID:</b> 261494			<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8212056				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	0.0974	mg/L	0.01						0.0977	0.3%	20	
Beryllium	< 0.001	mg/L	0.001								20	
Cadmium	< 0.002	mg/L	0.002								20	
Chromium	< 0.01	mg/L	0.01								20	
Cobalt	< 0.005	mg/L	0.005								20	
Copper	< 0.01	mg/L	0.01								20	
Nickel	< 0.01	mg/L	0.01								20	
Silver	< 0.005	mg/L	0.005								20	
Vanadium	< 0.005	mg/L	0.005								20	
Zinc	< 0.01	mg/L	0.01								20	

SampleID: G2410F31-006DMS	SampType: MS	TestNo: EPA 6010 D	Prep Date: 10/30/2024	RunNo: 312171
	BatchID: 261494		Analysis Date: 10/31/2024	SeqNo: 8212057

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	1.17	mg/L	0.01	1	0.0977	107.3%	75	125				
Beryllium	0.208	mg/L	0.001	0.2		104.0%	75	125				
Cadmium	0.406	mg/L	0.002	0.4		101.5%	75	125				
Chromium	1.04	mg/L	0.01	1		104.0%	75	125				
Cobalt	0.418	mg/L	0.005	0.4		104.5%	75	125				
Copper	1.04	mg/L	0.01	1		104.1%	75	125				
Nickel	1.02	mg/L	0.01	1		101.6%	75	125				
Silver	0.0097	mg/L	0.005	0.01		97.0%	75	125				
Vanadium	0.407	mg/L	0.005	0.4		101.9%	75	125				
Zinc	0.98	mg/L	0.01	1		98.0%	75	125				

SampleID: G2410F44-002FMS	SampType: MS	TestNo: EPA 6010 D	Prep Date: 10/30/2024	RunNo: 312171
	BatchID: 261494		Analysis Date: 10/31/2024	SeqNo: 8212070

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	1.14	mg/L	0.01	1	0.0107	112.5%	75	125				
Beryllium	0.218	mg/L	0.001	0.2		109.0%	75	125				
Cadmium	0.425	mg/L	0.002	0.4		106.3%	75	125				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Chromium	1.1	mg/L	0.01	1		109.5%	75	125				
Cobalt	0.438	mg/L	0.005	0.4		109.6%	75	125				
Copper	1.08	mg/L	0.01	1		108.3%	75	125				
Nickel	1.07	mg/L	0.01	1		107.2%	75	125				
Silver	0.0102	mg/L	0.005	0.01		102.0%	75	125				
Vanadium	0.423	mg/L	0.005	0.4		105.8%	75	125				
Zinc	1.02	mg/L	0.01	1		102.3%	75	125				

SampleID: G2410F31-006DDUP	SampType: DUP	TestNo: EPA 6020 B	Prep Date: 10/30/2024	RunNo: 312157
	BatchID: 261496		Analysis Date: 10/31/2024	SeqNo: 8211294

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	< 1	µg/L	1								20	
Arsenic	< 1	µg/L	1								20	
Lead	< 1	µg/L	1								20	
Selenium	< 1	µg/L	1								20	
Thallium	< 0.2	µg/L	0.2								20	

SampleID: LCS2-261496	SampType: LCS2	TestNo: EPA 6020 B	Prep Date: 10/30/2024	RunNo: 312157
	BatchID: 261496		Analysis Date: 10/31/2024	SeqNo: 8211277

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	5.82	µg/L	1	6		97.0%	79.5	120.45				
Arsenic	9.39	µg/L	1	10		93.9%	79.5	120.45				
Lead	5.08	µg/L	1	5		101.6%	79.5	120.45				
Selenium	19	µg/L	1	20		94.8%	79.5	120.45				
Thallium	2.02	µg/L	0.2	2		100.8%	79.5	120.45				

SampleID: PB-261496	SampType: PB	TestNo: EPA 6020 B	Prep Date: 10/30/2024	RunNo: 312157
	BatchID: 261496		Analysis Date: 10/31/2024	SeqNo: 8211274

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	< 1	µg/L	1					0.5				
Arsenic	< 1	µg/L	1					0.5				

Client: BUTTON GWINNETT LANDFILL

## Analytical QC Summary Report

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

Lead	< 1	µg/L	1					0.2				
Selenium	< 1	µg/L	1					0.5				
Thallium	< 0.2	µg/L	0.2					0.1				

SampleID: G2410F44-001FMS	SampType: MS	TestNo: EPA 6020 B	Prep Date: 10/30/2024	RunNo: 312157
	BatchID: 261496		Analysis Date: 10/31/2024	SeqNo: 8211338

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	5.96	µg/L	1	6		99.4%	75	125				
Arsenic	9.31	µg/L	1	10		93.1%	75	125				
Lead	5.17	µg/L	1	5		103.4%	75	125				
Selenium	18.5	µg/L	1	20		92.4%	75	125				
Thallium	2.06	µg/L	0.2	2		103.0%	75	125				

SampleID: G2410F50-002DMS	SampType: MS	TestNo: EPA 6020 B	Prep Date: 10/30/2024	RunNo: 312157
	BatchID: 261496		Analysis Date: 10/31/2024	SeqNo: 8211370

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	6.04	µg/L	1	6		100.6%	75	125				
Arsenic	22.1	µg/L	1	10	12.3	97.2%	75	125				
Lead	7.65	µg/L	1	5	2.51	102.8%	75	125				
Selenium	19.4	µg/L	1	20		97.1%	75	125				
Thallium	2.27	µg/L	0.2	2	0.188	103.9%	75	125				

SampleID: 20 PPB LCS	SampType: LCS	TestNo: EPA 8260 D	Prep Date:	RunNo: 311917
	BatchID: R311917		Analysis Date: 10/26/2024	SeqNo: 8204295

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	20.5	µg/L	1	20		102.7%	81	125				
1,1,1-Trichloroethane	20.2	µg/L	1	20		101.0%	71	125				
1,1,2,2-Tetrachloroethane	20	µg/L	1	20		100.0%	80	116				
1,1,2-Trichloroethane	20.5	µg/L	1	20		102.7%	83	126				
1,1-Dichloroethane	20.1	µg/L	1	20		100.5%	73	122				
1,1-Dichloroethene	20.6	µg/L	1	20		103.1%	74	121				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

1,2,3-Trichloropropane	19.6	µg/L	1	20		98.2%	77	118				
1,2-Dibromo-3-chloropropane	20.9	µg/L	5	20		104.4%	64	126				
1,2-Dibromoethane	20.8	µg/L	1	20		104.1%	83	119				
1,2-Dichlorobenzene	19.1	µg/L	1	20		95.3%	85	119				
1,2-Dichloroethane	20.8	µg/L	1	20		104.1%	72	123				
1,2-Dichloropropane	20.1	µg/L	1	20		100.4%	83	122				
1,4-Dichlorobenzene	18.9	µg/L	1	20		94.7%	83	120				
2-Butanone	20.6	µg/L	5	20		103.0%	61	125				
2-Hexanone	20.3	µg/L	5	20		101.6%	58	132				
4-Methyl-2-Pentanone	20.5	µg/L	1	20		102.7%	68	127				
Acetone	22.1	µg/L	10	20		110.4%	60	133				
Benzene	19.7	µg/L	1	20		98.3%	76	122				
Bromochloromethane	20.7	µg/L	1	20		103.7%	78	124				
Bromodichloromethane	20.9	µg/L	1	20		104.3%	71	138				
Bromoform	19	µg/L	1	20		94.8%	71	125				
Carbon Disulfide	19.7	µg/L	1	20		98.5%	63	123				
Carbon Tetrachloride	20.9	µg/L	1	20		104.6%	68	133				
Chlorobenzene	19.1	µg/L	1	20		95.7%	83	118				
Chlorodibromomethane	21.4	µg/L	1	20		107.2%	74	131				
Chloroethane	20	µg/L	1	20		99.9%	56	127				
Chloroform	20.2	µg/L	1	20		100.9%	73	123				
Chloromethane	17.6	µg/L	1	20		88.0%	65	129				
cis-1,2-Dichloroethene	20.5	µg/L	1	20		102.4%	75	121				
cis-1,3-Dichloropropene	20.7	µg/L	1	20		103.4%	71	129				
Dibromomethane	19.4	µg/L	1	20		96.9%	83	118				
Dichlorobromomethane	20.9	µg/L	1	20		104.3%	56	145				
Ethylbenzene	18.9	µg/L	1	20		94.6%	84	120				
Iodomethane	18.6	µg/L	5	20		93.1%	29	162				
Methyl Ethyl Ketone	20.6	µg/L	5	20		103.0%	72	131				
Methylene Chloride	19.6	µg/L	1	20		98.0%	73	133				
Styrene	19.7	µg/L	1	20		98.4%	88	116				
Tetrachloroethene	20.9	µg/L	1	20		104.7%	76	127				
Toluene	19.3	µg/L	1	20		96.4%	80	118				
trans-1,2-Dichloroethene	20.5	µg/L	1	20		102.7%	73	120				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

trans-1,3-Dichloropropene	20.9	µg/L	1	20		104.6%	70	126					
trans-1,4-Dichloro-2-butene	19.4	µg/L	2	20		96.9%	46	137					
Tribromomethane	19	µg/L	1	20		94.8%	71	125					
Trichloroethene	20	µg/L	1	20		100.1%	73	123					
Trichlorofluoromethane	19.9	µg/L	1	20		99.4%	69	125					
Trichloromethane	20.2	µg/L	1	20		100.9%	73	123					
Vinyl Acetate	20.2	µg/L	1	20		100.8%	67	131					
Vinyl Chloride	18	µg/L	1	20		89.9%	56	125					
Total Xylene	57.9	µg/L	2	60		96.4%	87	116					
Surr: 1,2-Dichloroethane-d4	30.3	µg/L	0	30		101.0%	70	130					
Surr: 4-Bromofluorobenzene	29.9	µg/L	0	30		99.8%	70	130					
Surr: Dibromofluoromethane	30.9	µg/L	0	30		102.9%	70	130					
Surr: Toluene-d8	29.4	µg/L	0	30		98.1%	70	130					

SampleID: 20 PPB LCS	SampType: LCS	TestNo: EPA 8260 D	Prep Date:	RunNo: 311953
	BatchID: R311953		Analysis Date: 10/28/2024	SeqNo: 8205082

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Bromomethane	16.1	µg/L	1	20		80.3%	47	152					

SampleID: BLANK	SampType: MBLK	TestNo: EPA 8260 D	Prep Date:	RunNo: 311917
	BatchID: R311917		Analysis Date: 10/26/2024	SeqNo: 8204300

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
1,1,1,2-Tetrachloroethane	< 1	µg/L	1										
1,1,1-Trichloroethane	< 1	µg/L	1										
1,1,2,2-Tetrachloroethane	< 1	µg/L	1										
1,1,2-Trichloroethane	< 1	µg/L	1										
1,1-Dichloroethane	< 1	µg/L	1										
1,1-Dichloroethene	< 1	µg/L	1										
1,2,3-Trichloropropane	< 1	µg/L	1										
1,2-Dibromo-3-chloropropane	< 5	µg/L	5										
1,2-Dibromoethane	< 1	µg/L	1										
1,2-Dichlorobenzene	< 1	µg/L	1										

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Trichlorofluoromethane	< 1	µg/L	1										
Trichloromethane	< 1	µg/L	1										
Vinyl Acetate	< 1	µg/L	1										
Vinyl Chloride	< 1	µg/L	1										
Total Xylene	< 2	µg/L	2										
Surr: 1,2-Dichloroethane-d4	30.7	µg/L	0	30		102.2%	70	130					
Surr: 4-Bromofluorobenzene	29.9	µg/L	0	30		99.7%	70	130					
Surr: Dibromofluoromethane	29.3	µg/L	0	30		97.5%	70	130					
Surr: Toluene-d8	29.5	µg/L	0	30		98.4%	70	130					

SampleID: BLANK	SampType: MBLK	TestNo: EPA 8260 D	Prep Date:	RunNo: 311953
	BatchID: R311953		Analysis Date: 10/28/2024	SeqNo: 8205086

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Bromomethane	< 1	µg/L	1									

SampleID: G2410E58-004DMS	SampType: MS	TestNo: EPA 8260 D	Prep Date:	RunNo: 311917
	BatchID: R311917		Analysis Date: 10/26/2024	SeqNo: 8204305

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	20	µg/L	1	20		100.0%	76	117				
1,1,1-Trichloroethane	21.3	µg/L	1	20		106.4%	72	122				
1,1,2,2-Tetrachloroethane	18.9	µg/L	1	20		94.5%	72	110				
1,1,2-Trichloroethane	19.2	µg/L	1	20		95.9%	76	126				
1,1-Dichloroethane	20.2	µg/L	1	20		100.8%	66	126				
1,1-Dichloroethene	21.9	µg/L	1	20		109.7%	66	121				
1,2,3-Trichloropropane	18.6	µg/L	1	20		93.0%	72	112				
1,2-Dibromo-3-chloropropane	19.1	µg/L	5	20		95.3%	57	121				
1,2-Dibromoethane	19.4	µg/L	1	20		97.1%	75	113				
1,2-Dichlorobenzene	18.3	µg/L	1	20		91.5%	76	108				
1,2-Dichloroethane	19.7	µg/L	1	20		98.3%	69	116				
1,2-Dichloropropane	19.4	µg/L	1	20		96.9%	78	122				
1,4-Dichlorobenzene	18.2	µg/L	1	20		90.9%	70	121				
2-Butanone	18.6	µg/L	5	20		93.0%	59	118				

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

2-Hexanone	18.3	µg/L	5	20		91.6%	63	120			
4-Methyl-2-Pentanone	19	µg/L	1	20		94.9%	68	116			
Acetone	20.4	µg/L	10	20		101.9%	51	133			
Benzene	19.6	µg/L	1	20		97.8%	52	125			
Bromochloromethane	19.8	µg/L	1	20		98.8%	71	117			
Bromodichloromethane	20.2	µg/L	1	20		100.9%	68	132			
Bromoform	18.1	µg/L	1	20		90.5%	65	117			
Carbon Disulfide	21.2	µg/L	1	20		106.0%	60	123			
Carbon Tetrachloride	22.4	µg/L	1	20		112.1%	67	132			
Chlorobenzene	18.9	µg/L	1	20		94.5%	78	111			
Chlorodibromomethane	20.3	µg/L	1	20		101.4%	70	123			
Chloroethane	20.6	µg/L	1	20		103.2%	46	132			
Chloroform	19.9	µg/L	1	20		99.6%	69	117			
Chloromethane	17.9	µg/L	1	20		89.5%	51	129			
cis-1,2-Dichloroethene	20.1	µg/L	1	20		100.3%	71	117			
cis-1,3-Dichloropropene	19.9	µg/L	1	20		99.4%	71	117			
Dibromomethane	18.2	µg/L	1	20		91.1%	77	110			
Dichlorobromomethane	20.2	µg/L	1	20		100.9%	74	117			
Ethylbenzene	19.1	µg/L	1	20		95.7%	72	122			
Iodomethane	20.1	µg/L	5	20		100.3%	34	150			
Methyl Ethyl Ketone	18.6	µg/L	5	20		93.0%	59	121			
Methylene Chloride	18.7	µg/L	1	20		93.5%	64	121			
Styrene	19	µg/L	1	20		94.9%	78	117			
Tetrachloroethene	19	µg/L	1	20		95.1%	67	122			
Toluene	19.4	µg/L	1	20		96.8%	75	115			
trans-1,2-Dichloroethene	21.1	µg/L	1	20		105.6%	69	118			
trans-1,3-Dichloropropene	20.1	µg/L	1	20		100.4%	66	122			
trans-1,4-Dichloro-2-butene	19.1	µg/L	2	20		95.8%	46	131			
Tribromomethane	18.1	µg/L	1	20		90.5%	65	117			
Trichloroethene	20.4	µg/L	1	20		102.0%	75	117			
Trichlorofluoromethane	21.3	µg/L	1	20		106.3%	69	125			
Trichloromethane	19.9	µg/L	1	20		99.6%	69	117			
Vinyl Acetate	18.2	µg/L	1	20		90.8%	46	126			
Vinyl Chloride	19.3	µg/L	1	20		96.4%	54	128			

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Total Xylene	57.9	µg/L	2	60		96.5%	72	120					
Surr: 1,2-Dichloroethane-d4	29.8	µg/L	0	30		99.5%	70	130					
Surr: 4-Bromofluorobenzene	30.2	µg/L	0	30		100.7%	70	130					
Surr: Dibromofluoromethane	31	µg/L	0	30		103.3%	70	130					
Surr: Toluene-d8	29.5	µg/L	0	30		98.3%	70	130					
<b>SampleID:</b> G2410E73-001EMS		<b>SampType:</b> MS		<b>TestNo:</b> EPA 8260 D			<b>Prep Date:</b>			<b>RunNo:</b> 311953			
		<b>BatchID:</b> R311953					<b>Analysis Date:</b> 10/28/2024			<b>SeqNo:</b> 8205094			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Bromomethane	16.2	µg/L	1	20		81.2%	40	156					
<b>SampleID:</b> G2410E58-004DMSD		<b>SampType:</b> MSD		<b>TestNo:</b> EPA 8260 D			<b>Prep Date:</b>			<b>RunNo:</b> 311917			
		<b>BatchID:</b> R311917					<b>Analysis Date:</b> 10/26/2024			<b>SeqNo:</b> 8204309			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
1,1,1,2-Tetrachloroethane	19.9	µg/L	1						20	0.3%	11		
1,1,1-Trichloroethane	21.4	µg/L	1						21.3	0.8%	12		
1,1,2,2-Tetrachloroethane	18.7	µg/L	1						18.9	0.9%	14		
1,1,2-Trichloroethane	19.3	µg/L	1						19.2	0.6%	15		
1,1-Dichloroethane	20.2	µg/L	1						20.2	0.4%	12		
1,1-Dichloroethene	22.1	µg/L	1						21.9	0.7%	14		
1,2,3-Trichloropropane	18.5	µg/L	1						18.6	0.8%	14		
1,2-Dibromo-3-chloropropane	18.9	µg/L	5						19.1	1.1%	20		
1,2-Dibromoethane	19.6	µg/L	1						19.4	0.7%	17		
1,2-Dichlorobenzene	18.1	µg/L	1						18.3	1.0%	13		
1,2-Dichloroethane	19.6	µg/L	1						19.7	0.4%	11		
1,2-Dichloropropane	19.5	µg/L	1						19.4	0.6%	12		
1,4-Dichlorobenzene	18.1	µg/L	1						18.2	0.6%	16		
2-Butanone	18.8	µg/L	5						18.6	1.2%	23		
2-Hexanone	18.8	µg/L	5						18.3	2.7%	18		
4-Methyl-2-Pentanone	19.2	µg/L	1						19	1.4%	18		
Acetone	20.9	µg/L	10						20.4	2.8%	23		
Benzene	19.7	µg/L	1						19.6	0.6%	15		

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Bromochloromethane	19.7	µg/L	1					19.8	0.1%	12	
Bromodichloromethane	20.2	µg/L	1					20.2	0.1%	18	
Bromoform	17.7	µg/L	1					18.1	2.4%	14	
Carbon Disulfide	21.3	µg/L	1					21.2	0.3%	13	
Carbon Tetrachloride	22.5	µg/L	1					22.4	0.2%	12	
Chlorobenzene	18.8	µg/L	1					18.9	0.6%	10	
Chlorodibromomethane	20.2	µg/L	1					20.3	0.3%	16	
Chloroethane	20.6	µg/L	1					20.6	0.3%	17	
Chloroform	19.8	µg/L	1					19.9	0.7%	13	
Chloromethane	18.3	µg/L	1					17.9	2.3%	16	
cis-1,2-Dichloroethene	20.2	µg/L	1					20.1	0.6%	12	
cis-1,3-Dichloropropene	19.7	µg/L	1					19.9	1.0%	16	
Dibromomethane	18.2	µg/L	1					18.2	0.2%	14	
Dichlorobromomethane	20.2	µg/L	1					20.2	0.1%	13	
Ethylbenzene	19.1	µg/L	1					19.1	0.2%	16	
Iodomethane	19.7	µg/L	5					20.1	1.8%	19	
Methyl Ethyl Ketone	18.8	µg/L	5					18.6	1.2%	21	
Methylene Chloride	19	µg/L	1					18.7	1.8%	17	
Styrene	19	µg/L	1					19	0.3%	12	
Tetrachloroethene	18.9	µg/L	1					19	0.9%	16	
Toluene	19.4	µg/L	1					19.4	0.0%	13	
trans-1,2-Dichloroethene	21.2	µg/L	1					21.1	0.2%	13	
trans-1,3-Dichloropropene	19.9	µg/L	1					20.1	0.9%	15	
trans-1,4-Dichloro-2-butene	18.8	µg/L	2					19.1	1.8%	17	
Tribromomethane	17.7	µg/L	1					18.1	2.4%	14	
Trichloroethene	20.3	µg/L	1					20.4	0.4%	11	
Trichlorofluoromethane	21.8	µg/L	1					21.3	2.7%	15	
Trichloromethane	19.8	µg/L	1					19.9	0.7%	12	
Vinyl Acetate	18.2	µg/L	1					18.2	0.1%	11	
Vinyl Chloride	19.5	µg/L	1					19.3	1.2%	15	
Total Xylene	57.7	µg/L	2					57.9		18	
Surr: 1,2-Dichloroethane-d4	30.1	µg/L	0	30		100.5%	70	130	29.8		
Surr: 4-Bromofluorobenzene	30.1	µg/L	0	30		100.3%	70	130	30.2		
Surr: Dibromofluoromethane	31	µg/L	0	30		103.4%	70	130	31		

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Surr: Toluene-d8	29.2	µg/L	0	30		97.4%	70	130	29.5				
<b>SampleID:</b> G2410E73-001EMSD	<b>SampType:</b> MSD			<b>TestNo:</b> EPA 8260 D			<b>Prep Date:</b>			<b>RunNo:</b> 311953			
	<b>BatchID:</b> R311953						<b>Analysis Date:</b> 10/28/2024			<b>SeqNo:</b> 8205100			
<b>Analyte</b>	<b>Calc Val</b>	<b>Units</b>	<b>PQL</b>	<b>Spk Val</b>	<b>SPKrefval</b>	<b>REC</b>	<b>Low Limit</b>	<b>High Limit</b>	<b>RPDrefval</b>	<b>RPD</b>	<b>RPDlimit</b>	<b>Qual</b>	
Bromomethane	16.3	µg/L	1						16.2	0.4%	22		
<b>SampleID:</b> BLANK-261466	<b>SampType:</b> BLANK			<b>TestNo:</b> SM 2540 C-15			<b>Prep Date:</b> 10/29/2024			<b>RunNo:</b> 312032			
	<b>BatchID:</b> 261466						<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8207950			
<b>Analyte</b>	<b>Calc Val</b>	<b>Units</b>	<b>PQL</b>	<b>Spk Val</b>	<b>SPKrefval</b>	<b>REC</b>	<b>Low Limit</b>	<b>High Limit</b>	<b>RPDrefval</b>	<b>RPD</b>	<b>RPDlimit</b>	<b>Qual</b>	
Total dissolved solids	< 20	mg/L	20										
<b>SampleID:</b> G2410F14-001GDUP	<b>SampType:</b> DUP			<b>TestNo:</b> SM 2540 C-15			<b>Prep Date:</b> 10/29/2024			<b>RunNo:</b> 312032			
	<b>BatchID:</b> 261466						<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8207984			
<b>Analyte</b>	<b>Calc Val</b>	<b>Units</b>	<b>PQL</b>	<b>Spk Val</b>	<b>SPKrefval</b>	<b>REC</b>	<b>Low Limit</b>	<b>High Limit</b>	<b>RPDrefval</b>	<b>RPD</b>	<b>RPDlimit</b>	<b>Qual</b>	
Total dissolved solids	340	mg/L	20						342	0.6%	10		
<b>SampleID:</b> G2410F31-001CDUP	<b>SampType:</b> DUP			<b>TestNo:</b> SM 2540 C-15			<b>Prep Date:</b> 10/29/2024			<b>RunNo:</b> 312032			
	<b>BatchID:</b> 261466						<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8208002			
<b>Analyte</b>	<b>Calc Val</b>	<b>Units</b>	<b>PQL</b>	<b>Spk Val</b>	<b>SPKrefval</b>	<b>REC</b>	<b>Low Limit</b>	<b>High Limit</b>	<b>RPDrefval</b>	<b>RPD</b>	<b>RPDlimit</b>	<b>Qual</b>	
Total dissolved solids	92	mg/L	20						96	4.3%	10		
<b>SampleID:</b> LCS-261466	<b>SampType:</b> LCS			<b>TestNo:</b> SM 2540 C-15			<b>Prep Date:</b> 10/29/2024			<b>RunNo:</b> 312032			
	<b>BatchID:</b> 261466						<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8208017			
<b>Analyte</b>	<b>Calc Val</b>	<b>Units</b>	<b>PQL</b>	<b>Spk Val</b>	<b>SPKrefval</b>	<b>REC</b>	<b>Low Limit</b>	<b>High Limit</b>	<b>RPDrefval</b>	<b>RPD</b>	<b>RPDlimit</b>	<b>Qual</b>	
Total dissolved solids	256	mg/L	20	292		87.7%	79	106					

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410F33  
Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Prep Batch: 261466			Prep Batch Report					Technician: Laykin A. Pritts		
Prep Code: WATERPR_TDS			Prep Start Date: 10/29/2024 11:20:00 AM				Prep Factor Units: mL			
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End	
Blank-261466			10/29/2024 12:00:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F14-001G	SW-1	Surface Water	10/24/2024 12:30:00 PM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F14-001GDUP			10/29/2024 12:00:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F18-001A	Leachate Comp	Leachate	10/24/2024 12:30:00 PM	10	50		5.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F19-001C	RO Feed	Waste Water	10/24/2024 11:00:00 AM	10	50		5.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F22-001G	MW-1	Groundwater	10/24/2024 11:15:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F22-002G	MW-2	Groundwater	10/24/2024 11:30:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F23-001A	MSW Leachate Tank	Waste Water	10/24/2024 2:15:00 PM	10	50		5.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F25-001A	MW-28	Groundwater	10/24/2024 3:08:00 PM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F25-002A	MW-29	Groundwater	10/24/2024 2:05:00 PM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F26-001A	MW-12R	Groundwater	10/24/2024 12:38:00 PM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F26-002A	MW-16R	Groundwater	10/24/2024 11:05:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F31-001C	GWC-10	Groundwater	10/24/2024 7:40:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F31-001CDUP			10/29/2024 12:00:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F31-002C	GWC-8A	Groundwater	10/24/2024 8:17:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F31-003C	GWC-8R	Groundwater	10/24/2024 8:48:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F31-004C	GWC-13	Groundwater	10/24/2024 9:56:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F31-005C	GWC-3A	Groundwater	10/24/2024 10:52:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F31-006C	GWC-3RA	Groundwater	10/24/2024 11:31:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F31-007C	GWC-6A	Groundwater	10/24/2024 12:04:00 PM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F31-008C	GWC-2A	Groundwater	10/24/2024 12:38:00 PM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F31-009C	GWC-2RA	Groundwater	10/24/2024 1:10:00 PM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
G2410F33-001C	GWC-12A	Groundwater	10/24/2024 9:20:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	
LCS-261466			10/29/2024 12:00:00 AM	50	50		1.000	10/29/2024 11:20:00 AM	10/29/2024 11:25:00 AM	

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410F33  
Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Prep Batch Report			Prep Start Date: 10/30/2024 9:40:00 AM						Technician: Adam D. Moschgat		
Prep Batch: 261494			Prep End Date: 10/30/2024 3:10:00 PM						Prep Factor Units: mL		
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End		
G2410F31-006D	GWC-3RA	Groundwater	10/24/2024 11:31:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F31-006DDUP		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F31-006DMS		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F31-007D	GWC-6A	Groundwater	10/24/2024 12:04:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F31-008D	GWC-2A	Groundwater	10/24/2024 12:38:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F31-009D	GWC-2RA	Groundwater	10/24/2024 1:10:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F33-001D	GWC-12A	Groundwater	10/24/2024 9:20:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F40-001E	LMP-1	Leachate	10/23/2024 3:05:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F42-001D	SHC-14	Surface Water	10/23/2024 12:00:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F42-002D	SWB-2	Surface Water	10/23/2024 2:40:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F44-001F	SWA-4	Surface Water	10/23/2024 11:45:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F44-002F	SWA-1	Surface Water	10/23/2024 12:45:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F44-002FMS		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F44-003F	SWA-3	Surface Water	10/23/2024 1:10:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F44-004F	TSW-2(G)	Surface Water	10/23/2024 2:00:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F44-005F	SWC-2	Surface Water	10/23/2024 2:45:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F44-006F	SWC-3	Surface Water	10/23/2024 2:15:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F44-007F	SWC-7	Surface Water	10/23/2024 1:45:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F47-002A	GWA-2	Groundwater	10/24/2024 10:40:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F50-001D	GWC-13	Groundwater	10/23/2024 9:55:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F50-002D	GWC-42	Groundwater	10/22/2024 1:00:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
LCS1-261494		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
PB-261494		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410F33  
Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Prep Batch Report			Prep Start Date: 10/30/2024 9:40:00 AM						Technician: Adam D. Moschgat		
Prep Batch: 261496			Prep End Date: 10/30/2024 3:10:00 PM						Prep Factor Units:		
Sample ID	Client Samp ID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End		
G2410F31-006D	GWC-3RA	Groundwater	10/24/2024 11:31:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F31-006DDUP			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F31-007D	GWC-6A	Groundwater	10/24/2024 12:04:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F31-008D	GWC-2A	Groundwater	10/24/2024 12:38:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F31-009D	GWC-2RA	Groundwater	10/24/2024 1:10:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F33-001D	GWC-12A	Groundwater	10/24/2024 9:20:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F40-001E	LMP-1	Leachate	10/23/2024 3:05:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F42-001D	SHC-14	Surface Water	10/23/2024 12:00:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F42-002D	SWB-2	Surface Water	10/23/2024 2:40:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F44-001F	SWA-4	Surface Water	10/23/2024 11:45:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F44-001FMS			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F44-002F	SWA-1	Surface Water	10/23/2024 12:45:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F44-003F	SWA-3	Surface Water	10/23/2024 1:10:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F44-004F	TSW-2(G)	Surface Water	10/23/2024 2:00:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F44-005F	SWC-2	Surface Water	10/23/2024 2:45:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F44-006F	SWC-3	Surface Water	10/23/2024 2:15:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F44-007F	SWC-7	Surface Water	10/23/2024 1:45:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F47-002A	GWA-2	Groundwater	10/24/2024 10:40:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F50-001D	GWC-13	Groundwater	10/23/2024 9:55:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F50-002D	GWC-42	Groundwater	10/22/2024 1:00:00 PM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F50-002DMS			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
LCS2-261496			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
PB-261496			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410F33  
Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Prep Batch Report									
Prep Batch:	261536	Prep Start Date: 10/30/2024 2:24:00 PM				Technician: Adam C. Brown			
Prep Code:	INPR_IC	Prep End Date: 10/30/2024 2:24:00 PM				Prep Factor Units: mL			
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
CB-261536		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:41:00 AM	10/30/2024 7:41:00 AM
G2410F31-004B	GWC-13	Groundwater	10/24/2024 9:56:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F31-004BDUP		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F31-004BLFM		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F31-005B	GWC-3A	Groundwater	10/24/2024 10:52:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F31-006B	GWC-3RA	Groundwater	10/24/2024 11:31:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F31-007B	GWC-6A	Groundwater	10/24/2024 12:04:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F31-008B	GWC-2A	Groundwater	10/24/2024 12:38:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F31-009B	GWC-2RA	Groundwater	10/24/2024 1:10:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F32-001B	M-001-22	Surface Water	10/22/2024 12:12:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F32-002B	M-2A-22	Surface Water	10/22/2024 12:00:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F33-001B	GWC-12A	Groundwater	10/24/2024 9:20:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F40-001C	LMP-1	Leachate	10/23/2024 3:05:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F42-001C	SHC-14	Surface Water	10/23/2024 12:00:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F42-001CDUP		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F42-001CLFM		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F42-002C	SWB-2	Surface Water	10/23/2024 2:40:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F44-001C	SWA-4	Surface Water	10/23/2024 11:45:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F44-002C	SWA-1	Surface Water	10/23/2024 12:45:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F44-003C	SWA-3	Surface Water	10/23/2024 1:10:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F44-004C	TSW-2(G)	Surface Water	10/23/2024 2:00:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F44-005C	SWC-2	Surface Water	10/23/2024 2:45:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F44-006C	SWC-3	Surface Water	10/23/2024 2:15:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F44-007C	SWC-7	Surface Water	10/23/2024 1:45:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F47-001C	GWA-2	Groundwater	10/23/2024 11:25:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

G2410F47-001CDUP		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F47-001CLFM		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F50-001C	GWC-13	Groundwater	10/23/2024 9:55:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F50-002C	GWC-42	Groundwater	10/22/2024 1:00:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F52-001C	GWB-27	Groundwater	10/23/2024 9:15:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F52-002C	GWC-14	Groundwater	10/23/2024 9:05:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F52-003C	TMC-4	Groundwater	10/23/2024 9:50:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F52-004C	GWC-19	Groundwater	10/23/2024 10:05:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F52-005C	GWC-34	Groundwater	10/23/2024 12:30:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410F87-001C	Snack Room	Aqueous	10/28/2024 10:05:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410G03-001B	Weekly DI	Aqueous	10/28/2024 2:20:00 PM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
G2410G11-001A	Millcreek/Challenge r/001	Aqueous	10/17/2024 10:10:00 AM	100	100		1.000	10/30/2024 2:24:00 PM	10/30/2024 2:24:00 PM
HRQC 1000-261536		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:41:00 AM	10/30/2024 7:41:00 AM
HRQC-261536		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:41:00 AM	10/30/2024 7:41:00 AM
IPC-261536		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:41:00 AM	10/30/2024 7:41:00 AM
LFB-261536		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:41:00 AM	10/30/2024 7:41:00 AM
LFB2-261536		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:41:00 AM	10/30/2024 7:41:00 AM
LRB-261536		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:41:00 AM	10/30/2024 7:41:00 AM
QCS-261536		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:41:00 AM	10/30/2024 7:41:00 AM

Prep Batch Report			Technician: Holly N. Montgomery			
Prep Batch:	261968	Prep Start Date:	11/6/2024 4:44:00 PM	Prep Factor Units:	mL	
Prep Code:	INPR_NO3	Prep End Date:	11/6/2024 5:21:00 PM			

Sample ID	Client Samp ID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410F33-001A	GWC-12A	Groundwater	11/8/2024 12:00:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2410F33-001ADUP		Groundwater	11/8/2024 12:00:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2410H75-001B	MW-118BR	Groundwater	10/30/2024 8:17:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2410H75-002B	MW-110AR	Groundwater	10/30/2024 10:53:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2410H75-002BDUP		Groundwater	11/8/2024 12:00:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

G2410H75-002BMS		Groundwater	11/8/2024 12:00:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411079-001C	WWTP Effluent 8208129	Waste Water	11/4/2024 9:20:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411107-001A	Eff	Waste Water	11/4/2024 1:30:00 PM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411141-001A	Outfall 001	Groundwater	11/4/2024 11:15:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411149-002B	Eff Week 1 Day 1	Waste Water	11/4/2024 5:41:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411155-001B	Leachate	Aqueous	11/4/2024 12:30:00 PM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411159-001B	Well 1	Groundwater	11/5/2024 7:00:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411159-002B	Well 2	Groundwater	11/5/2024 7:30:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411159-003B	Well 3	Groundwater	11/5/2024 8:00:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411159-004B	Spring	Groundwater	11/5/2024 7:10:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411161-001C	8213175 Camp	Waste Water	11/5/2024 8:30:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411161-003C	8213180 VC	Waste Water	11/5/2024 8:45:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411162-001B	Leachate Tank	Waste Water	11/4/2024 12:30:00 PM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411221-001A	Effluent	Waste Water	11/5/2024 4:15:00 PM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411228-001A	Wastewater (Comp)	Waste Water	11/5/2024 10:55:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411265-001B	B-413RA	Groundwater	11/5/2024 2:20:00 PM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411265-001BDUP		Groundwater	11/8/2024 12:00:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411265-001BMS		Groundwater	11/8/2024 12:00:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411271-001C	Plant Influent	Waste Water	11/5/2024 9:35:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
G2411271-002A	Effluent Comp	Waste Water	11/5/2024 12:45:00 PM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
LCS-261968		Aqueous	11/8/2024 12:00:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM
MBLK-261968		Aqueous	11/8/2024 12:00:00 AM	50	50		1.000	11/6/2024 4:44:00 PM	11/6/2024 5:21:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

### Batch Reference Report

Client Samp ID	Test No	Batch ID
GWC-12A	ASTM D1067-16	R311959
GWC-12A	EPA 300.0 Rev 2.1	261536
GWC-12A	EPA 350.1 Rev 2.0	R312068
GWC-12A	EPA 353.2 Rev 2.0	261968
GWC-12A	EPA 6010 D	261494
GWC-12A	EPA 6020 B	261496
GWC-12A	EPA 8260 D	R311917
GWC-12A	EPA 8260 D	R311953
TB-2	EPA 8260 D	R311917
TB-2	EPA 8260 D	R311953
GWC-12A	SM 2540 C-15	261466

**Table I ON Qualifiers**

Qualifier	Description
<b>1</b>	Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.
<b>B</b>	Analyte detected in the associated method Blank.
<b>B1</b>	Dilution water blank exceeded method criterion.
<b>C1</b>	CCV recovery above the acceptance limits. Results may be biased high.
<b>C2</b>	CCV recovery below the acceptance limits. Results may be biased low.
<b>C3</b>	ICV recovery above the acceptance limits. Results may be biased high.
<b>C4</b>	ICV recovery below the acceptance limits. Results may be biased low.
<b>C5</b>	Positive values verified by second column confirmation.
<b>C6</b>	Confirmation analysis by another detector or chromatographic column was not performed.
<b>D1</b>	The analysis did not meet the minimum DO depletion of at least 2 mg/L.
<b>D2</b>	The analysis did not meet the minimum residual DO of at least 1 mg/L.
<b>D3</b>	Sample required dilution due to a matrix interference.
<b>D4</b>	Sample was diluted in the extraction steps due to marked matrix interferences.
<b>D5</b>	Sample required dilution due to a chloride interference.
<b>D6</b>	Sample was diluted and the reporting limits were raised to achieve method compliant internal standard recovery.
<b>D7</b>	Sample was digested at a dilution due to the formation of a post-digestion precipitate.
<b>D8</b>	Sample was digested at a dilution to achieve method compliant matrix spike recovery.
<b>D9</b>	Sample was digested at a dilution to meet method compliant digestion criteria.
<b>E</b>	Value above quantitation range.
<b>E2</b>	Unable to obtain a stable weight within specified limits due to sample matrix. Value is estimated.
<b>F1</b>	Fecal sample tested positive for residual chlorine.
<b>H</b>	Method Hold Time exceeded and is not compliant with 40CFR136 Table II.
<b>H1</b>	Due to under-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.
<b>H2</b>	Due to over-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.
<b>H3</b>	Sample was re-analyzed outside of hold time due to error during original analysis.
<b>H4</b>	The Nitrite result used to report Nitrate was analyzed past the 48-hour holding time.
<b>I1</b>	Internal standard recovery above method acceptance limits. Results are estimated.
<b>I2</b>	Internal standard recovery was below method acceptance limits. Results are estimated.
<b>IP</b>	One of the instrument performance checks ( ) did not meet the acceptance criteria.
<b>J</b>	Indicates an estimated value.

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

<b>L1</b>	LCS above the acceptance limits. Result may be biased high.
<b>L2</b>	LCS below the acceptance limits. Result may be biased low.
<b>L3</b>	Analyte was spiked into the LCS, but was not recovered.
<b>M1</b>	Matrix Spike recovery above the acceptance limits.
<b>M2</b>	Matrix Spike recovery below the acceptance limits.
<b>M4</b>	The matrix spike failed high for the surrogate.
<b>M5</b>	The matrix spike failed low for the surrogate.
<b>M6</b>	The reporting limits were raised due to sample matrix interference.
<b>M7</b>	Recovery for matrix spike could not be quantified due to matrix interference.
<b>M8</b>	Analyte was spiked into the MS, but was not recovered.
<b>M9</b>	Analyte concentration was determined by the method of standard addition (MSA).
<b>N1</b>	The lab does not hold accreditation from PA-DEP for this parameter by this method
<b>N2</b>	PADEP does not accredit labs for this analyte by this method.
<b>N3</b>	The lab is accredited for this method in West Virginia, but not in PA (its primary accrediting body).
<b>N4</b>	PADEP does not accredit labs for this analyte by this method in drinking water.
<b>ND</b>	Not Detected.
<b>O1</b>	The flashpoint tester cannot detect below 50 degrees F.
<b>O2</b>	Result is temperature of the sample when flame observed. No flash observed. Result qualified.
<b>O3</b>	The reporting limits were raised due to the high concentration of non-target compounds.
<b>O4</b>	Sample was received with headspace.
<b>O5</b>	Sample was received in incorrect container and is not compliant with 40CFR136 Table II.
<b>O6</b>	Insufficient sample volume was received to comply with the method.
<b>P1</b>	The pH of the sample was >2 and is not compliant with 40CFR136 Table II.
<b>P2</b>	Sample contained residual chlorine and is not compliant with 40CFR136 Table II
<b>P3</b>	The pH of the sample was <10 and is not compliant with 40CFR136 Table II.
<b>P4</b>	Field preservation does not meet EPA or method recommendations for this analysis.
<b>P5</b>	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.
<b>P6</b>	Sample required additional preservative upon receipt.
<b>P7</b>	The sample was received unpreserved.
<b>P8</b>	The pH of the sample was < 9 and is not compliant with 40 CFR136 Table II.
<b>Q1</b>	Qualified Data See Case Narrative.
<b>R</b>	Relative Percent Difference (RPD) was above the control limit.
<b>R1</b>	RPD above control limits between matrix spike and MS duplicates.

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410F33

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

R2	RPD above the control limit between duplicates.
R3	RSD above the control limit between replicates.
R4	RPD above control limits between Inorganic Carbon check and spike.
R5	RPD above control limits between control sample and control sample duplicates.
S	Recovery for the spiked control sample outside accepted limits.
S2	Surrogate recovery in the blank was below the control limit.
S3	Surrogate recovery in the blank was above the control limit.
S4	Surrogate recovery in the LCS is above the control limit.
S5	Surrogate recovery in the LCS is below the control limit.
SR	Analyte recovery was outside the accepted recovery limits and above the control limit for RPD.
T	Sample temperature received outside the regulatory limit and is not compliant with 40CFR Part136 Table II (for NPW samples).
T1	Sample temperature received outside the regulatory limit. (Primarily for SCM samples).
T3	Target analyte found in trip/field blank.
TC	The MS tune check (tailing factor) did not meet the acceptance criteria.
U	The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.

**Note 1:** Other comments to clarify test results may be used. Examples include MCL (Contaminant Limit), and MDA (minimum detectable activity). The Q1 code requires additional qualifier information be described in the Case Narrative.

**Note 2:** NA is used in the Laboratory QC report as "Not Applicable."



Quality Assurance Project Report  
Prepared for  
BUTTON GWINNETT LANDFILL  
11/13/2024

David M. Glessner  
Quality Assurance Coordinator

### **Explanatory Notes**

1. Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.
2. Matrix Spike and MS Duplicates are sample specific controls and are not used to evaluate the analytical batch.
3. Laboratory duplicate. If one or both of the values is less than 5 times the PQL, the allowed difference is +/- the PQL.
4. "R" indicates a relative percent difference (RPD) was above the acceptance limit between duplicate QC samples or sample specific duplicates.

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410G47  
Project: BGwinnett 321S2

## Analytical QC Summary Report

SampleID: ALK LCS		SampType: LCS		TestNo: ASTM D1067-16			Prep Date:			RunNo: 312076		
		BatchID: R312076						Analysis Date: 10/30/2024			SeqNo: 8209080	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	47	mg/L CaCO3	10	47.5		98.9%	85	115				
SampleID: ALK LCS		SampType: LCS		TestNo: ASTM D1067-16			Prep Date:			RunNo: 312076		
		BatchID: R312076						Analysis Date: 10/30/2024			SeqNo: 8209135	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	50	mg/L CaCO3	10	47.5		105.3%	85	115				
SampleID: BLANKSA		SampType: BLANK		TestNo: ASTM D7511-17			Prep Date:			RunNo: 312224		
		BatchID: R312224						Analysis Date: 10/31/2024			SeqNo: 8213636	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Cyanide, total	< 0.02	mg/L	0.02									
SampleID: LCSSA		SampType: LCS		TestNo: ASTM D7511-17			Prep Date:			RunNo: 312224		
		BatchID: R312224						Analysis Date: 10/31/2024			SeqNo: 8213637	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Cyanide, total	0.096	mg/L	0.02	0.1		96.1%	86	114				
SampleID: G2410F44-001BMS		SampType: MS		TestNo: ASTM D7511-17			Prep Date:			RunNo: 312224		
		BatchID: R312224						Analysis Date: 10/31/2024			SeqNo: 8213642	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Cyanide, total	0.049	mg/L	0.02	0.05		98.0%	75	125				
SampleID: G2410F44-001BMSD		SampType: MSD		TestNo: ASTM D7511-17			Prep Date:			RunNo: 312224		
		BatchID: R312224						Analysis Date: 10/31/2024			SeqNo: 8213643	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Cyanide, total	0.048	mg/L	0.02	0.05		95.2%	75	125	0.049	2.9%	20		
<b>SampleID:</b> LCS		<b>SampType:</b> LCS			<b>TestNo:</b> ASTM D7511-17			<b>Prep Date:</b>			<b>RunNo:</b> 312224		
					<b>BatchID:</b> R312224					<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8213630
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Cyanide, total	0.11	mg/L	0.005	0.1		105.3%	86	114					
<b>SampleID:</b> CCB		<b>SampType:</b> MBLK			<b>TestNo:</b> ASTM D7511-17			<b>Prep Date:</b>			<b>RunNo:</b> 312224		
					<b>BatchID:</b> R312224					<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8213626
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Cyanide, total	< 0.005	mg/L	0.005										
<b>SampleID:</b> G2410G11-002ADUP		<b>SampType:</b> DUP			<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
					<b>BatchID:</b> 261546					<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210160
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	6.57	mg/L	1						6.6	0.4%	20		
Sulfate	704	mg/L	2						703	0.0%	20		
<b>SampleID:</b> G2410G51-002CDUP		<b>SampType:</b> DUP			<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
					<b>BatchID:</b> 261546					<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210174
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	6.27	mg/L	1						6.23	0.6%	20		
Sulfate	5.64	mg/L	2						5.6	0.7%	20		
<b>SampleID:</b> G2410H13-002BDUP		<b>SampType:</b> DUP			<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
					<b>BatchID:</b> 261546					<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8210188
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	176	mg/L	1						176	0.0%	20		
Sulfate	3.97	mg/L	2						3.92	1.2%	20		

Client: BUTTON GWINNETT LANDFILL

## Analytical QC Summary Report

WorkOrder: G2410G47

Project: BGwinnett 321S2

<b>SampleID:</b> HRQC-261546		<b>SampType:</b> HRQC		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210157	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	252	mg/L	1	250		100.6%	90	110				
Sulfate	247	mg/L	2	250		98.8%	90	110				

<b>SampleID:</b> HRQC 1000-261546		<b>SampType:</b> HRQC 1000		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210158	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	993	mg/L	1	1000		99.3%	90	110				
Sulfate	964	mg/L	2	1000		96.4%	90	110				

<b>SampleID:</b> LFB-261546		<b>SampType:</b> LFB		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210153	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	48.2	mg/L	1	50		96.3%	90	110				
Sulfate	48	mg/L	2	50		96.0%	90	110				

<b>SampleID:</b> LFB2-261546		<b>SampType:</b> LFB2		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210154	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	4.76	mg/L	1	5		95.2%	90	110				
Sulfate	5.13	mg/L	2	5		102.7%	90	110				

<b>SampleID:</b> G2410G11-002ALFM		<b>SampType:</b> LFM		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210161	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	21.2	mg/L	1	15	6.6	97.2%	80	120				
Sulfate	707	mg/L	2	20	703	21.1%	80	120				1

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

<b>SampleID:</b> G2410G51-002CLFM		<b>SampType:</b> LFM		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210175	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	21.1	mg/L	1	15	6.23	98.9%	80	120				
Sulfate	26	mg/L	2	20	5.6	101.9%	80	120				

<b>SampleID:</b> G2410H13-002BLFM		<b>SampType:</b> LFM		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8210189	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	184	mg/L	1	15	176	53.9%	80	120				1
Sulfate	24.7	mg/L	2	20	3.92	103.9%	80	120				

<b>SampleID:</b> LRB-261546		<b>SampType:</b> LRB		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210155	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	< 1	mg/L	1									
Sulfate	< 2	mg/L	2									

<b>SampleID:</b> CB-261546		<b>SampType:</b> MBLK		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210152	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	< 1	mg/L	1									
Sulfate	< 2	mg/L	2									

<b>SampleID:</b> QCS-261546		<b>SampType:</b> QCS		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210156	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	23.2	mg/L	1	24		96.5%	90	110				
Sulfate	31.2	mg/L	2	32		97.6%	90	110				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

SampleID: G2410G39-001ADUP		SampType: DUP		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312199				
		BatchID: R312199				Analysis Date: 11/1/2024		SeqNo: 8212911				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	2.01	mg/L as N	0.1						1.99	1.0%	20	
SampleID: G2410G47-001EDUP		SampType: DUP		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312199				
		BatchID: R312199				Analysis Date: 11/1/2024		SeqNo: 8212934				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	< 0.1	mg/L as N	0.1						0.0591		20	
SampleID: LCS		SampType: LCS		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312199				
		BatchID: R312199				Analysis Date: 11/1/2024		SeqNo: 8212891				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	0.79	mg/L as N	0.1	0.82		96.4%	90	110				
SampleID: CCB		SampType: MBLK		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312199				
		BatchID: R312199				Analysis Date: 11/1/2024		SeqNo: 8212886				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	< 0.1	mg/L as N	0.1									
SampleID: G2410G39-001AMS		SampType: MS		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312199				
		BatchID: R312199				Analysis Date: 11/1/2024		SeqNo: 8212913				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	3.02	mg/L as N	0.1	1	1.99	102.8%	90	110				
SampleID: G2410G47-001EMS		SampType: MS		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312199				
		BatchID: R312199				Analysis Date: 11/1/2024		SeqNo: 8212936				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	1.06	mg/L as N	0.1	1	0.0591	100.5%	90	110				

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410G47  
Project: BGwinnett 321S2

## Analytical QC Summary Report

SampleID: G2410G49-002BDUP		SampType: DUP		TestNo: EPA 353.2 Rev 2.0		Prep Date: 10/30/2024		RunNo: 312275				
		BatchID: 261624				Analysis Date: 11/1/2024		SeqNo: 8215377				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Nitrate Nitrogen	0.204	mg/L as N	0.05						0.204		20	
SampleID: LCS-261624		SampType: LCS		TestNo: EPA 353.2 Rev 2.0		Prep Date: 10/30/2024		RunNo: 312275				
		BatchID: 261624				Analysis Date: 11/1/2024		SeqNo: 8215362				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Nitrate Nitrogen	0.965	mg/L as N	0.05	1		96.5%	90	110				
SampleID: MBLK-261624		SampType: MBLK		TestNo: EPA 353.2 Rev 2.0		Prep Date: 10/30/2024		RunNo: 312275				
		BatchID: 261624				Analysis Date: 11/1/2024		SeqNo: 8215357				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Nitrate Nitrogen	< 0.05	mg/L as N	0.05									
SampleID: G2410G49-002BMS		SampType: MS		TestNo: EPA 353.2 Rev 2.0		Prep Date: 10/30/2024		RunNo: 312275				
		BatchID: 261624				Analysis Date: 11/1/2024		SeqNo: 8215279				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Nitrate Nitrogen	1.19	mg/L as N	0.05	1	0.204	98.7%	90	110			20	
SampleID: LCS1-261501		SampType: LCS1		TestNo: EPA 6010 D		Prep Date: 10/30/2024		RunNo: 312171				
		BatchID: 261501				Analysis Date: 10/31/2024		SeqNo: 8212107				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	1.1	mg/L	0.01	1		110.2%	79.5	120.4				
Beryllium	0.213	mg/L	0.001	0.2		106.3%	79.5	120.4				
Cadmium	0.416	mg/L	0.002	0.4		104.0%	79.5	120.4				
Calcium	10.5	mg/L	0.1	10		105.1%	79.5	120.4				
Chromium	1.07	mg/L	0.01	1		106.9%	79.5	120.4				
Cobalt	0.429	mg/L	0.005	0.4		107.3%	79.5	120.4				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Copper	1.06	mg/L	0.01	1		105.6%	79.5	120.4				
Iron	10.7	mg/L	0.05	10		107.4%	79.5	120.4				
Magnesium	2.05	mg/L	0.1	2		102.5%	79.5	120.4				
Nickel	1.04	mg/L	0.01	1		104.5%	79.5	120.4				
Potassium	10.4	mg/L	0.5	10		104.2%	79.5	120.4				
Silver	0.01	mg/L	0.005	0.01		100.0%	79.5	120.4				
Sodium	10.5	mg/L	0.2	10		105.0%	79.5	120.4				
Tin	1.01	mg/L	0.1	1		100.7%	79.5	120.4				
Vanadium	0.412	mg/L	0.005	0.4		103.1%	79.5	120.4				

<b>SampleID:</b> PB-261501	<b>SampType:</b> PB	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312171
	<b>BatchID:</b> 261501		<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8212105

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	< 0.01	mg/L	0.01									
Beryllium	< 0.001	mg/L	0.001									
Cadmium	< 0.002	mg/L	0.002									
Calcium	< 0.1	mg/L	0.1									
Chromium	< 0.01	mg/L	0.01									
Cobalt	< 0.005	mg/L	0.005									
Copper	< 0.01	mg/L	0.01									
Iron	< 0.05	mg/L	0.05									
Magnesium	< 0.1	mg/L	0.1									
Nickel	< 0.01	mg/L	0.01									
Potassium	< 0.5	mg/L	0.5									
Silver	< 0.005	mg/L	0.005									
Sodium	< 0.2	mg/L	0.2									
Tin	< 0.1	mg/L	0.1									
Vanadium	< 0.005	mg/L	0.005									

<b>SampleID:</b> G2410F52-001DDUP	<b>SampType:</b> DUP	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312171
	<b>BatchID:</b> 261501		<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8212085

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	0.0143	mg/L	0.01						0.0146	2.1%	20	
Beryllium	< 0.001	mg/L	0.001								20	
Cadmium	< 0.002	mg/L	0.002								20	
Calcium	3.25	mg/L	0.1						3.3	1.6%	20	
Chromium	< 0.01	mg/L	0.01								20	
Cobalt	< 0.005	mg/L	0.005								20	
Copper	< 0.01	mg/L	0.01								20	
Iron	0.0822	mg/L	0.05						0.0715	13.9%	20	
Magnesium	1.29	mg/L	0.1						1.31	1.3%	20	
Nickel	< 0.01	mg/L	0.01								20	
Potassium	1.04	mg/L	0.5						0.99	4.6%	20	
Silver	< 0.005	mg/L	0.005								20	
Sodium	4.06	mg/L	0.2						4.04	0.4%	20	
Tin	< 0.1	mg/L	0.1								20	
Vanadium	< 0.005	mg/L	0.005								20	

SampleID: G2410F52-001DMS

SampType: MS

TestNo: EPA 6010 D

Prep Date: 10/30/2024

RunNo: 312171

BatchID: 261501

Analysis Date: 10/31/2024

SeqNo: 8212087

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	1.12	mg/L	0.01	1	0.0146	110.9%	75	125				
Beryllium	0.215	mg/L	0.001	0.2		107.6%	75	125				
Cadmium	0.419	mg/L	0.002	0.4		104.7%	75	125				
Calcium	13.9	mg/L	0.1	10	3.3	105.9%	75	125				
Chromium	1.08	mg/L	0.01	1		108.0%	75	125				
Cobalt	0.432	mg/L	0.005	0.4		108.1%	75	125				
Copper	1.07	mg/L	0.01	1		107.0%	75	125				
Iron	10.9	mg/L	0.05	10	0.0715	108.7%	75	125				
Magnesium	3.35	mg/L	0.1	2	1.31	102.2%	75	125				
Nickel	1.05	mg/L	0.01	1		104.8%	75	125				
Potassium	11.5	mg/L	0.5	10	0.99	104.8%	75	125				
Silver	0.0098	mg/L	0.005	0.01		98.0%	75	125				
Sodium	14.4	mg/L	0.2	10	4.04	103.7%	75	125				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Tin	1.02	mg/L	0.1	1		101.9%	75	125					
Vanadium	0.417	mg/L	0.005	0.4		104.3%	75	125					

<b>SampleID:</b> G2410F52-003DMS	<b>SampType:</b> MS	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312171
		<b>BatchID:</b> 261501	<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8212117

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Barium	1.18	mg/L	0.01	1	0.0555	112.9%	75	125					
Beryllium	0.218	mg/L	0.001	0.2		108.9%	75	125					
Cadmium	0.424	mg/L	0.002	0.4		106.0%	75	125					
Calcium	14.7	mg/L	0.1	10	3.93	107.5%	75	125					
Chromium	1.1	mg/L	0.01	1		109.6%	75	125					
Cobalt	0.439	mg/L	0.005	0.4		109.8%	75	125					
Copper	1.08	mg/L	0.01	1		108.1%	75	125					
Iron	12.9	mg/L	0.05	10	1.69	112.4%	75	125					
Magnesium	4.39	mg/L	0.1	2	2.29	104.8%	75	125					
Nickel	1.06	mg/L	0.01	1		105.8%	75	125					
Potassium	13.2	mg/L	0.5	10	2.36	108.3%	75	125					
Silver	0.0098	mg/L	0.005	0.01		98.0%	75	125					
Sodium	12.7	mg/L	0.2	10	1.94	107.7%	75	125					
Tin	1.03	mg/L	0.1	1		103.1%	75	125					
Vanadium	0.424	mg/L	0.005	0.4		105.9%	75	125					

<b>SampleID:</b> LCS2-261502	<b>SampType:</b> LCS2	<b>TestNo:</b> EPA 6020 B	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312157
		<b>BatchID:</b> 261502	<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8211375

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Antimony	5.87	µg/L	1	6		97.8%	79.5	120.45					
Arsenic	9.2	µg/L	1	10		92.0%	79.5	120.45					
Lead	4.99	µg/L	1	5		99.8%	79.5	120.45					
Selenium	18.6	µg/L	1	20		92.8%	79.5	120.45					
Thallium	2.03	µg/L	0.2	2		101.6%	79.5	120.45					

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

<b>SampleID:</b> LCS2-261502		<b>SampType:</b> LCS2		<b>TestNo:</b> EPA 6020 B				<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312210		
		<b>BatchID:</b> 261502				<b>Analysis Date:</b> 11/1/2024				<b>SeqNo:</b> 8213308			

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Zinc	45.8	µg/L	5	50		91.7%	79.5	120.45				

<b>SampleID:</b> PB-261502		<b>SampType:</b> PB		<b>TestNo:</b> EPA 6020 B				<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312157		
		<b>BatchID:</b> 261502				<b>Analysis Date:</b> 10/31/2024				<b>SeqNo:</b> 8211372			

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	< 1	µg/L	1					0.5				
Arsenic	< 1	µg/L	1					0.5				
Lead	< 1	µg/L	1					0.2				
Selenium	< 1	µg/L	1					0.5				
Thallium	< 0.2	µg/L	0.2					0.1				

<b>SampleID:</b> PB-261502		<b>SampType:</b> PB		<b>TestNo:</b> EPA 6020 B				<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312210		
		<b>BatchID:</b> 261502				<b>Analysis Date:</b> 11/1/2024				<b>SeqNo:</b> 8213307			

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Zinc	< 5	µg/L	5					2				

<b>SampleID:</b> G2410F52-001DDUP		<b>SampType:</b> DUP		<b>TestNo:</b> EPA 6020 B				<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312157		
		<b>BatchID:</b> 261502				<b>Analysis Date:</b> 10/31/2024				<b>SeqNo:</b> 8211379			

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	< 1	µg/L	1								20	
Arsenic	< 1	µg/L	1								20	
Lead	< 1	µg/L	1								20	
Selenium	< 1	µg/L	1								20	
Thallium	< 0.2	µg/L	0.2								20	
Zinc	< 5	µg/L	5					2.19			20	

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410G47  
Project: BGwinnett 321S2

## Analytical QC Summary Report

<b>SampleID:</b> G2410F52-002DMS	<b>SampType:</b> MS	<b>TestNo:</b> EPA 6020 B	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312157
		<b>BatchID:</b> 261502	<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8211401

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	5.96	µg/L	1	6		99.4%	75	125				
Arsenic	9.8	µg/L	1	10		98.0%	75	125				
Lead	5.2	µg/L	1	5	0.211	99.8%	75	125				
Selenium	18.8	µg/L	1	20		94.1%	75	125				
Thallium	2.9	µg/L	0.2	2	0.853	102.1%	75	125				
Zinc	53.1	µg/L	5	50	8.68	88.9%	75	125				

<b>SampleID:</b> G2410F52-004DMS	<b>SampType:</b> MS	<b>TestNo:</b> EPA 6020 B	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312157
		<b>BatchID:</b> 261502	<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8211410

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	5.85	µg/L	1	6		97.5%	75	125				
Arsenic	9.29	µg/L	1	10		92.9%	75	125				
Lead	5	µg/L	1	5		100.0%	75	125				
Selenium	18.2	µg/L	1	20		90.8%	75	125				
Thallium	2	µg/L	0.2	2		99.9%	75	125				
Zinc	45	µg/L	5	50		90.0%	75	125				

<b>SampleID:</b> LCS-261522	<b>SampType:</b> LCS	<b>TestNo:</b> EPA 7470A	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312115
		<b>BatchID:</b> 261522	<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8210040

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Mercury	0.00199	mg/L	0.0002	0.002		99.5%	85	115				

<b>SampleID:</b> PB-261522	<b>SampType:</b> PB	<b>TestNo:</b> EPA 7470A	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312115
		<b>BatchID:</b> 261522	<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8210031

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Mercury	< 0.0002	mg/L	0.0002									

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

<b>SampleID:</b> LCS-261475		<b>SampType:</b> LCS		<b>TestNo:</b> EPA 8011				<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312100		
		<b>BatchID:</b> 261475				<b>Analysis Date:</b> 10/30/2024				<b>SeqNo:</b> 8209572			

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2-Dibromo-3-chloropropane	0.143	µg/L	0.04	0.125		114.4%	60	140				
1,2-Dibromoethane	0.138	µg/L	0.04	0.125		110.4%	60	140				
Surr: 1,1,2,2-Tetrachloroethane	0.325	µg/L	0	0.286		113.6%	60	140				

<b>SampleID:</b> MBLK-261475		<b>SampType:</b> MBLK		<b>TestNo:</b> EPA 8011				<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312100		
		<b>BatchID:</b> 261475				<b>Analysis Date:</b> 10/30/2024				<b>SeqNo:</b> 8209534			

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2-Dibromo-3-chloropropane	< 0.04	µg/L	0.04									
1,2-Dibromoethane	< 0.04	µg/L	0.04									
Surr: 1,1,2,2-Tetrachloroethane	0.597	µg/L	0	0.571		104.6%	60	140				

<b>SampleID:</b> G2410F25-002DMS		<b>SampType:</b> MS		<b>TestNo:</b> EPA 8011				<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312100		
		<b>BatchID:</b> 261475				<b>Analysis Date:</b> 10/30/2024				<b>SeqNo:</b> 8209553			

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2-Dibromo-3-chloropropane	0.135	µg/L	0.04	0.125		108.0%	60	140				
1,2-Dibromoethane	0.132	µg/L	0.04	0.125		105.6%	60	140				
Surr: 1,1,2,2-Tetrachloroethane	0.302	µg/L	0	0.286		105.6%	60	140				

<b>SampleID:</b> G2410F25-002DMSD		<b>SampType:</b> MSD		<b>TestNo:</b> EPA 8011				<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312100		
		<b>BatchID:</b> 261475				<b>Analysis Date:</b> 10/30/2024				<b>SeqNo:</b> 8209556			

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2-Dibromo-3-chloropropane	0.139	µg/L	0.04						0.135	2.9%	20	
1,2-Dibromoethane	0.134	µg/L	0.04						0.132	1.5%	20	
Surr: 1,1,2,2-Tetrachloroethane	0.317	µg/L	0	0.286		110.8%	60	140	0.302			

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410G47  
Project: BGwinnett 321S2

## Analytical QC Summary Report

<b>SampleID:</b> LCS-261499	<b>SampType:</b> LCS	<b>TestNo:</b> EPA 8081 B	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312187
	<b>BatchID:</b> 261499		<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8212523

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
4,4-DDD	0.15	µg/L	0.05	0.25		58.8%	50	120				
4,4-DDE	0.13	µg/L	0.05	0.25		51.6%	50	110				
4,4-DDT	0.15	µg/L	0.05	0.25		61.6%	50	130				
Aldrin	0.14	µg/L	0.05	0.25		55.2%	50	100				
Alpha BHC	0.22	µg/L	0.05	0.25		86.8%	50	110				
Alpha Endosulfan	0.19	µg/L	0.05	0.25		77.9%	50	110				
Beta BHC	0.21	µg/L	0.05	0.25		82.6%	50	110				
Beta Endosulfan	0.19	µg/L	0.05	0.25		75.2%	50	130				
Chlordane	< 1	µg/L	1				45	119				
Delta BHC	0.23	µg/L	0.05	0.25		92.5%	50	110				
Dieldrin	0.17	µg/L	0.05	0.25		67.7%	50	120				
Endosulfan Sulfate	0.17	µg/L	0.05	0.25		67.3%	50	130				
Endrin	0.19	µg/L	0.05	0.25		75.1%	50	130				
Endrin Aldehyde	0.24	µg/L	0.05	0.25		97.3%	50	130				
Gamma BHC (Lindane)	0.22	µg/L	0.05	0.25		89.4%	50	110				
Heptachlor	0.17	µg/L	0.05	0.25		67.5%	50	110				
Heptachlor epoxide	0.19	µg/L	0.05	0.25		74.9%	50	110				
Methoxychlor	0.19	µg/L	0.05	0.25		75.2%	50	130				
Toxaphene	< 2	µg/L	2				41	126				
Surr: Decachlorobiphenyl	0.076	µg/L	0	0.25		30.4%	10	133				
Surr: Tetrachloro-m-xylene	0.14	µg/L	0	0.25		55.2%	31	110				

<b>SampleID:</b> MBLK-261499	<b>SampType:</b> MBLK	<b>TestNo:</b> EPA 8081 B	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312187
	<b>BatchID:</b> 261499		<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8212521

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
4,4-DDD	< 0.05	µg/L	0.05									
4,4-DDE	< 0.05	µg/L	0.05									
4,4-DDT	< 0.05	µg/L	0.05									

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Aldrin	< 0.05	µg/L	0.05										
Alpha BHC	< 0.05	µg/L	0.05										
Alpha Endosulfan	< 0.05	µg/L	0.05										
Beta BHC	< 0.05	µg/L	0.05										
Beta Endosulfan	< 0.05	µg/L	0.05										
Chlordane	< 1	µg/L	1										
Delta BHC	< 0.05	µg/L	0.05										
Dieldrin	< 0.05	µg/L	0.05										
Endosulfan Sulfate	< 0.05	µg/L	0.05										
Endrin	< 0.05	µg/L	0.05										
Endrin Aldehyde	< 0.05	µg/L	0.05										
Gamma BHC (Lindane)	< 0.05	µg/L	0.05										
Heptachlor	< 0.05	µg/L	0.05										
Heptachlor epoxide	< 0.05	µg/L	0.05										
Methoxychlor	< 0.05	µg/L	0.05										
Toxaphene	< 2	µg/L	2										
Surr: Decachlorobiphenyl	0.13	µg/L	0	0.5		25.5%	10	133					
Surr: Tetrachloro-m-xylene	0.38	µg/L	0	0.5		75.8%	31	110					

SampleID: G2410G47-001FMS

SampType: MS

TestNo: EPA 8081 B

Prep Date: 10/30/2024

RunNo: 312187

BatchID: 261499

Analysis Date: 10/31/2024

SeqNo: 8212532

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
4,4-DDD	0.21	µg/L	0.05	0.25		82.7%	36	134				
4,4-DDE	0.2	µg/L	0.05	0.25		81.0%	34	119				
4,4-DDT	0.23	µg/L	0.05	0.25		92.6%	32	130				
Aldrin	0.19	µg/L	0.05	0.25		74.5%	25	110				
Alpha BHC	0.2	µg/L	0.05	0.25		79.7%	39	113				
Alpha Endosulfan	0.2	µg/L	0.05	0.25		80.2%	28	125				
Beta BHC	0.19	µg/L	0.05	0.25		75.5%	46	114				
Beta Endosulfan	0.21	µg/L	0.05	0.25		83.3%	34	122				
Chlordane	< 1	µg/L	1				45	119				
Delta BHC	0.21	µg/L	0.05	0.25		84.5%	39	133				
Dieldrin	0.21	µg/L	0.05	0.25		84.2%	31	121				

Client: BUTTON GWINNETT LANDFILL  
 WorkOrder: G2410G47  
 Project: BGwinnett 321S2

## Analytical QC Summary Report

Endosulfan Sulfate	0.18	µg/L	0.05	0.25		72.5%	39	123				
Endrin	0.21	µg/L	0.05	0.25		85.2%	48	132				
Endrin Aldehyde	0.21	µg/L	0.05	0.25		82.3%	33	118				
Gamma BHC (Lindane)	0.21	µg/L	0.05	0.25	0.11	40.2%	38	115				
Heptachlor	0.16	µg/L	0.05	0.25		65.4%	38	116				
Heptachlor epoxide	0.2	µg/L	0.05	0.25		78.9%	41	112				
Methoxychlor	0.22	µg/L	0.05	0.25		88.1%	37	138				
Toxaphene	< 2	µg/L	2				41	126				
Surr: Decachlorobiphenyl	0.2	µg/L	0	0.25		81.8%	10	133				
Surr: Tetrachloro-m-xylene	0.21	µg/L	0	0.25		82.6%	31	110				

SampleID: G2410G47-001FMSD	SampType: MSD	TestNo: EPA 8081 B	Prep Date: 10/30/2024	RunNo: 312187
	BatchID: 261499		Analysis Date: 10/31/2024	SeqNo: 8212533

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
4,4-DDD	0.18	µg/L	0.051						0.21	13.7%	41	
4,4-DDE	0.16	µg/L	0.051						0.2	23.1%	59	
4,4-DDT	0.18	µg/L	0.051						0.23	25.2%	51	
Aldrin	0.15	µg/L	0.051						0.19	20.2%	44	
Alpha BHC	0.19	µg/L	0.051						0.2	6.0%	29	
Alpha Endosulfan	0.19	µg/L	0.051						0.2	7.2%	36	
Beta BHC	0.18	µg/L	0.051						0.19	5.9%	26	
Beta Endosulfan	0.19	µg/L	0.051						0.21	8.3%	39	
Chlordane	< 1	µg/L	1									20
Delta BHC	0.2	µg/L	0.051						0.21	5.1%	38	
Dieldrin	0.19	µg/L	0.051						0.21	12.1%	36	
Endosulfan Sulfate	0.17	µg/L	0.051						0.18	8.5%	35	
Endrin	0.19	µg/L	0.051						0.21	8.9%	34	
Endrin Aldehyde	0.21	µg/L	0.051						0.21	2.8%	35	
Gamma BHC (Lindane)	0.23	µg/L	0.051	0.11					0.21	9.0%	36	
Heptachlor	0.14	µg/L	0.051						0.16	15.2%	31	
Heptachlor epoxide	0.18	µg/L	0.051						0.2	7.1%	32	
Methoxychlor	0.19	µg/L	0.051						0.22	13.6%	39	
Toxaphene	< 2	µg/L	2									20

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Surr: Decachlorobiphenyl	0.13	µg/L	0	0.26		52.5%	10	133	0.2		20	
Surr: Tetrachloro-m-xylene	0.16	µg/L	0	0.26		63.9%	31	110	0.21		20	

<b>SampleID:</b> LCS-261497	<b>SampType:</b> LCS	<b>TestNo:</b> EPA 8082 A	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312279
	<b>BatchID:</b> 261497		<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8215456

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
PCB 1016	3.2	µg/L	0.4	5		64.7%	57	120				
PCB 1232	< 0.4	µg/L	0.4									
PCB 1242	< 0.4	µg/L	0.4									
PCB 1248	< 0.4	µg/L	0.4									
PCB 1254	< 0.4	µg/L	0.4									
PCB 1260	3.7	µg/L	0.4	5		73.5%	43	108				
Surr: Decachlorobiphenyl	0.17	µg/L	0	0.5		33.5%	10	110				
Surr: Tetrachloro-m-xylene	0.31	µg/L	0	0.5		62.3%	12	120				

<b>SampleID:</b> LCS-261497	<b>SampType:</b> LCS	<b>TestNo:</b> EPA 8082 A	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312334
	<b>BatchID:</b> 261497		<b>Analysis Date:</b> 11/5/2024	<b>SeqNo:</b> 8216965

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
PCB 1221	< 0.4	µg/L	0.4									

<b>SampleID:</b> MBLK-261497	<b>SampType:</b> MBLK	<b>TestNo:</b> EPA 8082 A	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312279
	<b>BatchID:</b> 261497		<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8215454

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
PCB 1016	< 0.4	µg/L	0.4									
PCB 1232	< 0.4	µg/L	0.4									
PCB 1242	< 0.4	µg/L	0.4									
PCB 1248	< 0.4	µg/L	0.4									
PCB 1254	< 0.4	µg/L	0.4									
PCB 1260	< 0.4	µg/L	0.4									
Surr: Decachlorobiphenyl	0.12	µg/L	0	0.5		23.3%	10	110				
Surr: Tetrachloro-m-xylene	0.34	µg/L	0	0.5		67.3%	12	120				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

<b>SampleID:</b> MBLK-261497	<b>SampType:</b> MBLK	<b>TestNo:</b> EPA 8082 A	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312334
		<b>BatchID:</b> 261497	<b>Analysis Date:</b> 11/5/2024	<b>SeqNo:</b> 8216962

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
PCB 1221	< 0.4	µg/L	0.4									

<b>SampleID:</b> G2410G70-001DMS	<b>SampType:</b> MS	<b>TestNo:</b> EPA 8082 A	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312279
		<b>BatchID:</b> 261497	<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8215475

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
PCB 1016	16	µg/L	2	25		64.5%	45	118				
PCB 1221	< 2	µg/L	2									
PCB 1232	< 2	µg/L	2									
PCB 1242	< 2	µg/L	2									
PCB 1248	< 2	µg/L	2									
PCB 1254	< 2	µg/L	2									
PCB 1260	14	µg/L	2	25		56.3%	20	122				
Surr: Decachlorobiphenyl	0.86	µg/L	0	2.5		34.3%	10	110				
Surr: Tetrachloro-m-xylene	1.5	µg/L	0	2.5		58.7%	12	120				

<b>SampleID:</b> G2410G70-001DMSD	<b>SampType:</b> MSD	<b>TestNo:</b> EPA 8082 A	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312279
		<b>BatchID:</b> 261497	<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8215476

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
PCB 1016	18	µg/L	2						16	9.6%	31	
PCB 1221	< 2	µg/L	2								20	
PCB 1232	< 2	µg/L	2								20	
PCB 1242	< 2	µg/L	2								20	
PCB 1248	< 2	µg/L	2								20	
PCB 1254	< 2	µg/L	2								20	
PCB 1260	15	µg/L	2						14	6.8%	35	
Surr: Decachlorobiphenyl	0.79	µg/L	0	2.5		31.4%	10	110	0.86			
Surr: Tetrachloro-m-xylene	1.6	µg/L	0	2.5		64.6%	12	120	1.5			

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410G47  
Project: BGwinnett 321S2

## Analytical QC Summary Report

SampleID: 20 PPB LCS		SampType: LCS		TestNo: EPA 8260 D			Prep Date:			RunNo: 312022		
		BatchID: R312022							Analysis Date: 10/29/2024		SeqNo: 8207609	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	21.7	µg/L	1	20		108.4%	81	125				
1,1,1-Trichloroethane	20.6	µg/L	1	20		103.2%	71	125				
1,1,2,2-Tetrachloroethane	21	µg/L	1	20		105.1%	80	116				
1,1,2-Trichloroethane	21.2	µg/L	1	20		106.0%	83	126				
1,1-Dichloroethane	20.6	µg/L	1	20		102.8%	73	122				
1,1-Dichloroethene	21.9	µg/L	1	20		109.6%	74	121				
1,1-Dichloropropene	21.2	µg/L	1	20		105.8%	74	120				
1,2,3-Trichloropropane	21.6	µg/L	1	20		108.0%	77	118				
1,2-Dichlorobenzene	19.9	µg/L	1	20		99.3%	85	119				
1,2-Dichloroethane	20.4	µg/L	1	20		102.2%	72	123				
1,2-Dichloropropane	21.2	µg/L	1	20		106.2%	83	122				
1,3-Dichlorobenzene	20.2	µg/L	1	20		101.1%	82	119				
1,3-Dichloropropane	20.8	µg/L	1	20		103.9%	80	118				
1,4-Dichlorobenzene	19.6	µg/L	1	20		98.0%	83	120				
2,2-Dichloropropane	24.5	µg/L	1	20		122.3%	32	157				
2-Butanone	21.5	µg/L	5	20		107.4%	61	125				
2-chloro-1,3-butadiene	21.8	µg/L	1	20		108.9%	70	124				
2-Hexanone	22	µg/L	5	20		110.1%	58	132				
2-Methyl-1-propanol	228	µg/L	50	200		114.0%	29	163				
3-Chloro-1-Propene	22.5	µg/L	1	20		112.6%	65	127				
4-Methyl-2-Pentanone	22.2	µg/L	1	20		111.0%	68	127				
Acetone	18.6	µg/L	10	20		92.8%	60	133				
Acetonitrile	217	µg/L	20	200		108.3%	61	132				
Allyl chloride	22.5	µg/L	1	20		112.6%	65	127				
Benzene	19.7	µg/L	1	20		98.6%	76	122				
Bromochloromethane	21.6	µg/L	1	20		107.8%	78	124				
Bromodichloromethane	22	µg/L	1	20		110.2%	71	138				
Bromoform	20.7	µg/L	1	20		103.6%	71	125				
Bromomethane	18.8	µg/L	1	20		93.8%	47	152				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Carbon Disulfide	23.2	µg/L	1	20		116.0%	63	123				
Carbon Tetrachloride	22.2	µg/L	1	20		111.1%	68	133				
Chlorobenzene	19.7	µg/L	1	20		98.3%	83	118				
Chlorodibromomethane	20.5	µg/L	1	20		102.4%	74	131				
Chloroethane	23.7	µg/L	1	20		118.3%	56	127				
Chloroform	20	µg/L	1	20		100.0%	73	123				
Chloromethane	22.6	µg/L	1	20		113.1%	65	129				
Chloroprene	21.8	µg/L	1	20		108.9%	70	124				
cis-1,2-Dichloroethene	20.9	µg/L	1	20		104.6%	75	121				
cis-1,3-Dichloropropene	22.8	µg/L	1	20		113.9%	71	129				
Dibromomethane	21.1	µg/L	1	20		105.3%	83	118				
Dichlorobromomethane	22	µg/L	1	20		110.2%	56	145				
Dichlorodifluoromethane	24.8	µg/L	1	20		124.1%	60	138				
Ethyl Methacrylate	21.8	µg/L	1	20		108.8%	72	126				
Ethylbenzene	19.6	µg/L	1	20		97.9%	84	120				
Iodomethane	21.1	µg/L	5	20		105.7%	29	162				
Isobutyl alcohol	228	µg/L	50	200		114.0%	29	163				
Methacrylonitrile	222	µg/L	10	200		110.9%	69	126				
Methyl Ethyl Ketone	21.5	µg/L	5	20		107.4%	72	131				
Methyl methacrylate	23.1	µg/L	1	20		115.3%	74	122				
Methylene Chloride	19.6	µg/L	1	20		98.2%	73	133				
Propionitrile	227	µg/L	10	200		113.6%	63	129				
Styrene	20.3	µg/L	1	20		101.5%	88	116				
Tetrachloroethene	19.7	µg/L	1	20		98.4%	76	127				
Toluene	20.1	µg/L	1	20		100.6%	80	118				
trans-1,2-Dichloroethene	21.2	µg/L	1	20		106.0%	73	120				
trans-1,3-Dichloropropene	23.2	µg/L	1	20		116.0%	70	126				
trans-1,4-Dichloro-2-butene	23.4	µg/L	2	20		117.2%	46	137				
Tribromomethane	20.7	µg/L	1	20		103.6%	71	125				
Trichloroethene	21.3	µg/L	1	20		106.5%	73	123				
Trichlorofluoromethane	22	µg/L	1	20		110.2%	69	125				
Trichloromethane	20	µg/L	1	20		100.0%	73	123				
Vinyl Acetate	21	µg/L	1	20		105.1%	67	131				
Vinyl Chloride	21.9	µg/L	1	20		109.5%	56	125				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Total Xylene	60.5	µg/L	2	60		100.8%	87	116					
Surr: 1,2-Dichloroethane-d4	29.3	µg/L	0	30		97.7%	70	130					
Surr: 4-Bromofluorobenzene	29.2	µg/L	0	30		97.4%	70	130					
Surr: Dibromofluoromethane	29.8	µg/L	0	30		99.4%	70	130					
Surr: Toluene-d8	29.5	µg/L	0	30		98.3%	70	130					
<b>SampleID:</b> BLANK		<b>SampType:</b> MBLK		<b>TestNo:</b> EPA 8260 D			<b>Prep Date:</b>			<b>RunNo:</b> 312022			
<b>BatchID:</b> R312022							<b>Analysis Date:</b> 10/29/2024			<b>SeqNo:</b> 8207614			
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
1,1,1,2-Tetrachloroethane	< 1	µg/L	1										
1,1,1-Trichloroethane	< 1	µg/L	1										
1,1,2,2-Tetrachloroethane	< 1	µg/L	1										
1,1,2-Trichloroethane	< 1	µg/L	1										
1,1-Dichloroethane	< 1	µg/L	1										
1,1-Dichloroethene	< 1	µg/L	1										
1,1-Dichloropropene	< 1	µg/L	1										
1,2,3-Trichloropropane	< 1	µg/L	1										
1,2-Dichlorobenzene	< 1	µg/L	1										
1,2-Dichloroethane	< 1	µg/L	1										
1,2-Dichloropropane	< 1	µg/L	1										
1,3-Dichlorobenzene	< 1	µg/L	1										
1,3-Dichloropropane	< 1	µg/L	1										
1,4-Dichlorobenzene	< 1	µg/L	1										
2,2-Dichloropropane	< 1	µg/L	1										
2-Butanone	< 5	µg/L	5										
2-chloro-1,3-butadiene	< 1	µg/L	1										
2-Hexanone	< 5	µg/L	5										
2-Methyl-1-propanol	< 50	µg/L	50										
3-Chloro-1-Propene	< 1	µg/L	1										
4-Methyl-2-Pentanone	< 1	µg/L	1										
Acetone	< 10	µg/L	10										
Acetonitrile	< 20	µg/L	20										
Allyl chloride	< 1	µg/L	1										

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Client: BUTTON GWINNETT LANDFILL  
 WorkOrder: G2410G47  
 Project: BGwinnett 321S2

## Analytical QC Summary Report

Trichloroethene	< 1	µg/L	1										
Trichlorofluoromethane	< 1	µg/L	1										
Trichloromethane	< 1	µg/L	1										
Vinyl Acetate	< 1	µg/L	1										
Vinyl Chloride	< 1	µg/L	1										
Total Xylene	< 2	µg/L	2										
Surr: 1,2-Dichloroethane-d4	31.4	µg/L	0	30		104.8%	70	130					
Surr: 4-Bromofluorobenzene	30	µg/L	0	30		99.9%	70	130					
Surr: Dibromofluoromethane	29.3	µg/L	0	30		97.5%	70	130					
Surr: Toluene-d8	30.1	µg/L	0	30		100.2%	70	130					

SampleID: G2410E68-005GMS	SampType: MS	TestNo: EPA 8260 D	Prep Date:	RunNo: 312022
	BatchID: R312022		Analysis Date: 10/29/2024	SeqNo: 8207621

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	21.5	µg/L	1	20		107.7%	76	117				
1,1,1-Trichloroethane	22.6	µg/L	1	20		113.0%	72	122				
1,1,2,2-Tetrachloroethane	19.4	µg/L	1	20		96.8%	72	110				
1,1,2-Trichloroethane	21.2	µg/L	1	20		106.0%	76	126				
1,1-Dichloroethane	21.9	µg/L	1	20		109.4%	66	126				
1,1-Dichloroethene	24.6	µg/L	1	20		123.1%	66	121				S
1,1-Dichloropropene	23.3	µg/L	1	20		116.4%	71	120				
1,2,3-Trichloropropane	20.8	µg/L	1	20		103.8%	72	112				
1,2-Dichlorobenzene	20.3	µg/L	1	20		101.3%	76	108				
1,2-Dichloroethane	21.2	µg/L	1	20		106.2%	69	116				
1,2-Dichloropropane	21.5	µg/L	1	20		107.5%	78	122				
1,3-Dichlorobenzene	20.3	µg/L	1	20		101.4%	71	120				
1,3-Dichloropropane	20.7	µg/L	1	20		103.4%	76	110				
1,4-Dichlorobenzene	20.3	µg/L	1	20		101.7%	70	121				
2,2-Dichloropropane	27.4	µg/L	1	20		137.1%	29	160				
2-chloro-1,3-butadiene	23.9	µg/L	1	20		119.4%	74	122				
2-Hexanone	20	µg/L	5	20		100.0%	63	120				
2-Methyl-1-propanol	203	µg/L	50	200		101.7%	37	145				
3-Chloro-1-Propene	26.2	µg/L	1	20		131.2%	64	124				S

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

4-Methyl-2-Pentanone	19.8	µg/L	1	20		99.0%	68	116			
Acetone	17.3	µg/L	10	20		86.5%	51	133			
Acetonitrile	224	µg/L	20	200		111.8%	50	134			
Acrolein	26.7	µg/L	10	20		133.5%	8	140			
Acrylonitrile	21.6	µg/L	5	20		107.8%	64	122			
Benzene	21.2	µg/L	1	20		105.8%	52	125			
Bromochloromethane	22.2	µg/L	1	20		110.9%	71	117			
Bromodichloromethane	22.3	µg/L	1	20		111.5%	68	132			
Bromomethane	19.6	µg/L	1	20		97.9%	40	156			
Carbon Disulfide	25.8	µg/L	1	20		129.1%	60	123			S
Carbon Tetrachloride	24.5	µg/L	1	20		122.7%	67	132			
Chlorobenzene	20.1	µg/L	1	20		100.4%	78	111			
Chlorodibromomethane	20.7	µg/L	1	20		103.5%	70	123			
Chloroethane	25.4	µg/L	1	20		127.0%	46	132			
Chloromethane	24.2	µg/L	1	20		121.1%	51	129			
cis-1,2-Dichloroethene	21.9	µg/L	1	20		109.7%	71	117			
cis-1,3-Dichloropropene	22.9	µg/L	1	20		114.6%	71	117			
Dibromomethane	20.9	µg/L	1	20		104.4%	77	110			
Dichlorobromomethane	22.3	µg/L	1	20		111.5%	74	117			
Dichlorodifluoromethane	28.2	µg/L	1	20		141.0%	34	140			S
Ethyl Methacrylate	20.7	µg/L	1	20		103.6%	71	127			
Ethylbenzene	20.5	µg/L	1	20		102.7%	72	122			
Iodomethane	23.8	µg/L	5	20		118.9%	34	150			
Methacrylonitrile	213	µg/L	10	200		106.7%	65	119			
Methyl Ethyl Ketone	20.5	µg/L	5	20		102.3%	59	121			
Methyl methacrylate	21.4	µg/L	1	20		107.2%	71	121			
Methylene Chloride	20.4	µg/L	1	20		102.2%	64	121			
Propionitrile	211	µg/L	10	200		105.4%	59	122			
Styrene	20.6	µg/L	1	20		103.0%	78	117			
Tetrachloroethene	20.1	µg/L	1	20		100.7%	67	122			
Toluene	20.8	µg/L	1	20		103.8%	75	115			
trans-1,2-Dichloroethene	23.2	µg/L	1	20		116.2%	69	118			
trans-1,3-Dichloropropene	23.2	µg/L	1	20		116.2%	66	122			
trans-1,4-Dichloro-2-butene	21.7	µg/L	2	20		108.4%	46	131			

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Tribromomethane	20.4	µg/L	1	20		101.8%	65	117				
Trichloroethene	22.3	µg/L	1	20		111.7%	75	117				
Trichlorofluoromethane	24	µg/L	1	20		120.2%	69	125				
Trichloromethane	21.2	µg/L	1	20		106.1%	69	117				
Vinyl Acetate	21.5	µg/L	1	20		107.6%	46	126				
Vinyl Chloride	24	µg/L	1	20		120.2%	54	128				
Total Xylene	62.5	µg/L	2	60		104.1%	72	120				
Surr: 1,2-Dichloroethane-d4	29.8	µg/L	0	30		99.3%	70	130				
Surr: 4-Bromofluorobenzene	29.3	µg/L	0	30		97.8%	70	130				
Surr: Dibromofluoromethane	31.4	µg/L	0	30		104.7%	70	130				
Surr: Toluene-d8	29.2	µg/L	0	30		97.4%	70	130				

SampleID: G2410E68-005GMSD	SampType: MSD	TestNo: EPA 8260 D	Prep Date:	RunNo: 312022
	BatchID: R312022		Analysis Date: 10/29/2024	SeqNo: 8207632

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	21.1	µg/L	1						21.5	2.1%	11	
1,1,1-Trichloroethane	20.9	µg/L	1						22.6	8.0%	12	
1,1,2,2-Tetrachloroethane	19.4	µg/L	1						19.4	0.1%	14	
1,1,2-Trichloroethane	20.1	µg/L	1						21.2	5.3%	15	
1,1-Dichloroethane	20	µg/L	1						21.9	9.1%	12	
1,1-Dichloroethene	22.4	µg/L	1						24.6	9.5%	14	
1,1-Dichloropropene	21.6	µg/L	1						23.3	7.5%	13	
1,2,3-Trichloropropane	20	µg/L	1						20.8	3.8%	14	
1,2-Dichlorobenzene	19.6	µg/L	1						20.3	3.5%	13	
1,2-Dichloroethane	19.5	µg/L	1						21.2	8.4%	11	
1,2-Dichloropropane	20.8	µg/L	1						21.5	3.2%	12	
1,3-Dichlorobenzene	20.1	µg/L	1						20.3	1.1%	16	
1,3-Dichloropropane	19.7	µg/L	1						20.7	4.9%	17	
1,4-Dichlorobenzene	19.7	µg/L	1						20.3	3.3%	16	
2,2-Dichloropropane	24.3	µg/L	1						27.4	11.9%	13	
2-chloro-1,3-butadiene	22.2	µg/L	1						23.9	7.3%	20.9	
2-Hexanone	19.1	µg/L	5						20	4.7%	18	
2-Methyl-1-propanol	181	µg/L	50						203	11.7%	24	

Client: BUTTON GWINNETT LANDFILL

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Project: BGwinnett 321S2

## Analytical QC Summary Report

3-Chloro-1-Propene	22.7	µg/L	1				26.2	14.6%	24	
4-Methyl-2-Pentanone	18.8	µg/L	1				19.8	5.4%	18	
Acetone	15.2	µg/L	10				17.3	12.9%	23	
Acetonitrile	202	µg/L	20				224	10.3%	28	
Acrolein	25.5	µg/L	10				26.7	4.5%	25	
Acrylonitrile	19.1	µg/L	5				21.6	12.1%	16	
Benzene	19.6	µg/L	1				21.2	7.5%	15	
Bromochloromethane	20.2	µg/L	1				22.2	9.1%	12	
Bromodichloromethane	21.5	µg/L	1				22.3	3.7%	18	
Bromomethane	18.5	µg/L	1				19.6	5.8%	22	
Carbon Disulfide	23.7	µg/L	1				25.8	8.7%	13	
Carbon Tetrachloride	22.6	µg/L	1				24.5	8.2%	12	
Chlorobenzene	19.6	µg/L	1				20.1	2.7%	10	
Chlorodibromomethane	19.5	µg/L	1				20.7	5.8%	16	
Chloroethane	22.8	µg/L	1				25.4	10.7%	17	
Chloromethane	22.4	µg/L	1				24.2	7.6%	16	
cis-1,2-Dichloroethene	20.3	µg/L	1				21.9	7.9%	12	
cis-1,3-Dichloropropene	21.8	µg/L	1				22.9	5.1%	16	
Dibromomethane	19.8	µg/L	1				20.9	5.3%	14	
Dichlorobromomethane	21.5	µg/L	1				22.3	3.7%	13	
Dichlorodifluoromethane	24.5	µg/L	1				28.2	14.0%	18	
Ethyl Methacrylate	19.8	µg/L	1				20.7	4.3%	17	
Ethylbenzene	19.6	µg/L	1				20.5	4.8%	16	
Iodomethane	21.6	µg/L	5				23.8	9.5%	19	
Methacrylonitrile	193	µg/L	10				213	9.9%	14	
Methyl Ethyl Ketone	19.3	µg/L	5				20.5	6.1%	21	
Methyl methacrylate	20.1	µg/L	1				21.4	6.6%	14	
Methylene Chloride	19.1	µg/L	1				20.4	6.9%	17	
Propionitrile	187	µg/L	10				211	11.7%	22	
Styrene	19.9	µg/L	1				20.6	3.5%	12	
Tetrachloroethene	19.5	µg/L	1				20.1	3.2%	16	
Toluene	19.9	µg/L	1				20.8	4.1%	13	
trans-1,2-Dichloroethene	21.5	µg/L	1				23.2	7.9%	13	
trans-1,3-Dichloropropene	22.1	µg/L	1				23.2	5.2%	15	

Client: BUTTON GWINNETT LANDFILL  
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## Analytical QC Summary Report

trans-1,4-Dichloro-2-butene	20.8	µg/L	2						21.7	4.1%	17	
Tribromomethane	19.8	µg/L	1						20.4	2.6%	14	
Trichloroethene	21.5	µg/L	1						22.3	4.0%	11	
Trichlorofluoromethane	21.9	µg/L	1						24	9.5%	15	
Trichloromethane	19.7	µg/L	1						21.2	7.4%	12	
Vinyl Acetate	19.7	µg/L	1						21.5	8.9%	11	
Vinyl Chloride	22	µg/L	1						24	8.8%	15	
Total Xylene	60.4	µg/L	2						62.5		18	
Surr: 1,2-Dichloroethane-d4	28.6	µg/L	0	30		95.2%	70	130	29.8			
Surr: 4-Bromofluorobenzene	30.1	µg/L	0	30		100.2%	70	130	29.3			
Surr: Dibromofluoromethane	29.7	µg/L	0	30		99.0%	70	130	31.4			
Surr: Toluene-d8	30	µg/L	0	30		99.9%	70	130	29.2			

SampleID: LCS-261545	SampType: LCS	TestNo: EPA 8270 E	Prep Date: 10/30/2024	RunNo: 312252
	BatchID: 261545		Analysis Date: 11/1/2024	SeqNo: 8214278

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2,4-Trichlorobenzene	28	µg/L	10	50		56.9%	33	95				
1,4-Naphthoquinone	2.2	µg/L	0	50		4.5%	4	125				
2,3,4,6-Tetrachlorophenol	51	µg/L	20	50		102.3%	35	134				
2,4,5-Trichlorophenol	47	µg/L	10	50		94.1%	40	134				
2,4,6-Trichlorophenol	47	µg/L	10	50		94.5%	41	133				
2,4-Dichlorophenol	39	µg/L	10	50		77.3%	27	115				
2,4-Dimethylphenol	39	µg/L	10	50		78.4%	39	144				
2,4-Dinitrophenol	48	µg/L	20	50		95.2%	32	138				
2,4-Dinitrotoluene	50	µg/L	10	50		100.5%	39	142				
2,6-Dichlorophenol	38	µg/L	10	50		76.6%	39	123				
2,6-Dinitrotoluene	51	µg/L	10	50		101.1%	43	130				
2-Chloro-Naphthalene	43	µg/L	10	50		85.1%	42	112				
2-Chlorophenol	40	µg/L	10	50		79.5%	38	108				
2-Methyl-4,6-dinitrophenol	47	µg/L	20	50		93.3%	31	126				
2-Methylnaphthalene	35	µg/L	10	50		69.5%	40	110				
2-Methylphenol	41	µg/L	10	50		82.3%	32	107				
2-Nitroaniline	54	µg/L	10	50		108.9%	46	121				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

2-Nitrophenol	37	µg/L	10	50		75.0%	29	104				
3,3-Dichlorobenzidine	50	µg/L	20	50		99.1%	29	140				
3-Nitroaniline	52	µg/L	10	50		104.7%	33	125				
4,6-Dinitro-2-methylphenol	47	µg/L	20	50		93.3%	31	126				
4-Bromophenylphenylether	47	µg/L	10	50		94.4%	45	125				
4-Chloro-3-methylphenol	41	µg/L	10	50		82.3%	38	119				
4-Chloroaniline	35	µg/L	10	50		70.0%	31	108				
4-Chlorophenylphenylether	46	µg/L	10	50		92.5%	43	135				
4-Nitroaniline	54	µg/L	10	50		108.3%	47	131				
4-Nitrophenol	46	µg/L	20	50		91.7%	33	136				
Acenaphthene	46	µg/L	10	50		91.1%	38	118				
Acenaphthylene	44	µg/L	10	50		88.8%	44	126				
Acetophenone	40	µg/L	10	50		80.5%	32	126				
Anthracene	46	µg/L	10	50		91.1%	46	128				
Benzo(a)anthracene	49	µg/L	10	50		98.2%	45	132				
Benzo(a)pyrene	47	µg/L	10	50		95.0%	42	127				
Benzo(b)fluoranthene	48	µg/L	10	50		95.8%	40	122				
Benzo(g,h,i)perylene	47	µg/L	10	50		94.4%	29	133				
Benzo(k)fluoranthene	49	µg/L	10	50		97.9%	39	125				
Benzyl Alcohol	47	µg/L	20	50		94.4%	31	141				
bis(2-Chloroethoxy)methane	39	µg/L	10	50		77.9%	39	108				
bis(2-Chloroethyl)ether	41	µg/L	10	50		81.2%	36	108				
bis(2-Chloroisopropyl)ether	58	µg/L	10	50		115.8%	35	119				
bis(2-Ethylhexyl)phthalate	51	µg/L	5	50		101.7%	25	125				
Butyl benzylphthalate	37	µg/L	10	50		73.4%	30	114				
Chrysene	25	µg/L	10	50		50.0%	38	124				
Di-N-Butyl Phthalate	36	µg/L	10	50		71.8%	32	119				
Di-N-Octylphthalate	50	µg/L	10	50		99.1%	35	131				
Di-n-propylNitrosamine	48	µg/L	10	50		95.6%	40	120				
Dibenzo(a,h)anthracene	14	µg/L	10	50		29.0%	32	125				S
Dibenzofuran	43	µg/L	10	50		86.5%	42	104				
Diethyl Phthalate	14	µg/L	10	50		27.4%	10	114				
Dimethyl Phthalate	4.1	µg/L	0	50		8.3%	7	128				
Ethyl Methanesulfonate	38	µg/L	10	50		75.4%	38	118				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Fluoranthene	49	µg/L	10	50		97.3%	47	136				
Fluorene	47	µg/L	10	50		93.9%	41	127				
Hexachlorobenzene	48	µg/L	10	50		96.3%	41	122				
Hexachlorobutadiene	19	µg/L	10	50		38.3%	25	105				
Hexachlorocyclopentadiene	14	µg/L	10	50		27.8%	10	132				
Hexachloroethane	20	µg/L	10	50		39.4%	21	107				
Indeno(1,2,3-cd)pyrene	42	µg/L	10	50		83.9%	30	126				
Isophorone	44	µg/L	10	50		87.3%	45	133				
m,p-Cresol	44	µg/L	10	50		87.7%	31	112				
Methyl Methanesulfonate	33	µg/L	10	50		65.8%	19	93				
n-Nitrosodimethylamine	38	µg/L	10	50		75.5%	17	105				
n-Nitrosodiphenylamine	54	µg/L	20	50		108.3%	44	149				
N-nitrosodipropylamine	48	µg/L	10	50		95.6%	44	120				
Naphthalene	35	µg/L	10	50		69.4%	35	110				
Nitrobenzene	37	µg/L	10	50		74.4%	38	98				
o-Cresol	41	µg/L	10	50		82.3%	32	107				
Pentachloronitrobenzene	51	µg/L	10	50		101.4%	43	122				
Pentachlorophenol	48	µg/L	20	50		96.5%	20	130				
Phenanthrene	46	µg/L	10	50		91.6%	43	120				
Phenol	42	µg/L	10	50		83.1%	11	118				
Pyrene	49	µg/L	10	50		98.0%	47	116				
3,4-Methylphenol	44	µg/L	10	50		87.7%	31	113				
Surr: 2,4,6-Tribromophenol	78	µg/L	0	75		103.7%	34	131				
Surr: 2-Fluorobiphenyl	63	µg/L	0	75		83.5%	34	118				
Surr: 2-Fluorophenol	55	µg/L	0	75		72.7%	10	115				
Surr: Nitrobenzene-d5	53	µg/L	0	75		71.2%	32	119				
Surr: p-Terphenyl-d14	71	µg/L	0	75		94.8%	32	136				
Surr: Phenol-d6	61	µg/L	0	75		81.8%	11	119				

SampleID: APP II-261545

SampType: LCS

TestNo: EPA 8270 E

Prep Date: 10/30/2024

RunNo: 312252

BatchID: 261545

Analysis Date: 11/1/2024

SeqNo: 8214282

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2,4,5-Tetrachlorobenzene	33	µg/L	10	50		66.5%	38	121				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

1,3-Dinitrobenzene	49	µg/L	20	50		98.4%	38	125					
1-Naphthylamine	50	µg/L	10	50		99.4%	17	105					
1-Nitrosopiperidine	45	µg/L	10	50		89.8%	40	122					
2-Acetylaminofluorene	47	µg/L	20	50		93.5%	45	128					
2-Naphthylamine	50	µg/L	10	50		99.8%	18	106					
3,3-Dimethylbenzidine	38	µg/L	20	50		76.3%	10	108					
3-Methylcholanthrene	50	µg/L	10	50		100.8%	35	131					
4-Aminobiphenyl	49	µg/L	10	50		98.0%	15	121					
5-Nitro-o-toluidine	54	µg/L	20	50		108.7%	41	127					
7,12-Dimethylbenz(a)-anthracene	51	µg/L	10	50		102.2%	42	122					
Chlorobenzilate	20	µg/L	10	50		39.0%	12	109					
cis-Diallate	34	µg/L	10	35		98.3%	32	136					
Diallate-A	34	µg/L	20	35		98.3%	32	136					
Diallate-B	15	µg/L	0	15		97.4%	46	128					
Dimethoate	2.9	µg/L	0	50		5.8%	5	110					
Diphenylamine	51	µg/L	10	50		102.5%	40	132					
Disulfoton	45	µg/L	20	50		90.7%	31	114					
Famphur	11	µg/L	0	50		21.2%	10	105					
Hexachloropropene	8.4	µg/L	0	50		16.8%	12	108					
Isodrin	46	µg/L	20	50		91.9%	35	122					
Isosafrole	43	µg/L	10	50		85.9%	42	120					
Kepone	32	µg/L	0	50		63.6%	10	120					
Methapyrilene	40	µg/L	20	50		80.4%	21	114					
Methyl Parathion	41	µg/L	10	50		81.1%	33	114					
N-Nitrosodibutylamine	43	µg/L	10	50		85.4%	42	125					
N-Nitrosodiethylamine	40	µg/L	10	50		79.5%	35	110					
N-Nitrosomethylethylamine	38	µg/L	10	50		75.0%	25	113					
N-Nitrosopyrrolidine	44	µg/L	10	50		89.0%	33	118					
o,o,o-Triethylphosphorothioate	42	µg/L	10	50		84.6%	43	107					
o-Toluidine	43	µg/L	10	50		85.9%	18	115					
p-Dimethylaminoazobenzene	55	µg/L	10	50		110.2%	38	125					
p-Phenylenediamine	81	µg/L	20	100		81.0%	14	116					
Parathion	49	µg/L	10	50		98.2%	44	124					

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Pentachlorobenzene	43	µg/L	10	50		86.1%	35	125				
Phenacetin	55	µg/L	10	50		109.9%	55	125				
Phorate	38	µg/L	20	50		76.1%	32	111				
Pronamide	51	µg/L	10	50		102.3%	40	130				
Safrole	37	µg/L	10	50		73.2%	41	112				
sym-Trinitrobenzene	40	µg/L	10	50		80.6%	39	139				
Thionazin	40	µg/L	20	50		79.0%	36	121				
trans-Diallate	15	µg/L	10	15		97.4%	46	128				
Surr: 2,4,6-Tribromophenol	78	µg/L	0	75		103.5%	34	131				
Surr: 2-Fluorobiphenyl	63	µg/L	0	75		83.4%	34	118				
Surr: 2-Fluorophenol	54	µg/L	0	75		71.9%	10	115				
Surr: Nitrobenzene-d5	53	µg/L	0	75		70.6%	32	119				
Surr: p-Terphenyl-d14	74	µg/L	0	75		98.1%	32	136				
Surr: Phenol-d6	61	µg/L	0	75		82.0%	11	119				

SampleID: LCS1 APSDOC-261545

SampType: LCS

TestNo: EPA 8270 E

Prep Date: 10/30/2024

RunNo: 312252

BatchID: 261545

Analysis Date: 11/1/2024

SeqNo: 8214287

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2,4-Trichlorobenzene	35	µg/L	10	50		70.1%	33	95				
2,4-Dinitrotoluene	51	µg/L	10	50		102.8%	39	142				
2,6-Dinitrotoluene	53	µg/L	10	50		106.7%	43	130				
2-Chloro-Naphthalene	47	µg/L	10	50		94.6%	42	112				
2-Methylnaphthalene	43	µg/L	10	50		85.1%	40	110				
2-Nitroaniline	57	µg/L	10	50		113.1%	46	121				
3-Nitroaniline	54	µg/L	10	50		107.5%	33	125				
4-Bromophenylphenylether	49	µg/L	10	50		97.8%	45	125				
4-Chloroaniline	41	µg/L	10	50		81.3%	31	108				
4-Chlorophenylphenylether	50	µg/L	10	50		99.3%	43	135				
4-Nitroaniline	53	µg/L	10	50		106.0%	47	131				
Acenaphthene	50	µg/L	10	50		99.1%	38	118				
Acenaphthylene	49	µg/L	10	50		97.6%	44	126				
Anthracene	47	µg/L	10	50		93.1%	46	128				
Benzo(a)anthracene	49	µg/L	10	50		97.7%	45	132				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Benzo(a)pyrene	48	µg/L	10	50		97.0%	42	127				
Benzo(b)fluoranthene	50	µg/L	10	50		99.5%	40	122				
Benzo(g,h,i)perylene	49	µg/L	10	50		97.1%	29	133				
Benzo(k)fluoranthene	51	µg/L	10	50		101.7%	39	125				
Benzyl Alcohol	49	µg/L	20	50		98.9%	31	141				
bis(2-Chloroethoxy)methane	47	µg/L	10	50		93.3%	39	108				
bis(2-Chloroethyl)ether	44	µg/L	10	50		87.4%	36	108				
bis(2-Chloroisopropyl)ether	62	µg/L	10	50		123.0%	35	119				S
bis(2-Ethylhexyl)phthalate	50	µg/L	5	50		99.2%	25	125				
Butyl benzylphthalate	37	µg/L	10	50		73.5%	30	114				
Chrysene	25	µg/L	10	50		50.7%	38	124				
Di-N-Butyl Phthalate	38	µg/L	10	50		76.3%	32	119				
Di-N-Octylphthalate	51	µg/L	10	50		102.0%	35	131				
Di-n-propylnitrosamine	51	µg/L	10	50		101.4%	40	120				
Dibenzo(a,h)anthracene	15	µg/L	0	50		29.8%	32	125				S
Dibenzofuran	47	µg/L	10	50		93.9%	42	104				
Diethyl Phthalate	18	µg/L	10	50		35.1%	10	114				
Dimethyl Phthalate	5.1	µg/L	0	50		10.2%	7	128				
Fluoranthene	49	µg/L	10	50		97.1%	47	136				
Fluorene	50	µg/L	10	50		99.9%	41	127				
Hexachlorobenzene	50	µg/L	10	50		99.7%	41	122				
Hexachlorobutadiene	26	µg/L	10	50		52.7%	25	105				
Hexachlorocyclopentadiene	9.1	µg/L	0	50		18.3%	10	132				
Hexachloroethane	21	µg/L	10	50		42.2%	21	107				
Indeno(1,2,3-cd)pyrene	43	µg/L	10	50		86.3%	30	126				
Isophorone	52	µg/L	10	50		104.4%	45	133				
n-Nitrosodimethylamine	40	µg/L	10	50		80.2%	17	105				
n-Nitrosodiphenylamine	56	µg/L	20	50		111.8%	44	149				
N-nitrosodipropylamine	51	µg/L	10	50		101.4%	44	120				
Naphthalene	41	µg/L	10	50		81.3%	35	110				
Nitrobenzene	45	µg/L	10	50		89.2%	38	98				
Phenanthrene	47	µg/L	10	50		94.3%	43	120				
Pyrene	49	µg/L	10	50		98.9%	47	116				
Surr: 2-Fluorobiphenyl	68	µg/L	0	75		91.3%	34	118				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Surr: Nitrobenzene-d5	65	µg/L	0	75		86.7%	32	119					
Surr: p-Terphenyl-d14	71	µg/L	0	75		94.8%	32	136					
<b>SampleID:</b> LCS2 APSDOC-261545		<b>SampType:</b> LCS		<b>TestNo:</b> EPA 8270 E			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312252			
		<b>BatchID:</b> 261545				<b>Analysis Date:</b> 11/1/2024			<b>SeqNo:</b> 8214289				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
1,2,4-Trichlorobenzene	34	µg/L	10	50		68.4%	33	95					
2,4-Dinitrotoluene	52	µg/L	10	50		104.1%	39	142					
2,6-Dinitrotoluene	54	µg/L	10	50		107.6%	43	130					
2-Chloro-Naphthalene	47	µg/L	10	50		93.6%	42	112					
2-Methylnaphthalene	42	µg/L	10	50		84.5%	40	110					
2-Nitroaniline	57	µg/L	10	50		113.6%	46	121					
3-Nitroaniline	54	µg/L	10	50		107.8%	33	125					
4-Bromophenylphenylether	48	µg/L	10	50		96.9%	45	125					
4-Chloroaniline	40	µg/L	10	50		81.0%	31	108					
4-Chlorophenylphenylether	49	µg/L	10	50		98.6%	43	135					
4-Nitroaniline	54	µg/L	10	50		107.0%	47	131					
Acenaphthene	49	µg/L	10	50		98.5%	38	118					
Acenaphthylene	49	µg/L	10	50		97.6%	44	126					
Anthracene	46	µg/L	10	50		92.2%	46	128					
Benzo(a)anthracene	49	µg/L	10	50		97.9%	45	132					
Benzo(a)pyrene	49	µg/L	10	50		97.2%	42	127					
Benzo(b)fluoranthene	49	µg/L	10	50		98.2%	40	122					
Benzo(g,h,i)perylene	49	µg/L	10	50		98.7%	29	133					
Benzo(k)fluoranthene	50	µg/L	10	50		99.7%	39	125					
Benzyl Alcohol	50	µg/L	20	50		100.0%	31	141					
bis(2-Chloroethoxy)methane	47	µg/L	10	50		93.8%	39	108					
bis(2-Chloroethyl)ether	44	µg/L	10	50		87.6%	36	108					
bis(2-Chloroisopropyl)ether	62	µg/L	10	50		124.1%	35	119				S	
bis(2-Ethylhexyl)phthalate	51	µg/L	5	50		101.1%	25	125					
Butyl benzylphthalate	37	µg/L	10	50		74.0%	30	114					
Chrysene	25	µg/L	10	50		50.2%	38	124					
Di-N-Butyl Phthalate	38	µg/L	10	50		75.4%	32	119					

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Di-N-Octylphthalate	51	µg/L	10	50		102.8%	35	131					
Di-n-propylNitrosamine	51	µg/L	10	50		101.7%	40	120					
Dibenzo(a,h)anthracene	15	µg/L	0	50		30.6%	32	125					S
Dibenzofuran	47	µg/L	10	50		93.0%	42	104					
Diethyl Phthalate	17	µg/L	10	50		34.5%	10	114					
Dimethyl Phthalate	4.9	µg/L	0	50		9.7%	7	128					
Fluoranthene	48	µg/L	10	50		95.6%	47	136					
Fluorene	50	µg/L	10	50		99.5%	41	127					
Hexachlorobenzene	49	µg/L	10	50		98.6%	41	122					
Hexachlorobutadiene	25	µg/L	10	50		49.3%	25	105					
Hexachlorocyclopentadiene	8.2	µg/L	0	50		16.5%	10	132					
Hexachloroethane	20	µg/L	10	50		39.6%	21	107					
Indeno(1,2,3-cd)pyrene	44	µg/L	10	50		87.9%	30	126					
Isophorone	53	µg/L	10	50		105.6%	45	133					
n-Nitrosodimethylamine	40	µg/L	10	50		79.6%	17	105					
n-Nitrosodiphenylamine	55	µg/L	20	50		109.2%	44	149					
N-nitrosodipropylamine	51	µg/L	10	50		101.7%	44	120					
Naphthalene	40	µg/L	10	50		80.8%	35	110					
Nitrobenzene	45	µg/L	10	50		90.7%	38	98					
Phenanthrene	46	µg/L	10	50		92.4%	43	120					
Pyrene	49	µg/L	10	50		98.5%	47	116					
Surr: 2-Fluorobiphenyl	68	µg/L	0	75		91.0%	34	118					
Surr: Nitrobenzene-d5	65	µg/L	0	75		87.2%	32	119					
Surr: p-Terphenyl-d14	71	µg/L	0	75		95.0%	32	136					

SampleID: LCS3 APSDOC-261545

SampType: LCS

TestNo: EPA 8270 E

Prep Date: 10/30/2024

RunNo: 312252

BatchID: 261545

Analysis Date: 11/1/2024

SeqNo: 8214291

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2,4-Trichlorobenzene	31	µg/L	10	50		62.2%	33	95				
2,4-Dinitrotoluene	50	µg/L	10	50		99.7%	39	142				
2,6-Dinitrotoluene	50	µg/L	10	50		100.0%	43	130				
2-Chloro-Naphthalene	42	µg/L	10	50		83.7%	42	112				
2-Methylnaphthalene	37	µg/L	10	50		74.4%	40	110				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

2-Nitroaniline	53	µg/L	10	50		106.4%	46	121				
3-Nitroaniline	51	µg/L	10	50		102.4%	33	125				
4-Bromophenylphenylether	46	µg/L	10	50		92.1%	45	125				
4-Chloroaniline	36	µg/L	10	50		72.1%	31	108				
4-Chlorophenylphenylether	46	µg/L	10	50		91.2%	43	135				
4-Nitroaniline	52	µg/L	10	50		104.1%	47	131				
Acenaphthene	45	µg/L	10	50		89.1%	38	118				
Acenaphthylene	44	µg/L	10	50		87.7%	44	126				
Anthracene	44	µg/L	10	50		87.9%	46	128				
Benzo(a)anthracene	48	µg/L	10	50		95.8%	45	132				
Benzo(a)pyrene	48	µg/L	10	50		95.3%	42	127				
Benzo(b)fluoranthene	49	µg/L	10	50		97.4%	40	122				
Benzo(g,h,i)perylene	48	µg/L	10	50		95.6%	29	133				
Benzo(k)fluoranthene	50	µg/L	10	50		100.8%	39	125				
Benzyl Alcohol	43	µg/L	20	50		86.9%	31	141				
bis(2-Chloroethoxy)methane	41	µg/L	10	50		82.2%	39	108				
bis(2-Chloroethyl)ether	38	µg/L	10	50		76.5%	36	108				
bis(2-Chloroisopropyl)ether	54	µg/L	10	50		107.2%	35	119				
bis(2-Ethylhexyl)phthalate	49	µg/L	5	50		97.2%	25	125				
Butyl benzylphthalate	37	µg/L	10	50		73.9%	30	114				
Chrysene	25	µg/L	10	50		49.6%	38	124				
Di-N-Butyl Phthalate	38	µg/L	10	50		75.8%	32	119				
Di-N-Octylphthalate	50	µg/L	10	50		100.0%	35	131				
Di-n-propylnitrosamine	45	µg/L	10	50		89.7%	40	120				
Dibenzo(a,h)anthracene	15	µg/L	0	50		29.6%	32	125				S
Dibenzofuran	43	µg/L	10	50		85.6%	42	104				
Diethyl Phthalate	18	µg/L	0	50		36.5%	10	114				
Dimethyl Phthalate	4.9	µg/L	0	50		9.8%	7	128				
Fluoranthene	47	µg/L	10	50		94.1%	47	136				
Fluorene	46	µg/L	10	50		92.3%	41	127				
Hexachlorobenzene	47	µg/L	10	50		93.8%	41	122				
Hexachlorobutadiene	24	µg/L	10	50		48.8%	25	105				
Hexachlorocyclopentadiene	10	µg/L	0	50		20.2%	10	132				
Hexachloroethane	19	µg/L	10	50		38.0%	21	107				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Indeno(1,2,3-cd)pyrene	42	µg/L	10	50		84.8%	30	126					
Isophorone	46	µg/L	10	50		92.5%	45	133					
n-Nitrosodimethylamine	35	µg/L	10	50		70.2%	17	105					
n-Nitrosodiphenylamine	52	µg/L	20	50		104.4%	44	149					
N-nitrosodipropylamine	45	µg/L	10	50		89.7%	44	120					
Naphthalene	35	µg/L	10	50		70.3%	35	110					
Nitrobenzene	39	µg/L	10	50		78.2%	38	98					
Phenanthrene	45	µg/L	10	50		89.6%	43	120					
Pyrene	48	µg/L	10	50		95.9%	47	116					
Surr: 2-Fluorobiphenyl	60	µg/L	0	75		79.5%	34	118					
Surr: Nitrobenzene-d5	57	µg/L	0	75		75.9%	32	119					
Surr: p-Terphenyl-d14	70	µg/L	0	75		93.7%	32	136					

SampleID: LCS4 APSDOC-261545	SampType: LCS	TestNo: EPA 8270 E	Prep Date: 10/30/2024	RunNo: 312252
	BatchID: 261545		Analysis Date: 11/1/2024	SeqNo: 8214293

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
1,2,4-Trichlorobenzene	33	µg/L	10	50		65.1%	33	95					
2,4-Dinitrotoluene	50	µg/L	10	50		100.1%	39	142					
2,6-Dinitrotoluene	51	µg/L	10	50		101.5%	43	130					
2-Chloro-Naphthalene	43	µg/L	10	50		86.5%	42	112					
2-Methylnaphthalene	39	µg/L	10	50		77.4%	40	110					
2-Nitroaniline	54	µg/L	10	50		107.1%	46	121					
3-Nitroaniline	52	µg/L	10	50		103.3%	33	125					
4-Bromophenylphenylether	46	µg/L	10	50		93.0%	45	125					
4-Chloroaniline	37	µg/L	10	50		73.7%	31	108					
4-Chlorophenylphenylether	46	µg/L	10	50		92.0%	43	135					
4-Nitroaniline	52	µg/L	10	50		103.5%	47	131					
Acenaphthene	46	µg/L	10	50		91.7%	38	118					
Acenaphthylene	45	µg/L	10	50		89.9%	44	126					
Anthracene	45	µg/L	10	50		89.4%	46	128					
Benzo(a)anthracene	47	µg/L	10	50		94.9%	45	132					
Benzo(a)pyrene	48	µg/L	10	50		95.5%	42	127					
Benzo(b)fluoranthene	49	µg/L	10	50		97.6%	40	122					

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Benzo(g,h,i)perylene	47	µg/L	10	50		94.1%	29	133				
Benzo(k)fluoranthene	49	µg/L	10	50		97.3%	39	125				
Benzyl Alcohol	45	µg/L	20	50		89.3%	31	141				
bis(2-Chloroethoxy)methane	42	µg/L	10	50		84.5%	39	108				
bis(2-Chloroethyl)ether	39	µg/L	10	50		79.0%	36	108				
bis(2-Chloroisopropyl)ether	56	µg/L	10	50		111.4%	35	119				
bis(2-Ethylhexyl)phthalate	49	µg/L	5	50		97.3%	25	125				
Butyl benzylphthalate	38	µg/L	10	50		76.6%	30	114				
Chrysene	25	µg/L	10	50		49.2%	38	124				
Di-N-Butyl Phthalate	39	µg/L	10	50		78.3%	32	119				
Di-N-Octylphthalate	48	µg/L	10	50		96.8%	35	131				
Di-n-propylNitrosamine	46	µg/L	10	50		91.8%	40	120				
Dibenzo(a,h)anthracene	15	µg/L	0	50		29.1%	32	125				S
Dibenzofuran	43	µg/L	10	50		87.0%	42	104				
Diethyl Phthalate	19	µg/L	0	50		37.1%	10	114				
Dimethyl Phthalate	4.7	µg/L	0	50		9.4%	7	128				
Fluoranthene	47	µg/L	10	50		94.5%	47	136				
Fluorene	47	µg/L	10	50		93.5%	41	127				
Hexachlorobenzene	48	µg/L	10	50		95.4%	41	122				
Hexachlorobutadiene	25	µg/L	10	50		50.2%	25	105				
Hexachlorocyclopentadiene	14	µg/L	0	50		28.7%	10	132				
Hexachloroethane	19	µg/L	10	50		38.6%	21	107				
Indeno(1,2,3-cd)pyrene	42	µg/L	10	50		83.9%	30	126				
Isophorone	48	µg/L	10	50		95.1%	45	133				
n-Nitrosodimethylamine	37	µg/L	10	50		73.1%	17	105				
n-Nitrosodiphenylamine	54	µg/L	20	50		107.2%	44	149				
N-nitrosodipropylamine	46	µg/L	10	50		91.8%	44	120				
Naphthalene	37	µg/L	10	50		73.1%	35	110				
Nitrobenzene	41	µg/L	10	50		81.3%	38	98				
Phenanthrene	45	µg/L	10	50		90.6%	43	120				
Pyrene	48	µg/L	10	50		95.9%	47	116				
Surr: 2-Fluorobiphenyl	62	µg/L	0	75		82.1%	34	118				
Surr: Nitrobenzene-d5	59	µg/L	0	75		78.7%	32	119				
Surr: p-Terphenyl-d14	70	µg/L	0	75		92.7%	32	136				

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410G47  
Project: BGwinnett 321S2

## Analytical QC Summary Report

<b>SampleID:</b> MBLK-261545	<b>SampType:</b> MBLK	<b>TestNo:</b> EPA 8270 E	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312252
	<b>BatchID:</b> 261545		<b>Analysis Date:</b> 11/1/2024	<b>SeqNo:</b> 8214274

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2,4,5-Tetrachlorobenzene	< 10	µg/L	10									
1,2,4-Trichlorobenzene	< 10	µg/L	10									
1,3-Dinitrobenzene	< 20	µg/L	20									
1,4-Naphthoquinone	< 10	µg/L	10									
1-Naphthylamine	< 10	µg/L	10									
1-Nitrosopiperidine	< 10	µg/L	10									
2,3,4,6-Tetrachlorophenol	< 20	µg/L	20									
2,4,5-Trichlorophenol	< 10	µg/L	10									
2,4,6-Trichlorophenol	< 10	µg/L	10									
2,4-Dichlorophenol	< 10	µg/L	10									
2,4-Dimethylphenol	< 10	µg/L	10									
2,4-Dinitrophenol	< 20	µg/L	20									
2,4-Dinitrotoluene	< 10	µg/L	10									
2,6-Dichlorophenol	< 10	µg/L	10									
2,6-Dinitrotoluene	< 10	µg/L	10									
2-Acetylaminofluorene	< 20	µg/L	20									
2-Chloro-Naphthalene	< 10	µg/L	10									
2-Chlorophenol	< 10	µg/L	10									
2-Methyl-4,6-dinitrophenol	< 20	µg/L	20									
2-Methylnaphthalene	< 10	µg/L	10									
2-Methylphenol	< 10	µg/L	10									
2-Naphthylamine	< 10	µg/L	10									
2-Nitroaniline	< 10	µg/L	10									
2-Nitrophenol	< 10	µg/L	10									
3,3-Dichlorobenzidine	< 20	µg/L	20									
3,3-Dimethylbenzidine	< 20	µg/L	20									
3-Methylcholanthrene	< 10	µg/L	10									
3-Nitroaniline	< 10	µg/L	10									
4,6-Dinitro-2-methylphenol	< 20	µg/L	20									

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

o-Cresol	< 10	µg/L	10									
o-Toluidine	< 10	µg/L	10									
p-Dimethylaminoazobenzene	< 10	µg/L	10									
p-Phenylenediamine	< 20	µg/L	20									
Parathion	< 10	µg/L	10									
Pentachlorobenzene	< 10	µg/L	10									
Pentachloronitrobenzene	< 10	µg/L	10									
Pentachlorophenol	< 20	µg/L	20									
Phenacetin	< 10	µg/L	10									
Phenanthrene	< 10	µg/L	10									
Phenol	< 10	µg/L	10									
Phorate	< 20	µg/L	20									
Pronamide	< 10	µg/L	10									
Pyrene	< 10	µg/L	10									
Safrole	< 10	µg/L	10									
sym-Trinitrobenzene	< 10	µg/L	10									
Thionazin	< 20	µg/L	20									
trans-Diallate	< 10	µg/L	10									
3,4-Methylphenol	< 10	µg/L	10									
Diallate	< 20	µg/L	20									
Surr: 2,4,6-Tribromophenol	68	µg/L	0	75		90.7%	34	131				
Surr: 2-Fluorobiphenyl	62	µg/L	0	75		83.2%	34	118				
Surr: 2-Fluorophenol	56	µg/L	0	75		74.5%	10	115				
Surr: Nitrobenzene-d5	60	µg/L	0	75		80.6%	32	119				
Surr: p-Terphenyl-d14	77	µg/L	0	75		103.2%	32	136				
Surr: Phenol-d6	61	µg/L	0	75		81.8%	11	119				

SampleID: MBLK-261545

SampType: MBLK

TestNo: EPA 8270 E

Prep Date: 10/30/2024

RunNo: 312328

BatchID: 261545

Analysis Date: 11/4/2024

SeqNo: 8216846

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2,4-Trichlorobenzene	< 10	µg/L	10									
2,3,4,6-Tetrachlorophenol	< 20	µg/L	20									
2,4,5-Trichlorophenol	< 10	µg/L	10									

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

**Client:** BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Di-N-Octylphthalate	< 10	µg/L	10					
Dibenzo(a,h)anthracene	< 10	µg/L	10					
Dibenzofuran	< 10	µg/L	10					
Diethyl Phthalate	< 10	µg/L	10					
Dimethyl Phthalate	< 10	µg/L	10					
Ethyl Methanesulfonate	< 10	µg/L	10					
Fluoranthene	< 10	µg/L	10					
Fluorene	< 10	µg/L	10					
Hexachlorobenzene	< 10	µg/L	10					
Hexachlorobutadiene	< 10	µg/L	10					
Hexachlorocyclopentadiene	< 10	µg/L	10					
Hexachloroethane	< 10	µg/L	10					
Indeno(1,2,3-cd)pyrene	< 10	µg/L	10					
Isophorone	< 10	µg/L	10					
m,p-Cresol	< 10	µg/L	10					
Methyl Methanesulfonate	< 10	µg/L	10					
n-Nitrosodimethylamine	< 10	µg/L	10					
n-Nitrosodiphenylamine	< 20	µg/L	20					
N-nitrosodipropylamine	< 10	µg/L	10					
Naphthalene	< 10	µg/L	10					
Nitrobenzene	< 10	µg/L	10					
o-Cresol	< 10	µg/L	10					
Pentachlorophenol	< 20	µg/L	20					
Phenanthrene	< 10	µg/L	10					
Phenol	< 10	µg/L	10					
Pyrene	< 10	µg/L	10					
3,4-Methylphenol	< 10	µg/L	10					
Surr: 2,4,6-Tribromophenol	61	µg/L	0	75	80.8%	34	131	
Surr: 2-Fluorobiphenyl	61	µg/L	0	75	81.3%	34	118	
Surr: 2-Fluorophenol	55	µg/L	0	75	73.4%	10	115	
Surr: Nitrobenzene-d5	61	µg/L	0	75	81.3%	32	119	
Surr: p-Terphenyl-d14	76	µg/L	0	75	100.8%	32	136	
Surr: Phenol-d6	61	µg/L	0	75	80.8%	11	119	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

<b>SampleID:</b> G2410F13-001CMS	<b>SampType:</b> MS	<b>TestNo:</b> EPA 8270 E	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312252
		<b>BatchID:</b> 261545	<b>Analysis Date:</b> 11/2/2024	<b>SeqNo:</b> 8214336

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
2,4,5-Trichlorophenol	950	µg/L	200	1000		95.3%	38	132				
2,4,6-Trichlorophenol	960	µg/L	200	1000		96.0%	41	127				
2,4-Dinitrophenol	680	µg/L	400	1000		67.9%	21	150				
2,4-Dinitrotoluene	1100	µg/L	100	1000		106.0%	38	137				
2-Methylphenol	930	µg/L	200	1000		92.9%	33	118				
Benzyl Alcohol	1500	µg/L	200	1000		154.1%	27	147				S
Hexachlorobenzene	960	µg/L	100	1000		95.6%	33	127				
Hexachlorobutadiene	310	µg/L	100	1000		30.8%	19	101				
Hexachloroethane	400	µg/L	200	1000		39.7%	17	105				
Nitrobenzene	480	µg/L	200	1000		48.1%	26	123				
Pentachlorophenol	480	µg/L	400	1000		48.0%	22	135				
Surr: 2,4,6-Tribromophenol	1500	µg/L	0	1500		103.0%	34	131				
Surr: 2-Fluorobiphenyl	1200	µg/L	0	1500		79.0%	34	118				
Surr: 2-Fluorophenol	1100	µg/L	0	1500		72.1%	10	115				
Surr: Nitrobenzene-d5	690	µg/L	0	1500		45.9%	32	119				
Surr: p-Terphenyl-d14	1400	µg/L	0	1500		96.0%	32	136				
Surr: Phenol-d6	1200	µg/L	0	1500		82.1%	11	119				

<b>SampleID:</b> G2410F13-001CMS	<b>SampType:</b> MS	<b>TestNo:</b> EPA 8270 E	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312328
		<b>BatchID:</b> 261545	<b>Analysis Date:</b> 11/5/2024	<b>SeqNo:</b> 8216851

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
3,4-Methylphenol	6800	µg/L	1000	1000	6300	50.8%	29	123				

<b>SampleID:</b> G2410F13-001CMSD	<b>SampType:</b> MSD	<b>TestNo:</b> EPA 8270 E	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312252
		<b>BatchID:</b> 261545	<b>Analysis Date:</b> 11/2/2024	<b>SeqNo:</b> 8214340

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
2,4,5-Trichlorophenol	1000	µg/L	200						950	6.8%	45	
2,4,6-Trichlorophenol	1000	µg/L	200						960	5.7%	36	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

2,4-Dinitrophenol	710	µg/L	400						680	3.8%	70	
2,4-Dinitrotoluene	1100	µg/L	100						1100	4.4%	35	
2-Methylphenol	980	µg/L	200						930	5.7%	38	
Benzyl Alcohol	1600	µg/L	200						1500	6.2%	50	
Hexachlorobenzene	1000	µg/L	100						960	4.3%	37	
Hexachlorobutadiene	330	µg/L	100						310	5.3%	51	
Hexachloroethane	450	µg/L	200						400	12.2%	62	
Nitrobenzene	480	µg/L	200						480	0.4%	35	
Pentachlorophenol	520	µg/L	400						480	8.7%	48	
Surr: 2,4,6-Tribromophenol	1600	µg/L	0	1500		107.5%	34	131	1500			
Surr: 2-Fluorobiphenyl	1300	µg/L	0	1500		84.6%	34	118	1200			
Surr: 2-Fluorophenol	1100	µg/L	0	1500		75.2%	10	115	1100			
Surr: Nitrobenzene-d5	700	µg/L	0	1500		46.6%	32	119	690			
Surr: p-Terphenyl-d14	1500	µg/L	0	1500		98.1%	32	136	1400			
Surr: Phenol-d6	1300	µg/L	0	1500		85.5%	11	119	1200			

SampleID: G2410F13-001CMSD	SampType: MSD	TestNo: EPA 8270 E	Prep Date: 10/30/2024	RunNo: 312328
	BatchID: 261545		Analysis Date: 11/5/2024	SeqNo: 8216852

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
3,4-Methylphenol	7300	µg/L	1000		6300				6800	6.9%	39	

SampleID: G2410F13-001CMS	SampType: MS	TestNo: EPA 8270 E	Prep Date: 10/30/2024	RunNo: 312252
	BatchID: 261545		Analysis Date: 11/2/2024	SeqNo: 8214350

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2,4-Trichlorobenzene	380	µg/L	200	1000		37.7%	33	95				
2,3,4,6-Tetrachlorophenol	980	µg/L	400	1000		98.3%	37	141				
2,4,5-Trichlorophenol	950	µg/L	200	1000		95.3%	38	132				
2,4,6-Trichlorophenol	960	µg/L	200	1000		96.0%	41	127				
2,4-Dichlorophenol	520	µg/L	200	1000		51.8%	30	132				
2,4-Dimethylphenol	620	µg/L	200	1000		61.7%	26	138				
2,4-Dinitrophenol	680	µg/L	400	1000		67.9%	21	150				
2,4-Dinitrotoluene	1100	µg/L	100	1000		106.0%	38	137				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

2,6-Dinitrotoluene	1000	µg/L	200	1000		103.2%	40	132				
2-Chloro-Naphthalene	840	µg/L	200	1000		84.1%	36	117				
2-Chlorophenol	790	µg/L	200	1000		79.3%	30	113				
2-Methyl-4,6-dinitrophenol	860	µg/L	400	1000		85.9%	35	129				
2-Methylnaphthalene	460	µg/L	200	1000		45.8%	32	110				
2-Methylphenol	930	µg/L	200	1000		92.9%	33	118				
2-Nitrophenol	530	µg/L	200	1000		53.3%	33	113				
4,6-Dinitro-2-methylphenol	860	µg/L	400	1000		85.9%	35	129				
4-Bromophenylphenylether	940	µg/L	200	1000		93.6%	35	115				
4-Chloro-3-methylphenol	560	µg/L	200	1000	610	-5.1%	33	129				S
4-Chlorophenylphenylether	920	µg/L	200	1000		91.7%	35	112				
4-Nitrophenol	920	µg/L	400	1000		91.9%	29	142				
Acenaphthene	890	µg/L	200	1000		88.8%	36	128				
Acenaphthylene	870	µg/L	200	1000		87.2%	44	126				
Anthracene	890	µg/L	200	1000		88.7%	41	126				
Benzo(a)anthracene	980	µg/L	200	1000		98.0%	36	121				
Benzo(a)pyrene	980	µg/L	200	1000		98.2%	36	127				
Benzo(b)fluoranthene	980	µg/L	200	1000		97.7%	32	122				
Benzo(g,h,i)perylene	870	µg/L	200	1000		87.3%	29	130				
Benzo(k)fluoranthene	980	µg/L	200	1000		98.3%	32	122				
Benzyl Alcohol	1500	µg/L	400	1000	620	91.7%	27	147				
bis(2-Chloroethoxy)methane	550	µg/L	200	1000		55.2%	38	117				
bis(2-Chloroethyl)ether	770	µg/L	200	1000	400	37.4%	27	122				
bis(2-Chloroisopropyl)ether	1100	µg/L	200	1000		112.9%	35	124				
bis(2-Ethylhexyl)phthalate	970	µg/L	100	1000		96.8%	17	134				
Butyl benzylphthalate	840	µg/L	200	1000		84.5%	18	131				
Chrysene	500	µg/L	200	1000		49.7%	20	119				
Di-N-Butyl Phthalate	800	µg/L	200	1000		80.2%	12	116				
Di-N-Octylphthalate	1100	µg/L	200	1000		105.1%	14	132				
Di-n-propylnitrosamine	930	µg/L	200	1000		92.5%	26	129				
Dibenzo(a,h)anthracene	300	µg/L	200	1000		29.7%	12	128				
Dibenzofuran	850	µg/L	200	1000		84.8%	39	114				
Diethyl Phthalate	380	µg/L	200	1000		37.7%	11	132				
Dimethyl Phthalate	130	µg/L	0	1000		12.5%	8	129				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

Fluoranthene	960	µg/L	200	1000		96.1%	32	133					
Fluorene	910	µg/L	200	1000		91.2%	37	128					
Hexachlorobenzene	960	µg/L	100	1000		95.6%	33	127					
Hexachlorobutadiene	310	µg/L	100	1000		30.8%	19	101					
Hexachlorocyclopentadiene	150	µg/L	0	1000		14.9%	3	137					
Hexachloroethane	400	µg/L	200	1000		39.7%	17	105					
Indeno(1,2,3-cd)pyrene	840	µg/L	200	1000		84.0%	28	123					
Isophorone	570	µg/L	200	1000		57.2%	41	129					
m,p-Cresol	6800	µg/L	200	1000	6100	73.0%	29	123					
n-Nitrosodimethylamine	800	µg/L	200	1000		79.6%	26	111					
n-Nitrosodiphenylamine	1100	µg/L	400	1000		108.2%	43	145					
N-nitrosodipropylamine	930	µg/L	200	1000		92.5%	32	129					
Naphthalene	430	µg/L	200	1000		42.8%	29	106					
Nitrobenzene	480	µg/L	200	1000		48.1%	26	123					
o-Cresol	930	µg/L	200	1000		92.9%	33	118					
Pentachlorophenol	480	µg/L	400	1000		48.0%	22	135					
Phenanthrene	890	µg/L	200	1000		88.7%	34	146					
Phenol	8800	µg/L	200	1000	8100	70.4%	14	114					
Pyrene	980	µg/L	200	1000		98.1%	27	135					
Surr: 2,4,6-Tribromophenol	1500	µg/L	0	1500		103.0%	34	131					
Surr: 2-Fluorobiphenyl	1200	µg/L	0	1500		79.0%	34	118					
Surr: 2-Fluorophenol	1100	µg/L	0	1500		72.1%	10	115					
Surr: Nitrobenzene-d5	690	µg/L	0	1500		45.9%	32	119					
Surr: p-Terphenyl-d14	1400	µg/L	0	1500		96.0%	32	136					
Surr: Phenol-d6	1200	µg/L	0	1500		82.1%	11	119					

SampleID: G2410F13-001CMS

SampType: MS

TestNo: EPA 8270 E

Prep Date: 10/30/2024

RunNo: 312328

BatchID: 261545

Analysis Date: 11/5/2024

SeqNo: 8216932

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
3,4-Methylphenol	6800	µg/L	1000	1000	6300	50.8%	29	123				

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410G47  
Project: BGwinnett 321S2

## Analytical QC Summary Report

SampleID: G2410F13-001CMSD		SampType: MSD		TestNo: EPA 8270 E			Prep Date: 10/30/2024			RunNo: 312252		
		BatchID: 261545							Analysis Date: 11/2/2024		SeqNo: 8214357	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,2,4-Trichlorobenzene	380	µg/L	200						380	1.2%	45	
2,3,4,6-Tetrachlorophenol	1000	µg/L	400						980	4.8%	41	
2,4,5-Trichlorophenol	1000	µg/L	200						950	6.8%	45	
2,4,6-Trichlorophenol	1000	µg/L	200						960	5.7%	36	
2,4-Dichlorophenol	530	µg/L	200						520	2.1%	39	
2,4-Dimethylphenol	640	µg/L	200						620	4.1%	37	
2,4-Dinitrophenol	710	µg/L	400						680	3.8%	70	
2,4-Dinitrotoluene	1100	µg/L	100						1100	4.4%	35	
2,6-Dinitrotoluene	1100	µg/L	200						1000	5.6%	30	
2-Chloro-Naphthalene	880	µg/L	200						840	5.1%	35	
2-Chlorophenol	830	µg/L	200						790	4.0%	42	
2-Methyl-4,6-dinitrophenol	900	µg/L	400						860	4.6%	53	
2-Methylnaphthalene	460	µg/L	200						460	0.5%	39	
2-Methylphenol	980	µg/L	200						930	5.7%	38	
2-Nitrophenol	540	µg/L	200						530	1.0%	38	
4,6-Dinitro-2-methylphenol	900	µg/L	400						860	4.6%	53	
4-Bromophenylphenylether	990	µg/L	200						940	5.2%	32	
4-Chloro-3-methylphenol	570	µg/L	200	610					560	2.3%	42	
4-Chlorophenylphenylether	980	µg/L	200						920	6.6%	33	
4-Nitrophenol	940	µg/L	400						920	2.7%	50	
Acenaphthene	940	µg/L	200						890	6.1%	35	
Acenaphthylene	930	µg/L	200						870	6.6%	34	
Anthracene	920	µg/L	200						890	3.8%	31	
Benzo(a)anthracene	990	µg/L	200						980	0.7%	36	
Benzo(a)pyrene	990	µg/L	200						980	0.9%	38	
Benzo(b)fluoranthene	1000	µg/L	200						980	1.8%	37	
Benzo(g,h,i)perylene	880	µg/L	200						870	0.4%	35	
Benzo(k)fluoranthene	990	µg/L	200						980	0.8%	36	
Benzyl Alcohol	1600	µg/L	400	620					1500	6.2%	50	

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bis(2-Chloroethoxy)methane	560	µg/L	200					550	1.9%	36	
bis(2-Chloroethyl)ether	810	µg/L	200		400			770	5.1%	36	
bis(2-Chloroisopropyl)ether	1200	µg/L	200					1100	3.6%	33	
bis(2-Ethylhexyl)phthalate	970	µg/L	100					970	0.3%	41	
Butyl benzylphthalate	780	µg/L	200					840	8.6%	54	
Chrysene	500	µg/L	200					500	1.3%	40	
Di-N-Butyl Phthalate	830	µg/L	200					800	3.7%	38	
Di-N-Octylphthalate	1000	µg/L	200					1100	1.4%	49	
Di-n-propylNitrosamine	950	µg/L	200					930	2.2%	35	
Dibenzo(a,h)anthracene	300	µg/L	200					300	0.6%	40	
Dibenzofuran	900	µg/L	200					850	6.5%	51	
Diethyl Phthalate	530	µg/L	200					380	34.4%	53	
Dimethyl Phthalate	210	µg/L	200					130	50.5%	48	R
Fluoranthene	980	µg/L	200					960	2.4%	33	
Fluorene	980	µg/L	200					910	6.7%	32	
Hexachlorobenzene	1000	µg/L	100					960	4.3%	37	
Hexachlorobutadiene	330	µg/L	100					310	5.3%	51	
Hexachlorocyclopentadiene	150	µg/L	0					150	0.4%	68	
Hexachloroethane	450	µg/L	200					400	12.2%	62	
Indeno(1,2,3-cd)pyrene	830	µg/L	200					840	1.1%	39	
Isophorone	580	µg/L	200					570	2.1%	30	
m,p-Cresol	7200	µg/L	200		6100			6800	5.8%	39	
n-Nitrosodimethylamine	830	µg/L	200					800	4.7%	34	
n-Nitrosodiphenylamine	1100	µg/L	400					1100	4.1%	33	
N-nitrosodipropylamine	950	µg/L	200					930	2.2%	35	
Naphthalene	430	µg/L	200					430	0.9%	34	
Nitrobenzene	480	µg/L	200					480	0.4%	35	
o-Cresol	980	µg/L	200					930	5.7%	38	
Pentachlorophenol	520	µg/L	400					480	8.7%	48	
Phenanthrene	930	µg/L	200					890	4.3%	32	
Phenol	9200	µg/L	200		8100			8800	5.1%	65	
Pyrene	1000	µg/L	200					980	1.8%	36	
Surr: 2,4,6-Tribromophenol	1600	µg/L	0	1500		107.5%	34	131	1500		
Surr: 2-Fluorobiphenyl	1300	µg/L	0	1500		84.6%	34	118	1200		

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Surr: 2-Fluorophenol	1100	µg/L	0	1500		75.2%	10	115	1100				
Surr: Nitrobenzene-d5	700	µg/L	0	1500		46.6%	32	119	690				
Surr: p-Terphenyl-d14	1500	µg/L	0	1500		98.1%	32	136	1400				
Surr: Phenol-d6	1300	µg/L	0	1500		85.5%	11	119	1200				

<b>SampleID:</b> G2410F13-001CMSD	<b>SampType:</b> MSD	<b>TestNo:</b> EPA 8270 E	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312328
	<b>BatchID:</b> 261545		<b>Analysis Date:</b> 11/5/2024	<b>SeqNo:</b> 8216933

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
3,4-Methylphenol	7300	µg/L	1000		6300				6800	6.9%	39	

<b>SampleID:</b> BLANK-261534	<b>SampType:</b> BLANK	<b>TestNo:</b> SM 2540 C-15	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312121
	<b>BatchID:</b> 261534		<b>Analysis Date:</b> 10/30/2024	<b>SeqNo:</b> 8210217

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	< 20	mg/L	20									

<b>SampleID:</b> G2410G39-007BDUP	<b>SampType:</b> DUP	<b>TestNo:</b> SM 2540 C-15	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312121
	<b>BatchID:</b> 261534		<b>Analysis Date:</b> 10/30/2024	<b>SeqNo:</b> 8210309

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	2000	mg/L	20						1990	0.2%	10	

<b>SampleID:</b> G2410G72-001ADUP	<b>SampType:</b> DUP	<b>TestNo:</b> SM 2540 C-15	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312121
	<b>BatchID:</b> 261534		<b>Analysis Date:</b> 10/30/2024	<b>SeqNo:</b> 8210320

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	456	mg/L	20						452	0.9%	10	

<b>SampleID:</b> LCS-261534	<b>SampType:</b> LCS	<b>TestNo:</b> SM 2540 C-15	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312121
	<b>BatchID:</b> 261534		<b>Analysis Date:</b> 10/30/2024	<b>SeqNo:</b> 8210358

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total dissolved solids	254	mg/L	20	292		87.0%	79	106				

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## Analytical QC Summary Report

SampleID: LCS-261430		SampType: LCS		TestNo: SM 4500-S2- D-11			Prep Date: 10/29/2024			RunNo: 312050		
		BatchID: 261430						Analysis Date: 10/29/2024			SeqNo: 8208357	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Sulfide	0.485	mg/L	0.1	0.5		97.0%	90	110				
SampleID: LCS-261430		SampType: LCS		TestNo: SM 4500-S2- D-11			Prep Date: 10/29/2024			RunNo: 312050		
		BatchID: 261430						Analysis Date: 10/29/2024			SeqNo: 8208373	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Sulfide	0.47	mg/L	0.1	0.5		94.0%	90	110				
SampleID: G2410E75-007CLFM		SampType: LFM		TestNo: SM 4500-S2- D-11			Prep Date: 10/29/2024			RunNo: 312050		
		BatchID: 261430						Analysis Date: 10/29/2024			SeqNo: 8208369	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Sulfide	0.227	mg/L	0.1	0.25		90.8%	75	125				H
SampleID: G2410E98-001NLFM		SampType: LFM		TestNo: SM 4500-S2- D-11			Prep Date: 10/29/2024			RunNo: 312050		
		BatchID: 261430						Analysis Date: 10/29/2024			SeqNo: 8208379	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Sulfide	< 0.1	mg/L	0.1	0.25	0.056	5.2%	75	125				S
SampleID: G2410E75-007CLFMD		SampType: LFMD		TestNo: SM 4500-S2- D-11			Prep Date: 10/29/2024			RunNo: 312050		
		BatchID: 261430						Analysis Date: 10/29/2024			SeqNo: 8208370	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Sulfide	0.243	mg/L	0.1	0.25		97.2%	75	125	0.227	6.8%	20	H
SampleID: G2410E98-001NLFMD		SampType: LFMD		TestNo: SM 4500-S2- D-11			Prep Date: 10/29/2024			RunNo: 312050		
		BatchID: 261430						Analysis Date: 10/29/2024			SeqNo: 8208380	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Sulfide	< 0.1	mg/L	0.1	0.25	0.056	2.0%	75	125	0.069		20	S

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## Analytical QC Summary Report

SampleID: BLANK-261430		SampType: MBLK	TestNo: SM 4500-S2- D-11			Prep Date: 10/29/2024			RunNo: 312050				
		BatchID: 261430			Analysis Date: 10/29/2024			SeqNo: 8208356					
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Sulfide	< 0.1	mg/L	0.1										
SampleID: BLANK-261430		SampType: MBLK	TestNo: SM 4500-S2- D-11			Prep Date: 10/29/2024			RunNo: 312050				
		BatchID: 261430			Analysis Date: 10/29/2024			SeqNo: 8208372					
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Sulfide	< 0.1	mg/L	0.1										
SampleID: 5 LCS		SampType: LCS	TestNo: SM 5310 C-14			Prep Date:			RunNo: 312156				
		BatchID: R312156			Analysis Date: 10/31/2024			SeqNo: 8211144					
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Total Organic Carbon	4.78	mg/L	1	5		95.6%	90	110					
SampleID: Blank		SampType: MBLK	TestNo: SM 5310 C-14			Prep Date:			RunNo: 312156				
		BatchID: R312156			Analysis Date: 10/31/2024			SeqNo: 8211136					
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Total Organic Carbon	< 1	mg/L	1										
SampleID: Blank		SampType: MBLK	TestNo: SM 5310 C-14			Prep Date:			RunNo: 312156				
		BatchID: R312156			Analysis Date: 11/1/2024			SeqNo: 8211197					
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Total Organic Carbon	< 1	mg/L	1										
SampleID: Blank		SampType: MBLK	TestNo: SM 5310 C-14			Prep Date:			RunNo: 312156				
		BatchID: R312156			Analysis Date: 11/1/2024			SeqNo: 8211253					
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Total Organic Carbon	< 1	mg/L	1										

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<b>SampleID:</b> G2410G06-007CMS		<b>SampType:</b> MS		<b>TestNo:</b> SM 5310 C-14			<b>Prep Date:</b>			<b>RunNo:</b> 312156		
		<b>BatchID:</b> R312156						<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8211150	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total Organic Carbon	10	mg/L	1	10		100.2%	85	115				

<b>SampleID:</b> G2410G71-001CMS		<b>SampType:</b> MS		<b>TestNo:</b> SM 5310 C-14			<b>Prep Date:</b>			<b>RunNo:</b> 312156		
		<b>BatchID:</b> R312156						<b>Analysis Date:</b> 11/1/2024			<b>SeqNo:</b> 8211211	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total Organic Carbon	10.1	mg/L	1	10		100.7%	85	115				

<b>SampleID:</b> G2410G06-007CMSD		<b>SampType:</b> MSD		<b>TestNo:</b> SM 5310 C-14			<b>Prep Date:</b>			<b>RunNo:</b> 312156		
		<b>BatchID:</b> R312156						<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8211154	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total Organic Carbon	10.1	mg/L	1						10	1.2%	15	

<b>SampleID:</b> G2410G71-001CMSD		<b>SampType:</b> MSD		<b>TestNo:</b> SM 5310 C-14			<b>Prep Date:</b>			<b>RunNo:</b> 312156		
		<b>BatchID:</b> R312156						<b>Analysis Date:</b> 11/1/2024			<b>SeqNo:</b> 8211216	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total Organic Carbon	10.3	mg/L	1						10.1	1.8%	15	

<b>SampleID:</b> LCS-261562		<b>SampType:</b> LCS		<b>TestNo:</b> SM 6640 B-06			<b>Prep Date:</b> 10/31/2024			<b>RunNo:</b> 312159		
		<b>BatchID:</b> 261562						<b>Analysis Date:</b> 11/1/2024			<b>SeqNo:</b> 8211336	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
2,4,5-T	3.49	µg/L	0.5	4		87.3%	70	130				
2,4-D	3.45	µg/L	0.5	4		86.4%	70	130				
Dinoseb	3.19	µg/L	0.5	4		79.8%	70	130				
Silvex	3.49	µg/L	0.5	4		87.3%	70	130				
Surr: 2,4-Dichlorophenyl acetic acid	6.93	µg/L	0	8		86.6%	70	130				

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<b>SampleID:</b> MBLK-261562	<b>SampType:</b> MBLK	<b>TestNo:</b> SM 6640 B-06	<b>Prep Date:</b> 10/31/2024	<b>RunNo:</b> 312159
		<b>BatchID:</b> 261562	<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8211287

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
2,4,5-T	< 0.5	µg/L	0.5									
2,4-D	< 0.5	µg/L	0.5									
Dinoseb	< 0.5	µg/L	0.5									
Silvex	< 0.5	µg/L	0.5									
Surr: 2,4-Dichlorophenyl acetic acid	9.69	µg/L	0	10		96.9%	70	130				

<b>SampleID:</b> G2410G43-001CMS	<b>SampType:</b> MS	<b>TestNo:</b> SM 6640 B-06	<b>Prep Date:</b> 10/31/2024	<b>RunNo:</b> 312159
		<b>BatchID:</b> 261562	<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8211301

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
2,4,5-T	0.0368	mg/L	0.005	0.04		92.0%	70	130				
2,4-D	0.0383	mg/L	0.005	0.04		95.6%	70	130				
Dinoseb	0.0352	mg/L	0.005	0.04		88.0%	70	130				
Silvex	0.0373	mg/L	0.005	0.04		93.2%	70	130				
Surr: 2,4-Dichlorophenyl acetic acid	0.0735	mg/L	0	0.08		91.8%	70	130				

<b>SampleID:</b> G2410G43-001CMSD	<b>SampType:</b> MSD	<b>TestNo:</b> SM 6640 B-06	<b>Prep Date:</b> 10/31/2024	<b>RunNo:</b> 312159
		<b>BatchID:</b> 261562	<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8211305

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
2,4,5-T	0.0387	mg/L	0.005						0.0368	5.1%	20	
2,4-D	0.0398	mg/L	0.005						0.0383	4.0%	20	
Dinoseb	0.0358	mg/L	0.005						0.0352	1.7%	20	
Silvex	0.0395	mg/L	0.005						0.0373	5.7%	20	
Surr: 2,4-Dichlorophenyl acetic acid	0.078	mg/L	0	0.08		97.5%	70	130	0.0735		20	

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## Analytical QC Summary Report

Prep Batch Report			Prep Start Date: 10/29/2024 4:34:00 PM						Technician: Brandon L. Bash		
Prep Batch: 261430			Prep End Date: 10/29/2024 4:40:00 PM						Prep Factor Units: mL		
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End		
Blank-261430		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM		
CCV-261430		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM		
G2410C25-008A	MDL 2024 Q4 Part 2A 8	MDL	10/21/2024 7:00:00 AM	100	100	H	1.000	10/29/2024 9:30:00 AM	10/29/2024 9:50:00 AM		
G2410E48-002F	001 Comp Day 1	Waste Water	10/23/2024 12:30:00 PM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM		
G2410E98-001N	Untreated Leachate	Leachate	10/24/2024 11:45:00 AM	100	100		1.000	10/29/2024 9:30:00 AM	10/29/2024 9:50:00 AM		
G2410E98-001NLFM		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 9:30:00 AM	10/29/2024 9:50:00 AM		
G2410E98-001NLFMD		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 9:30:00 AM	10/29/2024 9:50:00 AM		
G2410G47-001H	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	100	100		1.000	10/29/2024 1:50:00 PM	10/29/2024 1:59:00 PM		
G2410G74-001N	NPDES Program	Leachate	10/29/2024 2:00:00 PM	100	100		1.000	10/29/2024 4:34:00 PM	10/29/2024 4:40:00 PM		
LCS-261430		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM		
LOQ-261430		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM		
G2410E38-002F	001 Inf Comp	Waste Water	10/23/2024 12:10:00 PM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM		
G2410E41-002F	003 Comp Day 1	Waste Water	10/23/2024 12:36:00 PM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM		
G2410E53-002F	004 Comp Day 1	Waste Water	10/23/2024 1:00:00 PM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM		
G2410E55-002F	002 Comp Day 1	Waste Water	10/23/2024 1:25:00 PM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM		
G2410E73-005C	MW-20D	Groundwater	10/22/2024 1:25:00 PM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM		
G2410E75-001C	MW-36D	Groundwater	10/22/2024 1:51:00 PM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM		
G2410E75-004C	MW-40D	Groundwater	10/22/2024 5:50:00 PM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM		
G2410E75-005C	MW-40DR	Groundwater	10/22/2024 5:24:00 PM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM		
G2410E75-007C	Dup 1	Groundwater	10/22/2024 12:00:00 AM	100	100	H	1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM		
G2410E75-007CLFM		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM		
G2410E75-007CLFMD		Aqueous	10/29/2024 12:00:00 AM	100	100		1.000	10/29/2024 9:00:00 AM	10/29/2024 9:30:00 AM		
G2410E76-001H	GWA-1A	Groundwater	10/23/2024 7:31:00 AM	100	100		1.000	10/29/2024 9:30:00 AM	10/29/2024 9:50:00 AM		
G2410E76-002H	GWC-11	Groundwater	10/23/2024 9:31:00 AM	100	100		1.000	10/29/2024 9:30:00 AM	10/29/2024 9:50:00 AM		

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410G47  
Project: BGwinnett 321S2

## Analytical QC Summary Report

Prep Batch: 261475			Prep Batch Report					Technician: Kenneth J. Ward		
Prep Code: PREP_8011			Prep Start Date: 10/30/2024 7:40:52 AM					Prep Factor Units: MI		
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End	
G2410G47-001B	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	35	35		1.000	10/30/2024 7:40:52 AM	10/30/2024 10:15:56 AM	
G2410G47-002A	TB-3	Aqueous	10/28/2024 12:00:01 AM	35	35		1.000	10/30/2024 7:40:52 AM	10/30/2024 10:15:56 AM	
LCS-261475		Aqueous	10/30/2024 12:00:00 AM	35	35		1.000	10/30/2024 7:40:52 AM	10/30/2024 10:15:56 AM	
MBLK-261475		Aqueous	10/30/2024 12:00:00 AM	35	35		1.000	10/30/2024 7:40:52 AM	10/30/2024 10:15:56 AM	
G2410F23-001D	MSW Leachate Tank	Waste Water	10/24/2024 2:15:00 PM	35	35		1.000	10/30/2024 7:40:52 AM	10/30/2024 10:15:56 AM	
G2410F23-002A	Trip Blank	Aqueous	10/25/2024 10:34:00 AM	35	35		1.000	10/30/2024 7:40:52 AM	10/30/2024 10:15:56 AM	
G2410F24-001D	MHOLS	Leachate	10/24/2024 12:00:00 PM	35	35		1.000	10/30/2024 7:40:52 AM	10/30/2024 10:15:56 AM	
G2410F24-002A	8011 Trip Blank	Aqueous	10/25/2024 10:45:00 AM	35	35		1.000	10/30/2024 7:40:52 AM	10/30/2024 10:15:56 AM	
G2410F25-001D	MW-28	Groundwater	10/24/2024 3:08:00 PM	35	35		1.000	10/30/2024 7:40:52 AM	10/30/2024 10:15:56 AM	
G2410F25-002D	MW-29	Groundwater	10/24/2024 2:05:00 PM	35	35		1.000	10/30/2024 7:40:52 AM	10/30/2024 10:15:56 AM	
G2410F25-002DMS		Aqueous	10/30/2024 12:00:00 AM	35	35		1.000	10/30/2024 7:40:52 AM	10/30/2024 10:15:56 AM	
G2410F25-002DMSD		Aqueous	10/30/2024 12:00:00 AM	35	35		1.000	10/30/2024 7:40:52 AM	10/30/2024 10:15:56 AM	
G2410F26-001D	MW-12R	Groundwater	10/24/2024 12:38:00 PM	35	35		1.000	10/30/2024 7:40:52 AM	10/30/2024 10:15:56 AM	
G2410F26-002D	MW-16R	Groundwater	10/24/2024 11:05:00 AM	35	35		1.000	10/30/2024 7:40:52 AM	10/30/2024 10:15:56 AM	

Prep Batch: 261497			Prep Batch Report					Technician: Jonathan J Pastuch		
Prep Code: ORPR_PCB_SPE			Prep Start Date: 10/30/2024 9:00:00 AM					Prep Factor Units: MI		
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End	
G2410G43-001A	Braze Waste Water	Waste Water	10/22/2024 8:00:00 AM	200	10		0.050	10/30/2024 9:00:00 AM	10/30/2024 3:24:33 PM	
G2410G47-001F	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	1010	10		0.010	10/30/2024 9:00:00 AM	10/30/2024 3:24:33 PM	
G2410G70-001D	Attachment 15	Leachate	10/29/2024 2:00:00 PM	200	10	D4	0.050	10/30/2024 9:00:00 AM	10/30/2024 3:24:33 PM	
G2410G70-001DMS		Aqueous	10/30/2024 12:00:00 AM	200	10		0.050	10/30/2024 9:00:00 AM	10/30/2024 3:24:33 PM	
G2410G70-001DMSD		Aqueous	10/30/2024 12:00:00 AM	200	10		0.050	10/30/2024 9:00:00 AM	10/30/2024 3:24:33 PM	
LCS-261497		Aqueous	10/30/2024 12:00:00 AM	1000	10		0.010	10/30/2024 9:00:00 AM	10/30/2024 3:24:33 PM	
MBLK-261497		Aqueous	10/30/2024 12:00:00 AM	1000	10		0.010	10/30/2024 9:00:00 AM	10/30/2024 3:24:33 PM	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

G2410F59-001A	Brine	Waste Water	10/24/2024 8:00:00 AM	100	10	D4O5	0.100	10/30/2024 9:00:00 AM	10/30/2024 3:24:33 PM
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Prep Batch: 261499 Prep Code: ORPR_PEST_SPE			Prep Batch Report Prep Start Date: 10/30/2024 9:00:00 AM Prep End Date: 10/30/2024 3:05:51 PM					Technician: Jonathan J Pastuch Prep Factor Units: mL		
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End	
G2410E62-001B	Sludge		10/23/2024 11:45:00 AM	100	10		0.100	10/30/2024 9:00:00 AM	10/30/2024 3:05:51 PM	
G2410G47-001F	GWC-5A		10/28/2024 9:10:00 AM	1010	10		0.010	10/30/2024 9:00:00 AM	10/30/2024 3:05:51 PM	
G2410G47-001FMS			10/30/2024 12:00:00 AM	1000	10		0.010	10/30/2024 9:00:00 AM	10/30/2024 3:05:51 PM	
G2410G47-001FMSD			10/30/2024 12:00:00 AM	980	10		0.010	10/30/2024 9:00:00 AM	10/30/2024 3:05:51 PM	
LCS-261499			10/30/2024 12:00:00 AM	1000	10		0.010	10/30/2024 9:00:00 AM	10/30/2024 3:05:51 PM	
MBLK-261499			10/30/2024 12:00:00 AM	1000	10		0.010	10/30/2024 9:00:00 AM	10/30/2024 3:05:51 PM	
G2410F13-001C	TANCD4	Gas Condensate	10/24/2024 8:50:00 AM	100	10		0.100	10/30/2024 9:00:00 AM	10/30/2024 3:05:51 PM	

Prep Batch: 261501 Prep Code: MEPR6010_3010			Prep Batch Report Prep Start Date: 10/30/2024 9:40:00 AM Prep End Date: 10/30/2024 3:10:00 PM					Technician: Adam D. Moschagat Prep Factor Units: mL		
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End	
G2410F52-001D	GWB-27	Groundwater	10/23/2024 9:15:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM	
G2410F52-001DDUP			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM	
G2410F52-001DMS			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM	
G2410F52-002D	GWC-14	Groundwater	10/23/2024 9:05:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM	
G2410F52-003D	TMC-4	Groundwater	10/23/2024 9:50:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM	
G2410F52-003DMS			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM	
G2410F52-004D	GWC-19	Groundwater	10/23/2024 10:05:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM	
G2410F52-006D	GWC-41	Groundwater	10/23/2024 11:15:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM	
G2410F52-008A	GWC-34	Groundwater	10/23/2024 10:15:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM	
G2410G47-001K	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM	
G2410G49-001D	OW-2RR	Groundwater	10/28/2024 10:25:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM	
G2410G49-002D	OW-3RR	Groundwater	10/28/2024 9:50:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

G2410G51-001E	SWB-1	Surface Water	10/28/2024 7:45:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G51-002E	SWC-3	Surface Water	10/28/2024 8:30:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G51-003E	SWC-1	Surface Water	10/28/2024 10:45:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G51-004E	SWC-2	Surface Water	10/28/2024 11:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G96-001A	TCLP Blank #12	Solid	10/29/2024 10:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G96-002A	TCLP Blank #37	Solid	10/29/2024 10:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G96-003A	TCLP Blank #41	Solid	10/29/2024 10:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
LCS1-261501		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
PB-261501		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM

**Prep Batch:** 261502**Prep Code:** MEPR6020\_3010**Prep Batch Report****Prep Start Date:** 10/30/2024 9:40:00 AM**Prep End Date:** 10/30/2024 3:10:00 PM**Technician:** Adam D. Moschgat**Prep Factor Units:**

Sample ID	Client Samp ID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410F52-001D	GWB-27	Groundwater	10/23/2024 9:15:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-001DDUP			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-002D	GWC-14	Groundwater	10/23/2024 9:05:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-002DMS			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-003D	TMC-4	Groundwater	10/23/2024 9:50:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-004D	GWC-19	Groundwater	10/23/2024 10:05:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-004DMS			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-006D	GWC-41	Groundwater	10/23/2024 11:15:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-008A	GWC-34	Groundwater	10/23/2024 10:15:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G47-001K	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G49-001D	OW-2RR	Groundwater	10/28/2024 10:25:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G49-002D	OW-3RR	Groundwater	10/28/2024 9:50:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G51-001E	SWB-1	Surface Water	10/28/2024 7:45:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G51-002E	SWC-3	Surface Water	10/28/2024 8:30:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G51-003E	SWC-1	Surface Water	10/28/2024 10:45:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G51-004E	SWC-2	Surface Water	10/28/2024 11:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

LCS2-261502			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
PB-261502			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM

<b>Prep Batch:</b> 261522 <b>Prep Code:</b> HG_7470_PREP			<b>Prep Batch Report</b>					<b>Technician:</b> Allison G. Foreman <b>Prep Factor Units:</b> mL		
			<b>Collection Date</b>	<b>Samp Amt</b>	<b>Fin Vol</b>	<b>PQual</b>	<b>Factor</b>	<b>Prep Start</b>	<b>Prep End</b>	
G2410E42-001B	85A & SA	Solid	10/23/2024 10:00:00 AM	25	25		1.000	10/30/2024 11:00:00 AM	10/30/2024 1:00:00 PM	
G2410G47-001K	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	25	25		1.000	10/30/2024 11:00:00 AM	10/30/2024 1:00:00 PM	
G2410G51-001E	SWB-1	Surface Water	10/28/2024 7:45:00 AM	25	25		1.000	10/30/2024 11:00:00 AM	10/30/2024 1:00:00 PM	
G2410G51-002E	SWC-3	Surface Water	10/28/2024 8:30:00 AM	25	25		1.000	10/30/2024 11:00:00 AM	10/30/2024 1:00:00 PM	
G2410G51-003E	SWC-1	Surface Water	10/28/2024 10:45:00 AM	25	25		1.000	10/30/2024 11:00:00 AM	10/30/2024 1:00:00 PM	
G2410G51-004E	SWC-2	Surface Water	10/28/2024 11:00:00 AM	25	25		1.000	10/30/2024 11:00:00 AM	10/30/2024 1:00:00 PM	
LCS-261522		Aqueous	10/30/2024 12:00:00 AM	25	25		1.000	10/30/2024 11:00:00 AM	10/30/2024 1:00:00 PM	
PB-261522		Aqueous	10/30/2024 12:00:00 AM	25	25		1.000	10/30/2024 11:00:00 AM	10/30/2024 1:00:00 PM	

<b>Prep Batch:</b> 261534 <b>Prep Code:</b> WATERPR_TDS			<b>Prep Batch Report</b>					<b>Technician:</b> Laykin A. Pritts <b>Prep Factor Units:</b> mL		
			<b>Collection Date</b>	<b>Samp Amt</b>	<b>Fin Vol</b>	<b>PQual</b>	<b>Factor</b>	<b>Prep Start</b>	<b>Prep End</b>	
Blank-261534			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM	
G2410G39-007B	MP-19	Groundwater	10/28/2024 1:45:00 PM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM	
G2410G39-007BDUP			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM	
G2410G39-008B	MP-13A	Groundwater	10/28/2024 2:30:00 PM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM	
G2410G39-009B	MP-13B	Groundwater	10/28/2024 2:45:00 PM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM	
G2410G47-001I	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM	
G2410G49-001C	OW-2RR	Groundwater	10/28/2024 10:25:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM	
G2410G49-002C	OW-3RR	Groundwater	10/28/2024 9:50:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM	
G2410G71-001A	WA-3	Groundwater	10/29/2024 8:26:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM	
G2410G71-002A	W-2AA	Groundwater	10/29/2024 9:15:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

G2410G71-003A	W-28B	Groundwater	10/29/2024 11:27:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G71-004A	W-28A	Groundwater	10/29/2024 12:32:00 PM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G72-001A	W-24	Groundwater	10/29/2024 8:27:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G72-001ADUP			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G72-002A	W-26B	Groundwater	10/29/2024 9:34:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G72-003A	W-26A	Groundwater	10/29/2024 10:02:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G72-004A	W-21A	Groundwater	10/29/2024 11:24:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G72-005A	F-Dup	Groundwater	10/29/2024 11:24:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G72-006A	LIB-3	Groundwater	10/29/2024 1:34:00 PM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G73-001C	Form 50+	Leachate	10/29/2024 2:00:00 PM	10	50		5.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G74-001M	NPDES Program	Leachate	10/29/2024 2:00:00 PM	10	50		5.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G75-001A	W-20A	Groundwater	10/29/2024 8:22:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
LCS-261534			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM

			Prep Batch Report								
			Prep Start Date: 10/30/2024 7:00:00 AM				Technician: Lindsey R. Rummel				
			Prep End Date: 11/1/2024 3:45:00 PM				Prep Factor Units: mL				
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End		
App II-261545		Aqueous	11/1/2024 12:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:45:00 PM		
G2410E31-003A	CS3 LIQ MDL2 SET 2	Aqueous	10/22/2024 10:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:00:00 PM		
G2410E31-004A	CS3 LIQ MDL3 SET 2	Aqueous	10/22/2024 10:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:00:00 PM		
G2410E31-005A	CS3 LIQ MDL4 SET 2	Aqueous	10/22/2024 10:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:00:00 PM		
G2410E31-006A	CS3 LIQ MDL5 SET 2	Aqueous	10/22/2024 10:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:00:00 PM		
G2410E31-007A	CS3 LIQ MDL6 SET 2	Aqueous	10/22/2024 10:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:00:00 PM		
G2410E32-003A	CS4 LIQ MDL2 SET 2	Aqueous	10/22/2024 10:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:00:00 PM		

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

G2410E32-004A	CS4 LIQ MDL3 SET 2	Aqueous	10/22/2024 10:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:00:00 PM
G2410E32-005A	CS4 LIQ MDL4 SET 2	Aqueous	10/22/2024 10:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:00:00 PM
G2410E32-006A	CS4 LIQ MDL5 SET 2	Aqueous	10/22/2024 10:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:00:00 PM
G2410E32-007A	CS4 LIQ MDL6 SET 2	Aqueous	10/22/2024 10:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:00:00 PM
G2410E33-003A	CS6 LIQ MDL2 SET 2	Aqueous	10/22/2024 10:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:45:00 PM
G2410E33-004A	CS6 LIQ MDL3 SET 2	Aqueous	10/22/2024 10:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:45:00 PM
G2410E33-005A	CS6 LIQ MDL4 SET 2	Aqueous	10/22/2024 10:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:45:00 PM
G2410E33-006A	CS6 LIQ MDL5 SET 2	Aqueous	10/22/2024 10:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:45:00 PM
G2410E33-007A	CS6 LIQ MDL6 SET 2	Aqueous	10/22/2024 10:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:45:00 PM
G2410F13-001C	TANCD4	Gas Condensate	10/24/2024 8:50:00 AM	50	1		0.020	10/30/2024 7:00:00 AM	11/1/2024 3:45:00 PM
G2410F13-001CMS		Aqueous	10/30/2024 12:00:00 AM	50	1		0.020	10/30/2024 7:00:00 AM	11/1/2024 3:45:00 PM
G2410F13-001CMSD		Aqueous	10/30/2024 12:00:00 AM	50	1		0.020	10/30/2024 7:00:00 AM	11/1/2024 3:45:00 PM
G2410G47-001G	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	990	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:45:00 PM
LCS-261545		Aqueous	10/30/2024 12:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:45:00 PM
LCS1 APSDOC-261545		Aqueous	10/30/2024 12:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:45:00 PM
LCS2 APSDOC-261545		Aqueous	10/30/2024 12:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:45:00 PM
LCS3 APSDOC-261545		Aqueous	10/30/2024 12:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:45:00 PM
LCS4 APSDOC-261545		Aqueous	10/30/2024 12:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:45:00 PM
MBLK-261545		Aqueous	10/30/2024 12:00:00 AM	1000	1		0.001	10/30/2024 7:00:00 AM	11/1/2024 3:45:00 PM

## Prep Batch Report

Prep Batch: 261546

Prep Code: INPR\_IC

Prep Start Date: 10/30/2024 4:21:00 PM

Prep End Date: 10/30/2024 4:21:00 PM

Technician: Taylor N. Kimbrell

Prep Factor Units: mL

Client: BUTTON GWINNETT LANDFILL  
 WorkOrder: G2410G47  
 Project: BGwinnett 321S2

## Analytical QC Summary Report

Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
CB-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
G2410G11-002A	Millcreek/Challenge r/002	Aqueous	10/17/2024 10:20:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G11-002ADUP		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G11-002ALFM		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G11-003A	Cobra/MDG859636 /StripPond1	Aqueous	10/21/2024 4:30:00 PM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G11-004A	Millcreek/Challenge r/001	Aqueous	10/23/2024 1:25:00 PM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G11-005A	Millcreek/Challenge r/002	Aqueous	10/23/2024 1:44:00 PM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G37-001A	Outfall 002	Surface Water	10/26/2024 10:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G37-002A	Outfall 003	Surface Water	10/26/2024 8:45:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G47-001D	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G49-001A	OW-2RR	Groundwater	10/28/2024 10:25:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G49-002A	OW-3RR	Groundwater	10/28/2024 9:50:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G51-001C	SWB-1	Surface Water	10/28/2024 7:45:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G51-002C	SWC-3	Surface Water	10/28/2024 8:30:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G51-002CDUP		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G51-002CLFM		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G51-003C	SWC-1	Surface Water	10/28/2024 10:45:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G51-004C	SWC-2	Surface Water	10/28/2024 11:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G74-001O	NPDES Program	Leachate	10/29/2024 2:00:00 PM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G85-001A	Outfall 001	Waste Water	10/28/2024 7:55:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G85-002A	Outfall 002	Waste Water	10/28/2024 8:10:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G86-001A	Lower Works Sampling Point	Waste Water	10/28/2024 8:20:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410H02-001C	Leachate	Leachate	10/29/2024 2:30:00 PM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

G2410H11-001C	Outfall 001 Comp.	Waste Water	10/29/2024 7:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410H13-001B	MW-5DR	Groundwater	10/29/2024 8:45:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410H13-002B	MW-6D	Groundwater	10/28/2024 3:35:00 PM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H13-002BDUP		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H13-002BLFM		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H13-003B	MW-7D	Groundwater	10/29/2024 11:50:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H13-004B	MW-8D	Groundwater	10/29/2024 9:30:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H18-001A	MP-15	Groundwater	10/29/2024 9:40:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H18-002A	MP-11	Groundwater	10/29/2024 10:30:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H18-003A	P-6	Groundwater	10/29/2024 11:25:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H18-004A	MP-18	Groundwater	10/29/2024 12:25:00 PM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H18-005A	MP-10R	Groundwater	10/29/2024 1:15:00 PM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H21-001B	UD-5D	Groundwater	10/29/2024 8:20:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H23-001B	MW-107A	Groundwater	10/28/2024 3:00:00 PM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
HRQC 1000-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
HRQC-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
IPC-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
LFB-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
LFB2-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
LRB-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
QCS-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM

**Prep Batch:** 261562**Prep Code:** ORPR\_HERB\_SM**Prep Batch Report****Prep Start Date:** 10/31/2024 6:00:00 AM**Prep End Date:** 10/31/2024 10:49:25 AM**Technician:** Lindsey R. Rummel**Prep Factor Units:** mL

Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410F13-001C	TANCD4	Gas Condensate	10/24/2024 8:50:00 AM	4	40		10.000	10/31/2024 6:00:00 AM	10/31/2024 10:49:25 AM
G2410G43-001C	Braze Waste Water	Waste Water	10/22/2024 8:00:00 AM	4	40		10.000	10/31/2024 6:00:00 AM	10/31/2024 10:49:25 AM
G2410G43-001CMS		Aqueous	10/31/2024 12:00:00 AM	4	40		10.000	10/31/2024 6:00:00 AM	10/31/2024 10:49:25 AM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

G2410G43-001CMSD		Aqueous	10/31/2024 12:00:00 AM	4	40		10.000	10/31/2024 6:00:00 AM	10/31/2024 10:49:25 AM
G2410G47-001C	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	40	40		1.000	10/31/2024 6:00:00 AM	10/31/2024 10:49:25 AM
G2410G70-001E	Attachment 15	Leachate	10/29/2024 2:00:00 PM	4	40		10.000	10/31/2024 6:00:00 AM	10/31/2024 10:49:25 AM
G2410G74-001E	NPDES Program	Leachate	10/29/2024 2:00:00 PM	10	40	D4	4.000	10/31/2024 6:00:00 AM	10/31/2024 10:49:25 AM
G2410H02-001A	Leachate	Leachate	10/29/2024 2:30:00 PM	4	40	D4	10.000	10/31/2024 6:00:00 AM	10/31/2024 10:49:25 AM
LCS-261562		Aqueous	10/31/2024 12:00:00 AM	40	40		1.000	10/31/2024 6:00:00 AM	10/31/2024 10:49:25 AM
MBLK-261562		Aqueous	10/31/2024 12:00:00 AM	40	40		1.000	10/31/2024 6:00:00 AM	10/31/2024 10:49:25 AM

**Prep Batch:** 261624  
**Prep Code:** INPR\_NO3

**Prep Batch Report**

**Prep Start Date:** 10/30/2024 5:30:00 PM  
**Prep End Date:** 10/30/2024 6:16:00 PM

**Technician:** Holly N. Montgomery  
**Prep Factor Units:** mL

Sample ID	Client Samp ID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410F33-001A	GWC-12A	Groundwater	10/24/2024 9:20:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410F61-001C	Exp SW 10/23/24	Surface Water	10/23/2024 7:30:00 PM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410F64-001C	Duq SW 10/23/24	Surface Water	10/23/2024 6:30:00 PM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G08-001D	RR1	Surface Water	10/28/2024 6:15:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G43-001B	Braze Waste Water	Waste Water	10/22/2024 8:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G47-001E	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G49-001B	OW-2RR	Groundwater	10/28/2024 10:25:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G49-002B	OW-3RR	Groundwater	10/28/2024 9:50:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G49-002BDUP		Groundwater	11/1/2024 12:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G49-002BMS		Groundwater	11/1/2024 12:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G53-001C	8213165 Camp	Waste Water	10/29/2024 8:30:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G53-003C	8213167 BCHE	Waste Water	10/29/2024 9:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G53-005C	8213169 BCHI	Waste Water	10/29/2024 9:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G55-001C	WWTP Effluent 8208127	Waste Water	10/29/2024 8:35:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G55-001CDUP		Waste Water	11/1/2024 12:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G55-001CMS		Waste Water	11/1/2024 12:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G74-001A	NPDES Program	Leachate	10/29/2024 2:00:00 PM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

G2410G93-001E	Outfall 101	Aqueous	10/29/2024 10:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410H02-001D	Leachate	Leachate	10/29/2024 2:30:00 PM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410H31-001A	Effluent Comp	Waste Water	10/29/2024 12:05:00 PM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
LCS-261624		Aqueous	11/1/2024 12:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
MBLK-261624		Aqueous	11/1/2024 12:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410G47  
Project: BGwinnett 321S2

## Analytical QC Summary Report

### Batch Reference Report

Client Samp ID	Test No	Batch ID
GWC-5A	ASTM D1067-16	R312076
GWC-5A	ASTM D7511-17	R312224
GWC-5A	EPA 300.0 Rev 2.1	261546
GWC-5A	EPA 350.1 Rev 2.0	R312199
GWC-5A	EPA 353.2 Rev 2.0	261624
GWC-5A	EPA 6010 D	261501
GWC-5A	EPA 6020 B	261502
GWC-5A	EPA 7470A	261522
GWC-5A	EPA 8011	261475
TB-3	EPA 8011	261475
GWC-5A	EPA 8081 B	261499
GWC-5A	EPA 8082 A	261497
GWC-5A	EPA 8260 D	R312022
TB-3	EPA 8260 D	R312022
GWC-5A	EPA 8270 E	261545
GWC-5A	SM 2540 C-15	261534
GWC-5A	SM 4500-S2- D-11	261430
GWC-5A	SM 5310 C-14	R312156
GWC-5A	SM 6640 B-06	261562

**Table I ON Qualifiers**

Qualifier	Description
<b>1</b>	Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.
<b>B</b>	Analyte detected in the associated method Blank.
<b>B1</b>	Dilution water blank exceeded method criterion.
<b>C1</b>	CCV recovery above the acceptance limits. Results may be biased high.
<b>C2</b>	CCV recovery below the acceptance limits. Results may be biased low.
<b>C3</b>	ICV recovery above the acceptance limits. Results may be biased high.
<b>C4</b>	ICV recovery below the acceptance limits. Results may be biased low.
<b>C5</b>	Positive values verified by second column confirmation.
<b>C6</b>	Confirmation analysis by another detector or chromatographic column was not performed.
<b>D1</b>	The analysis did not meet the minimum DO depletion of at least 2 mg/L.
<b>D2</b>	The analysis did not meet the minimum residual DO of at least 1 mg/L.
<b>D3</b>	Sample required dilution due to a matrix interference.
<b>D4</b>	Sample was diluted in the extraction steps due to marked matrix interferences.
<b>D5</b>	Sample required dilution due to a chloride interference.
<b>D6</b>	Sample was diluted and the reporting limits were raised to achieve method compliant internal standard recovery.
<b>D7</b>	Sample was digested at a dilution due to the formation of a post-digestion precipitate.
<b>D8</b>	Sample was digested at a dilution to achieve method compliant matrix spike recovery.
<b>D9</b>	Sample was digested at a dilution to meet method compliant digestion criteria.
<b>E</b>	Value above quantitation range.
<b>E2</b>	Unable to obtain a stable weight within specified limits due to sample matrix. Value is estimated.
<b>F1</b>	Fecal sample tested positive for residual chlorine.
<b>H</b>	Method Hold Time exceeded and is not compliant with 40CFR136 Table II.
<b>H1</b>	Due to under-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.
<b>H2</b>	Due to over-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.
<b>H3</b>	Sample was re-analyzed outside of hold time due to error during original analysis.
<b>H4</b>	The Nitrite result used to report Nitrate was analyzed past the 48-hour holding time.
<b>I1</b>	Internal standard recovery above method acceptance limits. Results are estimated.
<b>I2</b>	Internal standard recovery was below method acceptance limits. Results are estimated.
<b>IP</b>	One of the instrument performance checks ( ) did not meet the acceptance criteria.
<b>J</b>	Indicates an estimated value.

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G47

Project: BGwinnett 321S2

## Analytical QC Summary Report

<b>L1</b>	LCS above the acceptance limits. Result may be biased high.
<b>L2</b>	LCS below the acceptance limits. Result may be biased low.
<b>L3</b>	Analyte was spiked into the LCS, but was not recovered.
<b>M1</b>	Matrix Spike recovery above the acceptance limits.
<b>M2</b>	Matrix Spike recovery below the acceptance limits.
<b>M4</b>	The matrix spike failed high for the surrogate.
<b>M5</b>	The matrix spike failed low for the surrogate.
<b>M6</b>	The reporting limits were raised due to sample matrix interference.
<b>M7</b>	Recovery for matrix spike could not be quantified due to matrix interference.
<b>M8</b>	Analyte was spiked into the MS, but was not recovered.
<b>M9</b>	Analyte concentration was determined by the method of standard addition (MSA).
<b>N1</b>	The lab does not hold accreditation from PA-DEP for this parameter by this method
<b>N2</b>	PADEP does not accredit labs for this analyte by this method.
<b>N3</b>	The lab is accredited for this method in West Virginia, but not in PA (its primary accrediting body).
<b>N4</b>	PADEP does not accredit labs for this analyte by this method in drinking water.
<b>ND</b>	Not Detected.
<b>O1</b>	The flashpoint tester cannot detect below 50 degrees F.
<b>O2</b>	Result is temperature of the sample when flame observed. No flash observed. Result qualified.
<b>O3</b>	The reporting limits were raised due to the high concentration of non-target compounds.
<b>O4</b>	Sample was received with headspace.
<b>O5</b>	Sample was received in incorrect container and is not compliant with 40CFR136 Table II.
<b>O6</b>	Insufficient sample volume was received to comply with the method.
<b>P1</b>	The pH of the sample was >2 and is not compliant with 40CFR136 Table II.
<b>P2</b>	Sample contained residual chlorine and is not compliant with 40CFR136 Table II
<b>P3</b>	The pH of the sample was <10 and is not compliant with 40CFR136 Table II.
<b>P4</b>	Field preservation does not meet EPA or method recommendations for this analysis.
<b>P5</b>	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.
<b>P6</b>	Sample required additional preservative upon receipt.
<b>P7</b>	The sample was received unpreserved.
<b>P8</b>	The pH of the sample was < 9 and is not compliant with 40 CFR136 Table II.
<b>Q1</b>	Qualified Data See Case Narrative.
<b>R</b>	Relative Percent Difference (RPD) was above the control limit.
<b>R1</b>	RPD above control limits between matrix spike and MS duplicates.

Client: BUTTON GWINNETT LANDFILL

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Project: BGwinnett 321S2

## Analytical QC Summary Report

R2	RPD above the control limit between duplicates.
R3	RSD above the control limit between replicates.
R4	RPD above control limits between Inorganic Carbon check and spike.
R5	RPD above control limits between control sample and control sample duplicates.
S	Recovery for the spiked control sample outside accepted limits.
S2	Surrogate recovery in the blank was below the control limit.
S3	Surrogate recovery in the blank was above the control limit.
S4	Surrogate recovery in the LCS is above the control limit.
S5	Surrogate recovery in the LCS is below the control limit.
SR	Analyte recovery was outside the accepted recovery limits and above the control limit for RPD.
T	Sample temperature received outside the regulatory limit and is not compliant with 40CFR Part136 Table II (for NPW samples).
T1	Sample temperature received outside the regulatory limit. (Primarily for SCM samples).
T3	Target analyte found in trip/field blank.
TC	The MS tune check (tailing factor) did not meet the acceptance criteria.
U	The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.

**Note 1:** Other comments to clarify test results may be used. Examples include MCL (Contaminant Limit), and MDA (minimum detectable activity). The Q1 code requires additional qualifier information be described in the Case Narrative.

**Note 2:** NA is used in the Laboratory QC report as "Not Applicable."



Quality Assurance Project Report  
Prepared for  
BUTTON GWINNETT LANDFILL  
11/13/2024

David M. Glessner  
Quality Assurance Coordinator

### **Explanatory Notes**

1. Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.
2. Matrix Spike and MS Duplicates are sample specific controls and are not used to evaluate the analytical batch.
3. Laboratory duplicate. If one or both of the values is less than 5 times the PQL, the allowed difference is +/- the PQL.
4. "R" indicates a relative percent difference (RPD) was above the acceptance limit between duplicate QC samples or sample specific duplicates.

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410G49  
Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

SampleID: ALK LCS		SampType: LCS		TestNo: ASTM D1067-16			Prep Date:			RunNo: 312076		
		BatchID: R312076						Analysis Date: 10/30/2024			SeqNo: 8209080	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	47	mg/L CaCO <sub>3</sub>	10	47.5		98.9%	85	115				
SampleID: ALK LCS		SampType: LCS		TestNo: ASTM D1067-16			Prep Date:			RunNo: 312076		
		BatchID: R312076						Analysis Date: 10/30/2024			SeqNo: 8209135	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Alkalinity to pH 4.5	50	mg/L CaCO <sub>3</sub>	10	47.5		105.3%	85	115				
SampleID: G2410G11-002ADUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1			Prep Date: 10/30/2024			RunNo: 312119		
		BatchID: 261546						Analysis Date: 10/30/2024			SeqNo: 8210160	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	6.57	mg/L	1						6.6	0.4%	20	
Sulfate	704	mg/L	2						703	0.0%	20	
SampleID: G2410G51-002CDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1			Prep Date: 10/30/2024			RunNo: 312119		
		BatchID: 261546						Analysis Date: 10/30/2024			SeqNo: 8210174	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	6.27	mg/L	1						6.23	0.6%	20	
Sulfate	5.64	mg/L	2						5.6	0.7%	20	
SampleID: G2410H13-002BDUP		SampType: DUP		TestNo: EPA 300.0 Rev 2.1			Prep Date: 10/30/2024			RunNo: 312119		
		BatchID: 261546						Analysis Date: 10/31/2024			SeqNo: 8210188	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	176	mg/L	1						176	0.0%	20	
Sulfate	3.97	mg/L	2						3.92	1.2%	20	

Client: BUTTON GWINNETT LANDFILL

## Analytical QC Summary Report

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

<b>SampleID:</b> HRQC-261546		<b>SampType:</b> HRQC		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210157	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	252	mg/L	1	250		100.6%	90	110				
Sulfate	247	mg/L	2	250		98.8%	90	110				

<b>SampleID:</b> HRQC 1000-261546		<b>SampType:</b> HRQC 1000		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210158	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	993	mg/L	1	1000		99.3%	90	110				
Sulfate	964	mg/L	2	1000		96.4%	90	110				

<b>SampleID:</b> LFB-261546		<b>SampType:</b> LFB		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210153	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	48.2	mg/L	1	50		96.3%	90	110				
Sulfate	48	mg/L	2	50		96.0%	90	110				

<b>SampleID:</b> LFB2-261546		<b>SampType:</b> LFB2		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210154	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	4.76	mg/L	1	5		95.2%	90	110				
Sulfate	5.13	mg/L	2	5		102.7%	90	110				

<b>SampleID:</b> G2410G11-002ALFM		<b>SampType:</b> LFM		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210161	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	21.2	mg/L	1	15	6.6	97.2%	80	120				
Sulfate	707	mg/L	2	20	703	21.1%	80	120				1

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

<b>SampleID:</b> G2410G51-002CLFM		<b>SampType:</b> LFM		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210175	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	21.1	mg/L	1	15	6.23	98.9%	80	120				
Sulfate	26	mg/L	2	20	5.6	101.9%	80	120				

<b>SampleID:</b> G2410H13-002BLFM		<b>SampType:</b> LFM		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8210189	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	184	mg/L	1	15	176	53.9%	80	120				1
Sulfate	24.7	mg/L	2	20	3.92	103.9%	80	120				

<b>SampleID:</b> LRB-261546		<b>SampType:</b> LRB		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210155	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	< 1	mg/L	1									
Sulfate	< 2	mg/L	2									

<b>SampleID:</b> CB-261546		<b>SampType:</b> MBLK		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210152	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	< 1	mg/L	1									
Sulfate	< 2	mg/L	2									

<b>SampleID:</b> QCS-261546		<b>SampType:</b> QCS		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210156	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	23.2	mg/L	1	24		96.5%	90	110				
Sulfate	31.2	mg/L	2	32		97.6%	90	110				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

SampleID: G2410G39-001ADUP		SampType: DUP		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312199				
		BatchID: R312199				Analysis Date: 11/1/2024		SeqNo: 8212911				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	2.01	mg/L as N	0.1						1.99	1.0%	20	
SampleID: G2410G47-001EDUP		SampType: DUP		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312199				
		BatchID: R312199				Analysis Date: 11/1/2024		SeqNo: 8212934				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	< 0.1	mg/L as N	0.1						0.0591		20	
SampleID: G2410G75-001BDUP		SampType: DUP		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312204				
		BatchID: R312204				Analysis Date: 11/1/2024		SeqNo: 8213020				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	< 0.1	mg/L as N	0.1						0.0749		20	
SampleID: G2410H20-001ADUP		SampType: DUP		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312204				
		BatchID: R312204				Analysis Date: 11/1/2024		SeqNo: 8213045				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	0.596	mg/L as N	0.1						0.596		20	
SampleID: LCS		SampType: LCS		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312199				
		BatchID: R312199				Analysis Date: 11/1/2024		SeqNo: 8212891				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	0.79	mg/L as N	0.1	0.82		96.4%	90	110				
SampleID: LCS		SampType: LCS		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312204				
		BatchID: R312204				Analysis Date: 11/1/2024		SeqNo: 8213013				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	0.767	mg/L as N	0.1	0.82		93.5%	90	110				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

SampleID: CCB		SampType: MBLK		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312199				
		BatchID: R312199				Analysis Date: 11/1/2024		SeqNo: 8212886				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	< 0.1	mg/L as N	0.1									
SampleID: CCB		SampType: MBLK		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312204				
		BatchID: R312204				Analysis Date: 11/1/2024		SeqNo: 8213009				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	< 0.1	mg/L as N	0.1									
SampleID: G2410G39-001AMS		SampType: MS		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312199				
		BatchID: R312199				Analysis Date: 11/1/2024		SeqNo: 8212913				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	3.02	mg/L as N	0.1	1	1.99	102.8%	90	110				
SampleID: G2410G47-001EMS		SampType: MS		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312199				
		BatchID: R312199				Analysis Date: 11/1/2024		SeqNo: 8212936				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	1.06	mg/L as N	0.1	1	0.0591	100.5%	90	110				
SampleID: G2410G75-001BMS		SampType: MS		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312204				
		BatchID: R312204				Analysis Date: 11/1/2024		SeqNo: 8213022				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	1.04	mg/L as N	0.1	1	0.0749	96.0%	90	110				
SampleID: G2410H20-001AMS		SampType: MS		TestNo: EPA 350.1 Rev 2.0		Prep Date:		RunNo: 312204				
		BatchID: R312204				Analysis Date: 11/1/2024		SeqNo: 8213047				
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Ammonia Nitrogen	1.52	mg/L as N	0.1	1	0.596	92.4%	90	110				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

<b>SampleID:</b> G2410G49-002BDUP		<b>SampType:</b> DUP		<b>TestNo:</b> EPA 353.2 Rev 2.0			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312275		
		<b>BatchID:</b> 261624						<b>Analysis Date:</b> 11/1/2024			<b>SeqNo:</b> 8215377	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Nitrate Nitrogen	0.204	mg/L as N	0.05						0.204		20	

<b>SampleID:</b> LCS-261624		<b>SampType:</b> LCS		<b>TestNo:</b> EPA 353.2 Rev 2.0			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312275		
		<b>BatchID:</b> 261624						<b>Analysis Date:</b> 11/1/2024			<b>SeqNo:</b> 8215362	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Nitrate Nitrogen	0.965	mg/L as N	0.05	1		96.5%	90	110				

<b>SampleID:</b> MBLK-261624		<b>SampType:</b> MBLK		<b>TestNo:</b> EPA 353.2 Rev 2.0			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312275		
		<b>BatchID:</b> 261624						<b>Analysis Date:</b> 11/1/2024			<b>SeqNo:</b> 8215357	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Nitrate Nitrogen	< 0.05	mg/L as N	0.05									

<b>SampleID:</b> G2410G49-002BMS		<b>SampType:</b> MS		<b>TestNo:</b> EPA 353.2 Rev 2.0			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312275		
		<b>BatchID:</b> 261624						<b>Analysis Date:</b> 11/1/2024			<b>SeqNo:</b> 8215279	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Nitrate Nitrogen	1.19	mg/L as N	0.05	1	0.204	98.7%	90	110			20	

<b>SampleID:</b> LCS1-261501		<b>SampType:</b> LCS1		<b>TestNo:</b> EPA 6010 D			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312171		
		<b>BatchID:</b> 261501						<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8212107	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	1.1	mg/L	0.01	1		110.2%	79.5	120.4				
Beryllium	0.213	mg/L	0.001	0.2		106.3%	79.5	120.4				
Cadmium	0.416	mg/L	0.002	0.4		104.0%	79.5	120.4				
Chromium	1.07	mg/L	0.01	1		106.9%	79.5	120.4				
Cobalt	0.429	mg/L	0.005	0.4		107.3%	79.5	120.4				
Copper	1.06	mg/L	0.01	1		105.6%	79.5	120.4				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Nickel	1.04	mg/L	0.01	1		104.5%	79.5	120.4				
Silver	0.01	mg/L	0.005	0.01		100.0%	79.5	120.4				
Vanadium	0.412	mg/L	0.005	0.4		103.1%	79.5	120.4				
Zinc	1	mg/L	0.01	1		100.1%	79.5	120.4				

SampleID: PB-261501	SampType: PB	TestNo: EPA 6010 D	Prep Date: 10/30/2024	RunNo: 312171
	BatchID: 261501		Analysis Date: 10/31/2024	SeqNo: 8212105

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	< 0.01	mg/L	0.01									
Beryllium	< 0.001	mg/L	0.001									
Cadmium	< 0.002	mg/L	0.002									
Chromium	< 0.01	mg/L	0.01									
Cobalt	< 0.005	mg/L	0.005									
Copper	< 0.01	mg/L	0.01									
Nickel	< 0.01	mg/L	0.01									
Silver	< 0.005	mg/L	0.005									
Vanadium	< 0.005	mg/L	0.005									
Zinc	< 0.01	mg/L	0.01									

SampleID: G2410F52-001DDUP	SampType: DUP	TestNo: EPA 6010 D	Prep Date: 10/30/2024	RunNo: 312171
	BatchID: 261501		Analysis Date: 10/31/2024	SeqNo: 8212085

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	0.0143	mg/L	0.01						0.0146	2.1%	20	
Beryllium	< 0.001	mg/L	0.001								20	
Cadmium	< 0.002	mg/L	0.002								20	
Chromium	< 0.01	mg/L	0.01								20	
Cobalt	< 0.005	mg/L	0.005								20	
Copper	< 0.01	mg/L	0.01								20	
Nickel	< 0.01	mg/L	0.01								20	
Silver	< 0.005	mg/L	0.005								20	
Vanadium	< 0.005	mg/L	0.005								20	
Zinc	< 0.01	mg/L	0.01								20	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

<b>SampleID:</b> G2410F52-001DMS	<b>SampType:</b> MS	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312171
	<b>BatchID:</b> 261501		<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8212087

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	1.12	mg/L	0.01	1	0.0146	110.9%	75	125				
Beryllium	0.215	mg/L	0.001	0.2		107.6%	75	125				
Cadmium	0.419	mg/L	0.002	0.4		104.7%	75	125				
Chromium	1.08	mg/L	0.01	1		108.0%	75	125				
Cobalt	0.432	mg/L	0.005	0.4		108.1%	75	125				
Copper	1.07	mg/L	0.01	1		107.0%	75	125				
Nickel	1.05	mg/L	0.01	1		104.8%	75	125				
Silver	0.0098	mg/L	0.005	0.01		98.0%	75	125				
Vanadium	0.417	mg/L	0.005	0.4		104.3%	75	125				
Zinc	1.01	mg/L	0.01	1		101.0%	75	125				

<b>SampleID:</b> G2410F52-003DMS	<b>SampType:</b> MS	<b>TestNo:</b> EPA 6010 D	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312171
	<b>BatchID:</b> 261501		<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8212117

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	1.18	mg/L	0.01	1	0.0555	112.9%	75	125				
Beryllium	0.218	mg/L	0.001	0.2		108.9%	75	125				
Cadmium	0.424	mg/L	0.002	0.4		106.0%	75	125				
Chromium	1.1	mg/L	0.01	1		109.6%	75	125				
Cobalt	0.439	mg/L	0.005	0.4		109.8%	75	125				
Copper	1.08	mg/L	0.01	1		108.1%	75	125				
Nickel	1.06	mg/L	0.01	1		105.8%	75	125				
Silver	0.0098	mg/L	0.005	0.01		98.0%	75	125				
Vanadium	0.424	mg/L	0.005	0.4		105.9%	75	125				
Zinc	1.03	mg/L	0.01	1	0.011	101.7%	75	125				

<b>SampleID:</b> LCS2-261502	<b>SampType:</b> LCS2	<b>TestNo:</b> EPA 6020 B	<b>Prep Date:</b> 10/30/2024	<b>RunNo:</b> 312157
	<b>BatchID:</b> 261502		<b>Analysis Date:</b> 10/31/2024	<b>SeqNo:</b> 8211375

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	5.87	µg/L	1	6		97.8%	79.5	120.45				
Arsenic	9.2	µg/L	1	10		92.0%	79.5	120.45				
Lead	4.99	µg/L	1	5		99.8%	79.5	120.45				
Selenium	18.6	µg/L	1	20		92.8%	79.5	120.45				
Thallium	2.03	µg/L	0.2	2		101.6%	79.5	120.45				

SampleID: PB-261502	SampType: PB	TestNo: EPA 6020 B	Prep Date: 10/30/2024	RunNo: 312157
	BatchID: 261502		Analysis Date: 10/31/2024	SeqNo: 8211372

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	< 1	µg/L	1					0.5				
Arsenic	< 1	µg/L	1					0.5				
Lead	< 1	µg/L	1					0.2				
Selenium	< 1	µg/L	1					0.5				
Thallium	< 0.2	µg/L	0.2					0.1				

SampleID: G2410F52-001DDUP	SampType: DUP	TestNo: EPA 6020 B	Prep Date: 10/30/2024	RunNo: 312157
	BatchID: 261502		Analysis Date: 10/31/2024	SeqNo: 8211379

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	< 1	µg/L	1							20		
Arsenic	< 1	µg/L	1							20		
Lead	< 1	µg/L	1							20		
Selenium	< 1	µg/L	1							20		
Thallium	< 0.2	µg/L	0.2							20		

SampleID: G2410F52-002DMS	SampType: MS	TestNo: EPA 6020 B	Prep Date: 10/30/2024	RunNo: 312157
	BatchID: 261502		Analysis Date: 10/31/2024	SeqNo: 8211401

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Antimony	5.96	µg/L	1	6		99.4%	75	125				
Arsenic	9.8	µg/L	1	10		98.0%	75	125				
Lead	5.2	µg/L	1	5	0.211	99.8%	75	125				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Selenium	18.8	µg/L	1	20		94.1%	75	125					
Thallium	2.9	µg/L	0.2	2	0.853	102.1%	75	125					

SampleID: G2410F52-004DMS	SampType: MS	TestNo: EPA 6020 B	Prep Date: 10/30/2024	RunNo: 312157
	BatchID: 261502		Analysis Date: 10/31/2024	SeqNo: 8211410

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Antimony	5.85	µg/L	1	6		97.5%	75	125					
Arsenic	9.29	µg/L	1	10		92.9%	75	125					
Lead	5	µg/L	1	5		100.0%	75	125					
Selenium	18.2	µg/L	1	20		90.8%	75	125					
Thallium	2	µg/L	0.2	2		99.9%	75	125					

SampleID: 20 PPB LCS	SampType: LCS	TestNo: EPA 8260 D	Prep Date:	RunNo: 312039
	BatchID: R312039		Analysis Date: 10/29/2024	SeqNo: 8208076

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
1,1,1,2-Tetrachloroethane	21.9	µg/L	1	20		109.3%	81	125					
1,1,1-Trichloroethane	21.8	µg/L	1	20		109.1%	71	125					
1,1,2,2-Tetrachloroethane	20.8	µg/L	1	20		104.0%	80	116					
1,1,2-Trichloroethane	21.3	µg/L	1	20		106.3%	83	126					
1,1-Dichloroethane	21.5	µg/L	1	20		107.5%	73	122					
1,1-Dichloroethene	22.8	µg/L	1	20		114.2%	74	121					
1,2,3-Trichloropropane	21.1	µg/L	1	20		105.4%	77	118					
1,2-Dibromo-3-chloropropane	20	µg/L	5	20		100.2%	64	126					
1,2-Dibromoethane	21.4	µg/L	1	20		106.9%	83	119					
1,2-Dichlorobenzene	20.3	µg/L	1	20		101.6%	85	119					
1,2-Dichloroethane	21.7	µg/L	1	20		108.3%	72	123					
1,2-Dichloropropane	21.7	µg/L	1	20		108.4%	83	122					
1,4-Dichlorobenzene	19.9	µg/L	1	20		99.4%	83	120					
2-Butanone	22.5	µg/L	5	20		112.4%	61	125					
2-Hexanone	21.9	µg/L	5	20		109.3%	58	132					
4-Methyl-2-Pentanone	22.1	µg/L	1	20		110.3%	68	127					
Acetone	19.2	µg/L	10	20		96.2%	60	133					

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Benzene	20.9	µg/L	1	20		104.3%	76	122				
Bromochloromethane	21.9	µg/L	1	20		109.5%	78	124				
Bromodichloromethane	21.9	µg/L	1	20		109.4%	71	138				
Bromoform	20.3	µg/L	1	20		101.4%	71	125				
Bromomethane	20	µg/L	1	20		99.9%	47	152				
Carbon Disulfide	24.1	µg/L	1	20		120.3%	63	123				
Carbon Tetrachloride	23.2	µg/L	1	20		116.1%	68	133				
Chlorobenzene	20.1	µg/L	1	20		100.6%	83	118				
Chlorodibromomethane	20.8	µg/L	1	20		104.0%	74	131				
Chloroethane	24.5	µg/L	1	20		122.6%	56	127				
Chloroform	20.9	µg/L	1	20		104.4%	73	123				
Chloromethane	23.8	µg/L	1	20		119.0%	65	129				
cis-1,2-Dichloroethene	21.9	µg/L	1	20		109.3%	75	121				
cis-1,3-Dichloropropene	22.6	µg/L	1	20		112.8%	71	129				
Dibromomethane	20.9	µg/L	1	20		104.7%	83	118				
Dichlorobromomethane	21.9	µg/L	1	20		109.4%	56	145				
Ethylbenzene	20.5	µg/L	1	20		102.4%	84	120				
Iodomethane	22.6	µg/L	5	20		112.9%	29	162				
Methyl Ethyl Ketone	22.5	µg/L	5	20		112.4%	72	131				
Methylene Chloride	20.1	µg/L	1	20		100.4%	73	133				
Styrene	20.6	µg/L	1	20		103.1%	88	116				
Tetrachloroethene	21.2	µg/L	1	20		106.0%	76	127				
Toluene	20.6	µg/L	1	20		102.8%	80	118				
trans-1,2-Dichloroethene	22.6	µg/L	1	20		112.8%	73	120				
trans-1,3-Dichloropropene	22.4	µg/L	1	20		112.0%	70	126				
trans-1,4-Dichloro-2-butene	21	µg/L	2	20		105.1%	46	137				
Tribromomethane	20.3	µg/L	1	20		101.4%	71	125				
Trichloroethene	21.7	µg/L	1	20		108.3%	73	123				
Trichlorofluoromethane	22.9	µg/L	1	20		114.5%	69	125				
Trichloromethane	20.9	µg/L	1	20		104.4%	73	123				
Vinyl Acetate	21.8	µg/L	1	20		109.1%	67	131				
Vinyl Chloride	22.6	µg/L	1	20		113.0%	56	125				
Total Xylene	61.8	µg/L	2	60		103.0%	87	116				
Surr: 1,2-Dichloroethane-d4	29.8	µg/L	0	30		99.5%	70	130				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Surr: 4-Bromofluorobenzene	30	µg/L	0	30		100.1%	70	130				
Surr: Dibromofluoromethane	30.8	µg/L	0	30		102.5%	70	130				
Surr: Toluene-d8	29.9	µg/L	0	30		99.8%	70	130				

SampleID: BLANK	SampType: MBLK	TestNo: EPA 8260 D	Prep Date:	RunNo: 312039
		BatchID: R312039	Analysis Date: 10/30/2024	SeqNo: 8208077

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	< 1	µg/L	1									
1,1,1-Trichloroethane	< 1	µg/L	1									
1,1,2,2-Tetrachloroethane	< 1	µg/L	1									
1,1,2-Trichloroethane	< 1	µg/L	1									
1,1-Dichloroethane	< 1	µg/L	1									
1,1-Dichloroethene	< 1	µg/L	1									
1,2,3-Trichloropropane	< 1	µg/L	1									
1,2-Dibromo-3-chloropropane	< 5	µg/L	5									
1,2-Dibromoethane	< 1	µg/L	1									
1,2-Dichlorobenzene	< 1	µg/L	1									
1,2-Dichloroethane	< 1	µg/L	1									
1,2-Dichloropropane	< 1	µg/L	1									
1,4-Dichlorobenzene	< 1	µg/L	1									
2-Butanone	< 5	µg/L	5									
2-Hexanone	< 5	µg/L	5									
4-Methyl-2-Pentanone	< 1	µg/L	1									
Acetone	< 10	µg/L	10									
Benzene	< 1	µg/L	1									
Bromochloromethane	< 1	µg/L	1									
Bromodichloromethane	< 1	µg/L	1									
Bromoform	< 1	µg/L	1									
Bromomethane	< 1	µg/L	1									
Carbon Disulfide	< 1	µg/L	1									
Carbon Tetrachloride	< 1	µg/L	1									
Chlorobenzene	< 1	µg/L	1									
Chlorodibromomethane	< 1	µg/L	1									

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Chloroethane	< 1	µg/L	1										
Chloroform	< 1	µg/L	1										
Chloromethane	< 1	µg/L	1										
cis-1,2-Dichloroethene	< 1	µg/L	1										
cis-1,3-Dichloropropene	< 1	µg/L	1										
Dibromomethane	< 1	µg/L	1										
Dichlorobromomethane	< 1	µg/L	1										
Ethylbenzene	< 1	µg/L	1										
Iodomethane	< 5	µg/L	5										
Methyl Ethyl Ketone	< 5	µg/L	5										
Methylene Chloride	< 1	µg/L	1										
Styrene	< 1	µg/L	1										
Tetrachloroethene	< 1	µg/L	1										
Toluene	< 1	µg/L	1										
trans-1,2-Dichloroethene	< 1	µg/L	1										
trans-1,3-Dichloropropene	< 1	µg/L	1										
trans-1,4-Dichloro-2-butene	< 2	µg/L	2										
Tribromomethane	< 1	µg/L	1										
Trichloroethene	< 1	µg/L	1										
Trichlorofluoromethane	< 1	µg/L	1										
Trichloromethane	< 1	µg/L	1										
Vinyl Acetate	< 1	µg/L	1										
Vinyl Chloride	< 1	µg/L	1										
Total Xylene	< 2	µg/L	2										
Surr: 1,2-Dichloroethane-d4	31.7	µg/L	0	30		105.8%	70	130					
Surr: 4-Bromofluorobenzene	30.4	µg/L	0	30		101.4%	70	130					
Surr: Dibromofluoromethane	29.9	µg/L	0	30		99.7%	70	130					
Surr: Toluene-d8	30.5	µg/L	0	30		101.6%	70	130					

SampleID: G2410E68-007GMS

SampType: MS

TestNo: EPA 8260 D

Prep Date:

RunNo: 312039

BatchID: R312039

Analysis Date: 10/29/2024

SeqNo: 8208078

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	21.4	µg/L	1	20		107.1%	76	117				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

1,1,1-Trichloroethane	21.6	µg/L	1	20		108.0%	72	122				
1,1,2,2-Tetrachloroethane	20.2	µg/L	1	20		101.0%	72	110				
1,1,2-Trichloroethane	20.5	µg/L	1	20		102.4%	76	126				
1,1-Dichloroethane	21	µg/L	1	20		105.1%	66	126				
1,1-Dichloroethene	23	µg/L	1	20		114.8%	66	121				
1,2,3-Trichloropropane	20.4	µg/L	1	20		101.9%	72	112				
1,2-Dibromo-3-chloropropane	18.1	µg/L	5	20		90.6%	57	121				
1,2-Dibromoethane	21	µg/L	1	20		105.0%	75	113				
1,2-Dichlorobenzene	19.8	µg/L	1	20		99.1%	76	108				
1,2-Dichloroethane	20.4	µg/L	1	20		102.1%	69	116				
1,2-Dichloropropane	21.3	µg/L	1	20		106.4%	78	122				
1,4-Dichlorobenzene	19.7	µg/L	1	20		98.7%	70	121				
2-Hexanone	20.2	µg/L	5	20		101.0%	63	120				
4-Methyl-2-Pentanone	18.7	µg/L	1	20		93.4%	68	116				
Acetone	17.2	µg/L	10	20		85.9%	51	133				
Acrylonitrile	20.6	µg/L	5	20		102.8%	64	122				
Benzene	20.4	µg/L	1	20		102.2%	52	125				
Bromochloromethane	21.2	µg/L	1	20		106.2%	71	117				
Bromodichloromethane	22.1	µg/L	1	20		110.6%	68	132				
Bromomethane	19.5	µg/L	1	20		97.7%	40	156				
Carbon Disulfide	24.3	µg/L	1	20		121.5%	60	123				
Carbon Tetrachloride	23.3	µg/L	1	20		116.7%	67	132				
Chlorobenzene	19.9	µg/L	1	20		99.7%	78	111				
Chlorodibromomethane	20.1	µg/L	1	20		100.3%	70	123				
Chloroethane	24.6	µg/L	1	20		122.8%	46	132				
Chloromethane	23.3	µg/L	1	20		116.7%	51	129				
cis-1,2-Dichloroethene	21.4	µg/L	1	20		107.0%	71	117				
cis-1,3-Dichloropropene	21.8	µg/L	1	20		109.1%	71	117				
Dibromomethane	20.5	µg/L	1	20		102.7%	77	110				
Dichlorobromomethane	22.1	µg/L	1	20		110.6%	74	117				
Ethylbenzene	20.3	µg/L	1	20		101.3%	72	122				
Iodomethane	22.6	µg/L	5	20		112.8%	34	150				
Methyl Ethyl Ketone	20.1	µg/L	5	20		100.5%	59	121				
Methylene Chloride	19.8	µg/L	1	20		99.2%	64	121				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Styrene	7.69	µg/L	1	20		38.4%	78	117				S
Tetrachloroethene	19.3	µg/L	1	20		96.7%	67	122				
Toluene	20.5	µg/L	1	20		102.6%	75	115				
trans-1,2-Dichloroethene	22.2	µg/L	1	20		111.1%	69	118				
trans-1,3-Dichloropropene	22.4	µg/L	1	20		111.9%	66	122				
trans-1,4-Dichloro-2-butene	20.3	µg/L	2	20		101.7%	46	131				
Tribromomethane	20	µg/L	1	20		100.0%	65	117				
Trichloroethene	21.7	µg/L	1	20		108.7%	75	117				
Trichlorofluoromethane	22.8	µg/L	1	20		114.2%	69	125				
Trichloromethane	20.4	µg/L	1	20		102.0%	69	117				
Vinyl Acetate	16.2	µg/L	1	20		80.8%	46	126				
Vinyl Chloride	22.8	µg/L	1	20		114.2%	54	128				
Total Xylene	61.7	µg/L	2	60		102.9%	72	120				
Surr: 1,2-Dichloroethane-d4	29.4	µg/L	0	30		98.0%	70	130				
Surr: 4-Bromofluorobenzene	29.7	µg/L	0	30		98.9%	70	130				
Surr: Dibromofluoromethane	30.3	µg/L	0	30		100.9%	70	130				
Surr: Toluene-d8	30.1	µg/L	0	30		100.4%	70	130				

SampleID: G2410E68-007GMSD	SampType: MSD	TestNo: EPA 8260 D	Prep Date:	RunNo: 312039
	BatchID: R312039		Analysis Date: 10/29/2024	SeqNo: 8208079

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
1,1,1,2-Tetrachloroethane	22	µg/L	1						21.4	2.8%	11	
1,1,1-Trichloroethane	21.7	µg/L	1						21.6	0.5%	12	
1,1,2,2-Tetrachloroethane	20	µg/L	1						20.2	0.8%	14	
1,1,2-Trichloroethane	20.9	µg/L	1						20.5	1.9%	15	
1,1-Dichloroethane	21.3	µg/L	1						21	1.2%	12	
1,1-Dichloroethene	23.4	µg/L	1						23	2.1%	14	
1,2,3-Trichloropropane	20.1	µg/L	1						20.4	1.5%	14	
1,2-Dibromo-3-chloropropane	17.3	µg/L	5						18.1	4.4%	20	
1,2-Dibromoethane	20.9	µg/L	1						21	0.7%	17	
1,2-Dichlorobenzene	19.8	µg/L	1						19.8	0.1%	13	
1,2-Dichloroethane	20.9	µg/L	1						20.4	2.2%	11	
1,2-Dichloropropane	21.4	µg/L	1						21.3	0.6%	12	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

1,4-Dichlorobenzene	19.9	µg/L	1				19.7	0.7%	16	
2-Hexanone	19.4	µg/L	5				20.2	3.9%	18	
4-Methyl-2-Pentanone	20	µg/L	1				18.7	6.6%	18	
Acetone	16.1	µg/L	10				17.2	6.6%	23	
Acrylonitrile	20.9	µg/L	5				20.6	1.8%	16	
Benzene	20.4	µg/L	1				20.4	0.1%	15	
Bromochloromethane	21.3	µg/L	1				21.2	0.1%	12	
Bromodichloromethane	21.8	µg/L	1				22.1	1.2%	18	
Bromomethane	19.7	µg/L	1				19.5	0.6%	22	
Carbon Disulfide	24.4	µg/L	1				24.3	0.5%	13	
Carbon Tetrachloride	23.8	µg/L	1				23.3	2.0%	12	
Chlorobenzene	19.9	µg/L	1				19.9	0.4%	10	
Chlorodibromomethane	20.1	µg/L	1				20.1	0.4%	16	
Chloroethane	24.7	µg/L	1				24.6	0.6%	17	
Chloromethane	24.1	µg/L	1				23.3	3.3%	16	
cis-1,2-Dichloroethene	21.2	µg/L	1				21.4	1.0%	12	
cis-1,3-Dichloropropene	22.1	µg/L	1				21.8	1.4%	16	
Dibromomethane	20.6	µg/L	1				20.5	0.3%	14	
Dichlorobromomethane	21.8	µg/L	1				22.1	1.2%	13	
Ethylbenzene	20.4	µg/L	1				20.3	0.5%	16	
Iodomethane	22.9	µg/L	5				22.6	1.6%	19	
Methyl Ethyl Ketone	19.6	µg/L	5				20.1	2.6%	21	
Methylene Chloride	20.4	µg/L	1				19.8	2.6%	17	
Styrene	9.31	µg/L	1				7.69	19.1%	12	R
Tetrachloroethene	20.2	µg/L	1				19.3	4.1%	16	
Toluene	20.6	µg/L	1				20.5	0.5%	13	
trans-1,2-Dichloroethene	22.6	µg/L	1				22.2	1.6%	13	
trans-1,3-Dichloropropene	22.2	µg/L	1				22.4	0.6%	15	
trans-1,4-Dichloro-2-butene	19.9	µg/L	2				20.3	2.4%	17	
Tribromomethane	19.9	µg/L	1				20	0.7%	14	
Trichloroethene	22.3	µg/L	1				21.7	2.4%	11	
Trichlorofluoromethane	23.5	µg/L	1				22.8	3.1%	15	
Trichloromethane	20.4	µg/L	1				20.4	0.3%	12	
Vinyl Acetate	16.6	µg/L	1				16.2	2.7%	11	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Vinyl Chloride	23.2	µg/L	1							22.8	1.5%	15	
Total Xylene	62	µg/L	2							61.7		18	
Surr: 1,2-Dichloroethane-d4	29	µg/L	0	30		96.6%	70	130		29.4			
Surr: 4-Bromofluorobenzene	29.7	µg/L	0	30		99.1%	70	130		29.7			
Surr: Dibromofluoromethane	29.9	µg/L	0	30		99.6%	70	130		30.3			
Surr: Toluene-d8	30	µg/L	0	30		99.9%	70	130		30.1			

SampleID: BLANK-261534	SampType: BLANK	TestNo: SM 2540 C-15	Prep Date: 10/30/2024	RunNo: 312121
	BatchID: 261534		Analysis Date: 10/30/2024	SeqNo: 8210217

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Total dissolved solids	< 20	mg/L	20										

SampleID: G2410G39-007BDUP	SampType: DUP	TestNo: SM 2540 C-15	Prep Date: 10/30/2024	RunNo: 312121
	BatchID: 261534		Analysis Date: 10/30/2024	SeqNo: 8210309

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Total dissolved solids	2000	mg/L	20						1990	0.2%	10		

SampleID: G2410G72-001ADUP	SampType: DUP	TestNo: SM 2540 C-15	Prep Date: 10/30/2024	RunNo: 312121
	BatchID: 261534		Analysis Date: 10/30/2024	SeqNo: 8210320

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Total dissolved solids	456	mg/L	20						452	0.9%	10		

SampleID: LCS-261534	SampType: LCS	TestNo: SM 2540 C-15	Prep Date: 10/30/2024	RunNo: 312121
	BatchID: 261534		Analysis Date: 10/30/2024	SeqNo: 8210358

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Total dissolved solids	254	mg/L	20	292		87.0%	79	106					

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410G49  
Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Prep Batch Report			Prep Start Date: 10/30/2024 9:40:00 AM						Technician: Adam D. Moschgat		
Prep Batch: 261501			Prep End Date: 10/30/2024 3:10:00 PM						Prep Factor Units: mL		
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End		
G2410F52-001D	GWB-27	Groundwater	10/23/2024 9:15:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F52-001DDUP		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F52-001DMS		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F52-002D	GWC-14	Groundwater	10/23/2024 9:05:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F52-003D	TMC-4	Groundwater	10/23/2024 9:50:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F52-003DMS		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F52-004D	GWC-19	Groundwater	10/23/2024 10:05:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F52-006D	GWC-41	Groundwater	10/23/2024 11:15:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F52-008A	GWC-34	Groundwater	10/23/2024 10:15:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G47-001K	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G49-001D	OW-2RR	Groundwater	10/28/2024 10:25:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G49-002D	OW-3RR	Groundwater	10/28/2024 9:50:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G51-001E	SWB-1	Surface Water	10/28/2024 7:45:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G51-002E	SWC-3	Surface Water	10/28/2024 8:30:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G51-003E	SWC-1	Surface Water	10/28/2024 10:45:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G51-004E	SWC-2	Surface Water	10/28/2024 11:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G96-001A	TCLP Blank #12	Solid	10/29/2024 10:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G96-002A	TCLP Blank #37	Solid	10/29/2024 10:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G96-003A	TCLP Blank #41	Solid	10/29/2024 10:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
LCS1-261501		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
PB-261501		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
Prep Batch Report			Prep Start Date: 10/30/2024 9:40:00 AM						Technician: Adam D. Moschgat		
Prep Batch: 261502			Prep End Date: 10/30/2024 3:10:00 PM						Prep Factor Units:		

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410F52-001D	GWB-27	Groundwater	10/23/2024 9:15:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-001DDUP			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-002D	GWC-14	Groundwater	10/23/2024 9:05:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-002DMS			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-003D	TMC-4	Groundwater	10/23/2024 9:50:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-004D	GWC-19	Groundwater	10/23/2024 10:05:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-004DMS			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-006D	GWC-41	Groundwater	10/23/2024 11:15:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-008A	GWC-34	Groundwater	10/23/2024 10:15:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G47-001K	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G49-001D	OW-2RR	Groundwater	10/28/2024 10:25:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G49-002D	OW-3RR	Groundwater	10/28/2024 9:50:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G51-001E	SWB-1	Surface Water	10/28/2024 7:45:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G51-002E	SWC-3	Surface Water	10/28/2024 8:30:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G51-003E	SWC-1	Surface Water	10/28/2024 10:45:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G51-004E	SWC-2	Surface Water	10/28/2024 11:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
LCS2-261502			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
PB-261502			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM

Prep Batch: 261534			Prep Batch Report				Technician: Laykin A. Pitts		
Prep Code: WATERPR_TDS			Prep Start Date: 10/30/2024 11:20:00 AM				Prep Factor Units: mL		
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End

Blank-261534			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G39-007B	MP-19	Groundwater	10/28/2024 1:45:00 PM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G39-007BDUP			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G39-008B	MP-13A	Groundwater	10/28/2024 2:30:00 PM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G39-009B	MP-13B	Groundwater	10/28/2024 2:45:00 PM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G47-001I	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

G2410G49-001C	OW-2RR	Groundwater	10/28/2024 10:25:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G49-002C	OW-3RR	Groundwater	10/28/2024 9:50:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G71-001A	WA-3	Groundwater	10/29/2024 8:26:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G71-002A	W-2AA	Groundwater	10/29/2024 9:15:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G71-003A	W-28B	Groundwater	10/29/2024 11:27:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G71-004A	W-28A	Groundwater	10/29/2024 12:32:00 PM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G72-001A	W-24	Groundwater	10/29/2024 8:27:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G72-001ADUP			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G72-002A	W-26B	Groundwater	10/29/2024 9:34:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G72-003A	W-26A	Groundwater	10/29/2024 10:02:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G72-004A	W-21A	Groundwater	10/29/2024 11:24:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G72-005A	F-Dup	Groundwater	10/29/2024 11:24:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G72-006A	LIB-3	Groundwater	10/29/2024 1:34:00 PM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G73-001C	Form 50+	Leachate	10/29/2024 2:00:00 PM	10	50		5.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G74-001M	NPDES Program	Leachate	10/29/2024 2:00:00 PM	10	50		5.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
G2410G75-001A	W-20A	Groundwater	10/29/2024 8:22:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM
LCS-261534			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 11:20:00 AM	10/30/2024 11:25:00 AM

## Prep Batch Report

Prep Start Date: 10/30/2024 4:21:00 PM

Prep End Date: 10/30/2024 4:21:00 PM

Technician: Taylor N. Kimbrell

Prep Factor Units: mL

Sample ID	Client SampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
CB-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
G2410G11-002A	Millcreek/Challenge r/002	Aqueous	10/17/2024 10:20:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G11-002ADUP		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G11-002ALFM		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G11-003A	Cobra/MDG859636 /StripPond1	Aqueous	10/21/2024 4:30:00 PM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

G2410G11-004A	Millcreek/Challenge r/001	Aqueous	10/23/2024 1:25:00 PM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G11-005A	Millcreek/Challenge r/002	Aqueous	10/23/2024 1:44:00 PM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G37-001A	Outfall 002	Surface Water	10/26/2024 10:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G37-002A	Outfall 003	Surface Water	10/26/2024 8:45:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G47-001D	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G49-001A	OW-2RR	Groundwater	10/28/2024 10:25:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G49-002A	OW-3RR	Groundwater	10/28/2024 9:50:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G51-001C	SWB-1	Surface Water	10/28/2024 7:45:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G51-002C	SWC-3	Surface Water	10/28/2024 8:30:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G51-002CDUP		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G51-002CLFM		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G51-003C	SWC-1	Surface Water	10/28/2024 10:45:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G51-004C	SWC-2	Surface Water	10/28/2024 11:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G74-001O	NPDES Program	Leachate	10/29/2024 2:00:00 PM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G85-001A	Outfall 001	Waste Water	10/28/2024 7:55:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G85-002A	Outfall 002	Waste Water	10/28/2024 8:10:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G86-001A	Lower Works Sampling Point	Waste Water	10/28/2024 8:20:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410H02-001C	Leachate	Leachate	10/29/2024 2:30:00 PM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410H11-001C	Outfall 001 Comp.	Waste Water	10/29/2024 7:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410H13-001B	MW-5DR	Groundwater	10/29/2024 8:45:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410H13-002B	MW-6D	Groundwater	10/28/2024 3:35:00 PM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H13-002BDUP		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H13-002BLFM		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H13-003B	MW-7D	Groundwater	10/29/2024 11:50:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H13-004B	MW-8D	Groundwater	10/29/2024 9:30:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H18-001A	MP-15	Groundwater	10/29/2024 9:40:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

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G2410H18-002A	MP-11	Groundwater	10/29/2024 10:30:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H18-003A	P-6	Groundwater	10/29/2024 11:25:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H18-004A	MP-18	Groundwater	10/29/2024 12:25:00 PM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H18-005A	MP-10R	Groundwater	10/29/2024 1:15:00 PM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H21-001B	UD-5D	Groundwater	10/29/2024 8:20:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H23-001B	MW-107A	Groundwater	10/28/2024 3:00:00 PM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
HRQC 1000-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
HRQC-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
IPC-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
LFB-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
LFB2-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
LRB-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
QCS-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM

Prep Batch: 261624 Prep Code: INPR_NO3			Prep Batch Report Prep Start Date: 10/30/2024 5:30:00 PM Prep End Date: 10/30/2024 6:16:00 PM					Technician: Holly N. Montgomery Prep Factor Units: mL		
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Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410F33-001A	GWC-12A	Groundwater	10/24/2024 9:20:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410F61-001C	Exp SW 10/23/24	Surface Water	10/23/2024 7:30:00 PM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410F64-001C	Duq SW 10/23/24	Surface Water	10/23/2024 6:30:00 PM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G08-001D	RR1	Surface Water	10/28/2024 6:15:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G43-001B	Braze Waste Water	Waste Water	10/22/2024 8:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G47-001E	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G49-001B	OW-2RR	Groundwater	10/28/2024 10:25:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G49-002B	OW-3RR	Groundwater	10/28/2024 9:50:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G49-002BDUP		Groundwater	11/1/2024 12:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G49-002BMS		Groundwater	11/1/2024 12:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G53-001C	8213165 Camp	Waste Water	10/29/2024 8:30:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G53-003C	8213167 BCHE	Waste Water	10/29/2024 9:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

G2410G53-005C	8213169 BCHI	Waste Water	10/29/2024 9:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G55-001C	WWTP Effluent 8208127	Waste Water	10/29/2024 8:35:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G55-001CDUP		Waste Water	11/1/2024 12:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G55-001CMS		Waste Water	11/1/2024 12:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G74-001A	NPDES Program	Leachate	10/29/2024 2:00:00 PM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410G93-001E	Outfall 101	Aqueous	10/29/2024 10:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410H02-001D	Leachate	Leachate	10/29/2024 2:30:00 PM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
G2410H31-001A	Effluent Comp	Waste Water	10/29/2024 12:05:00 PM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
LCS-261624		Aqueous	11/1/2024 12:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM
MBLK-261624		Aqueous	11/1/2024 12:00:00 AM	50	50		1.000	10/30/2024 5:30:00 PM	10/30/2024 6:16:00 PM

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410G49  
Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

### Batch Reference Report

Client Samp ID	Test No	Batch ID
OW-2RR	ASTM D1067-16	R312076
OW-3RR	ASTM D1067-16	R312076
OW-2RR	EPA 300.0 Rev 2.1	261546
OW-3RR	EPA 300.0 Rev 2.1	261546
OW-2RR	EPA 350.1 Rev 2.0	R312204
OW-3RR	EPA 350.1 Rev 2.0	R312199
OW-2RR	EPA 353.2 Rev 2.0	261624
OW-3RR	EPA 353.2 Rev 2.0	261624
OW-2RR	EPA 6010 D	261501
OW-3RR	EPA 6010 D	261501
OW-2RR	EPA 6020 B	261502
OW-3RR	EPA 6020 B	261502
OW-2RR	EPA 8260 D	R312039
OW-3RR	EPA 8260 D	R312039
OW-2RR	SM 2540 C-15	261534
OW-3RR	SM 2540 C-15	261534

**Table I ON Qualifiers**

Qualifier	Description
<b>1</b>	Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.
<b>B</b>	Analyte detected in the associated method Blank.
<b>B1</b>	Dilution water blank exceeded method criterion.
<b>C1</b>	CCV recovery above the acceptance limits. Results may be biased high.
<b>C2</b>	CCV recovery below the acceptance limits. Results may be biased low.
<b>C3</b>	ICV recovery above the acceptance limits. Results may be biased high.
<b>C4</b>	ICV recovery below the acceptance limits. Results may be biased low.
<b>C5</b>	Positive values verified by second column confirmation.
<b>C6</b>	Confirmation analysis by another detector or chromatographic column was not performed.
<b>D1</b>	The analysis did not meet the minimum DO depletion of at least 2 mg/L.
<b>D2</b>	The analysis did not meet the minimum residual DO of at least 1 mg/L.
<b>D3</b>	Sample required dilution due to a matrix interference.
<b>D4</b>	Sample was diluted in the extraction steps due to marked matrix interferences.
<b>D5</b>	Sample required dilution due to a chloride interference.
<b>D6</b>	Sample was diluted and the reporting limits were raised to achieve method compliant internal standard recovery.
<b>D7</b>	Sample was digested at a dilution due to the formation of a post-digestion precipitate.
<b>D8</b>	Sample was digested at a dilution to achieve method compliant matrix spike recovery.
<b>D9</b>	Sample was digested at a dilution to meet method compliant digestion criteria.
<b>E</b>	Value above quantitation range.
<b>E2</b>	Unable to obtain a stable weight within specified limits due to sample matrix. Value is estimated.
<b>F1</b>	Fecal sample tested positive for residual chlorine.
<b>H</b>	Method Hold Time exceeded and is not compliant with 40CFR136 Table II.
<b>H1</b>	Due to under-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.
<b>H2</b>	Due to over-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.
<b>H3</b>	Sample was re-analyzed outside of hold time due to error during original analysis.
<b>H4</b>	The Nitrite result used to report Nitrate was analyzed past the 48-hour holding time.
<b>I1</b>	Internal standard recovery above method acceptance limits. Results are estimated.
<b>I2</b>	Internal standard recovery was below method acceptance limits. Results are estimated.
<b>IP</b>	One of the instrument performance checks ( ) did not meet the acceptance criteria.
<b>J</b>	Indicates an estimated value.

Client: BUTTON GWINNETT LANDFILL

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Project: BGwinnett 221S2(a)

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<b>L1</b>	LCS above the acceptance limits. Result may be biased high.
<b>L2</b>	LCS below the acceptance limits. Result may be biased low.
<b>L3</b>	Analyte was spiked into the LCS, but was not recovered.
<b>M1</b>	Matrix Spike recovery above the acceptance limits.
<b>M2</b>	Matrix Spike recovery below the acceptance limits.
<b>M4</b>	The matrix spike failed high for the surrogate.
<b>M5</b>	The matrix spike failed low for the surrogate.
<b>M6</b>	The reporting limits were raised due to sample matrix interference.
<b>M7</b>	Recovery for matrix spike could not be quantified due to matrix interference.
<b>M8</b>	Analyte was spiked into the MS, but was not recovered.
<b>M9</b>	Analyte concentration was determined by the method of standard addition (MSA).
<b>N1</b>	The lab does not hold accreditation from PA-DEP for this parameter by this method
<b>N2</b>	PADEP does not accredit labs for this analyte by this method.
<b>N3</b>	The lab is accredited for this method in West Virginia, but not in PA (its primary accrediting body).
<b>N4</b>	PADEP does not accredit labs for this analyte by this method in drinking water.
<b>ND</b>	Not Detected.
<b>O1</b>	The flashpoint tester cannot detect below 50 degrees F.
<b>O2</b>	Result is temperature of the sample when flame observed. No flash observed. Result qualified.
<b>O3</b>	The reporting limits were raised due to the high concentration of non-target compounds.
<b>O4</b>	Sample was received with headspace.
<b>O5</b>	Sample was received in incorrect container and is not compliant with 40CFR136 Table II.
<b>O6</b>	Insufficient sample volume was received to comply with the method.
<b>P1</b>	The pH of the sample was >2 and is not compliant with 40CFR136 Table II.
<b>P2</b>	Sample contained residual chlorine and is not compliant with 40CFR136 Table II
<b>P3</b>	The pH of the sample was <10 and is not compliant with 40CFR136 Table II.
<b>P4</b>	Field preservation does not meet EPA or method recommendations for this analysis.
<b>P5</b>	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.
<b>P6</b>	Sample required additional preservative upon receipt.
<b>P7</b>	The sample was received unpreserved.
<b>P8</b>	The pH of the sample was < 9 and is not compliant with 40 CFR136 Table II.
<b>Q1</b>	Qualified Data See Case Narrative.
<b>R</b>	Relative Percent Difference (RPD) was above the control limit.
<b>R1</b>	RPD above control limits between matrix spike and MS duplicates.

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G49

Project: BGwinnett 221S2(a)

## Analytical QC Summary Report

R2	RPD above the control limit between duplicates.
R3	RSD above the control limit between replicates.
R4	RPD above control limits between Inorganic Carbon check and spike.
R5	RPD above control limits between control sample and control sample duplicates.
S	Recovery for the spiked control sample outside accepted limits.
S2	Surrogate recovery in the blank was below the control limit.
S3	Surrogate recovery in the blank was above the control limit.
S4	Surrogate recovery in the LCS is above the control limit.
S5	Surrogate recovery in the LCS is below the control limit.
SR	Analyte recovery was outside the accepted recovery limits and above the control limit for RPD.
T	Sample temperature received outside the regulatory limit and is not compliant with 40CFR Part136 Table II (for NPW samples).
T1	Sample temperature received outside the regulatory limit. (Primarily for SCM samples).
T3	Target analyte found in trip/field blank.
TC	The MS tune check (tailing factor) did not meet the acceptance criteria.
U	The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.

**Note 1:** Other comments to clarify test results may be used. Examples include MCL (Contaminant Limit), and MDA (minimum detectable activity). The Q1 code requires additional qualifier information be described in the Case Narrative.

**Note 2:** NA is used in the Laboratory QC report as "Not Applicable."



Quality Assurance Project Report  
Prepared for  
BUTTON GWINNETT LANDFILL  
11/13/2024

David M. Glessner  
Quality Assurance Coordinator

### **Explanatory Notes**

1. Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.
2. Matrix Spike and MS Duplicates are sample specific controls and are not used to evaluate the analytical batch.
3. Laboratory duplicate. If one or both of the values is less than 5 times the PQL, the allowed difference is +/- the PQL.
4. "R" indicates a relative percent difference (RPD) was above the acceptance limit between duplicate QC samples or sample specific duplicates.

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410G51  
Project: BGwinnett 721S

## Analytical QC Summary Report

SampleID: BLANKSA		SampType: BLANK		TestNo: ASTM D7511-17			Prep Date:			RunNo: 312224		
		BatchID: R312224						Analysis Date: 10/31/2024			SeqNo: 8213636	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Cyanide, total	< 0.02	mg/L	0.02									
SampleID: LCSSA		SampType: LCS		TestNo: ASTM D7511-17			Prep Date:			RunNo: 312224		
		BatchID: R312224						Analysis Date: 10/31/2024			SeqNo: 8213637	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Cyanide, total	0.096	mg/L	0.02	0.1		96.1%	86	114				
SampleID: G2410F44-001BMS		SampType: MS		TestNo: ASTM D7511-17			Prep Date:			RunNo: 312224		
		BatchID: R312224						Analysis Date: 10/31/2024			SeqNo: 8213642	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Cyanide, total	0.049	mg/L	0.02	0.05		98.0%	75	125				
SampleID: G2410F44-001BMSD		SampType: MSD		TestNo: ASTM D7511-17			Prep Date:			RunNo: 312224		
		BatchID: R312224						Analysis Date: 10/31/2024			SeqNo: 8213643	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Cyanide, total	0.048	mg/L	0.02	0.05		95.2%	75	125	0.049	2.9%	20	
SampleID: LCS		SampType: LCS		TestNo: ASTM D7511-17			Prep Date:			RunNo: 312224		
		BatchID: R312224						Analysis Date: 10/31/2024			SeqNo: 8213630	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Cyanide, total	0.11	mg/L	0.005	0.1		105.3%	86	114				
SampleID: CCB		SampType: MBLK		TestNo: ASTM D7511-17			Prep Date:			RunNo: 312224		
		BatchID: R312224						Analysis Date: 10/31/2024			SeqNo: 8213626	

Client: BUTTON GWINNETT LANDFILL

## Analytical QC Summary Report

WorkOrder: G2410G51

Project: BGwinnett 721S

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Cyanide, total	< 0.005	mg/L	0.005										
<b>SampleID:</b> G2410G11-002ADUP		<b>SampType:</b> DUP			<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
					<b>BatchID:</b> 261546					<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210160
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	6.57	mg/L	1						6.6	0.4%	20		
<b>SampleID:</b> G2410G51-002CDUP		<b>SampType:</b> DUP			<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
					<b>BatchID:</b> 261546					<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210174
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	6.27	mg/L	1						6.23	0.6%	20		
<b>SampleID:</b> G2410H13-002BDUP		<b>SampType:</b> DUP			<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
					<b>BatchID:</b> 261546					<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8210188
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	176	mg/L	1						176	0.0%	20		
<b>SampleID:</b> HRQC-261546		<b>SampType:</b> HRQC			<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
					<b>BatchID:</b> 261546					<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210157
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	252	mg/L	1	250		100.6%	90	110					
<b>SampleID:</b> HRQC 1000-261546		<b>SampType:</b> HRQC 1000			<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
					<b>BatchID:</b> 261546					<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210158
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual	
Chloride	993	mg/L	1	1000		99.3%	90	110					

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G51

Project: BGwinnett 721S

## Analytical QC Summary Report

SampleID: LFB-261546		SampType: LFB		TestNo: EPA 300.0 Rev 2.1			Prep Date: 10/30/2024			RunNo: 312119		
		BatchID: 261546						Analysis Date: 10/30/2024			SeqNo: 8210153	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	48.2	mg/L	1	50		96.3%	90	110				
SampleID: LFB2-261546		SampType: LFB2		TestNo: EPA 300.0 Rev 2.1			Prep Date: 10/30/2024			RunNo: 312119		
		BatchID: 261546						Analysis Date: 10/30/2024			SeqNo: 8210154	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	4.76	mg/L	1	5		95.2%	90	110				
SampleID: G2410G11-002ALFM		SampType: LFM		TestNo: EPA 300.0 Rev 2.1			Prep Date: 10/30/2024			RunNo: 312119		
		BatchID: 261546						Analysis Date: 10/30/2024			SeqNo: 8210161	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	21.2	mg/L	1	15	6.6	97.2%	80	120				
SampleID: G2410G51-002CLFM		SampType: LFM		TestNo: EPA 300.0 Rev 2.1			Prep Date: 10/30/2024			RunNo: 312119		
		BatchID: 261546						Analysis Date: 10/30/2024			SeqNo: 8210175	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	21.1	mg/L	1	15	6.23	98.9%	80	120				
SampleID: G2410H13-002BLFM		SampType: LFM		TestNo: EPA 300.0 Rev 2.1			Prep Date: 10/30/2024			RunNo: 312119		
		BatchID: 261546						Analysis Date: 10/31/2024			SeqNo: 8210189	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	184	mg/L	1	15	176	53.9%	80	120				1
SampleID: LRB-261546		SampType: LRB		TestNo: EPA 300.0 Rev 2.1			Prep Date: 10/30/2024			RunNo: 312119		
		BatchID: 261546						Analysis Date: 10/30/2024			SeqNo: 8210155	
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	< 1	mg/L	1									

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G51

Project: BGwinnett 721S

## Analytical QC Summary Report

<b>SampleID:</b> CB-261546		<b>SampType:</b> MBLK		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210152	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	< 1	mg/L	1									

<b>SampleID:</b> QCS-261546		<b>SampType:</b> QCS		<b>TestNo:</b> EPA 300.0 Rev 2.1			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312119		
		<b>BatchID:</b> 261546						<b>Analysis Date:</b> 10/30/2024			<b>SeqNo:</b> 8210156	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chloride	23.2	mg/L	1	24		96.5%	90	110				

<b>SampleID:</b> LCS1-261501		<b>SampType:</b> LCS1		<b>TestNo:</b> EPA 6010 D			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312171		
		<b>BatchID:</b> 261501						<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8212107	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	1.1	mg/L	0.01	1		110.2%	79.5	120.4				
Cadmium	0.416	mg/L	0.002	0.4		104.0%	79.5	120.4				
Chromium	1.07	mg/L	0.01	1		106.9%	79.5	120.4				
Nickel	1.04	mg/L	0.01	1		104.5%	79.5	120.4				
Silver	0.01	mg/L	0.005	0.01		100.0%	79.5	120.4				
Zinc	1	mg/L	0.01	1		100.1%	79.5	120.4				

<b>SampleID:</b> PB-261501		<b>SampType:</b> PB		<b>TestNo:</b> EPA 6010 D			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312171		
		<b>BatchID:</b> 261501						<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8212105	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	< 0.01	mg/L	0.01									
Cadmium	< 0.002	mg/L	0.002									
Chromium	< 0.01	mg/L	0.01									
Nickel	< 0.01	mg/L	0.01									
Silver	< 0.005	mg/L	0.005									
Zinc	< 0.01	mg/L	0.01									

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G51

Project: BGwinnett 721S

## Analytical QC Summary Report

**SampleID:** G2410F52-001DDUP

**SampType:** DUP

**TestNo:** EPA 6010 D

**Prep Date:** 10/30/2024

**RunNo:** 312171

**BatchID:** 261501

**Analysis Date:** 10/31/2024

**SeqNo:** 8212085

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	0.0143	mg/L	0.01						0.0146	2.1%	20	
Cadmium	< 0.002	mg/L	0.002								20	
Chromium	< 0.01	mg/L	0.01								20	
Nickel	< 0.01	mg/L	0.01								20	
Silver	< 0.005	mg/L	0.005								20	
Zinc	< 0.01	mg/L	0.01								20	

**SampleID:** G2410F52-001DMS

**SampType:** MS

**TestNo:** EPA 6010 D

**Prep Date:** 10/30/2024

**RunNo:** 312171

**BatchID:** 261501

**Analysis Date:** 10/31/2024

**SeqNo:** 8212087

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	1.12	mg/L	0.01	1	0.0146	110.9%	75	125				
Cadmium	0.419	mg/L	0.002	0.4		104.7%	75	125				
Chromium	1.08	mg/L	0.01	1		108.0%	75	125				
Nickel	1.05	mg/L	0.01	1		104.8%	75	125				
Silver	0.0098	mg/L	0.005	0.01		98.0%	75	125				
Zinc	1.01	mg/L	0.01	1		101.0%	75	125				

**SampleID:** G2410F52-003DMS

**SampType:** MS

**TestNo:** EPA 6010 D

**Prep Date:** 10/30/2024

**RunNo:** 312171

**BatchID:** 261501

**Analysis Date:** 10/31/2024

**SeqNo:** 8212117

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Barium	1.18	mg/L	0.01	1	0.0555	112.9%	75	125				
Cadmium	0.424	mg/L	0.002	0.4		106.0%	75	125				
Chromium	1.1	mg/L	0.01	1		109.6%	75	125				
Nickel	1.06	mg/L	0.01	1		105.8%	75	125				
Silver	0.0098	mg/L	0.005	0.01		98.0%	75	125				
Zinc	1.03	mg/L	0.01	1	0.011	101.7%	75	125				

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G51

Project: BGwinnett 721S

## Analytical QC Summary Report

<b>SampleID:</b> LCS2-261502	<b>SampType:</b> LCS2			<b>TestNo:</b> EPA 6020 B				<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312157		
	<b>BatchID:</b> 261502				<b>Analysis Date:</b> 10/31/2024				<b>SeqNo:</b> 8211375				

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Arsenic	9.2	µg/L	1	10		92.0%	79.5	120.45				
Lead	4.99	µg/L	1	5		99.8%	79.5	120.45				
Selenium	18.6	µg/L	1	20		92.8%	79.5	120.45				

<b>SampleID:</b> PB-261502	<b>SampType:</b> PB			<b>TestNo:</b> EPA 6020 B				<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312157			
	<b>BatchID:</b> 261502				<b>Analysis Date:</b> 10/31/2024				<b>SeqNo:</b> 8211372					

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Arsenic	< 1	µg/L	1					0.5				
Lead	< 1	µg/L	1					0.2				
Selenium	< 1	µg/L	1					0.5				

<b>SampleID:</b> G2410F52-001DDUP	<b>SampType:</b> DUP			<b>TestNo:</b> EPA 6020 B				<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312157			
	<b>BatchID:</b> 261502				<b>Analysis Date:</b> 10/31/2024				<b>SeqNo:</b> 8211379					

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Arsenic	< 1	µg/L	1								20	
Lead	< 1	µg/L	1								20	
Selenium	< 1	µg/L	1								20	

<b>SampleID:</b> G2410F52-002DMS	<b>SampType:</b> MS			<b>TestNo:</b> EPA 6020 B				<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312157			
	<b>BatchID:</b> 261502				<b>Analysis Date:</b> 10/31/2024				<b>SeqNo:</b> 8211401					

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Arsenic	9.8	µg/L	1	10		98.0%	75	125				
Lead	5.2	µg/L	1	5	0.211	99.8%	75	125				
Selenium	18.8	µg/L	1	20		94.1%	75	125				

Client: BUTTON GWINNETT LANDFILL

## Analytical QC Summary Report

WorkOrder: G2410G51

Project: BGwinnett 721S

<b>SampleID:</b> G2410F52-004DMS		<b>SampType:</b> MS		<b>TestNo:</b> EPA 6020 B			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312157		
		<b>BatchID:</b> 261502						<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8211410	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Arsenic	9.29	µg/L	1	10		92.9%	75	125				
Lead	5	µg/L	1	5		100.0%	75	125				
Selenium	18.2	µg/L	1	20		90.8%	75	125				

<b>SampleID:</b> LCS-261522		<b>SampType:</b> LCS		<b>TestNo:</b> EPA 7470A			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312115		
		<b>BatchID:</b> 261522						<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8210040	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Mercury	0.00199	mg/L	0.0002	0.002		99.5%	85	115				

<b>SampleID:</b> PB-261522		<b>SampType:</b> PB		<b>TestNo:</b> EPA 7470A			<b>Prep Date:</b> 10/30/2024			<b>RunNo:</b> 312115		
		<b>BatchID:</b> 261522						<b>Analysis Date:</b> 10/31/2024			<b>SeqNo:</b> 8210031	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Mercury	< 0.0002	mg/L	0.0002									

<b>SampleID:</b> LCS 50-261676		<b>SampType:</b> LCS1		<b>TestNo:</b> HACH 8000			<b>Prep Date:</b> 11/4/2024			<b>RunNo:</b> 312229		
		<b>BatchID:</b> 261676						<b>Analysis Date:</b> 11/4/2024			<b>SeqNo:</b> 8213848	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chemical Oxygen Demand	54.9	mg/L	10	50		109.8%	90	110				

<b>SampleID:</b> Blank-261676		<b>SampType:</b> MBLK-1		<b>TestNo:</b> HACH 8000			<b>Prep Date:</b> 11/4/2024			<b>RunNo:</b> 312229		
		<b>BatchID:</b> 261676						<b>Analysis Date:</b> 11/4/2024			<b>SeqNo:</b> 8213824	

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chemical Oxygen Demand	< 10	mg/L	10									

<b>SampleID:</b> G2410G72-006BMS		<b>SampType:</b> MS		<b>TestNo:</b> HACH 8000			<b>Prep Date:</b> 11/4/2024			<b>RunNo:</b> 312229		
		<b>BatchID:</b> 261676						<b>Analysis Date:</b> 11/4/2024			<b>SeqNo:</b> 8213846	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G51

Project: BGwinnett 721S

## Analytical QC Summary Report

Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chemical Oxygen Demand	58.2	mg/L	10	50		116.5%	75	125				
<b>SampleID:</b> G2410G72-006BMSD		<b>SampType:</b> MSD		<b>TestNo:</b> HACH 8000			<b>Prep Date:</b> 11/4/2024			<b>RunNo:</b> 312229		
		<b>BatchID:</b> 261676				<b>Analysis Date:</b> 11/4/2024				<b>SeqNo:</b> 8213847		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Chemical Oxygen Demand	58.2	mg/L	10						58.2		20	
<b>SampleID:</b> 5 LCS		<b>SampType:</b> LCS		<b>TestNo:</b> SM 5310 C-14			<b>Prep Date:</b>			<b>RunNo:</b> 312156		
		<b>BatchID:</b> R312156				<b>Analysis Date:</b> 10/31/2024				<b>SeqNo:</b> 8211144		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total Organic Carbon	4.78	mg/L	1	5		95.6%	90	110				
<b>SampleID:</b> Blank		<b>SampType:</b> MBLK		<b>TestNo:</b> SM 5310 C-14			<b>Prep Date:</b>			<b>RunNo:</b> 312156		
		<b>BatchID:</b> R312156				<b>Analysis Date:</b> 10/31/2024				<b>SeqNo:</b> 8211136		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total Organic Carbon	< 1	mg/L	1									
<b>SampleID:</b> Blank		<b>SampType:</b> MBLK		<b>TestNo:</b> SM 5310 C-14			<b>Prep Date:</b>			<b>RunNo:</b> 312156		
		<b>BatchID:</b> R312156				<b>Analysis Date:</b> 11/1/2024				<b>SeqNo:</b> 8211197		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total Organic Carbon	< 1	mg/L	1									
<b>SampleID:</b> Blank		<b>SampType:</b> MBLK		<b>TestNo:</b> SM 5310 C-14			<b>Prep Date:</b>			<b>RunNo:</b> 312156		
		<b>BatchID:</b> R312156				<b>Analysis Date:</b> 11/1/2024				<b>SeqNo:</b> 8211253		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total Organic Carbon	< 1	mg/L	1									

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G51

Project: BGwinnett 721S

## Analytical QC Summary Report

SampleID: G2410G06-007CMS		SampType: MS	TestNo: SM 5310 C-14				Prep Date:			RunNo: 312156		
		BatchID: R312156				Analysis Date: 10/31/2024				SeqNo: 8211150		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total Organic Carbon	10	mg/L	1	10		100.2%	85	115				
SampleID: G2410G71-001CMS		SampType: MS	TestNo: SM 5310 C-14				Prep Date:			RunNo: 312156		
		BatchID: R312156				Analysis Date: 11/1/2024				SeqNo: 8211211		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total Organic Carbon	10.1	mg/L	1	10		100.7%	85	115				
SampleID: G2410G06-007CMSD		SampType: MSD	TestNo: SM 5310 C-14				Prep Date:			RunNo: 312156		
		BatchID: R312156				Analysis Date: 10/31/2024				SeqNo: 8211154		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total Organic Carbon	10.1	mg/L	1						10	1.2%	15	
SampleID: G2410G71-001CMSD		SampType: MSD	TestNo: SM 5310 C-14				Prep Date:			RunNo: 312156		
		BatchID: R312156				Analysis Date: 11/1/2024				SeqNo: 8211216		
Analyte	Calc Val	Units	PQL	Spk Val	SPKrefval	REC	Low Limit	High Limit	RPDrefval	RPD	RPDlimit	Qual
Total Organic Carbon	10.3	mg/L	1						10.1	1.8%	15	

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410G51  
Project: BGwinnett 721S

## Analytical QC Summary Report

Prep Batch Report			Prep Start Date: 10/30/2024 9:40:00 AM						Technician: Adam D. Moschgat		
Prep Batch: 261501			Prep End Date: 10/30/2024 3:10:00 PM						Prep Factor Units: mL		
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End		
G2410F52-001D	GWB-27	Groundwater	10/23/2024 9:15:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F52-001DDUP		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F52-001DMS		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F52-002D	GWC-14	Groundwater	10/23/2024 9:05:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F52-003D	TMC-4	Groundwater	10/23/2024 9:50:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F52-003DMS		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F52-004D	GWC-19	Groundwater	10/23/2024 10:05:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F52-006D	GWC-41	Groundwater	10/23/2024 11:15:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410F52-008A	GWC-34	Groundwater	10/23/2024 10:15:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G47-001K	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G49-001D	OW-2RR	Groundwater	10/28/2024 10:25:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G49-002D	OW-3RR	Groundwater	10/28/2024 9:50:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G51-001E	SWB-1	Surface Water	10/28/2024 7:45:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G51-002E	SWC-3	Surface Water	10/28/2024 8:30:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G51-003E	SWC-1	Surface Water	10/28/2024 10:45:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G51-004E	SWC-2	Surface Water	10/28/2024 11:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G96-001A	TCLP Blank #12	Solid	10/29/2024 10:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G96-002A	TCLP Blank #37	Solid	10/29/2024 10:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
G2410G96-003A	TCLP Blank #41	Solid	10/29/2024 10:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
LCS1-261501		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		
PB-261501		Aqueous	10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM		

Prep Batch Report			Prep Start Date: 10/30/2024 9:40:00 AM						Technician: Adam D. Moschgat		
Prep Batch: 261502			Prep End Date: 10/30/2024 3:10:00 PM						Prep Factor Units:		
Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End		

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G51

Project: BGwinnett 721S

## Analytical QC Summary Report

Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410F52-001D	GWB-27	Groundwater	10/23/2024 9:15:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-001DDUP			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-002D	GWC-14	Groundwater	10/23/2024 9:05:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-002DMS			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-003D	TMC-4	Groundwater	10/23/2024 9:50:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-004D	GWC-19	Groundwater	10/23/2024 10:05:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-004DMS			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-006D	GWC-41	Groundwater	10/23/2024 11:15:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410F52-008A	GWC-34	Groundwater	10/23/2024 10:15:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G47-001K	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G49-001D	OW-2RR	Groundwater	10/28/2024 10:25:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G49-002D	OW-3RR	Groundwater	10/28/2024 9:50:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G51-001E	SWB-1	Surface Water	10/28/2024 7:45:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G51-002E	SWC-3	Surface Water	10/28/2024 8:30:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G51-003E	SWC-1	Surface Water	10/28/2024 10:45:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
G2410G51-004E	SWC-2	Surface Water	10/28/2024 11:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
LCS2-261502			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM
PB-261502			10/30/2024 12:00:00 AM	50	50		1.000	10/30/2024 9:40:00 AM	10/30/2024 3:10:00 PM

Prep Batch: 261522			Prep Batch Report					Technician: Allison G. Foreman		
Prep Code: HG_7470_PREP			Prep Start Date: 10/30/2024 11:00:00 AM					Prep Factor Units: mL		
			Prep End Date: 10/30/2024 1:00:00 PM							

Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
G2410E42-001B	85A & SA	Solid	10/23/2024 10:00:00 AM	25	25		1.000	10/30/2024 11:00:00 AM	10/30/2024 1:00:00 PM
G2410G47-001K	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	25	25		1.000	10/30/2024 11:00:00 AM	10/30/2024 1:00:00 PM
G2410G51-001E	SWB-1	Surface Water	10/28/2024 7:45:00 AM	25	25		1.000	10/30/2024 11:00:00 AM	10/30/2024 1:00:00 PM
G2410G51-002E	SWC-3	Surface Water	10/28/2024 8:30:00 AM	25	25		1.000	10/30/2024 11:00:00 AM	10/30/2024 1:00:00 PM
G2410G51-003E	SWC-1	Surface Water	10/28/2024 10:45:00 AM	25	25		1.000	10/30/2024 11:00:00 AM	10/30/2024 1:00:00 PM
G2410G51-004E	SWC-2	Surface Water	10/28/2024 11:00:00 AM	25	25		1.000	10/30/2024 11:00:00 AM	10/30/2024 1:00:00 PM

Client: BUTTON GWINNETT LANDFILL  
 WorkOrder: G2410G51  
 Project: BGwinnett 721S

## Analytical QC Summary Report

LCS-261522		Aqueous	10/30/2024 12:00:00 AM	25	25		1.000	10/30/2024 11:00:00 AM	10/30/2024 1:00:00 PM
PB-261522		Aqueous	10/30/2024 12:00:00 AM	25	25		1.000	10/30/2024 11:00:00 AM	10/30/2024 1:00:00 PM

Prep Batch: 261546 Prep Code: INPR_IC			Prep Batch Report Prep Start Date: 10/30/2024 4:21:00 PM Prep End Date: 10/30/2024 4:21:00 PM					Technician: Taylor N. Kimbrell Prep Factor Units: mL		
Sample ID	Client Samp ID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End	
CB-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM	
G2410G11-002A	Millcreek/Challenge r/002	Aqueous	10/17/2024 10:20:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM	
G2410G11-002ADUP		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM	
G2410G11-002ALFM		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM	
G2410G11-003A	Cobra/MDG859636 /StripPond1	Aqueous	10/21/2024 4:30:00 PM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM	
G2410G11-004A	Millcreek/Challenge r/001	Aqueous	10/23/2024 1:25:00 PM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM	
G2410G11-005A	Millcreek/Challenge r/002	Aqueous	10/23/2024 1:44:00 PM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM	
G2410G37-001A	Outfall 002	Surface Water	10/26/2024 10:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM	
G2410G37-002A	Outfall 003	Surface Water	10/26/2024 8:45:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM	
G2410G47-001D	GWC-5A	Groundwater	10/28/2024 9:10:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM	
G2410G49-001A	OW-2RR	Groundwater	10/28/2024 10:25:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM	
G2410G49-002A	OW-3RR	Groundwater	10/28/2024 9:50:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM	
G2410G51-001C	SWB-1	Surface Water	10/28/2024 7:45:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM	
G2410G51-002C	SWC-3	Surface Water	10/28/2024 8:30:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM	
G2410G51-002CDUP		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM	
G2410G51-002CLFM		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM	
G2410G51-003C	SWC-1	Surface Water	10/28/2024 10:45:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM	
G2410G51-004C	SWC-2	Surface Water	10/28/2024 11:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM	
G2410G74-001O	NPDES Program	Leachate	10/29/2024 2:00:00 PM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM	

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G51

Project: BGwinnett 721S

## Analytical QC Summary Report

G2410G85-001A	Outfall 001	Waste Water	10/28/2024 7:55:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G85-002A	Outfall 002	Waste Water	10/28/2024 8:10:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410G86-001A	Lower Works Sampling Point	Waste Water	10/28/2024 8:20:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410H02-001C	Leachate	Leachate	10/29/2024 2:30:00 PM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410H11-001C	Outfall 001 Comp.	Waste Water	10/29/2024 7:00:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410H13-001B	MW-5DR	Groundwater	10/29/2024 8:45:00 AM	100	100		1.000	10/30/2024 2:53:00 PM	10/30/2024 2:53:00 PM
G2410H13-002B	MW-6D	Groundwater	10/28/2024 3:35:00 PM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H13-002BDUP		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H13-002BLFM		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H13-003B	MW-7D	Groundwater	10/29/2024 11:50:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H13-004B	MW-8D	Groundwater	10/29/2024 9:30:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H18-001A	MP-15	Groundwater	10/29/2024 9:40:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H18-002A	MP-11	Groundwater	10/29/2024 10:30:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H18-003A	P-6	Groundwater	10/29/2024 11:25:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H18-004A	MP-18	Groundwater	10/29/2024 12:25:00 PM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H18-005A	MP-10R	Groundwater	10/29/2024 1:15:00 PM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H21-001B	UD-5D	Groundwater	10/29/2024 8:20:00 AM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
G2410H23-001B	MW-107A	Groundwater	10/28/2024 3:00:00 PM	100	100		1.000	10/30/2024 4:21:00 PM	10/30/2024 4:21:00 PM
HRQC 1000-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
HRQC-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
IPC-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
LFB-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
LFB2-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
LRB-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM
QCS-261546		Aqueous	10/30/2024 12:00:00 AM	100	100		1.000	10/30/2024 7:56:00 AM	10/30/2024 7:56:00 AM

## Prep Batch Report

Prep Start Date: 11/4/2024 9:13:00 AM

Prep End Date: 11/4/2024 11:13:00 AM

Technician: Anna Hoyman

Prep Factor Units: mL

Prep Batch: 261676

Prep Code: INPR\_COD

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G51

Project: BGwinnett 721S

## Analytical QC Summary Report

Sample ID	ClientSampID	Matrix	Collection Date	Samp Amt	Fin Vol	PQual	Factor	Prep Start	Prep End
Blank-261676		Aqueous	11/4/2024 12:00:00 AM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
CCV 1-261676		Aqueous	11/4/2024 12:00:00 AM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G39-004A	MP-1 DUP	Groundwater	10/28/2024 11:25:00 AM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G39-005A	TB-4	Groundwater	10/28/2024 12:35:00 PM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G39-006A	MP-3	Groundwater	10/28/2024 1:10:00 PM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G39-007A	MP-19	Groundwater	10/28/2024 1:45:00 PM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G39-008A	MP-13A	Groundwater	10/28/2024 2:30:00 PM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G39-009A	MP-13B	Groundwater	10/28/2024 2:45:00 PM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G51-001A	SWB-1	Surface Water	10/28/2024 7:45:00 AM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G51-002A	SWC-3	Surface Water	10/28/2024 8:30:00 AM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G51-003A	SWC-1	Surface Water	10/28/2024 10:45:00 AM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G51-004A	SWC-2	Surface Water	10/28/2024 11:00:00 AM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G71-001B	WA-3	Groundwater	10/29/2024 8:26:00 AM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G71-002B	W-2AA	Groundwater	10/29/2024 9:15:00 AM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G71-003B	W-28B	Groundwater	10/29/2024 11:27:00 AM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G71-004B	W-28A	Groundwater	10/29/2024 12:32:00 PM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G72-001B	W-24	Groundwater	10/29/2024 8:27:00 AM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G72-002B	W-26B	Groundwater	10/29/2024 9:34:00 AM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G72-003B	W-26A	Groundwater	10/29/2024 10:02:00 AM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G72-004B	W-21A	Groundwater	10/29/2024 11:24:00 AM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G72-005B	F-Dup	Groundwater	10/29/2024 11:24:00 AM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G72-006B	LIB-3	Groundwater	10/29/2024 1:34:00 PM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G72-006BMS		Aqueous	11/4/2024 12:00:00 AM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
G2410G72-006BMSD		Aqueous	11/4/2024 12:00:00 AM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM
LCS 50-261676		Aqueous	11/4/2024 12:00:00 AM	2	2		1.000	11/4/2024 9:13:00 AM	11/4/2024 11:13:00 AM

Client: BUTTON GWINNETT LANDFILL  
WorkOrder: G2410G51  
Project: BGwinnett 721S

## Analytical QC Summary Report

### Batch Reference Report

Client Samp ID	Test No	Batch ID
SWB-1	ASTM D7511-17	R312224
SWC-1	ASTM D7511-17	R312224
SWC-2	ASTM D7511-17	R312224
SWC-3	ASTM D7511-17	R312224
SWB-1	EPA 300.0 Rev 2.1	261546
SWC-1	EPA 300.0 Rev 2.1	261546
SWC-2	EPA 300.0 Rev 2.1	261546
SWC-3	EPA 300.0 Rev 2.1	261546
SWB-1	EPA 6010 D	261501
SWC-1	EPA 6010 D	261501
SWC-2	EPA 6010 D	261501
SWC-3	EPA 6010 D	261501
SWB-1	EPA 6020 B	261502
SWC-1	EPA 6020 B	261502
SWC-2	EPA 6020 B	261502
SWC-3	EPA 6020 B	261502
SWB-1	EPA 7470A	261522
SWC-1	EPA 7470A	261522
SWC-2	EPA 7470A	261522
SWC-3	EPA 7470A	261522
SWB-1	HACH 8000	261676
SWC-1	HACH 8000	261676
SWC-2	HACH 8000	261676
SWC-3	HACH 8000	261676

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G51

Project: BGwinnett 721S

## Analytical QC Summary Report

SWB-1	SM 5310 C-14	R312156
SWC-1	SM 5310 C-14	R312156
SWC-2	SM 5310 C-14	R312156
SWC-3	SM 5310 C-14	R312156

**Table I ON Qualifiers**

Qualifier	Description
<b>1</b>	Spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or greater.
<b>B</b>	Analyte detected in the associated method Blank.
<b>B1</b>	Dilution water blank exceeded method criterion.
<b>C1</b>	CCV recovery above the acceptance limits. Results may be biased high.
<b>C2</b>	CCV recovery below the acceptance limits. Results may be biased low.
<b>C3</b>	ICV recovery above the acceptance limits. Results may be biased high.
<b>C4</b>	ICV recovery below the acceptance limits. Results may be biased low.
<b>C5</b>	Positive values verified by second column confirmation.
<b>C6</b>	Confirmation analysis by another detector or chromatographic column was not performed.
<b>D1</b>	The analysis did not meet the minimum DO depletion of at least 2 mg/L.
<b>D2</b>	The analysis did not meet the minimum residual DO of at least 1 mg/L.
<b>D3</b>	Sample required dilution due to a matrix interference.
<b>D4</b>	Sample was diluted in the extraction steps due to marked matrix interferences.
<b>D5</b>	Sample required dilution due to a chloride interference.
<b>D6</b>	Sample was diluted and the reporting limits were raised to achieve method compliant internal standard recovery.
<b>D7</b>	Sample was digested at a dilution due to the formation of a post-digestion precipitate.
<b>D8</b>	Sample was digested at a dilution to achieve method compliant matrix spike recovery.
<b>D9</b>	Sample was digested at a dilution to meet method compliant digestion criteria.
<b>E</b>	Value above quantitation range.
<b>E2</b>	Unable to obtain a stable weight within specified limits due to sample matrix. Value is estimated.
<b>F1</b>	Fecal sample tested positive for residual chlorine.
<b>H</b>	Method Hold Time exceeded and is not compliant with 40CFR136 Table II.
<b>H1</b>	Due to under-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.
<b>H2</b>	Due to over-depletion from the initial dilutions for BOD, the sample was reanalyzed outside the hold time.
<b>H3</b>	Sample was re-analyzed outside of hold time due to error during original analysis.
<b>H4</b>	The Nitrite result used to report Nitrate was analyzed past the 48-hour holding time.
<b>I1</b>	Internal standard recovery above method acceptance limits. Results are estimated.
<b>I2</b>	Internal standard recovery was below method acceptance limits. Results are estimated.
<b>IP</b>	One of the instrument performance checks ( ) did not meet the acceptance criteria.
<b>J</b>	Indicates an estimated value.

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G51

Project: BGwinnett 721S

## Analytical QC Summary Report

<b>L1</b>	LCS above the acceptance limits. Result may be biased high.
<b>L2</b>	LCS below the acceptance limits. Result may be biased low.
<b>L3</b>	Analyte was spiked into the LCS, but was not recovered.
<b>M1</b>	Matrix Spike recovery above the acceptance limits.
<b>M2</b>	Matrix Spike recovery below the acceptance limits.
<b>M4</b>	The matrix spike failed high for the surrogate.
<b>M5</b>	The matrix spike failed low for the surrogate.
<b>M6</b>	The reporting limits were raised due to sample matrix interference.
<b>M7</b>	Recovery for matrix spike could not be quantified due to matrix interference.
<b>M8</b>	Analyte was spiked into the MS, but was not recovered.
<b>M9</b>	Analyte concentration was determined by the method of standard addition (MSA).
<b>N1</b>	The lab does not hold accreditation from PA-DEP for this parameter by this method
<b>N2</b>	PADEP does not accredit labs for this analyte by this method.
<b>N3</b>	The lab is accredited for this method in West Virginia, but not in PA (its primary accrediting body).
<b>N4</b>	PADEP does not accredit labs for this analyte by this method in drinking water.
<b>ND</b>	Not Detected.
<b>O1</b>	The flashpoint tester cannot detect below 50 degrees F.
<b>O2</b>	Result is temperature of the sample when flame observed. No flash observed. Result qualified.
<b>O3</b>	The reporting limits were raised due to the high concentration of non-target compounds.
<b>O4</b>	Sample was received with headspace.
<b>O5</b>	Sample was received in incorrect container and is not compliant with 40CFR136 Table II.
<b>O6</b>	Insufficient sample volume was received to comply with the method.
<b>P1</b>	The pH of the sample was >2 and is not compliant with 40CFR136 Table II.
<b>P2</b>	Sample contained residual chlorine and is not compliant with 40CFR136 Table II
<b>P3</b>	The pH of the sample was <10 and is not compliant with 40CFR136 Table II.
<b>P4</b>	Field preservation does not meet EPA or method recommendations for this analysis.
<b>P5</b>	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.
<b>P6</b>	Sample required additional preservative upon receipt.
<b>P7</b>	The sample was received unpreserved.
<b>P8</b>	The pH of the sample was < 9 and is not compliant with 40 CFR136 Table II.
<b>Q1</b>	Qualified Data See Case Narrative.
<b>R</b>	Relative Percent Difference (RPD) was above the control limit.
<b>R1</b>	RPD above control limits between matrix spike and MS duplicates.

Client: BUTTON GWINNETT LANDFILL

WorkOrder: G2410G51

Project: BGwinnett 721S

## Analytical QC Summary Report

R2	RPD above the control limit between duplicates.
R3	RSD above the control limit between replicates.
R4	RPD above control limits between Inorganic Carbon check and spike.
R5	RPD above control limits between control sample and control sample duplicates.
S	Recovery for the spiked control sample outside accepted limits.
S2	Surrogate recovery in the blank was below the control limit.
S3	Surrogate recovery in the blank was above the control limit.
S4	Surrogate recovery in the LCS is above the control limit.
S5	Surrogate recovery in the LCS is below the control limit.
SR	Analyte recovery was outside the accepted recovery limits and above the control limit for RPD.
T	Sample temperature received outside the regulatory limit and is not compliant with 40CFR Part136 Table II (for NPW samples).
T1	Sample temperature received outside the regulatory limit. (Primarily for SCM samples).
T3	Target analyte found in trip/field blank.
TC	The MS tune check (tailing factor) did not meet the acceptance criteria.
U	The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.

**Note 1:** Other comments to clarify test results may be used. Examples include MCL (Contaminant Limit), and MDA (minimum detectable activity). The Q1 code requires additional qualifier information be described in the Case Narrative.

**Note 2:** NA is used in the Laboratory QC report as "Not Applicable."

## **REQUEST FOR LABORATORY ANALYTICAL SERVICES**

## Chain of Custody (COC)

**Shuttle/Cooler ID#**

Please return completed form and samples to **Geochemical Testing • 2005 N Center Ave • Somerset, PA • 15501** • 814-443-1671 • (Fax: 814-445-6729)

**SAMPLES MUST BE RECEIVED ON ICE.**

G2410 E 81

## **REQUEST FOR LABORATORY ANALYTICAL SERVICES**

## Chain of Custody (COC)

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G2410 E84

**REQUEST FOR LABORATORY  
ANALYTICAL SERVICES**

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**REQUEST FOR LABORATORY  
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### Chain of Custody (COC)

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G2410F33

**REQUEST FOR LABORATORY  
ANALYTICAL SERVICES**  
Chain of Custody (COC)

Shuttle/Cooler ID#

Company <b>AGC</b>		Name <b>OWENS FEQVSA</b>		E-mail Address <b>OWENS.FEQVSA@ATLCC.NET</b>																																																																																																														
Mailing Address <b>11545 WILLS RD. STE. 100</b>		Telephone No.		Landfill Site <b>BUTTON GW IN NETT</b>																																																																																																														
City, State, Zip <b>ALPHARETTA, GA 30009</b>		State Sampled <b>GA</b>		PWS Number																																																																																																														
Special Instruction/Project ID/Analyte List/Comment:  <b>No CUSTODY SEALS PROVIDED</b>		*PC-1: Nitric acid (HNO <sub>3</sub> ) *PC-2: Hydrochloric acid (HCl) *PC-3: Sulfuric acid (H <sub>2</sub> SO <sub>4</sub> ) *PC-4: Sodium Hydroxide (NaOH) *PC-5: Sodium Thiosulfate (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ) *PC-6: Ascorbic acid (C <sub>6</sub> H <sub>8</sub> O <sub>6</sub> ) *PC-7: Zinc acetate (C <sub>4</sub> H <sub>8</sub> O <sub>4</sub> Zn) / Sodium Hydroxide (NaOH) *PC-8: Ammonium chloride (NH <sub>4</sub> Cl) *PC-9: Copper Sulfate (CuSO <sub>4</sub> ·5H <sub>2</sub> O) *PC-I: Ice *PC-N: None *PC-O: Other		<b>ANALYSIS REQUESTED</b> Enter 'X' in box below to indicate request and use appropriate preservation code listed to the left																																																																																																														
SR 1st Review: <b>TSS</b>		CS 2nd Review: <b>LAD</b>		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="text-align: center; width: 10%;">Number of Containers</th> <th rowspan="2" style="text-align: center; width: 10%;">Dissolved Metals</th> <th rowspan="2" style="text-align: center; width: 10%;">Field Filtered: Y/N</th> <th rowspan="2" style="text-align: center; width: 10%;">Preservative*:</th> <th colspan="2" style="text-align: center; width: 40%;">Preservative*: <b>None</b></th> <th colspan="2" style="text-align: center; width: 40%;">Preservative*: <b>Water</b></th> <th colspan="2" style="text-align: center; width: 40%;">Preservative*: <b>Ice</b></th> </tr> <tr> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">5</th> <th style="text-align: center;">6</th> <th style="text-align: center;">7</th> <th style="text-align: center;">8</th> <th style="text-align: center;">9</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">5</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">6</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">7</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">8</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">9</td> <td style="text-align: center;">1</td> </tr> </tbody> </table>		Number of Containers	Dissolved Metals	Field Filtered: Y/N	Preservative*:	Preservative*: <b>None</b>		Preservative*: <b>Water</b>		Preservative*: <b>Ice</b>		1	2	3	4	5	6	7	8	9	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	4	1	1	1	1	1	1	1	1	1	5	1	1	1	1	1	1	1	1	1	6	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	9	1	1	1	1	1	1	1	1	1
Number of Containers	Dissolved Metals	Field Filtered: Y/N	Preservative*:	Preservative*: <b>None</b>						Preservative*: <b>Water</b>		Preservative*: <b>Ice</b>																																																																																																						
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9	1	1	1	1	1	1	1	1	1																																																																																																									
CLIENT SAMPLE ID		Lab Use Only	DATE SAMPLED	TIME (24 hr)	SAMPLE MATRIX	SAMPLE TYPE																																																																																																												
GW-C-1D		-	10-24-24	0740	GW	G	7																																																																																																											
GW-C-8A		-	10-24-24	0817	GW	G	7																																																																																																											
GW-C-8R		-	10-24-24	0848	GW	G	7																																																																																																											
GW-C-12A		001	10-24-24	0920	GW	G	7																																																																																																											
GW-C-13		-	10-24-24	0956	GW	G	7																																																																																																											
GW-C-9A		-	10-24-24	—	—	—	0		DRY WE																																																																																																									
GW-C-3A		-	10-24-24	1052	GW	G	7																																																																																																											
GW-C-3RA		-	10-24-24	1131	GW	G	7																																																																																																											
GW-C-6A		-	10-24-24	1204	GW	G	7																																																																																																											
GW-C-2A		-	10-24-24	1238	GW	G	7																																																																																																											
Relinquished by: <i>[Signature]</i>		Date/Time: <b>10-24-24 / 1600</b>		Received by: <i>[Signature]</i>		Date/Time: <b>-</b>																																																																																																												
Relinquished by: <i>[Signature]</i>		Date/Time: <b>-</b>		Received at lab by: <i>[Signature]</i>		Date/Time: <b>10-25-24 1154</b>																																																																																																												
Printed Sampler Name: <b>DANNY RAMSEY</b>				Logged in by: <i>[Signature]</i>		Date/Time: <b>-</b>																																																																																																												
Sample Matrix: <b>GW Ground Water</b>		ST Storm Water		SW Surface Water		PW Potable Water		WW Wastewater		SO Soil																																																																																																								
Sample Type: <b>G Grab</b>		<b>C Composite</b>		<b>D Distribution/DW</b>		<b>E Entry Point/DW</b>		<b>R Raw/DW</b>		<b>SL Sludge</b>																																																																																																								
										<b>C Coal</b>																																																																																																								
										<b>PO/Quote #:</b>																																																																																																								
Please return completed form and samples to <b>Geochemical Testing • 2005 N Center Ave • Somerset, PA • 15501 • 814-443-1671 • (Fax: 814-445-6729)</b>																																																																																																																		
SAMPLES MUST BE RECEIVED ON ICE.																																																																																																																		

**REQUEST FOR LABORATORY  
ANALYTICAL SERVICES**

### **Chain of Custody (COC)**

**Shuttle/Cooler ID#:**

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**REQUEST FOR LABORATORY  
ANALYTICAL SERVICES**

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Form F-5002, 08.21  
\*\*\* Lab Work Order #

F2410G49

REQUEST FOR LABORATORY  
ANALYTICAL SERVICES

Shuttle/Cooler ID#

Chain of Custody (COC)

Billing Client	Company	ACC						Name	OWENS FIGUEA		E-mail Address	OWENS, FIGUEA @ ATLC.CNCF			
	Mailing Address	11545 WILLO ROAD STE 100						Telephone No.	770.548.7741		Landfill Site	BUTTON Gwinnett			
	City, State, Zip	ALPHARETTA GA 30009						State Sampled	GA		Date Results Required				
Special Instruction/Project ID/Analyte List/Comment:  No custody seal provided for return coolers							<b>ANALYSIS REQUESTED</b> Enter 'X' in box below to indicate request and use appropriate preservation code listed to the left								
*PC-1: Nitric acid (HNO <sub>3</sub> ) *PC-2: Hydrochloric acid (HCl) *PC-3: Sulfuric acid (H <sub>2</sub> SO <sub>4</sub> ) *PC-4: Sodium Hydroxide (NaOH) *PC-5: Sodium Thiosulfate (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ) *PC-6: Ascorbic acid (C <sub>6</sub> H <sub>8</sub> O <sub>6</sub> ) *PC-7: Zinc acetate (C <sub>4</sub> H <sub>8</sub> O <sub>4</sub> Zn) / Sodium Hydroxide (NaOH) *PC-8: Ammonium chloride (NH <sub>4</sub> CL) *PC-9: Copper Sulfate (CuSO <sub>4</sub> ·5H <sub>2</sub> O) *PC-I: Ice *PC-N: None *PC-O: Other							Number of Containers	Dissolved Metals	Field Filtered: Y/N	Preservative*:					
SR 1st Review:	AMM	CS 2nd Review:	LAN												
CLIENT SAMPLE ID	Lab Use Only	DATE SAMPLED	TIME (24 hr)	SAMPLE MATRIX	SAMPLE TYPE										
OW-2RR	001	10-28-24	1025	GW	G	7		1	1	1	1	1	1	1	
OW-3RR	002	10-28-24	0950	GW	G	7		1	1	1	1	3			
TRIP	-	10-28-24	-	W	G	✓						✓			
Relinquished by:	BEN RAMEAWAN		Date/Time:	10/28/2024 1300		Received by:			Date/Time:						
Relinquished by:			Date/Time:			Received at lab by:			Date/Time:						
Printed Sampler Name:	BEN RAMEAWAN		Logged in by:						Date/Time:						
Sample Matrix:	GW Ground Water	ST Storm Water	SW Surface Water	PW Potable Water	WW Wastewater	SO Soil	SL Sludge	C Coal	PO/Quote #:						
Sample Type:	G Grab	C Composite	D Distribution/DW	E Entry Point/DW	R Raw/DW	S Special/DW	O Other	nHZ Not Hazardous / HZ Hazardous							

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**SAMPLES MUST BE RECEIVED ON ICE.**

**REQUEST FOR LABORATORY  
ANALYTICAL SERVICES**

## Chain of Custody (COC)

**Shuttle/Cooler ID#**

Billing Client	Chain of Custody (COO)					Name		E-mail Address														
	Company <u>A LL</u>					<u>OWEN FEQUEA</u>		<u>OWEN.FEQUEA@ATLCLL.NET</u>														
	Mailing Address <u>11545 Wines Rd, Ste 100</u>					Telephone No. <u>770.548.2741</u>		Landfill Site <u>BUTTON Gwinnett</u>														
	City, State, Zip <u>ALPHARETTA GA 30009</u>					State Sampled <u>GA</u>		PWS Number														
Special Instruction/Project ID/Analyte List/Comment:  <u>No Leaching Samples</u> <u>Properly for Return</u> <u>Coolers</u>					<b>ANALYSIS REQUESTED</b> Enter 'X' in box below to indicate request and use appropriate preservation code listed to the left																	
*PC-1: Nitric acid (HNO <sub>3</sub> ) *PC-2: Hydrochloric acid (HCl) *PC-3: Sulfuric acid (H <sub>2</sub> SO <sub>4</sub> ) *PC-4: Sodium Hydroxide (NaOH) *PC-5: Sodium Thiosulfate (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ) *PC-6: Ascorbic acid (C <sub>6</sub> H <sub>8</sub> O <sub>6</sub> ) *PC-7: Zinc acetate (C <sub>4</sub> H <sub>6</sub> O <sub>4</sub> Zn) / Sodium Hydroxide (NaOH) *PC-8: Ammonium chloride (NH <sub>4</sub> CL) *PC-9: Copper Sulfate (CuSO <sub>4</sub> ·5H <sub>2</sub> O) *PC-I: Ice *PC-N: None *PC-O: Other					Number of Containers	Dissolved Metals	Field Filtered: Y/N				Preservative*:	Preservative*:	Preservative*:									
SR 1st Review: <u>AMM</u>	CS 2nd Review: <u>LAD</u>	Field Filtered: <u>N</u>	Preservative*: <u>N</u>	Preservative*: <u>N</u>		Preservative*: <u>N</u>	Preservative*: <u>N</u>	Preservative*: <u>N</u>	Preservative*: <u>N</u>	Preservative*: <u>N</u>	Preservative*: <u>N</u>	Preservative*: <u>N</u>	Preservative*: <u>N</u>	Preservative*: <u>N</u>	Preservative*: <u>N</u>	Preservative*: <u>N</u>	Preservative*: <u>N</u>	Preservative*: <u>N</u>	Preservative*: <u>N</u>	Preservative*: <u>N</u>		
CLIENT SAMPLE ID	Lab Use Only	DATE SAMPLED	TIME (24 hr)	SAMPLE MATRIX	SAMPLE TYPE	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
<u>SWB-1</u>	<u>001</u>	<u>10-28-24</u>	<u>0745</u>	<u>SW</u>	<u>G</u>	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
<u>SWC-3</u>	<u>002</u>	<u>10-28-24</u>	<u>0830</u>	<u>SW</u>	<u>G</u>	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
<u>SWC-1</u>	<u>003</u>	<u>10-28-24</u>	<u>1045</u>	<u>SW</u>	<u>G</u>	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
<u>SWC-2</u>	<u>004</u>	<u>10-28-24</u>	<u>1100</u>	<u>SW</u>	<u>G</u>	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Relinquished by: <u>Ben Ramgawan</u>	Date/Time: <u>10/28/2024 1300</u>			Received by: _____				Date/Time: _____														
Relinquished by: _____	Date/Time: _____			Received at lab by: <u>Jak L MS</u>				Date/Time: <u>10-29-24 1128</u>														
Printed Sampler Name: <u>BEN RAMGAWAN</u>				Logged in by: <u>Jak L MS</u>				Date/Time: <u>1</u>														
Sample Matrix:	GW Ground Water	ST Storm Water	SW Surface Water	PW Potable Water	WW Wastewater	SO Soil	SL Sludge	C Coal	PO/Quote #:													
Sample Type:	G Grab	C Composite	D Distribution/DW	E Entry Point/DW	R Raw/DW	S Special/DW	O Other	nHZ Not Hazardous / HZ Hazardous														

Please return completed form and samples to **Geochemical Testing • 2005 N Center Ave • Somerset, PA • 15501** • 814-443-1671 • (Fax: 814-445-6729)

**SAMPLES MUST BE RECEIVED ON ICE**

## **APPENDIX C**

### **STATISTICAL ANALYSIS REPORT BY OTTER CREEK ENVIRONMENTAL SERVICES, LLC.**

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## **RESULTS OF THE GROUND WATER STATISTICS FOR BUTTON GWINNETT LANDFILL**

Second Semi-Annual Monitoring Event In 2024

*Prepared for:*  
Button Gwinnett Landfill

*Prepared by:*  
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**November 2024**

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## **Introduction**

This report summarizes the results of the statistical analyses used to evaluate the ground water data obtained during the second semi-annual monitoring event in 2024 at Button Gwinnett Landfill. Monitoring wells GWA-1A and GWA-2A are hydraulically upgradient from the disposal area, GWB-2 and GWB-3 are side gradient. The area downgradient to the site is monitored by wells designated as GWC-10, GWC-11, GWC-12A, GWC-13, GWC-1AR, GWC-2A, GWC-2RA, GWC-3A, GWC-3RA, GWC-5A, GWC-6A, GWC-7AR, GWC-8A, GWC-8R, and GWC-9A. These ground water wells were sampled during October 23-28, 2024 and analyzed for the constituents contained in 40 CFR Part 258 Appendix I plus additional ground water quality parameters. The ground water data obtained are summarized in Attachment A.

In accordance with the Button Gwinnett Landfill statistical plan, introwell comparisons were used to evaluate the current ground water data. The statistical method used to evaluate the ground water data was prepared by Dr. Robert Gibbons and is in accordance with the EPA statistical guidance document (“*Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Unified Guidance*”, March 2009) and ASTM standard D6312-98 (“*Standard Guide for Developing Appropriate Statistical Approaches for Ground-Water Detection Monitoring Programs*”).

## **Ground Water Data Comparisons**

### ***40 CFR Part 258, Appendix I Trace Metals***

Introwell statistics are appropriate for facilities where the upgradient wells do not accurately characterize the natural ground water conditions downgradient from the facility. This may be due to different hydrogeological conditions where the wells are screened, having too few upgradient wells to account for the spatial variability, or the site exhibiting no definable hydraulic gradient. Introwell statistics compare new measurements to the historical data at each ground water monitoring well independently. It is recommended that at least eight background samples are obtained prior to performing the statistics to control the number of false assessments.

The most useful technique for introwell comparisons is the combined Shewhart-CUSUM control chart. This control chart procedure is useful because it will detect releases both in terms of the constituent concentration and cumulative increases. This method is also extremely sensitive to sudden and gradual releases. A requirement for constructing these control charts is that the parameter is detected at a frequency greater than or equal to 25%.

The database is screened for outliers using the Dixon test. An erroneous data point, if not removed prior to the mean and variance computations, would yield a larger control limit thus increasing the false negative rate. Anomalous data will still be plotted on the graphs but will not be included in the calculations. The background data is tested for existing trends using Sen's slope test.

The combined Shewhart-CUSUM control chart assumes that the data are independent and normally distributed with a fixed mean and a constant variance. It is recommended that at least eight rounds of data be available to provide a reliable estimate of the mean and standard deviation of the parameter concentration, although the control charts will be generated with as few as four data points.

Many ground water-monitoring parameters are not detected at a frequency great enough to generate the combined Shewhart-CUSUM control charts. For constituents that are detected less than 25% of the time monitored at a particular well, the data should be plotted as a time series until a sufficient number of data points are available to provide a 99% confidence nonparametric prediction limit. Thirteen independent measurements (with 1 resample) are necessary to achieve a 99% confidence (1% false positive rate) nonparametric prediction limit. The nonparametric prediction limit is the largest determination out of the data set collected for that well and parameter. If the detection frequency is 0% after thirteen samples have been collected, the PQL becomes the nonparametric prediction limit.

The previous background included all historical data obtained from 1996 through 2006 for all monitoring wells. As ground water monitoring at a municipal solid waste facility proceeds, it is recommended to update background data sets periodically with valid detection monitoring results that are representative of background groundwater quality not affected by leakage from a monitored unit. Failure to update background will exclude factors such as natural temporal variation, changes in field or laboratory methodologies, and changes in the water table due to meteorological conditions or other influences. Since there have been no exceedances attributed to the landfill, the background was updated to include data obtained from 2000 through 2018 for each of these wells.

The data obtained during the second semi-annual monitoring event in 2024 were compared to background. A summary of the introwell statistics is included in Attachment B, Table 1 “Summary Statistics and Intermediate Computations for Combined Shewhart-CUSUM Control Charts.” The control charts or time series graphs follow the table. For the parameters evaluated, the control limit exceedances detected are summarized in the table below.

**Control Limit Exceedances During the Second Semi-Annual Monitoring Event in 2024**

Sample Point	Trace Metal	Result	CUSUM Value	Control Limit	Control Limit Type	Verified/ Awaiting Verification
GWA-2A	Barium	70.0	126.2525	112.9842	Normal	Verified
GWC-5A	Cobalt	15.0	24.1677	19.3983	Normal	Verified

The updated background data for each well and constituent is tested for existing trends using Sen's nonparametric estimate of trend. Increasing trends were detected in the background for barium at GWA-2A, cobalt at GWB-2, barium at GWC-11, zinc at GWC-3A, barium and cobalt at GWC-5A, barium at GWC-8A, and barium at GWC-8R.

For introwell analysis, the site-wide false positive rate is 2% and the test becomes sensitive to 3 standard deviation unit increases over background.

**40 CFR Part 258, Appendix I Volatile Organic Compounds**

The ground water samples obtained during the second semi-annual monitoring event in 2024 were monitored for the 40 CFR Part 258, Appendix I VOCs. Organic compounds detected in the ground water during the second semi-annual monitoring event in 2024 are summarized in the table below.

**Organic compounds detected in the ground water during the second semi-annual monitoring event in 2024.**

Well	VOC Detected	Result, µg/L	Reporting Limit, µg/L	Verified/Awaiting Verification	Water Quality Standard
GWC-11	Chlorobenzene	2.5	2	Verified	100 <sup>a</sup>
GWC-5A	Chlorobenzene	3.1	2	Verified	100 <sup>a</sup>

a - USEPA MCL

b- Regional Screening Level

A summary of the historical occurrences of organic compounds in the ground water is in Attachment C.

***Assessment Monitoring***

Due to past VOC detections in the ground water, assessment monitoring was initiated for ground water wells GWC-1AR, GWC-11, and GWC-5A. The 95% LCL of the verified organic detections were compared to the respective standards in accordance with the Button Gwinnett Landfill Assessment Monitoring Plan. The assessment statistics for these parameters are in Attachment D. The 95% LCLs are below the respective standards.

*Results of the Ground Water Statistics for Button Gwinnett Landfill  
Second Semi-Annual Monitoring Event in 2024*

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**Attachment A**

Summary of the Ground Water Data obtained  
During the Second Semi-Annual Monitoring Event in 2024

**Table 1****Analytical Data Summary for 10/23/2024**

<b>Constituents</b>	<b>Units</b>	<b>GWA-1A</b>	<b>GWA-2A</b>	<b>GWB-1</b>	<b>GWB-2</b>	<b>GWB-3</b>	<b>GWC-11</b>	<b>GWC-1AR</b>	<b>GWC-7AR</b>
0,0,0-Triethylphosphorothioate	ug/L	<9.9					<10.0		
1,1,1,2-Tetrachloroethane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloropropene	ug/L	<5					<5		
1,2,3-Trichloropropane	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
1,2,4,5-Tetrachlorobenzene	ug/L	<9.9					<10.0		
1,2,4-Trichlorobenzene	ug/L	<9.9					<10.0		
1,2-dibromo-3-chloropropane (dbcp)	ug/L	<.2	<5.0	<5.0	<5.0	<5.0	<.2	<5.0	<5.0
1,2-Dibromoethane (EDB)	ug/L	<.05	<1.00	<1.00	<1.00	<1.00	<.05	<1.00	<1.00
1,2-Dichlorobenzene	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
1,2-Dichloroethane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloropropane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
1,3-Dichlorobenzene	ug/L	<5					<5		
1,3-Dichloropropane	ug/L	<5					<5		
1,3-Dinitrobenzene	ug/L	<20					<20		
1,4-Dichlorobenzene	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
1,4-Naphthoquinone	ug/L	<9.9					<10.0		
1-Naphthylamine	ug/L	<9.9					<10.0		
2,2-Dichloropropane	ug/L	<5					<5		
2,3,4,6-Tetrachlorophenol	ug/L	<20					<20		
2,4,5-T	ug/L	<.5					<.5		
2,4,5-Trichlorophenol	ug/L	<9.9					<10.0		
2,4,6-Trichlorophenol	ug/L	<9.9					<10.0		
2,4-D	ug/L	<.5					<.5		
2,4-Dichlorophenol	ug/L	<9.9					<10.0		
2,4-Dimethylphenol	ug/L	<9.9					<10.0		
2,4-Dinitrophenol	ug/L	<20					<20		
2,4-Dinitrotoluene	ug/L	<9.9					<10.0		
2,6-Dichlorophenol	ug/L	<9.9					<10.0		
2,6-Dinitrotoluene	ug/L	<9.9					<10.0		
2-Acetylaminofluorene	ug/L	<20					<20		
2-chloro-1,3-butadiene	ug/L	<5					<5		
2-Chloronaphthalene	ug/L	<9.9					<10.0		
2-Chlorophenol	ug/L	<9.9					<10.0		
2-Hexanone	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
2-Methylnaphthalene	ug/L	<9.9					<10.0		
2-methylphenol	ug/L	<9.9					<10.0		
2-Naphthylamine	ug/L	<9.9					<10.0		
2-Nitroaniline	ug/L	<9.9					<10.0		
2-Nitrophenol	ug/L	<9.9					<10.0		
3,3'-Dichlorobenzidine	ug/L	<20					<20		
3,3'-Dimethylbenzidine	ug/L	<40					<40		
3,4-Methylphenol	ug/L	<9.9					<10.0		
3-Chloropropene	ug/L	<5					<5		
3-Methylcholanthrene	ug/L	<9.9					<10.0		
3-Nitroaniline	ug/L	<9.9					<10.0		
4,4'-DDD	ug/L	<.051					<.050		
4,4'-DDE	ug/L	<.051					<.050		
4,4'-DDT	ug/L	<.051					<.050		
4,6-dinitro-2-methylphenol	ug/L	<20					<20		

\* - The displayed value is the arithmetic mean of multiple database matches.

**Table 1****Analytical Data Summary for 10/23/2024**

Constituents	Units	GWA-1A	GWA-2A	GWB-1	GWB-2	GWB-3	GWC-11	GWC-1AR	GWC-7AR
4-Aminobiphenyl	ug/L	<9.9					<10.0		
4-Bromophenyl phenyl ether	ug/L	<9.9					<10.0		
4-chloro-3-methylphenol	ug/L	<9.9					<10.0		
4-Chloroaniline	ug/L	<9.9					<10.0		
4-Chlorodiphenylether	ug/L	<9.9					<10.0		
4-Nitroaniline	ug/L	<9.9					<10.0		
4-Nitrophenol	ug/L	<20					<20		
5-Nitro-o-toluidine	ug/L	<20					<20		
7,12-Dimethylbenz(a)anthracene	ug/L	<9.9					<10.0		
Acenaphthene	ug/L	<9.9					<10.0		
Acenaphthylene	ug/L	<9.9					<10.0		
Acetone	ug/L	<34	<34	<34	<34	<34	<34	<34	<34
Acetonitrile	ug/L	<50					<50		
Acetophenone	ug/L	<9.9					<10.0		
Acrolein	ug/L	<100					<100		
Acrylonitrile	ug/L	<100	<100	<100	<100	<100	<100	<100	<100
Aldrin	ug/L	<.051					<.050		
Alkalinity, Total (As CaCO <sub>3</sub> )	mg/L	19	10	131	12	11	248	82	91
Alpha Endosulfan	ug/L	<.051					<.050		
alpha-BHC	ug/L	<.051					<.050		
Ammonia (As N)	mg/L	<.10	<.10	4.53	<.10	<.10	<.10	.37	<.10
Anthracene	ug/L	<9.9					<10.0		
Antimony, Total	ug/L	<6	<6	<6	<6	<6	<6	<6	<6
Arsenic, Total	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
Barium, Total	ug/L	60	70	130	90	40	120	70	60
Benzene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Benzo(a)anthracene	ug/L	<9.9					<10.0		
Benzo(a)pyrene	ug/L	<9.9					<10.0		
Benzo(b)fluoranthene	ug/L	<9.9					<10.0		
Benzo(ghi)perylene	ug/L	<9.9					<10.0		
Benzo(k)fluoranthene	ug/L	<9.9					<10.0		
Benzyl alcohol	ug/L	<20					<20		
Beryllium, Total	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Beta Endosulfan	ug/L	<.051					<.050		
beta-BHC	ug/L	<.051					<.050		
Bis(2-chloroethoxy) methane	ug/L	<9.9					<10.0		
Bis(2-chloroethyl) ether	ug/L	<9.9					<10.0		
Bis(2-chloroisopropyl) ether	ug/L	<9.9					<10.0		
Bis(2-ethylhexyl) phthalate	ug/L	<5					<5		
Bromochloromethane	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
Bromoform	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Bromomethane	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
Butyl benzyl phthalate	ug/L	<9.9					<10.0		
Cadmium, Total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Calcium, Total	mg/L	3.1					44.4		
Carbon Disulfide	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Chlordane	ug/L	<1					<1		
Chloride	mg/L	5.7	4.8	46.6	4.3	1.4	13.2	4.3	3.5
Chlorobenzene	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	2.5	<2.0	<2.0
Chlorobenzilate	ug/L	<20					<20		
Chloroethane	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
Chloroform	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Chloromethane	ug/L	<10	<10	<10	<10	<10	<10	<10	<10

\* - The displayed value is the arithmetic mean of multiple database matches.

**Table 1****Analytical Data Summary for 10/23/2024**

Constituents	Units	GWA-1A	GWA-2A	GWB-1	GWB-2	GWB-3	GWC-11	GWC-1AR	GWC-7AR
Chromium, Total	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
Chrysene	ug/L	<9.9					<10.0		
cis-1,2-Dichloroethene	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
cis-1,3-Dichloropropene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Cobalt, Total	ug/L	6	<5	<5	24	<5	<5	6	<5
Copper, Total	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
Cyanide, Total	mg/L	<.02					<.02		
delta-BHC	ug/L	<.051					<.050		
Diallate	ug/L		<20				<20		
Dibenzo(a,h)anthracene	ug/L		<9.9				<10.0		
Dibenzofuran	ug/L		<9.9				<10.0		
Dibromochloromethane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Dibromomethane	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
Dichlorobromomethane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Dichlorodifluoromethane	ug/L		<1				<1		
Dieldrin	ug/L		<.051				<.050		
Diethyl phthalate	ug/L		<9.9				<10.0		
Dimethoate	ug/L		<20				<20		
Dimethyl phthalate	ug/L		<9.9				<10.0		
Di-n-butyl phthalate	ug/L		<9.9				<10.0		
Di-n-octyl phthalate	ug/L		<9.9				<10.0		
Dinoseb	ug/L		<10				<10		
Diphenylamine	ug/L		<9.9				<10.0		
Disulfoton	ug/L		<20				<20		
Electrical conductance (field)	UMHOS/CM	72	111	433	64	23	475	269	178
Endosulfan Sulfate	ug/L	<.051					<.050		
Endrin	ug/L	<.051					<.050		
Endrin aldehyde	ug/L	<.051					<.050		
Ethyl methacrylate	ug/L		<5				<5		
Ethyl methane sulfonate	ug/L		<9.9				<10.0		
Ethylbenzene	ug/L		<5				<5		
Famphur	ug/L		<40				<40		
Fluoranthene	ug/L		<9.9				<10.0		
Fluorene	ug/L		<9.9				<10.0		
gamma-BHC (Lindane)	ug/L	<.051					<.050		
Heptachlor	ug/L	<.051					<.050		
Heptachlor epoxide	ug/L	<.051					<.050		
Hexachlorobenzene	ug/L		<9.9				<10.0		
Hexachlorobutadiene	ug/L		<9.9				<10.0		
Hexachlorocyclopentadiene	ug/L		<9.9				<10.0		
Hexachloroethane	ug/L		<9.9				<10.0		
Hexachloropropene	ug/L		<9.9				<10.0		
Indeno(1,2,3-cd)pyrene	ug/L		<9.9				<10.0		
Iodomethane	ug/L		<10				<10		
Iron, Total	ug/L	550					3590		
Isobutanol	ug/L		<200				<200		
Isodrin	ug/L		<20				<20		
Isophorone	ug/L		<9.9				<10.0		
Isosafrole	ug/L		<9.9				<10.0		
Kepone	ug/L		<50				<50		
Lead, Total	ug/L	<5					<5		
Magnesium, Total	mg/L	1.59					12.40		
Mercury, Total	ug/L	<.4					<.4		
Methacrylonitrile	ug/L	<10					<10		

\* - The displayed value is the arithmetic mean of multiple database matches.

**Table 1****Analytical Data Summary for 10/23/2024**

Constituents	Units	GWA-1A	GWA-2A	GWB-1	GWB-2	GWB-3	GWC-11	GWC-1AR	GWC-7AR
Methapyrilene	ug/L	<50					<50		
Methoxychlor	ug/L	<.1					<.1		
Methyl Ethyl Ketone	ug/L	<50	<50	<50	<50	<50	<50	<50	<50
Methyl Isobutyl Ketone	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
Methyl methacrylate	ug/L	<5					<5		
Methyl methanesulfonate	ug/L	<9.9					<10.0		
Methyl parathion	ug/L	<9.9					<10.0		
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene	ug/L	<9.9					<10.0		
Nickel, Total	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
Nitrate (as n)	mg/L	1.18	7.73				.34		
Nitrobenzene	ug/L	<9.9					<10.0		
N-Nitrosodiethylamine	ug/L	<9.9					<10.0		
N-Nitrosodimethylamine	ug/L	<9.9					<10.0		
N-Nitrosodi-n-butylamine	ug/L	<9.9					<10.0		
N-Nitroso-Di-n-propylamine	ug/L	<9.9					<10.0		
N-nitrosodiphenylamine	ug/L	<20					<20		
N-Nitrosomethylethylamine	ug/L	<9.9					<10.0		
N-Nitrosopiperidine	ug/L	<9.9					<10.0		
N-Nitrosopyrrolidine	ug/L	<9.9					<10.0		
o-Toluidine	ug/L	<9.9					<10.0		
Parathion	ug/L	<9.9					<10.0		
PCB 1016	ug/L	<.4					<.4		
PCB 1221	ug/L	<.4					<.4		
PCB 1232	ug/L	<.4					<.4		
PCB 1242	ug/L	<.4					<.4		
PCB 1248	ug/L	<.4					<.4		
PCB 1254	ug/L	<.4					<.4		
PCB 1260	ug/L	<.4					<.4		
p-Dimethylaminoazobenzene	ug/L	<9.9					<10.0		
Pentachlorobenzene	ug/L	<9.9					<10.0		
Pentachloronitrobenzene	ug/L	<9.9					<10.0		
Pentachlorophenol	ug/L	<20					<20		
pH (Field)	S.U.	5.46	5.53	6.20	4.76	4.98	6.14	5.86	6.08
Phenacetin	ug/L	<9.9					<10.0		
Phenanthrene	ug/L	<9.9					<10.0		
Phenol	ug/L	<9.9					<10.0		
Phorate	ug/L	<20					<20		
Potassium, Total	mg/L	1.2					1.6		
p-Phenylenediamine	ug/L	<800					<800		
Pronamide	ug/L	<9.9					<10.0		
Propionitrile	ug/L	<100					<100		
Pyrene	ug/L	<9.9					<10.0		
Safrole	ug/L	<9.9					<10.0		
Selenium, Total	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
Silver, Total	ug/L	<50	<50	<50	<50	<50	<50	<50	<50
Silvex	ug/L	<.5					<.5		
Sodium, Total	mg/L	4.3					13.8		
Styrene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Sulfate	mg/L	<2.0	<2.0				10.8		
Sulfide	mg/L	<1					<1		
sym-Trinitrobenzene	ug/L	<9.9					<10.0		
Temperature (field test)	°C	16.9	20.7	28.1	18.6	18.2	21.1	22.2	21.6
Tetrachloroethene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5

\* - The displayed value is the arithmetic mean of multiple database matches.

**Table 1****Analytical Data Summary for 10/23/2024**

Constituents	Units	GWA-1A	GWA-2A	GWB-1	GWB-2	GWB-3	GWC-11	GWC-1AR	GWC-7AR
Thallium, Total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Thionazin	ug/L	<20					<20		
Tin, Total	ug/L	<100					<100		
Toluene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Total Dissolved Solids	mg/L	40	78		58	<20	256	128	102
Total Organic Carbon (TOC)	mg/L	<1.0					2.9		
Total Xylenes	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
Toxaphene	ug/L	<2					<2		
trans-1,2-Dichloroethene	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
trans-1,3-Dichloropropene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
trans-1,4-Dichloro-2-butene	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
Trichloroethene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
Turbidity (field)	N.T.U.	3.66	1.68	4.92	2.55	1.85	1.67	4.36	2.22
Vanadium, Total	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl acetate	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
Vinyl chloride	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, Total	ug/L	<5.0	<10.0	<10.0	<10.0	<10.0	5.4	<10.0	<10.0

\* - The displayed value is the arithmetic mean of multiple database matches.

Table 2

## Analytical Data Summary for 10/24/2024

Constituents	Units	GWC-10	GWC-12A	GWC-13	GWC-2A	GWC-2RA	GWC-3A	GWC-3RA	GWC-6A	GWC-8A	GWC-8R
1,1,1,2-Tetrachloroethane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,2-dibromo-3-chloropropane (dbcp)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane (EDB)	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,2-Dichloroethane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloropropane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,4-Dichlorobenzene	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2-Hexanone	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acetone	ug/L	<34	<34	<34	<34	<34	<34	<34	<34	<34	<34
Acrylonitrile	ug/L	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Alkalinity, Total (As CaCO <sub>3</sub> )	mg/L	50	110	63	113	180	63	114	61	25	89
Ammonia (As N)	mg/L	<.10	<.10	<.10	3.03	.20	3.36	3.93	1.56	.27	<.10
Antimony, Total	ug/L	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
Arsenic, Total	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Barium, Total	ug/L	10	50	20	130	40	120	100	70	30	60
Benzene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Beryllium, Total	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bromoform	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromomethane	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Cadmium, Total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Disulfide	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloride	mg/L	15.8	1.0	3.3	4.0	3.2	5.8	4.1	4.1	<1.0	5.0
Chlorobenzene	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Chloroethane	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloroform	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloromethane	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chromium, Total	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
cis-1,2-Dichloroethene	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
cis-1,3-Dichloropropene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cobalt, Total	ug/L	<5	<5	<5	<5	<5	7	<5	<5	<5	<5
Copper, Total	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Dibromochloromethane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromomethane	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Dichlorobromomethane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Electrical conductance (field)	UMHOS/CM	170	154	153	296	333	180	288	168	67	205
Ethylbenzene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Iodomethane	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Lead, Total	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl Ethyl Ketone	ug/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Methyl Isobutyl Ketone	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, Total	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Nitrate (as n)	mg/L			1.64							
pH (Field)	S.U.	5.91	6.35	5.89	6.60	6.50	6.15	6.56	6.44	5.91	6.52
Selenium, Total	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Silver, Total	ug/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50

\* - The displayed value is the arithmetic mean of multiple database matches.

**Table 2****Analytical Data Summary for 10/24/2024**

Constituents	Units	GWC-10	GWC-12A	GWC-13	GWC-2A	GWC-2RA	GWC-3A	GWC-3RA	GWC-6A	GWC-8A	GWC-8R
Styrene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Sulfate	mg/L		6								
Temperature (field test)	øC	17.6	15.4	18.0	25.7	24.9	19.6	18.9	21.5	18.5	16.8
Tetrachloroethene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Thallium, Total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Toluene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Dissolved Solids	mg/L	96	170	96	96	188	80	114	68	54	130
Total Xylenes	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
trans-1,2-Dichloroethene	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
trans-1,3-Dichloropropene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
trans-1,4-Dichloro-2-butene	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Trichloroethene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Turbidity (field)	N.T.U.	3.53	4.40	4.65	3.66	6.80	4.35	4.14	5.07	3.97	1.06
Vanadium, Total	ug/L	<5	5	<5	<5	<5	<5	<5	<5	7	<5
Vinyl acetate	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Vinyl chloride	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, Total	ug/L	<10	<10	<10	<10	<10	100	<10	420	<10	<10

\* - The displayed value is the arithmetic mean of multiple database matches.

**Table 3****Analytical Data Summary for 10/28/2024**

Constituents	Units	GWC-5A	OW-2RR	OW-3RR	SWB-1	SWC-1	SWC-2	SWC-3
0,0,0-Triethylphosphorothioate	ug/L	<10						
1,1,1,2-Tetrachloroethane	ug/L	<5	<5	<5				
1,1,1-Trichloroethane	ug/L	<5	<5	<5				
1,1,2,2-Tetrachloroethane	ug/L	<5	<5	<5				
1,1,2-Trichloroethane	ug/L	<5	<5	<5				
1,1-Dichloroethane	ug/L	<2	<2	<2				
1,1-Dichloroethene	ug/L	<5	<5	<5				
1,1-Dichloropropene	ug/L	<5						
1,2,3-Trichloropropane	ug/L	<10	<10	<10				
1,2,4,5-Tetrachlorobenzene	ug/L	<10						
1,2,4-Trichlorobenzene	ug/L	<10						
1,2-dibromo-3-chloropropane (dbcp)	ug/L	<.2	<5.0	<5.0				
1,2-Dibromoethane (EDB)	ug/L	<.05	<1.00	<1.00				
1,2-Dichlorobenzene	ug/L	<10	<10	<10				
1,2-Dichloroethane	ug/L	<5	<5	<5				
1,2-Dichloropropane	ug/L	<5	<5	<5				
1,3-Dichlorobenzene	ug/L	<5						
1,3-Dichloropropene	ug/L	<5						
1,3-Dinitrobenzene	ug/L	<20						
1,4-Dichlorobenzene	ug/L	<10	<10	<10				
1,4-Naphthoquinone	ug/L	<10						
1-Naphthylamine	ug/L	<10						
2,2-Dichloropropene	ug/L	<5						
2,3,4,6-Tetrachlorophenol	ug/L	<20						
2,4,5-T	ug/L	<.5						
2,4,5-Trichlorophenol	ug/L	<10						
2,4,6-Trichlorophenol	ug/L	<10						
2,4-D	ug/L	<.5						
2,4-Dichlorophenol	ug/L	<10						
2,4-Dimethylphenol	ug/L	<10						
2,4-Dinitrophenol	ug/L	<20						
2,4-Dinitrotoluene	ug/L	<10						
2,6-Dichlorophenol	ug/L	<10						
2,6-Dinitrotoluene	ug/L	<10						
2-Acetylaminofluorene	ug/L	<20						
2-chloro-1,3-butadiene	ug/L	<5						
2-Chloronaphthalene	ug/L	<10						
2-Chlorophenol	ug/L	<10						
2-Hexanone	ug/L	<10						
2-Methylnaphthalene	ug/L	<10						
2-methylphenol	ug/L	<10						
2-Naphthylamine	ug/L	<10						
2-Nitroaniline	ug/L	<10						
2-Nitrophenol	ug/L	<10						
3,3'-Dichlorobenzidine	ug/L	<20						
3,3'-Dimethylbenzidine	ug/L	<40						
3,4-Methylphenol	ug/L	<10						
3-Chloropropene	ug/L	<5						
3-Methylcholanthrene	ug/L	<10						
3-Nitroaniline	ug/L	<10						
4,4'-DDD	ug/L	<.05						
4,4'-DDE	ug/L	<.05						
4,4'-DDT	ug/L	<.05						
4,6-dinitro-2-methylphenol	ug/L	<20						

\* - The displayed value is the arithmetic mean of multiple database matches.

**Table 3****Analytical Data Summary for 10/28/2024**

Constituents	Units	GWC-5A	OW-2RR	OW-3RR	SWB-1	SWC-1	SWC-2	SWC-3
4-Aminobiphenyl	ug/L	<10						
4-Bromophenyl phenyl ether	ug/L	<10						
4-chloro-3-methylphenol	ug/L	<10						
4-Chloroaniline	ug/L	<10						
4-Chlorodiphenylether	ug/L	<10						
4-Nitroaniline	ug/L	<10						
4-Nitrophenol	ug/L	<20						
5-Nitro-o-toluidine	ug/L	<20						
7,12-Dimethylbenz(a)anthracene	ug/L	<10						
Acenaphthene	ug/L	<10						
Acenaphthylene	ug/L	<10						
Acetone	ug/L	<34	<34	<34				
Acetonitrile	ug/L	<50						
Acetophenone	ug/L	<10						
Acrolein	ug/L	<100						
Acrylonitrile	ug/L	<100	<100	<100				
Aldrin	ug/L	<.05						
Alkalinity, Total (As CaCO <sub>3</sub> )	mg/L	178	95	13				
Alpha Endosulfan	ug/L	<.05						
alpha-BHC	ug/L	<.05						
Ammonia (As N)	mg/L	<.10	5.54	<.10				
Anthracene	ug/L	<10						
Antimony, Total	ug/L	<6	<6	<6				
Arsenic, Total	ug/L	<10	<10	<10	<10	<10	<10	<10
Barium, Total	ug/L	200	190	20	30	30	40	30
Benzene	ug/L	<5	<5	<5				
Benzo(a)anthracene	ug/L	<10						
Benzo(a)pyrene	ug/L	<10						
Benzo(b)fluoranthene	ug/L	<10						
Benzo(ghi)perylene	ug/L	<10						
Benzo(k)fluoranthene	ug/L	<10						
Benzyl alcohol	ug/L	<20						
Beryllium, Total	ug/L	<1	<1	<1				
Beta Endosulfan	ug/L	<.05						
beta-BHC	ug/L	<.05						
Bis(2-chloroethoxy) methane	ug/L	<10						
Bis(2-chloroethyl) ether	ug/L	<10						
Bis(2-chloroisopropyl) ether	ug/L	<10						
Bis(2-ethylhexyl) phthalate	ug/L	<5.1						
Bromo(chloromethane	ug/L	<10						
Bromoform	ug/L	<5	<5	<5				
Bromomethane	ug/L	<10	<10	<10				
Butyl benzyl phthalate	ug/L	<10						
Cadmium, Total	ug/L	<2	<2	<2	<2	<2	<2	<2
Calcium, Total	mg/L	44.1						
Carbon Disulfide	ug/L	<5	<5	<5				
Carbon Tetrachloride	ug/L	<5	<5	<5				
Chemical oxygen demand (cod)	mg/L				19	11	10	11
Chlordane	ug/L	<.99						
Chloride	mg/L	18.7	13.4	1.8	23.7	6.3	6.4	6.2
Chlorobenzene	ug/L	3.1	<2.0	<2.0				
Chlorobenzilate	ug/L	<20						
Chloroethane	ug/L	<10	<10	<10				
Chloroform	ug/L	<5	<5	<5				

\* - The displayed value is the arithmetic mean of multiple database matches.

**Table 3****Analytical Data Summary for 10/28/2024**

Constituents	Units	GWC-5A	OW-2RR	OW-3RR	SWB-1	SWC-1	SWC-2	SWC-3
Chloromethane	ug/L	<10	<10	<10				
Chromium, Total	ug/L	<10	<10	<10	<10	<10	<10	<10
Chrysene	ug/L	<10						
cis-1,2-Dichloroethene	ug/L	<10	<10	<10				
cis-1,3-Dichloropropene	ug/L	<5	<5	<5				
Cobalt, Total	ug/L	15	<5	<5				
Copper, Total	ug/L	<10	<10	<10				
Cyanide, Total	mg/L	<.02			<.02	<.02	<.02	<.02
delta-BHC	ug/L	<.05						
Diallate	ug/L	<20						
Dibenzo(a,h)anthracene	ug/L	<10						
Dibenzofuran	ug/L	<10						
Dibromochloromethane	ug/L	<5	<5	<5				
Dibromomethane	ug/L	<10	<10	<10				
Dichlorobromomethane	ug/L	<5	<5	<5				
Dichlorodifluoromethane	ug/L	<1						
Dieleadrin	ug/L	<.05						
Diethyl phthalate	ug/L	<10						
Dimethoate	ug/L	<20						
Dimethyl phthalate	ug/L	<10						
Di-n-butyl phthalate	ug/L	<10						
Di-n-octyl phthalate	ug/L	<10						
Dinoseb	ug/L	<10						
Diphenylamine	ug/L	<10						
Disulfoton	ug/L	<20						
Electrical conductance (field)	UMHOS/CM	409	330	38	227	106	105	109
Endosulfan Sulfate	ug/L	<.05						
Endrin	ug/L	<.05						
Endrin aldehyde	ug/L	<.05						
Ethyl methacrylate	ug/L	<5						
Ethyl methane sulfonate	ug/L	<10						
Ethylbenzene	ug/L	<5	<5	<5				
Famphur	ug/L	<40						
Fluoranthene	ug/L	<10						
Fluorene	ug/L	<10						
gamma-BHC (Lindane)	ug/L	<.05						
Heptachlor	ug/L	<.05						
Heptachlor epoxide	ug/L	<.05						
Hexachlorobenzene	ug/L	<10						
Hexachlorobutadiene	ug/L	<10						
Hexachlorocyclopentadiene	ug/L	<10						
Hexachloroethane	ug/L	<10						
Hexachloropropene	ug/L	<10						
Indeno(1,2,3-cd)pyrene	ug/L	<10						
Iodomethane	ug/L	<10	<10	<10				
Iron, Total	ug/L	5020						
Isobutanol	ug/L	<200						
Isodrin	ug/L	<20						
Isophorone	ug/L	<10						
Isosafrole	ug/L	<10						
Kepone	ug/L	<50						
Lead, Total	ug/L	<5	<5	<5	<5	<5	<5	<5
Magnesium, Total	mg/L	6.24						
Mercury, Total	ug/L	<.4		<.4	<.4	<.4	<.4	<.4

\* - The displayed value is the arithmetic mean of multiple database matches.

**Table 3****Analytical Data Summary for 10/28/2024**

Constituents	Units	GWC-5A	OW-2RR	OW-3RR	SWB-1	SWC-1	SWC-2	SWC-3
Methacrylonitrile	ug/L	<10						
Methapyrilene	ug/L	<50						
Methoxychlor	ug/L	<.1						
Methyl Ethyl Ketone	ug/L	<50	<50	<50				
Methyl Isobutyl Ketone	ug/L	<10	<10	<10				
Methyl methacrylate	ug/L	<5						
Methyl methanesulfonate	ug/L	<10						
Methyl parathion	ug/L	<10						
Methylene chloride	ug/L	<5	<5	<5				
Naphthalene	ug/L	<10						
Nickel, Total	ug/L	<10	<10	<10	<10	<10	<10	<10
Nitrate (as n)	mg/L	<.05	<.05	.20				
Nitrobenzene	ug/L	<10						
N-Nitrosodiethylamine	ug/L	<10						
N-Nitrosodimethylamine	ug/L	<10						
N-Nitrosodi-n-butylamine	ug/L	<10						
N-Nitroso-Di-n-propylamine	ug/L	<10						
N-nitrosodiphenylamine	ug/L	<20						
N-Nitrosomethylethylamine	ug/L	<10						
N-Nitrosopiperidine	ug/L	<10						
N-Nitrosopyrrolidine	ug/L	<10						
o-Toluidine	ug/L	<10						
Parathion	ug/L	<10						
PCB 1016	ug/L	<.4						
PCB 1221	ug/L	<.4						
PCB 1232	ug/L	<.4						
PCB 1242	ug/L	<.4						
PCB 1248	ug/L	<.4						
PCB 1254	ug/L	<.4						
PCB 1260	ug/L	<.4						
p-Dimethylaminoazobenzene	ug/L	<10						
Pentachlorobenzene	ug/L	<10						
Pentachloronitrobenzene	ug/L	<10						
Pentachlorophenol	ug/L	<20						
pH (Field)	S.U.	5.97	6.61	5.51	6.73	6.44	6.72	6.82
Phenacetin	ug/L	<10						
Phenanthrene	ug/L	<10						
Phenol	ug/L	<10						
Phorate	ug/L	<20						
Potassium, Total	mg/L	2.3						
p-Phenylenediamine	ug/L	<800						
Pronamide	ug/L	<10						
Propionitrile	ug/L	<100						
Pyrene	ug/L	<10						
Safrole	ug/L	<10						
Selenium, Total	ug/L	<10	<10	<10	<10	<10	<10	<10
Silver, Total	ug/L	<50	<50	<50	<50	<50	<50	<50
Silvex	ug/L	<.5						
Sodium, Total	mg/L	22.8						
Styrene	ug/L	<5	<5	<5				
Sulfate	mg/L	3.3	<2.0	2.9				
Sulfide	mg/L	<1						
sym-Trinitrobenzene	ug/L	<10						
Temperature (field test)	øC	17.9	18.0	18.7	16.7	16.8	16.7	16.0

\* - The displayed value is the arithmetic mean of multiple database matches.

**Table 3****Analytical Data Summary for 10/28/2024**

Constituents	Units	GWC-5A	OW-2RR	OW-3RR	SWB-1	SWC-1	SWC-2	SWC-3
Tetrachloroethene	ug/L	<5	<5	<5				
Thallium, Total	ug/L	<2	<2	<2				
Thionazin	ug/L	<20						
Tin, Total	ug/L	<100						
Toluene	ug/L	<5	<5	<5				
Total Dissolved Solids	mg/L	206	92	<20				
Total Organic Carbon (TOC)	mg/L	2.4			4.9	2.8	2.9	2.9
Total Xylenes	ug/L	<10	<10	<10				
Toxaphene	ug/L	<2						
trans-1,2-Dichloroethene	ug/L	<10	<10	<10				
trans-1,3-Dichloropropene	ug/L	<5	<5	<5				
trans-1,4-Dichloro-2-butene	ug/L	<10	<10	<10				
Trichloroethene	ug/L	<5	<5	<5				
Trichlorofluoromethane	ug/L	<10	<10	<10				
Turbidity (field)	N.T.U.	2.82	4.40	2.57	11.80	3.22	3.16	3.84
Vanadium, Total	ug/L	<5	<5	<5				
Vinyl acetate	ug/L	<10	<10	<10				
Vinyl chloride	ug/L	<2	<2	<2				
Zinc, Total	ug/L	<5	<10	<10	<10	<10	<10	<10

\* - The displayed value is the arithmetic mean of multiple database matches.

*Results of the Ground Water Statistics for Button Gwinnett Landfill  
Second Semi-Annual Monitoring Event in 2024*

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**Attachment B**

Summary Tables and Graphs for the Intrawell Comparisons

**Table 1**

**Summary Statistics and Intermediate Computations  
for Combined Shewhart-CUSUM Control Charts**

Constituent	Units	Well	N(back)	N(mon)	N(tot)	Mean	SD	R(i-1)	R(i)	S(i-1)	S(i)	Limit	Type	Conf				
Antimony, Total	ug/L	GWA-1A	34	12	60			6.0000	6.0000			6.0000	nonpar	.99	**			
Arsenic, Total	ug/L	GWA-1A	34	12	60			10.0000	10.0000			10.0000	nonpar	.99	**			
Barium, Total	ug/L	GWA-1A	34	12	60			42.2485	44.8910	70.0000	60.0000	42.2485	42.2485	221.8126	normal			
Beryllium, Total	ug/L	GWA-1A	34	12	60					1.0000	1.0000			1.1000	nonpar			
Cadmium, Total	ug/L	GWA-1A	34	12	60					2.0000	2.0000			1.0000	nonpar			
Chromium, Total	ug/L	GWA-1A	34	12	60					10.0000	10.0000			3.0000	nonpar			
Cobalt, Total	ug/L	GWA-1A	34	12	60					5.0000	6.0000			20.0941	normal			
Copper, Total	ug/L	GWA-1A	34	12	60					10.0000	10.0000			16.0000	nonpar			
Lead, Total	ug/L	GWA-1A	34	12	60					5.0000	5.0000			5.0000	nonpar			
Nickel, Total	ug/L	GWA-1A	34	12	60					10.0000	10.0000			4.5000	nonpar			
Selenium, Total	ug/L	GWA-1A	34	12	60					10.0000	10.0000			10.0000	nonpar			
Silver, Total	ug/L	GWA-1A	34	12	60					50.0000	50.0000			50.0000	nonpar			
Thallium, Total	ug/L	GWA-1A	34	12	60					2.0000	2.0000			2.0000	nonpar			
Vanadium, Total	ug/L	GWA-1A	34	12	60					5.0000	5.0000			9.4000	nonpar			
Zinc, Total	ug/L	GWA-1A	34	12	60					10.0000	5.0000			13.0000	nonpar			
Antimony, Total	ug/L	GWA-2A	36	12	61					6.0000	6.0000			6.0000	nonpar			
Arsenic, Total	ug/L	GWA-2A	36	12	61					10.0000	10.0000			10.0000	nonpar			
Barium, Total	ug/L	GWA-2A	36	12	61					29.9639	20.7551	100.0000	70.0000	156.2525	126.2525			
Beryllium, Total	ug/L	GWA-2A	35	12	61						1.0000	1.0000			1.0000	nonpar		
Cadmium, Total	ug/L	GWA-2A	36	12	61						2.0000	2.0000			1.0000	nonpar		
Chromium, Total	ug/L	GWA-2A	35	12	61						10.0000	10.0000			3.0000	nonpar		
Cobalt, Total	ug/L	GWA-2A	36	12	61						5.0000	5.0000			4.7000	nonpar		
Copper, Total	ug/L	GWA-2A	36	12	61						10.0000	10.0000			9.5000	nonpar		
Lead, Total	ug/L	GWA-2A	36	12	61						5.0000	5.0000			5.0000	nonpar		
Nickel, Total	ug/L	GWA-2A	36	12	61						10.0000	10.0000			4.4000	nonpar		
Selenium, Total	ug/L	GWA-2A	36	12	61						10.0000	10.0000			10.0000	nonpar		
Silver, Total	ug/L	GWA-2A	36	12	61						50.0000	50.0000			50.0000	nonpar		
Thallium, Total	ug/L	GWA-2A	36	12	61						2.0000	2.0000			2.0000	nonpar		
Vanadium, Total	ug/L	GWA-2A	36	12	61						5.0000	5.0000			3.5000	nonpar		
Zinc, Total	ug/L	GWA-2A	35	12	61						10.0000	10.0000			11.0000	nonpar		
Antimony, Total	ug/L	GWB-2	38	12	62						6.0000	6.0000			6.0000	nonpar		
Arsenic, Total	ug/L	GWB-2	38	12	62						10.0000	10.0000			10.0000	nonpar		
Barium, Total	ug/L	GWB-2	38	12	62						59.8342	12.0106	50.0000	90.0000	59.8342	80.9920		
Beryllium, Total	ug/L	GWB-2	38	12	62							1.0000	1.0000			1.0000	nonpar	
Cadmium, Total	ug/L	GWB-2	38	12	62							2.0000	2.0000			1.1000	nonpar	
Chromium, Total	ug/L	GWB-2	38	12	62							10.0000	10.0000			3.0000	nonpar	
Cobalt, Total	ug/L	GWB-2	37	12	62						16.8649	7.1637	63.0000	24.0000	84.1520	45.1520		
Copper, Total	ug/L	GWB-2	38	12	62							10.0000	10.0000			6.7000	nonpar	
Lead, Total	ug/L	GWB-2	38	12	62							5.0000	5.0000			5.0000	nonpar	
Nickel, Total	ug/L	GWB-2	38	12	62							10.0000	10.0000			4.0000	nonpar	
Selenium, Total	ug/L	GWB-2	38	12	62							10.0000	10.0000			10.0000	nonpar	
Silver, Total	ug/L	GWB-2	38	12	62							50.0000	50.0000			50.0000	nonpar	
Thallium, Total	ug/L	GWB-2	38	12	62							2.0000	2.0000			2.0000	nonpar	
Vanadium, Total	ug/L	GWB-2	38	12	62							5.0000	5.0000			3.0000	nonpar	
Zinc, Total	ug/L	GWB-2	38	12	62							5.8474	1.8859	10.0000	10.0000	5.8474	5.8474	
Antimony, Total	ug/L	GWB-3	38	12	62								6.0000	6.0000			6.0000	nonpar

N(back) and N(mon) = Non-outlier measurements in the background and monitoring periods.

N(tot) = All independent measurements for that constituent and well.

For transformed data, mean and SD in transformed units and control limit in original units.

Conf = confidence level for passing initial test or one of two verification resamples (nonparametric test only).

\* - Insufficient Data.

\*\* - Detection Frequency &lt; 25%.

\*\*\* - Zero Variance.

**Table 1**

**Summary Statistics and Intermediate Computations  
for Combined Shewhart-CUSUM Control Charts**

Constituent	Units	Well	N(back)	N(mon)	N(tot)	Mean	SD	R(i-1)	R(i)	S(i-1)	S(i)	Limit	Type	Conf	
Arsenic, Total	ug/L	GWB-3	38	12	62	64.8189	20.3322	10.0000	10.0000	64.8189	64.8189	10.0000	nonpar	.99	**
Barium, Total	ug/L	GWB-3	37	12	62			40.0000	40.0000			146.1479	normal	.99	**
Beryllium, Total	ug/L	GWB-3	38	12	62			1.0000	1.0000			1.0000	nonpar	.99	**
Cadmium, Total	ug/L	GWB-3	38	12	62			2.0000	2.0000			1.0000	nonpar	.99	**
Chromium, Total	ug/L	GWB-3	38	12	62			10.0000	10.0000			3.0000	nonpar	.99	**
Cobalt, Total	ug/L	GWB-3	38	12	62			5.0000	5.0000			32.3000	nonpar	.99	**
Copper, Total	ug/L	GWB-3	38	12	62			10.0000	10.0000			4.0000	nonpar	.99	**
Lead, Total	ug/L	GWB-3	38	12	62			5.0000	5.0000			5.0000	nonpar	.99	**
Nickel, Total	ug/L	GWB-3	38	12	62			10.0000	10.0000			4.0000	nonpar	.99	**
Selenium, Total	ug/L	GWB-3	38	12	62			10.0000	10.0000			10.0000	nonpar	.99	**
Silver, Total	ug/L	GWB-3	38	12	62			50.0000	50.0000			50.0000	nonpar	.99	**
Thallium, Total	ug/L	GWB-3	38	12	62			2.0000	2.0000			2.0000	nonpar	.99	**
Vanadium, Total	ug/L	GWB-3	38	12	62			5.0000	5.0000			4.4000	nonpar	.99	**
Zinc, Total	ug/L	GWB-3	38	12	62	6.8237	3.4177	10.0000	10.0000	6.8237	6.8237	20.4945	normal	.99	**
Antimony, Total	ug/L	GWC-10	38	12	62			6.0000	6.0000			6.0000	nonpar	.99	**
Arsenic, Total	ug/L	GWC-10	38	12	62			10.0000	10.0000			10.0000	nonpar	.99	**
Barium, Total	ug/L	GWC-10	38	12	62	9.0132	3.3289	10.0000	10.0000	9.0132	9.0132	22.3288	normal	.99	**
Beryllium, Total	ug/L	GWC-10	38	12	62			1.0000	1.0000			1.0000	nonpar	.99	**
Cadmium, Total	ug/L	GWC-10	38	12	62			2.0000	2.0000			1.0000	nonpar	.99	**
Chromium, Total	ug/L	GWC-10	37	12	62	3.9635	1.1945	10.0000	10.0000	3.9635	3.9635	8.7414	normal		
Cobalt, Total	ug/L	GWC-10	38	12	62	4.7868	4.3573	5.0000	5.0000	4.7868	4.7868	22.2160	normal		
Copper, Total	ug/L	GWC-10	37	12	62			10.0000	10.0000			4.0000	nonpar	.99	**
Lead, Total	ug/L	GWC-10	38	12	62			5.0000	5.0000			5.3000	nonpar	.99	**
Nickel, Total	ug/L	GWC-10	38	12	62	4.5079	1.2765	10.0000	10.0000	4.5079	4.5079	9.6138	normal		
Selenium, Total	ug/L	GWC-10	38	12	62			10.0000	10.0000			10.0000	nonpar	.99	**
Silver, Total	ug/L	GWC-10	38	12	62			50.0000	50.0000			50.0000	nonpar	.99	**
Thallium, Total	ug/L	GWC-10	38	12	62			2.0000	2.0000			2.0000	nonpar	.99	**
Vanadium, Total	ug/L	GWC-10	38	12	62			5.0000	5.0000			12.0000	nonpar	.99	**
Zinc, Total	ug/L	GWC-10	38	12	62			10.0000	10.0000			20.0000	nonpar	.99	**
Antimony, Total	ug/L	GWC-11	38	12	64			6.0000	6.0000			6.0000	nonpar	.99	**
Arsenic, Total	ug/L	GWC-11	38	12	63			10.0000	10.0000			10.0000	nonpar	.99	**
Barium, Total	ug/L	GWC-11	38	12	63	92.0789	31.8240	140.0000	120.0000	190.1851	194.2382	219.3749	normal	.99	**
Beryllium, Total	ug/L	GWC-11	38	12	63			1.0000	1.0000			1.0000	nonpar	.99	**
Cadmium, Total	ug/L	GWC-11	38	12	63			2.0000	2.0000			2.4000	nonpar	.99	**
Chromium, Total	ug/L	GWC-11	38	12	63			10.0000	10.0000			15.0000	nonpar	.99	**
Cobalt, Total	ug/L	GWC-11	38	12	63			10.0000	5.0000			7.6000	nonpar	.99	**
Copper, Total	ug/L	GWC-11	38	12	63			10.0000	10.0000			53.0000	nonpar	.99	**
Lead, Total	ug/L	GWC-11	38	12	63	5.6763	1.8481	5.0000	5.0000	5.6763	5.6763	13.0686	normal		
Nickel, Total	ug/L	GWC-11	38	12	63			10.0000	10.0000			4.7000	nonpar	.99	**
Selenium, Total	ug/L	GWC-11	38	12	63			10.0000	10.0000			16.0000	nonpar	.99	**
Silver, Total	ug/L	GWC-11	38	12	63			50.0000	50.0000			50.0000	nonpar	.99	**
Thallium, Total	ug/L	GWC-11	38	12	63			2.0000	2.0000			2.0000	nonpar	.99	**
Vanadium, Total	ug/L	GWC-11	38	12	63			5.0000	5.0000			7.7000	nonpar	.99	**
Zinc, Total	ug/L	GWC-11	38	12	63	8.4079	13.5367	20.0000	5.4000	9.8475	8.4079	62.5548	normal		
Antimony, Total	ug/L	GWC-12A	34	12	46			6.0000	6.0000			6.0000	nonpar	.99	**
Arsenic, Total	ug/L	GWC-12A	34	12	46			10.0000	10.0000			10.0000	nonpar	.99	**

N(back) and N(mon) = Non-outlier measurements in the background and monitoring periods.

N(tot) = All independent measurements for that constituent and well.

For transformed data, mean and SD in transformed units and control limit in original units.

Conf = confidence level for passing initial test or one of two verification resamples (nonparametric test only).

\* - Insufficient Data.

\*\* - Detection Frequency &lt; 25%.

\*\*\* - Zero Variance.

**Table 1**

**Summary Statistics and Intermediate Computations  
for Combined Shewhart-CUSUM Control Charts**

Constituent	Units	Well	N(back)	N(mon)	N(tot)	Mean	SD	R(i-1)	R(i)	S(i-1)	S(i)	Limit	Type	Conf	
Barium, Total	ug/L	GWC-12A	34	12	46	82.8441	45.5093	40.0000	50.0000	82.8441	82.8441	264.8813	normal	.99	**
Beryllium, Total	ug/L	GWC-12A	34	12	46			1.0000	1.0000			1.0000	nonpar	.99	**
Cadmium, Total	ug/L	GWC-12A	34	12	46			2.0000	2.0000			1.0000	nonpar	.99	**
Chromium, Total	ug/L	GWC-12A	34	12	46	5.3529	2.4232	10.0000	10.0000	5.3529	5.3529	15.0455	normal	.99	**
Cobalt, Total	ug/L	GWC-12A	33	12	46			5.0000	5.0000			3.0000	nonpar	.99	**
Copper, Total	ug/L	GWC-12A	34	12	46			10.0000	10.0000			8.4000	nonpar	.99	**
Lead, Total	ug/L	GWC-12A	34	12	46			5.0000	5.0000			5.0000	nonpar	.99	**
Nickel, Total	ug/L	GWC-12A	34	12	46	4.8882	1.4840	10.0000	10.0000	4.8882	4.8882	10.8243	normal	.99	**
Selenium, Total	ug/L	GWC-12A	34	12	46			10.0000	10.0000			10.0000	nonpar	.99	**
Silver, Total	ug/L	GWC-12A	34	12	46			50.0000	50.0000			50.0000	nonpar	.99	**
Thallium, Total	ug/L	GWC-12A	34	12	46			2.0000	2.0000			2.0000	nonpar	.99	**
Vanadium, Total	ug/L	GWC-12A	34	12	46	3.3735	0.8802	5.0000	5.0000	3.3735	4.3399	6.8943	normal	.99	**
Zinc, Total	ug/L	GWC-12A	34	12	46			10.0000	10.0000			9.4000	nonpar	.99	**
Antimony, Total	ug/L	GWC-13	36	12	60			6.0000	6.0000			6.0000	nonpar	.99	**
Arsenic, Total	ug/L	GWC-13	36	12	60			10.0000	10.0000			10.0000	nonpar	.99	**
Barium, Total	ug/L	GWC-13	36	12	60	22.4222	10.1387	10.0000	20.0000	22.4222	22.4222	62.9769	normal	.99	**
Beryllium, Total	ug/L	GWC-13	36	12	60			1.0000	1.0000			1.0000	nonpar	.99	**
Cadmium, Total	ug/L	GWC-13	36	12	60			2.0000	2.0000			1.0000	nonpar	.99	**
Chromium, Total	ug/L	GWC-13	36	12	60			10.0000	10.0000			13.0000	nonpar	.99	**
Cobalt, Total	ug/L	GWC-13	35	12	60	3.3486	0.7965	5.0000	5.0000	3.3486	3.3486	6.5344	normal	.99	**
Copper, Total	ug/L	GWC-13	36	12	60			10.0000	10.0000			4.0000	nonpar	.99	**
Lead, Total	ug/L	GWC-13	36	12	60			5.0000	5.0000			5.0000	nonpar	.99	**
Nickel, Total	ug/L	GWC-13	36	12	60			10.0000	10.0000			4.3000	nonpar	.99	**
Selenium, Total	ug/L	GWC-13	36	12	60			10.0000	10.0000			10.0000	nonpar	.99	**
Silver, Total	ug/L	GWC-13	36	12	60			50.0000	50.0000			50.0000	nonpar	.99	**
Thallium, Total	ug/L	GWC-13	36	12	60			2.0000	2.0000			2.0000	nonpar	.99	**
Vanadium, Total	ug/L	GWC-13	36	12	60	3.8056	1.4335	5.0000	5.0000	3.8056	3.8056	9.5394	normal	.99	**
Zinc, Total	ug/L	GWC-13	36	12	60			10.0000	10.0000			44.0000	nonpar	.99	**
Antimony, Total	ug/L	GWC-1AR	37	12	49			6.0000	6.0000			6.0000	nonpar	.99	**
Arsenic, Total	ug/L	GWC-1AR	37	12	49			10.0000	10.0000			10.0000	nonpar	.99	**
Barium, Total	ug/L	GWC-1AR	36	12	49	156.4722	46.5424	110.0000	70.0000	156.4722	156.4722	342.6420	normal	.99	**
Beryllium, Total	ug/L	GWC-1AR	37	12	49			1.0000	1.0000			1.0000	nonpar	.99	**
Cadmium, Total	ug/L	GWC-1AR	37	12	49			2.0000	2.0000			1.0000	nonpar	.99	**
Chromium, Total	ug/L	GWC-1AR	37	12	49			10.0000	10.0000			9.5000	nonpar	.99	**
Cobalt, Total	ug/L	GWC-1AR	37	12	49	6.4676	4.7382	8.0000	6.0000	6.4676	6.4676	25.4206	normal	.99	**
Copper, Total	ug/L	GWC-1AR	37	12	49			10.0000	10.0000			4.0000	nonpar	.99	**
Lead, Total	ug/L	GWC-1AR	37	12	49			5.0000	5.0000			11.0000	nonpar	.99	**
Nickel, Total	ug/L	GWC-1AR	37	12	49			10.0000	10.0000			4.0000	nonpar	.99	**
Selenium, Total	ug/L	GWC-1AR	37	12	49			10.0000	10.0000			53.0000	nonpar	.99	**
Silver, Total	ug/L	GWC-1AR	37	12	49			50.0000	50.0000			50.0000	nonpar	.99	**
Thallium, Total	ug/L	GWC-1AR	37	12	49			2.0000	2.0000			2.0000	nonpar	.99	**
Vanadium, Total	ug/L	GWC-1AR	37	12	49			5.0000	5.0000			12.0000	nonpar	.99	**
Zinc, Total	ug/L	GWC-1AR	37	12	49			10.0000	10.0000			20.0000	nonpar	.99	**
Antimony, Total	ug/L	GWC-2A	35	11	58			6.0000	6.0000			6.0000	nonpar	.99	**
Arsenic, Total	ug/L	GWC-2A	35	11	58			10.0000	10.0000			10.0000	nonpar	.99	**
Barium, Total	ug/L	GWC-2A	35	11	58	90.9029	80.9465	30.0000	130.0000	90.9029	90.9029	414.6888	normal		

N(back) and N(mon) = Non-outlier measurements in the background and monitoring periods.

N(tot) = All independent measurements for that constituent and well.

For transformed data, mean and SD in transformed units and control limit in original units.

Conf = confidence level for passing initial test or one of two verification resamples (nonparametric test only).

\* - Insufficient Data.

\*\* - Detection Frequency &lt; 25%.

\*\*\* - Zero Variance.

**Table 1**

**Summary Statistics and Intermediate Computations  
for Combined Shewhart-CUSUM Control Charts**

Constituent	Units	Well	N(back)	N(mon)	N(tot)	Mean	SD	R(i-1)	R(i)	S(i-1)	S(i)	Limit	Type	Conf	
Beryllium, Total	ug/L	GWC-2A	35	11	58			1.0000	1.0000			1.0000	nonpar	.99	**
Cadmium, Total	ug/L	GWC-2A	35	11	58			2.0000	2.0000			1.0000	nonpar	.99	**
Chromium, Total	ug/L	GWC-2A	35	11	58			10.0000	10.0000			4.2000	nonpar	.99	**
Cobalt, Total	ug/L	GWC-2A	35	11	58			5.0000	5.0000			12.0000	nonpar	.99	**
Copper, Total	ug/L	GWC-2A	35	11	58			10.0000	10.0000			4.0000	nonpar	.99	**
Lead, Total	ug/L	GWC-2A	35	11	58			5.0000	5.0000			5.8000	nonpar	.99	**
Nickel, Total	ug/L	GWC-2A	35	11	58			10.0000	10.0000			4.0000	nonpar	.99	**
Selenium, Total	ug/L	GWC-2A	35	11	58			10.0000	10.0000			13.5000	nonpar	.99	**
Silver, Total	ug/L	GWC-2A	35	11	58			50.0000	50.0000			50.0000	nonpar	.99	**
Thallium, Total	ug/L	GWC-2A	35	11	58			2.0000	2.0000			2.0000	nonpar	.99	**
Vanadium, Total	ug/L	GWC-2A	35	11	58			5.0000	5.0000			4.2000	nonpar	.99	**
Zinc, Total	ug/L	GWC-2A	35	11	58	262.0657	394.1389	10.0000	10.0000	262.0657	262.0657	1838.6213	normal		
Antimony, Total	ug/L	GWC-2RA	38	12	64			6.0000	6.0000			6.0000	nonpar	.99	**
Arsenic, Total	ug/L	GWC-2RA	38	12	64			10.0000	10.0000			10.0000	nonpar	.99	**
Barium, Total	ug/L	GWC-2RA	37	12	64	37.6135	7.4223	30.0000	40.0000	37.6135	37.6135	67.3029	normal		
Beryllium, Total	ug/L	GWC-2RA	38	12	64			1.0000	1.0000			1.0000	nonpar	.99	**
Cadmium, Total	ug/L	GWC-2RA	38	12	64			2.0000	2.0000			1.0000	nonpar	.99	**
Chromium, Total	ug/L	GWC-2RA	38	12	64			10.0000	10.0000			4.4000	nonpar	.99	**
Cobalt, Total	ug/L	GWC-2RA	38	12	64	6.2447	1.6382	8.0000	7.0000	6.7714	6.2980	12.7974	normal		
Copper, Total	ug/L	GWC-2RA	38	12	64			10.0000	10.0000			4.0000	nonpar	.99	**
Lead, Total	ug/L	GWC-2RA	38	12	64			5.0000	5.0000			6.0000	nonpar	.99	**
Nickel, Total	ug/L	GWC-2RA	38	12	64			10.0000	10.0000			4.0000	nonpar	.99	**
Selenium, Total	ug/L	GWC-2RA	38	12	64			10.0000	10.0000			12.0000	nonpar	.99	**
Silver, Total	ug/L	GWC-2RA	38	12	64			50.0000	50.0000			50.0000	nonpar	.99	**
Thallium, Total	ug/L	GWC-2RA	38	12	64			2.0000	2.0000			2.0000	nonpar	.99	**
Vanadium, Total	ug/L	GWC-2RA	38	12	64			5.0000	5.0000			12.0000	nonpar	.99	**
Zinc, Total	ug/L	GWC-2RA	36	12	64	6.4889	3.2374	10.0000	10.0000	6.4889	6.4889	19.4383	normal		
Antimony, Total	ug/L	GWC-3A	38	12	62			6.0000	6.0000			6.0000	nonpar	.99	**
Arsenic, Total	ug/L	GWC-3A	38	12	62			10.0000	10.0000			10.0000	nonpar	.99	**
Barium, Total	ug/L	GWC-3A	38	12	62	143.8947	54.3581	90.0000	120.0000	143.8947	143.8947	361.3270	normal		
Beryllium, Total	ug/L	GWC-3A	38	12	62			1.0000	1.0000			1.0000	nonpar	.99	**
Cadmium, Total	ug/L	GWC-3A	38	12	62			2.0000	2.0000			1.0000	nonpar	.99	**
Chromium, Total	ug/L	GWC-3A	38	12	62			10.0000	10.0000			3.2000	nonpar	.99	**
Cobalt, Total	ug/L	GWC-3A	38	12	62			5.0000	5.0000			8.5000	nonpar	.99	**
Copper, Total	ug/L	GWC-3A	38	12	62			10.0000	10.0000			4.0000	nonpar	.99	**
Lead, Total	ug/L	GWC-3A	38	12	62			5.0000	5.0000			5.0000	nonpar	.99	**
Nickel, Total	ug/L	GWC-3A	38	12	62			10.0000	10.0000			4.0000	nonpar	.99	**
Selenium, Total	ug/L	GWC-3A	38	12	62			10.0000	10.0000			10.0000	nonpar	.99	**
Silver, Total	ug/L	GWC-3A	38	12	62			50.0000	50.0000			50.0000	nonpar	.99	**
Thallium, Total	ug/L	GWC-3A	38	12	62			2.0000	2.0000			2.0000	nonpar	.99	**
Vanadium, Total	ug/L	GWC-3A	38	12	62			5.0000	5.0000			3.3000	nonpar	.99	**
Zinc, Total	ug/L	GWC-3A	38	12	62	25.9658	24.8579	80.0000	100.0000	61.3566	116.7474	125.3973	normal		
Antimony, Total	ug/L	GWC-3RA	38	12	62			6.0000	6.0000			6.9000	nonpar	.99	**
Arsenic, Total	ug/L	GWC-3RA	38	12	62			10.0000	10.0000			10.0000	nonpar	.99	**
Barium, Total	ug/L	GWC-3RA	38	12	62	111.1842	13.9804	100.0000	100.0000	111.1842	111.1842	167.1058	normal	1.0000	nonpar
Beryllium, Total	ug/L	GWC-3RA	38	12	62			1.0000	1.0000			1.0000	nonpar	.99	**

N(back) and N(mon) = Non-outlier measurements in the background and monitoring periods.

N(tot) = All independent measurements for that constituent and well.

For transformed data, mean and SD in transformed units and control limit in original units.

Conf = confidence level for passing initial test or one of two verification resamples (nonparametric test only).

\* - Insufficient Data.

\*\* - Detection Frequency &lt; 25%.

\*\*\* - Zero Variance.

**Table 1**

**Summary Statistics and Intermediate Computations  
for Combined Shewhart-CUSUM Control Charts**

Constituent	Units	Well	N(back)	N(mon)	N(tot)	Mean	SD	R(i-1)	R(i)	S(i-1)	S(i)	Limit	Type	Conf			
Cadmium, Total	ug/L	GWC-3RA	38	12	62			2.0000	2.0000			1.0000	nonpar	.99	**		
Chromium, Total	ug/L	GWC-3RA	38	12	62			10.0000	10.0000			3.7000	nonpar	.99	**		
Cobalt, Total	ug/L	GWC-3RA	38	12	62			5.0000	5.0000			10.1643	normal				
Copper, Total	ug/L	GWC-3RA	38	12	62			10.0000	10.0000			4.0000	nonpar	.99	**		
Lead, Total	ug/L	GWC-3RA	38	12	62			5.0000	5.0000			5.0000	nonpar	.99	**		
Nickel, Total	ug/L	GWC-3RA	38	12	62			10.0000	10.0000			4.0000	nonpar	.99	**		
Selenium, Total	ug/L	GWC-3RA	38	12	62			10.0000	10.0000			10.0000	nonpar	.99	**		
Silver, Total	ug/L	GWC-3RA	38	12	62			50.0000	50.0000			50.0000	nonpar	.99	**		
Thallium, Total	ug/L	GWC-3RA	38	12	62			2.0000	2.0000			2.0000	nonpar	.99	**		
Vanadium, Total	ug/L	GWC-3RA	38	12	62	3.4447	0.9302	5.0000	5.0000	3.4447	3.4447	7.1655	normal				
Zinc, Total	ug/L	GWC-3RA	38	12	62			10.0000	10.0000			9.9000	nonpar	.99	**		
Antimony, Total	ug/L	GWC-5A	38	12	64			6.0000	6.0000			6.0000	nonpar	.99	**		
Arsenic, Total	ug/L	GWC-5A	38	12	64			10.0000	10.0000			10.0000	nonpar	.99	**		
Barium, Total	ug/L	GWC-5A	38	12	64			162.0526	44.0460	190.0000	200.0000	276.0941	281.0069	338.2367	normal		
Beryllium, Total	ug/L	GWC-5A	38	12	64					1.0000	1.0000			1.0000	nonpar	.99	**
Cadmium, Total	ug/L	GWC-5A	38	12	64					2.0000	2.0000			1.0000	nonpar	.99	**
Chromium, Total	ug/L	GWC-5A	38	12	64					10.0000	10.0000			6.6000	nonpar	.99	**
Cobalt, Total	ug/L	GWC-5A	38	12	64					16.0000	15.0000	25.1677	24.1677	19.3983	normal		
Copper, Total	ug/L	GWC-5A	38	12	64					10.0000	10.0000			6.2500	nonpar	.99	**
Lead, Total	ug/L	GWC-5A	38	12	64					5.0000	5.0000			9.7000	nonpar	.99	**
Nickel, Total	ug/L	GWC-5A	38	12	64					10.0000	10.0000			4.0000	nonpar	.99	**
Selenium, Total	ug/L	GWC-5A	38	12	64					10.0000	10.0000			13.0000	nonpar	.99	**
Silver, Total	ug/L	GWC-5A	38	12	64					50.0000	50.0000			50.0000	nonpar	.99	**
Thallium, Total	ug/L	GWC-5A	38	12	64					2.0000	2.0000			2.0000	nonpar	.99	**
Vanadium, Total	ug/L	GWC-5A	38	12	64					5.0000	5.0000			8.2000	nonpar	.99	**
Zinc, Total	ug/L	GWC-5A	36	12	64	5.2861	1.0420	10.0000	5.0000	5.2861	5.2861	9.4542	normal				
Antimony, Total	ug/L	GWC-6A	38	12	62			6.0000	6.0000			6.0000	nonpar	.99	**		
Arsenic, Total	ug/L	GWC-6A	38	12	62			10.0000	10.0000			10.0000	nonpar	.99	**		
Barium, Total	ug/L	GWC-6A	38	12	62			97.7158	29.6874	50.0000	70.0000	97.7158	97.7158	216.4654	normal		
Beryllium, Total	ug/L	GWC-6A	38	12	62					1.0000	1.0000			1.0000	nonpar	.99	**
Cadmium, Total	ug/L	GWC-6A	38	12	62					2.0000	2.0000			1.0000	nonpar	.99	**
Chromium, Total	ug/L	GWC-6A	38	12	62					10.0000	10.0000			3.3000	nonpar	.99	**
Cobalt, Total	ug/L	GWC-6A	38	12	62					5.0000	5.0000			5.0000	nonpar	.99	**
Copper, Total	ug/L	GWC-6A	38	12	62					10.0000	10.0000			5.2000	nonpar	.99	**
Lead, Total	ug/L	GWC-6A	38	12	62					5.0000	5.0000			5.0000	nonpar	.99	**
Nickel, Total	ug/L	GWC-6A	38	12	62					10.0000	10.0000			7.7000	nonpar	.99	**
Selenium, Total	ug/L	GWC-6A	38	12	62					10.0000	10.0000			10.0000	nonpar	.99	**
Silver, Total	ug/L	GWC-6A	38	12	62					50.0000	50.0000			50.0000	nonpar	.99	**
Thallium, Total	ug/L	GWC-6A	38	12	62					2.0000	2.0000			2.0000	nonpar	.99	**
Vanadium, Total	ug/L	GWC-6A	38	12	62					5.0000	5.0000			7.4000	nonpar	.99	**
Zinc, Total	ug/L	GWC-6A	38	12	62	253.0395	289.1243	10.0000	420.0000	253.0395	253.0395	1409.5368	normal				
Antimony, Total	ug/L	GWC-7AR	38	12	59			6.0000	6.0000			6.0000	nonpar	.99	**		
Arsenic, Total	ug/L	GWC-7AR	38	12	59			10.0000	10.0000			10.0000	nonpar	.99	**		
Barium, Total	ug/L	GWC-7AR	38	12	59			64.6605	20.6584	60.0000	60.0000	64.6605	64.6605	147.2941	normal		
Beryllium, Total	ug/L	GWC-7AR	38	12	59					1.0000	1.0000			1.6000	nonpar	.99	**
Cadmium, Total	ug/L	GWC-7AR	38	12	59					2.0000	2.0000			1.0000	nonpar	.99	**

N(back) and N(mon) = Non-outlier measurements in the background and monitoring periods.

N(tot) = All independent measurements for that constituent and well.

For transformed data, mean and SD in transformed units and control limit in original units.

Conf = confidence level for passing initial test or one of two verification resamples (nonparametric test only).

\* - Insufficient Data.

\*\* - Detection Frequency < 25%.

\*\*\* - Zero Variance.

**Table 1**

**Summary Statistics and Intermediate Computations  
for Combined Shewhart-CUSUM Control Charts**

Constituent	Units	Well	N(back)	N(mon)	N(tot)	Mean	SD	R(i-1)	R(i)	S(i-1)	S(i)	Limit	Type	Conf	
Chromium, Total	ug/L	GWC-7AR	38	12	59	8.9526	6.7479	10.0000	10.0000	8.9526	8.9526	35.9442	normal	.99	**
Cobalt, Total	ug/L	GWC-7AR	38	12	59		5.0000	5.0000				5.3000	nonpar		
Copper, Total	ug/L	GWC-7AR	38	12	59	7.6658	5.8988	10.0000	10.0000	7.6658	7.6658	31.2608	normal		
Lead, Total	ug/L	GWC-7AR	38	12	59	6.1237	2.1580	5.0000	5.0000	6.1237	6.1237	14.7557	normal		
Nickel, Total	ug/L	GWC-7AR	38	12	59	7.4184	4.2366	10.0000	10.0000	7.4184	7.4184	24.3650	normal		
Selenium, Total	ug/L	GWC-7AR	38	12	59			10.0000	10.0000			10.0000	nonpar	.99	**
Silver, Total	ug/L	GWC-7AR	38	12	59			50.0000	50.0000			50.0000	nonpar	.99	**
Thallium, Total	ug/L	GWC-7AR	38	12	59			2.0000	2.0000			2.0000	nonpar	.99	**
Vanadium, Total	ug/L	GWC-7AR	38	12	59	11.8605	10.0138	5.0000	5.0000	11.8605	11.8605	51.9159	normal		
Zinc, Total	ug/L	GWC-7AR	38	12	59	13.4632	9.0876	10.0000	10.0000	13.4632	13.4632	49.8135	normal		
Antimony, Total	ug/L	GWC-8A	38	12	62			6.0000	6.0000			6.0000	nonpar	.99	**
Arsenic, Total	ug/L	GWC-8A	38	12	62			10.0000	10.0000			10.0000	nonpar	.99	**
Barium, Total	ug/L	GWC-8A	38	12	62	40.8895	11.8090	30.0000	30.0000	40.8895	40.8895	88.1255	normal		
Beryllium, Total	ug/L	GWC-8A	38	12	62			1.0000	1.0000			1.0000	nonpar	.99	**
Cadmium, Total	ug/L	GWC-8A	37	12	62			2.0000	2.0000			1.0000	nonpar	.99	**
Chromium, Total	ug/L	GWC-8A	38	12	62			10.0000	10.0000			8.7000	nonpar	.99	**
Cobalt, Total	ug/L	GWC-8A	38	12	62			5.0000	5.0000			8.6000	nonpar	.99	**
Copper, Total	ug/L	GWC-8A	38	12	62			10.0000	10.0000			4.7000	nonpar	.99	**
Lead, Total	ug/L	GWC-8A	38	12	62			5.0000	5.0000			5.0000	nonpar	.99	**
Nickel, Total	ug/L	GWC-8A	38	12	62			10.0000	10.0000			4.1000	nonpar	.99	**
Selenium, Total	ug/L	GWC-8A	38	12	62			10.0000	10.0000			10.0000	nonpar	.99	**
Silver, Total	ug/L	GWC-8A	38	12	62			50.0000	50.0000			50.0000	nonpar	.99	**
Thallium, Total	ug/L	GWC-8A	38	12	62	4.5553	2.3361	2.0000	2.0000	4.5553	4.5553	13.8995	normal	.99	**
Vanadium, Total	ug/L	GWC-8A	38	12	62			5.0000	7.0000			2.0000	nonpar	.99	**
Zinc, Total	ug/L	GWC-8A	38	12	62			10.0000	10.0000			15.9000	nonpar	.99	**
Antimony, Total	ug/L	GWC-8R	38	12	62			6.0000	6.0000			6.0000	nonpar	.99	**
Arsenic, Total	ug/L	GWC-8R	38	12	62			10.0000	10.0000			10.0000	nonpar	.99	**
Barium, Total	ug/L	GWC-8R	38	12	62	40.5105	8.1880	50.0000	60.0000	59.9954	73.3438	73.2625	normal		
Beryllium, Total	ug/L	GWC-8R	38	12	62			1.0000	1.0000			1.0000	nonpar	.99	**
Cadmium, Total	ug/L	GWC-8R	38	12	62			2.0000	2.0000			1.0000	nonpar	.99	**
Chromium, Total	ug/L	GWC-8R	38	12	62			10.0000	10.0000			4.3000	nonpar	.99	**
Cobalt, Total	ug/L	GWC-8R	38	12	62			5.0000	5.0000			12.1000	nonpar	.99	**
Copper, Total	ug/L	GWC-8R	38	12	62			10.0000	10.0000			9.5000	nonpar	.99	**
Lead, Total	ug/L	GWC-8R	38	12	62			5.0000	5.0000			7.3000	nonpar	.99	**
Nickel, Total	ug/L	GWC-8R	38	12	62			10.0000	10.0000			5.2000	nonpar	.99	**
Selenium, Total	ug/L	GWC-8R	38	12	62			10.0000	10.0000			10.0000	nonpar	.99	**
Silver, Total	ug/L	GWC-8R	38	12	62			50.0000	50.0000			50.0000	nonpar	.99	**
Thallium, Total	ug/L	GWC-8R	38	12	62			2.0000	2.0000			2.0000	nonpar	.99	**
Vanadium, Total	ug/L	GWC-8R	38	12	62			5.0000	5.0000			11.6000	nonpar	.99	**
Zinc, Total	ug/L	GWC-8R	36	12	62	6.8028	3.7587	10.0000	10.0000	6.8028	6.8028	21.8375	normal		

N(back) and N(mon) = Non-outlier measurements in the background and monitoring periods.

N(tot) = All independent measurements for that constituent and well.

For transformed data, mean and SD in transformed units and control limit in original units.

Conf = confidence level for passing initial test or one of two verification resamples (nonparametric test only).

\* - Insufficient Data.

\*\* - Detection Frequency < 25%.

\*\*\* - Zero Variance.

**Table 4**

**Dixon's Test Outliers  
1% Significance Level**

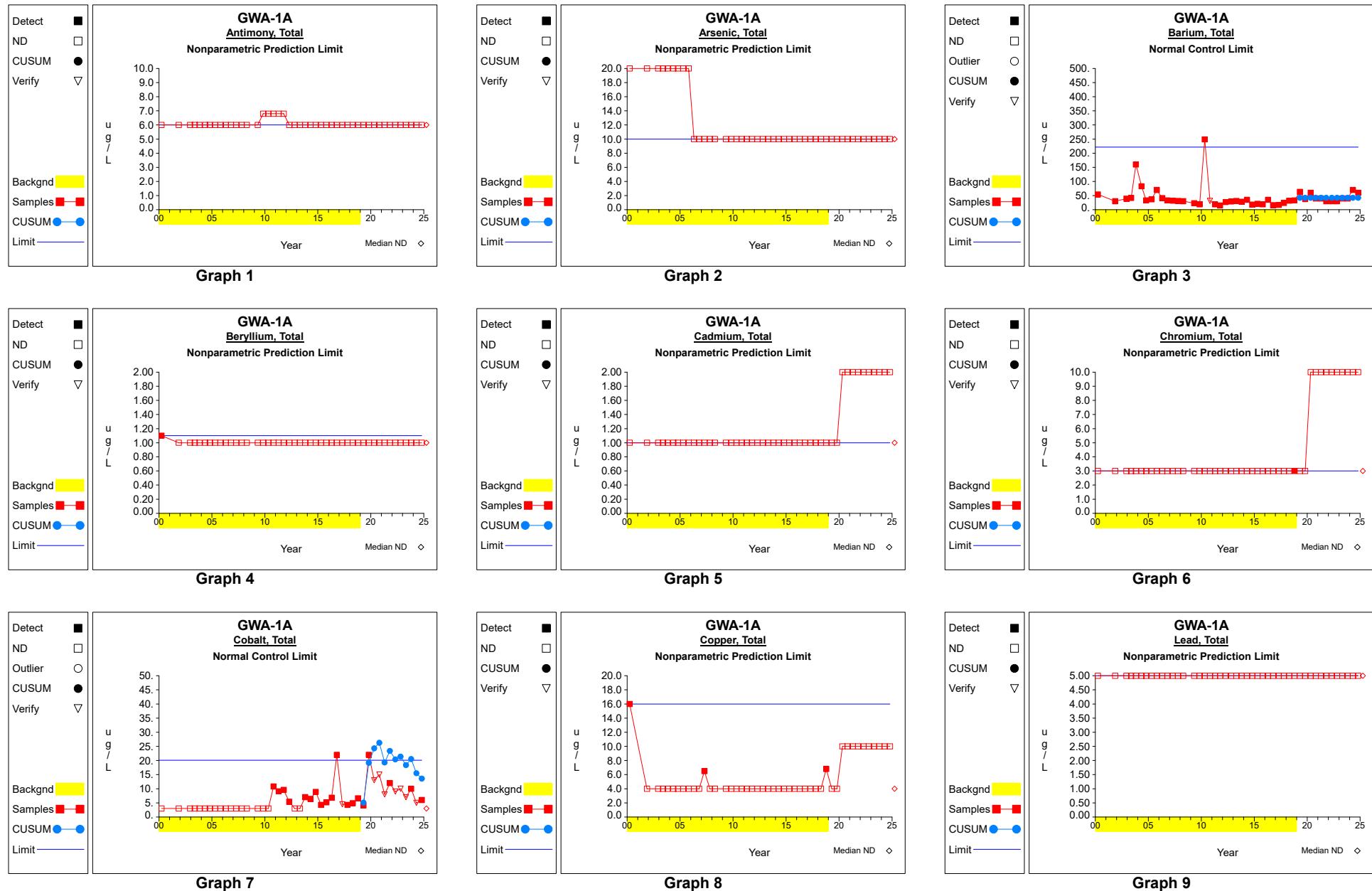
<b>Constituent</b>	<b>Units</b>	<b>Well</b>	<b>Date</b>	<b>Result</b>	<b>ND Qualifier</b>	<b>Date Range</b>	<b>N</b>	<b>Critical Value</b>
Cobalt, Total	ug/L	GWB-2	10/18/2006	3.0000	< 3.0000	03/28/2000-10/16/2018	38	0.4194
Barium, Total	ug/L	GWB-3	04/28/2010	388.0000		03/28/2000-10/16/2018	38	0.4194
Chromium, Total	ug/L	GWC-10	03/28/2000	14.0000		03/28/2000-10/18/2018	38	0.4194
Cobalt, Total	ug/L	GWC-13	04/15/2008	15.0000		03/28/2000-10/16/2018	36	0.4273
Barium, Total	ug/L	GWC-1AR	10/19/2004	580.0000		10/20/2000-10/16/2018	37	0.4232
Barium, Total	ug/L	GWC-2RA	11/14/2001	110.0000		03/29/2000-10/18/2018	38	0.4194
Zinc, Total	ug/L	GWC-2RA	11/14/2001	690.0000		03/29/2000-10/18/2018	38	0.4232
Zinc, Total	ug/L	GWC-2RA	10/18/2004	600.0000		03/29/2000-10/18/2018	38	0.4232
Zinc, Total	ug/L	GWC-5A	03/28/2000	18.0000		03/28/2000-10/17/2018	38	0.4232
Zinc, Total	ug/L	GWC-5A	10/19/2000	18.0000	< 18.0000	03/28/2000-10/17/2018	38	0.4232
Zinc, Total	ug/L	GWC-8R	11/02/2009	55.5000		03/28/2000-10/16/2018	38	0.4232
Zinc, Total	ug/L	GWC-8R	04/29/2010	47.6000		03/28/2000-10/16/2018	38	0.4232

N = Total number of independent measurements in background at each well.

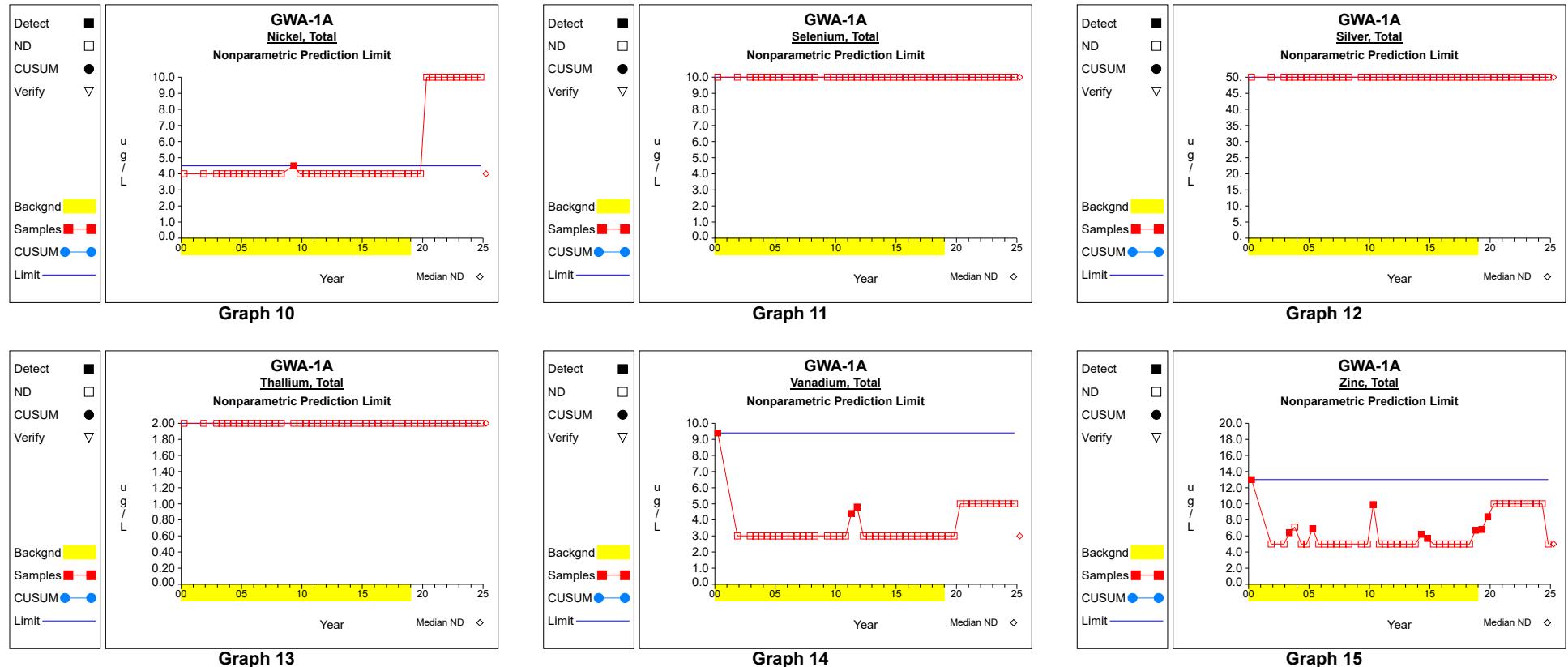
Date Range = Dates of the first and last measurements included in background at each well.

Critical Value depends on the significance level and on N-1 when the two most extreme values are tested or N for the most extreme value.

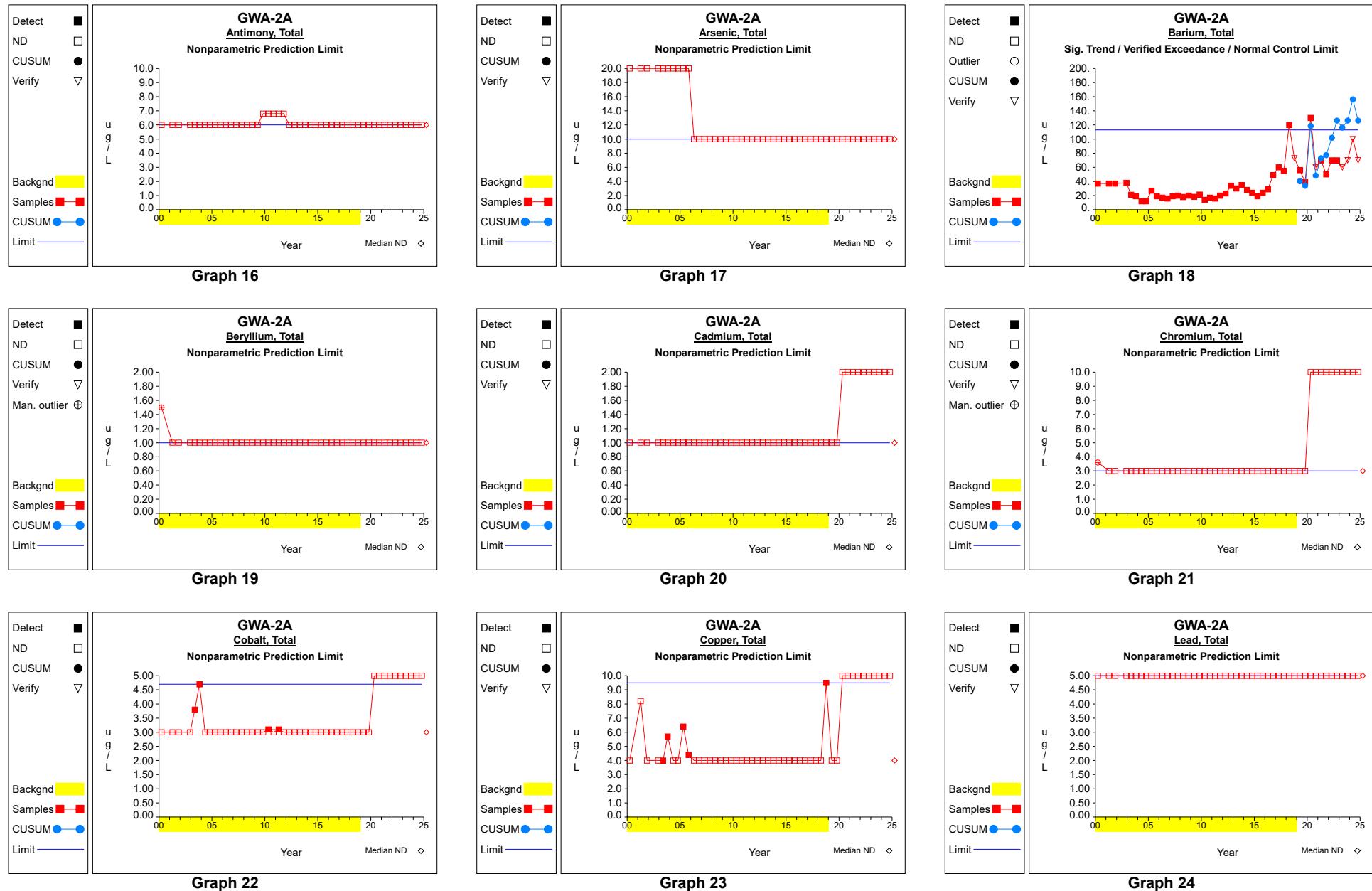
## Intra-Well Control Charts / Prediction Limits



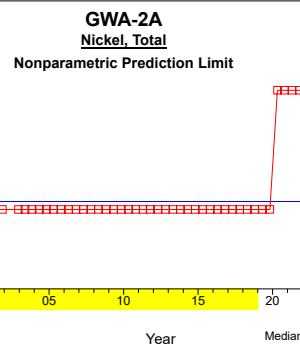
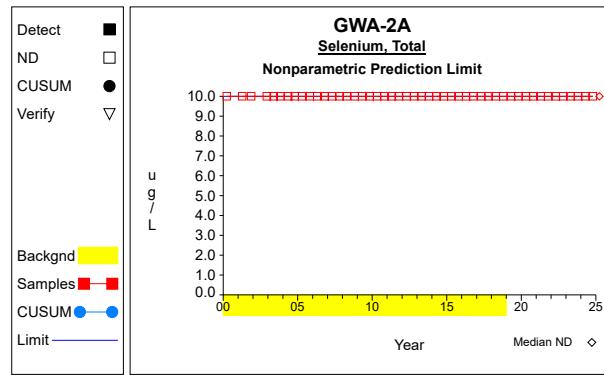
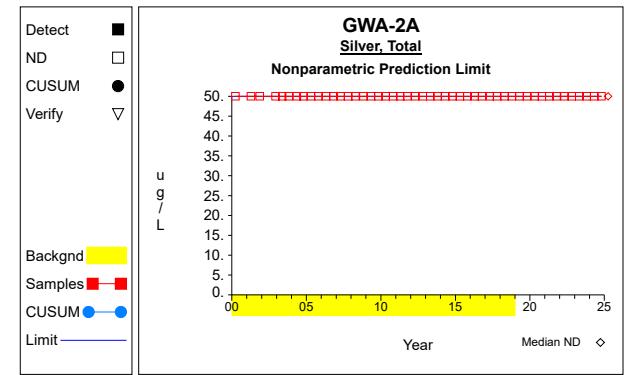
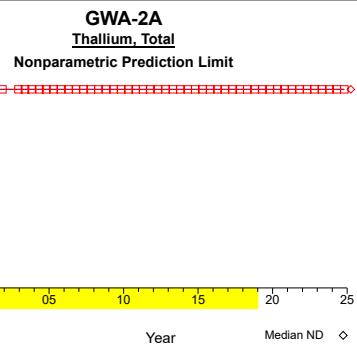
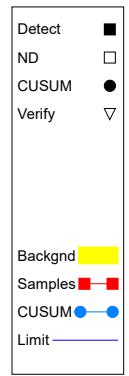
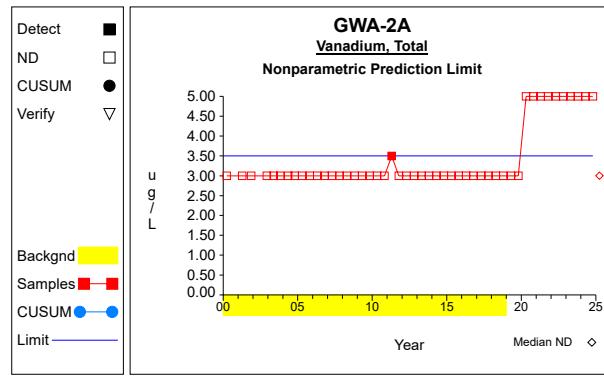
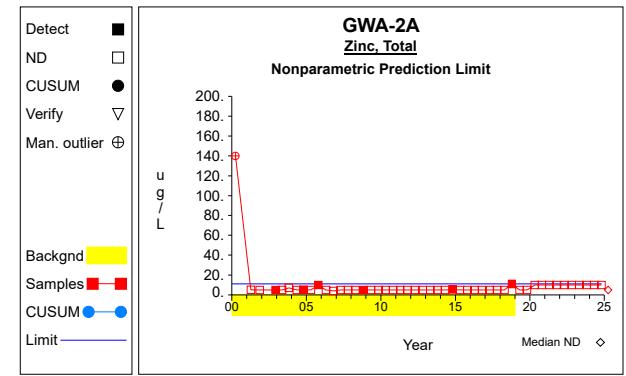
## Intra-Well Control Charts / Prediction Limits



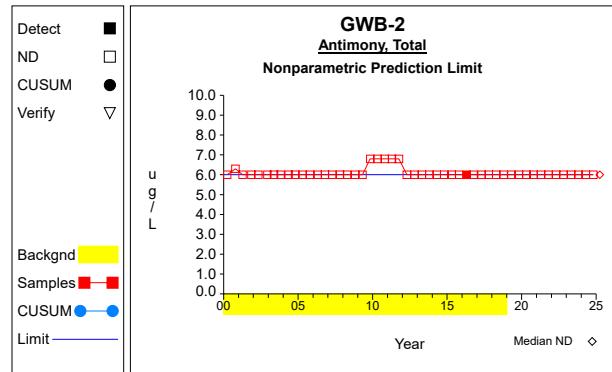
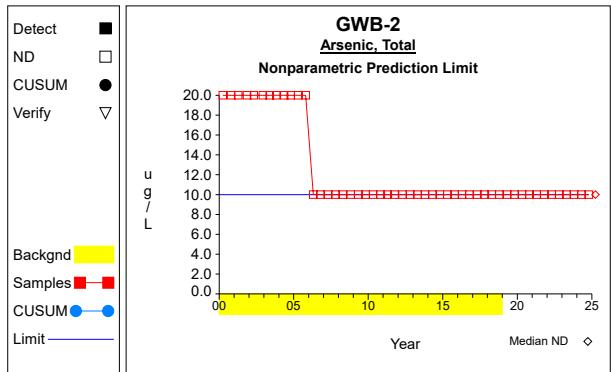
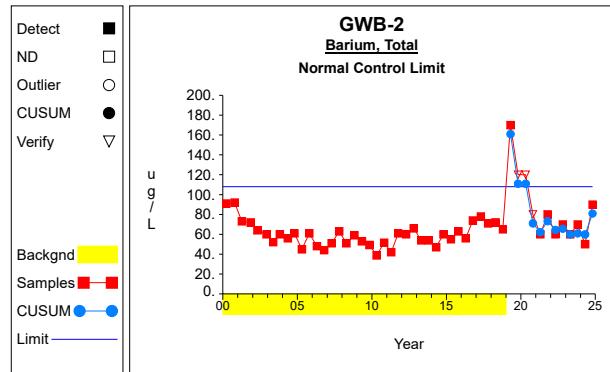
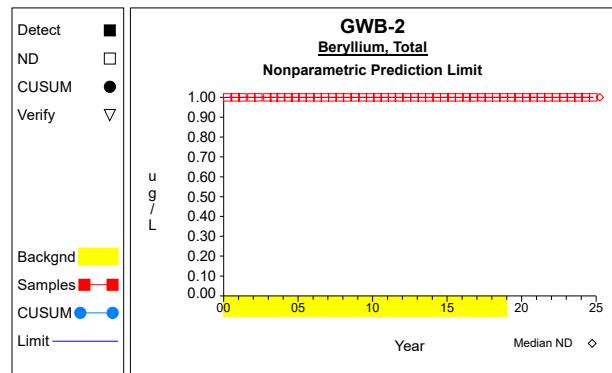
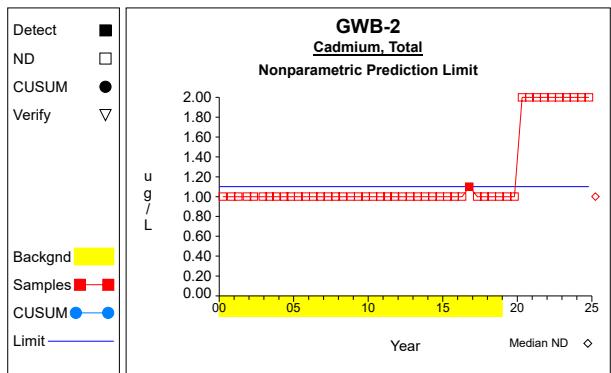
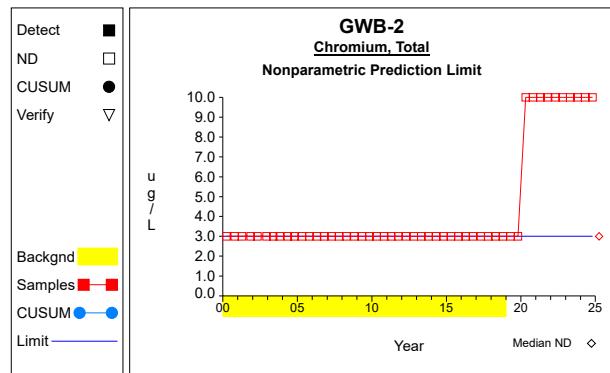
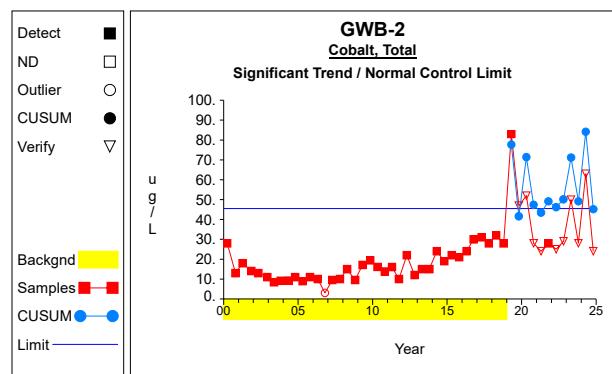
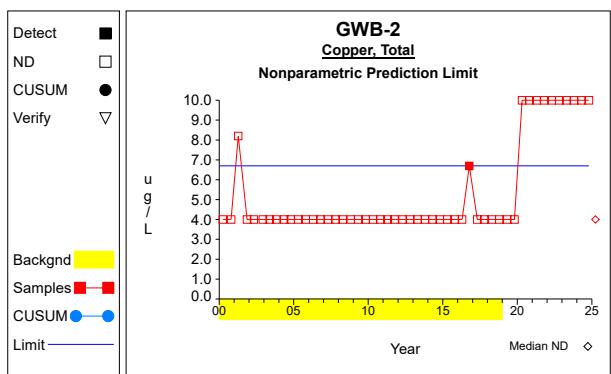
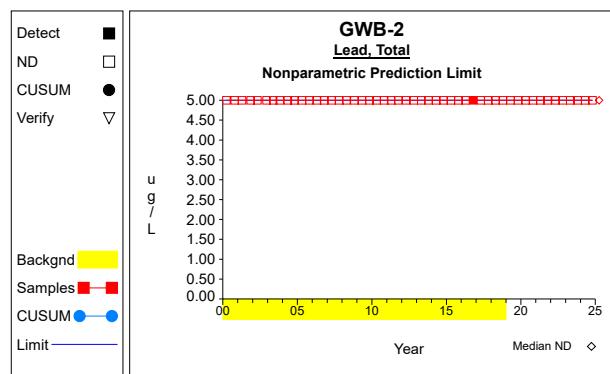
## Intra-Well Control Charts / Prediction Limits



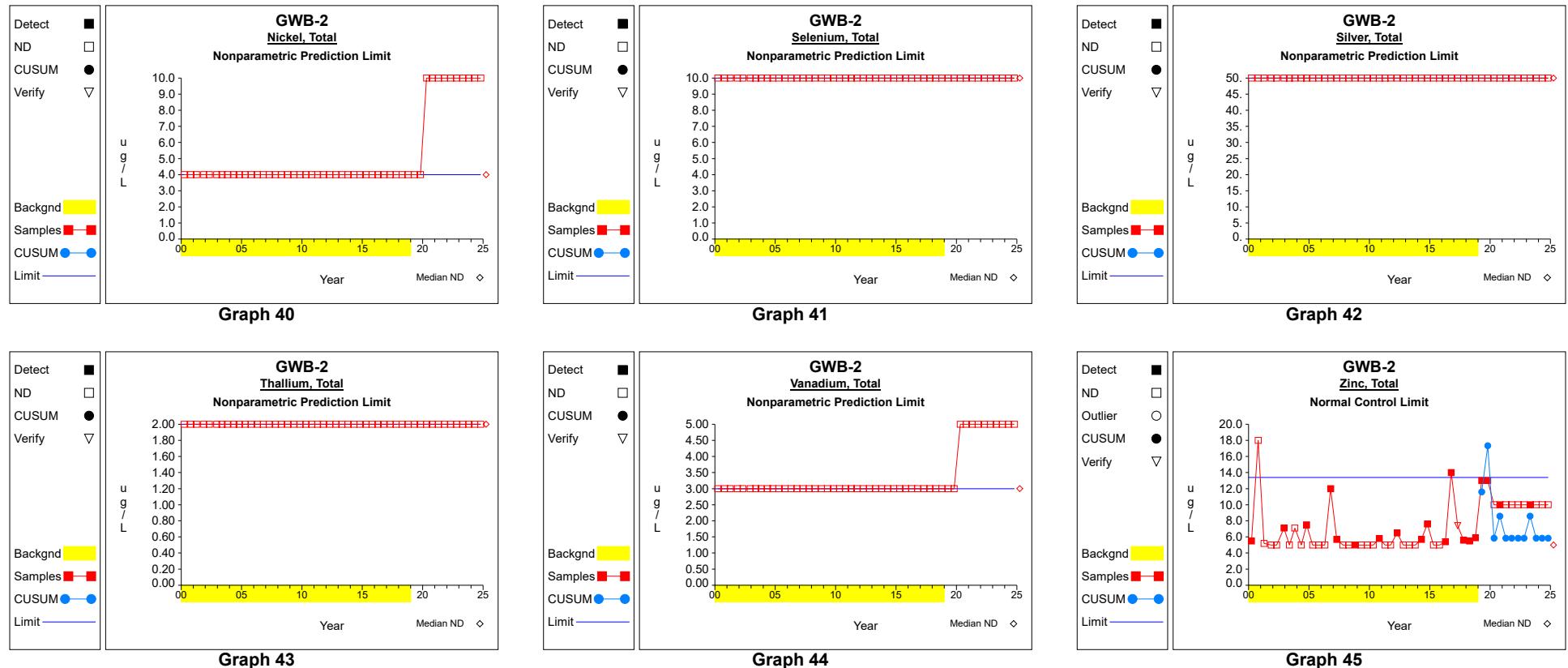
## Intra-Well Control Charts / Prediction Limits

**Graph 25****Graph 26****Graph 27****Graph 28****Graph 29****Graph 30**

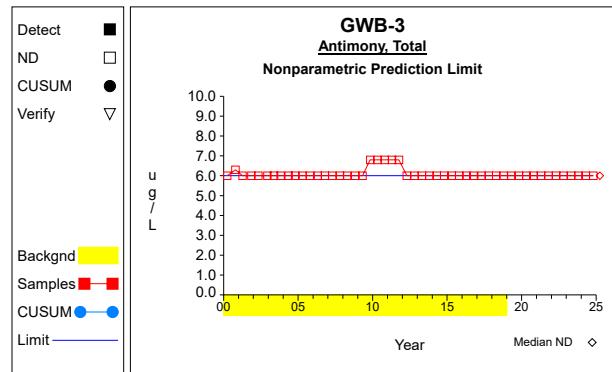
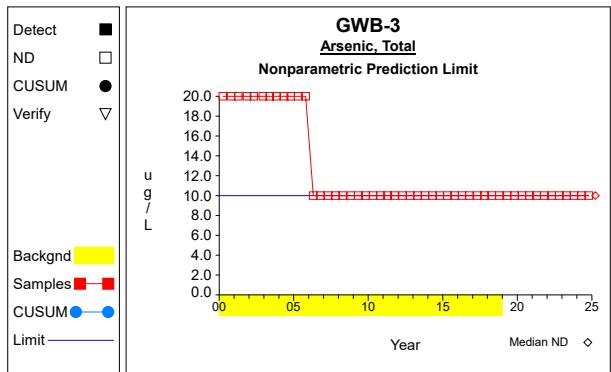
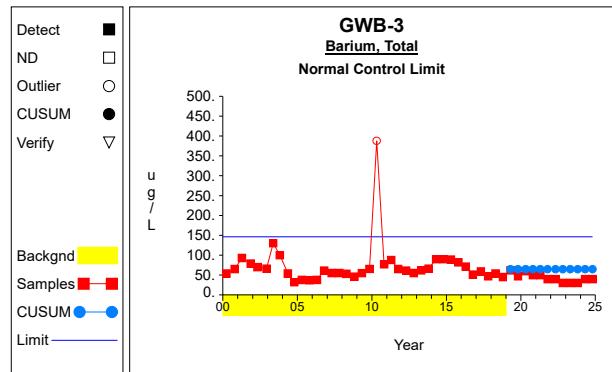
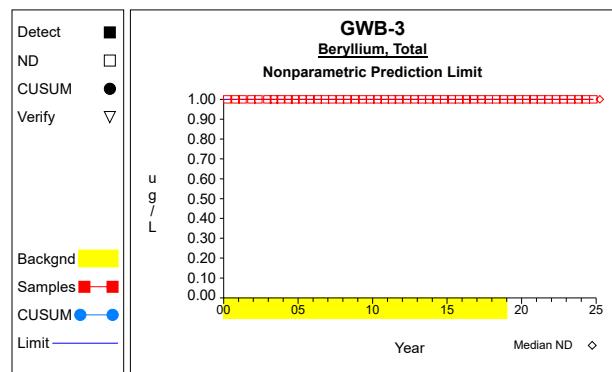
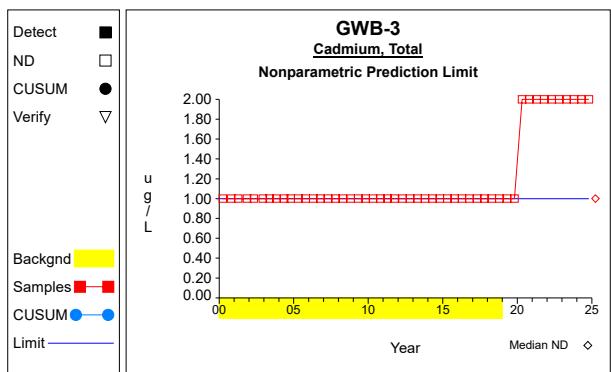
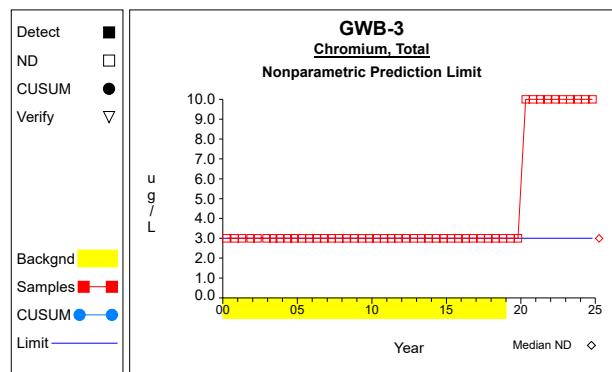
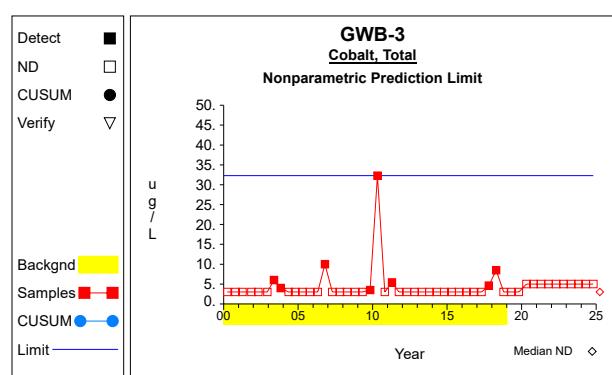
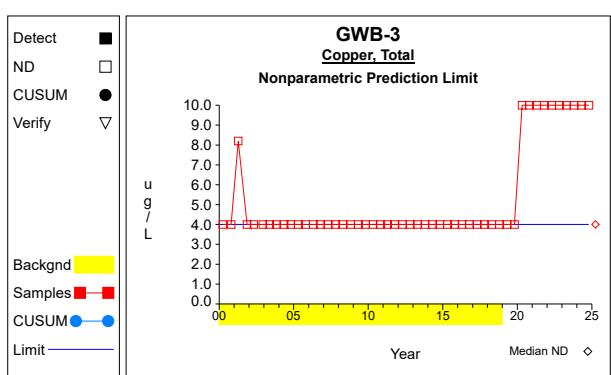
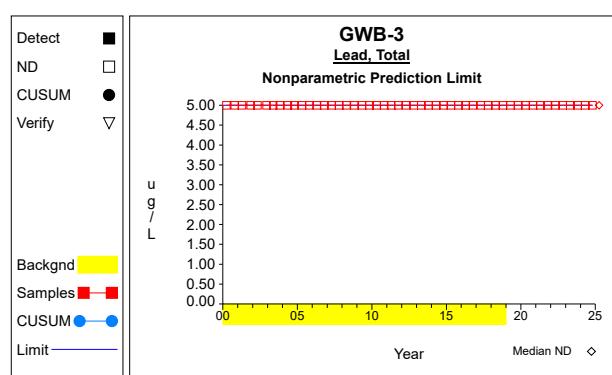
## Intra-Well Control Charts / Prediction Limits

**Graph 31****Graph 32****Graph 33****Graph 34****Graph 35****Graph 36****Graph 37****Graph 38****Graph 39**

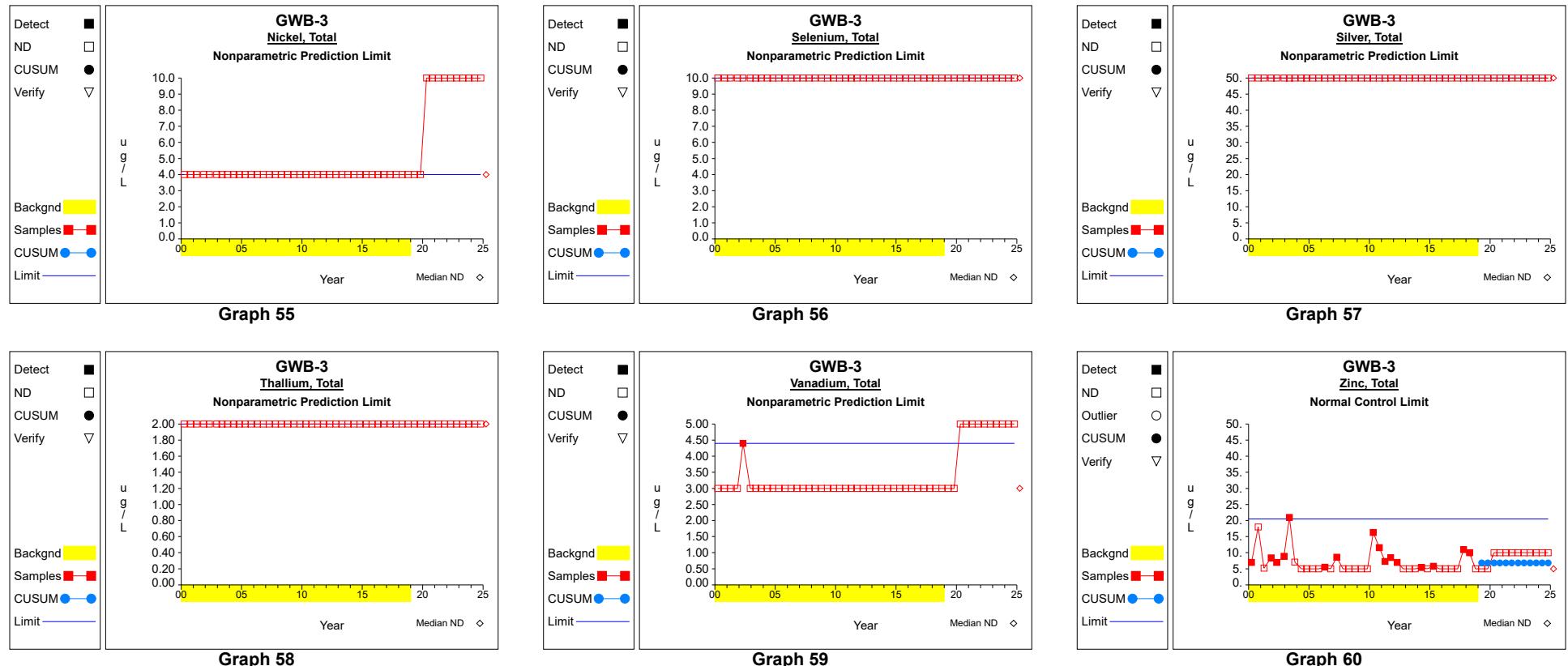
## Intra-Well Control Charts / Prediction Limits



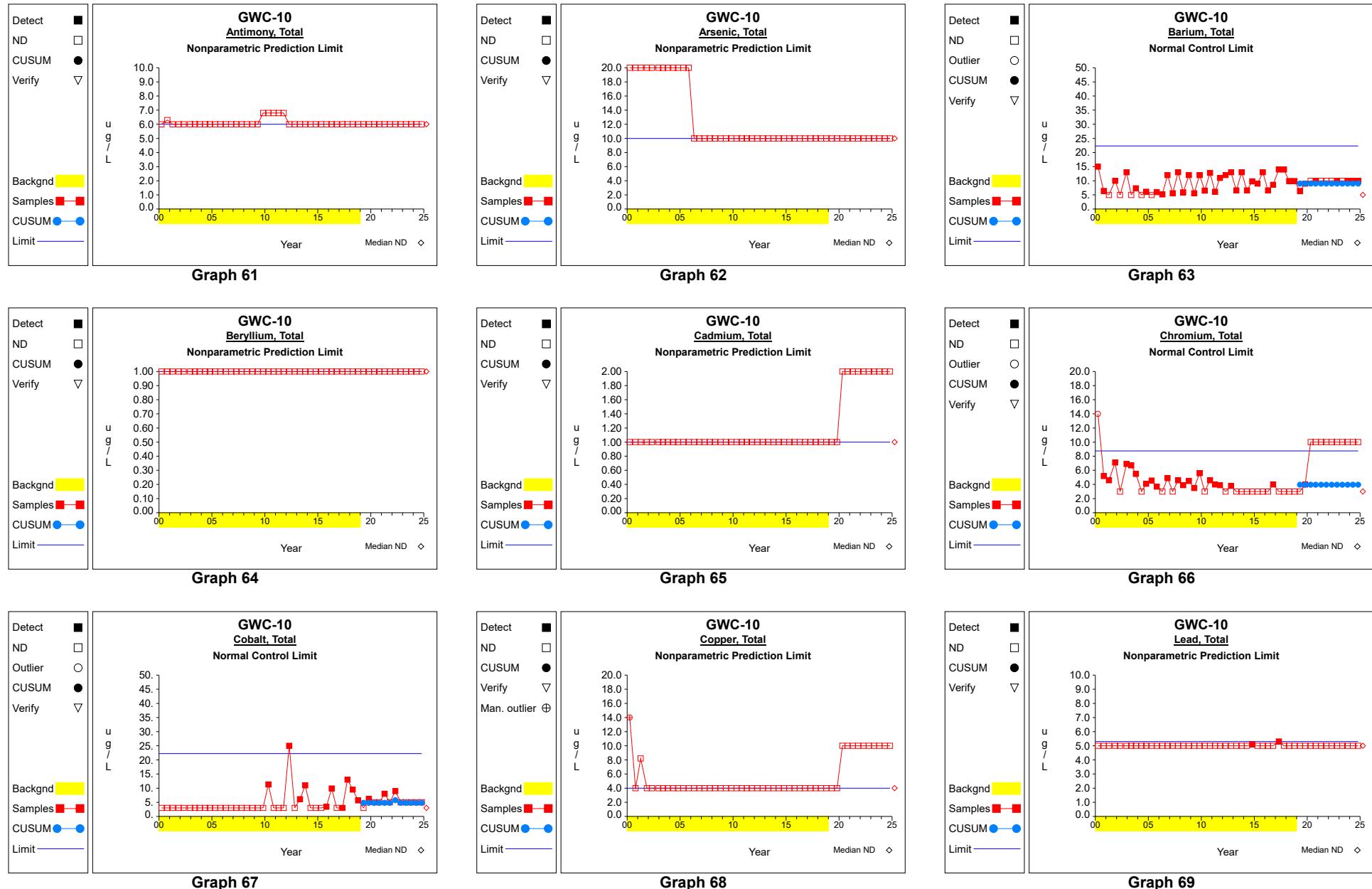
## Intra-Well Control Charts / Prediction Limits

**Graph 46****Graph 47****Graph 48****Graph 49****Graph 50****Graph 51****Graph 52****Graph 53****Graph 54**

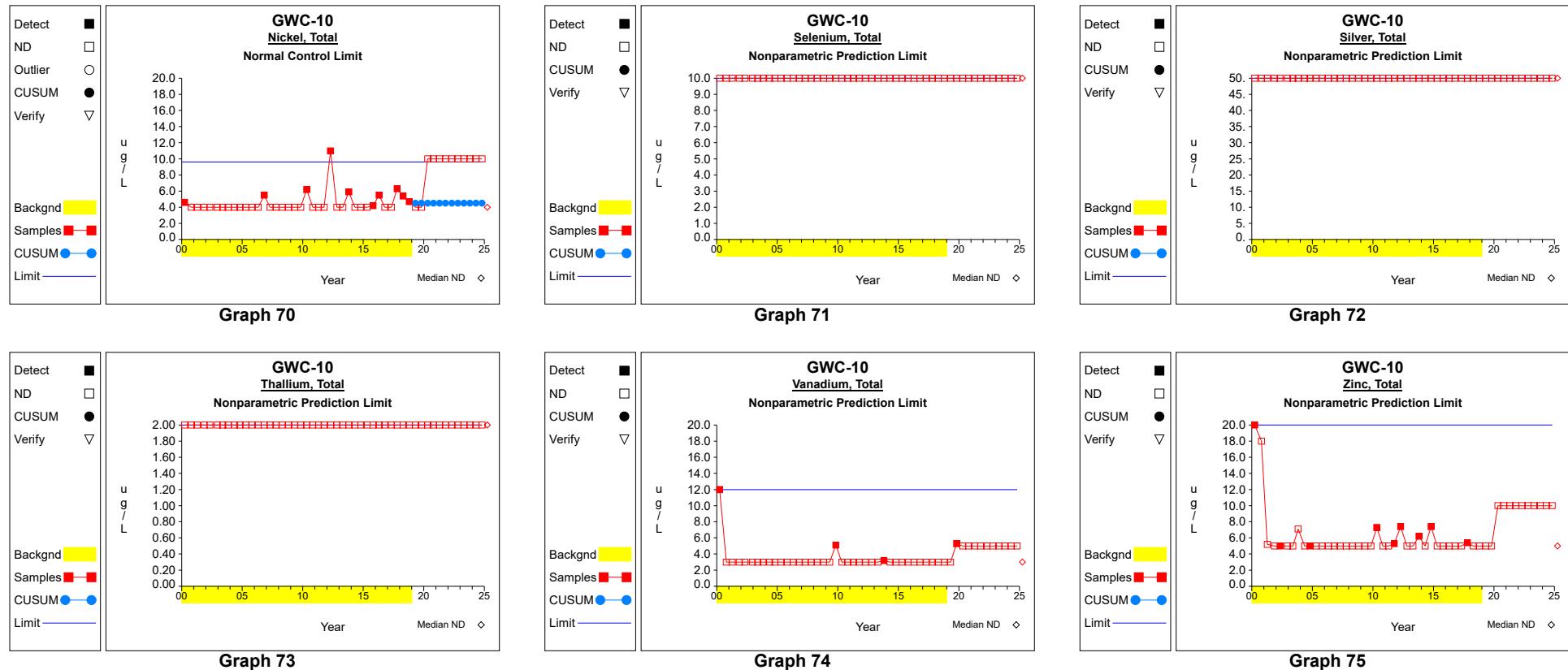
## Intra-Well Control Charts / Prediction Limits



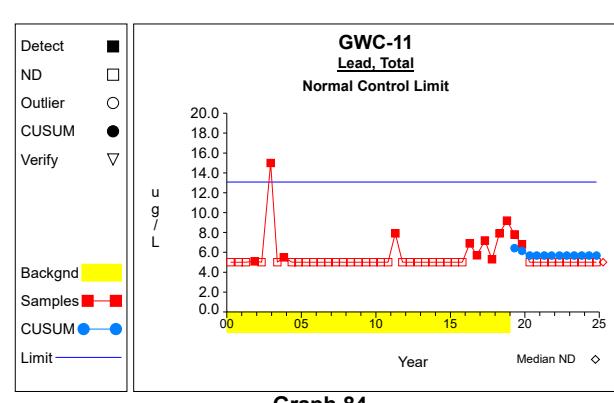
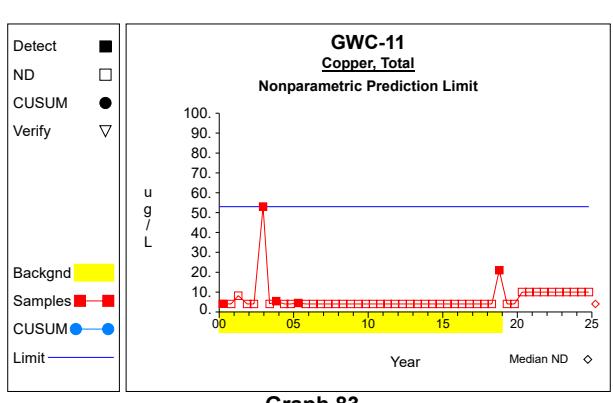
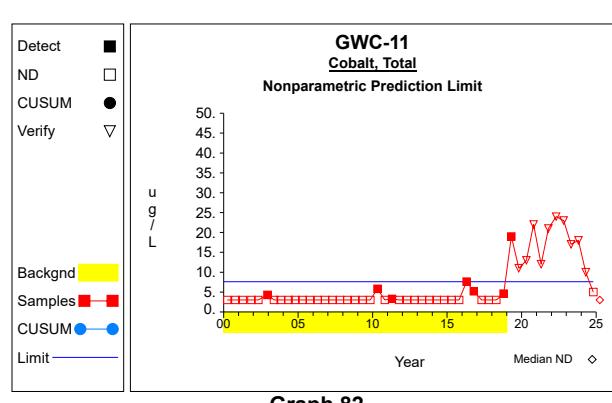
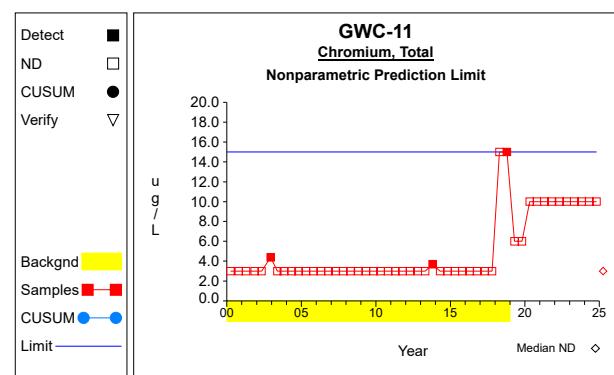
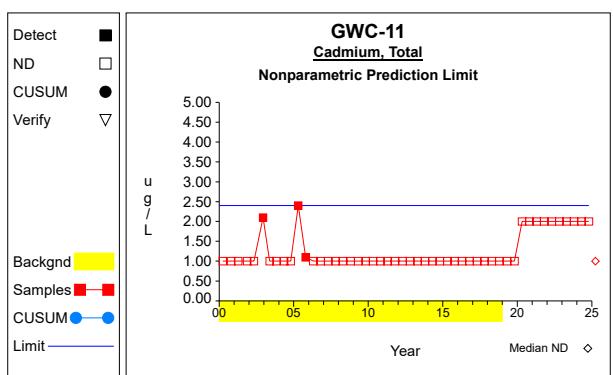
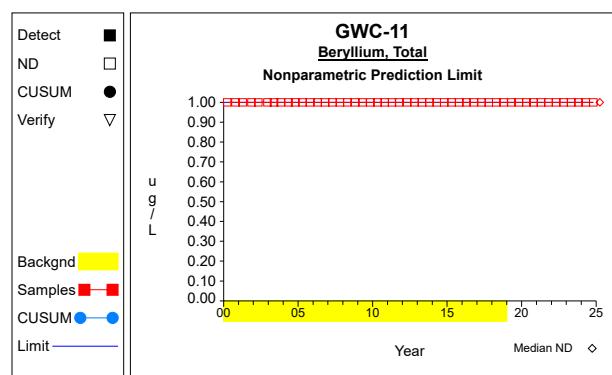
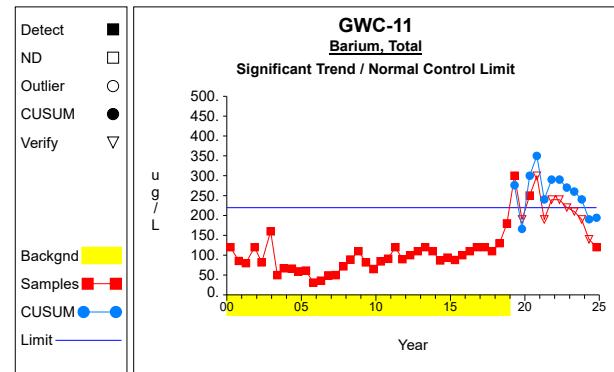
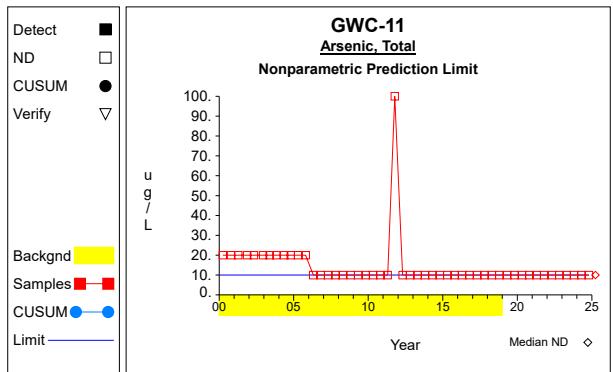
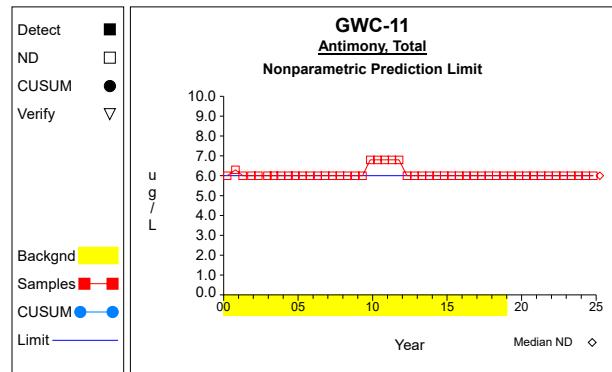
## Intra-Well Control Charts / Prediction Limits



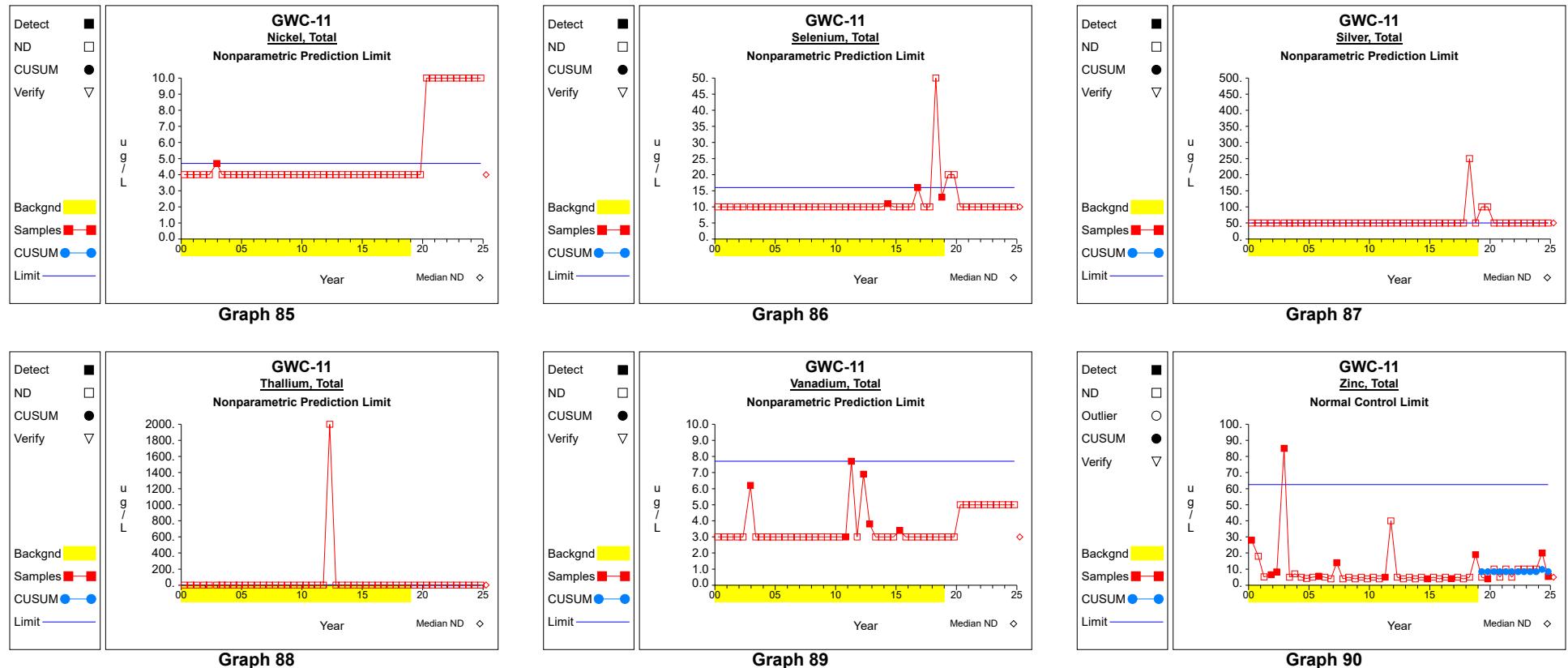
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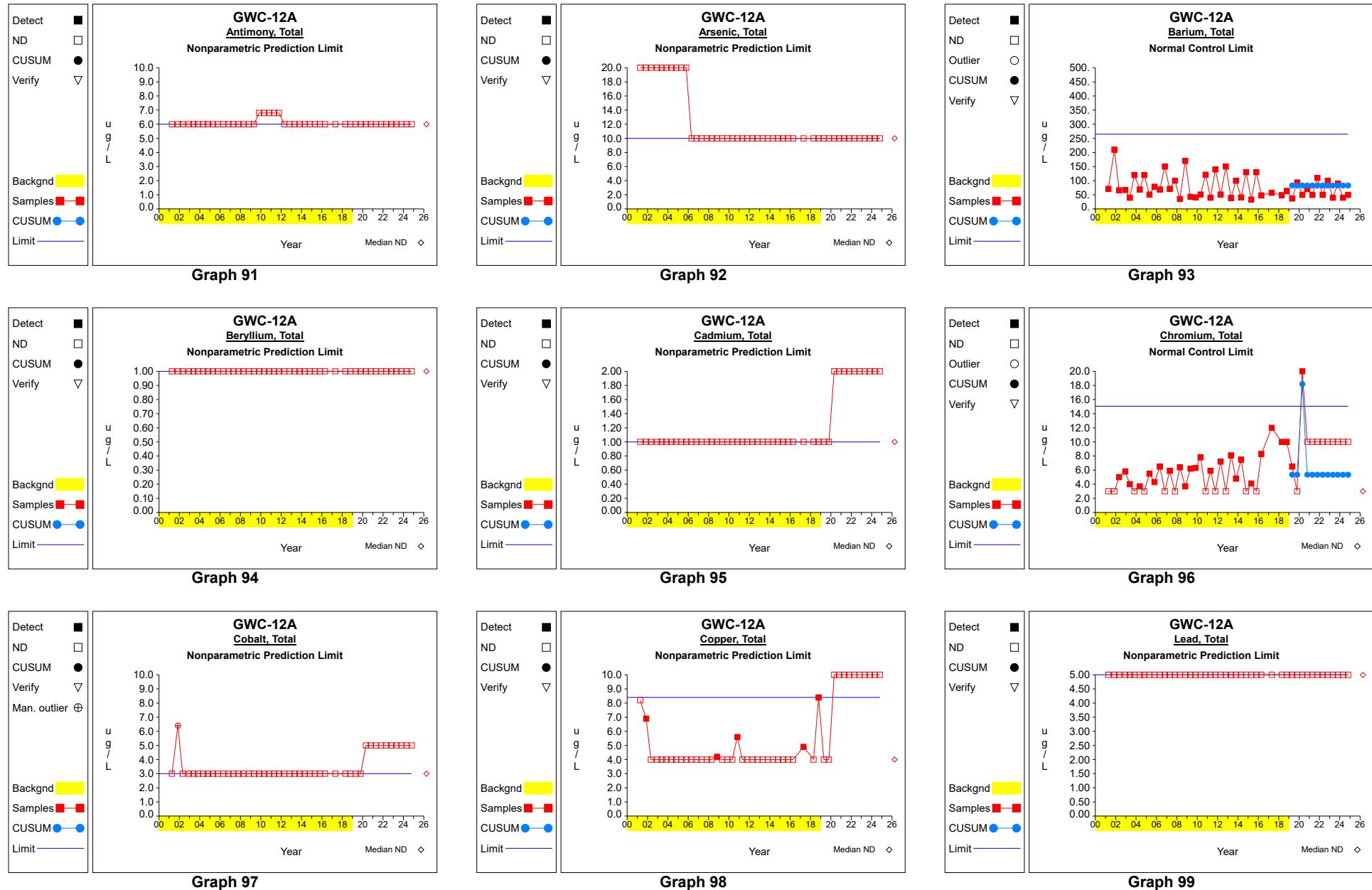
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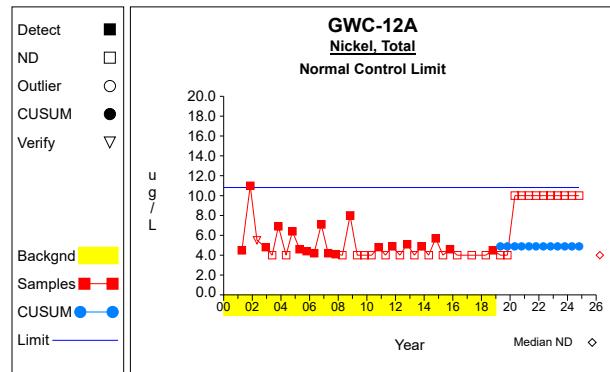
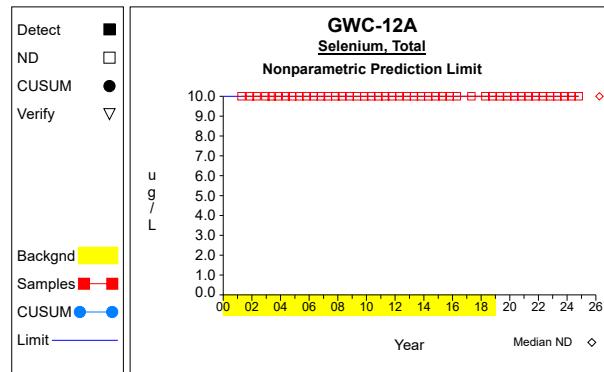
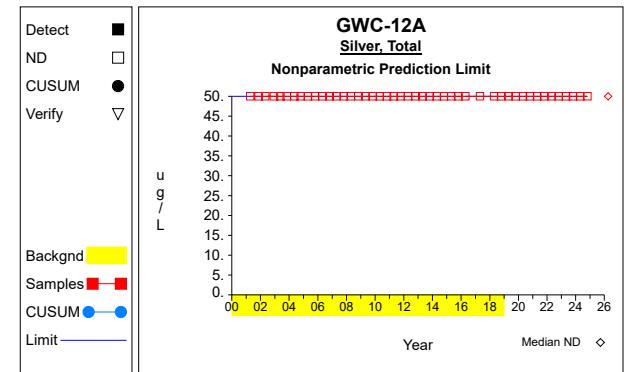
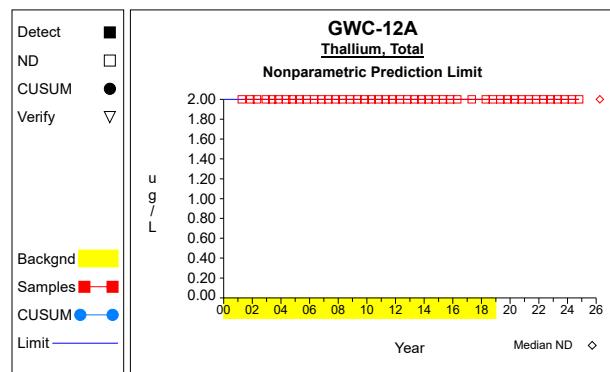
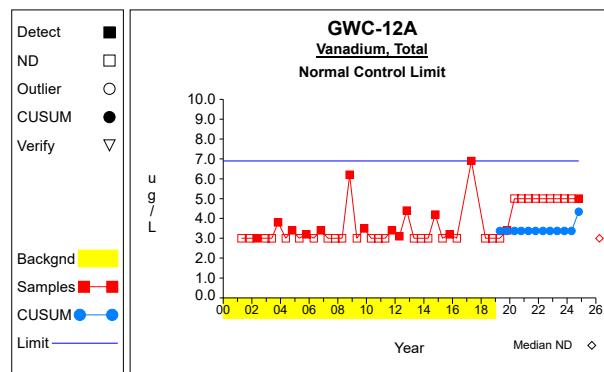
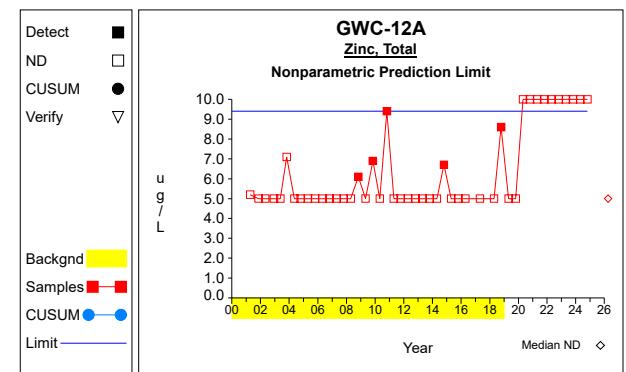
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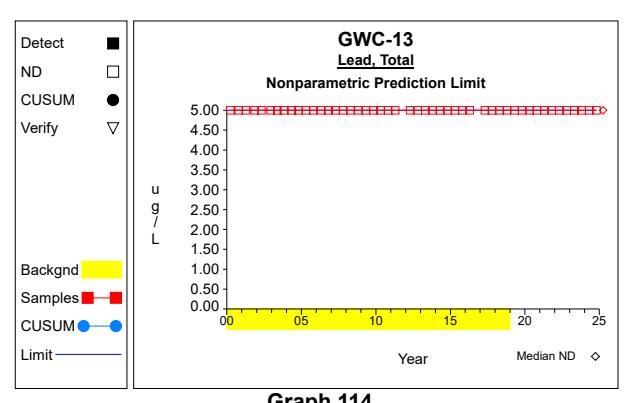
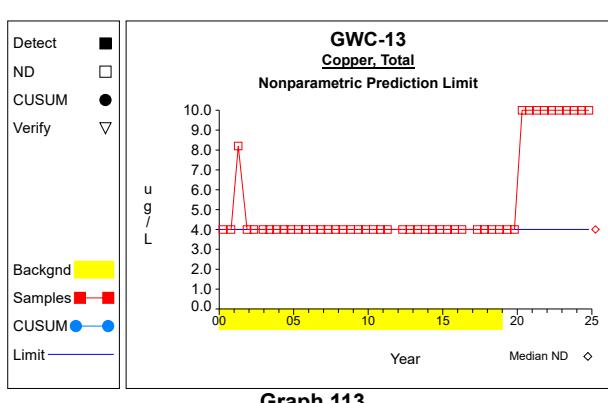
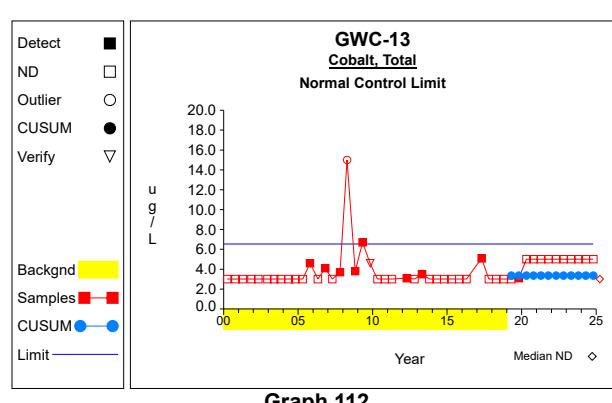
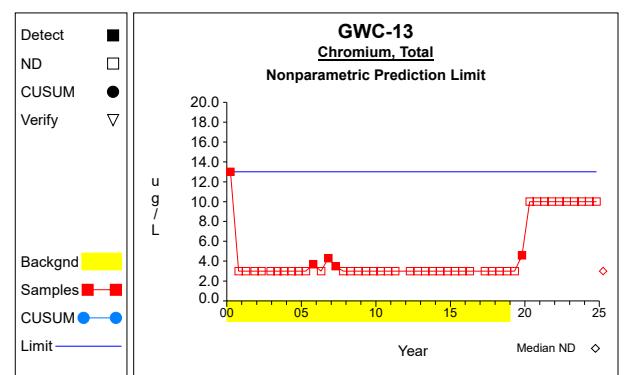
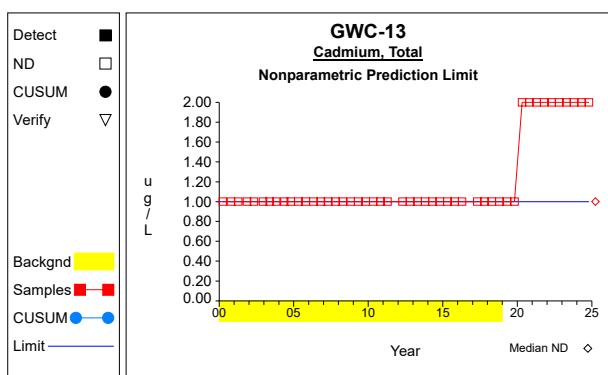
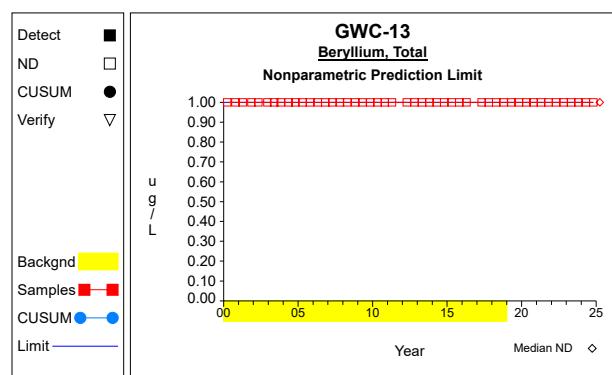
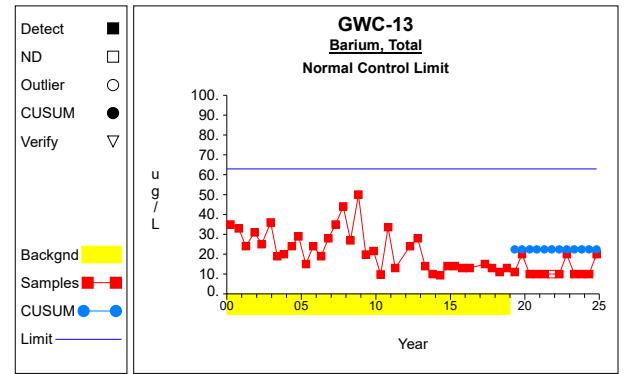
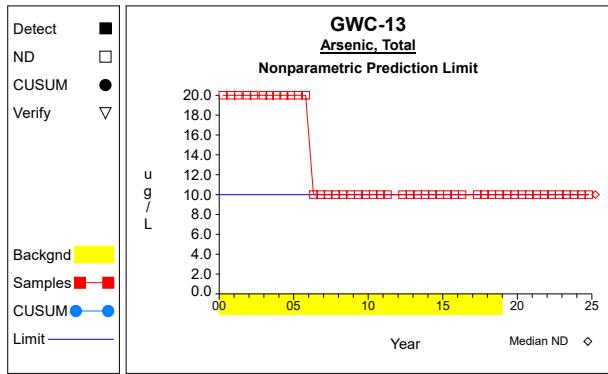
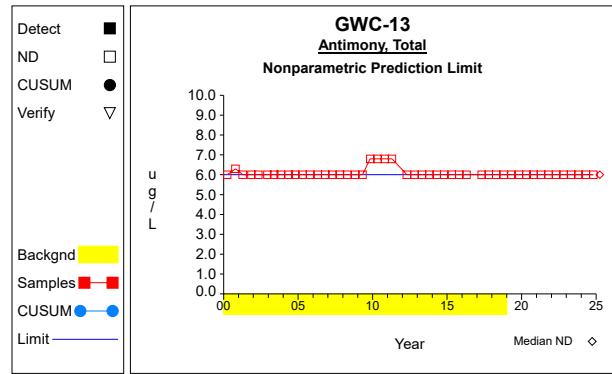
## Intra-Well Control Charts / Prediction Limits



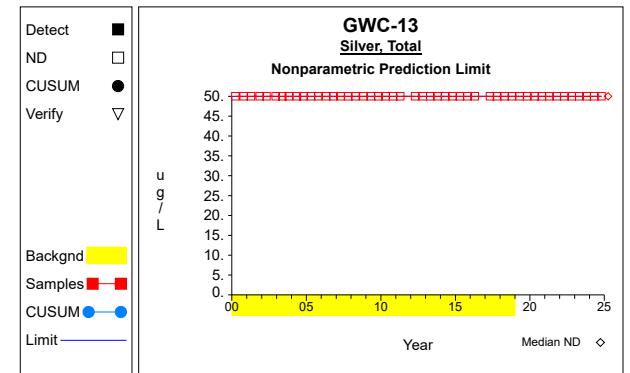
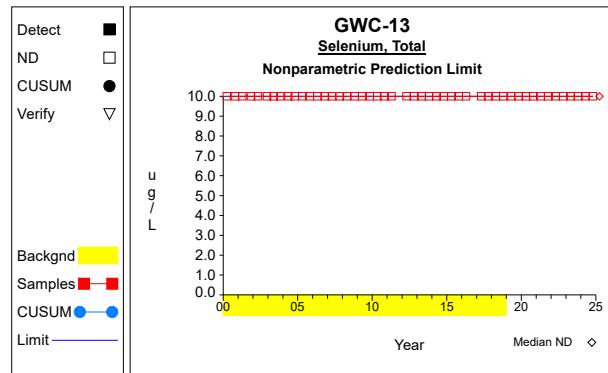
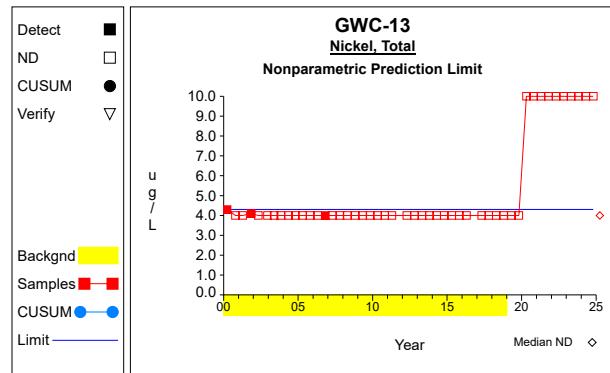
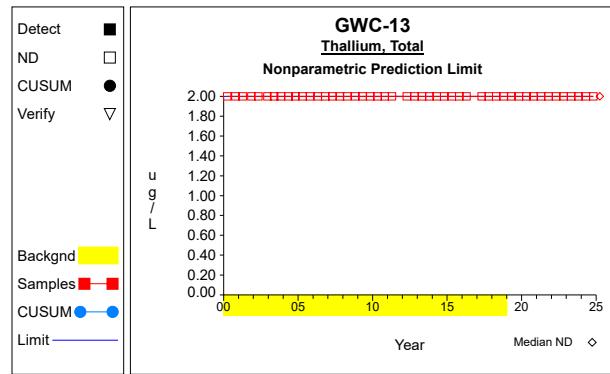
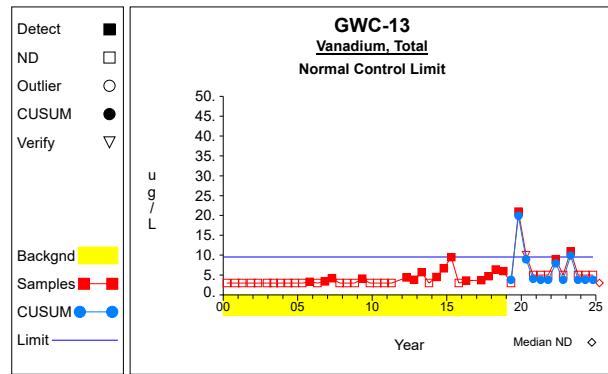
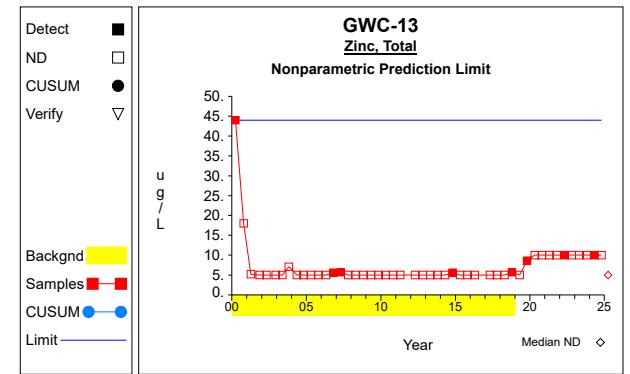
## Intra-Well Control Charts / Prediction Limits

**Graph 100****Graph 101****Graph 102****Graph 103****Graph 104****Graph 105**

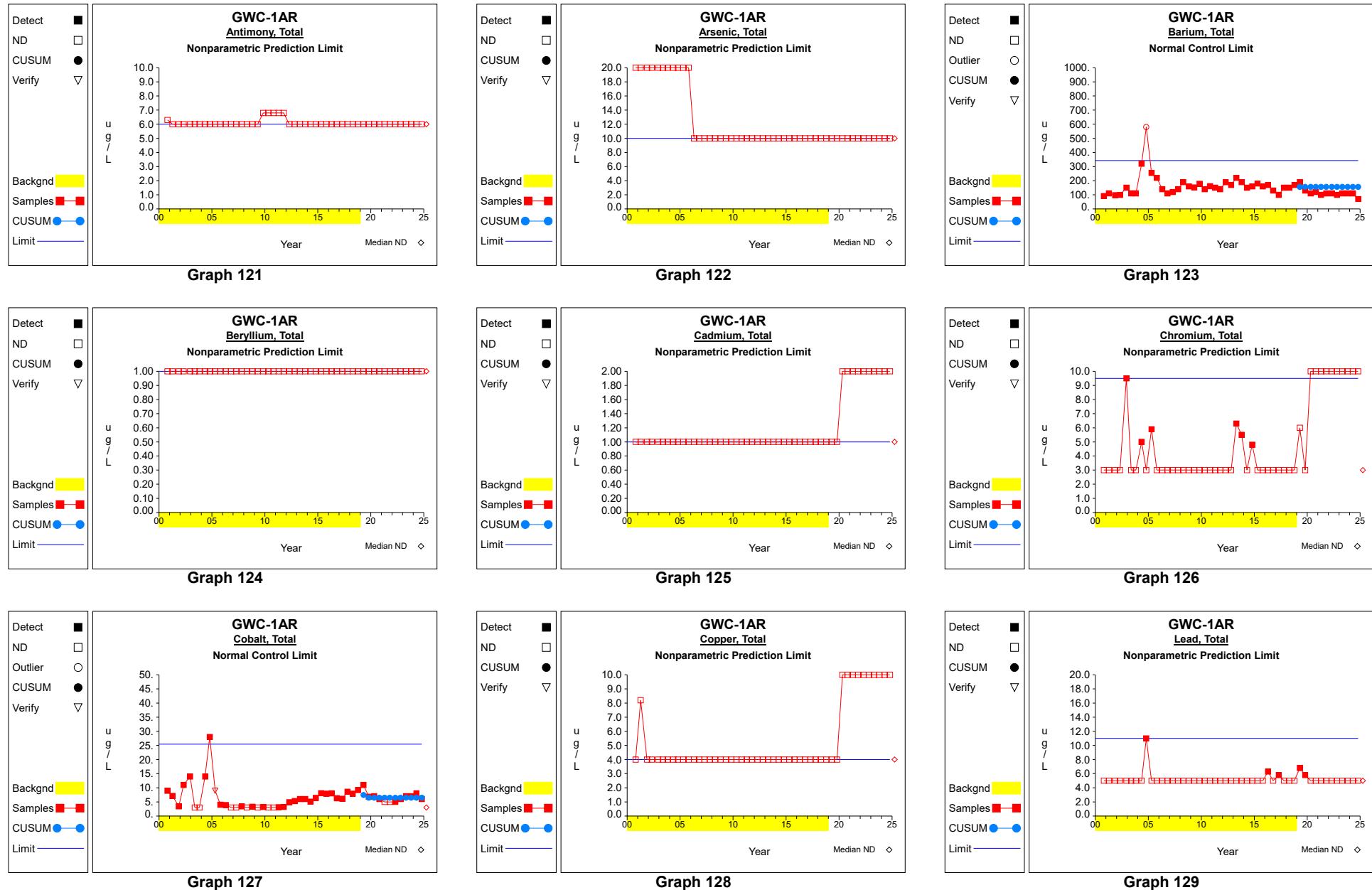
## Intra-Well Control Charts / Prediction Limits



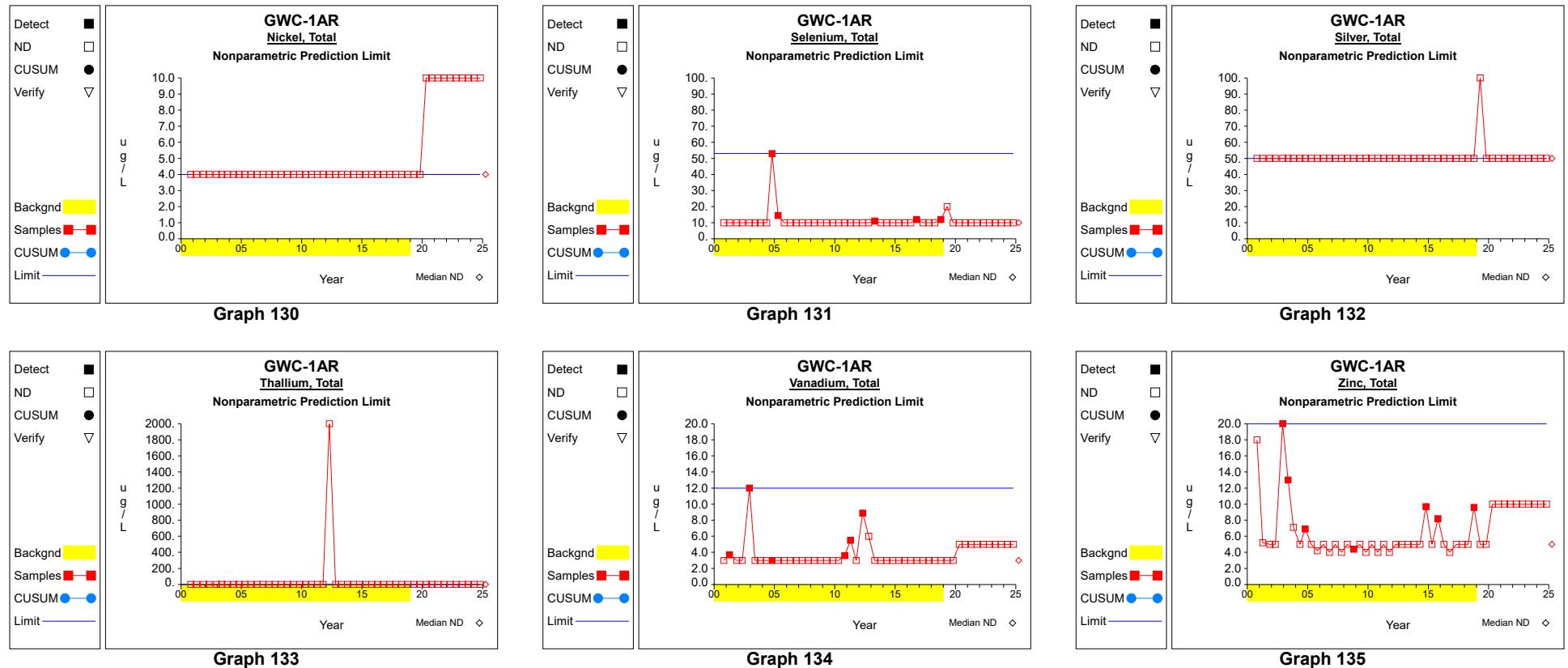
## Intra-Well Control Charts / Prediction Limits

**Graph 115****Graph 116****Graph 117****Graph 118****Graph 119****Graph 120**

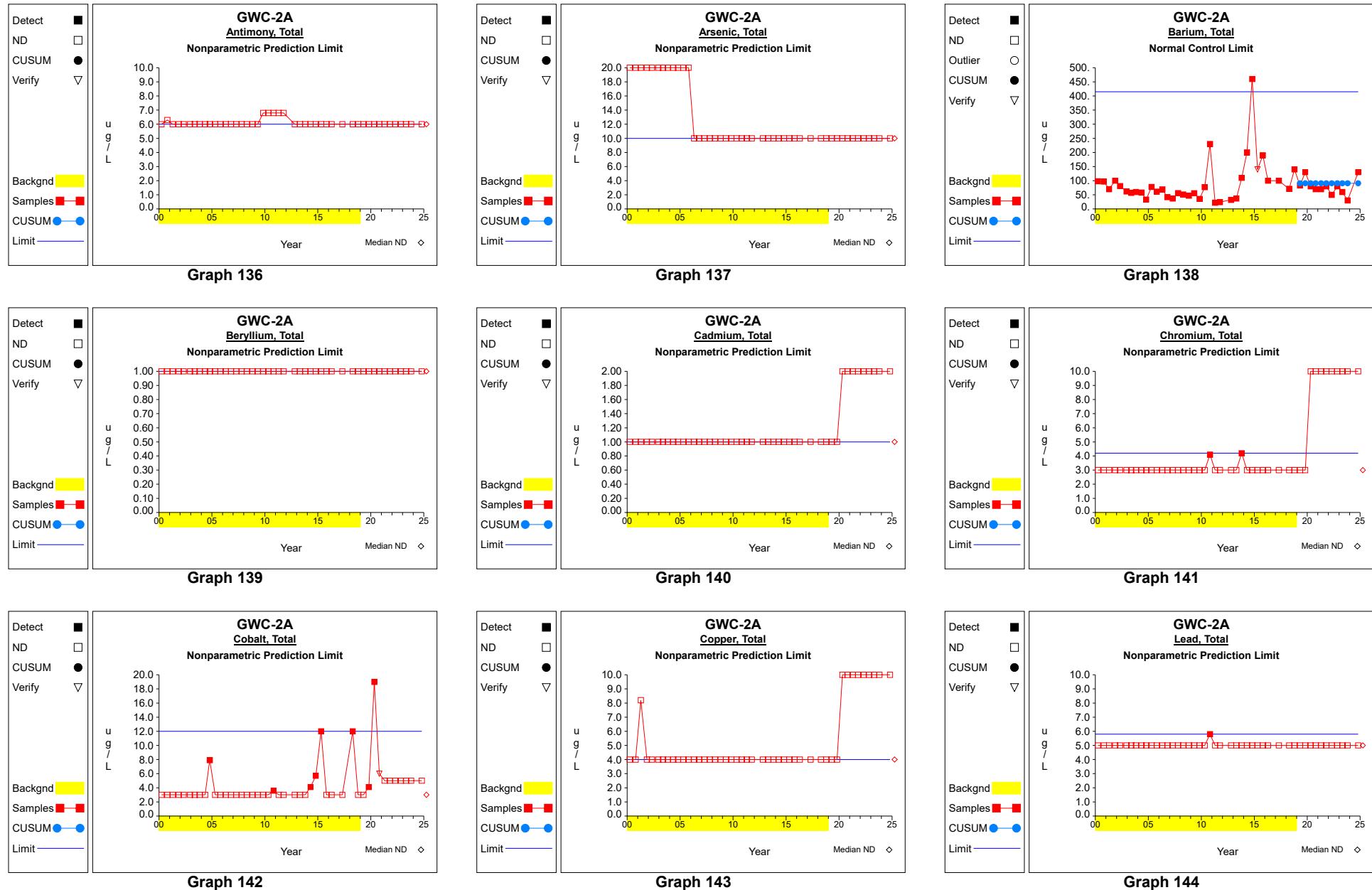
## Intra-Well Control Charts / Prediction Limits



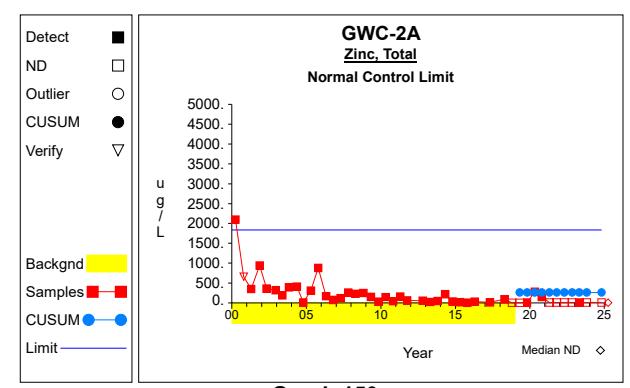
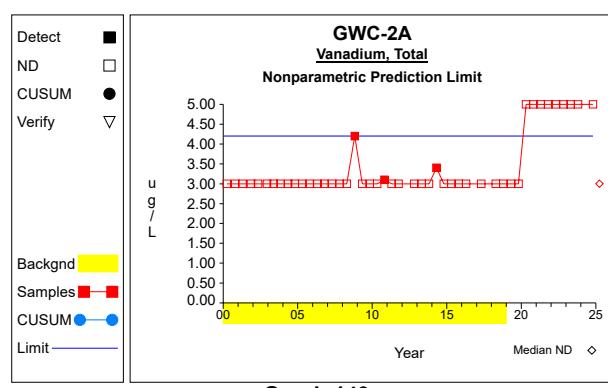
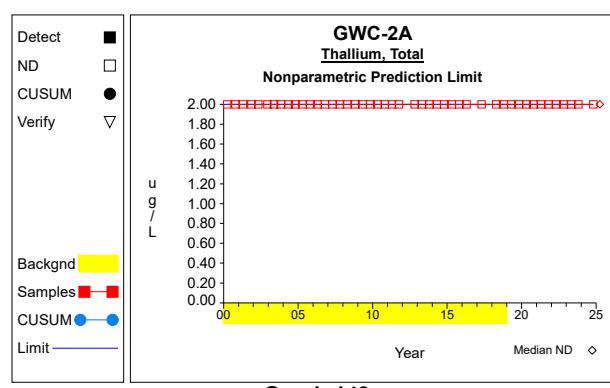
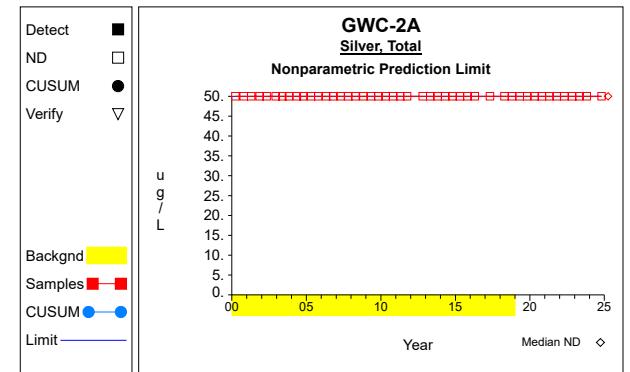
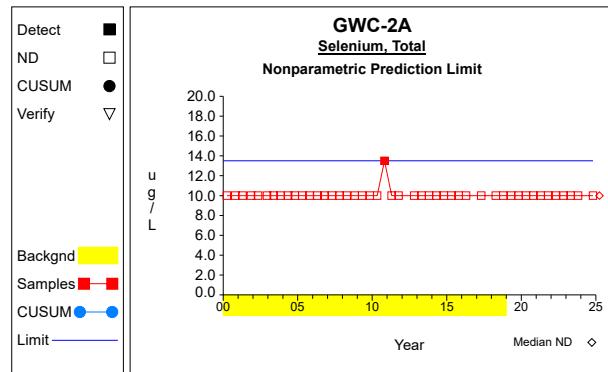
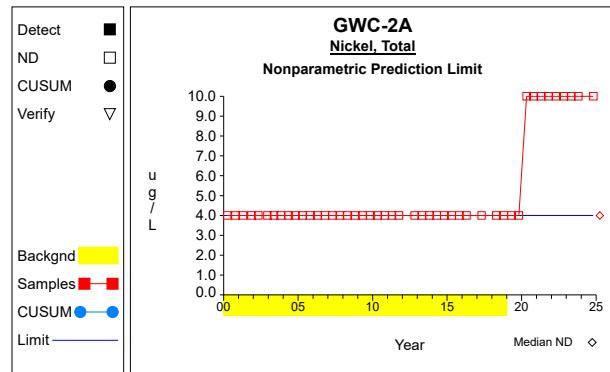
## Intra-Well Control Charts / Prediction Limits



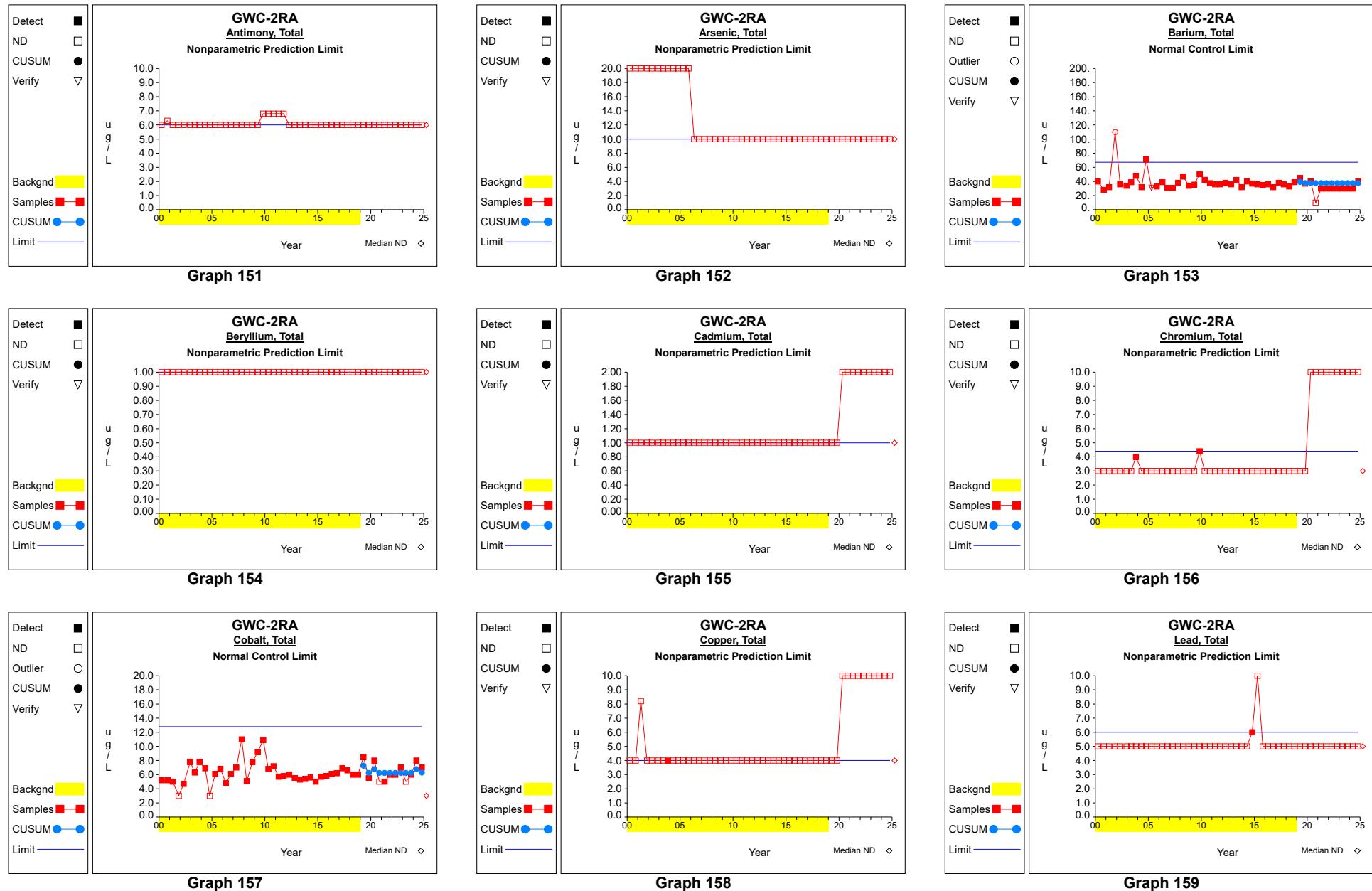
## Intra-Well Control Charts / Prediction Limits



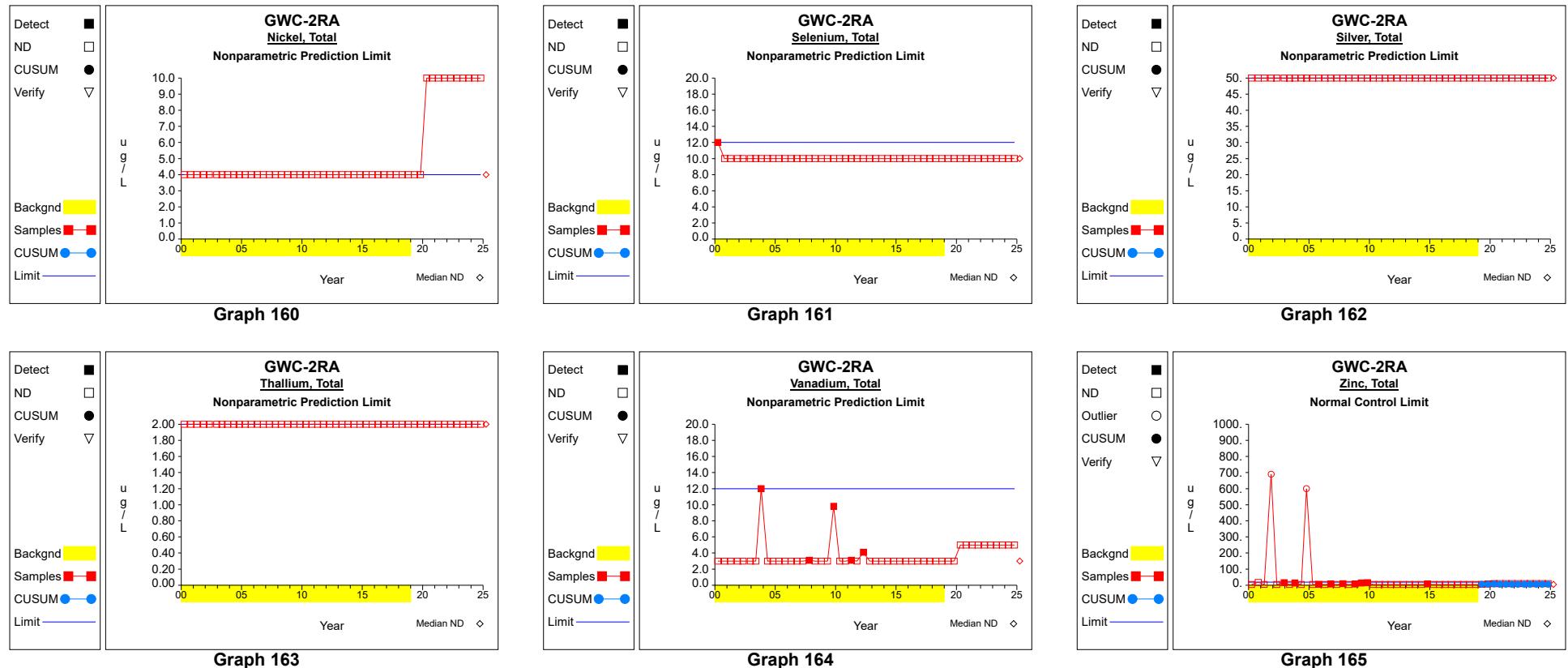
## Intra-Well Control Charts / Prediction Limits



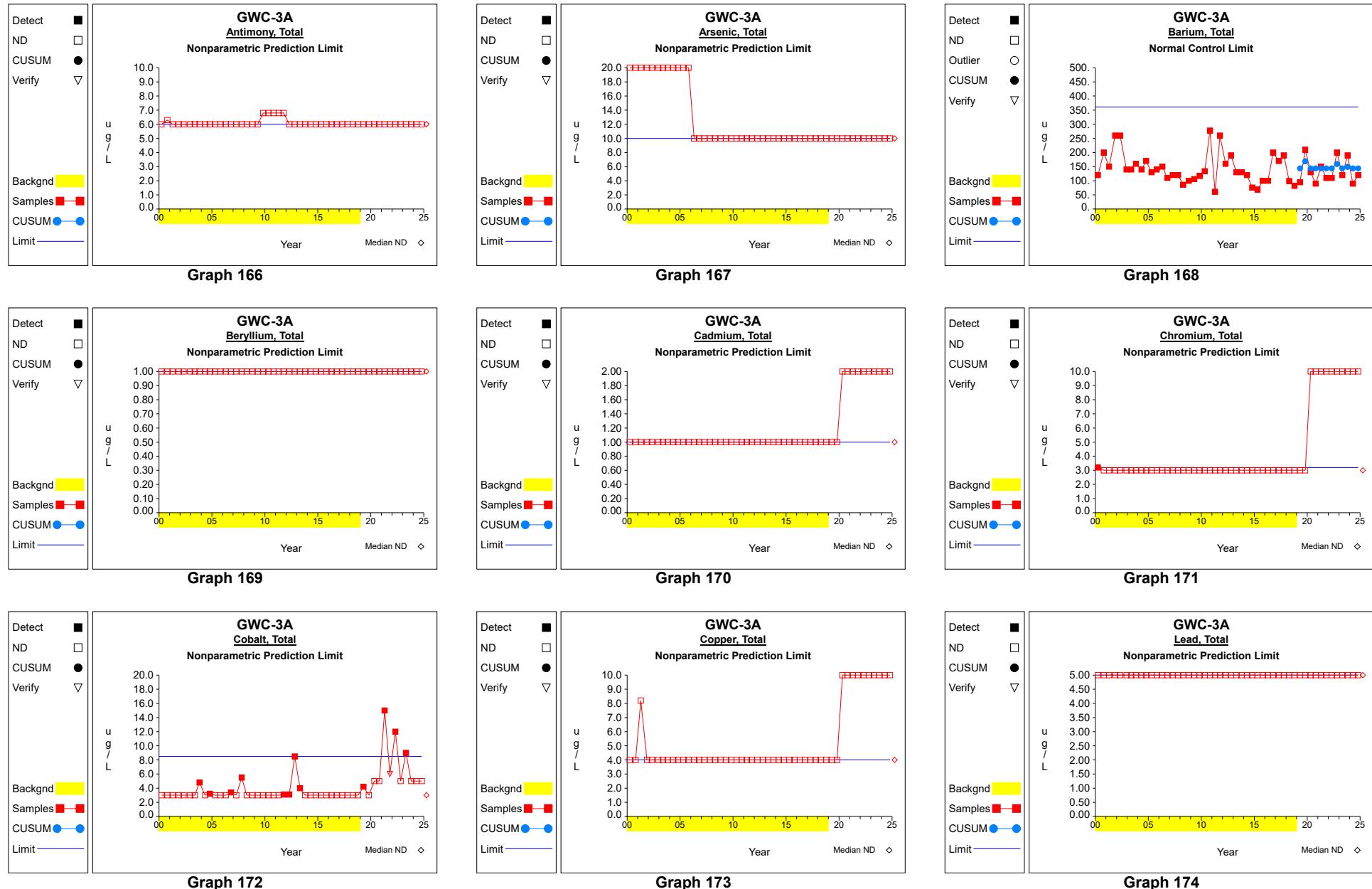
## Intra-Well Control Charts / Prediction Limits



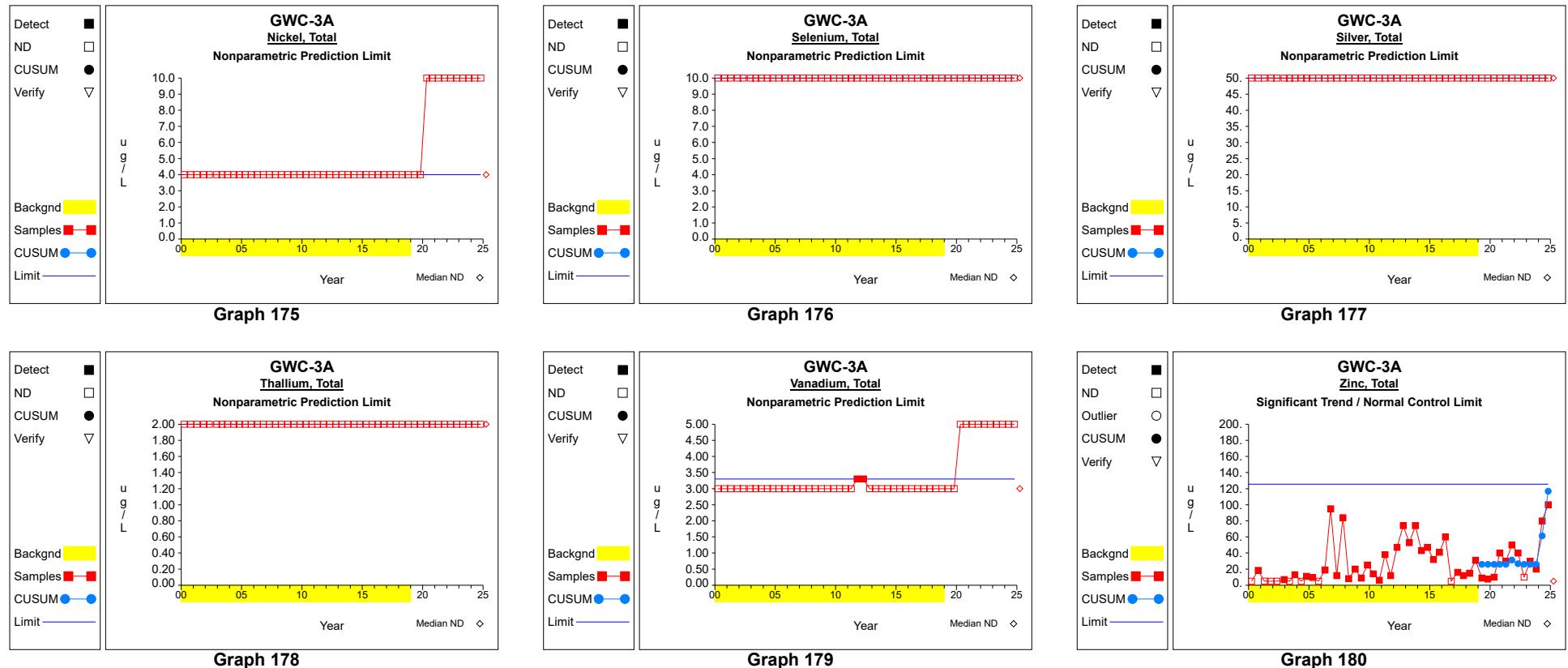
## Intra-Well Control Charts / Prediction Limits



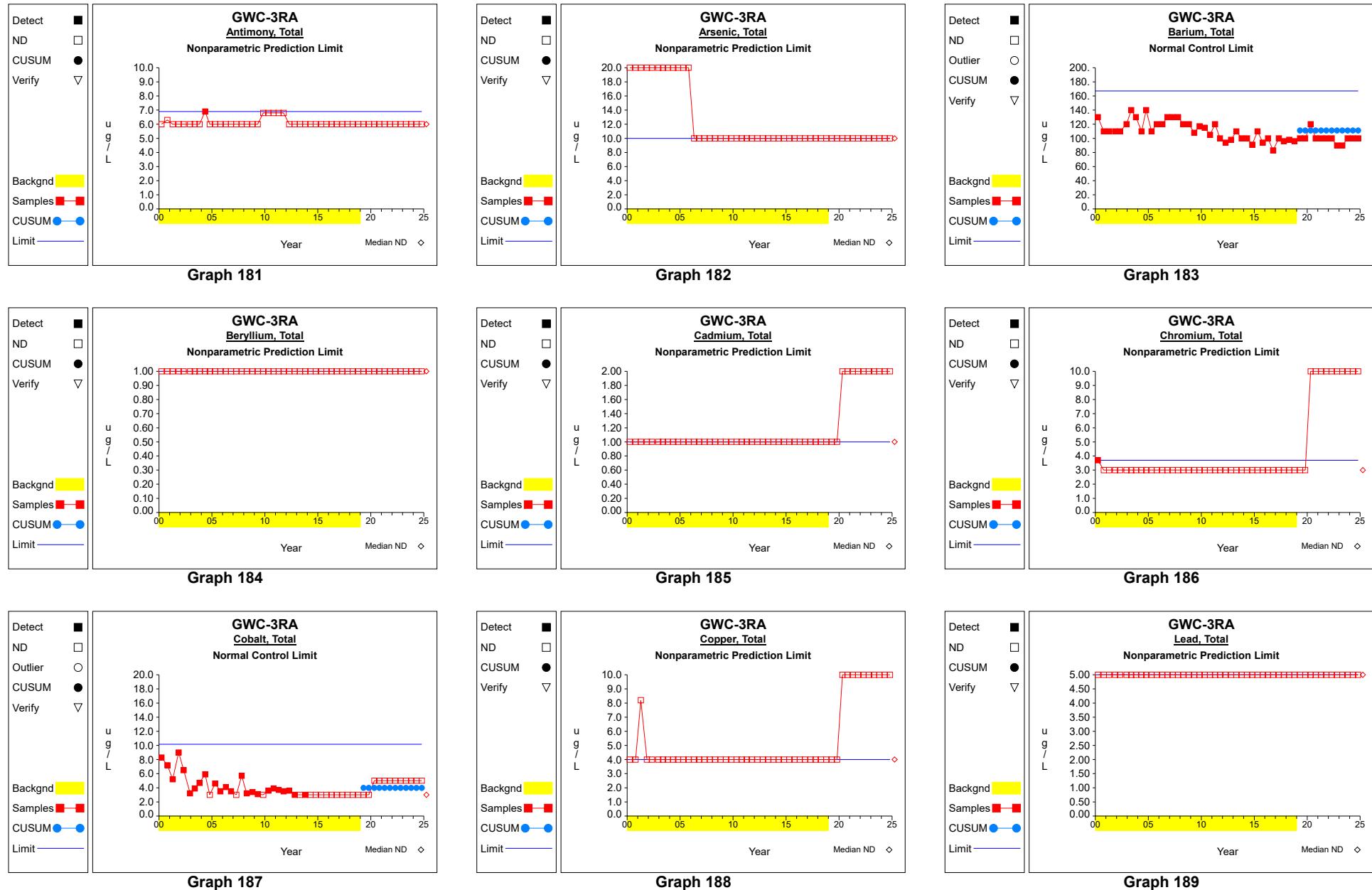
## Intra-Well Control Charts / Prediction Limits



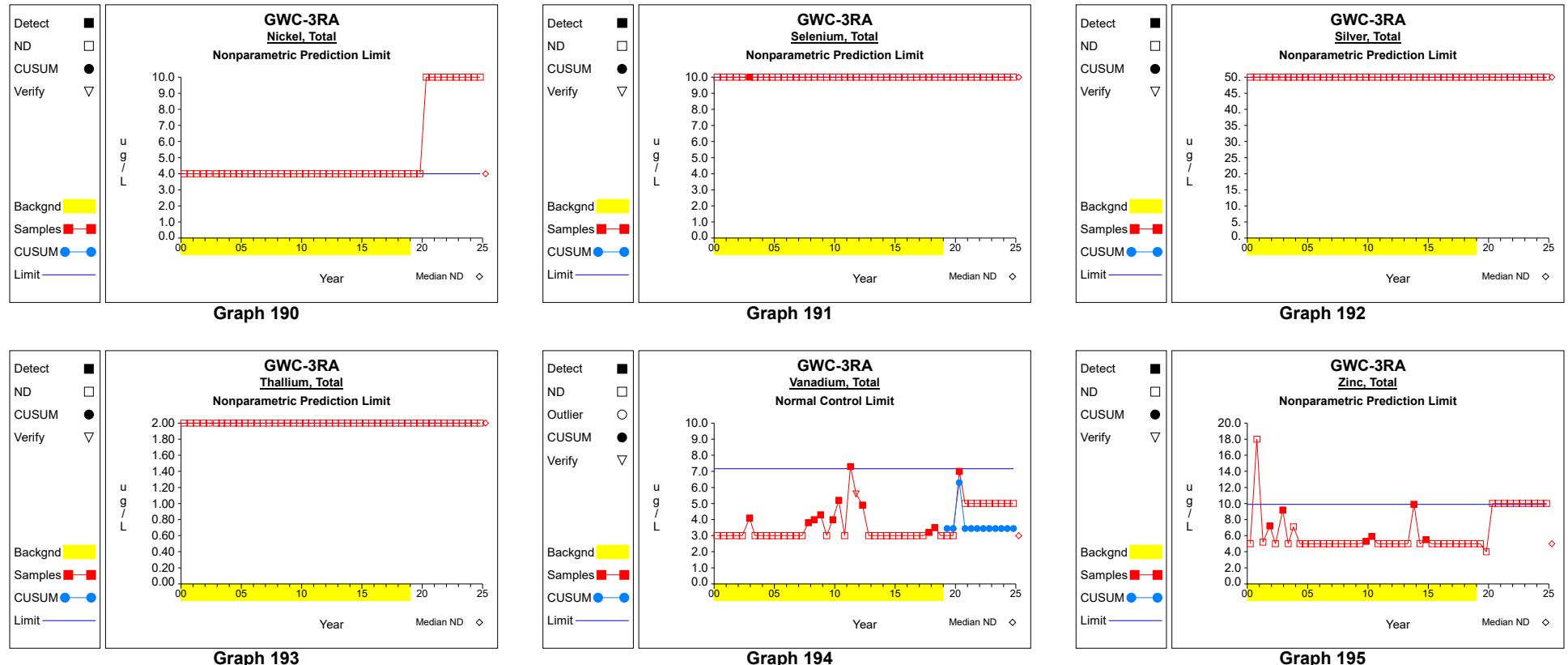
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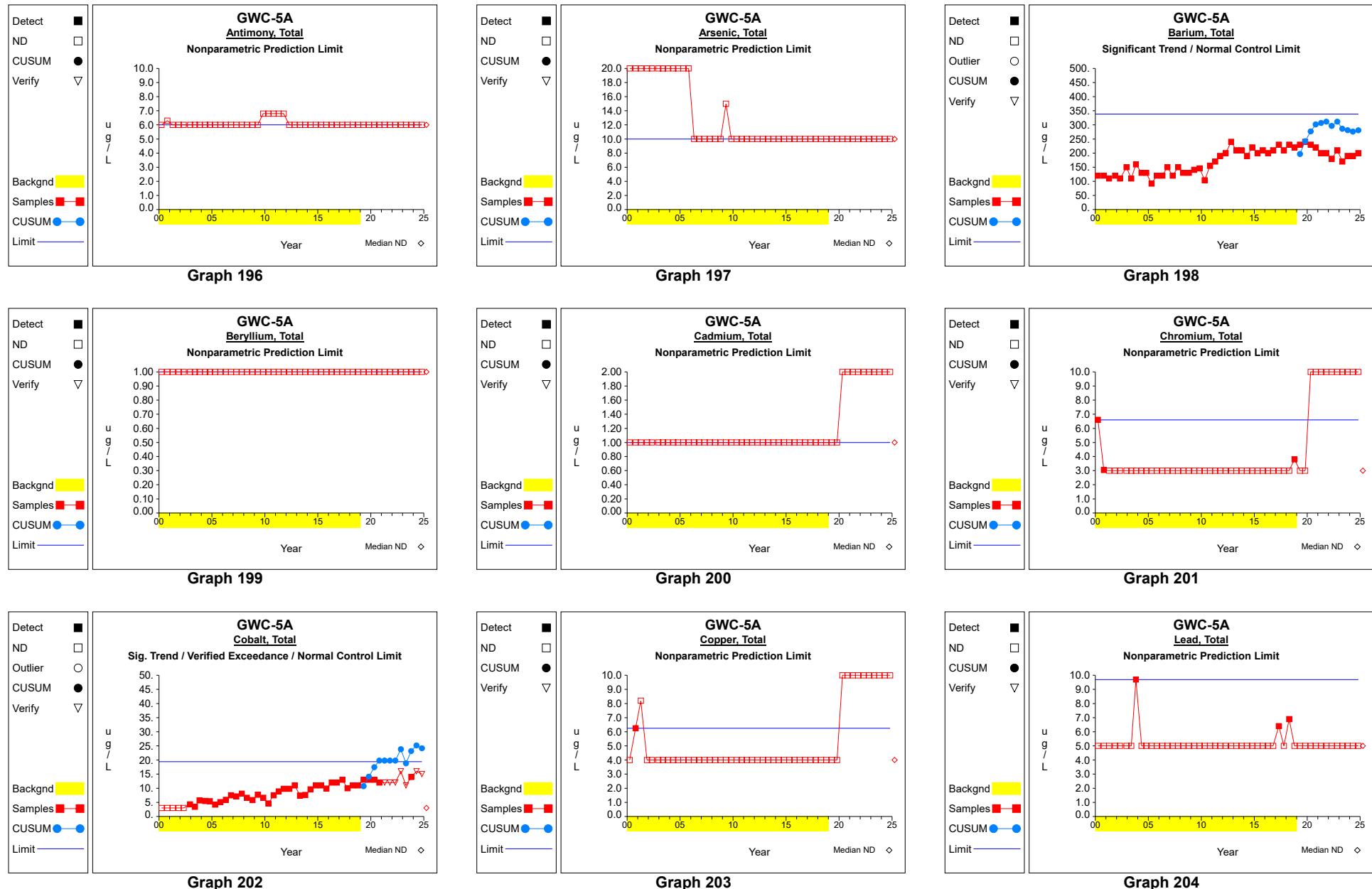
## Intra-Well Control Charts / Prediction Limits



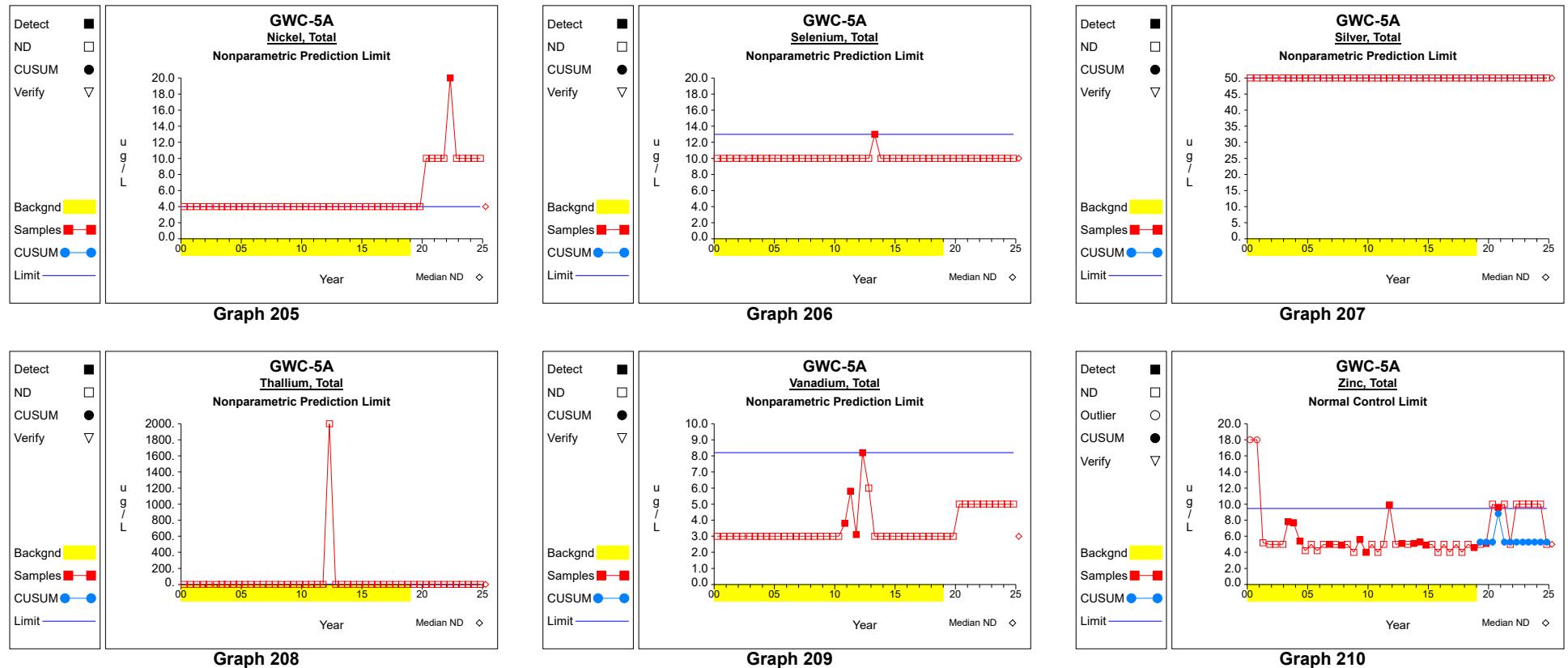
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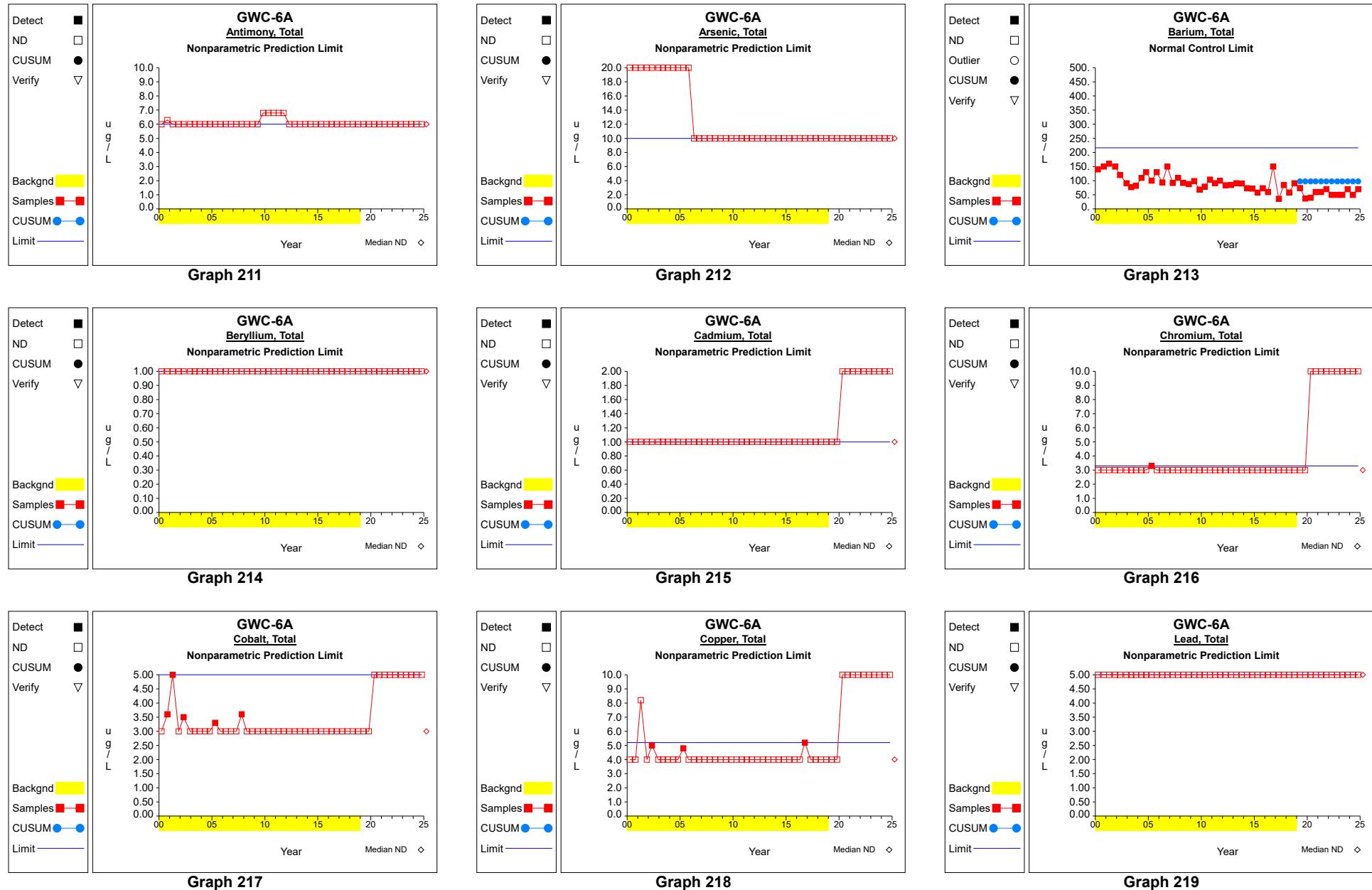
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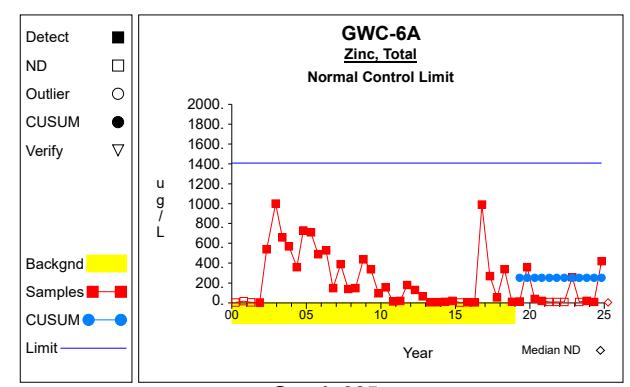
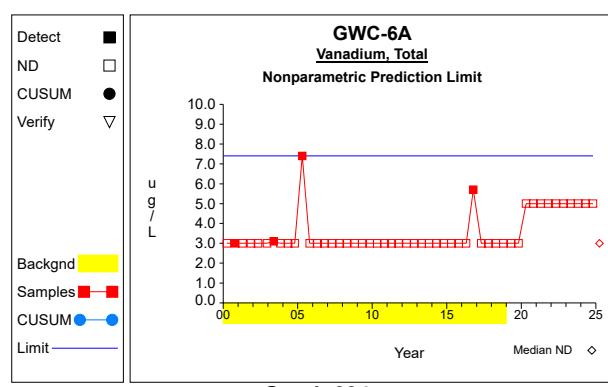
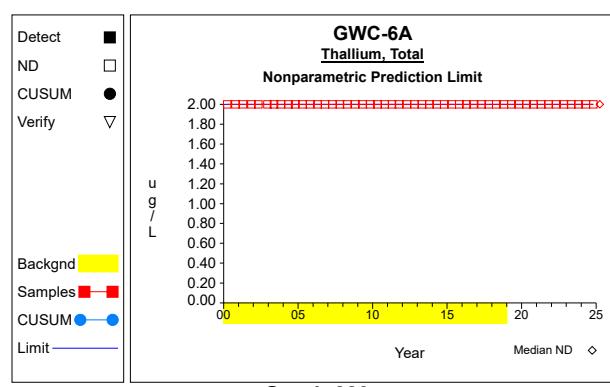
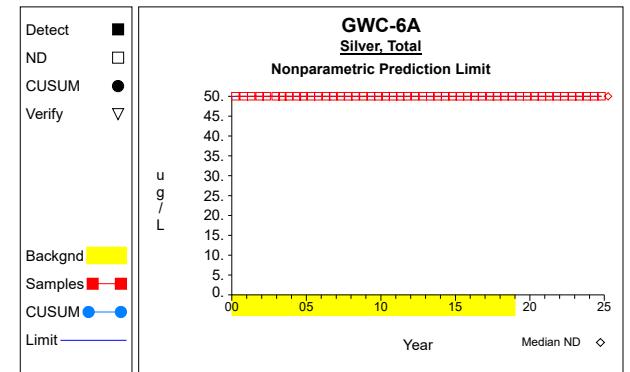
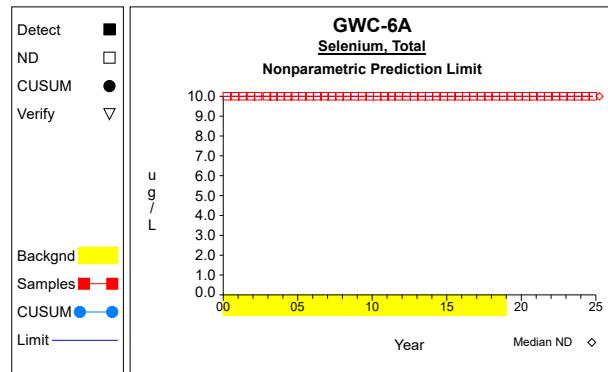
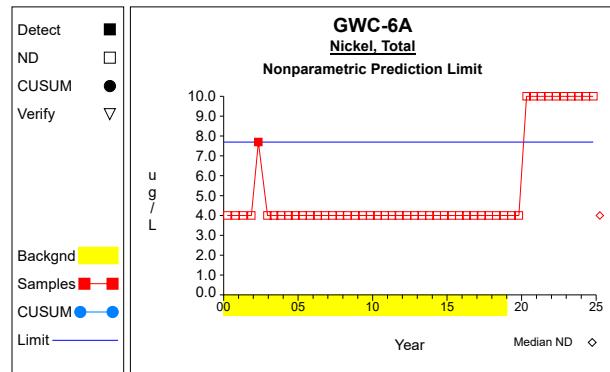
## Intra-Well Control Charts / Prediction Limits



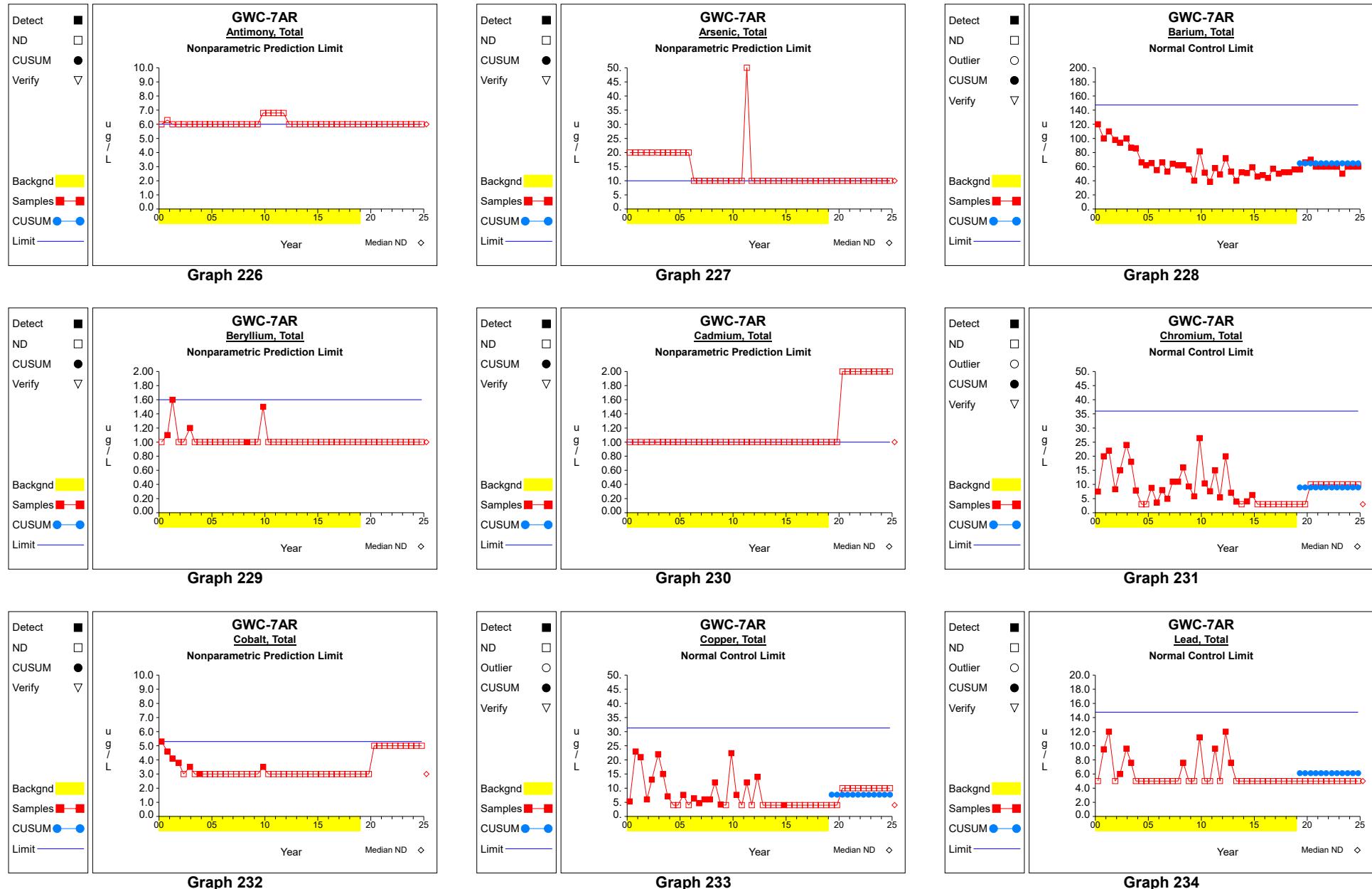
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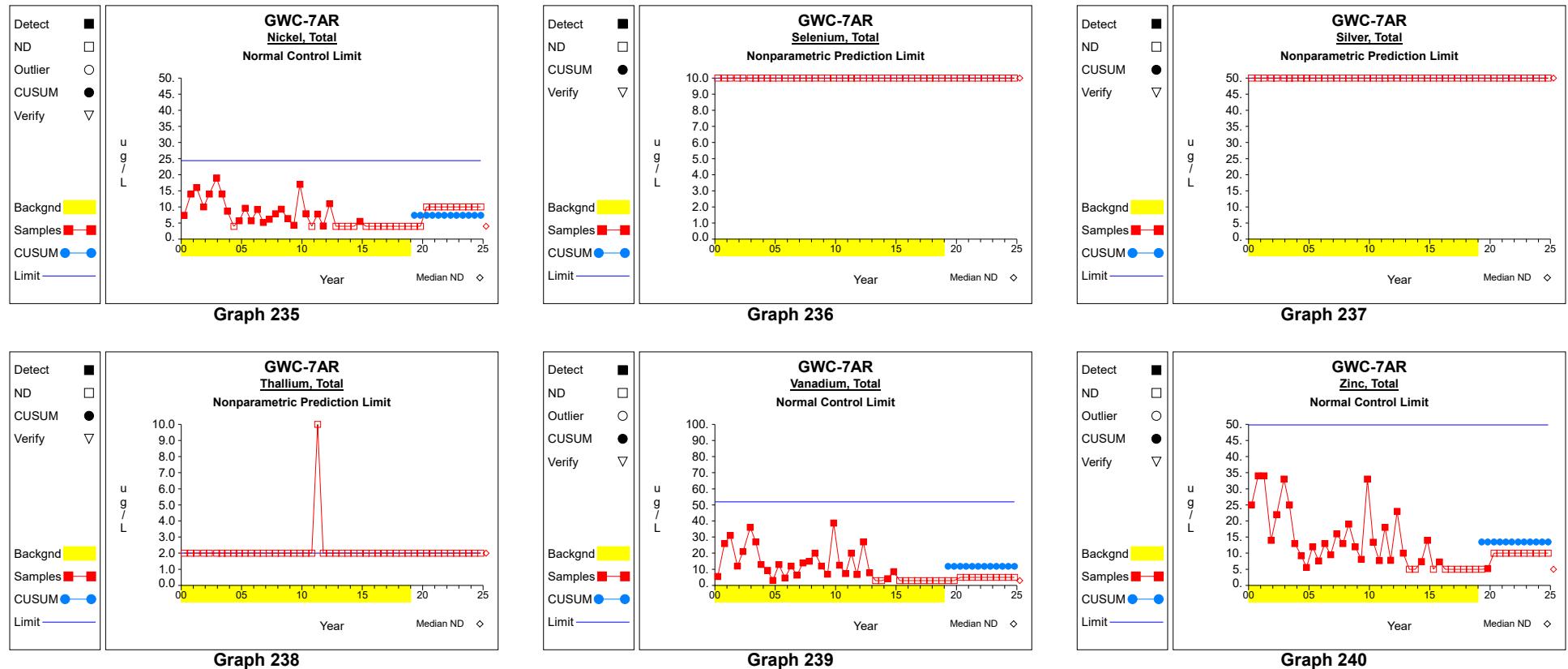
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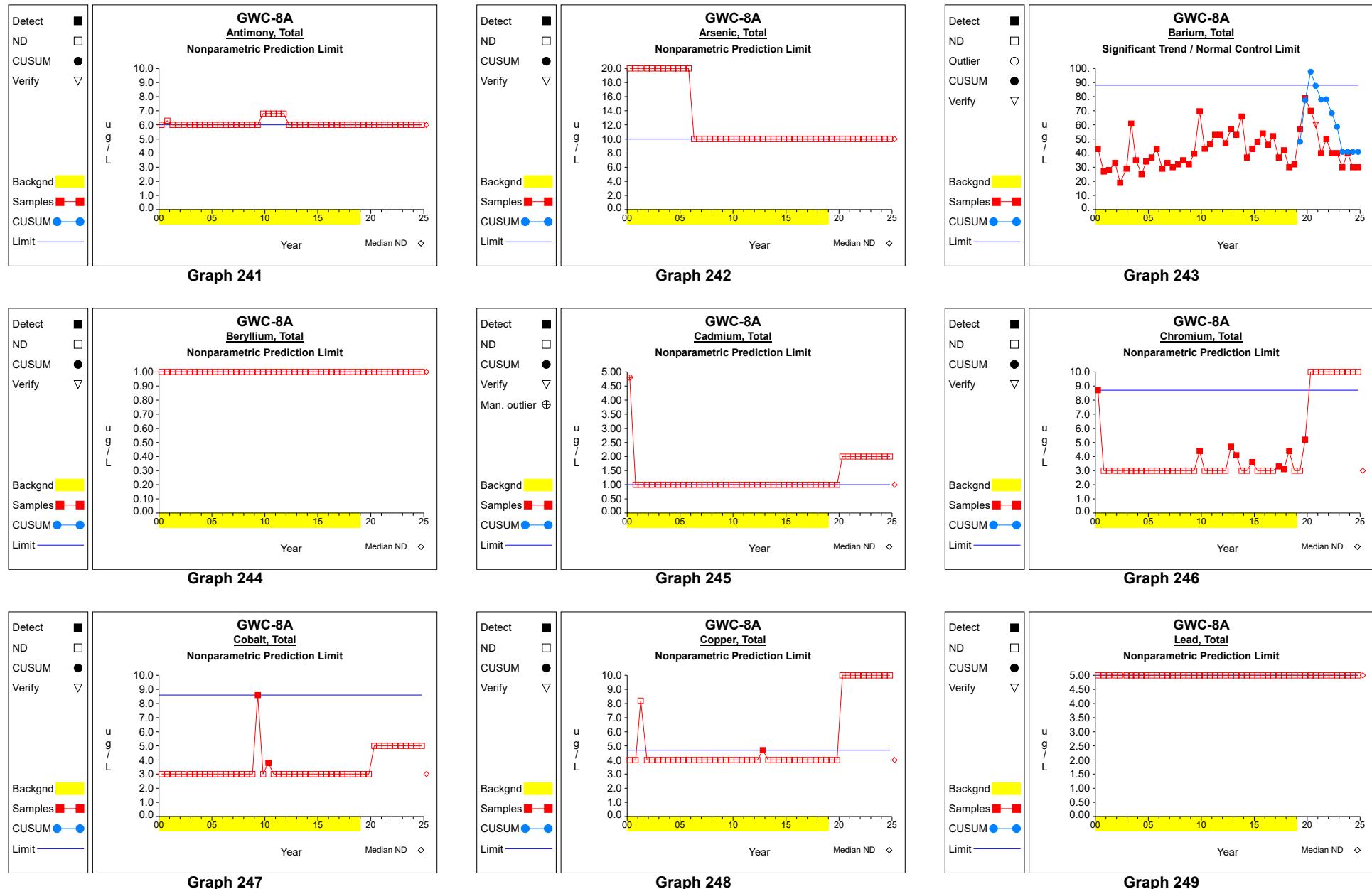
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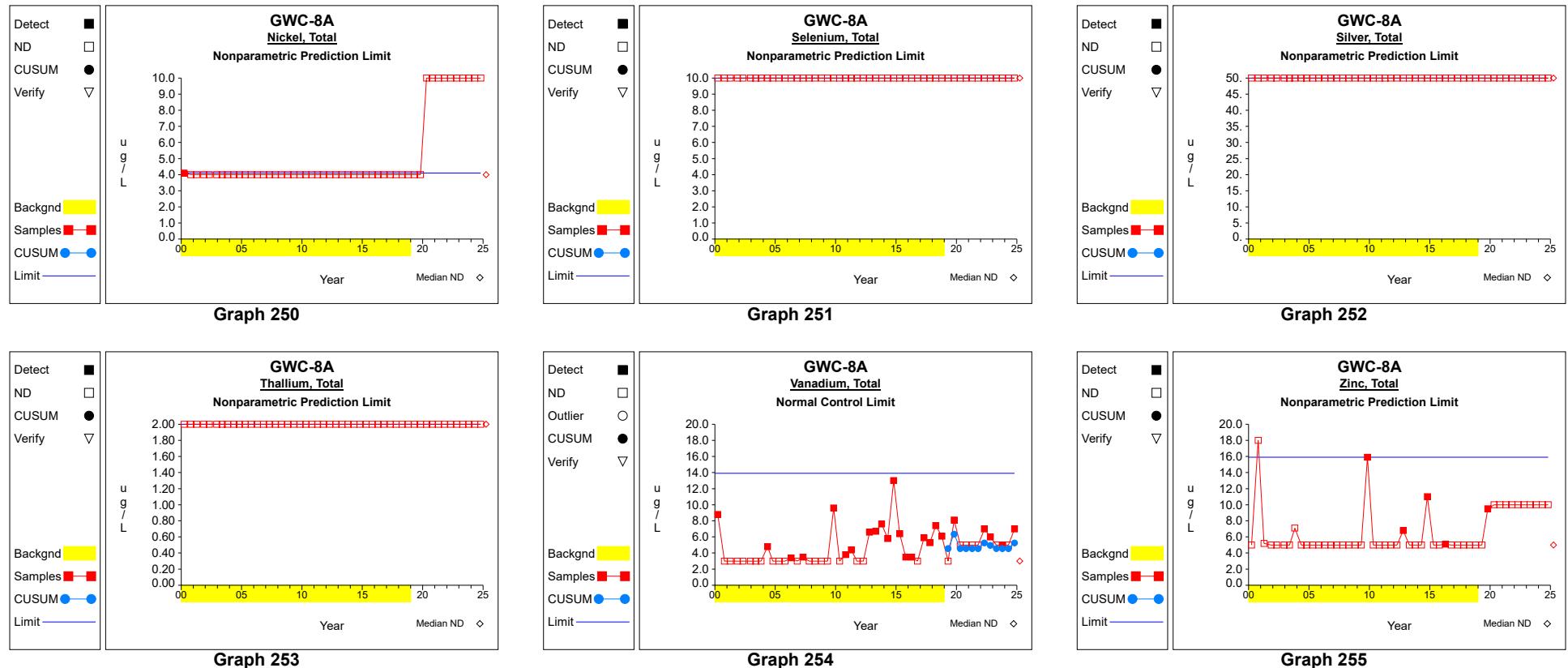
## Intra-Well Control Charts / Prediction Limits



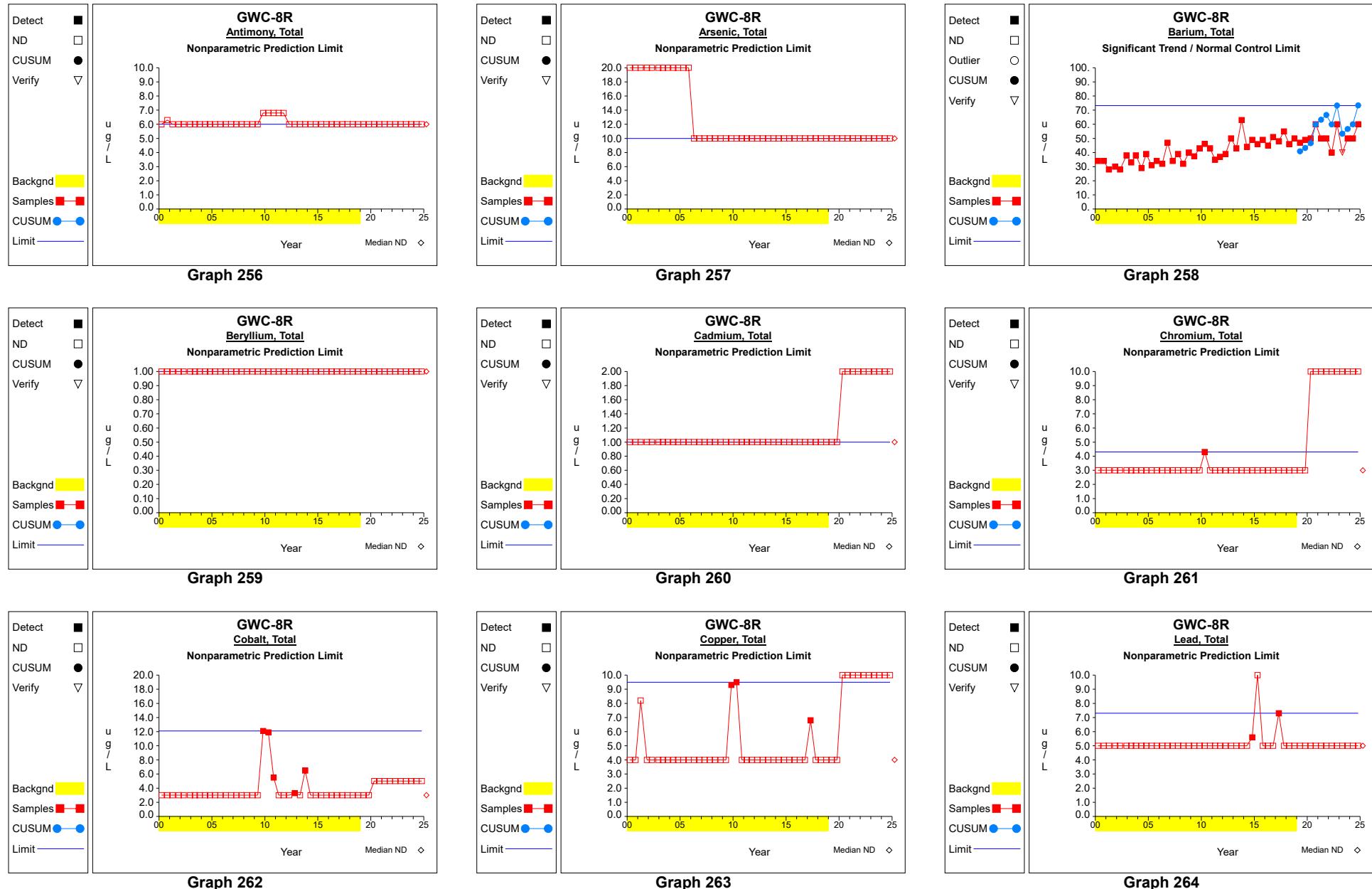
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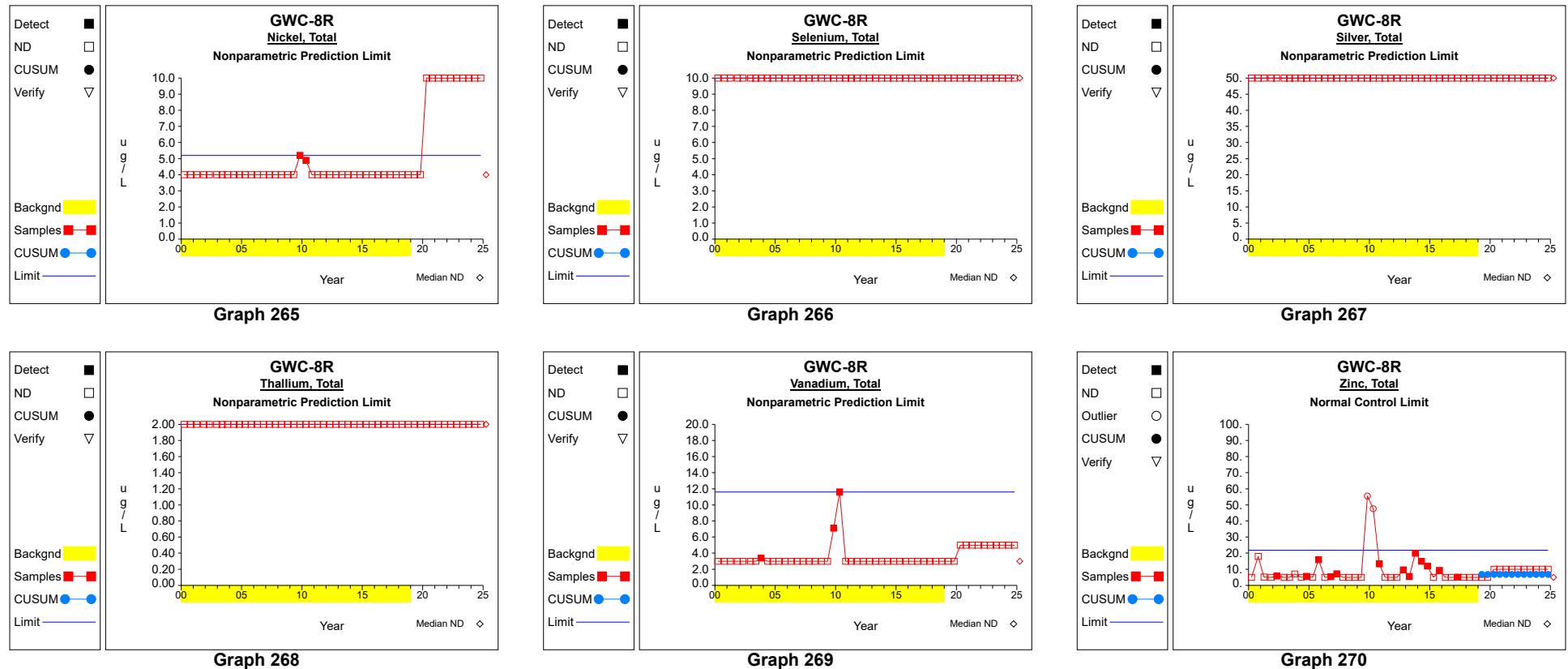
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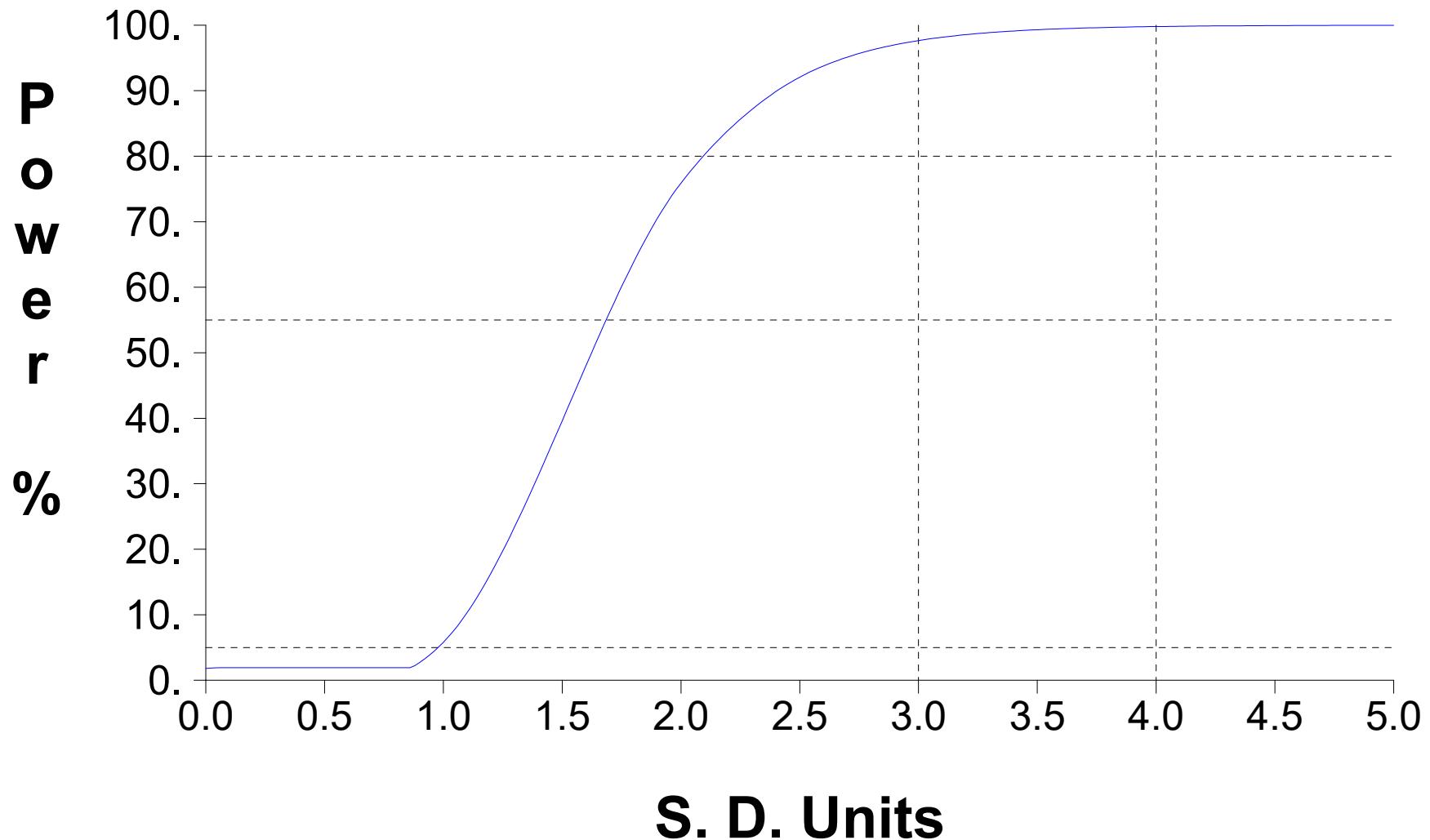
## Intra-Well Control Charts / Prediction Limits



## Intra-Well Control Charts / Prediction Limits



# False Positive and False Negative Rates for Current Intra-Well Control Charts Monitoring Program



**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Antimony, Total (ug/L) at GWA-1A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 6.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Arsenic, Total (ug/L) at GWA-1A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Barium, Total (ug/L) at GWA-1A**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 1436.45 / 34 = 42.249	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = ((127189.583 - 2.06x10 <sup>6</sup> /34) / (34-1)) <sup>1/2</sup> = 44.891	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 42.249 + 4.0 * 44.891 = 221.813	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 34 * (34-1) / 2 = 561	Number of sample pairs during trend detection period.
5	$S = -1.378$	Sen's estimator of trend.
6	$\text{var}(S) = 4541.667$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (561 - 2.326 * 4541.667 <sup>1/2</sup> ) / 2 = 202.123	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -2.316$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Beryllium, Total (ug/L) at GWA-1A**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = 1.1	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cadmium, Total (ug/L) at GWA-1A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Chromium, Total (ug/L) at GWA-1A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{max}(X)$ = <b>3.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Cobalt, Total (ug/L) at GWA-1A**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = <b>172.8 / 34</b> = <b>5.082</b>	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = $(1343.02 - 29859.84/34) / (34-1)^{1/2}$ = <b>3.753</b>	Compute background sd.
3	$SCL = \bar{X} + F * S$ = <b>5.082 + 4.0 * 3.753</b> = <b>20.094</b>	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = <b>34 * (34-1) / 2</b> = <b>561</b>	Number of sample pairs during trend detection period.
5	$S = 0.124$	Sen's estimator of trend.
6	$\text{var}(S) = 3732.333$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = $(561 - 2.326 * 3732.333^{1/2}) / 2$ = <b>209.449</b>	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.0$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Copper, Total (ug/L) at GWA-1A**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>16.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Lead, Total (ug/L) at GWA-1A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 5.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Nickel, Total (ug/L) at GWA-1A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{max}(X)$ <b>= 4.5</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Selenium, Total (ug/L) at GWA-1A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Silver, Total (ug/L) at GWA-1A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 50.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Thallium, Total (ug/L) at GWA-1A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>2.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Vanadium, Total (ug/L) at GWA-1A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{max}(X)$ = <b>9.4</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Zinc, Total (ug/L) at GWA-1A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{max}(X)$ = <b>13.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Antimony, Total (ug/L) at GWA-2A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>6.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Arsenic, Total (ug/L) at GWA-2A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Barium, Total (ug/L) at GWA-2A****Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ <b>= 1078.7 / 36</b> <b>= 29.964</b>	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ <b>= (47399.11 - 1.16 \times 10^6 / 36) / (36-1)^{1/2}</b> <b>= 20.755</b>	Compute background sd.
3	$SCL = \bar{X} + F * S$ <b>= 29.964 + 4.0 * 20.755</b> <b>= 112.984</b>	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ <b>= 36 * (36-1) / 2</b> <b>= 630</b>	Number of sample pairs during trend detection period.
5	$S = 1.002$	Sen's estimator of trend.
6	$\text{var}(S) = 5371.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ <b>= (630 - 2.326 * 5371.0^{1/2}) / 2</b> <b>= 229.767</b>	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1$ th largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.065$	One-sided lower confidence limit for slope.
9	$LCL(S) > 0$	<b>Significant increasing trend.</b>

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Beryllium, Total (ug/L) at GWA-2A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cadmium, Total (ug/L) at GWA-2A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Chromium, Total (ug/L) at GWA-2A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>3.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cobalt, Total (ug/L) at GWA-2A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>4.7</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Copper, Total (ug/L) at GWA-2A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>9.5</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Lead, Total (ug/L) at GWA-2A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>5.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Nickel, Total (ug/L) at GWA-2A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>4.4</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Selenium, Total (ug/L) at GWA-2A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Silver, Total (ug/L) at GWA-2A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 50.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Thallium, Total (ug/L) at GWA-2A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 2.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Vanadium, Total (ug/L) at GWA-2A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \max(X)$ <b>= 3.5</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Zinc, Total (ug/L) at GWA-2A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \max(X)$ <b>= 11.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Antimony, Total (ug/L) at GWB-2****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \max(X)$ <b>= 6.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Arsenic, Total (ug/L) at GWB-2****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Barium, Total (ug/L) at GWB-2**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 2273.7 / 38 = 59.834	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = $(141382.49 - 5.17 \times 10^6 / 38) / (38-1)^{1/2}$ = 12.011	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 59.834 + 4.0 * 12.011 = 107.877	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 38 * (38-1) / 2 = 703	Number of sample pairs during trend detection period.
5	$S = 0.0$	Sen's estimator of trend.
6	$\text{var}(S) = 6309.667$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = $(703 - 2.326 * 6309.667^{1/2}) / 2$ = 259.119	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -1.091$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Beryllium, Total (ug/L) at GWB-2**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 1.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cadmium, Total (ug/L) at GWB-2****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = 1.1	Compute nonparametric prediction limit as largest background measurement.
2	Conf = 0.99	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Chromium, Total (ug/L) at GWB-2****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 3.0	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = 0.99	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Cobalt, Total (ug/L) at GWB-2**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = <b>624.0 / 37</b> = <b>16.865</b>	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = $(12371.14 - 389376.0/37) / (37-1)^{1/2}$ = <b>7.164</b>	Compute background sd.
3	$SCL = \bar{X} + F * S$ = <b>16.865 + 4.0 * 7.164</b> = <b>45.52</b>	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = <b>37 * (37-1) / 2</b> = <b>666</b>	Number of sample pairs during trend detection period.
5	$S = 0.921$	Sen's estimator of trend.
6	$\text{var}(S) = 5827.333$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = $(666 - 2.326 * 5827.333^{1/2}) / 2$ = <b>244.22</b>	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.413$	One-sided lower confidence limit for slope.
9	$LCL(S) > 0$	<b>Significant increasing trend.</b>

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Copper, Total (ug/L) at GWB-2**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>6.7</b>	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Lead, Total (ug/L) at GWB-2****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \max(X)$ = <b>5.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Nickel, Total (ug/L) at GWB-2****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ = <b>4.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Selenium, Total (ug/L) at GWB-2****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ = <b>10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Silver, Total (ug/L) at GWB-2****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ = <b>50.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Thallium, Total (ug/L) at GWB-2****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 2.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Vanadium, Total (ug/L) at GWB-2****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 3.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Zinc, Total (ug/L) at GWB-2**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 222.2 / 38 = 5.847	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = $(1430.88 - 49372.84/38) / (38-1)^{1/2}$ = 1.886	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 5.847 + 4.0 * 1.886 = 13.391	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 38 * (38-1) / 2 = 703	Number of sample pairs during trend detection period.
5	$S = 0.0$	Sen's estimator of trend.
6	$\text{var}(S) = 4891.333$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = $(703 - 2.326 * 4891.333^{1/2}) / 2$ = 270.162	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.0$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Antimony, Total (ug/L) at GWB-3**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 6.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Arsenic, Total (ug/L) at GWB-3**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Barium, Total (ug/L) at GWB-3**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = <b>2398.3 / 37</b> = <b>64.819</b>	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = $(170337.61 - 5.75 \times 10^6 / 37) / (37-1)^{1/2}$ = <b>20.332</b>	Compute background sd.
3	$SCL = \bar{X} + F * S$ = <b>64.819 + 4.0 * 20.332</b> = <b>146.148</b>	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = <b>37 * (37-1) / 2</b> = <b>666</b>	Number of sample pairs during trend detection period.
5	$S = -0.088$	Sen's estimator of trend.
6	$\text{var}(S) = 5833.667$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = $(666 - 2.326 * 5833.667^{1/2}) / 2$ = <b>244.172</b>	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -1.458$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Beryllium, Total (ug/L) at GWB-3****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 1.0	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = 0.99	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cadmium, Total (ug/L) at GWB-3****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 1.0	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = 0.99	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Chromium, Total (ug/L) at GWB-3****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 3.0	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = 0.99	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cobalt, Total (ug/L) at GWB-3****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = 32.3	Compute nonparametric prediction limit as largest background measurement.
2	Conf = 0.99	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Copper, Total (ug/L) at GWB-3****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>4.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Lead, Total (ug/L) at GWB-3****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>5.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Nickel, Total (ug/L) at GWB-3****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>4.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Selenium, Total (ug/L) at GWB-3****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Silver, Total (ug/L) at GWB-3****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ = <b>50.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Thallium, Total (ug/L) at GWB-3****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ = <b>2.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Vanadium, Total (ug/L) at GWB-3****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \max(X)$ = <b>4.4</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Zinc, Total (ug/L) at GWB-3**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 259.3 / 38 = 6.824	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = $(2201.57 - 67236.49/38) / (38-1)^{1/2}$ = 3.418	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 6.824 + 4.0 * 3.418 = 20.495	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 38 * (38-1) / 2 = 703	Number of sample pairs during trend detection period.
5	$S = 0.0$	Sen's estimator of trend.
6	$\text{var}(S) = 5065.667$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = $(703 - 2.326 * 5065.667^{1/2}) / 2$ = 268.725	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.0$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Antimony, Total (ug/L) at GWC-10**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 6.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Arsenic, Total (ug/L) at GWC-10****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Barium, Total (ug/L) at GWC-10****Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ <b>= 342.5 / 38</b> <b>= 9.013</b>	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ <b>= (3497.03 - 117306.25/38) / (38-1)^{1/2}</b> <b>= 3.329</b>	Compute background sd.
3	$SCL = \bar{X} + F * S$ <b>= 9.013 + 4.0 * 3.329</b> <b>= 22.329</b>	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ <b>= 38 * (38-1) / 2</b> <b>= 703</b>	Number of sample pairs during trend detection period.
5	$S = 0.184$	Sen's estimator of trend.
6	$\text{var}(S) = 6277.333$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ <b>= (703 - 2.326 * 6277.333^{1/2}) / 2</b> <b>= 259.356</b>	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1$ th largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.0$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Beryllium, Total (ug/L) at GWC-10****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cadmium, Total (ug/L) at GWC-10****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Chromium, Total (ug/L) at GWC-10**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ $= 146.65 / 37$ $= 3.964$	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ $= ((632.613 - 21506.223/37) / (37-1))^{1/2}$ $= 1.194$	Compute background sd.
3	$SCL = \bar{X} + F * S$ $= 3.964 + 4.0 * 1.194$ $= 8.741$	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ $= 37 * (37-1) / 2$ $= 666$	Number of sample pairs during trend detection period.
5	$S = -0.116$	Sen's estimator of trend.
6	$\text{var}(S) = 5251.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ $= (666 - 2.326 * 5251.0^{1/2}) / 2$ $= 248.725$	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$\text{LCL}(S) = -0.189$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Cobalt, Total (ug/L) at GWC-10**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 181.9 / 38 = 4.787	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = ((1573.21 - 33087.61/38) / (38-1))^{1/2} = 4.357	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 4.787 + 4.0 * 4.357 = 22.216	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 38 * (38-1) / 2 = 703	Number of sample pairs during trend detection period.
5	$S = 0.0$	Sen's estimator of trend.
6	$\text{var}(S) = 3485.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (703 - 2.326 * 3485.0^{1/2}) / 2 = 282.844	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.0$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Copper, Total (ug/L) at GWC-10**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 4.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Lead, Total (ug/L) at GWC-10****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = 5.3	Compute nonparametric prediction limit as largest background measurement.
2	Conf = 0.99	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Nickel, Total (ug/L) at GWC-10****Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 171.3 / 38 = 4.508	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)$ = $(832.49 - 29343.69/38) / (38-1)$ = 1.276	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 4.508 + 4.0 * 1.276 = 9.614	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 38 * (38-1) / 2 = 703	Number of sample pairs during trend detection period.
5	$S = 0.0$	Sen's estimator of trend.
6	$\text{var}(S) = 3764.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \sqrt{\text{var}(S)}) / 2$ = $(703 - 2.326 * \sqrt{3764.0}) / 2$ = 280.148	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1$ th largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.0$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Selenium, Total (ug/L) at GWC-10****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Silver, Total (ug/L) at GWC-10****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 50.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Thallium, Total (ug/L) at GWC-10****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 2.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Vanadium, Total (ug/L) at GWC-10****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ <b>= 12.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Zinc, Total (ug/L) at GWC-10****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \max(X)$ <b>= 20.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Antimony, Total (ug/L) at GWC-11****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 6.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Arsenic, Total (ug/L) at GWC-11****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Barium, Total (ug/L) at GWC-11**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 3499.0 / 38 = 92.079	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = (359656.56 - 1.22x10 <sup>7</sup> /38) / (38-1) <sup>1/2</sup> = 31.824	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 92.079 + 4.0 * 31.824 = 219.375	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 38 * (38-1) / 2 = 703	Number of sample pairs during trend detection period.
5	$S = 3.293$	Sen's estimator of trend.
6	$\text{var}(S) = 6280.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (703 - 2.326 * 6280.0 <sup>1/2</sup> ) / 2 = 259.336	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.993$	One-sided lower confidence limit for slope.
9	$LCL(S) > 0$	Significant increasing trend.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Beryllium, Total (ug/L) at GWC-11**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 1.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cadmium, Total (ug/L) at GWC-11****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \max(X)$ <b>= 2.4</b>	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Chromium, Total (ug/L) at GWC-11****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \max(X)$ <b>= 15.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cobalt, Total (ug/L) at GWC-11****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \max(X)$ <b>= 7.6</b>	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Copper, Total (ug/L) at GWC-11****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \max(X)$ <b>= 53.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Lead, Total (ug/L) at GWC-11**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 215.7 / 38 = 5.676	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = ((1350.75 - 46526.49/38) / (38-1))^{1/2} = 1.848	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 5.676 + 4.0 * 1.848 = 13.069	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 38 * (38-1) / 2 = 703	Number of sample pairs during trend detection period.
5	$S = 0.0$	Sen's estimator of trend.
6	$\text{var}(S) = 3764.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (703 - 2.326 * 3764.0^{1/2}) / 2 = 280.148	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.0$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Nickel, Total (ug/L) at GWC-11**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = 4.7	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Selenium, Total (ug/L) at GWC-11****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \max(X)$ <b>= 16.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Silver, Total (ug/L) at GWC-11****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 50.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Thallium, Total (ug/L) at GWC-11****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 2.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Vanadium, Total (ug/L) at GWC-11****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \max(X)$ <b>= 7.7</b>	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Zinc, Total (ug/L) at GWC-11**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 319.5 / 38 = 8.408	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = (9466.31 - 102080.25/38) / (38-1) = 13.537	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 8.408 + 4.0 * 13.537 = 62.555	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 38 * (38-1) / 2 = 703	Number of sample pairs during trend detection period.
5	$S = 0.0$	Sen's estimator of trend.
6	$\text{var}(S) = 3485.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (703 - 2.326 * 3485.0 <sup>1/2</sup> ) / 2 = 282.844	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{th}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.0$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Antimony, Total (ug/L) at GWC-12A**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 6.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Arsenic, Total (ug/L) at GWC-12A**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Barium, Total (ug/L) at GWC-12A**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ <b>= 2816.7 / 34</b> <b>= 82.844</b>	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ $= ((301693.21 - 7.93 \times 10^6 / 34) / (34-1))^{1/2}$ <b>= 45.509</b>	Compute background sd.
3	$SCL = \bar{X} + F * S$ <b>= 82.844 + 4.0 * 45.509</b> <b>= 264.881</b>	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ <b>= 34 * (34-1) / 2</b> <b>= 561</b>	Number of sample pairs during trend detection period.
5	$S = -1.105$	Sen's estimator of trend.
6	$\text{var}(S) = 4542.333$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ $= (561 - 2.326 * 4542.333^{1/2}) / 2$ <b>= 202.117</b>	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1$ th largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -4.431$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Beryllium, Total (ug/L) at GWC-12A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cadmium, Total (ug/L) at GWC-12A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Chromium, Total (ug/L) at GWC-12A**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 182.0 / 34 = 5.353	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = ((1168.0 - 33124.0/34) / (34-1))^{1/2} = 2.423	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 5.353 + 4.0 * 2.423 = 15.046	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 34 * (34-1) / 2 = 561	Number of sample pairs during trend detection period.
5	$S = 0.237$	Sen's estimator of trend.
6	$\text{var}(S) = 4382.333$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (561 - 2.326 * 4382.333^{1/2}) / 2 = 203.51	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.0$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Cobalt, Total (ug/L) at GWC-12A**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 3.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Copper, Total (ug/L) at GWC-12A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>8.4</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Lead, Total (ug/L) at GWC-12A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>5.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Nickel, Total (ug/L) at GWC-12A**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 166.2 / 34 = 4.888	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = (885.1 - 27622.44/34) / (34-1) = 1.484	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 4.888 + 4.0 * 1.484 = 10.824	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 34 * (34-1) / 2 = 561	Number of sample pairs during trend detection period.
5	$S = -0.029$	Sen's estimator of trend.
6	$\text{var}(S) = 4211.667$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (561 - 2.326 * 4211.667^{1/2}) / 2 = 205.024	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -0.101$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Selenium, Total (ug/L) at GWC-12A**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 10.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Silver, Total (ug/L) at GWC-12A**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>50.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Thallium, Total (ug/L) at GWC-12A**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>2.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Zinc, Total (ug/L) at GWC-12A**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 114.7 / 34 = 3.374	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = ((412.51 - 13156.09/34) / (34-1))^{1/2} = 0.88	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 3.374 + 4.0 * 0.88 = 6.894	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 34 * (34-1) / 2 = 561	Number of sample pairs during trend detection period.
5	$S = 0.0$	Sen's estimator of trend.
6	$\text{var}(S) = 3288.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (561 - 2.326 * 3288.0^{1/2}) / 2 = 213.812	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.0$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Zinc, Total (ug/L) at GWC-12A**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = 9.4	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Antimony, Total (ug/L) at GWC-13****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 6.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Arsenic, Total (ug/L) at GWC-13****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Barium, Total (ug/L) at GWC-13**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 807.2 / 36 = 22.422	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = (21696.96 - 651571.84/36) / (36-1) = 10.139	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 22.422 + 4.0 * 10.139 = 62.977	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 36 * (36-1) / 2 = 630	Number of sample pairs during trend detection period.
5	$S = -0.998$	Sen's estimator of trend.
6	$\text{var}(S) = 5357.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (630 - 2.326 * 5357.0 <sup>1/2</sup> ) / 2 = 229.878	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{th}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -1.474$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Beryllium, Total (ug/L) at GWC-13**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 1.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cadmium, Total (ug/L) at GWC-13****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Chromium, Total (ug/L) at GWC-13****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{max}(X)$ <b>= 13.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Cobalt, Total (ug/L) at GWC-13**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 117.2 / 35 = 3.349	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = (414.02 - 13735.84/35) / (35-1) = 0.796	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 3.349 + 4.0 * 0.796 = 6.534	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 35 * (35-1) / 2 = 595	Number of sample pairs during trend detection period.
5	$S = 0.0$	Sen's estimator of trend.
6	$\text{var}(S) = 2899.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (595 - 2.326 * 2899.0^{1/2}) / 2 = 234.881	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.0$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Copper, Total (ug/L) at GWC-13**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 4.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Lead, Total (ug/L) at GWC-13**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>5.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Nickel, Total (ug/L) at GWC-13**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{max}(X)$ = <b>4.3</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Selenium, Total (ug/L) at GWC-13**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Silver, Total (ug/L) at GWC-13**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>50.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Thallium, Total (ug/L) at GWC-13****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>2.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Vanadium, Total (ug/L) at GWC-13****Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = <b>137.0 / 36</b> = <b>3.806</b>	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = $(593.28 - 18769.0/36) / (36-1)^{1/2}$ = <b>1.433</b>	Compute background sd.
3	$SCL = \bar{X} + F * S$ = <b>3.806 + 4.0 * 1.433</b> = <b>9.539</b>	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = <b>36 * (36-1) / 2</b> = <b>630</b>	Number of sample pairs during trend detection period.
5	$S = 0.058$	Sen's estimator of trend.
6	$\text{var}(S) = 4293.333$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = $(630 - 2.326 * 4293.333^{1/2}) / 2$ = <b>238.796</b>	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.0$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Zinc, Total (ug/L) at GWC-13****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ <b>= 44.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Antimony, Total (ug/L) at GWC-1AR****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 6.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Arsenic, Total (ug/L) at GWC-1AR****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Barium, Total (ug/L) at GWC-1AR**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 5633.0 / 36 = 156.472	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = (957225.0 - 3.17x10 <sup>7</sup> /36) / (36-1) <sup>1/2</sup> = 46.542	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 156.472 + 4.0 * 46.542 = 342.642	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 36 * (36-1) / 2 = 630	Number of sample pairs during trend detection period.
5	$S = 2.606$	Sen's estimator of trend.
6	$\text{var}(S) = 5344.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (630 - 2.326 * 5344.0 <sup>1/2</sup> ) / 2 = 229.982	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{th}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -0.004$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Beryllium, Total (ug/L) at GWC-1AR**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 1.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cadmium, Total (ug/L) at GWC-1AR****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Chromium, Total (ug/L) at GWC-1AR****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{max}(X)$ <b>= 9.5</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Cobalt, Total (ug/L) at GWC-1AR**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 239.3 / 37 = 6.468	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = ((2355.925 - 57264.49/37) / (37-1))^{1/2} = 4.738	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 6.468 + 4.0 * 4.738 = 25.421	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 37 * (37-1) / 2 = 666	Number of sample pairs during trend detection period.
5	$S = 0.116$	Sen's estimator of trend.
6	$\text{var}(S) = 5775.667$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (666 - 2.326 * 5775.667^{1/2}) / 2 = 244.615	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -0.068$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Copper, Total (ug/L) at GWC-1AR**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 4.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Lead, Total (ug/L) at GWC-1AR****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = 11.0	Compute nonparametric prediction limit as largest background measurement.
2	Conf = 0.99	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Nickel, Total (ug/L) at GWC-1AR****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 4.0	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = 0.99	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Selenium, Total (ug/L) at GWC-1AR****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = 53.0	Compute nonparametric prediction limit as largest background measurement.
2	Conf = 0.99	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Silver, Total (ug/L) at GWC-1AR****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 50.0	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = 0.99	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Thallium, Total (ug/L) at GWC-1AR****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>2.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Vanadium, Total (ug/L) at GWC-1AR****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{max}(X)$ = <b>12.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Zinc, Total (ug/L) at GWC-1AR****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{max}(X)$ = <b>20.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Antimony, Total (ug/L) at GWC-2A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>6.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**

**Arsenic, Total (ug/L) at GWC-2A**

**Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**

**Barium, Total (ug/L) at GWC-2A**

**Normal Control Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$\bar{X} = \text{sum}[X] / N$ <b>= 3181.6 / 35</b> <b>= 90.903</b>	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ <b>= ((511995.82 - 1.01 \times 10^7 / 35) / (35-1))^{1/2}</b> <b>= 80.946</b>	Compute background sd.
3	$SCL = \bar{X} + F * S$ <b>= 90.903 + 4.0 * 80.946</b> <b>= 414.689</b>	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ <b>= 35 * (35-1) / 2</b> <b>= 595</b>	Number of sample pairs during trend detection period.
5	$S = 0.8$	Sen's estimator of trend.
6	$\text{var}(S) = 4952.667$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ <b>= (595 - 2.326 * 4952.667^{1/2}) / 2</b> <b>= 215.654</b>	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1$ th largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -3.143$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Beryllium, Total (ug/L) at GWC-2A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cadmium, Total (ug/L) at GWC-2A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Chromium, Total (ug/L) at GWC-2A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>4.2</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cobalt, Total (ug/L) at GWC-2A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>12.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Copper, Total (ug/L) at GWC-2A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 4.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Lead, Total (ug/L) at GWC-2A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \max(X)$ <b>= 5.8</b>	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Nickel, Total (ug/L) at GWC-2A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 4.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Selenium, Total (ug/L) at GWC-2A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \max(X)$ <b>= 13.5</b>	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Silver, Total (ug/L) at GWC-2A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>50.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Thallium, Total (ug/L) at GWC-2A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>2.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Vanadium, Total (ug/L) at GWC-2A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>4.2</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Zinc, Total (ug/L) at GWC-2A**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 9172.3 / 35 = 262.066	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = ((7.69x10 <sup>6</sup> - 8.41x10 <sup>7</sup> /35) / (35-1)) <sup>1/2</sup> = 394.139	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 262.066 + 4.0 * 394.139 = 1838.621	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 35 * (35-1) / 2 = 595	Number of sample pairs during trend detection period.
5	$S = -25.011$	Sen's estimator of trend.
6	$\text{var}(S) = 4958.333$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (595 - 2.326 * 4958.333 <sup>1/2</sup> ) / 2 = 215.607	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1$ <sup>th</sup> largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -36.404$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Antimony, Total (ug/L) at GWC-2RA**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 6.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Arsenic, Total (ug/L) at GWC-2RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Barium, Total (ug/L) at GWC-2RA****Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ <b>= 1391.7 / 37</b> <b>= 37.614</b>	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ <b>= (54330.01 - 1.94x10<sup>6</sup>/37) / (37-1) ^{1/2}</b> <b>= 7.422</b>	Compute background sd.
3	$SCL = \bar{X} + F * S$ <b>= 37.614 + 4.0 * 7.422</b> <b>= 67.303</b>	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ <b>= 37 * (37-1) / 2</b> <b>= 666</b>	Number of sample pairs during trend detection period.
5	$S = 0.0$	Sen's estimator of trend.
6	$\text{var}(S) = 5779.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ <b>= (666 - 2.326 * 5779.0^{1/2}) / 2</b> <b>= 244.589</b>	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1$ th largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -0.318$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Beryllium, Total (ug/L) at GWC-2RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cadmium, Total (ug/L) at GWC-2RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Chromium, Total (ug/L) at GWC-2RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>4.4</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Cobalt, Total (ug/L) at GWC-2RA**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 237.3 / 38 = 6.245	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = ((1581.17 - 56311.29/38) / (38-1))^{1/2} = 1.638	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 6.245 + 4.0 * 1.638 = 12.797	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 38 * (38-1) / 2 = 703	Number of sample pairs during trend detection period.
5	$S = 0.028$	Sen's estimator of trend.
6	$\text{var}(S) = 6309.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (703 - 2.326 * 6309.0^{1/2}) / 2 = 259.124	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -0.075$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Copper, Total (ug/L) at GWC-2RA**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = 4.0	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Lead, Total (ug/L) at GWC-2RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>6.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Nickel, Total (ug/L) at GWC-2RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>4.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Selenium, Total (ug/L) at GWC-2RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>12.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Silver, Total (ug/L) at GWC-2RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>50.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Thallium, Total (ug/L) at GWC-2RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 2.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Vanadium, Total (ug/L) at GWC-2RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{max}(X)$ <b>= 12.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Zinc, Total (ug/L) at GWC-2RA**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 233.6 / 36 = 6.489	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = ((1882.62 - 54568.96/36) / (36-1))^{1/2} = 3.237	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 6.489 + 4.0 * 3.237 = 19.438	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 36 * (36-1) / 2 = 630	Number of sample pairs during trend detection period.
5	$S = 0.0$	Sen's estimator of trend.
6	$\text{var}(S) = 3088.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (630 - 2.326 * 3088.0^{1/2}) / 2 = 250.372	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.0$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Antimony, Total (ug/L) at GWC-3A**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 6.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Arsenic, Total (ug/L) at GWC-3A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Barium, Total (ug/L) at GWC-3A****Normal Control Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$\bar{X} = \text{sum}[X] / N$ <b>= 5468.0 / 38</b> <b>= 143.895</b>	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ <b>= (896144.0 - 2.99 \times 10^7 / 38) / (38-1)^{1/2}</b> <b>= 54.358</b>	Compute background sd.
3	$SCL = \bar{X} + F * S$ <b>= 143.895 + 4.0 * 54.358</b> <b>= 361.327</b>	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ <b>= 38 * (38-1) / 2</b> <b>= 703</b>	Number of sample pairs during trend detection period.
5	$S = -3.096$	Sen's estimator of trend.
6	$\text{var}(S) = 6293.667$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ <b>= (703 - 2.326 * 6293.667^{1/2}) / 2</b> <b>= 259.236</b>	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1$ th largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -6.018$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Beryllium, Total (ug/L) at GWC-3A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cadmium, Total (ug/L) at GWC-3A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Chromium, Total (ug/L) at GWC-3A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>3.2</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cobalt, Total (ug/L) at GWC-3A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>8.5</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Copper, Total (ug/L) at GWC-3A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 4.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Lead, Total (ug/L) at GWC-3A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 5.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Nickel, Total (ug/L) at GWC-3A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 4.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Selenium, Total (ug/L) at GWC-3A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Silver, Total (ug/L) at GWC-3A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>50.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Thallium, Total (ug/L) at GWC-3A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>2.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Vanadium, Total (ug/L) at GWC-3A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>3.3</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Zinc, Total (ug/L) at GWC-3A**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 986.7 / 38 = 25.966	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = (48483.25 - 973576.89/38) / (38-1) = 24.858	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 25.966 + 4.0 * 24.858 = 125.397	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 38 * (38-1) / 2 = 703	Number of sample pairs during trend detection period.
5	$S = 1.244$	Sen's estimator of trend.
6	$\text{var}(S) = 6256.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (703 - 2.326 * 6256.0 <sup>1/2</sup> ) / 2 = 259.513	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.265$	One-sided lower confidence limit for slope.
9	$LCL(S) > 0$	Significant increasing trend.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Antimony, Total (ug/L) at GWC-3RA**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = 6.9	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Arsenic, Total (ug/L) at GWC-3RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Barium, Total (ug/L) at GWC-3RA****Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ <b>= 4225.0 / 38</b> <b>= 111.184</b>	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ <b>= (476985.0 - 1.79 \times 10^7 / 38) / (38-1)^{1/2}</b> <b>= 13.98</b>	Compute background sd.
3	$SCL = \bar{X} + F * S$ <b>= 111.184 + 4.0 * 13.98</b> <b>= 167.106</b>	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ <b>= 38 * (38-1) / 2</b> <b>= 703</b>	Number of sample pairs during trend detection period.
5	$S = -1.759$	Sen's estimator of trend.
6	$\text{var}(S) = 6196.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ <b>= (703 - 2.326 * 6196.0^{1/2}) / 2</b> <b>= 259.955</b>	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1$ th largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -2.641$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Beryllium, Total (ug/L) at GWC-3RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cadmium, Total (ug/L) at GWC-3RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Chromium, Total (ug/L) at GWC-3RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>3.7</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Cobalt, Total (ug/L) at GWC-3RA**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 151.3 / 38 = 3.982	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = ((690.81 - 22891.69/38) / (38-1))^{1/2} = 1.546	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 3.982 + 4.0 * 1.546 = 10.164	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 38 * (38-1) / 2 = 703	Number of sample pairs during trend detection period.
5	$S = -0.114$	Sen's estimator of trend.
6	$\text{var}(S) = 5827.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (703 - 2.326 * 5827.0^{1/2}) / 2 = 262.723	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -0.188$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Copper, Total (ug/L) at GWC-3RA**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 4.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Lead, Total (ug/L) at GWC-3RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>5.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Nickel, Total (ug/L) at GWC-3RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>4.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Selenium, Total (ug/L) at GWC-3RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>10.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Silver, Total (ug/L) at GWC-3RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>50.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Thallium, Total (ug/L) at GWC-3RA****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>2.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Vanadium, Total (ug/L) at GWC-3RA****Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = <b>130.9 / 38</b> = <b>3.445</b>	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = $(482.93 - 17134.81/38) / (38-1)^{1/2}$ = <b>0.93</b>	Compute background sd.
3	$SCL = \bar{X} + F * S$ = <b>3.445 + 4.0 * 0.93</b> = <b>7.165</b>	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = <b>38 * (38-1) / 2</b> = <b>703</b>	Number of sample pairs during trend detection period.
5	$S = 0.0$	Sen's estimator of trend.
6	$\text{var}(S) = 4025.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = $(703 - 2.326 * 4025.0^{1/2}) / 2$ = <b>277.716</b>	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1$ th largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.0$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Zinc, Total (ug/L) at GWC-3RA****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \max(X)$ <b>= 9.9</b>	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Antimony, Total (ug/L) at GWC-5A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 6.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Arsenic, Total (ug/L) at GWC-5A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Barium, Total (ug/L) at GWC-5A**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = <b>6158.0 / 38</b> = <b>162.053</b>	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = $(1.07 \times 10^6 - 3.79 \times 10^7 / 38) / (38-1)^{1/2}$ = <b>44.046</b>	Compute background sd.
3	$SCL = \bar{X} + F * S$ = <b>162.053 + 4.0 * 44.046</b> = <b>338.237</b>	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = <b>38 * (38-1) / 2</b> = <b>703</b>	Number of sample pairs during trend detection period.
5	$S = 6.681$	Sen's estimator of trend.
6	$\text{var}(S) = 6259.333$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = $(703 - 2.326 * 6259.333^{1/2}) / 2$ = <b>259.488</b>	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 5.239$	One-sided lower confidence limit for slope.
9	$LCL(S) > 0$	<b>Significant increasing trend.</b>

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Beryllium, Total (ug/L) at GWC-5A**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cadmium, Total (ug/L) at GWC-5A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Chromium, Total (ug/L) at GWC-5A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{max}(X)$ <b>= 6.6</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Cobalt, Total (ug/L) at GWC-5A**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 281.0 / 38 = 7.395	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = (2411.12 - 78961.0/38) / (38-1) = 3.001	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 7.395 + 4.0 * 3.001 = 19.398	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 38 * (38-1) / 2 = 703	Number of sample pairs during trend detection period.
5	$S = 0.508$	Sen's estimator of trend.
6	$\text{var}(S) = 6289.667$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (703 - 2.326 * 6289.667^{1/2}) / 2 = 259.265	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.416$	One-sided lower confidence limit for slope.
9	$LCL(S) > 0$	Significant increasing trend.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Copper, Total (ug/L) at GWC-5A**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = 6.25	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Lead, Total (ug/L) at GWC-5A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>9.7</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Nickel, Total (ug/L) at GWC-5A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>4.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Selenium, Total (ug/L) at GWC-5A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>13.0</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Silver, Total (ug/L) at GWC-5A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>50.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Thallium, Total (ug/L) at GWC-5A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>2.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Vanadium, Total (ug/L) at GWC-5A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{max}(X)$ = <b>8.2</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Zinc, Total (ug/L) at GWC-5A**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 190.3 / 36 = 5.286	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = ((1043.95 - 36214.09/36) / (36-1))^{1/2} = 1.042	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 5.286 + 4.0 * 1.042 = 9.454	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 36 * (36-1) / 2 = 630	Number of sample pairs during trend detection period.
5	$S = 0.0$	Sen's estimator of trend.
6	$\text{var}(S) = 3762.667$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (630 - 2.326 * 3762.667^{1/2}) / 2 = 243.661	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.0$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Antimony, Total (ug/L) at GWC-6A**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 6.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Arsenic, Total (ug/L) at GWC-6A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Barium, Total (ug/L) at GWC-6A****Normal Control Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$\bar{X} = \text{sum}[X] / N$ <b>= 3713.2 / 38</b> <b>= 97.716</b>	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ <b>= ((395447.94 - 1.38 \times 10^7 / 38) / (38-1))^{1/2}</b> <b>= 29.687</b>	Compute background sd.
3	$SCL = \bar{X} + F * S$ <b>= 97.716 + 4.0 * 29.687</b> <b>= 216.465</b>	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ <b>= 38 * (38-1) / 2</b> <b>= 703</b>	Number of sample pairs during trend detection period.
5	$S = -3.745$	Sen's estimator of trend.
6	$\text{var}(S) = 6302.667$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ <b>= (703 - 2.326 * 6302.667^{1/2}) / 2</b> <b>= 259.17</b>	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1$ th largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -5.396$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Beryllium, Total (ug/L) at GWC-6A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 1.0	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = 0.99	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cadmium, Total (ug/L) at GWC-6A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 1.0	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = 0.99	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Chromium, Total (ug/L) at GWC-6A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = 3.3	Compute nonparametric prediction limit as largest background measurement.
2	Conf = 0.99	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cobalt, Total (ug/L) at GWC-6A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = 5.0	Compute nonparametric prediction limit as largest background measurement.
2	Conf = 0.99	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Copper, Total (ug/L) at GWC-6A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>5.2</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Lead, Total (ug/L) at GWC-6A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>5.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Nickel, Total (ug/L) at GWC-6A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>7.7</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Selenium, Total (ug/L) at GWC-6A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Silver, Total (ug/L) at GWC-6A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>50.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Thallium, Total (ug/L) at GWC-6A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>2.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Vanadium, Total (ug/L) at GWC-6A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>7.4</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Zinc, Total (ug/L) at GWC-6A**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 9615.5 / 38 = 253.039	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = ((5.53x10 <sup>6</sup> - 9.25x10 <sup>7</sup> /38) / (38-1)) <sup>1/2</sup> = 289.124	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 253.039 + 4.0 * 289.124 = 1409.537	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 38 * (38-1) / 2 = 703	Number of sample pairs during trend detection period.
5	$S = -17.235$	Sen's estimator of trend.
6	$\text{var}(S) = 6307.333$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (703 - 2.326 * 6307.333 <sup>1/2</sup> ) / 2 = 259.136	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1$ <sup>th</sup> largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -41.605$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Antimony, Total (ug/L) at GWC-7AR**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 6.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Arsenic, Total (ug/L) at GWC-7AR****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Barium, Total (ug/L) at GWC-7AR****Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ <b>= 2457.1 / 38</b> <b>= 64.661</b>	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ <b>= ((174667.85 - 6.04 \times 10^6 / 38) / (38-1))^{1/2}</b> <b>= 20.658</b>	Compute background sd.
3	$SCL = \bar{X} + F * S$ <b>= 64.661 + 4.0 * 20.658</b> <b>= 147.294</b>	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ <b>= 38 * (38-1) / 2</b> <b>= 703</b>	Number of sample pairs during trend detection period.
5	$S = -2.445$	Sen's estimator of trend.
6	$\text{var}(S) = 6315.667$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ <b>= (703 - 2.326 * 6315.667^{1/2}) / 2</b> <b>= 259.075</b>	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1$ th largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -3.722$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Beryllium, Total (ug/L) at GWC-7AR****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>1.6</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cadmium, Total (ug/L) at GWC-7AR****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Chromium, Total (ug/L) at GWC-7AR**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 340.2 / 38 = 8.953	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = (4730.44 - 115736.04/38) / (38-1) = 6.748	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 8.953 + 4.0 * 6.748 = 35.944	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 38 * (38-1) / 2 = 703	Number of sample pairs during trend detection period.
5	$S = -0.478$	Sen's estimator of trend.
6	$\text{var}(S) = 6159.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (703 - 2.326 * 6159.0 <sup>1/2</sup> ) / 2 = 260.229	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{th}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -0.944$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Cobalt, Total (ug/L) at GWC-7AR**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = 5.3	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Copper, Total (ug/L) at GWC-7AR**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 291.3 / 38 = 7.666	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = ((3520.47 - 84855.69/38) / (38-1))^{1/2} = 5.899	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 7.666 + 4.0 * 5.899 = 31.261	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 38 * (38-1) / 2 = 703	Number of sample pairs during trend detection period.
5	$S = -0.167$	Sen's estimator of trend.
6	$\text{var}(S) = 5504.333$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (703 - 2.326 * 5504.333^{1/2}) / 2 = 265.216	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -0.437$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Lead, Total (ug/L) at GWC-7AR**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ $= 232.7 / 38$ $= 6.124$	Compute background mean.
2	$S = ((\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1))^{1/2}$ $= ((1597.29 - 54149.29/38) / (38-1))^{1/2}$ $= 2.158$	Compute background sd.
3	$SCL = \bar{X} + F * S$ $= 6.124 + 4.0 * 2.158$ $= 14.756$	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ $= 38 * (38-1) / 2$ $= 703$	Number of sample pairs during trend detection period.
5	$S = 0.0$	Sen's estimator of trend.
6	$\text{var}(S) = 3759.333$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ $= (703 - 2.326 * 3759.333^{1/2}) / 2$ $= 280.193$	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$\text{LCL}(S) = 0.0$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Nickel, Total (ug/L) at GWC-7AR**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 281.9 / 38 = 7.418	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = (2755.37 - 79467.61/38) / (38-1) = 4.237	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 7.418 + 4.0 * 4.237 = 24.365	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 38 * (38-1) / 2 = 703	Number of sample pairs during trend detection period.
5	$S = -0.356$	Sen's estimator of trend.
6	$\text{var}(S) = 5987.667$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (703 - 2.326 * 5987.667^{1/2}) / 2 = 261.507	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -0.624$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Selenium, Total (ug/L) at GWC-7AR**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 10.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Silver, Total (ug/L) at GWC-7AR**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>50.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Thallium, Total (ug/L) at GWC-7AR**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>2.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Vanadium, Total (ug/L) at GWC-7AR**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ $= 450.7 / 38$ $= 11.861$	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ $= ((9055.79 - 203130.49/38) / (38-1))^{1/2}$ $= 10.014$	Compute background sd.
3	$SCL = \bar{X} + F * S$ $= 11.861 + 4.0 * 10.014$ $= 51.916$	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ $= 38 * (38-1) / 2$ $= 703$	Number of sample pairs during trend detection period.
5	$S = -0.803$	Sen's estimator of trend.
6	$\text{var}(S) = 6195.333$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ $= (703 - 2.326 * 6195.333^{1/2}) / 2$ $= 259.96$	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$\text{LCL}(S) = -1.373$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Zinc, Total (ug/L) at GWC-7AR**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 511.6 / 38 = 13.463	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = (9943.36 - 261734.56/38) / (38-1) = 9.088	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 13.463 + 4.0 * 9.088 = 49.813	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 38 * (38-1) / 2 = 703	Number of sample pairs during trend detection period.
5	$S = -0.801$	Sen's estimator of trend.
6	$\text{var}(S) = 6226.333$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (703 - 2.326 * 6226.333^{1/2}) / 2 = 259.731	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = -1.377$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Antimony, Total (ug/L) at GWC-8A**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 6.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Arsenic, Total (ug/L) at GWC-8A****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Barium, Total (ug/L) at GWC-8A****Normal Control Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$\bar{X} = \text{sum}[X] / N$ <b>= 1553.8 / 38</b> <b>= 40.889</b>	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ <b>= (68693.82 - 2.41x10<sup>6</sup>/38) / (38-1)^{1/2}</b> <b>= 11.809</b>	Compute background sd.
3	$SCL = \bar{X} + F * S$ <b>= 40.889 + 4.0 * 11.809</b> <b>= 88.126</b>	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ <b>= 38 * (38-1) / 2</b> <b>= 703</b>	Number of sample pairs during trend detection period.
5	$S = 1.001$	Sen's estimator of trend.
6	$\text{var}(S) = 6308.333$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ <b>= (703 - 2.326 * 6308.333^{1/2}) / 2</b> <b>= 259.129</b>	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1$ th largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.201$	One-sided lower confidence limit for slope.
9	$LCL(S) > 0$	<b>Significant increasing trend.</b>

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Beryllium, Total (ug/L) at GWC-8A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cadmium, Total (ug/L) at GWC-8A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Chromium, Total (ug/L) at GWC-8A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>8.7</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cobalt, Total (ug/L) at GWC-8A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>8.6</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Copper, Total (ug/L) at GWC-8A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>4.7</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Lead, Total (ug/L) at GWC-8A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>5.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Nickel, Total (ug/L) at GWC-8A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>4.1</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Selenium, Total (ug/L) at GWC-8A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Silver, Total (ug/L) at GWC-8A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>50.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Thallium, Total (ug/L) at GWC-8A****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>2.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Zinc, Total (ug/L) at GWC-8A**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = <b>173.1 / 38</b> = <b>4.555</b>	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = $(990.43 - 29963.61/38) / (38-1)^{1/2}$ = <b>2.336</b>	Compute background sd.
3	$SCL = \bar{X} + F * S$ = <b>4.555 + 4.0 * 2.336</b> = <b>13.899</b>	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = <b>38 * (38-1) / 2</b> = <b>703</b>	Number of sample pairs during trend detection period.
5	$S = 0.072$	Sen's estimator of trend.
6	$\text{var}(S) = 5506.333$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = $(703 - 2.326 * 5506.333^{1/2}) / 2$ = <b>265.2</b>	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.0$	One-sided lower confidence limit for slope.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Zinc, Total (ug/L) at GWC-8A**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \max(X)$ = <b>15.9</b>	Compute nonparametric prediction limit as largest background measurement.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Antimony, Total (ug/L) at GWC-8R****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 6.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Arsenic, Total (ug/L) at GWC-8R****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Barium, Total (ug/L) at GWC-8R**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 1539.4 / 38 = 40.511	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ = ((64842.5 - 2.37x10 <sup>6</sup> /38) / (38-1)) <sup>1/2</sup> = 8.188	Compute background sd.
3	$SCL = \bar{X} + F * S$ = 40.511 + 4.0 * 8.188 = 73.262	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ = 38 * (38-1) / 2 = 703	Number of sample pairs during trend detection period.
5	$S = 1.155$	Sen's estimator of trend.
6	$\text{var}(S) = 6305.0$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ = (703 - 2.326 * 6305.0 <sup>1/2</sup> ) / 2 = 259.153	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.77$	One-sided lower confidence limit for slope.
9	$LCL(S) > 0$	Significant increasing trend.

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Beryllium, Total (ug/L) at GWC-8R**  
**Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = 1.0	Compute nonparametric prediction limit as median reporting limit in background.
2	$Conf = 0.99$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cadmium, Total (ug/L) at GWC-8R****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ = <b>1.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Chromium, Total (ug/L) at GWC-8R****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{max}(X)$ = <b>4.3</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Cobalt, Total (ug/L) at GWC-8R****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{max}(X)$ = <b>12.1</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Copper, Total (ug/L) at GWC-8R****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{max}(X)$ = <b>9.5</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Lead, Total (ug/L) at GWC-8R****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \max(X)$ = <b>7.3</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Nickel, Total (ug/L) at GWC-8R****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \max(X)$ = <b>5.2</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Selenium, Total (ug/L) at GWC-8R****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ = <b>10.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Silver, Total (ug/L) at GWC-8R****Nonparametric Prediction Limit**

<b><u>Step</u></b>	<b><u>Equation</u></b>	<b><u>Description</u></b>
1	$PL = \text{median}(X)$ = <b>50.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Thallium, Total (ug/L) at GWC-8R****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{median}(X)$ <b>= 2.0</b>	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits****Vanadium, Total (ug/L) at GWC-8R****Nonparametric Prediction Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$PL = \text{max}(X)$ <b>= 11.6</b>	Compute nonparametric prediction limit as largest background measurement.
2	Conf = <b>0.99</b>	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

**Worksheet 2 - Intra-Well Control Charts / Prediction Limits**  
**Zinc, Total (ug/L) at GWC-8R**  
**Normal Control Limit**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ $= 244.9 / 36$ $= 6.803$	Compute background mean.
2	$S = (\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1)^{1/2}$ $= ((2160.47 - 59976.01/36) / (36-1))^{1/2}$ $= 3.759$	Compute background sd.
3	$SCL = \bar{X} + F * S$ $= 6.803 + 4.0 * 3.759$ $= 21.838$	Compute combined Shewhart-CUSUM normal control limit.
4	$N' = N * (N-1) / 2$ $= 36 * (36-1) / 2$ $= 630$	Number of sample pairs during trend detection period.
5	$S = 0.0$	Sen's estimator of trend.
6	$\text{var}(S) = 3956.333$	Variance estimate for slope.
7	$M_1(S) = (N' - Z_{.99} * \text{var}(S)^{1/2}) / 2$ $= (630 - 2.326 * 3956.333^{1/2}) / 2$ $= 241.848$	Ordinal position for one-sided lower confidence limit for slope. The LCL is the $M_1^{\text{th}}$ largest slope estimate. When $M_1$ is not an integer, interpolation is used.
8	$LCL(S) = 0.0$	One-sided lower confidence limit for slope.

*Results of the Ground Water Statistics for Button Gwinnett Landfill  
Second Semi-Annual Monitoring Event in 2024*

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**Attachment C**

Summary Table of Historical VOC Detections

**Table 1****Historical Volatile Organic Compound Detections**

Constituent	Well	Date	Identifier	Result	Limit	Units
Chloroform	GWA-1A	11/02/1997		16.0	2.7	ug/L
Chloroform	GWA-1A	12/17/1997		11.0	2.7	ug/L
Chloroform	GWA-1A	3/16/1998		12.0	2.7	ug/L
Chloroform	GWA-1A	6/21/1998		9.8	2.7	ug/L
1,1-Dichloroethane	GWA-2A	8/02/1997		3.2	2.5	ug/L
1,1-Dichloroethane	GWA-2A	9/13/1997		3.6	2.5	ug/L
1,1-Dichloroethane	GWA-2A	11/02/1997		5.3	2.5	ug/L
1,1-Dichloroethane	GWA-2A	12/16/1997		8.2	2.5	ug/L
1,1-Dichloroethane	GWA-2A	3/16/1998		16.0	2.5	ug/L
1,1-Dichloroethane	GWA-2A	6/21/1998		6.8	2.5	ug/L
1,1-Dichloroethane	GWA-2A	12/02/1998		6.6	2.5	ug/L
1,1-Dichloroethane	GWA-2A	12/02/1998		6.6	2.5	ug/L
1,1-Dichloroethane	GWA-2A	3/30/1999		6.0	2.5	ug/L
1,1-Dichloroethane	GWA-2A	3/30/1999		6.0	2.5	ug/L
1,1-Dichloroethane	GWA-2A	9/09/1999		10.0	2.5	ug/L
1,1-Dichloroethane	GWA-2A	9/09/1999		10.0	2.5	ug/L
1,1-Dichloroethane	GWA-2A	9/22/1999		8.5	2.5	ug/L
1,1-Dichloroethane	GWA-2A	9/22/1999		8.5	2.5	ug/L
1,1-Dichloroethane	GWA-2A	3/28/2000		12.0	2.5	ug/L
1,1-Dichloroethane	GWA-2A	3/28/2000		12.0	2.5	ug/L
1,1-Dichloroethane	GWA-2A	4/09/2001		6.0	1.0	ug/L
1,1-Dichloroethane	GWA-2A	11/14/2001		8.4	2.5	ug/L
Acetone	GWA-2A	5/19/2003		62	18	ug/L
Acetone	GWA-2A	10/29/2003		21	18	ug/L
Acetone	GWA-2A	5/11/2004		66	18	ug/L
Benzene	GWA-2A	4/09/2001		1.3	1.0	ug/L
Benzo(a)pyrene	GWA-2A	11/02/2009		.22	.19	ug/L
cis-1,2-Dichloroethene	GWA-2A	12/16/1997		3.1	2.7	ug/L
cis-1,2-Dichloroethene	GWA-2A	3/16/1998		16.0	2.7	ug/L
cis-1,2-Dichloroethene	GWA-2A	6/21/1998		15.0	2.7	ug/L
cis-1,2-Dichloroethene	GWA-2A	12/02/1998		32.0	2.7	ug/L
cis-1,2-Dichloroethene	GWA-2A	12/02/1998		32.0	2.7	ug/L
cis-1,2-Dichloroethene	GWA-2A	3/30/1999		22.0	2.7	ug/L
cis-1,2-Dichloroethene	GWA-2A	3/30/1999		22.0	2.7	ug/L
cis-1,2-Dichloroethene	GWA-2A	9/09/1999		46.0	2.7	ug/L
cis-1,2-Dichloroethene	GWA-2A	9/09/1999		46.0	2.7	ug/L
cis-1,2-Dichloroethene	GWA-2A	9/22/1999		34.0	2.7	ug/L
cis-1,2-Dichloroethene	GWA-2A	9/22/1999		34.0	2.7	ug/L
cis-1,2-Dichloroethene	GWA-2A	3/28/2000		32.0	2.7	ug/L
cis-1,2-Dichloroethene	GWA-2A	3/28/2000		32.0	2.7	ug/L
cis-1,2-Dichloroethene	GWA-2A	4/09/2001		16.0	1.0	ug/L
cis-1,2-Dichloroethene	GWA-2A	11/14/2001		11.0	2.7	ug/L
Dichlorodifluoromethane	GWA-2A	6/21/1998		1.2	1.0	ug/L
Dichlorodifluoromethane	GWA-2A	12/02/1998		1.3	1.0	ug/L
Dichlorodifluoromethane	GWA-2A	12/02/1998		1.3	1.0	ug/L
Endrin	GWA-2A	12/06/2002		.13	.05	ug/L
gamma-BHC (Lindane)	GWA-2A	10/29/2003		.058	.050	ug/L
Tetrachloroethene	GWA-2A	9/13/1997		1.4	1.2	ug/L
Tetrachloroethene	GWA-2A	11/02/1997		1.6	1.2	ug/L
Tetrachloroethene	GWA-2A	12/16/1997		2.5	1.2	ug/L
Tetrachloroethene	GWA-2A	3/16/1998		4.4	1.2	ug/L
Tetrachloroethene	GWA-2A	6/21/1998		2.2	1.2	ug/L
Tetrachloroethene	GWA-2A	12/02/1998		1.7	1.2	ug/L
Tetrachloroethene	GWA-2A	12/02/1998		1.7	1.2	ug/L
Tetrachloroethene	GWA-2A	3/30/1999		1.3	1.2	ug/L
Tetrachloroethene	GWA-2A	3/30/1999		1.3	1.2	ug/L
Tetrachloroethene	GWA-2A	9/09/1999		1.4	1.2	ug/L
Tetrachloroethene	GWA-2A	9/09/1999		1.4	1.2	ug/L
Tetrachloroethene	GWA-2A	9/22/1999		1.6	1.2	ug/L
Tetrachloroethene	GWA-2A	9/22/1999		1.6	1.2	ug/L
Tetrachloroethene	GWA-2A	3/28/2000		1.3	1.2	ug/L
Tetrachloroethene	GWA-2A	3/28/2000		1.3	1.2	ug/L
Tetrachloroethene	GWA-2A	11/14/2001		1.3	1.2	ug/L
Trichloroethene	GWA-2A	3/16/1998		3.7	3.2	ug/L
Vinyl chloride	GWA-2A	12/16/1997		2.0	2.0	ug/L
Vinyl chloride	GWA-2A	3/16/1998		3.6	2.0	ug/L
Vinyl chloride	GWA-2A	6/21/1998		3.0	2.0	ug/L
Vinyl chloride	GWA-2A	9/09/1999		3.4	2.0	ug/L
Vinyl chloride	GWA-2A	9/09/1999		3.4	2.0	ug/L
Vinyl chloride	GWA-2A	9/22/1999		3.6	2.0	ug/L
Vinyl chloride	GWA-2A	9/22/1999		3.6	2.0	ug/L
Vinyl chloride	GWA-2A	3/28/2000		5.2	2.0	ug/L
Vinyl chloride	GWA-2A	3/28/2000		5.2	2.0	ug/L
Vinyl chloride	GWA-2A	4/09/2001		1.1	1.0	ug/L
1,1-Dichloroethane	GWB-1	5/01/1997		4.3	2.5	ug/L
1,1-Dichloroethane	GWB-1	6/18/1997		6.9	2.5	ug/L

Detections are shown for the constituents and sample points selected for the analysis  
The Limit column refers to the laboratory reporting limit

**Table 1****Historical Volatile Organic Compound Detections**

Constituent	Well	Date	Identifier	Result	Limit	Units
1,1-Dichloroethane	GWB-1	8/02/1997		5.1	2.5	ug/L
1,1-Dichloroethane	GWB-1	9/13/1997		3.9	2.5	ug/L
1,1-Dichloroethane	GWB-1	3/30/1999		2.6	2.5	ug/L
1,1-Dichloroethane	GWB-1	3/30/1999		2.6	2.5	ug/L
1,1-Dichloroethane	GWB-1	4/09/2001		1.4	1.0	ug/L
1,1-Dichloroethane	GWB-1	11/13/2001		2.0	1.0	ug/L
Chlorobenzene	GWB-1	10/27/2010		2.5	2.5	ug/L
Chlorobenzene	GWB-1	4/18/2012		2.8	2.5	ug/L
Chlorobenzene	GWB-1	10/22/2013		2.8	2.5	ug/L
Chlorobenzene	GWB-1	11/05/2014		2.8	2.5	ug/L
Chlorobenzene	GWB-1	4/26/2022		2.1	2.0	ug/L
Chlorobenzene	GWB-1	10/24/2022		2.5	2.0	ug/L
Chlorobenzene	GWB-1	10/24/2023		2.1	2.0	ug/L
cis-1,2-Dichloroethene	GWB-1	5/01/1997		4.2	2.7	ug/L
cis-1,2-Dichloroethene	GWB-1	6/18/1997		8.0	2.7	ug/L
cis-1,2-Dichloroethene	GWB-1	8/02/1997		5.9	2.7	ug/L
cis-1,2-Dichloroethene	GWB-1	9/13/1997		5.4	2.7	ug/L
cis-1,2-Dichloroethene	GWB-1	3/30/1999		5.7	2.7	ug/L
cis-1,2-Dichloroethene	GWB-1	3/30/1999		5.7	2.7	ug/L
cis-1,2-Dichloroethene	GWB-1	9/10/1999		4.6	2.7	ug/L
cis-1,2-Dichloroethene	GWB-1	9/10/1999		4.6	2.7	ug/L
cis-1,2-Dichloroethene	GWB-1	10/20/2000		3.5	2.7	ug/L
cis-1,2-Dichloroethene	GWB-1	4/09/2001		2.6	1.0	ug/L
cis-1,2-Dichloroethene	GWB-1	11/13/2001		4.2	1.0	ug/L
Dichlorodifluoromethane	GWB-1	3/30/1999		1	1	ug/L
Dichlorodifluoromethane	GWB-1	3/30/1999		1	1	ug/L
Tetrachloroethene	GWB-1	5/01/1997		1.3	1.2	ug/L
Tetrachloroethene	GWB-1	6/18/1997		1.5	1.2	ug/L
Tetrachloroethene	GWB-1	8/02/1997		1.4	1.2	ug/L
Tetrachloroethene	GWB-1	9/13/1997		1.4	1.2	ug/L
1,1-Dichloroethane	GWB-2	9/09/1999		5.2	2.5	ug/L
1,1-Dichloroethane	GWB-2	9/09/1999		5.2	2.5	ug/L
1,1-Dichloroethane	GWB-2	3/28/2000		15.0	2.5	ug/L
1,1-Dichloroethane	GWB-2	3/28/2000		15.0	2.5	ug/L
1,1-Dichloroethane	GWB-2	10/18/2000		13.0	1.0	ug/L
1,1-Dichloroethane	GWB-2	4/09/2001		11.0	1.0	ug/L
1,1-Dichloroethane	GWB-2	11/12/2001		6.2	1.0	ug/L
1,1-Dichloroethane	GWB-2	4/29/2002		4.7	1.0	ug/L
1,1-Dichloroethane	GWB-2	12/06/2002		2.6	2.5	ug/L
Acetone	GWB-2	3/28/2000		30	18	ug/L
Acetone	GWB-2	3/28/2000		30	18	ug/L
Benzene	GWB-2	10/18/2000		2.7	1.0	ug/L
Benzene	GWB-2	4/09/2001		1.8	1.0	ug/L
Benzene	GWB-2	11/12/2001		1.4	1.0	ug/L
Benzo(a)pyrene	GWB-2	11/02/2009		.19	.19	ug/L
Chloroethane	GWB-2	10/18/2000		5.3	1.0	ug/L
Chloroethane	GWB-2	4/09/2001		2.7	1.0	ug/L
Chloroethane	GWB-2	11/12/2001		1.8	1.0	ug/L
cis-1,2-Dichloroethene	GWB-2	9/09/1999		3.2	2.7	ug/L
cis-1,2-Dichloroethene	GWB-2	9/09/1999		3.2	2.7	ug/L
cis-1,2-Dichloroethene	GWB-2	3/28/2000		6.3	2.7	ug/L
cis-1,2-Dichloroethene	GWB-2	3/28/2000		6.3	2.7	ug/L
cis-1,2-Dichloroethene	GWB-2	10/18/2000		7.4	1.0	ug/L
cis-1,2-Dichloroethene	GWB-2	4/09/2001		5.1	1.0	ug/L
cis-1,2-Dichloroethene	GWB-2	11/12/2001		5.6	1.0	ug/L
cis-1,2-Dichloroethene	GWB-2	4/29/2002		3.9	1.0	ug/L
cis-1,2-Dichloroethene	GWB-2	10/18/2006		3.0	2.7	ug/L
cis-1,2-Dichloroethene	GWB-2	10/23/2007		2.8	2.7	ug/L
Endrin	GWB-2	12/06/2002		.12	.05	ug/L
Methylene chloride	GWB-2	10/18/2000		1.7	1.0	ug/L
Vinyl chloride	GWB-2	3/28/2000		2.4	2.0	ug/L
Vinyl chloride	GWB-2	3/28/2000		2.4	2.0	ug/L
Vinyl chloride	GWB-2	10/18/2000		2.1	1.0	ug/L
Vinyl chloride	GWB-2	4/09/2001		1.1	1.0	ug/L
1,1-Dichloroethane	GWB-3	4/09/2001		2.2	1.0	ug/L
Chloroethane	GWB-3	4/09/2001		1	1	ug/L
cis-1,2-Dichloroethene	GWB-3	4/09/2001		2.1	1.0	ug/L
Vinyl chloride	GWB-3	4/09/2001		1.5	1.0	ug/L
Vinyl chloride	GWB-3	11/12/2001		1.7	1.0	ug/L
Dichlorodifluoromethane	GWC-10	11/12/2001		1.9	1.0	ug/L
1,1-Dichloroethane	GWC-11	12/16/1996		11.6	11.6	ug/L
1,1-Dichloroethane	GWC-11	3/17/1997		13.3	13.3	ug/L
1,1-Dichloroethane	GWC-11	5/02/1997		9.3	2.5	ug/L
1,1-Dichloroethane	GWC-11	6/18/1997		10.0	2.5	ug/L
1,1-Dichloroethane	GWC-11	8/02/1997		9.0	2.5	ug/L
1,1-Dichloroethane	GWC-11	9/13/1997		5.2	2.5	ug/L

Detections are shown for the constituents and sample points selected for the analysis  
The Limit column refers to the laboratory reporting limit

**Table 1****Historical Volatile Organic Compound Detections**

Constituent	Well	Date	Identifier	Result	Limit	Units
1,1-Dichloroethane	GWC-11	11/03/1997		4.0	2.5	ug/L
1,1-Dichloroethane	GWC-11	3/16/1998		5.1	2.5	ug/L
1,1-Dichloroethane	GWC-11	6/21/1998		5.4	2.5	ug/L
1,1-Dichloroethane	GWC-11	12/29/1998		6.9	2.5	ug/L
1,1-Dichloroethane	GWC-11	3/30/1999		11.0	2.5	ug/L
1,1-Dichloroethane	GWC-11	3/30/1999		11.0	2.5	ug/L
1,1-Dichloroethane	GWC-11	9/09/1999		5.3	2.5	ug/L
1,1-Dichloroethane	GWC-11	9/09/1999		5.3	2.5	ug/L
1,1-Dichloroethane	GWC-11	9/22/1999		6.7	2.5	ug/L
1,1-Dichloroethane	GWC-11	9/22/1999		6.7	2.5	ug/L
1,1-Dichloroethane	GWC-11	3/28/2000		10.0	2.5	ug/L
1,1-Dichloroethane	GWC-11	3/28/2000		10.0	2.5	ug/L
1,1-Dichloroethane	GWC-11	10/19/2000		10.0	1.6	ug/L
1,1-Dichloroethane	GWC-11	10/19/2000		12.0	2.5	ug/L
1,1-Dichloroethane	GWC-11	4/10/2001		7.9	1.0	ug/L
1,1-Dichloroethane	GWC-11	4/30/2002		7.0	1.0	ug/L
1,1-Dichloroethane	GWC-11	12/10/2002		5.7	2.5	ug/L
1,1-Dichloroethane	GWC-11	5/20/2003		5.0	2.5	ug/L
1,1-Dichloroethane	GWC-11	10/30/2003		2.9	2.5	ug/L
1,1-Dichloroethane	GWC-11	5/11/2004		2.5	2.5	ug/L
1,2-Dichlorobenzene	GWC-11	12/16/1996		6.3	6.3	ug/L
1,2-Dichlorobenzene	GWC-11	3/17/1997		5.8	5.8	ug/L
1,2-Dichlorobenzene	GWC-11	5/02/1997		5.2	3.3	ug/L
1,2-Dichlorobenzene	GWC-11	12/29/1998		4.9	3.3	ug/L
1,2-Dichlorobenzene	GWC-11	4/10/2001		1.5	1.0	ug/L
1,2-Dichlorobenzene	GWC-11	4/30/2002		1.3	1.0	ug/L
1,2-Dichloroethane	GWC-11	3/28/2000		3.2	2.8	ug/L
1,2-Dichloroethane	GWC-11	3/28/2000		3.2	2.8	ug/L
1,2-Dichloroethane	GWC-11	10/19/2000		2.4	1.6	ug/L
1,2-Dichloroethane	GWC-11	4/10/2001		2.0	1.0	ug/L
1,2-Dichloropropane	GWC-11	5/02/1997		2.0	1.4	ug/L
1,2-Dichloropropane	GWC-11	4/30/2002		1.2	1.0	ug/L
1,2-Dichloropropane	GWC-11	10/25/2007		1.7	1.4	ug/L
1,4-Dichlorobenzene	GWC-11	12/16/1996		25.0	25.0	ug/L
1,4-Dichlorobenzene	GWC-11	3/17/1997		32.0	32.0	ug/L
1,4-Dichlorobenzene	GWC-11	5/02/1997		27.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	6/18/1997		26.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	8/02/1997		24.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	9/13/1997		14.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	3/16/1998		27.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	6/21/1998		30.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	12/29/1998		24.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	9/09/1999		18.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	9/09/1999		18.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	3/28/2000		30.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	3/28/2000		30.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	10/19/2000		19.0	1.6	ug/L
1,4-Dichlorobenzene	GWC-11	4/10/2001		24.0	1.0	ug/L
1,4-Dichlorobenzene	GWC-11	11/14/2001		13.0	10.0	ug/L
1,4-Dichlorobenzene	GWC-11	4/30/2002		21.0	1.0	ug/L
1,4-Dichlorobenzene	GWC-11	5/20/2003		34.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	10/30/2003		24.0	10.0	ug/L
1,4-Dichlorobenzene	GWC-11	5/11/2004		46.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	10/19/2004		30.0	10.0	ug/L
1,4-Dichlorobenzene	GWC-11	4/20/2005		22.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	10/20/2005		17.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	10/20/2005		17.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	4/25/2006		7.6	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	10/24/2006		24.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	4/20/2007		5.2	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	10/25/2007		26.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	4/16/2008		28.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	10/29/2008		9.2	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	4/29/2009		8.6	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	4/21/2011		4.6	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	10/11/2011		8.6	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	4/20/2012		17.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	10/25/2012		7.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	4/24/2013		10.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	10/22/2013		11.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	4/23/2014		18.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	10/20/2014		12.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	4/21/2015		10.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	10/20/2015		9.5	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	4/19/2016		7.6	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	10/14/2016		4.6	4.3	ug/L

Detections are shown for the constituents and sample points selected for the analysis  
The Limit column refers to the laboratory reporting limit

**Table 1****Historical Volatile Organic Compound Detections**

Constituent	Well	Date	Identifier	Result	Limit	Units
1,4-Dichlorobenzene	GWC-11	4/25/2017		13.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	10/18/2017		11.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	4/18/2018		12.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	10/17/2018		17.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	4/23/2019		20.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	10/23/2019		18.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-11	4/28/2020		21.4	10.0	ug/L
1,4-Dichlorobenzene	GWC-11	10/21/2020		28.2	10.0	ug/L
1,4-Dichlorobenzene	GWC-11	4/21/2021		28.5	10.0	ug/L
1,4-Dichlorobenzene	GWC-11	10/18/2021		27.4	10.0	ug/L
1,4-Dichlorobenzene	GWC-11	4/26/2022		27.4	10.0	ug/L
1,4-Dichlorobenzene	GWC-11	10/26/2022		20.0	10.0	ug/L
1,4-Dichlorobenzene	GWC-11	4/26/2023		15.5	10.0	ug/L
1,4-Dichlorobenzene	GWC-11	10/25/2023		17.0	10.0	ug/L
1,4-Dichlorobenzene	GWC-11	4/22/2024		11.5	10.0	ug/L
2,4,5-TP (Silvex)	GWC-11	10/25/2007		.61	.50	ug/L
2,4-D	GWC-11	12/10/2002		.59	.50	ug/L
2,4-D	GWC-11	5/20/2003		2.70	.50	ug/L
2,4-D	GWC-11	10/25/2007		2.80	.50	ug/L
Acetone	GWC-11	5/20/2003		30	18	ug/L
Acetone	GWC-11	4/19/2016		37	20	ug/L
Acetone	GWC-11	4/23/2019		34	20	ug/L
Aldrin	GWC-11	11/03/2009		.051	.047	ug/L
alpha-BHC	GWC-11	10/19/2000		.870	.050	ug/L
alpha-BHC	GWC-11	4/10/2001		.240	.048	ug/L
alpha-BHC	GWC-11	12/10/2002		.120	.050	ug/L
Benzene	GWC-11	12/16/1996		9.8	9.8	ug/L
Benzene	GWC-11	3/17/1997		9.7	9.7	ug/L
Benzene	GWC-11	5/02/1997		8.6	3.1	ug/L
Benzene	GWC-11	6/18/1997		7.6	3.1	ug/L
Benzene	GWC-11	8/02/1997		6.3	3.1	ug/L
Benzene	GWC-11	9/13/1997		4.3	3.1	ug/L
Benzene	GWC-11	11/03/1997		3.9	3.1	ug/L
Benzene	GWC-11	3/16/1998		5.7	3.1	ug/L
Benzene	GWC-11	6/21/1998		5.6	3.1	ug/L
Benzene	GWC-11	12/29/1998		4.9	3.1	ug/L
Benzene	GWC-11	3/30/1999		7.6	3.1	ug/L
Benzene	GWC-11	3/30/1999		7.6	3.1	ug/L
Benzene	GWC-11	9/09/1999		5.8	3.1	ug/L
Benzene	GWC-11	9/09/1999		5.8	3.1	ug/L
Benzene	GWC-11	9/22/1999		6.8	3.1	ug/L
Benzene	GWC-11	9/22/1999		6.8	3.1	ug/L
Benzene	GWC-11	3/28/2000		7.6	3.1	ug/L
Benzene	GWC-11	3/28/2000		7.6	3.1	ug/L
Benzene	GWC-11	10/19/2000		5.3	3.1	ug/L
Benzene	GWC-11	10/19/2000		5.8	1.6	ug/L
Benzene	GWC-11	4/10/2001		4.7	1.0	ug/L
Benzene	GWC-11	4/30/2002		7.1	1.0	ug/L
Benzene	GWC-11	12/10/2002		3.4	3.1	ug/L
Benzene	GWC-11	10/24/2006		15.0	3.1	ug/L
Benzene	GWC-11	4/20/2007		3.2	3.1	ug/L
Benzene	GWC-11	10/25/2007		3.2	3.1	ug/L
Benzene	GWC-11	4/16/2008		3.4	3.1	ug/L
beta-BHC	GWC-11	11/03/2009		.570	.047	ug/L
beta-BHC	GWC-11	4/28/2010		.490	.048	ug/L
beta-BHC	GWC-11	10/27/2010		2.100	.480	ug/L
beta-BHC	GWC-11	4/21/2011		.970	.480	ug/L
beta-BHC	GWC-11	10/14/2016		.082	.050	ug/L
Bis(2-ethylhexyl) phthalate	GWC-11	10/30/2003		18	10	ug/L
Bis(2-ethylhexyl) phthalate	GWC-11	10/20/2005		22	10	ug/L
Bis(2-ethylhexyl) phthalate	GWC-11	10/20/2005		22	10	ug/L
Bis(2-ethylhexyl) phthalate	GWC-11	4/25/2006		18	10	ug/L
Carbon Disulfide	GWC-11	4/10/2001		1	1	ug/L
Chlorobenzene	GWC-11	3/16/1998		3.2	2.5	ug/L
Chlorobenzene	GWC-11	6/21/1998		3.2	2.5	ug/L
Chlorobenzene	GWC-11	3/30/1999		3.1	2.5	ug/L
Chlorobenzene	GWC-11	3/30/1999		3.1	2.5	ug/L
Chlorobenzene	GWC-11	3/28/2000		5.5	2.5	ug/L
Chlorobenzene	GWC-11	3/28/2000		5.5	2.5	ug/L
Chlorobenzene	GWC-11	10/19/2000		3.3	1.4	ug/L
Chlorobenzene	GWC-11	10/19/2000		2.6	2.5	ug/L
Chlorobenzene	GWC-11	4/10/2001		8.9	1.0	ug/L
Chlorobenzene	GWC-11	4/30/2002		5.2	1.0	ug/L
Chlorobenzene	GWC-11	5/20/2003		5.9	2.5	ug/L
Chlorobenzene	GWC-11	10/30/2003		7.7	2.5	ug/L
Chlorobenzene	GWC-11	5/11/2004		10.0	2.5	ug/L

Detections are shown for the constituents and sample points selected for the analysis  
The Limit column refers to the laboratory reporting limit

**Table 1****Historical Volatile Organic Compound Detections**

Constituent	Well	Date	Identifier	Result	Limit	Units
Chlorobenzene	GWC-11	10/19/2004		8.7	2.5	ug/L
Chlorobenzene	GWC-11	4/20/2005		6.2	2.5	ug/L
Chlorobenzene	GWC-11	10/20/2005		4.1	2.5	ug/L
Chlorobenzene	GWC-11	10/20/2005		4.1	2.5	ug/L
Chlorobenzene	GWC-11	10/24/2006		4.4	2.5	ug/L
Chlorobenzene	GWC-11	10/25/2007		5.3	2.5	ug/L
Chlorobenzene	GWC-11	4/16/2008		6.9	2.5	ug/L
Chlorobenzene	GWC-11	10/11/2011		3.1	2.5	ug/L
Chlorobenzene	GWC-11	4/20/2012		9.2	2.5	ug/L
Chlorobenzene	GWC-11	10/25/2012		4.3	2.5	ug/L
Chlorobenzene	GWC-11	4/24/2013		8.8	2.5	ug/L
Chlorobenzene	GWC-11	10/22/2013		8.8	2.5	ug/L
Chlorobenzene	GWC-11	4/23/2014		9.0	2.5	ug/L
Chlorobenzene	GWC-11	10/20/2014		5.5	2.5	ug/L
Chlorobenzene	GWC-11	4/21/2015		4.3	2.5	ug/L
Chlorobenzene	GWC-11	10/20/2015		4.0	2.5	ug/L
Chlorobenzene	GWC-11	4/25/2017		3.7	2.5	ug/L
Chlorobenzene	GWC-11	10/18/2017		4.1	2.5	ug/L
Chlorobenzene	GWC-11	4/18/2018		4.9	2.5	ug/L
Chlorobenzene	GWC-11	10/17/2018		11.0	2.5	ug/L
Chlorobenzene	GWC-11	4/23/2019		17.0	2.5	ug/L
Chlorobenzene	GWC-11	10/23/2019		19.0	2.5	ug/L
Chlorobenzene	GWC-11	4/28/2020		22.1	2.0	ug/L
Chlorobenzene	GWC-11	10/21/2020		31.5	2.0	ug/L
Chlorobenzene	GWC-11	4/21/2021		24.4	2.0	ug/L
Chlorobenzene	GWC-11	10/18/2021		21.8	2.0	ug/L
Chlorobenzene	GWC-11	4/26/2022		17.5	2.0	ug/L
Chlorobenzene	GWC-11	10/26/2022		13.7	2.0	ug/L
Chlorobenzene	GWC-11	4/26/2023		12.6	2.0	ug/L
Chlorobenzene	GWC-11	10/25/2023		17.3	2.0	ug/L
Chlorobenzene	GWC-11	4/22/2024		4.9	2.0	ug/L
Chlorobenzene	GWC-11	10/23/2024		2.5	2.0	ug/L
Chloroethane	GWC-11	5/02/1997		6.2	5.9	ug/L
Chloroethane	GWC-11	6/18/1997		6.2	5.9	ug/L
Chloroethane	GWC-11	4/10/2001		2.7	1.0	ug/L
cis-1,2-Dichloroethene	GWC-11	12/16/1996		59.2	59.2	ug/L
cis-1,2-Dichloroethene	GWC-11	3/17/1997		68.1	68.1	ug/L
cis-1,2-Dichloroethene	GWC-11	5/02/1997		42.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	6/18/1997		67.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	8/02/1997		46.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	9/13/1997		29.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	11/03/1997		26.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	12/17/1997		27.0	27.0	ug/L
cis-1,2-Dichloroethene	GWC-11	3/16/1998		34.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	6/21/1998		38.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	12/29/1998		38.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	3/30/1999		50.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	3/30/1999		50.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	9/09/1999		35.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	9/09/1999		35.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	9/22/1999		44.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	9/22/1999		44.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	3/28/2000		39.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	3/28/2000		39.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	10/19/2000		47.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	10/19/2000		51.0	1.6	ug/L
cis-1,2-Dichloroethene	GWC-11	4/10/2001		44.0	1.0	ug/L
cis-1,2-Dichloroethene	GWC-11	11/14/2001		4.5	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	4/30/2002		36.0	1.0	ug/L
cis-1,2-Dichloroethene	GWC-11	12/10/2002		24.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	5/20/2003		17.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	10/30/2003		11.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	5/11/2004		8.8	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	10/19/2004		6.7	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	4/20/2005		5.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	10/20/2005		3.4	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	10/20/2005		3.4	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	10/24/2006		3.8	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	10/25/2007		5.7	2.7	ug/L
cis-1,2-Dichloroethene	GWC-11	4/16/2008		4.9	2.7	ug/L
delta-BHC	GWC-11	11/03/1997		.060	.050	ug/L
delta-BHC	GWC-11	9/22/1999		.230	.094	ug/L
delta-BHC	GWC-11	9/22/1999		.230	.094	ug/L
delta-BHC	GWC-11	10/19/2004		.067	.051	ug/L
delta-BHC	GWC-11	4/20/2005		.180	.051	ug/L
Dibenzofuran	GWC-11	10/25/2007		6	5	ug/L

Detections are shown for the constituents and sample points selected for the analysis  
The Limit column refers to the laboratory reporting limit

**Table 1****Historical Volatile Organic Compound Detections**

<b>Constituent</b>	<b>Well</b>	<b>Date</b>	<b>Identifier</b>	<b>Result</b>	<b>Limit</b>	<b>Units</b>
Dibenzofuran	GWC-11	4/16/2008		6	5	ug/L
Dibromochloromethane	GWC-11	11/03/1997		6.8	3.0	ug/L
Dichlorodifluoromethane	GWC-11	6/21/1998		2.3	1.6	ug/L
Dichlorodifluoromethane	GWC-11	12/29/1998		2.6	1.6	ug/L
Dichlorodifluoromethane	GWC-11	3/30/1999		4.3	1.0	ug/L
Dichlorodifluoromethane	GWC-11	3/30/1999		4.3	1.0	ug/L
Dichlorodifluoromethane	GWC-11	9/09/1999		4.2	1.6	ug/L
Dichlorodifluoromethane	GWC-11	9/09/1999		4.2	1.6	ug/L
Dichlorodifluoromethane	GWC-11	3/28/2000		4.6	1.0	ug/L
Dichlorodifluoromethane	GWC-11	3/28/2000		4.6	1.0	ug/L
Dichlorodifluoromethane	GWC-11	10/19/2000		8.8	6.5	ug/L
Dichlorodifluoromethane	GWC-11	10/19/2000		4.1	1.6	ug/L
Dichlorodifluoromethane	GWC-11	4/10/2001		3.4	1.0	ug/L
Dichlorodifluoromethane	GWC-11	4/20/2005		1.0	1.0	ug/L
Dichlorodifluoromethane	GWC-11	10/24/2006		1.1	1.0	ug/L
Diethyl phthalate	GWC-11	10/19/2004		15	10	ug/L
Diethyl phthalate	GWC-11	10/25/2007		9	5	ug/L
Diethyl phthalate	GWC-11	4/16/2008		6	5	ug/L
Endosulfan I	GWC-11	11/03/2009		.047	.047	ug/L
Endrin	GWC-11	10/19/2004		.086	.055	ug/L
Ethylbenzene	GWC-11	12/16/1996		49.3	49.3	ug/L
Ethylbenzene	GWC-11	3/17/1997		69.2	69.2	ug/L
Ethylbenzene	GWC-11	5/02/1997		39.0	6.0	ug/L
Ethylbenzene	GWC-11	6/18/1997		84.0	6.0	ug/L
Ethylbenzene	GWC-11	8/02/1997		53.0	6.0	ug/L
Ethylbenzene	GWC-11	9/13/1997		43.0	6.0	ug/L
Ethylbenzene	GWC-11	11/03/1997		97.0	6.0	ug/L
Ethylbenzene	GWC-11	12/17/1997		75.0	60.0	ug/L
Ethylbenzene	GWC-11	3/16/1998		100.0	6.0	ug/L
Ethylbenzene	GWC-11	6/21/1998		89.0	6.0	ug/L
Ethylbenzene	GWC-11	12/29/1998		34.0	6.0	ug/L
Ethylbenzene	GWC-11	3/30/1999		38.0	6.0	ug/L
Ethylbenzene	GWC-11	3/30/1999		38.0	6.0	ug/L
Ethylbenzene	GWC-11	9/09/1999		58.0	6.0	ug/L
Ethylbenzene	GWC-11	9/09/1999		58.0	6.0	ug/L
Ethylbenzene	GWC-11	9/22/1999		38.0	6.0	ug/L
Ethylbenzene	GWC-11	9/22/1999		38.0	6.0	ug/L
Ethylbenzene	GWC-11	3/28/2000		43.0	6.0	ug/L
Ethylbenzene	GWC-11	3/28/2000		43.0	6.0	ug/L
Ethylbenzene	GWC-11	10/19/2000		20.0	1.6	ug/L
Ethylbenzene	GWC-11	10/19/2000		18.0	6.0	ug/L
Ethylbenzene	GWC-11	4/10/2001		36.0	1.0	ug/L
Ethylbenzene	GWC-11	4/30/2002		28.0	1.0	ug/L
Ethylbenzene	GWC-11	5/20/2003		18.0	6.0	ug/L
gamma-BHC (Lindane)	GWC-11	10/19/2004		.410	.054	ug/L
gamma-BHC (Lindane)	GWC-11	4/20/2005		.430	.054	ug/L
gamma-BHC (Lindane)	GWC-11	10/20/2005		7.600	.110	ug/L
gamma-BHC (Lindane)	GWC-11	10/20/2005		7.600	.110	ug/L
gamma-BHC (Lindane)	GWC-11	10/24/2006		.680	.050	ug/L
gamma-BHC (Lindane)	GWC-11	11/03/2009		.400	.047	ug/L
gamma-BHC (Lindane)	GWC-11	4/28/2010		.200	.048	ug/L
gamma-BHC (Lindane)	GWC-11	10/27/2010		.810	.480	ug/L
gamma-BHC (Lindane)	GWC-11	4/21/2011		2.700	.480	ug/L
gamma-BHC (Lindane)	GWC-11	10/23/2019		.180	.047	ug/L
Methane	GWC-11	10/20/2015		93	4	ug/L
Methyl Ethyl Ketone	GWC-11	3/16/1998		35.0	10.0	ug/L
Methyl Ethyl Ketone	GWC-11	6/21/1998		120.0	10.0	ug/L
Methyl Ethyl Ketone	GWC-11	3/28/2000		17.0	9.7	ug/L
Methyl Ethyl Ketone	GWC-11	3/28/2000		17.0	9.7	ug/L
Methyl Ethyl Ketone	GWC-11	5/20/2003		80.0	9.7	ug/L
Methyl Isobutyl Ketone	GWC-11	3/16/1998		18.0	8.0	ug/L
Methyl Isobutyl Ketone	GWC-11	6/21/1998		28.0	8.0	ug/L
Methyl Isobutyl Ketone	GWC-11	3/28/2000		9.8	3.0	ug/L
Methyl Isobutyl Ketone	GWC-11	3/28/2000		9.8	3.0	ug/L
Methyl Isobutyl Ketone	GWC-11	5/20/2003		100.0	3.0	ug/L
Methyl Isobutyl Ketone	GWC-11	10/30/2003		42.0	3.0	ug/L
Methyl Isobutyl Ketone	GWC-11	4/25/2006		3.7	3.0	ug/L
Methylene chloride	GWC-11	12/16/1996		45.9	45.9	ug/L
Methylene chloride	GWC-11	3/17/1997		46.3	46.3	ug/L
Methylene chloride	GWC-11	5/02/1997		36.0	4.1	ug/L
Methylene chloride	GWC-11	6/18/1997		48.0	4.1	ug/L
Methylene chloride	GWC-11	8/02/1997		48.0	4.1	ug/L
Methylene chloride	GWC-11	9/13/1997		33.0	4.1	ug/L
Methylene chloride	GWC-11	11/03/1997		24.0	4.1	ug/L
Methylene chloride	GWC-11	3/16/1998		17.0	4.1	ug/L
Methylene chloride	GWC-11	6/21/1998		19.0	4.1	ug/L

Detections are shown for the constituents and sample points selected for the analysis  
The Limit column refers to the laboratory reporting limit

**Table 1****Historical Volatile Organic Compound Detections**

<b>Constituent</b>	<b>Well</b>	<b>Date</b>	<b>Identifier</b>	<b>Result</b>	<b>Limit</b>	<b>Units</b>
Methylene chloride	GWC-11	12/29/1998		25.0	4.1	ug/L
Methylene chloride	GWC-11	3/30/1999		41.0	4.1	ug/L
Methylene chloride	GWC-11	3/30/1999		41.0	4.1	ug/L
Methylene chloride	GWC-11	9/09/1999		22.0	4.1	ug/L
Methylene chloride	GWC-11	9/09/1999		22.0	4.1	ug/L
Methylene chloride	GWC-11	9/22/1999		23.0	4.1	ug/L
Methylene chloride	GWC-11	9/22/1999		23.0	4.1	ug/L
Methylene chloride	GWC-11	3/28/2000		27.0	4.1	ug/L
Methylene chloride	GWC-11	3/28/2000		27.0	4.1	ug/L
Methylene chloride	GWC-11	10/19/2000		13.0	1.6	ug/L
Methylene chloride	GWC-11	10/19/2000		9.5	4.1	ug/L
Methylene chloride	GWC-11	4/10/2001		6.9	1.0	ug/L
Methylene chloride	GWC-11	4/30/2002		9.0	1.0	ug/L
Methylene chloride	GWC-11	5/11/2004		6.1	4.1	ug/L
Styrene	GWC-11	12/16/1996		6.4	6.4	ug/L
Tetrachloroethene	GWC-11	12/16/1996		10.3	10.3	ug/L
Tetrachloroethene	GWC-11	3/17/1997		11.6	11.6	ug/L
Tetrachloroethene	GWC-11	5/02/1997		12.0	1.2	ug/L
Tetrachloroethene	GWC-11	6/18/1997		16.0	1.6	ug/L
Tetrachloroethene	GWC-11	8/02/1997		11.0	1.6	ug/L
Tetrachloroethene	GWC-11	9/13/1997		9.8	1.6	ug/L
Tetrachloroethene	GWC-11	11/03/1997		7.4	1.6	ug/L
Tetrachloroethene	GWC-11	3/16/1998		10.0	1.6	ug/L
Tetrachloroethene	GWC-11	6/21/1998		7.9	1.6	ug/L
Tetrachloroethene	GWC-11	12/29/1998		9.4	1.6	ug/L
Tetrachloroethene	GWC-11	3/30/1999		10.0	1.2	ug/L
Tetrachloroethene	GWC-11	3/30/1999		10.0	1.2	ug/L
Tetrachloroethene	GWC-11	9/09/1999		14.0	1.6	ug/L
Tetrachloroethene	GWC-11	9/09/1999		14.0	1.6	ug/L
Tetrachloroethene	GWC-11	9/22/1999		16.0	1.2	ug/L
Tetrachloroethene	GWC-11	9/22/1999		16.0	1.2	ug/L
Tetrachloroethene	GWC-11	3/28/2000		10.0	1.2	ug/L
Tetrachloroethene	GWC-11	3/28/2000		10.0	1.2	ug/L
Tetrachloroethene	GWC-11	10/19/2000		16.0	1.2	ug/L
Tetrachloroethene	GWC-11	10/19/2000		20.0	1.6	ug/L
Tetrachloroethene	GWC-11	4/10/2001		14.0	1.0	ug/L
Tetrachloroethene	GWC-11	11/14/2001		2.9	1.2	ug/L
Tetrachloroethene	GWC-11	4/30/2002		27.0	1.0	ug/L
Tetrachloroethene	GWC-11	12/10/2002		15.0	1.2	ug/L
Tetrachloroethene	GWC-11	5/20/2003		11.0	1.2	ug/L
Tetrachloroethene	GWC-11	10/30/2003		4.6	1.2	ug/L
Tetrachloroethene	GWC-11	5/11/2004		4.6	1.2	ug/L
Tetrachloroethene	GWC-11	10/19/2004		3.3	1.2	ug/L
Tetrachloroethene	GWC-11	4/20/2005		3.7	1.2	ug/L
Tetrachloroethene	GWC-11	10/20/2005		3.0	1.2	ug/L
Tetrachloroethene	GWC-11	10/20/2005		3.0	1.2	ug/L
Tetrachloroethene	GWC-11	10/24/2006		1.6	1.2	ug/L
Toluene	GWC-11	12/16/1996		21.0	21.0	ug/L
Toluene	GWC-11	3/17/1997		20.0	20.0	ug/L
Toluene	GWC-11	5/02/1997		20.0	2.5	ug/L
Toluene	GWC-11	6/18/1997		22.0	2.5	ug/L
Toluene	GWC-11	8/02/1997		15.0	2.5	ug/L
Toluene	GWC-11	9/13/1997		27.0	2.5	ug/L
Toluene	GWC-11	11/03/1997		27.0	2.5	ug/L
Toluene	GWC-11	3/16/1998		32.0	2.5	ug/L
Toluene	GWC-11	6/21/1998		29.0	2.5	ug/L
Toluene	GWC-11	12/29/1998		10.0	2.5	ug/L
Toluene	GWC-11	3/30/1999		6.9	2.5	ug/L
Toluene	GWC-11	3/30/1999		6.9	2.5	ug/L
Toluene	GWC-11	9/09/1999		8.3	2.5	ug/L
Toluene	GWC-11	9/09/1999		8.3	2.5	ug/L
Toluene	GWC-11	9/22/1999		10.0	2.5	ug/L
Toluene	GWC-11	9/22/1999		10.0	2.5	ug/L
Toluene	GWC-11	3/28/2000		9.6	2.5	ug/L
Toluene	GWC-11	3/28/2000		9.6	2.5	ug/L
Toluene	GWC-11	10/19/2000		3.6	1.6	ug/L
Toluene	GWC-11	10/19/2000		2.8	2.5	ug/L
Toluene	GWC-11	4/10/2001		8.6	1.0	ug/L
Toluene	GWC-11	4/30/2002		4.8	1.0	ug/L
Toluene	GWC-11	5/20/2003		2.5	2.5	ug/L
Total Xylenes	GWC-11	12/16/1996		317	317	ug/L
Total Xylenes	GWC-11	3/17/1997		684	684	ug/L
Total Xylenes	GWC-11	5/02/1997		580	10	ug/L
Total Xylenes	GWC-11	6/18/1997		710	10	ug/L
Total Xylenes	GWC-11	8/02/1997		510	10	ug/L
Total Xylenes	GWC-11	9/13/1997		550	10	ug/L

Detections are shown for the constituents and sample points selected for the analysis  
The Limit column refers to the laboratory reporting limit

**Table 1****Historical Volatile Organic Compound Detections**

<b>Constituent</b>	<b>Well</b>	<b>Date</b>	<b>Identifier</b>	<b>Result</b>	<b>Limit</b>	<b>Units</b>
Total Xylenes	GWC-11	11/03/1997		660	10	ug/L
Total Xylenes	GWC-11	12/17/1997		620	100	ug/L
Total Xylenes	GWC-11	6/21/1998		820	10	ug/L
Total Xylenes	GWC-11	12/29/1998		440	10	ug/L
Total Xylenes	GWC-11	3/30/1999		380	10	ug/L
Total Xylenes	GWC-11	3/30/1999		380	10	ug/L
Total Xylenes	GWC-11	9/09/1999		490	10	ug/L
Total Xylenes	GWC-11	9/09/1999		490	10	ug/L
Total Xylenes	GWC-11	9/22/1999		300	10	ug/L
Total Xylenes	GWC-11	9/22/1999		300	10	ug/L
Total Xylenes	GWC-11	3/28/2000		360	10	ug/L
Total Xylenes	GWC-11	3/28/2000		360	10	ug/L
Total Xylenes	GWC-11	10/19/2000		95	10	ug/L
Total Xylenes	GWC-11	10/19/2000		89	3	ug/L
Total Xylenes	GWC-11	4/10/2001		210	3	ug/L
Total Xylenes	GWC-11	11/14/2001		25	10	ug/L
Total Xylenes	GWC-11	4/30/2002		180	3	ug/L
Total Xylenes	GWC-11	12/10/2002		18	10	ug/L
Total Xylenes	GWC-11	5/20/2003		240	10	ug/L
Total Xylenes	GWC-11	10/30/2003		77	10	ug/L
Total Xylenes	GWC-11	5/11/2004		120	10	ug/L
Total Xylenes	GWC-11	10/19/2004		87	10	ug/L
Total Xylenes	GWC-11	4/20/2005		41	10	ug/L
Total Xylenes	GWC-11	10/20/2005		33	10	ug/L
Total Xylenes	GWC-11	10/20/2005		33	10	ug/L
Total Xylenes	GWC-11	10/20/2005		33	10	ug/L
Total Xylenes	GWC-11	4/23/2019		13	10	ug/L
Total Xylenes	GWC-11	10/23/2019		12	10	ug/L
Trichloroethene	GWC-11	12/16/1996		10.6	10.6	ug/L
Trichloroethene	GWC-11	3/17/1997		12.2	12.2	ug/L
Trichloroethene	GWC-11	5/02/1997		14.0	3.2	ug/L
Trichloroethene	GWC-11	6/18/1997		17.0	3.2	ug/L
Trichloroethene	GWC-11	8/02/1997		12.0	3.2	ug/L
Trichloroethene	GWC-11	9/13/1997		8.0	3.2	ug/L
Trichloroethene	GWC-11	11/03/1997		9.2	3.2	ug/L
Trichloroethene	GWC-11	3/16/1998		11.0	3.2	ug/L
Trichloroethene	GWC-11	6/21/1998		8.2	3.2	ug/L
Trichloroethene	GWC-11	12/29/1998		9.8	3.2	ug/L
Trichloroethene	GWC-11	3/30/1999		11.0	3.2	ug/L
Trichloroethene	GWC-11	3/30/1999		11.0	3.2	ug/L
Trichloroethene	GWC-11	9/09/1999		9.1	3.2	ug/L
Trichloroethene	GWC-11	9/09/1999		9.1	3.2	ug/L
Trichloroethene	GWC-11	9/22/1999		11.0	3.2	ug/L
Trichloroethene	GWC-11	9/22/1999		11.0	3.2	ug/L
Trichloroethene	GWC-11	3/28/2000		9.4	3.2	ug/L
Trichloroethene	GWC-11	3/28/2000		9.4	3.2	ug/L
Trichloroethene	GWC-11	10/19/2000		20.0	3.2	ug/L
Trichloroethene	GWC-11	10/19/2000		19.0	1.6	ug/L
Trichloroethene	GWC-11	4/10/2001		14.0	1.0	ug/L
Trichloroethene	GWC-11	4/30/2002		27.0	1.0	ug/L
Trichloroethene	GWC-11	12/10/2002		16.0	3.2	ug/L
Trichloroethene	GWC-11	5/20/2003		11.0	3.2	ug/L
Trichloroethene	GWC-11	10/30/2003		4.6	3.2	ug/L
Trichloroethene	GWC-11	5/11/2004		4.7	3.2	ug/L
Trichloroethene	GWC-11	10/19/2004		3.2	3.2	ug/L
Vinyl chloride	GWC-11	12/16/1996		9.6	9.6	ug/L
Vinyl chloride	GWC-11	3/17/1997		11.4	11.4	ug/L
Vinyl chloride	GWC-11	5/02/1997		7.5	2.7	ug/L
Vinyl chloride	GWC-11	6/18/1997		5.8	2.7	ug/L
Vinyl chloride	GWC-11	8/02/1997		5.8	2.0	ug/L
Vinyl chloride	GWC-11	9/13/1997		4.6	2.0	ug/L
Vinyl chloride	GWC-11	11/03/1997		2.5	2.7	ug/L
Vinyl chloride	GWC-11	3/16/1998		5.3	2.0	ug/L
Vinyl chloride	GWC-11	6/21/1998		7.1	2.0	ug/L
Vinyl chloride	GWC-11	12/29/1998		3.9	2.0	ug/L
Vinyl chloride	GWC-11	3/30/1999		6.6	2.0	ug/L
Vinyl chloride	GWC-11	3/30/1999		6.6	2.0	ug/L
Vinyl chloride	GWC-11	9/09/1999		3.2	2.0	ug/L
Vinyl chloride	GWC-11	9/09/1999		3.2	2.0	ug/L
Vinyl chloride	GWC-11	9/22/1999		3.3	2.0	ug/L
Vinyl chloride	GWC-11	9/22/1999		3.3	2.0	ug/L
Vinyl chloride	GWC-11	3/28/2000		4.5	2.0	ug/L
Vinyl chloride	GWC-11	3/28/2000		4.5	2.0	ug/L
Vinyl chloride	GWC-11	10/19/2000		4.2	2.0	ug/L
Vinyl chloride	GWC-11	10/19/2000		3.3	1.6	ug/L
Vinyl chloride	GWC-11	4/10/2001		3.3	1.0	ug/L
Vinyl chloride	GWC-11	4/30/2002		2.5	1.0	ug/L

Detections are shown for the constituents and sample points selected for the analysis  
The Limit column refers to the laboratory reporting limit

**Table 1****Historical Volatile Organic Compound Detections**

Constituent	Well	Date	Identifier	Result	Limit	Units
Vinyl chloride	GWC-11	12/10/2002		2.0	2.0	ug/L
Vinyl chloride	GWC-11	5/20/2003		2.1	2.0	ug/L
Vinyl chloride	GWC-11	10/30/2003		3.5	2.0	ug/L
Vinyl chloride	GWC-11	5/11/2004		3.3	2.0	ug/L
Vinyl chloride	GWC-11	4/16/2008		2.2	2.0	ug/L
Vinyl chloride	GWC-11	10/29/2008		3.4	2.0	ug/L
Vinyl chloride	GWC-11	4/29/2009		2.4	2.0	ug/L
Vinyl chloride	GWC-11	10/25/2012		2.0	2.0	ug/L
Vinyl chloride	GWC-11	4/26/2023		2.2	2.0	ug/L
1,4-Dichlorobenzene	GWC-12A	11/12/2001		1.3	1.0	ug/L
4-methylphenol	GWC-13	11/02/2009		25.0	9.4	ug/L
Methyl Ethyl Ketone	GWC-13	4/15/2008		10.0	9.7	ug/L
Methyl Ethyl Ketone	GWC-13	11/02/2009		110.0	9.7	ug/L
Methyl Ethyl Ketone	GWC-13	10/23/2012		7.2	5.0	ug/L
Methyl Ethyl Ketone	GWC-13	4/25/2013		8.8	5.0	ug/L
1,1-Dichloroethane	GWC-1AR	10/20/2000		5.5	2.5	ug/L
1,1-Dichloroethane	GWC-1AR	10/20/2000		3.4	1.0	ug/L
1,1-Dichloroethane	GWC-1AR	4/10/2001		5.4	1.0	ug/L
1,1-Dichloroethane	GWC-1AR	11/14/2001		6.0	2.5	ug/L
1,1-Dichloroethane	GWC-1AR	4/29/2002		2.9	1.0	ug/L
1,1-Dichloroethane	GWC-1AR	5/19/2003		4.5	2.5	ug/L
1,1-Dichloroethane	GWC-1AR	10/29/2003		3.4	2.5	ug/L
1,2-Dichloropropane	GWC-1AR	10/19/2004		2.6	1.4	ug/L
1,4-Dichlorobenzene	GWC-1AR	10/20/2000		3.9	1.0	ug/L
1,4-Dichlorobenzene	GWC-1AR	4/10/2001		4.0	1.0	ug/L
1,4-Dichlorobenzene	GWC-1AR	4/29/2002		2.1	1.0	ug/L
1,4-Dichlorobenzene	GWC-1AR	5/19/2003		10.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-1AR	5/11/2004		13.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-1AR	8/09/2004		10.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-1AR	9/23/2004		11.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-1AR	1/06/2005		11.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-1AR	4/20/2005		13.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-1AR	4/20/2005		13.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-1AR	10/20/2005		12.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-1AR	10/20/2005		12.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-1AR	4/25/2006		8.9	4.3	ug/L
1,4-Dichlorobenzene	GWC-1AR	4/22/2015		4.3	4.3	ug/L
1,4-Dichlorobenzene	GWC-1AR	10/21/2015		11.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-1AR	4/19/2016		6.4	4.3	ug/L
1,4-Dichlorobenzene	GWC-1AR	10/16/2018		6.3	4.3	ug/L
1,4-Dichlorobenzene	GWC-1AR	4/23/2019		4.7	4.3	ug/L
4,4'-DDT	GWC-1AR	11/03/2009		.31	.25	ug/L
Acetic acid	GWC-1AR	9/23/2004		7.3	1.0	mg/L
Acetic acid	GWC-1AR	1/06/2005		3.9	1.0	mg/L
Acetone	GWC-1AR	5/11/2004		460	18	ug/L
Acetone	GWC-1AR	8/09/2004		87	18	ug/L
Acetone	GWC-1AR	9/23/2004		54	18	ug/L
Acetone	GWC-1AR	10/19/2004		96	18	ug/L
Acetone	GWC-1AR	1/06/2005		25	18	ug/L
Acetone	GWC-1AR	4/20/2005		82	18	ug/L
Acetone	GWC-1AR	4/20/2005		83	18	ug/L
Acetophenone	GWC-1AR	10/19/2004		13	10	ug/L
Acetophenone	GWC-1AR	4/20/2005		20	10	ug/L
Acetophenone	GWC-1AR	4/20/2005		20	10	ug/L
Aldrin	GWC-1AR	10/20/2005		.16	.05	ug/L
Aldrin	GWC-1AR	10/20/2005		.16	.05	ug/L
alpha-BHC	GWC-1AR	10/29/2003		1.200	.140	ug/L
alpha-BHC	GWC-1AR	5/11/2004		.079	.050	ug/L
alpha-BHC	GWC-1AR	10/29/2008		.078	.062	ug/L
alpha-BHC	GWC-1AR	11/03/2009		.320	.250	ug/L
Benzene	GWC-1AR	10/20/2000		4.2	3.1	ug/L
Benzene	GWC-1AR	10/20/2000		3.0	1.0	ug/L
Benzene	GWC-1AR	4/10/2001		4.1	1.0	ug/L
Benzene	GWC-1AR	11/14/2001		4.9	3.1	ug/L
Benzene	GWC-1AR	4/29/2002		2.9	1.0	ug/L
Benzene	GWC-1AR	5/19/2003		3.3	3.1	ug/L
Benzene	GWC-1AR	5/11/2004		30.0	3.1	ug/L
Benzene	GWC-1AR	8/09/2004		9.8	3.1	ug/L
Benzene	GWC-1AR	9/23/2004		19.0	3.1	ug/L
Benzene	GWC-1AR	10/19/2004		4.9	3.1	ug/L
Benzene	GWC-1AR	11/03/2009		.23	.20	ug/L
beta-BHC	GWC-1AR	11/03/2009		.69	.25	ug/L
Butyric acid	GWC-1AR	9/23/2004		23.2	1.0	mg/L
Chlorobenzene	GWC-1AR	5/11/2004		2.9	2.5	ug/L
Chlorobenzene	GWC-1AR	10/22/2013		2.5	2.5	ug/L
Chlorobenzene	GWC-1AR	10/21/2015		3.3	2.5	ug/L

Detections are shown for the constituents and sample points selected for the analysis  
The Limit column refers to the laboratory reporting limit

**Table 1****Historical Volatile Organic Compound Detections**

Constituent	Well	Date	Identifier	Result	Limit	Units
Chlorobenzene	GWC-1AR	10/16/2018		3.7	2.5	ug/L
Chlorobenzene	GWC-1AR	4/23/2019		2.7	2.5	ug/L
Chloroethane	GWC-1AR	10/20/2000		2.1	1.0	ug/L
Chloroethane	GWC-1AR	4/10/2001		2.9	1.0	ug/L
Chloroethane	GWC-1AR	4/29/2002		1.7	1.0	ug/L
cis-1,2-Dichloroethene	GWC-1AR	10/20/2000		22.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	10/20/2000		19.0	1.0	ug/L
cis-1,2-Dichloroethene	GWC-1AR	4/10/2001		20.0	1.0	ug/L
cis-1,2-Dichloroethene	GWC-1AR	11/14/2001		21.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	4/29/2002		12.0	1.0	ug/L
cis-1,2-Dichloroethene	GWC-1AR	12/06/2002		7.4	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	5/19/2003		18.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	10/29/2003		16.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	5/11/2004		48.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	8/09/2004		30.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	9/23/2004		33.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	10/19/2004		14.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	1/06/2005		4.9	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	4/20/2005		55.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	4/20/2005		57.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	10/20/2005		5.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	10/20/2005		5.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	10/24/2006		4.8	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	4/17/2007		4.2	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	10/25/2007		3.1	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	10/27/2010		3.5	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	4/21/2011		7.8	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	4/22/2015		4.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	10/16/2018		3.8	2.7	ug/L
cis-1,2-Dichloroethene	GWC-1AR	4/23/2019		3.8	2.7	ug/L
Cresol, m-	GWC-1AR	10/19/2004		73	10	ug/L
Cresol, m-	GWC-1AR	4/20/2005		16	10	ug/L
Cresol, m-	GWC-1AR	4/20/2005		15	10	ug/L
Cresol, p-	GWC-1AR	10/19/2004		79	10	ug/L
Cresol, p-	GWC-1AR	4/20/2005		15	10	ug/L
Cresol, p-	GWC-1AR	4/20/2005		16	10	ug/L
Dichlorodifluoromethane	GWC-1AR	4/10/2001		4.5	1.0	ug/L
Ethylbenzene	GWC-1AR	5/11/2004		73.0	6.0	ug/L
Ethylbenzene	GWC-1AR	8/09/2004		26.0	6.0	ug/L
Ethylbenzene	GWC-1AR	9/23/2004		22.0	6.0	ug/L
Ethylbenzene	GWC-1AR	10/19/2004		9.4	6.0	ug/L
Ethylbenzene	GWC-1AR	1/06/2005		6.6	6.0	ug/L
Fluorene	GWC-1AR	10/19/2004		40	10	ug/L
Fluorene	GWC-1AR	4/20/2005		30	10	ug/L
Fluorene	GWC-1AR	4/20/2005		30	10	ug/L
gamma-BHC (Lindane)	GWC-1AR	10/29/2003		.570	.150	ug/L
gamma-BHC (Lindane)	GWC-1AR	10/19/2004		.090	.050	ug/L
gamma-BHC (Lindane)	GWC-1AR	10/24/2006		.250	.050	ug/L
gamma-BHC (Lindane)	GWC-1AR	10/25/2007		.100	.050	ug/L
gamma-BHC (Lindane)	GWC-1AR	10/29/2008		.380	.057	ug/L
gamma-BHC (Lindane)	GWC-1AR	10/27/2010		.060	.048	ug/L
Methyl Ethyl Ketone	GWC-1AR	5/11/2004		98.0	11.0	ug/L
Methyl Ethyl Ketone	GWC-1AR	8/09/2004		63.0	9.7	ug/L
Methyl Ethyl Ketone	GWC-1AR	9/23/2004		94.0	11.0	ug/L
Methyl Ethyl Ketone	GWC-1AR	10/19/2004		600.0	14.0	ug/L
Methyl Ethyl Ketone	GWC-1AR	1/06/2005		15.0	11.0	ug/L
Methyl Ethyl Ketone	GWC-1AR	4/20/2005		64.0	9.7	ug/L
Methyl Ethyl Ketone	GWC-1AR	4/20/2005		65.0	9.7	ug/L
Methyl Isobutyl Ketone	GWC-1AR	8/09/2004		25.0	3.0	ug/L
Methyl Isobutyl Ketone	GWC-1AR	10/19/2004		6.6	3.0	ug/L
Methyl Isobutyl Ketone	GWC-1AR	4/20/2005		12.0	3.0	ug/L
Methyl Isobutyl Ketone	GWC-1AR	4/20/2005		12.0	3.0	ug/L
Methylene chloride	GWC-1AR	10/20/2000		16.0	4.1	ug/L
Methylene chloride	GWC-1AR	10/20/2000		14.0	1.0	ug/L
Methylene chloride	GWC-1AR	4/10/2001		15.0	1.0	ug/L
Methylene chloride	GWC-1AR	11/14/2001		13.0	4.1	ug/L
Methylene chloride	GWC-1AR	4/29/2002		6.3	1.0	ug/L
Methylene chloride	GWC-1AR	12/06/2002		5.3	4.1	ug/L
Methylene chloride	GWC-1AR	5/19/2003		14.0	4.1	ug/L
Methylene chloride	GWC-1AR	10/29/2003		9.8	4.1	ug/L
Methylene chloride	GWC-1AR	5/11/2004		6.5	4.1	ug/L
Propionic acid	GWC-1AR	9/23/2004		49.7	1.0	mg/L
Propionic acid	GWC-1AR	1/06/2005		4.3	1.0	mg/L
Tetrachloroethene	GWC-1AR	10/20/2000		19.0	1.2	ug/L
Tetrachloroethene	GWC-1AR	10/20/2000		20.0	1.0	ug/L
Tetrachloroethene	GWC-1AR	4/10/2001		20.0	1.0	ug/L

Detections are shown for the constituents and sample points selected for the analysis  
The Limit column refers to the laboratory reporting limit

**Table 1****Historical Volatile Organic Compound Detections**

Constituent	Well	Date	Identifier	Result	Limit	Units
Tetrachloroethene	GWC-1AR	11/14/2001		22.0	1.2	ug/L
Tetrachloroethene	GWC-1AR	4/29/2002		25.0	1.0	ug/L
Tetrachloroethene	GWC-1AR	12/06/2002		18.0	1.2	ug/L
Tetrachloroethene	GWC-1AR	5/19/2003		24.0	1.2	ug/L
Tetrachloroethene	GWC-1AR	10/29/2003		15.0	1.2	ug/L
Tetrachloroethene	GWC-1AR	10/24/2006		1.2	1.2	ug/L
Toluene	GWC-1AR	5/11/2004		19.0	2.5	ug/L
Toluene	GWC-1AR	8/09/2004		5.9	2.5	ug/L
Toluene	GWC-1AR	9/23/2004		8.5	2.5	ug/L
Toluene	GWC-1AR	10/19/2004		2.6	2.5	ug/L
Toluene	GWC-1AR	1/06/2005		2.9	2.5	ug/L
Toluene	GWC-1AR	4/20/2005		3.2	2.5	ug/L
Toluene	GWC-1AR	4/20/2005		3.1	2.5	ug/L
Total Xylenes	GWC-1AR	10/20/2000		6.3	3.0	ug/L
Total Xylenes	GWC-1AR	4/10/2001		5.2	3.0	ug/L
Total Xylenes	GWC-1AR	5/11/2004		35.0	10.0	ug/L
Total Xylenes	GWC-1AR	8/09/2004		22.0	10.0	ug/L
Total Xylenes	GWC-1AR	9/23/2004		16.0	10.0	ug/L
Total Xylenes	GWC-1AR	10/19/2004		15.0	10.0	ug/L
Total Xylenes	GWC-1AR	1/06/2005		12.0	10.0	ug/L
Trichloroethene	GWC-1AR	10/20/2000		18.0	3.2	ug/L
Trichloroethene	GWC-1AR	10/20/2000		16.0	1.0	ug/L
Trichloroethene	GWC-1AR	4/10/2001		18.0	1.0	ug/L
Trichloroethene	GWC-1AR	11/14/2001		21.0	3.2	ug/L
Trichloroethene	GWC-1AR	4/29/2002		17.0	1.0	ug/L
Trichloroethene	GWC-1AR	12/06/2002		13.0	3.2	ug/L
Trichloroethene	GWC-1AR	5/19/2003		20.0	3.2	ug/L
Trichloroethene	GWC-1AR	10/29/2003		10.0	3.2	ug/L
Trichloroethene	GWC-1AR	4/20/2005		5.6	3.2	ug/L
Trichloroethene	GWC-1AR	4/20/2005		5.5	3.2	ug/L
Trichloroethene	GWC-1AR	11/03/2009		4.2	3.2	ug/L
Trichloroethene	GWC-1AR	4/28/2010		3.9	3.2	ug/L
Vinyl chloride	GWC-1AR	10/20/2000		2.4	2.0	ug/L
Vinyl chloride	GWC-1AR	10/20/2000		2.6	1.0	ug/L
Vinyl chloride	GWC-1AR	4/10/2001		2.8	1.0	ug/L
Vinyl chloride	GWC-1AR	11/14/2001		2.5	2.0	ug/L
Vinyl chloride	GWC-1AR	4/29/2002		1.4	1.0	ug/L
Vinyl chloride	GWC-1AR	10/20/2005		2.6	2.0	ug/L
Vinyl chloride	GWC-1AR	10/20/2005		2.6	2.0	ug/L
Vinyl chloride	GWC-1AR	4/25/2006		2.0	2.0	ug/L
Vinyl chloride	GWC-1AR	10/24/2006		2.2	2.0	ug/L
Acetone	GWC-2A	10/21/2014		20	20	ug/L
Acetone	GWC-2A	4/20/2016		26	20	ug/L
Bis(2-ethylhexyl) phthalate	GWC-2RA	11/03/2009		13.0	4.8	ug/L
cis-1,2-Dichloroethene	GWC-2RA	5/02/1997		5.8	2.7	ug/L
cis-1,2-Dichloroethene	GWC-2RA	6/18/1997		11.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-2RA	8/02/1997		5.6	2.7	ug/L
cis-1,2-Dichloroethene	GWC-2RA	9/13/1997		5.8	2.7	ug/L
cis-1,2-Dichloroethene	GWC-2RA	11/02/1997		6.3	2.7	ug/L
cis-1,2-Dichloroethene	GWC-2RA	12/17/1997		4.7	2.7	ug/L
cis-1,2-Dichloroethene	GWC-2RA	3/16/1998		4.1	2.7	ug/L
cis-1,2-Dichloroethene	GWC-2RA	6/21/1998		4.3	2.7	ug/L
cis-1,2-Dichloroethene	GWC-2RA	12/02/1998		4.8	2.7	ug/L
cis-1,2-Dichloroethene	GWC-2RA	12/02/1998		4.8	2.7	ug/L
cis-1,2-Dichloroethene	GWC-2RA	3/30/1999		5.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-2RA	3/30/1999		5.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-2RA	9/09/1999		3.7	2.7	ug/L
cis-1,2-Dichloroethene	GWC-2RA	9/09/1999		3.7	2.7	ug/L
cis-1,2-Dichloroethene	GWC-2RA	9/21/1999		3.7	2.7	ug/L
cis-1,2-Dichloroethene	GWC-2RA	9/21/1999		3.7	2.7	ug/L
cis-1,2-Dichloroethene	GWC-2RA	3/29/2000		3.3	2.7	ug/L
cis-1,2-Dichloroethene	GWC-2RA	10/18/2000		1.9	1.0	ug/L
cis-1,2-Dichloroethene	GWC-2RA	4/17/2001		1.4	1.0	ug/L
Dichlorodifluoromethane	GWC-2RA	11/02/1997		8.9	6.5	ug/L
Dichlorodifluoromethane	GWC-2RA	6/21/1998		3.2	1.0	ug/L
Dichlorodifluoromethane	GWC-2RA	12/02/1998		3.0	1.0	ug/L
Dichlorodifluoromethane	GWC-2RA	12/02/1998		3.0	1.0	ug/L
Dichlorodifluoromethane	GWC-2RA	3/30/1999		3.3	1.0	ug/L
Dichlorodifluoromethane	GWC-2RA	3/30/1999		3.3	1.0	ug/L
Dichlorodifluoromethane	GWC-2RA	9/09/1999		4.1	1.0	ug/L
Dichlorodifluoromethane	GWC-2RA	9/09/1999		4.1	1.0	ug/L
Dichlorodifluoromethane	GWC-2RA	3/29/2000		2.1	1.0	ug/L
Dichlorodifluoromethane	GWC-2RA	4/17/2001		1.2	1.0	ug/L
Toluene	GWC-2RA	10/24/2019		2.5	2.5	ug/L
Toluene	GWC-2RA	10/20/2020		14.4	5.0	ug/L
Vinyl chloride	GWC-2RA	12/16/1996		4.9	4.9	ug/L

Detections are shown for the constituents and sample points selected for the analysis  
The Limit column refers to the laboratory reporting limit

**Table 1****Historical Volatile Organic Compound Detections**

Constituent	Well	Date	Identifier	Result	Limit	Units
Vinyl chloride	GWC-2RA	3/17/1997		9.3	9.3	ug/L
Vinyl chloride	GWC-2RA	5/02/1997		5.2	2.7	ug/L
Vinyl chloride	GWC-2RA	6/18/1997		4.8	2.7	ug/L
Vinyl chloride	GWC-2RA	8/02/1997		5.8	2.0	ug/L
Vinyl chloride	GWC-2RA	9/13/1997		5.2	2.0	ug/L
Vinyl chloride	GWC-2RA	11/02/1997		6.3	2.7	ug/L
Vinyl chloride	GWC-2RA	12/17/1997		5.5	2.0	ug/L
Vinyl chloride	GWC-2RA	3/16/1998		4.5	2.0	ug/L
Vinyl chloride	GWC-2RA	6/21/1998		5.2	2.0	ug/L
Vinyl chloride	GWC-2RA	12/02/1998		2.8	2.0	ug/L
Vinyl chloride	GWC-2RA	12/02/1998		2.8	2.0	ug/L
Vinyl chloride	GWC-2RA	3/30/1999		2.7	2.0	ug/L
Vinyl chloride	GWC-2RA	3/30/1999		2.7	2.0	ug/L
Vinyl chloride	GWC-2RA	9/09/1999		2.0	2.0	ug/L
Vinyl chloride	GWC-2RA	9/09/1999		2.0	2.0	ug/L
Vinyl chloride	GWC-2RA	10/18/2000		1.1	1.0	ug/L
Vinyl chloride	GWC-2RA	4/17/2001		1.2	1.0	ug/L
Naphthalene	GWC-3A	11/02/1997		12	10	ug/L
1,1-Dichloroethane	GWC-5A	12/16/1996		6.8	6.8	ug/L
1,1-Dichloroethane	GWC-5A	5/02/1997		4.6	2.5	ug/L
1,1-Dichloroethane	GWC-5A	6/18/1997		7.1	2.5	ug/L
1,1-Dichloroethane	GWC-5A	8/02/1997		5.3	2.5	ug/L
1,1-Dichloroethane	GWC-5A	9/13/1997		4.2	2.5	ug/L
1,1-Dichloroethane	GWC-5A	11/03/1997		5.3	2.5	ug/L
1,1-Dichloroethane	GWC-5A	12/17/1997		5.4	2.5	ug/L
1,1-Dichloroethane	GWC-5A	3/16/1998		4.5	2.5	ug/L
1,1-Dichloroethane	GWC-5A	6/21/1998		5.4	2.5	ug/L
1,1-Dichloroethane	GWC-5A	12/02/1998		7.7	2.5	ug/L
1,1-Dichloroethane	GWC-5A	12/02/1998		7.7	2.5	ug/L
1,1-Dichloroethane	GWC-5A	3/30/1999		11.0	2.5	ug/L
1,1-Dichloroethane	GWC-5A	3/30/1999		11.0	2.5	ug/L
1,1-Dichloroethane	GWC-5A	9/09/1999		8.1	2.5	ug/L
1,1-Dichloroethane	GWC-5A	9/09/1999		8.1	2.5	ug/L
1,1-Dichloroethane	GWC-5A	9/22/1999		8.8	2.5	ug/L
1,1-Dichloroethane	GWC-5A	9/22/1999		8.8	2.5	ug/L
1,1-Dichloroethane	GWC-5A	3/28/2000		9.8	2.5	ug/L
1,1-Dichloroethane	GWC-5A	3/28/2000		9.8	2.5	ug/L
1,1-Dichloroethane	GWC-5A	10/19/2000		9.3	1.0	ug/L
1,1-Dichloroethane	GWC-5A	10/19/2000		12.0	2.5	ug/L
1,1-Dichloroethane	GWC-5A	4/17/2001		6.5	1.0	ug/L
1,1-Dichloroethane	GWC-5A	11/14/2001		11.0	2.5	ug/L
1,1-Dichloroethane	GWC-5A	4/30/2002		7.0	1.0	ug/L
1,1-Dichloroethane	GWC-5A	12/09/2002		8.2	2.5	ug/L
1,1-Dichloroethane	GWC-5A	5/21/2003		4.2	2.5	ug/L
1,1-Dichloroethane	GWC-5A	10/31/2003		7.1	2.5	ug/L
1,1-Dichloroethane	GWC-5A	5/12/2004		7.4	2.5	ug/L
1,1-Dichloroethane	GWC-5A	10/19/2004		8.5	2.5	ug/L
1,1-Dichloroethane	GWC-5A	4/21/2005		7.8	2.5	ug/L
1,1-Dichloroethane	GWC-5A	10/18/2005		14.0	2.5	ug/L
1,1-Dichloroethane	GWC-5A	4/27/2006		10.0	2.5	ug/L
1,1-Dichloroethane	GWC-5A	10/19/2006		15.0	2.5	ug/L
1,1-Dichloroethane	GWC-5A	4/19/2007		9.0	2.5	ug/L
1,1-Dichloroethane	GWC-5A	10/26/2007		9.5	2.5	ug/L
1,1-Dichloroethane	GWC-5A	4/17/2008		9.9	2.5	ug/L
1,1-Dichloroethane	GWC-5A	10/30/2008		9.6	2.5	ug/L
1,1-Dichloroethane	GWC-5A	4/30/2009		9.6	2.5	ug/L
1,1-Dichloroethane	GWC-5A	11/03/2009		9.8	2.4	ug/L
1,1-Dichloroethane	GWC-5A	4/29/2010		6.7	2.4	ug/L
1,1-Dichloroethane	GWC-5A	10/29/2010		12.0	2.4	ug/L
1,1-Dichloroethane	GWC-5A	4/21/2011		11.0	2.4	ug/L
1,1-Dichloroethane	GWC-5A	10/11/2011		15.0	2.4	ug/L
1,1-Dichloroethane	GWC-5A	4/20/2012		15.0	2.4	ug/L
1,1-Dichloroethane	GWC-5A	10/25/2012		12.0	2.4	ug/L
1,1-Dichloroethane	GWC-5A	4/24/2013		12.0	2.4	ug/L
1,1-Dichloroethane	GWC-5A	10/22/2013		14.0	2.4	ug/L
1,1-Dichloroethane	GWC-5A	4/23/2014		13.0	2.4	ug/L
1,1-Dichloroethane	GWC-5A	10/20/2014		9.6	2.4	ug/L
1,1-Dichloroethane	GWC-5A	4/21/2015		11.0	2.4	ug/L
1,1-Dichloroethane	GWC-5A	10/21/2015		8.7	2.4	ug/L
1,1-Dichloroethane	GWC-5A	4/19/2016		8.2	2.4	ug/L
1,1-Dichloroethane	GWC-5A	10/14/2016		7.2	2.4	ug/L
1,1-Dichloroethane	GWC-5A	4/26/2017		7.0	2.4	ug/L
1,1-Dichloroethane	GWC-5A	10/18/2017		6.3	2.4	ug/L
1,1-Dichloroethane	GWC-5A	4/18/2018		5.2	2.4	ug/L
1,1-Dichloroethane	GWC-5A	10/17/2018		4.2	2.4	ug/L
1,1-Dichloroethane	GWC-5A	4/25/2019		4.5	2.4	ug/L

Detections are shown for the constituents and sample points selected for the analysis  
The Limit column refers to the laboratory reporting limit

**Table 1****Historical Volatile Organic Compound Detections**

Constituent	Well	Date	Identifier	Result	Limit	Units
1,1-Dichloroethane	GWC-5A	10/23/2019		3.5	2.4	ug/L
1,1-Dichloroethane	GWC-5A	4/29/2020		3.4	2.0	ug/L
1,1-Dichloroethane	GWC-5A	4/22/2021		2.1	2.0	ug/L
1,2-Dichloropropane	GWC-5A	10/18/2005		2.0	1.4	ug/L
1,2-Dichloropropane	GWC-5A	4/27/2006		1.7	1.4	ug/L
1,2-Dichloropropane	GWC-5A	10/19/2006		2.8	1.4	ug/L
1,2-Dichloropropane	GWC-5A	4/19/2007		1.9	1.4	ug/L
1,2-Dichloropropane	GWC-5A	10/26/2007		2.2	1.4	ug/L
1,2-Dichloropropane	GWC-5A	4/17/2008		2.2	1.4	ug/L
1,2-Dichloropropane	GWC-5A	10/30/2008		2.3	1.4	ug/L
1,2-Dichloropropane	GWC-5A	4/30/2009		2.7	1.4	ug/L
1,2-Dichloropropane	GWC-5A	11/03/2009		2.5	1.4	ug/L
1,2-Dichloropropane	GWC-5A	4/29/2010		1.5	1.4	ug/L
1,2-Dichloropropane	GWC-5A	10/29/2010		3.1	1.4	ug/L
1,2-Dichloropropane	GWC-5A	4/21/2011		2.9	1.4	ug/L
1,2-Dichloropropane	GWC-5A	10/11/2011		3.1	1.4	ug/L
1,2-Dichloropropane	GWC-5A	4/20/2012		2.8	1.4	ug/L
1,2-Dichloropropane	GWC-5A	10/25/2012		2.0	1.4	ug/L
1,2-Dichloropropane	GWC-5A	4/24/2013		2.4	1.4	ug/L
1,2-Dichloropropane	GWC-5A	10/22/2013		2.8	1.4	ug/L
1,2-Dichloropropane	GWC-5A	4/23/2014		2.3	1.4	ug/L
1,2-Dichloropropane	GWC-5A	10/20/2014		1.7	1.4	ug/L
1,2-Dichloropropane	GWC-5A	4/21/2015		2.0	1.4	ug/L
1,2-Dichloropropane	GWC-5A	10/21/2015		1.6	1.4	ug/L
1,2-Dichloropropane	GWC-5A	4/19/2016		1.7	1.4	ug/L
1,4-Dichlorobenzene	GWC-5A	3/30/1999		4.4	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	3/30/1999		4.4	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	10/19/2000		4.0	1.0	ug/L
1,4-Dichlorobenzene	GWC-5A	4/17/2001		4.1	1.0	ug/L
1,4-Dichlorobenzene	GWC-5A	4/30/2002		4.8	1.0	ug/L
1,4-Dichlorobenzene	GWC-5A	5/21/2003		4.3	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	5/12/2004		6.5	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	10/18/2005		5.3	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	4/27/2006		5.7	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	10/19/2006		7.9	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	4/19/2007		4.5	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	4/21/2011		5.7	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	10/11/2011		8.1	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	4/20/2012		9.9	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	10/25/2012		12.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	4/24/2013		5.9	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	10/22/2013		7.5	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	4/23/2014		7.6	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	10/20/2014		11.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	4/21/2015		7.4	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	10/21/2015		8.1	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	4/19/2016		5.6	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	10/14/2016		10.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	4/26/2017		10.0	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	10/18/2017		9.9	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	4/18/2018		8.5	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	10/17/2018		7.5	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	4/25/2019		6.3	4.3	ug/L
1,4-Dichlorobenzene	GWC-5A	10/23/2019		11.0	4.3	ug/L
2,4-D	GWC-5A	10/26/2007		.8	.5	ug/L
alpha-BHC	GWC-5A	11/14/2001		.073	.050	ug/L
alpha-BHC	GWC-5A	10/31/2003		.110	.050	ug/L
alpha-BHC	GWC-5A	5/12/2004		.090	.050	ug/L
alpha-BHC	GWC-5A	10/18/2005		.140	.050	ug/L
alpha-BHC	GWC-5A	10/19/2006		.065	.050	ug/L
alpha-BHC	GWC-5A	10/29/2010		.056	.048	ug/L
Benzene	GWC-5A	12/02/1998		5.1	3.1	ug/L
Benzene	GWC-5A	12/02/1998		5.1	3.1	ug/L
Benzene	GWC-5A	3/30/1999		5.3	3.1	ug/L
Benzene	GWC-5A	3/30/1999		5.3	3.1	ug/L
Benzene	GWC-5A	9/09/1999		5.0	3.1	ug/L
Benzene	GWC-5A	9/09/1999		5.0	3.1	ug/L
Benzene	GWC-5A	9/22/1999		5.4	3.1	ug/L
Benzene	GWC-5A	9/22/1999		5.4	3.1	ug/L
Benzene	GWC-5A	3/28/2000		4.5	3.1	ug/L
Benzene	GWC-5A	3/28/2000		4.5	3.1	ug/L
Benzene	GWC-5A	10/19/2000		4.0	1.0	ug/L
Benzene	GWC-5A	10/19/2000		4.0	3.1	ug/L
Benzene	GWC-5A	4/17/2001		3.3	1.0	ug/L
Benzene	GWC-5A	11/14/2001		5.6	3.1	ug/L
Benzene	GWC-5A	4/30/2002		3.9	1.0	ug/L

Detections are shown for the constituents and sample points selected for the analysis  
The Limit column refers to the laboratory reporting limit

**Table 1****Historical Volatile Organic Compound Detections**

Constituent	Well	Date	Identifier	Result	Limit	Units
Benzene	GWC-5A	12/09/2002		4.5	3.1	ug/L
Benzene	GWC-5A	10/31/2003		3.2	3.1	ug/L
Benzene	GWC-5A	5/12/2004		5.2	3.1	ug/L
Benzene	GWC-5A	10/19/2004		4.8	3.1	ug/L
Benzene	GWC-5A	4/21/2005		7.1	3.1	ug/L
Benzene	GWC-5A	10/18/2005		9.1	3.1	ug/L
Benzene	GWC-5A	4/27/2006		7.1	3.1	ug/L
Benzene	GWC-5A	10/19/2006		5.9	3.1	ug/L
Benzene	GWC-5A	4/19/2007		5.6	3.1	ug/L
Benzene	GWC-5A	10/26/2007		3.1	3.1	ug/L
Benzene	GWC-5A	4/17/2008		3.1	3.1	ug/L
Benzo(a)pyrene	GWC-5A	11/03/2009		.22	.19	ug/L
beta-BHC	GWC-5A	11/03/2009		.170	.048	ug/L
Chlorobenzene	GWC-5A	10/25/2012		2.5	2.5	ug/L
Chlorobenzene	GWC-5A	10/14/2016		2.5	2.5	ug/L
Chlorobenzene	GWC-5A	4/26/2017		2.8	2.5	ug/L
Chlorobenzene	GWC-5A	10/18/2017		3.2	2.5	ug/L
Chlorobenzene	GWC-5A	4/18/2018		2.6	2.5	ug/L
Chlorobenzene	GWC-5A	10/23/2019		3.7	2.5	ug/L
Chlorobenzene	GWC-5A	4/29/2020		3.4	2.0	ug/L
Chlorobenzene	GWC-5A	10/20/2020		4.0	2.0	ug/L
Chlorobenzene	GWC-5A	4/22/2021		2.7	2.0	ug/L
Chlorobenzene	GWC-5A	10/20/2021		3.0	2.0	ug/L
Chlorobenzene	GWC-5A	4/25/2022		2.4	2.0	ug/L
Chlorobenzene	GWC-5A	11/02/2022		3.4	2.0	ug/L
Chlorobenzene	GWC-5A	4/26/2023		2.4	2.0	ug/L
Chlorobenzene	GWC-5A	10/25/2023		3.4	2.0	ug/L
Chlorobenzene	GWC-5A	4/23/2024		2.8	2.0	ug/L
Chlorobenzene	GWC-5A	10/28/2024		3.1	2.0	ug/L
cis-1,2-Dichloroethene	GWC-5A	12/16/1996		14.4	14.4	ug/L
cis-1,2-Dichloroethene	GWC-5A	3/17/1997		9.0	9.0	ug/L
cis-1,2-Dichloroethene	GWC-5A	5/02/1997		8.7	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	6/18/1997		15.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	8/02/1997		11.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	9/13/1997		8.8	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	11/03/1997		12.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	12/17/1997		14.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	3/16/1998		10.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	6/21/1998		12.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	12/02/1998		22.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	12/02/1998		22.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	3/30/1999		34.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	3/30/1999		34.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	9/09/1999		26.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	9/09/1999		26.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	9/22/1999		28.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	9/22/1999		28.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	3/28/2000		26.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	3/28/2000		26.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	10/19/2000		22.0	1.0	ug/L
cis-1,2-Dichloroethene	GWC-5A	10/19/2000		22.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/17/2001		17.0	1.0	ug/L
cis-1,2-Dichloroethene	GWC-5A	11/14/2001		31.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/30/2002		20.0	1.0	ug/L
cis-1,2-Dichloroethene	GWC-5A	12/09/2002		18.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	5/21/2003		7.5	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	10/31/2003		16.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	5/12/2004		20.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	10/19/2004		25.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/21/2005		24.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	10/18/2005		40.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/27/2006		33.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	10/19/2006		49.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/19/2007		32.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	10/26/2007		43.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/17/2008		48.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	10/30/2008		58.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/30/2009		58.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	11/03/2009		67.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/29/2010		35.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	10/29/2010		82.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/21/2011		66.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	10/11/2011		81.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/20/2012		89.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	10/25/2012		47.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/24/2013		74.0	2.7	ug/L

Detections are shown for the constituents and sample points selected for the analysis  
The Limit column refers to the laboratory reporting limit

**Table 1****Historical Volatile Organic Compound Detections**

<b>Constituent</b>	<b>Well</b>	<b>Date</b>	<b>Identifier</b>	<b>Result</b>	<b>Limit</b>	<b>Units</b>
cis-1,2-Dichloroethene	GWC-5A	10/22/2013		84.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/23/2014		74.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	10/20/2014		60.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/21/2015		76.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	10/21/2015		53.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/19/2016		57.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	10/14/2016		35.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/26/2017		39.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	10/18/2017		30.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/18/2018		29.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	10/17/2018		22.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/25/2019		27.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	10/23/2019		13.0	2.7	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/29/2020		17.0	10.0	ug/L
cis-1,2-Dichloroethene	GWC-5A	4/22/2021		10.8	10.0	ug/L
delta-BHC	GWC-5A	11/14/2001		.066	.050	ug/L
delta-BHC	GWC-5A	10/31/2003		.061	.050	ug/L
delta-BHC	GWC-5A	10/18/2005		.058	.050	ug/L
delta-BHC	GWC-5A	10/29/2010		.097	.048	ug/L
Dichlorodifluoromethane	GWC-5A	11/03/1997		30.0	6.5	ug/L
Dichlorodifluoromethane	GWC-5A	12/17/1997		29.0	6.5	ug/L
Dichlorodifluoromethane	GWC-5A	3/16/1998		22.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	6/21/1998		22.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	12/02/1998		23.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	12/02/1998		23.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	3/30/1999		27.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	3/30/1999		27.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	9/09/1999		32.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	9/09/1999		32.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	9/22/1999		34.0	6.5	ug/L
Dichlorodifluoromethane	GWC-5A	9/22/1999		34.0	6.5	ug/L
Dichlorodifluoromethane	GWC-5A	3/28/2000		22.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	3/28/2000		22.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	10/19/2000		19.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	10/19/2000		39.0	6.5	ug/L
Dichlorodifluoromethane	GWC-5A	4/17/2001		17.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	4/17/2001		22.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	11/14/2001		32.0	6.5	ug/L
Dichlorodifluoromethane	GWC-5A	12/09/2002		25.0	6.5	ug/L
Dichlorodifluoromethane	GWC-5A	5/21/2003		16.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	10/31/2003		20.0	6.5	ug/L
Dichlorodifluoromethane	GWC-5A	5/12/2004		23.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	10/19/2004		17.0	6.5	ug/L
Dichlorodifluoromethane	GWC-5A	4/21/2005		18.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	10/18/2005		25.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	4/27/2006		14.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	10/19/2006		31.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	4/19/2007		11.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	10/26/2007		9.1	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	4/17/2008		8.5	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	10/30/2008		5.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	4/30/2009		4.6	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	11/03/2009		3.3	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	4/29/2010		2.5	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	10/29/2010		1.8	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	4/21/2011		2.0	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	4/20/2012		1.1	1.0	ug/L
Dichlorodifluoromethane	GWC-5A	4/24/2013		1.4	1.0	ug/L
Dieldrin	GWC-5A	10/18/2005		.072	.050	ug/L
Di-n-butyl phthalate	GWC-5A	10/18/2005		11	10	ug/L
Endosulfan I	GWC-5A	10/31/2003		.14	.05	ug/L
Endosulfan II	GWC-5A	10/31/2003		.10	.05	ug/L
Endrin aldehyde	GWC-5A	10/31/2003		.11	.05	ug/L
Endrin aldehyde	GWC-5A	5/12/2004		.08	.05	ug/L
gamma-BHC (Lindane)	GWC-5A	10/29/2010		.055	.048	ug/L
Methane	GWC-5A	10/21/2015		560	80	ug/L
Naphthalene	GWC-5A	11/03/1997		21	10	ug/L
Tetrachloroethene	GWC-5A	12/16/1996		24.2	24.2	ug/L
Tetrachloroethene	GWC-5A	3/17/1997		20.3	20.3	ug/L
Tetrachloroethene	GWC-5A	5/02/1997		16.0	1.2	ug/L
Tetrachloroethene	GWC-5A	6/18/1997		22.0	1.2	ug/L
Tetrachloroethene	GWC-5A	8/02/1997		11.0	1.2	ug/L
Tetrachloroethene	GWC-5A	9/13/1997		19.0	1.2	ug/L
Tetrachloroethene	GWC-5A	11/03/1997		17.0	1.2	ug/L
Tetrachloroethene	GWC-5A	12/17/1997		22.0	1.2	ug/L
Tetrachloroethene	GWC-5A	3/16/1998		17.0	1.2	ug/L

Detections are shown for the constituents and sample points selected for the analysis  
The Limit column refers to the laboratory reporting limit

**Table 1****Historical Volatile Organic Compound Detections**

Constituent	Well	Date	Identifier	Result	Limit	Units
Tetrachloroethene	GWC-5A	6/21/1998		16.0	1.2	ug/L
Tetrachloroethene	GWC-5A	12/02/1998		19.0	1.2	ug/L
Tetrachloroethene	GWC-5A	12/02/1998		19.0	1.2	ug/L
Tetrachloroethene	GWC-5A	3/30/1999		25.0	1.2	ug/L
Tetrachloroethene	GWC-5A	3/30/1999		25.0	1.2	ug/L
Tetrachloroethene	GWC-5A	9/09/1999		26.0	1.2	ug/L
Tetrachloroethene	GWC-5A	9/09/1999		26.0	1.2	ug/L
Tetrachloroethene	GWC-5A	9/22/1999		30.0	1.2	ug/L
Tetrachloroethene	GWC-5A	9/22/1999		30.0	1.2	ug/L
Tetrachloroethene	GWC-5A	3/28/2000		29.0	1.2	ug/L
Tetrachloroethene	GWC-5A	3/28/2000		29.0	1.2	ug/L
Tetrachloroethene	GWC-5A	10/19/2000		24.0	1.0	ug/L
Tetrachloroethene	GWC-5A	10/19/2000		22.0	1.2	ug/L
Tetrachloroethene	GWC-5A	4/17/2001		20.0	1.0	ug/L
Tetrachloroethene	GWC-5A	11/14/2001		25.0	1.2	ug/L
Tetrachloroethene	GWC-5A	4/30/2002		24.0	1.0	ug/L
Tetrachloroethene	GWC-5A	12/09/2002		22.0	1.2	ug/L
Tetrachloroethene	GWC-5A	5/21/2003		9.1	1.2	ug/L
Tetrachloroethene	GWC-5A	10/31/2003		15.0	1.2	ug/L
Tetrachloroethene	GWC-5A	5/12/2004		29.0	1.2	ug/L
Tetrachloroethene	GWC-5A	10/19/2004		22.0	1.2	ug/L
Tetrachloroethene	GWC-5A	4/21/2005		25.0	1.2	ug/L
Tetrachloroethene	GWC-5A	10/18/2005		36.0	1.2	ug/L
Tetrachloroethene	GWC-5A	4/27/2006		32.0	1.2	ug/L
Tetrachloroethene	GWC-5A	10/19/2006		40.0	1.2	ug/L
Tetrachloroethene	GWC-5A	4/19/2007		31.0	1.2	ug/L
Tetrachloroethene	GWC-5A	10/26/2007		28.0	1.2	ug/L
Tetrachloroethene	GWC-5A	4/17/2008		29.0	1.2	ug/L
Tetrachloroethene	GWC-5A	10/30/2008		19.0	1.2	ug/L
Tetrachloroethene	GWC-5A	4/30/2009		25.0	1.2	ug/L
Tetrachloroethene	GWC-5A	11/03/2009		17.0	1.2	ug/L
Tetrachloroethene	GWC-5A	4/29/2010		16.0	1.2	ug/L
Tetrachloroethene	GWC-5A	10/29/2010		13.0	1.2	ug/L
Tetrachloroethene	GWC-5A	4/21/2011		16.0	1.2	ug/L
Tetrachloroethene	GWC-5A	10/11/2011		9.3	1.2	ug/L
Tetrachloroethene	GWC-5A	4/20/2012		8.4	1.2	ug/L
Tetrachloroethene	GWC-5A	10/25/2012		2.8	1.2	ug/L
Tetrachloroethene	GWC-5A	4/24/2013		8.7	1.2	ug/L
Tetrachloroethene	GWC-5A	10/22/2013		1.5	1.2	ug/L
Tetrachloroethene	GWC-5A	4/23/2014		4.8	1.2	ug/L
Tetrachloroethene	GWC-5A	4/21/2015		3.0	1.2	ug/L
Trichloroethene	GWC-5A	12/16/1996		13.2	13.2	ug/L
Trichloroethene	GWC-5A	3/17/1997		11.7	11.7	ug/L
Trichloroethene	GWC-5A	5/02/1997		14.0	3.2	ug/L
Trichloroethene	GWC-5A	6/18/1997		15.0	3.2	ug/L
Trichloroethene	GWC-5A	8/02/1997		11.0	3.2	ug/L
Trichloroethene	GWC-5A	9/13/1997		11.0	3.2	ug/L
Trichloroethene	GWC-5A	11/03/1997		14.0	3.2	ug/L
Trichloroethene	GWC-5A	12/17/1997		15.0	3.2	ug/L
Trichloroethene	GWC-5A	3/16/1998		14.0	3.2	ug/L
Trichloroethene	GWC-5A	6/21/1998		12.0	3.2	ug/L
Trichloroethene	GWC-5A	12/02/1998		16.0	3.2	ug/L
Trichloroethene	GWC-5A	12/02/1998		16.0	3.2	ug/L
Trichloroethene	GWC-5A	3/30/1999		21.0	3.2	ug/L
Trichloroethene	GWC-5A	3/30/1999		21.0	3.2	ug/L
Trichloroethene	GWC-5A	9/09/1999		25.0	3.2	ug/L
Trichloroethene	GWC-5A	9/09/1999		25.0	3.2	ug/L
Trichloroethene	GWC-5A	9/22/1999		25.0	3.2	ug/L
Trichloroethene	GWC-5A	9/22/1999		25.0	3.2	ug/L
Trichloroethene	GWC-5A	3/28/2000		26.0	3.2	ug/L
Trichloroethene	GWC-5A	3/28/2000		26.0	3.2	ug/L
Trichloroethene	GWC-5A	10/19/2000		25.0	3.2	ug/L
Trichloroethene	GWC-5A	10/19/2000		22.0	1.0	ug/L
Trichloroethene	GWC-5A	4/17/2001		24.0	1.0	ug/L
Trichloroethene	GWC-5A	11/14/2001		26.0	3.2	ug/L
Trichloroethene	GWC-5A	4/30/2002		27.0	1.0	ug/L
Trichloroethene	GWC-5A	12/09/2002		22.0	3.2	ug/L
Trichloroethene	GWC-5A	5/21/2003		14.0	3.2	ug/L
Trichloroethene	GWC-5A	10/31/2003		13.0	3.2	ug/L
Trichloroethene	GWC-5A	5/12/2004		45.0	3.2	ug/L
Trichloroethene	GWC-5A	10/19/2004		84.0	3.2	ug/L
Trichloroethene	GWC-5A	4/21/2005		75.0	3.2	ug/L
Trichloroethene	GWC-5A	10/18/2005		110.0	3.2	ug/L
Trichloroethene	GWC-5A	4/27/2006		120.0	3.2	ug/L
Trichloroethene	GWC-5A	10/19/2006		140.0	3.2	ug/L
Trichloroethene	GWC-5A	4/19/2007		140.0	3.2	ug/L

Detections are shown for the constituents and sample points selected for the analysis  
The Limit column refers to the laboratory reporting limit

**Table 1****Historical Volatile Organic Compound Detections**

Constituent	Well	Date	Identifier	Result	Limit	Units
Trichloroethene	GWC-5A	10/26/2007		140.0	3.2	ug/L
Trichloroethene	GWC-5A	4/17/2008		120.0	3.2	ug/L
Trichloroethene	GWC-5A	10/30/2008		94.0	3.2	ug/L
Trichloroethene	GWC-5A	4/30/2009		99.0	3.2	ug/L
Trichloroethene	GWC-5A	11/03/2009		87.0	3.2	ug/L
Trichloroethene	GWC-5A	4/29/2010		51.0	3.2	ug/L
Trichloroethene	GWC-5A	10/29/2010		57.0	3.2	ug/L
Trichloroethene	GWC-5A	4/21/2011		65.0	3.2	ug/L
Trichloroethene	GWC-5A	10/11/2011		52.0	3.2	ug/L
Trichloroethene	GWC-5A	4/20/2012		54.0	3.2	ug/L
Trichloroethene	GWC-5A	10/25/2012		18.0	3.2	ug/L
Trichloroethene	GWC-5A	4/24/2013		41.0	3.2	ug/L
Trichloroethene	GWC-5A	10/22/2013		40.0	3.2	ug/L
Trichloroethene	GWC-5A	4/23/2014		37.0	3.2	ug/L
Trichloroethene	GWC-5A	10/20/2014		8.4	3.2	ug/L
Trichloroethene	GWC-5A	4/21/2015		23.0	3.2	ug/L
Trichloroethene	GWC-5A	10/21/2015		4.8	3.2	ug/L
Trichloroethene	GWC-5A	4/19/2016		8.9	3.2	ug/L
Vinyl chloride	GWC-5A	12/16/1996		4.2	4.2	ug/L
Vinyl chloride	GWC-5A	11/03/1997		2.4	2.7	ug/L
Vinyl chloride	GWC-5A	12/17/1997		2.6	2.0	ug/L
Vinyl chloride	GWC-5A	6/21/1998		3.0	2.0	ug/L
Vinyl chloride	GWC-5A	12/02/1998		3.0	2.0	ug/L
Vinyl chloride	GWC-5A	12/02/1998		3.0	2.0	ug/L
Vinyl chloride	GWC-5A	3/30/1999		7.3	2.0	ug/L
Vinyl chloride	GWC-5A	3/30/1999		7.3	2.0	ug/L
Vinyl chloride	GWC-5A	9/09/1999		3.7	2.0	ug/L
Vinyl chloride	GWC-5A	9/09/1999		3.7	2.0	ug/L
Vinyl chloride	GWC-5A	9/22/1999		3.2	2.0	ug/L
Vinyl chloride	GWC-5A	9/22/1999		3.2	2.0	ug/L
Vinyl chloride	GWC-5A	3/28/2000		3.7	2.0	ug/L
Vinyl chloride	GWC-5A	3/28/2000		3.7	2.0	ug/L
Vinyl chloride	GWC-5A	10/19/2000		3.4	2.0	ug/L
Vinyl chloride	GWC-5A	10/19/2000		2.6	1.0	ug/L
Vinyl chloride	GWC-5A	4/17/2001		2.3	1.0	ug/L
Vinyl chloride	GWC-5A	11/14/2001		3.9	2.0	ug/L
Vinyl chloride	GWC-5A	4/30/2002		2.2	1.0	ug/L
Vinyl chloride	GWC-5A	12/09/2002		5.4	2.0	ug/L
Vinyl chloride	GWC-5A	5/21/2003		2.6	2.0	ug/L
Vinyl chloride	GWC-5A	10/31/2003		5.8	2.0	ug/L
Vinyl chloride	GWC-5A	5/12/2004		2.4	2.0	ug/L
Vinyl chloride	GWC-5A	10/19/2004		2.8	2.0	ug/L
Vinyl chloride	GWC-5A	10/18/2005		4.7	2.0	ug/L
Vinyl chloride	GWC-5A	4/27/2006		3.3	2.0	ug/L
Vinyl chloride	GWC-5A	10/19/2006		9.8	2.0	ug/L
Vinyl chloride	GWC-5A	4/19/2007		3.7	2.0	ug/L
Vinyl chloride	GWC-5A	10/26/2007		6.0	2.0	ug/L
Vinyl chloride	GWC-5A	4/17/2008		4.8	2.0	ug/L
Vinyl chloride	GWC-5A	10/30/2008		8.4	2.0	ug/L
Vinyl chloride	GWC-5A	4/30/2009		6.3	2.0	ug/L
Vinyl chloride	GWC-5A	11/03/2009		5.8	2.0	ug/L
Vinyl chloride	GWC-5A	10/29/2010		4.1	2.0	ug/L
Vinyl chloride	GWC-5A	4/21/2011		3.3	2.0	ug/L
Vinyl chloride	GWC-5A	10/11/2011		4.7	2.0	ug/L
Vinyl chloride	GWC-5A	4/20/2012		6.0	2.0	ug/L
Vinyl chloride	GWC-5A	10/25/2012		18.0	2.0	ug/L
Vinyl chloride	GWC-5A	4/24/2013		2.6	2.0	ug/L
Vinyl chloride	GWC-5A	10/22/2013		3.1	2.0	ug/L
Vinyl chloride	GWC-5A	10/20/2014		8.9	2.0	ug/L
Vinyl chloride	GWC-5A	10/21/2015		5.3	2.0	ug/L
Vinyl chloride	GWC-5A	10/14/2016		6.4	2.0	ug/L
Vinyl chloride	GWC-5A	4/26/2017		2.8	2.0	ug/L
Vinyl chloride	GWC-5A	10/18/2017		2.6	2.0	ug/L
Vinyl chloride	GWC-5A	10/23/2019		3.5	2.0	ug/L
Vinyl chloride	GWC-5A	10/20/2020		2.8	2.0	ug/L
Acetone	GWC-6A	3/29/2000		20	18	ug/L
Acetone	GWC-6A	4/20/2016		360	20	ug/L
Benzo(a)pyrene	GWC-6A	11/03/2009		.20	.19	ug/L
1,1-Dichloroethane	GWC-7AR	10/24/2012		2.7	2.4	ug/L
1,1-Dichloroethane	GWC-7AR	10/22/2013		2.5	2.4	ug/L
1,1-Dichloroethane	GWC-7AR	10/22/2014		2.5	2.4	ug/L
1,1-Dichloroethane	GWC-7AR	10/21/2015		2.6	2.4	ug/L
1,1-Dichloroethane	GWC-7AR	4/19/2016		2.6	2.4	ug/L
Bis(2-ethylhexyl) phthalate	GWC-7AR	10/24/2016		4.9	4.9	ug/L
Methane	GWC-7AR	4/25/2017		87	4	ug/L
Dichlorodifluoromethane	GWC-8A	11/13/2001		1	1	ug/L

Detections are shown for the constituents and sample points selected for the analysis  
The Limit column refers to the laboratory reporting limit

**Table 1****Historical Volatile Organic Compound Detections**

Constituent	Well	Date	Identifier	Result	Limit	Units
cis-1,2-Dichloroethene	OW-6D	4/18/2001		1.2	1.0	ug/L
Dichlorodifluoromethane	OW-6D	4/18/2001		1.2	1.0	ug/L
Tetrachloroethene	OW-6D	4/18/2001		1.3	1.0	ug/L
Trichloroethene	OW-6D	4/18/2001		2.7	1.0	ug/L
Acetone	SWC-1	4/19/2001		5	5	ug/L
Acetone	SWC-3	4/19/2001		5.2	5.0	ug/L

Detections are shown for the constituents and sample points selected for the analysis  
The Limit column refers to the laboratory reporting limit

*Results of the Ground Water Statistics for Button Gwinnett Landfill  
Second Semi-Annual Monitoring Event in 2024*

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**Attachment D**

Assessment Statistics

**Table 1**

**Confidence Intervals for Comparing the Mean of the Last  
4 Measurements to an Assessment Monitoring Standard**

<b>Constituent</b>	<b>Units</b>	<b>Well</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>Factor</b>	<b>95% LCL</b>	<b>95% UCL</b>	<b>Standard</b>	<b>Trend</b>
1,1-Dichloroethane	ug/L	GWC-11	4	1.200	0.000	1.176	1.200	1.200	2.400	
1,4-Dichlorobenzene	ug/L	GWC-11	4	11.538	6.675	1.176	3.686	19.389	75.000	
Chlorobenzene	ug/L	GWC-11	4	9.325	6.843	1.176	1.275	17.375	100.000	
cis-1,2-Dichloroethene	ug/L	GWC-11	4	1.350	0.000	1.176	1.350	1.350	70.000	
Vinyl chloride	ug/L	GWC-11	4	1.300	0.600	1.176	0.594	2.006	2.000	
1,1-Dichloroethane	ug/L	GWC-1AR	4	1.200	0.000	1.176	1.200	1.200	2.400	
1,4-Dichlorobenzene	ug/L	GWC-1AR	4	2.150	0.000	1.176	2.150	2.150	75.000	
Chlorobenzene	ug/L	GWC-1AR	4	1.250	0.000	1.176	1.250	1.250	100.000	
cis-1,2-Dichloroethene	ug/L	GWC-1AR	4	1.350	0.000	1.176	1.350	1.350	70.000	
Vinyl chloride	ug/L	GWC-1AR	4	1.000	0.000	1.176	1.000	1.000	2.000	
1,1-Dichloroethane	ug/L	GWC-5A	4	1.000	0.000	1.176	1.000	1.000	2.400	dec
1,4-Dichlorobenzene	ug/L	GWC-5A	4	5.000	0.000	1.176	5.000	5.000	75.000	
Chlorobenzene	ug/L	GWC-5A	4	2.925	0.427	1.176	2.422	3.428	100.000	
cis-1,2-Dichloroethene	ug/L	GWC-5A	4	5.000	0.000	1.176	5.000	5.000	70.000	
Vinyl chloride	ug/L	GWC-5A	4	1.000	0.000	1.176	1.000	1.000	2.000	

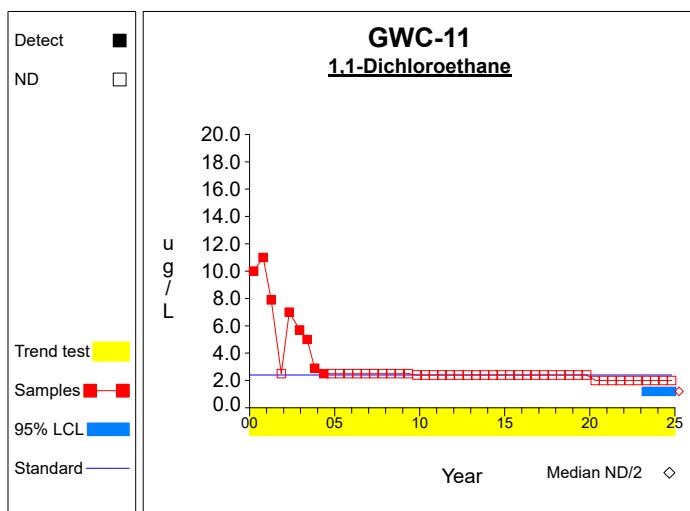
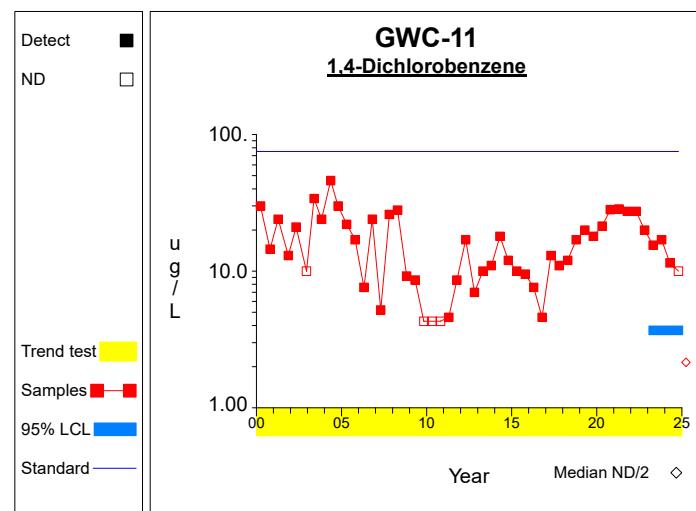
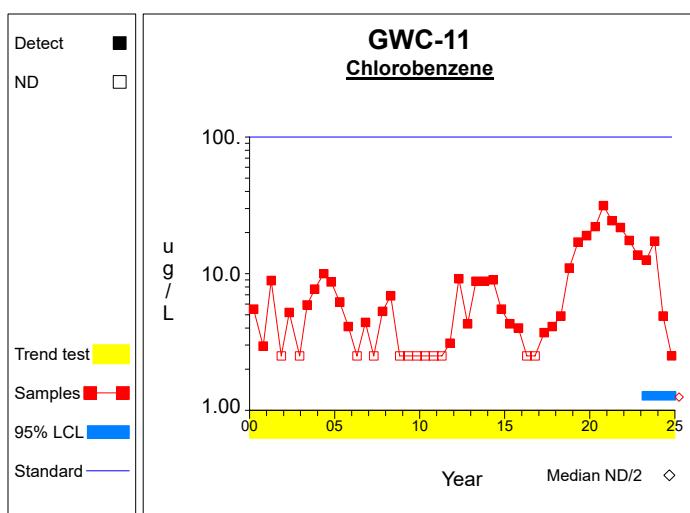
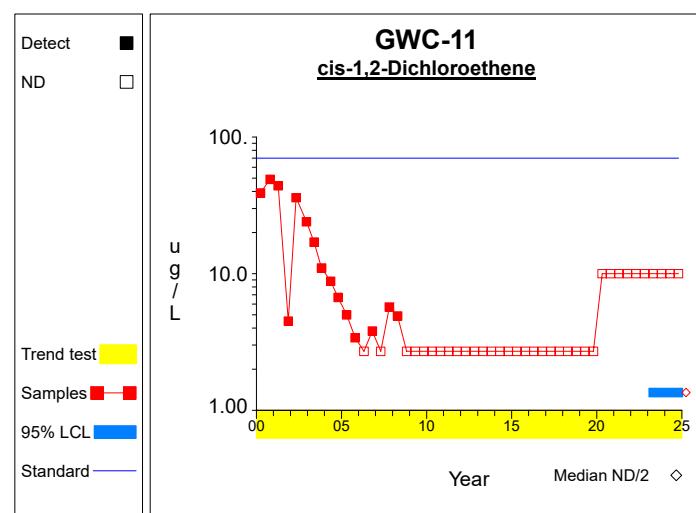
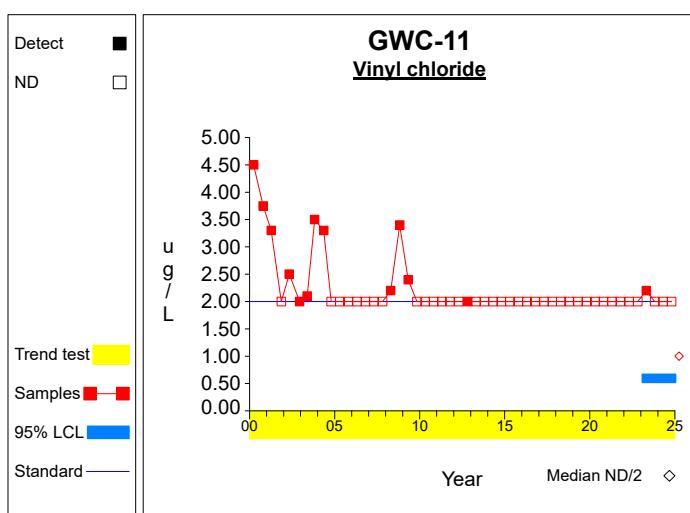
\* - Insufficient Data

\*\* - Significant Exceedance

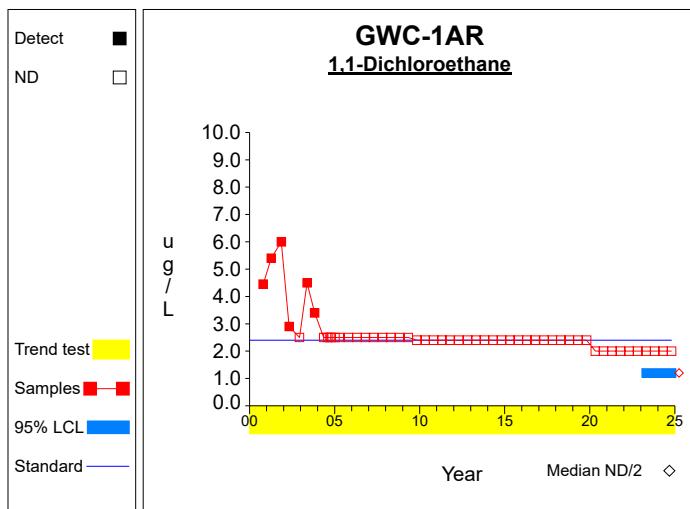
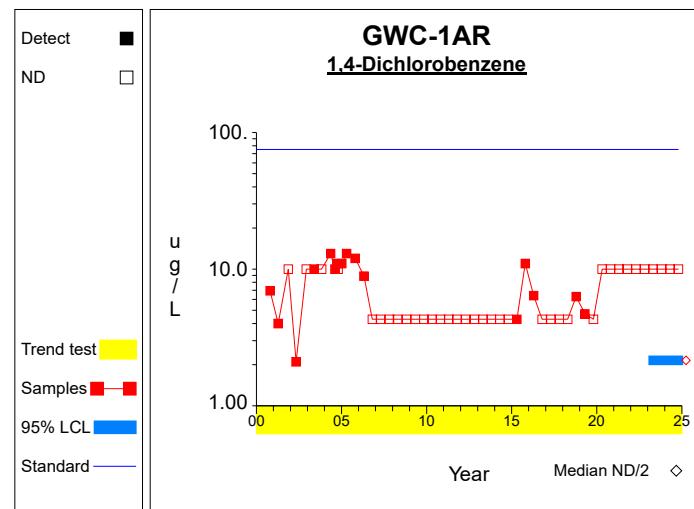
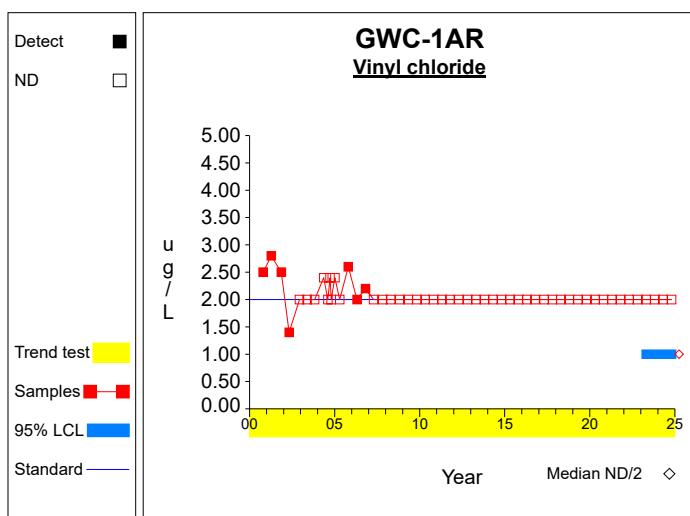
LCL = Lower Confidence Limit

UCL = Upper Confidence Limit

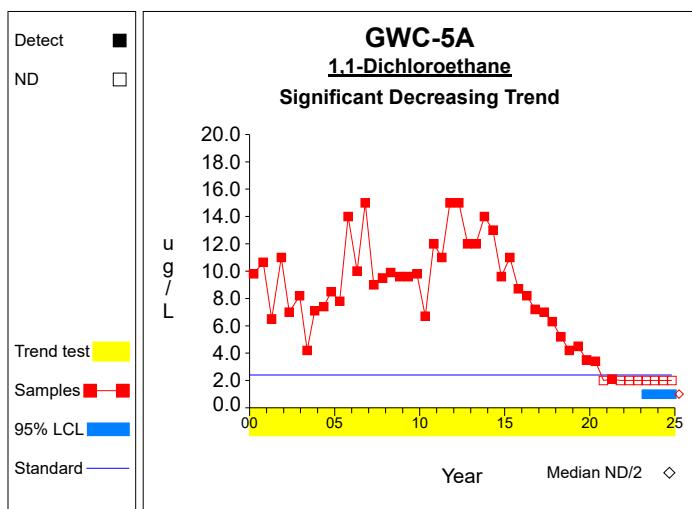
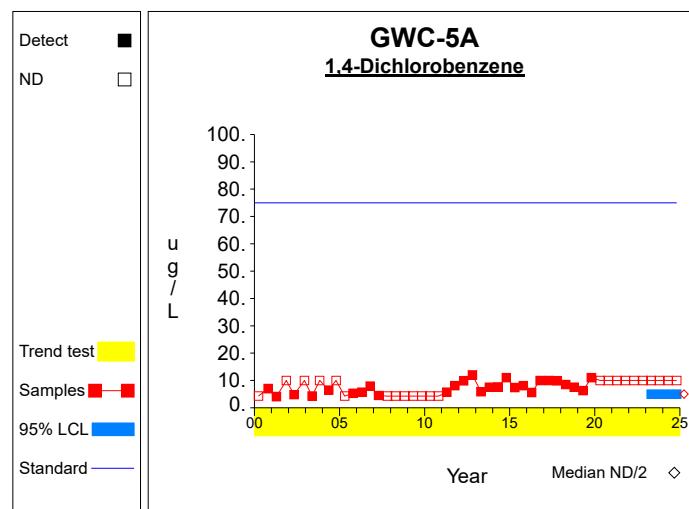
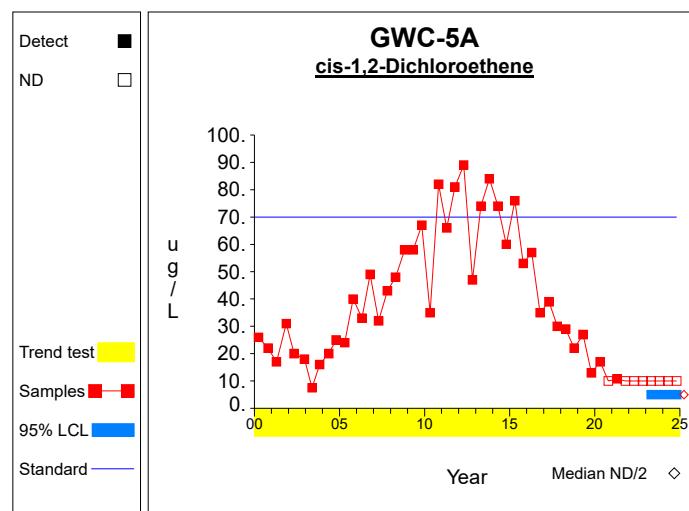
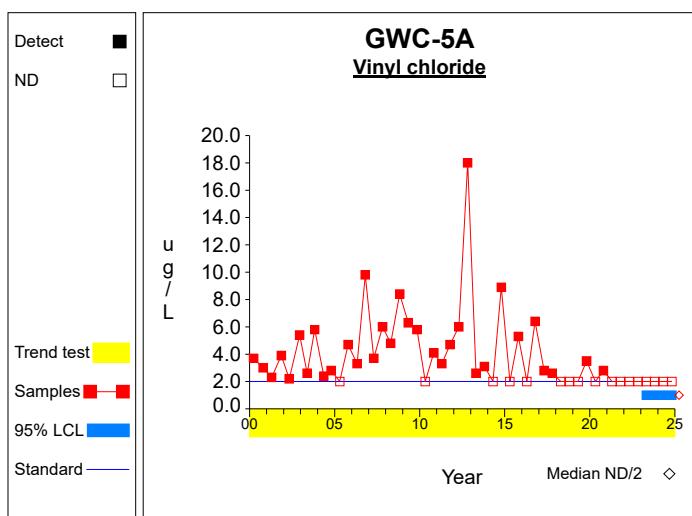
## Confidence Limits (Assessment)

**Graph 1****Graph 2****Graph 3****Graph 4****Graph 5**

## Confidence Limits (Assessment)

**Graph 6****Graph 7****Graph 8****Graph 9****Graph 10**

## Confidence Limits (Assessment)

**Graph 11****Graph 12****Graph 13****Graph 14****Graph 15**

**Worksheet 6 - Assessment Monitoring**  
**1,1-Dichloroethane (ug/L) at GWC-11**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \frac{\sum[X]}{N}$ $= 4.8 / 4$ $= 1.2$	Compute the mean of the last 4 measurements.
2	$S = \sqrt{(\sum[X^2] - \sum[X]^2/N) / (N-1)}$ $= \sqrt{(5.76 - 23.04/4) / (4-1)}$ $= 0.0$	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/\sqrt{N}$ $= 1.2 - 2.353 * 0.0/\sqrt{4}$ $= 1.2$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/\sqrt{N}$ $= 1.2 + 2.353 * 0.0/\sqrt{4}$ $= 1.2$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = N * (N-1) / 2$ $= 50 * (50-1) / 2$ $= 1225$	Number of sample pairs during trend detection period.
6	$S = 0.0$	Sen's estimator of trend.
7	$\text{var}(S) = 5777.333$	Variance estimate for slope.
8	$M(S) = (N' \pm Z_{.995} * \sqrt{\text{var}(S)}) / 2$ $= (1225 \pm 2.576 * \sqrt{5777.333}) / 2$ $= [514.601, 710.399]$	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the $M^{th}$ largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [0.0, 0.0]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

**Worksheet 6 - Assessment Monitoring**  
**1,4-Dichlorobenzene (ug/L) at GWC-11**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ $= 46.15 / 4$ $= 11.538$	Compute the mean of the last 4 measurements.
2	$S = ((\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1))^{1/2}$ $= ((666.123 - 2129.823/4) / (4-1))^{1/2}$ $= 6.675$	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{1/2}$ $= 11.538 - 2.353 * 6.675/4^{1/2}$ $= 3.686$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$ $= 11.538 + 2.353 * 6.675/4^{1/2}$ $= 19.389$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = N * (N-1) / 2$ $= 50 * (50-1) / 2$ $= 1225$	Number of sample pairs during trend detection period.
6	$S = 0.0$	Sen's estimator of trend.
7	$\text{var}(S) = 14251.667$	Variance estimate for slope.
8	$M(S) = (N' \pm Z_{.995} * \text{var}(S)^{1/2}) / 2$ $= (1225 \pm 2.576 * 14251.667^{1/2}) / 2$ $= [458.738, 766.262]$	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the $M^{\text{th}}$ largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [-0.653, 0.54]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

**Worksheet 6 - Assessment Monitoring**  
**Chlorobenzene (ug/L) at GWC-11**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ $= 37.3 / 4$ $= 9.325$	Compute the mean of the last 4 measurements.
2	$S = ((\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1))^{1/2}$ $= ((488.31 - 1391.29/4) / (4-1))^{1/2}$ $= 6.843$	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{1/2}$ $= 9.325 - 2.353 * 6.843/4^{1/2}$ $= 1.275$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$ $= 9.325 + 2.353 * 6.843/4^{1/2}$ $= 17.375$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = N * (N-1) / 2$ $= 50 * (50-1) / 2$ $= 1225$	Number of sample pairs during trend detection period.
6	$S = 0.323$	Sen's estimator of trend.
7	$\text{var}(S) = 14074.0$	Variance estimate for slope.
8	$M(S) = (N' \pm Z_{.995} * \text{var}(S)^{1/2}) / 2$ $= (1225 \pm 2.576 * 14074.0^{1/2}) / 2$ $= [ 459.7, 765.3 ]$	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the $M^{\text{th}}$ largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [ 0.0, 0.687 ]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

**Worksheet 6 - Assessment Monitoring**  
**cis-1,2-Dichloroethene (ug/L) at GWC-11**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ $= 5.4 / 4$ $= 1.35$	Compute the mean of the last 4 measurements.
2	$S = ((\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1))^{1/2}$ $= ((7.29 - 29.16/4) / (4-1))^{1/2}$ $= 1.69 \times 10^{-8}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{1/2}$ $= 1.35 - 2.353 * 1.69 \times 10^{-8} / 4^{1/2}$ $= 1.35$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$ $= 1.35 + 2.353 * 1.69 \times 10^{-8} / 4^{1/2}$ $= 1.35$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = N * (N-1) / 2$ $= 50 * (50-1) / 2$ $= 1225$	Number of sample pairs during trend detection period.
6	$S = 0.0$	Sen's estimator of trend.
7	$\text{var}(S) = 9333.333$	Variance estimate for slope.
8	$M(S) = (N' \pm Z_{.995} * \text{var}(S)^{1/2}) / 2$ $= (1225 \pm 2.576 * 9333.333^{1/2}) / 2$ $= [488.067, 736.933]$	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the $M^{\text{th}}$ largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [-0.322, 0.0]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

**Worksheet 6 - Assessment Monitoring**  
**Vinyl chloride (ug/L) at GWC-11**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ $= 5.2 / 4$ $= 1.3$	Compute the mean of the last 4 measurements.
2	$S = ((\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1))^{1/2}$ $= ((7.84 - 27.04/4) / (4-1))^{1/2}$ $= 0.6$	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{1/2}$ $= 1.3 - 2.353 * 0.6/4^{1/2}$ $= 0.594$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$ $= 1.3 + 2.353 * 0.6/4^{1/2}$ $= 2.006$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = N * (N-1) / 2$ $= 50 * (50-1) / 2$ $= 1225$	Number of sample pairs during trend detection period.
6	$S = 0.0$	Sen's estimator of trend.
7	$\text{var}(S) = 8442.667$	Variance estimate for slope.
8	$M(S) = (N' \pm Z_{.995} * \text{var}(S)^{1/2}) / 2$ $= (1225 \pm 2.576 * 8442.667^{1/2}) / 2$ $= [494.153, 730.847]$	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the $M^{\text{th}}$ largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [0.0, 0.0]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

**Worksheet 6 - Assessment Monitoring**  
**1,1-Dichloroethane (ug/L) at GWC-1AR**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ $= 4.8 / 4$ $= 1.2$	Compute the mean of the last 4 measurements.
2	$S = ((\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1))^{1/2}$ $= ((5.76 - 23.04/4) / (4-1))^{1/2}$ $= 0.0$	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{1/2}$ $= 1.2 - 2.353 * 0.0/4^{1/2}$ $= 1.2$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$ $= 1.2 + 2.353 * 0.0/4^{1/2}$ $= 1.2$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = N * (N-1) / 2$ $= 52 * (52-1) / 2$ $= 1326$	Number of sample pairs during trend detection period.
6	$S = 0.0$	Sen's estimator of trend.
7	$\text{var}(S) = 4904.333$	Variance estimate for slope.
8	$M(S) = (N' \pm Z_{.995} * \text{var}(S)^{1/2}) / 2$ $= (1326 \pm 2.576 * 4904.333^{1/2}) / 2$ $= [572.8, 753.2]$	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the $M^{\text{th}}$ largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [0.0, 0.0]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

**Worksheet 6 - Assessment Monitoring**  
**1,4-Dichlorobenzene (ug/L) at GWC-1AR**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ $= 8.6 / 4$ $= 2.15$	Compute the mean of the last 4 measurements.
2	$S = ((\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1))^{1/2}$ $= ((18.49 - 73.96/4) / (4-1))^{1/2}$ $= 0.0$	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{1/2}$ $= 2.15 - 2.353 * 0.0/4^{1/2}$ $= 2.15$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$ $= 2.15 + 2.353 * 0.0/4^{1/2}$ $= 2.15$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = N * (N-1) / 2$ $= 52 * (52-1) / 2$ $= 1326$	Number of sample pairs during trend detection period.
6	$S = 0.0$	Sen's estimator of trend.
7	$\text{var}(S) = 10663.667$	Variance estimate for slope.
8	$M(S) = (N' \pm Z_{.995} * \text{var}(S)^{1/2}) / 2$ $= (1326 \pm 2.576 * 10663.667^{1/2}) / 2$ $= [ 529.995, 796.005 ]$	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the $M^{\text{th}}$ largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [ 0.0, 0.0 ]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

**Worksheet 6 - Assessment Monitoring**  
**Chlorobenzene (ug/L) at GWC-1AR**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$  = 5.0 / 4  = 1.25	Compute the mean of the last 4 measurements.
2	$S = ((\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1))^{1/2}$  = ((6.25 - 25.0/4) / (4-1))^{1/2}  = 0.0	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{1/2}$  = 1.25 - 2.353 * 0.0/4^{1/2}  = 1.25	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$  = 1.25 + 2.353 * 0.0/4^{1/2}  = 1.25	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = N * (N-1) / 2$  = 52 * (52-1) / 2  = 1326	Number of sample pairs during trend detection period.
6	$S = 0.0$	Sen's estimator of trend.
7	$\text{var}(S) = 4168.333$	Variance estimate for slope.
8	$M(S) = (N' \pm Z_{.995} * \text{var}(S)^{1/2}) / 2$  = (1326 ± 2.576 * 4168.333^{1/2}) / 2  = [ 579.843, 746.157 ]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the $M^{\text{th}}$ largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [ 0.0, 0.0 ]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

**Worksheet 6 - Assessment Monitoring**  
**cis-1,2-Dichloroethene (ug/L) at GWC-1AR**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ $= 5.4 / 4$ $= 1.35$	Compute the mean of the last 4 measurements.
2	$S = ((\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1))^{1/2}$ $= ((7.29 - 29.16/4) / (4-1))^{1/2}$ $= 1.69 \times 10^{-8}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{1/2}$ $= 1.35 - 2.353 * 1.69 \times 10^{-8} / 4^{1/2}$ $= 1.35$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$ $= 1.35 + 2.353 * 1.69 \times 10^{-8} / 4^{1/2}$ $= 1.35$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = N * (N-1) / 2$ $= 52 * (52-1) / 2$ $= 1326$	Number of sample pairs during trend detection period.
6	$S = -0.288$	Sen's estimator of trend.
7	$\text{var}(S) = 12916.667$	Variance estimate for slope.
8	$M(S) = (N' \pm Z_{.995} * \text{var}(S)^{1/2}) / 2$ $= (1326 \pm 2.576 * 12916.667^{1/2}) / 2$ $= [516.617, 809.383]$	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the $M^{\text{th}}$ largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [-0.712, 0.0]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

**Worksheet 6 - Assessment Monitoring**  
**Vinyl chloride (ug/L) at GWC-1AR**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ $= 4.0 / 4$ $= 1.0$	Compute the mean of the last 4 measurements.
2	$S = ((\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1))^{1/2}$ $= ((4.0 - 16.0/4) / (4-1))^{1/2}$ $= 0.0$	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{1/2}$ $= 1.0 - 2.353 * 0.0/4^{1/2}$ $= 1.0$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$ $= 1.0 + 2.353 * 0.0/4^{1/2}$ $= 1.0$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = N * (N-1) / 2$ $= 52 * (52-1) / 2$ $= 1326$	Number of sample pairs during trend detection period.
6	$S = 0.0$	Sen's estimator of trend.
7	$\text{var}(S) = 5608.333$	Variance estimate for slope.
8	$M(S) = (N' \pm Z_{.995} * \text{var}(S)^{1/2}) / 2$ $= (1326 \pm 2.576 * 5608.333^{1/2}) / 2$ $= [566.543, 759.457]$	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the $M^{\text{th}}$ largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [0.0, 0.0]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

**Worksheet 6 - Assessment Monitoring**  
**1,1-Dichloroethane (ug/L) at GWC-5A**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ = 4.0 / 4 = 1.0	Compute the mean of the last 4 measurements.
2	$S = ((\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1))^{1/2}$ = ((4.0 - 16.0/4) / (4-1))^{1/2} = 0.0	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{1/2}$ = 1.0 - 2.353 * 0.0/4^{1/2} = 1.0	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$ = 1.0 + 2.353 * 0.0/4^{1/2} = 1.0	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = N * (N-1) / 2$ = 50 * (50-1) / 2 = 1225	Number of sample pairs during trend detection period.
6	$S = -0.369$	Sen's estimator of trend.
7	$\text{var}(S) = 14206.667$	Variance estimate for slope.
8	$M(S) = (N' \pm Z_{.995} * \text{var}(S)^{1/2}) / 2$ = (1225 ± 2.576 * 14206.667^{1/2}) / 2 = [ 458.981, 766.019 ]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the $M^{\text{th}}$ largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [ -0.586, -0.16 ]$	Two-sided confidence interval for slope.
10	$UCL(S) < 0$	<b>Significant decreasing trend.</b>

**Worksheet 6 - Assessment Monitoring**  
**1,4-Dichlorobenzene (ug/L) at GWC-5A**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ $= 20.0 / 4$ $= 5.0$	Compute the mean of the last 4 measurements.
2	$S = ((\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1))^{1/2}$ $= ((100.0 - 400.0/4) / (4-1))^{1/2}$ $= 0.0$	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{1/2}$ $= 5.0 - 2.353 * 0.0/4^{1/2}$ $= 5.0$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$ $= 5.0 + 2.353 * 0.0/4^{1/2}$ $= 5.0$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = N * (N-1) / 2$ $= 50 * (50-1) / 2$ $= 1225$	Number of sample pairs during trend detection period.
6	$S = 0.0$	Sen's estimator of trend.
7	$\text{var}(S) = 12852.0$	Variance estimate for slope.
8	$M(S) = (N' \pm Z_{.995} * \text{var}(S)^{1/2}) / 2$ $= (1225 \pm 2.576 * 12852.0^{1/2}) / 2$ $= [466.484, 758.516]$	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the $M^{\text{th}}$ largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [0.0, 0.105]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

**Worksheet 6 - Assessment Monitoring**  
**Chlorobenzene (ug/L) at GWC-5A**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ $= 11.7 / 4$ $= 2.925$	Compute the mean of the last 4 measurements.
2	$S = ((\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1))^{1/2}$ $= ((34.77 - 136.89/4) / (4-1))^{1/2}$ $= 0.427$	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{1/2}$ $= 2.925 - 2.353 * 0.427/4^{1/2}$ $= 2.422$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$ $= 2.925 + 2.353 * 0.427/4^{1/2}$ $= 3.428$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = N * (N-1) / 2$ $= 50 * (50-1) / 2$ $= 1225$	Number of sample pairs during trend detection period.
6	$S = 0.0$	Sen's estimator of trend.
7	$\text{var}(S) = 9734.667$	Variance estimate for slope.
8	$M(S) = (N' \pm Z_{.995} * \text{var}(S)^{1/2}) / 2$ $= (1225 \pm 2.576 * 9734.667^{1/2}) / 2$ $= [485.42, 739.58]$	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the $M^{\text{th}}$ largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [0.0, 0.088]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

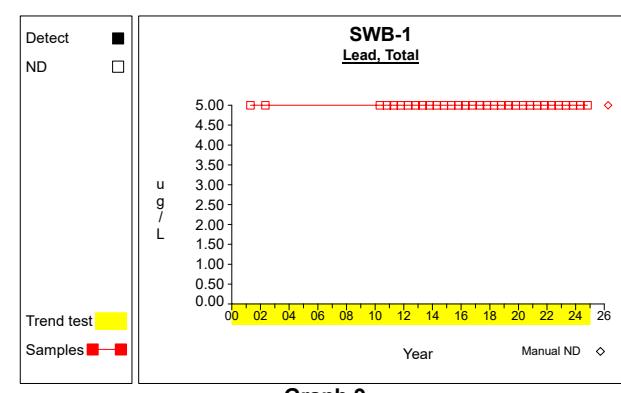
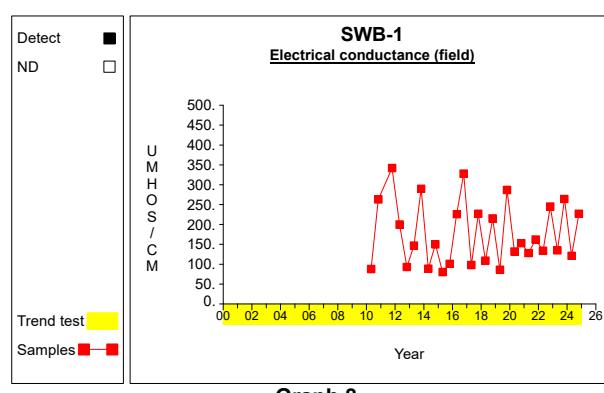
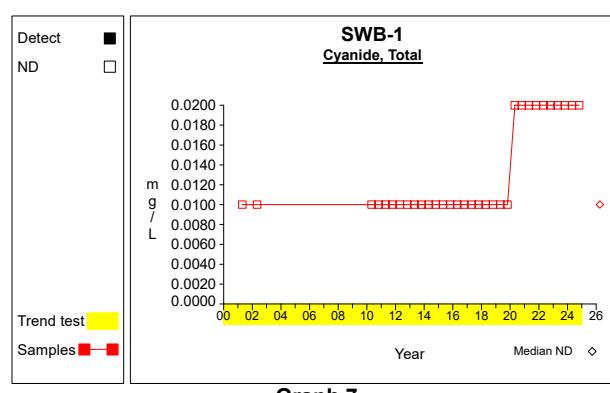
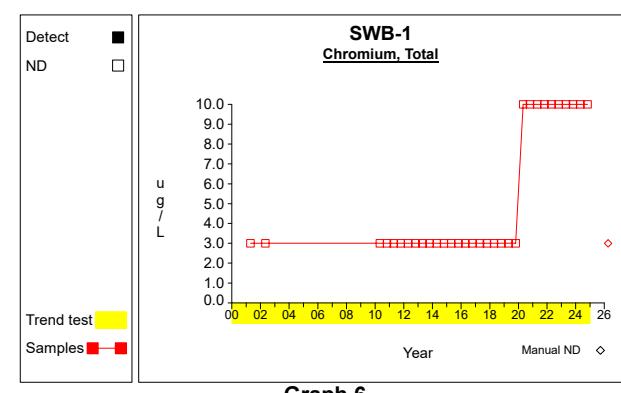
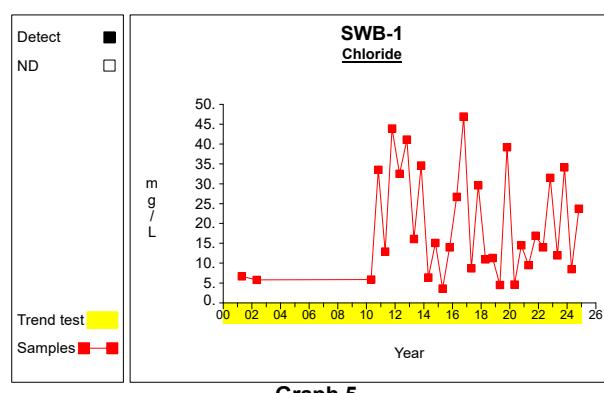
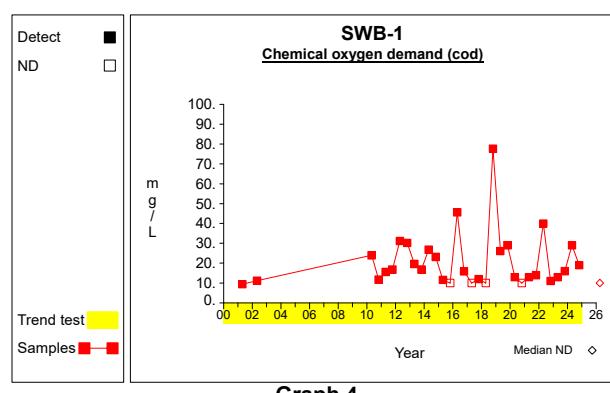
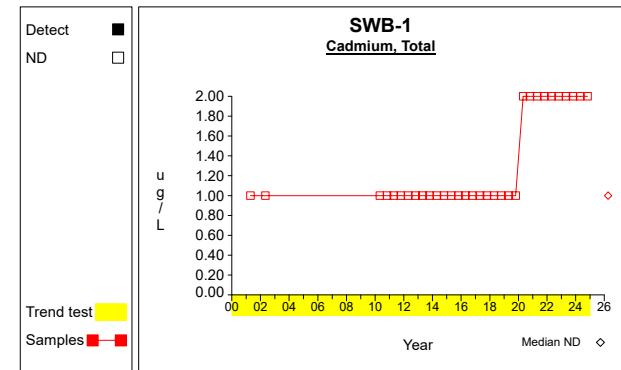
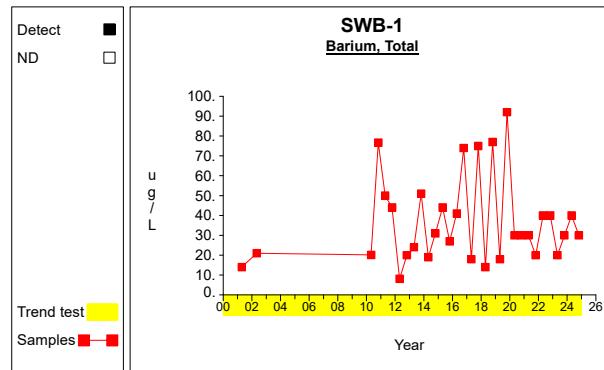
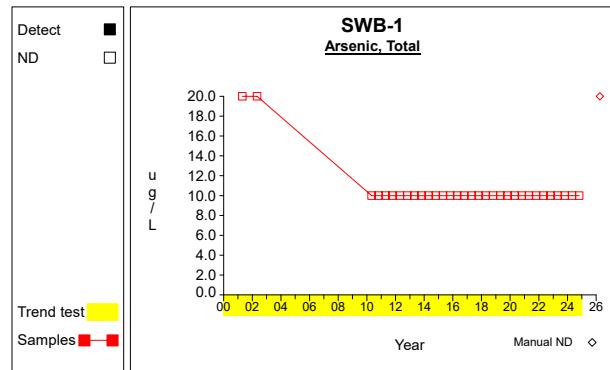
**Worksheet 6 - Assessment Monitoring**  
**cis-1,2-Dichloroethene (ug/L) at GWC-5A**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ $= 20.0 / 4$ $= 5.0$	Compute the mean of the last 4 measurements.
2	$S = ((\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1))^{1/2}$ $= ((100.0 - 400.0/4) / (4-1))^{1/2}$ $= 0.0$	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{1/2}$ $= 5.0 - 2.353 * 0.0/4^{1/2}$ $= 5.0$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$ $= 5.0 + 2.353 * 0.0/4^{1/2}$ $= 5.0$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = N * (N-1) / 2$ $= 50 * (50-1) / 2$ $= 1225$	Number of sample pairs during trend detection period.
6	$S = -0.708$	Sen's estimator of trend.
7	$\text{var}(S) = 14220.333$	Variance estimate for slope.
8	$M(S) = (N' \pm Z_{.995} * \text{var}(S)^{1/2}) / 2$ $= (1225 \pm 2.576 * 14220.333^{1/2}) / 2$ $= [458.907, 766.093]$	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the $M^{\text{th}}$ largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$\text{CL}(S) = [-2.239, 0.555]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

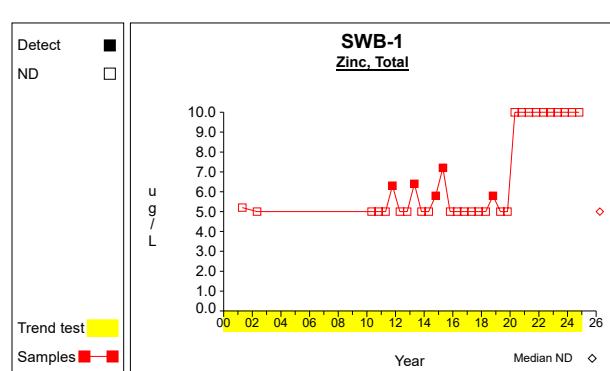
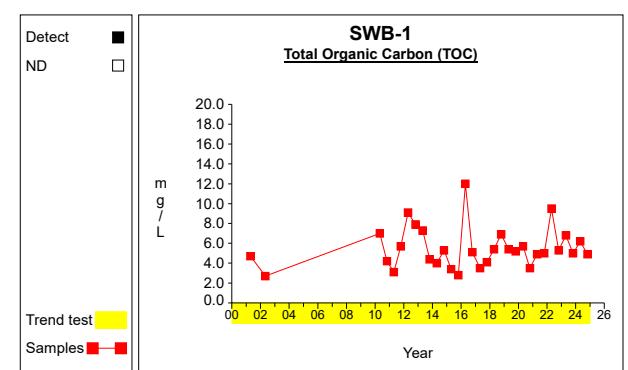
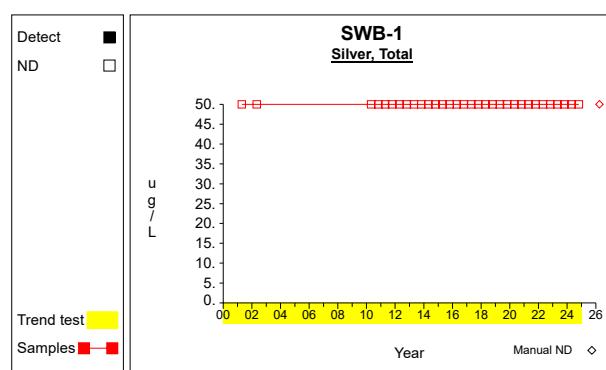
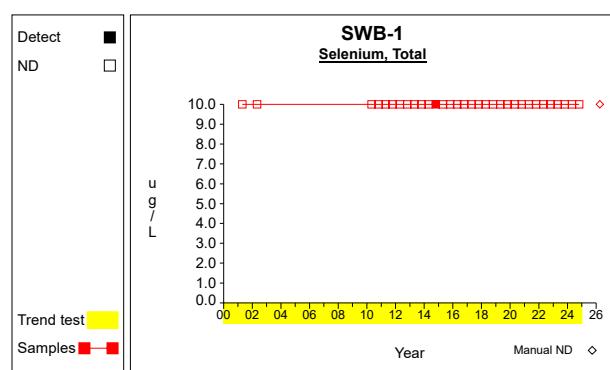
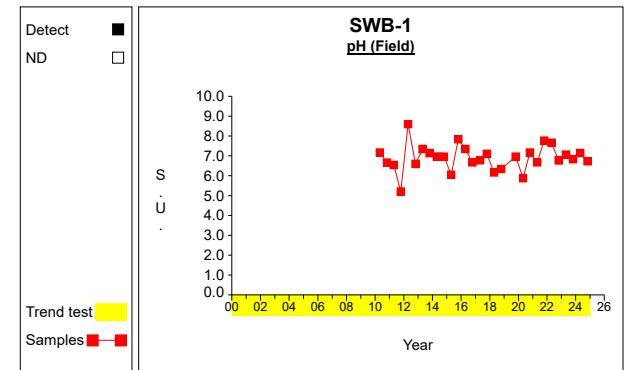
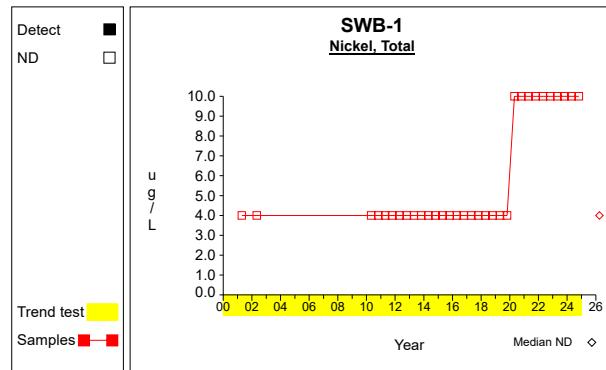
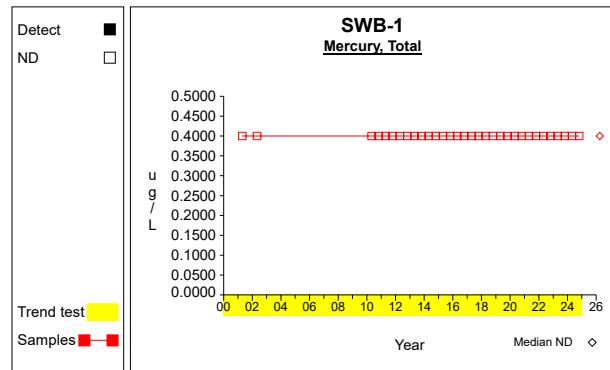
**Worksheet 6 - Assessment Monitoring**  
**Vinyl chloride (ug/L) at GWC-5A**

<u>Step</u>	<u>Equation</u>	<u>Description</u>
1	$\bar{X} = \text{sum}[X] / N$ $= 4.0 / 4$ $= 1.0$	Compute the mean of the last 4 measurements.
2	$S = ((\text{sum}[X^2] - \text{sum}[X]^2/N) / (N-1))^{1/2}$ $= ((4.0 - 16.0/4) / (4-1))^{1/2}$ $= 0.0$	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{1/2}$ $= 1.0 - 2.353 * 0.0/4^{1/2}$ $= 1.0$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$ $= 1.0 + 2.353 * 0.0/4^{1/2}$ $= 1.0$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = N * (N-1) / 2$ $= 50 * (50-1) / 2$ $= 1225$	Number of sample pairs during trend detection period.
6	$S = -0.1$	Sen's estimator of trend.
7	$\text{var}(S) = 13690.0$	Variance estimate for slope.
8	$M(S) = (N' \pm Z_{.995} * \text{var}(S)^{1/2}) / 2$ $= (1225 \pm 2.576 * 13690.0^{1/2}) / 2$ $= [461.798, 763.202]$	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the $M^{\text{th}}$ largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [-0.225, 0.0]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

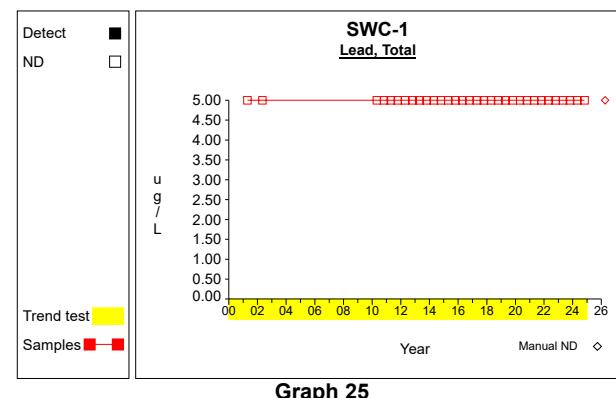
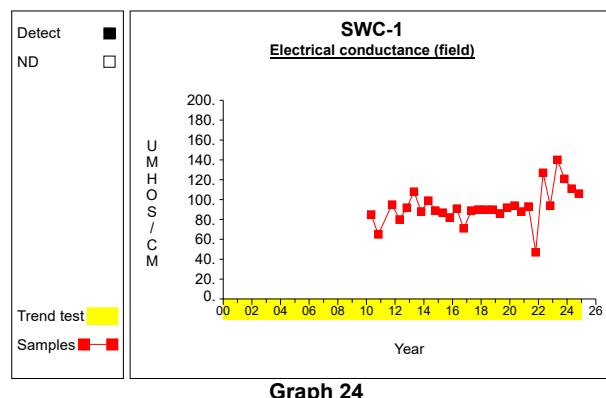
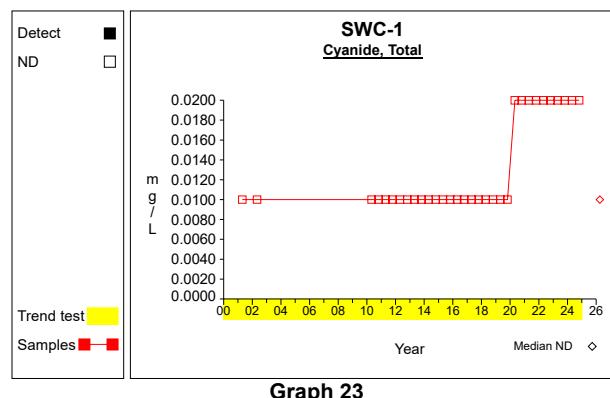
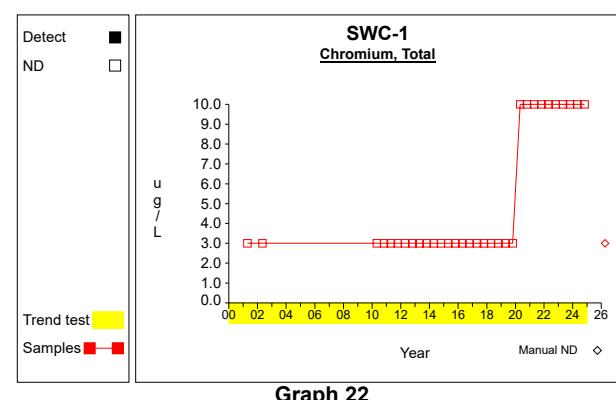
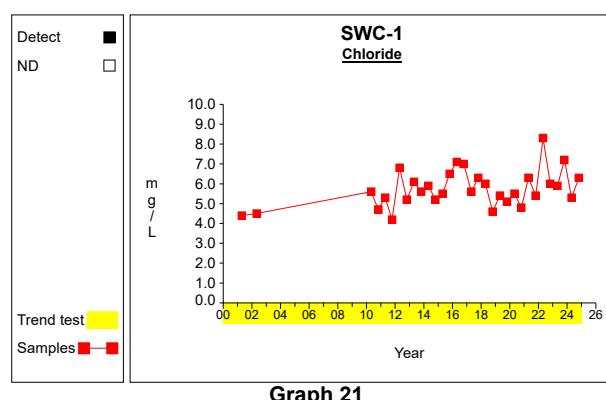
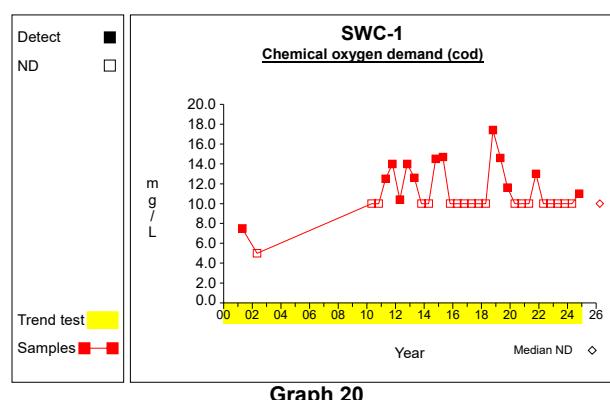
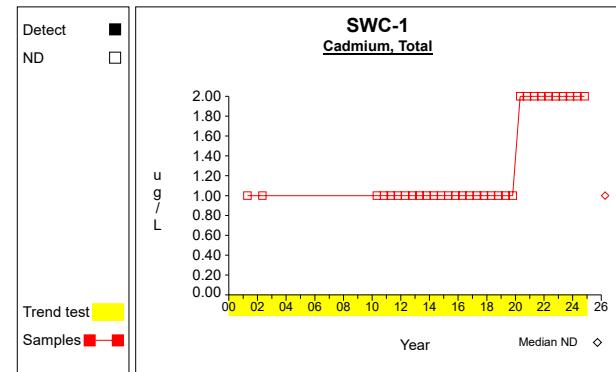
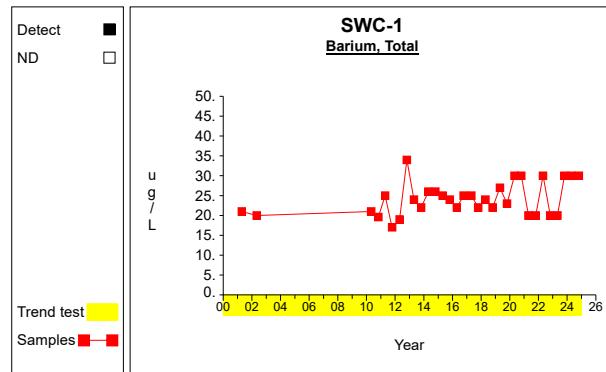
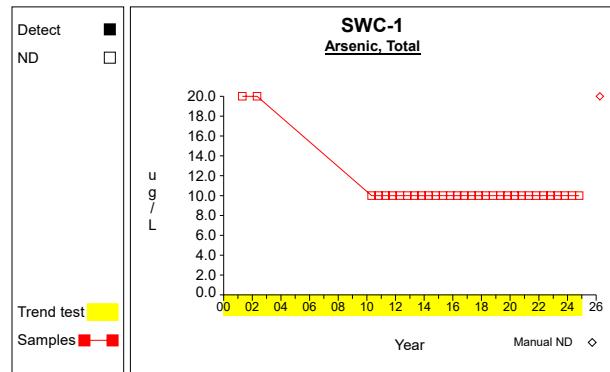
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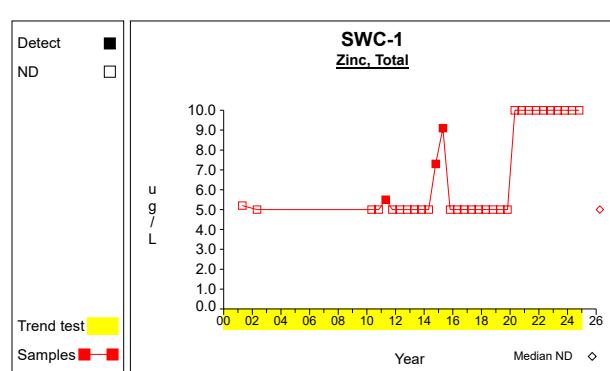
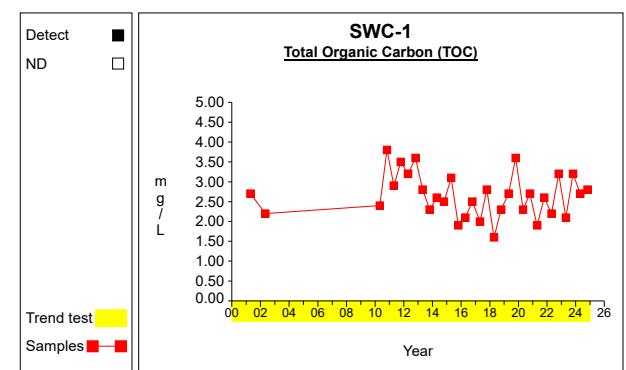
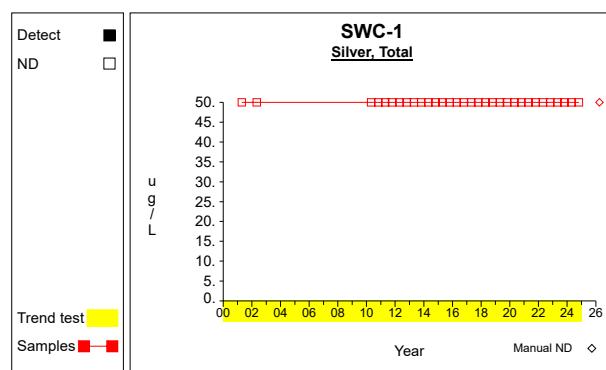
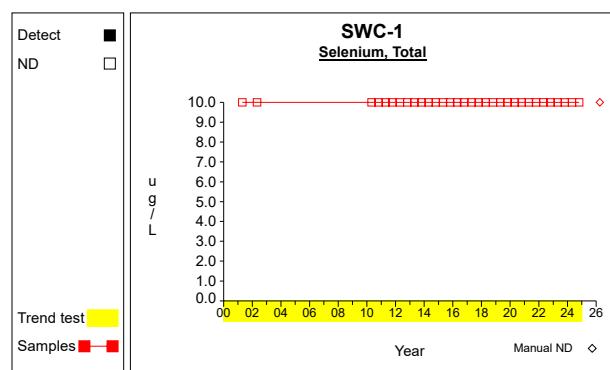
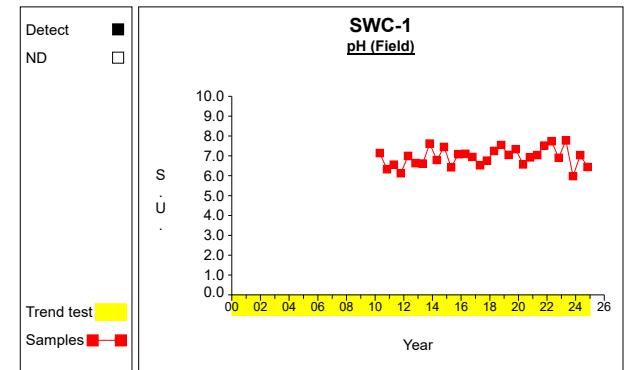
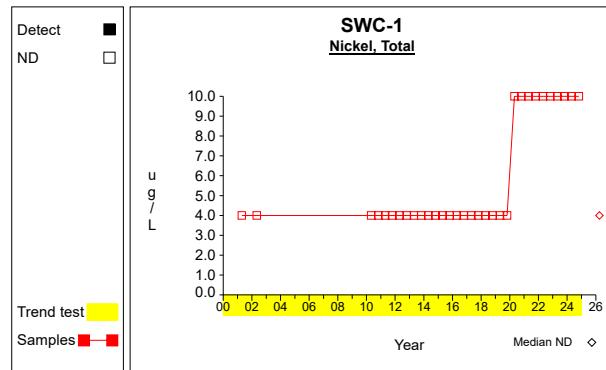
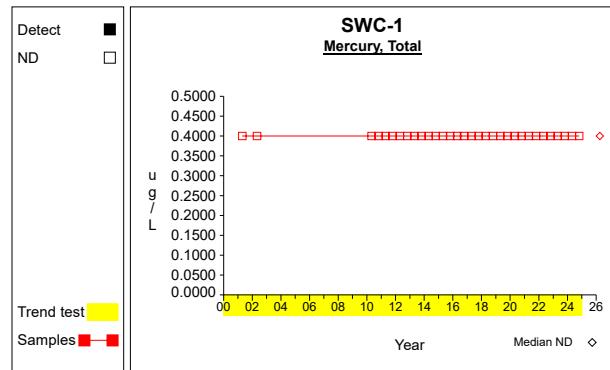
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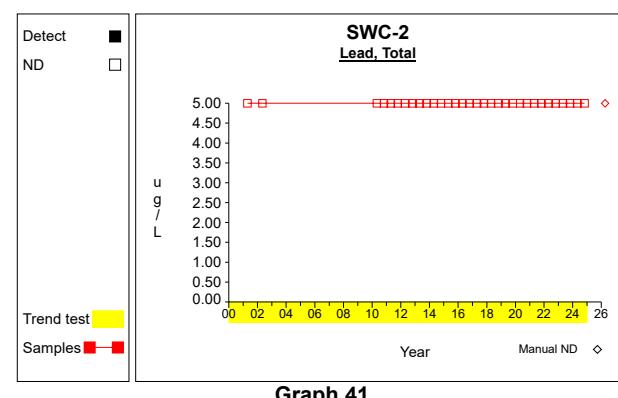
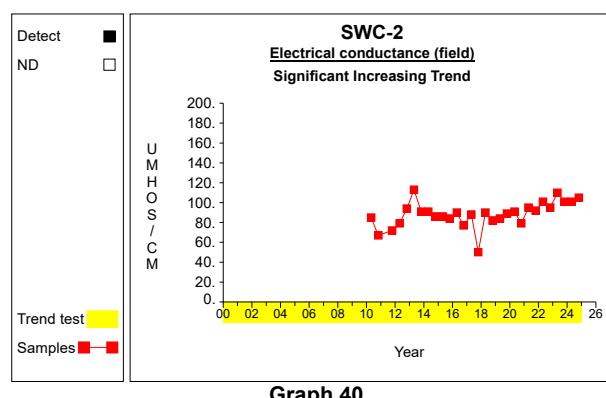
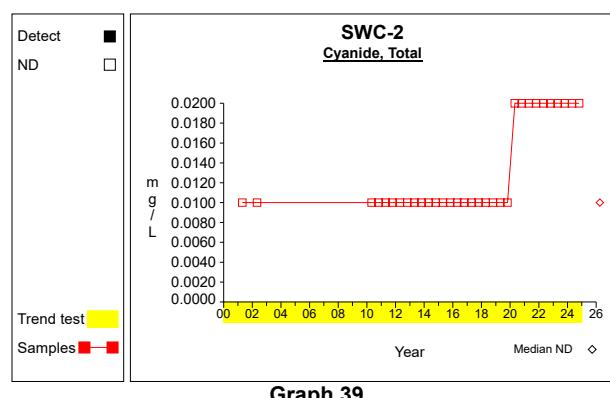
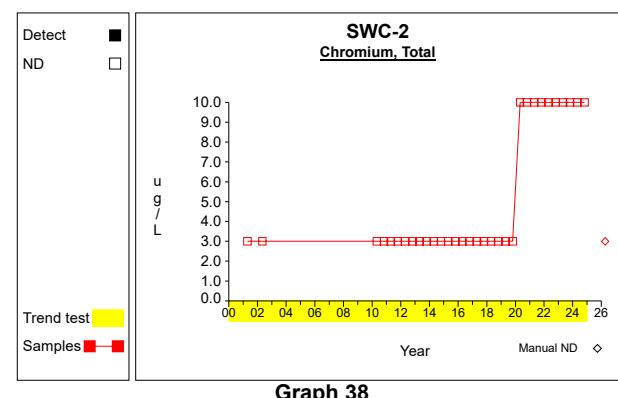
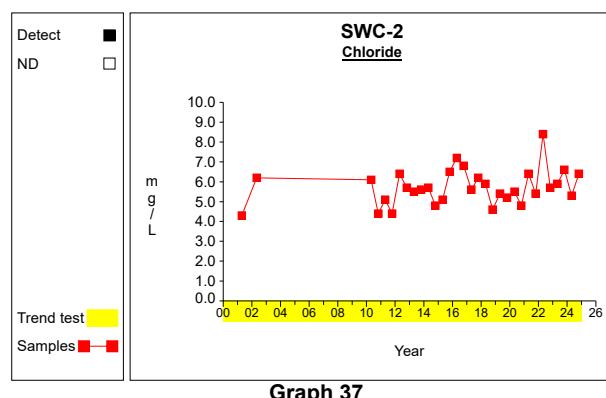
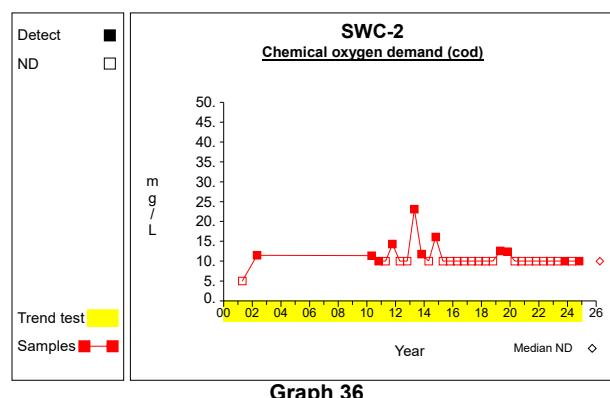
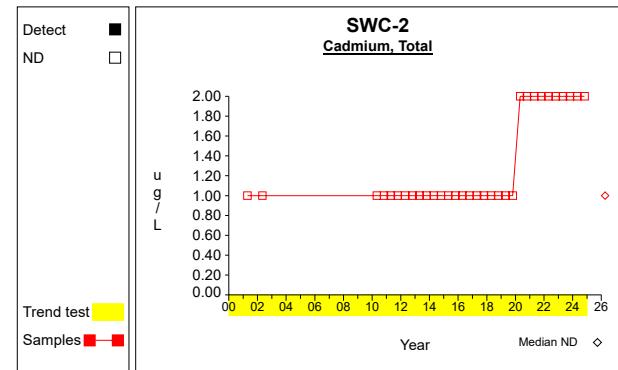
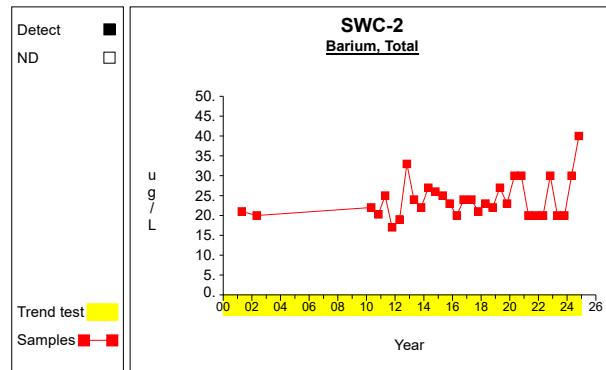
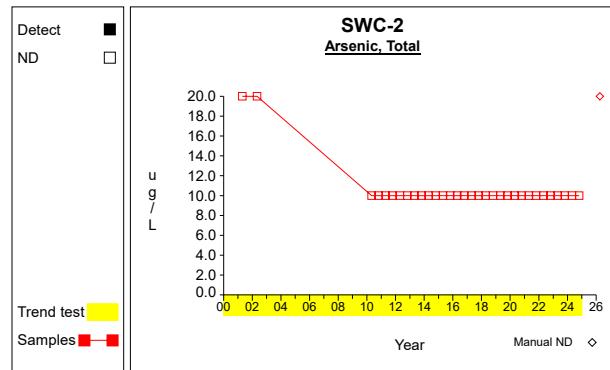
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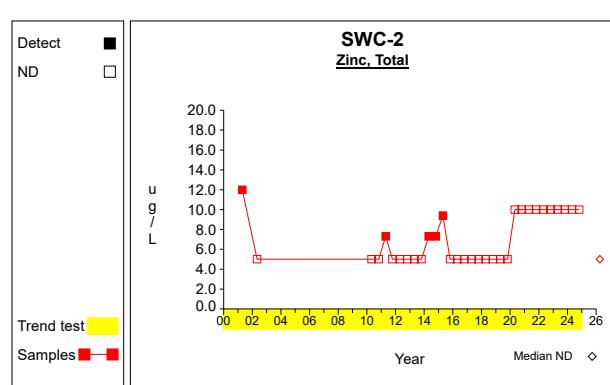
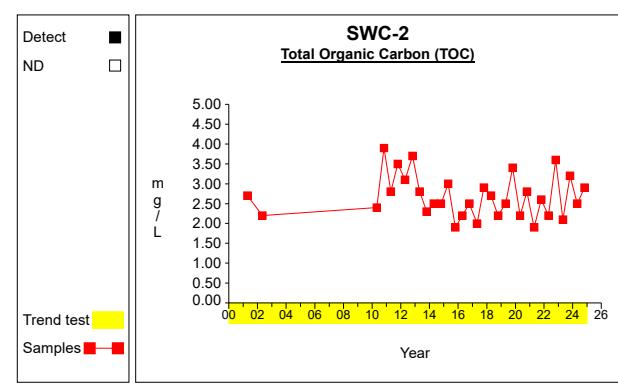
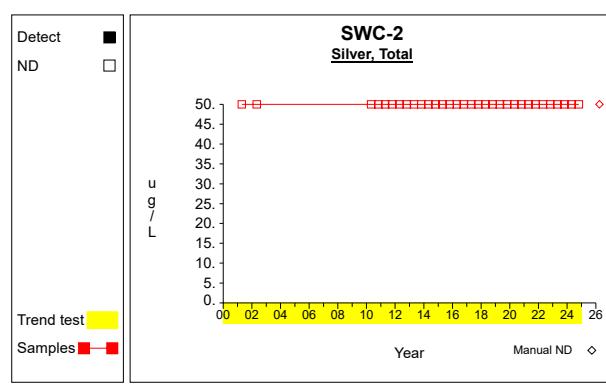
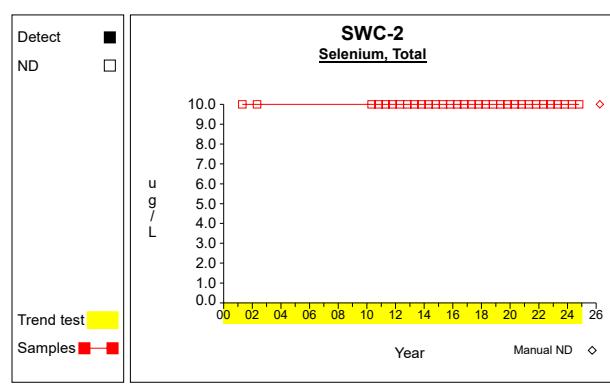
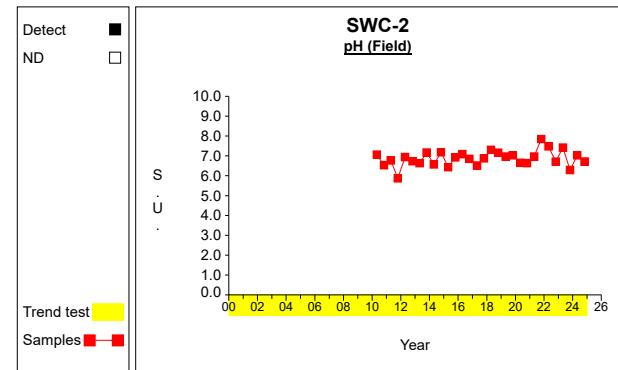
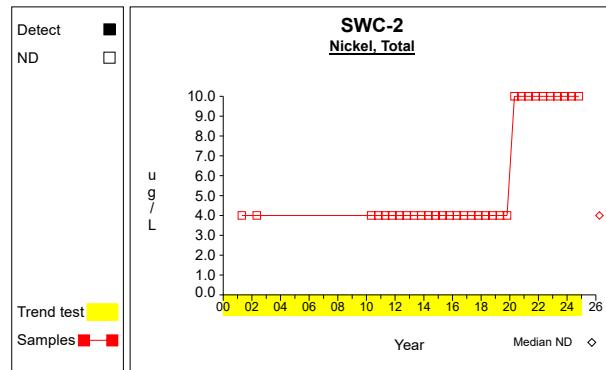
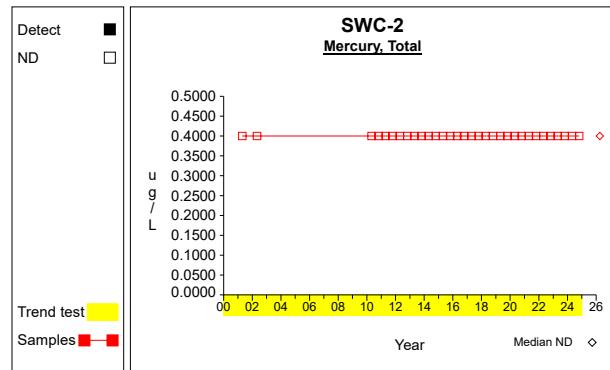
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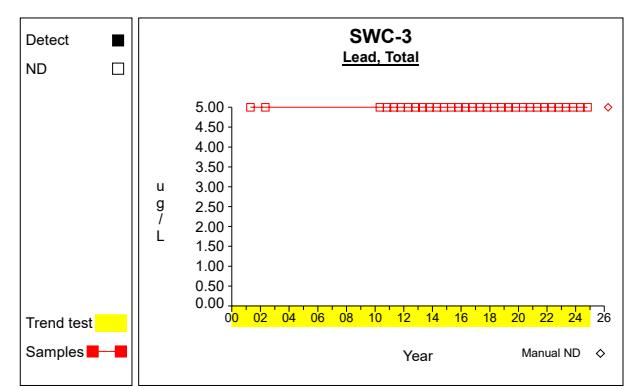
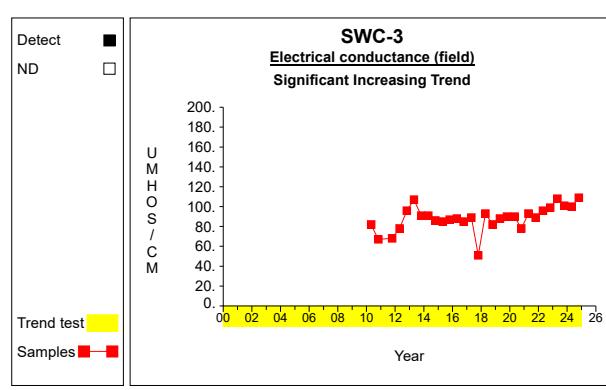
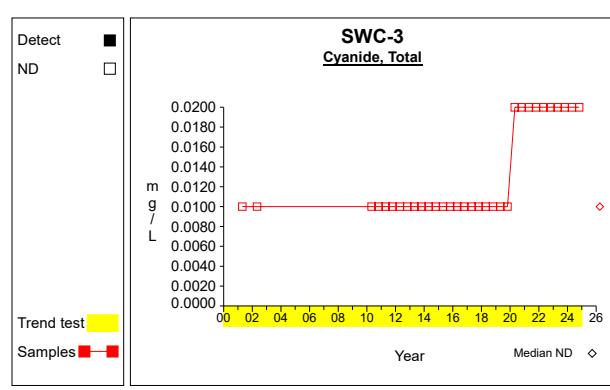
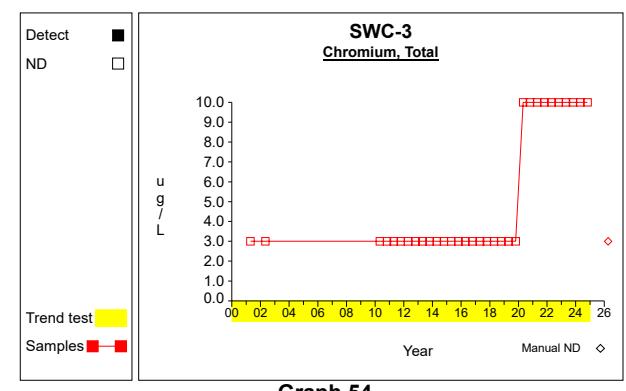
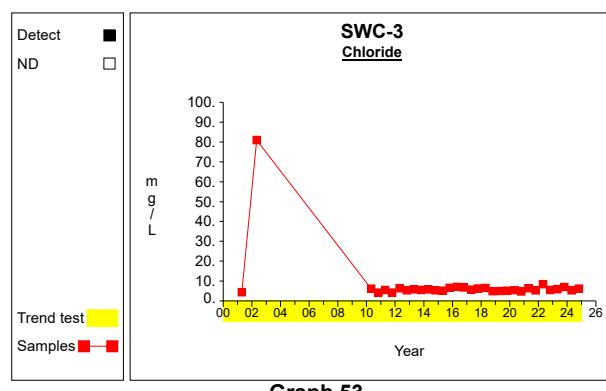
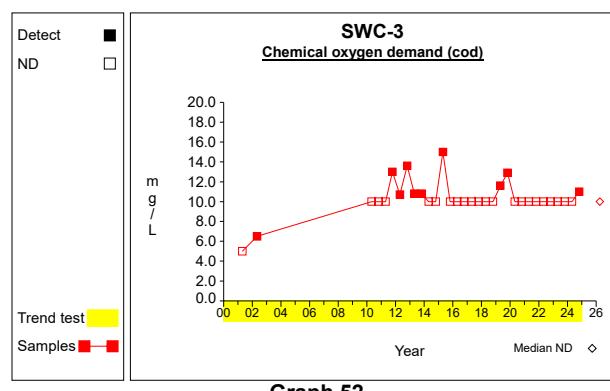
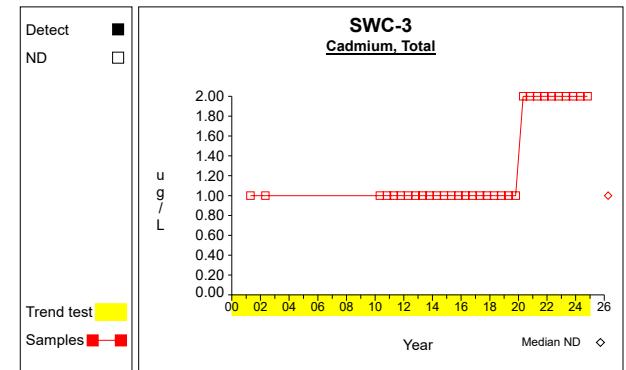
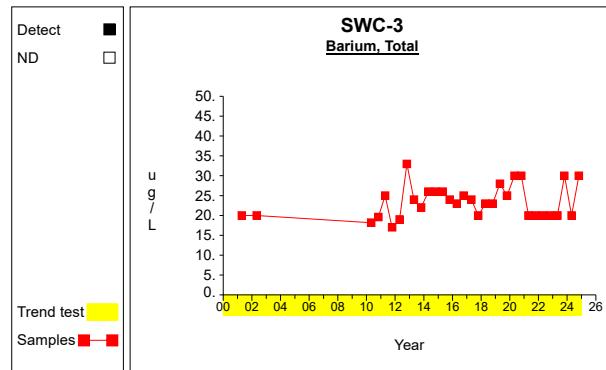
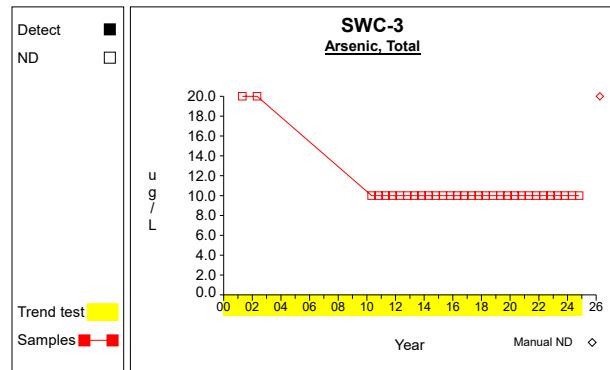
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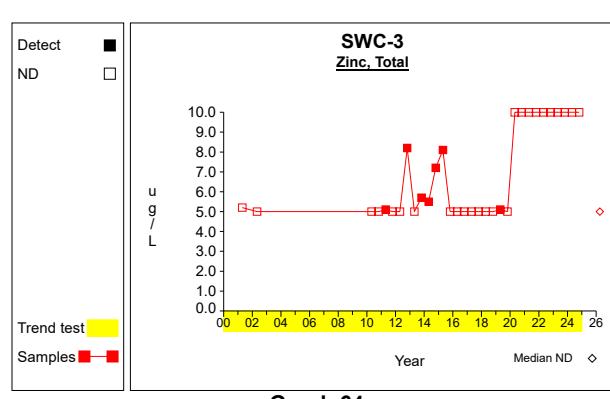
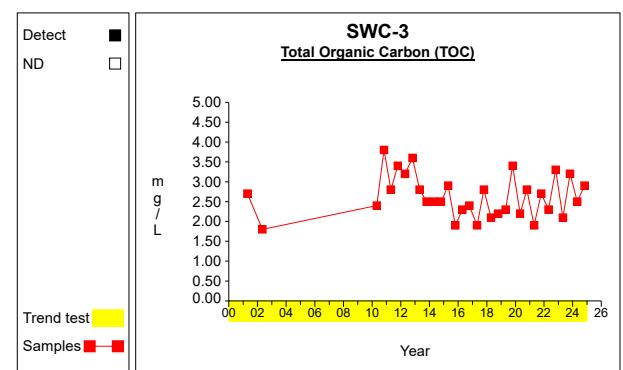
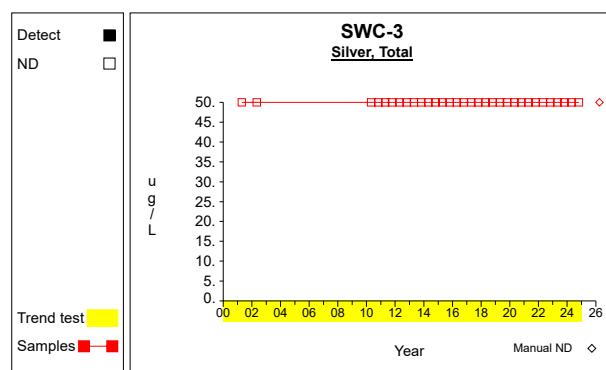
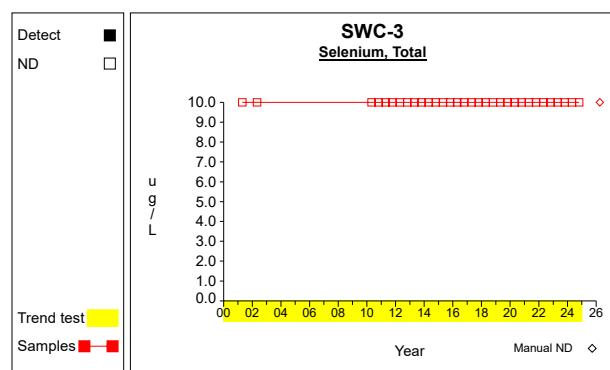
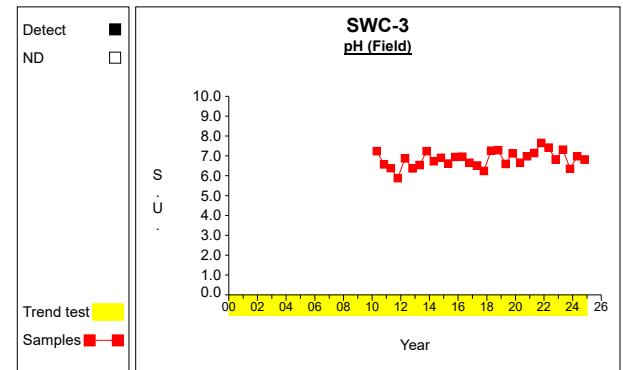
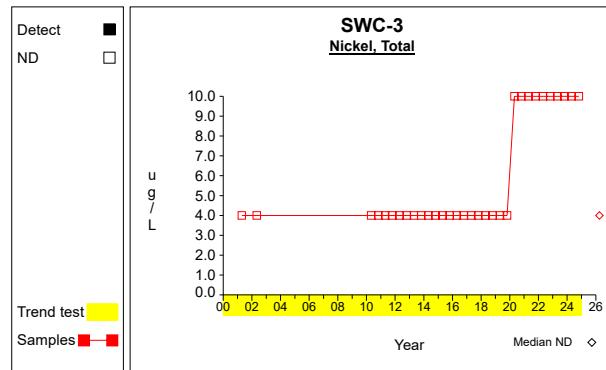
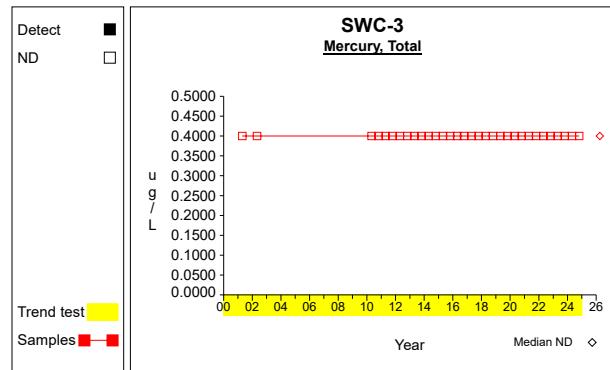
## Time Series



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