February 2, 2021

ClientCompany
ClientFirstName ClientLastName
Client Address
Client City, Client State Client ZipCode

RE: Limited Phase II Environmental Site Assessment
Steel Fabrication Plant
Street Address
City, State ZipCode
A3E Project No.: 2021_XXX

Dear Mr. ClientLastName:

A3 Environmental, LLC ("A3E") has completed a Limited Phase II Environmental Site Assessment of the above referenced property. The work was conducted in accordance with A3E's letter of engagement and generally accepted industry standards. This report was prepared solely for the use of ClientCompany (hereinafter "Client" or "User") and any party specifically referenced in Section 1.6 User Reliance. No other party shall use or rely on this report or the findings herein, without the prior written consent of A3E.

Thank you for the opportunity to provide our services. If you have any questions or need any additional information, please contact the undersigned at 630-507-9002.

Sincerely,

**Senior Reviewer:**

Evan Meinzer
Project Manager

Alisa Allen, M.S., P.G.
Owner/Manager

# PHASE II ENVIRONMENTAL SITE ASSESSMENT

## STEEL FABRICATION PLANT

**STREET ADDRESS**
**CITY, STATE ZIPCODE**

## PREPARED FOR

CLIENTCOMPANY
CLIENT ADDRESS
CLIENT CITY, CLIENT STATE CLIENT ZIPCODE

## PREPARED BY

A3 ENVIRONMENTAL, LLC
3030 WARRENVILLE ROAD, SUITE 418
LISLE, ILLINOIS 60532
T: 888-405-1742

PROJECT NUMBER: 2021_XXX
DATE: FEBRUARY 2, 2021

A3E®
ENVIRONMENTAL CONSULTANTS

# 1.0 INTRODUCTION

A3 Environmental, LLC (A3E) performed this Limited *Phase II Environmental Site Assessment (ESA)* in conformance with the scope and limitations of The American Society for Testing and Materials (ASTM) Standard Practice for *Environmental Site Assessments: Phase II Environmental Site Assessment (ESA) Process (E1903-19)* at the following property (hereinafter referred to as the "Target Property").

| **Site Description** | |
|---|---|
| **Property Name** | Steel Fabrication Plant |
| **Property Address** | Street Address |
| **City, County, State, Zip** | City, County County, State ZipCode |
| **Property Use** | Industrial |
| **Parcel Number(s)** | 123456789 |
| **Size/Acres** | 13.16 |

The Target Property location is depicted on Figure 1**.** Figure 2 identifies the surrounding land uses.

## 1.1 Background

The Target Property was developed prior to 1938 as a steel manufacturing plant and has been used as an industrial manufacturing facility through present day. Prior to 1951, the eastern manufacturing building was the only structure present on the Target Property. Between 1951 and 1959, additional buildings (the western and far western buildings) were constructed on the property and used to aid in the manufacturing of steel products. The first mention of occupants on the Target Property is Bates Walter Steel Corporation in 1929. Various owners and manufacturers have been present on the property, and the county directory has indicated manufacturing has continued on the property since 1929.

The Target Property has a long historical use as an industrial property that included steel manufacturing. A historical review of the property identified two large fuel oil tanks on the western side of the eastern building and an oil tank on the southeast corner of the property. It is not known if the ASTs had secondary containment during this time or if the piping into the building traveled underground. In addition, various rail spurs historically crossed the property. Rail cars likely transported oils and material to the property and their long term presence may have caused impact to the subsurface through spills, leaks or releases.

Additionally, during the site reconnaissance, A3E observed discarded open drums on the exterior portions of the Eastern Building to the southwest and west. Several of these drums were open and others stored on open ground. Observed drums contained waste oil. Additionally, old batteries were stored in the open on a pallet outside of the eastern building. These could be potentially leaking onto the surface.

Based on the above knowledge of events that occurred at the Target Property, A3E completed a limited site investigation in order to provide a detailed proposal and cost estimate to characterize and delineate the target property prior to the sale of the property.

## 1.2 Purpose

The purpose of the Limited Phase II ESA was to evaluate the Target Property and to investigate the current status of the soil on site, in regards to the Target Properties long history of industrial use.

The Client is advised that if the ESA is obtained with the intent of qualifying the purchaser as an innocent landowner, contiguous property owner, or bona fide prospective purchaser under CERCLA, there will be continuing obligations of due care and responsiveness and additional legal requirements that likely apply to such status. A3E accepts and undertakes no responsibility as to such requirements and advises that counsel be separately consulted with respect to such requirements.

## 1.3 Scope of Services

The scope of work for this assessment was in general accordance with the American Society of Testing and Materials (ASTM) Standard Practices for Environmental Site Assessments: Phase II ESA Process (ASTM Designation: E1903-19). These methodologies are described as representing good commercial and customary practice for conducting a Phase II ESA of a property for the purpose of evaluating recognized environmental conditions.

Specifically, the scope of work included the following tasks:

- Review of Existing Information
- Field Exploration
- Sampling and Chemical Analysis
- Evaluation of Chemical Analysis Results
- Discussion of Findings and Conclusions

## 1.4 Limitations and Exception of Assessments

The report has been prepared in accordance with generally accepted environmental methodologies referred to in ASTM 1903-19, and contains all of the limitations inherent in these methodologies. No other warranties, expressed or implied, are made as to the professional services provided under the terms of our contract and included in this report.

## 1.5 Limiting Conditions and Methodologies Used

No ESA can eliminate all uncertainty. Furthermore, any sample, either surface or subsurface, taken for chemical analysis may or may not be representative of a larger population. Professional judgment and interpretation are inherent in the process and uncertainty is inevitable. Additional assessment may be able to reduce the uncertainty.

Even when Phase II ESA work is executed with an appropriate site-specific standard of care, certain conditions present especially difficult detection problems. Such conditions may include, but are not limited to, complex geological settings, the fate and transport characteristics of certain hazardous substances and petroleum products, the distribution of existing contamination, physical limitations imposed by the location of utilities and other man-made objects, and the limitations of assessment technologies.

Phase II ESAs do not generally require an exhaustive assessment of environmental conditions on a property. There is a point at which the cost of information obtained and the time required to obtain it outweigh the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions. If hazardous substance or petroleum releases are confirmed on a parcel of property, the extent of further assessment is related to the degree of uncertainty that is acceptable to the user with respect to the real estate transaction.

Measurements and sampling data only represent the site conditions at the time of data collection. Therefore, the usability of data collected as part of this Phase II ESA may have a finite lifetime depending on the application and use being made of the data. An environmental professional should evaluate whether the generated data are appropriate for any subsequent use beyond the original purpose for which it was collected.

## 1.6 User Reliance

This Limited Phase II ESA and report was prepared on behalf and for the exclusive use of ClientCompany(*user*). The report and its findings shall not, in whole or in part, be disseminated or conveyed to another party, nor used by another party in whole or in part, without prior written consent by A3 Environmental, LLC.

# 2.0 SAMPLING PLAN

## 2.1 Description of Sampling Plan

The sampling plan included the advancement of up to eleven (11) soil borings in areas related to historic and current ASTs, around areas where drums were observed during site reconnaissance and where batteries stored on pallets were observed. These areas include the far southeast corner of the Target Property where a historic AST was located, an area near Building 6 where a current diesel AST is located, and near the western boundary of the current steel processing building where drums and batteries are stored on pallets.

After reviewing the IDEM documents that summarize the remediation activities that took place on the Target Property, addressed as 2100 E. 5th Street, an area south of Building 6, has an asphalt barrier over soil with lead levels exceeding 10,000 ppm. The owner should be aware that the subsurface soil and groundwater is contaminated. A groundwater use restriction has also been placed on the property. Given the groundwater use restriction, groundwater sampling was not incorporated in the sampling plan.

## 2.2 Methods of Sampling

All Limited Phase II ESA sampling procedures were performed according to standards set forth by the United States Environmental Protection Agency (USEPA) SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," ASTM E1903-19 standard, "Standard for Environmental Site Assessments: Phase II Environmental Site Assessment Process", Occupational Health & Safety Administration (OSHA) 1910 Standards and the Illinois EPA.

A3E conducted field activities according to standard industry practice for collecting representative soil samples and to prevent cross-contamination. Each boring was installed using a direct-push Geoprobe® sampling unit. Continuous subsurface soil samples were collected using 5-foot stainless steel sampling tubes lined with acetate sample liners.

At each 5-foot interval, the acetate liner was opened and a representative soil sample from each two-foot section was immediately placed in a zipper locked, 4-mil plastic bag, with airspace and allowed to warm to ambient conditions. Each soil sample was field-screened using a RAE System photo-ionization detector (PID) with a 10.6 eV lamp, calibrated to a standard of 100 parts per million by volume (ppmv) isobutylene for VOCs. The field screening was used to provide a relative indication of the potential presence of volatile organic vapors to aid in the selection of samples for laboratory analysis.

Based on field screening results and visual observations, one soil sample was collected from each soil boring for laboratory analysis on the basis of the following criteria:

- The soil sample was within an unsaturated zone that exhibits the highest headspace concentration and/or visual evidence of impact.
- When no outward evidence of impact was observed in the boring (i.e., PID readings were within "background" range and there was no visual/olfactory indication of impact), one sample was selected from a depth most likely to display the presence of impact.

All soil samples were placed in laboratory-provided sample containers, labeled, and stored in an ice-filled cooler. The samples were provided under strict chain of custody procedures to Eurofins/Test America Laboratories, located in University Park, Illinois, a National Environmental Laboratory Accreditation (NELAC) accredited laboratory and an Illinois Certified Laboratory.

## 2.3 Analytical Methods

All of the soil samples were analyzed for chemical constituents based on the contents (diesel) of the existing AST (BTEX, MTBE and PAHs). Due to the history of metal manufacturing at the site, RCRA Metals were included in all samples. The analytical methods are listed in the following table.

| Compound | USEPA Analytical Method | Matrix |
|---|---|---|
| Benzene, Ethylbenzene, Toluene, Xylenes (BTEX)/Methyl Tert-Butyl Ether (MTBE) | 8260B | Soil |
| RCRA Metals | 6010C | Soil |
| Polyaromatic Hydrocarbons (PAHs) | 8270D | Soil |
| Mercury | 4771A | Soil |
| pH | 9045D | Soil |
| Moisture | Moisture | Soil |

# 3.0 FIELD ACTIVITIES

## 3.1 Utility Clearance

Prior to drilling activities C.S. Drilling, of Naperville, Illinois, contracted by A3E, contacted the a local utility locator to complete a subsurface utility clearance for the Site.

## 3.2 Field Activity

On Tuesday and Wednesday, January 5-6, 2021 respectively, A3E completed Limited Phase II ESA activities at the Target Property. CS Drilling advanced eleven (11) soil borings at the Target Property using GeoProbe® direct push drilling methods. Three (3) borings were advanced in the southeast corner of the property near the location of a historic AST, two (2) borings were advanced near the location of an existing diesel AST, and six (6) borings were advanced outside the existing steel mill in areas were drums were observed.

The soil borings (SB-1 through SB-11) were advanced to depths ranging from the surface to twenty (20) feet bgs on the Target Property. Soil samples were collected from depths ranging from two (2) feet bgs to ten (10) feet bgs The locations of the soil borings are depicted on **Figure 3**. A total of eleven (11) soil samples were collected from the soil borings for laboratory analysis.

### 3.2.1 Geology

The site is underlain by fill material comprised of fine to medium gravel and slag pieces from the surface to a depth of 2 feet bgs. Beneath the fill is a gray/brown fine sand to a depth of 20 feet bgs. Wet conditions were found in all samples to a depth of 8 to 12 feet bgs, below which is the water table.

## 3.3 Soil Sampling

Eleven (11) soil borings were advanced across the Target Property as noted in Section 2.1. The soil borings (SB-1 through SB-11) were advanced to depths varying between 10 and 20 feet below ground surface (bgs). Soil samples were collected at varying depths based on the criteria established in Section 2.2. The following table presents the soil boring number, location, total depth, depth of sample location, and analysis performed.

| Soil Boring Locations | Location | Total Depth (ft) | Sample Depth (ft) | UST Contents | Compound |
|---|---|---|---|---|---|
| SB-1 | Current AST Location | 20 | 6-8 | N/A | BTEX/MTBE, PNAs, RCRA Metals |

| Soil Boring Locations | Location | Total Depth (ft) | Sample Depth (ft) | UST Contents | Compound |
|---|---|---|---|---|---|
| SB-2 | Current AST Location | 20 | 10-12 | N/A | BTEX/MTBE, PNAs, RCRA Metals |
| SB-3 | Former South East AST | 20 | 4-6 | N/A | BTEX/MTBE, PNAs, RCRA Metals |
| SB-4 | Former South East AST | 20 | 8-10 | N/A | BTEX/MTBE, PNAs, RCRA Metals |
| SB-5 | Former South East AST | 10 | 6-8 | N/A | BTEX/MTBE, PNAs, RCRA Metals |
| SB-6 | Current Drum Storage Area | 10 | 4-6 | N/A | BTEX/MTBE, PNAs, RCRA Metals |
| SB-7 | Current Drum Storage Area | 10 | 4-6 | N/A | BTEX/MTBE, PNAs, RCRA Metals |
| SB-8 | Current Drum Storage Area | 10 | 6-8 | N/A | BTEX/MTBE, PNAs, RCRA Metals |
| SB-9 | Current Drum Storage Area | 10 | 2-4 | N/A | BTEX/MTBE, PNAs, RCRA Metals |
| SB-10 | Current Drum Storage Area | 12 | 6-8 | N/A | BTEX/MTBE, PNAs, RCRA Metals |
| SB-11 | Current Drum Storage Area | 10 | 3-4 | N/A | BTEX/MTBE, PNAs, RCRA Metals |

### 3.3.1 Visual & Olfactory Summary

Odors were observed in all boring locations. Petroleum odors and staining were observed ranging from depths of approximately 2-18 feet bgs. Elevated PID readings were noted on site in the sampled locations. Copies of the soil boring logs, which include the soil lithology and PID readings, are included in **Appendix A**.

## 3.4 Groundwater Sampling

Groundwater was not collected during field activities due to an existing groundwater restriction for the Target Property. See Section 2.1 - Description of Sampling Plan.

# 4.0 ANALYTICAL RESULTS

## 4.1 Soil Analytical Results

Sampled depths and detected analytes in each of the collected subsurface soil samples were compared to the IDEM Soil Screening Levels (SSLs) for Industrial properties. The laboratory analytical results for the soil samples collected during the Limited Phase II ESA Site Investigation are provided in **Tables 1a, Table 1b,** and **Table 1c**. The laboratory analytical reports are presented in **Appendix B.**

**Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)/Methyl Tert-Butyl Ether (MTBE):**

Soil analytical results from this investigation indicated that concentrations of BTEX/ MTBE were below IDEM SSLs for Industrial properties. Soil BTEX results are summarized in **Table 1a.**

**Polynuclear aromatics (PNA's):**

Soil analytical results from this investigation indicated that concentrations of PNA's were below IDEM SSLs for Industrial properties. Soil PNA's results are summarized in **Table 1b.**

**RCRA Metals:**

Soil analytical results from this investigation indicated that concentrations of RCRA Metals were below IDEM SSLs for Industrial properties. Soil RCRA Metals results are summarized in **Table 1c.**

### 4.1.1 Pathway Exposure Evaluation

BTEX and PNA's was not detected above the most stringent IDEM SROs for residential properties.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

A3 Environmental, LLC (A3E) performed this Limited Phase II Environmental Site Assessment (ESA) in conformance with the scope and limitations of The American Society for Testing and Materials (ASTM) Standard Practice for *Environmental Site Assessments: Phase II Environmental Site Assessment (ESA) Process (E1903-11)* for the Steel Fabrication Plant located at Street Address, City, State (hereinafter referred to as the Target Property).

In order to assess if subsurface soils and/or groundwater was impacted by the above identified information, A3E advanced eleven (11) soil borings at the Target Property using GeoProbe® direct push drilling methods. The soil borings were advanced to a maximum depth of 20 feet bgs to evaluate potential contamination. Groundwater was not encountered during the time of the sampling.

Selected soil samples were analyzed for BTEX/MTBE, PNAs, and RCRA Metals, which represent the indicator contaminants associated with the identified RECs identified during the Phase I ESA performed on the Target Property. The soil results were compared to the IDEM Soil Screening Levels (SSLs) for Industrial properties.

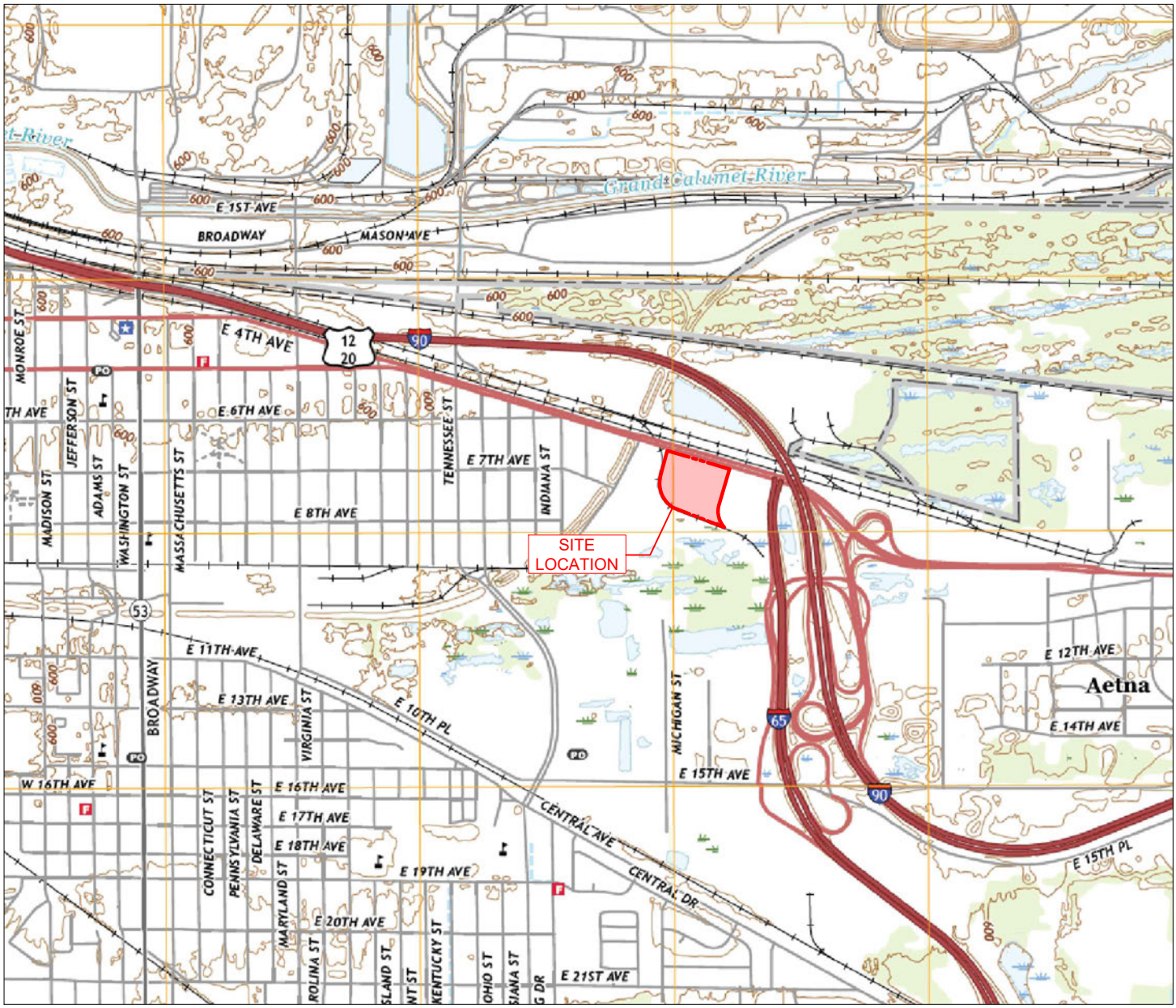
No soil samples exhibited concentrations of BTEX/MTBE, PNAs or RCRA Metals exceeding the IDEM SSLs.

Based on the analytical results of this assessment, it appears that the soils on the Target Property are not impacted and no additional sampling is recommended at this time.

It is A3E's understanding that there is no specific requirement for notification to the Indiana Department of Environmental Management (IDEM).

A3E's conclusions and recommendations are based on the results of this assessment, specifically, the historical information provided and the eleven (11) soil samples collected during the Limited Phase II ESA site investigation activities on site. It is possible that varying subsurface conditions, including soil types, types of contaminants and concentrations of contaminants may exist at other locations on the Target Property. Because of this, A3E cannot be held accountable for identifying these based on scope and/ or budget limitations.

# Appendix A
# Figures




Contour Interval 10 Feet
North American Vertical Datum of 1988

Scale 1:24000

Topographical Map adopted by USGS
Gary, IN 2019

KILOMETERS: 1 0.5 0 1 2
METERS: 1000 500 0 1000 2000
MILES: 1 0.5 0 1
FEET: 1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

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Clean Soil - Clean Slate
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Suite 418
Lisle, IL 60532
Phone: 888-405-1742

# FIGURE 1

## Site Topographic Map

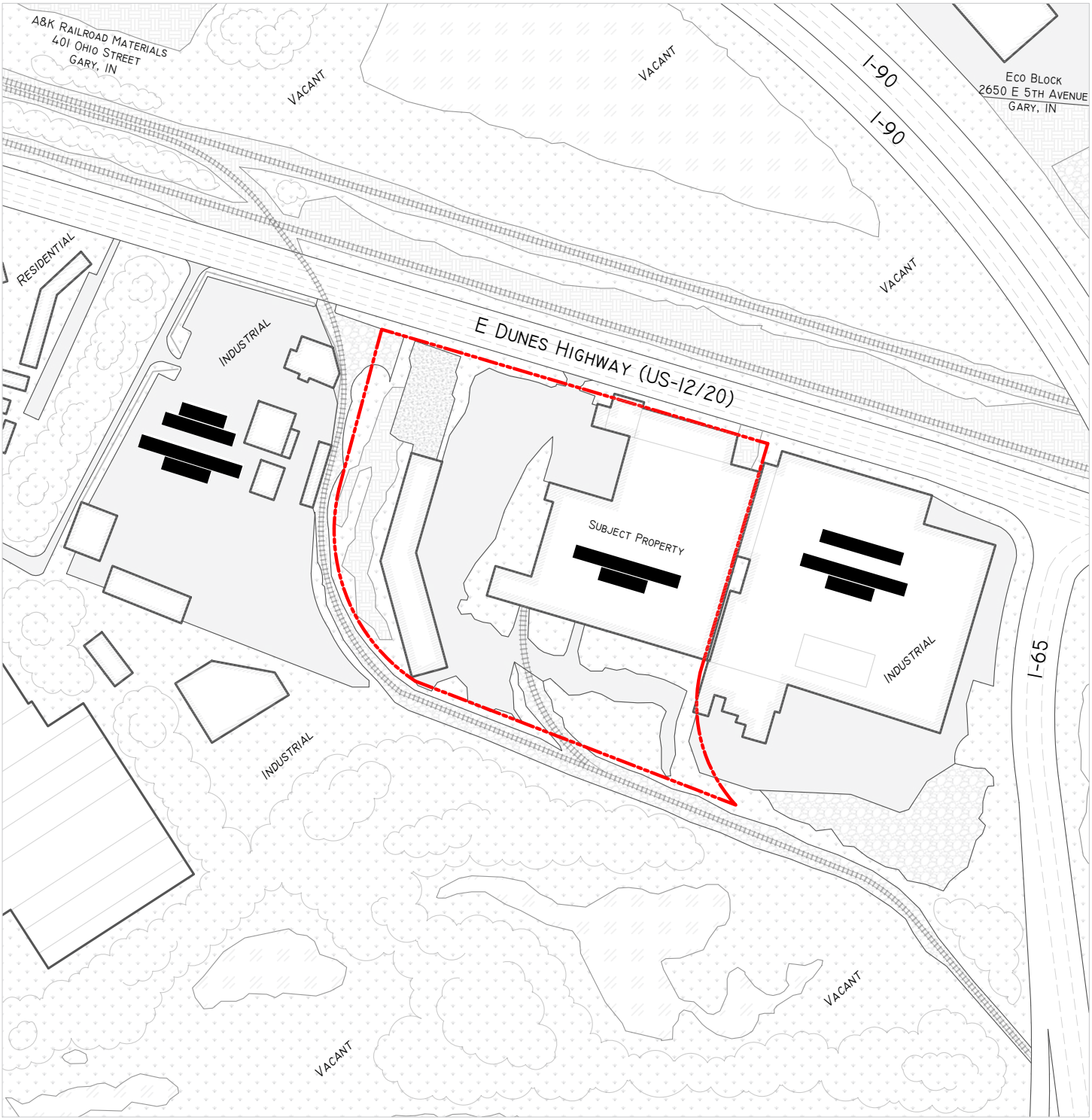
Client [redacted]

SITE LOCATION

Steel Fabrication Plant

[redacted]

Project No. 2021.114
Date 1.15.2021




Imagery adopted from Google Earth Pro
Parcel Data from Report All

APX SCALE 1" = 300'

**Legend:**

Site Property Boundary

*Land Use Information*

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Phone: 888-405-1742

# FIGURE 2

## Site Area Map

Client [redacted]

SITE LOCATION

Steel Fabrication Plant

[redacted]

| | |
|---|---|
| Project No. | 2021.114 |
| Date | 1.15.2021 |


Imagery adopted from Google Earth Pro
Parcel Data from Report All

APX SCALE 1" = 150'

**Legend:**

- Site Property Boundary
- Approximate Soil Boring Location
- 55-gallon Hydraulic Waste Oil
- Diesel Fuel Above Ground Storage Tank
- Stained Soil beneath AST
- Palette of Used Car Batteries
- Additional assorted Drums on Palettes
- Lubricant & Waste Oil Above Ground Storage Tanks

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# FIGURE 3

## Boring Location Map

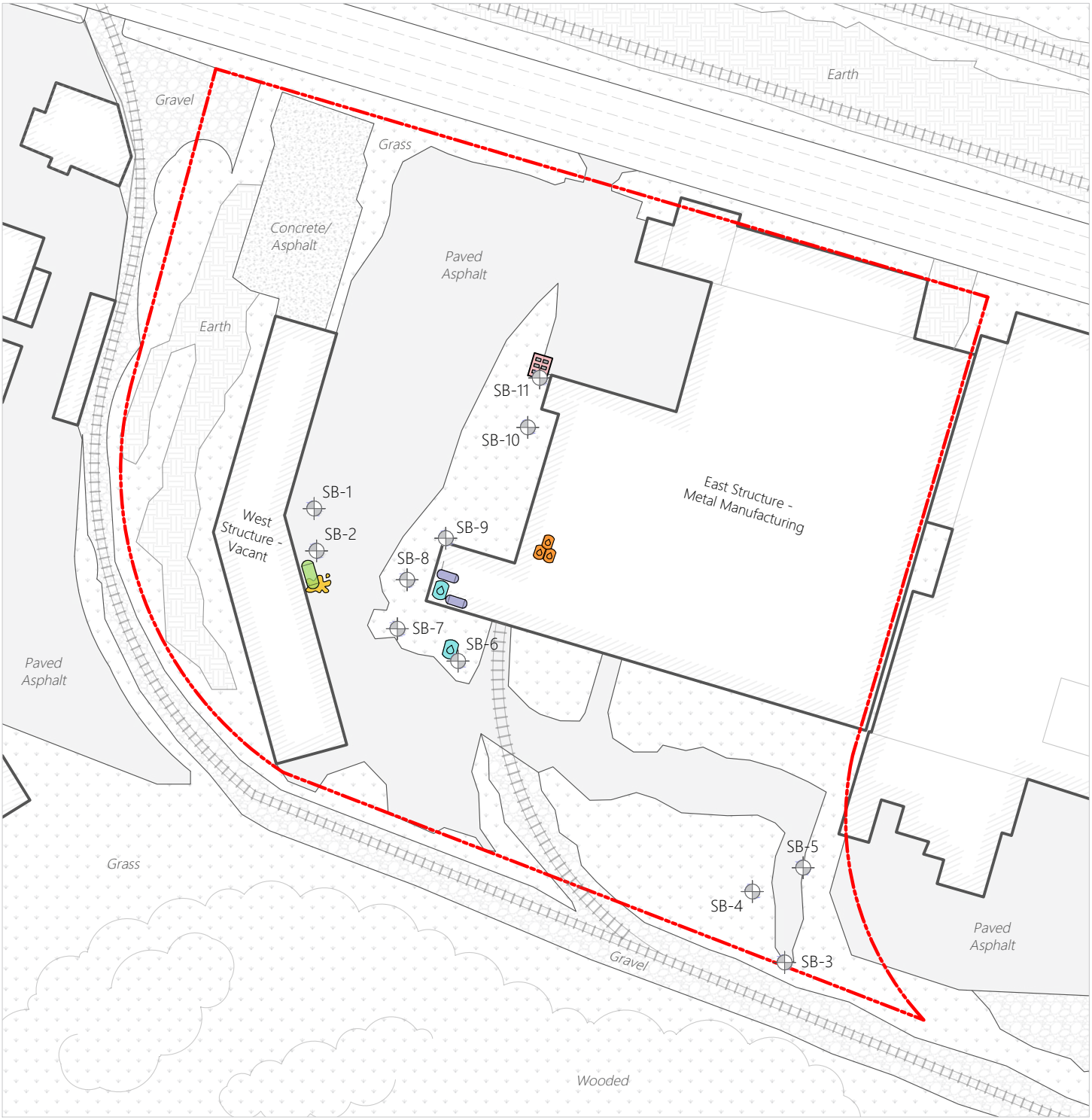
Client [redacted]

SITE LOCATION

Steel Fabrication Plant

[redacted]

| | |
|---|---|
| Project No. | 2021.114 |
| Date | 1.15.2021 |




Imagery adopted from Google Earth Pro
Parcel Data from Report All

APX SCALE 1" = 150'

**Legend:**

- Site Property Boundary
- Approximate Soil Boring Location*
- 55-gallon Hydraulic Waste Oil
- Diesel Fuel Above Ground Storage Tank
- Stained Soil beneath AST
- Palette of Used Car Batteries
- Additional assorted Drums on Palettes
- Lubricant & Waste Oil Above Ground Storage Tanks

*Boring Markers shown in Red Exceed regulatory Criteria*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# FIGURE 4

## Exceedance Map

Client [redacted]

SITE LOCATION

Steel Fabrication Plant

[redacted]

| | |
|---|---|
| Project No. | 2021.114 |
| Date | 1.15.2021 |

# Appendix B
# Soil Boring Logs

| | | | | | |
|---|---|---|---|---|---|
| **A3E Project No.** | **2021.114** | **Start Time:** | 10:30 AM | **Boring No:** | **SB-2** |
| **Project:** | **Gary Phase 2** | **End Time:** | 11:25 | **Monitoring Well No:** | **N/A** |
| **Location:** | **Gary, IN** | | | | |
| **Date Drilled:** | **1/5/2021** | **Screen Dia:** | **N/A** | **Drilling Co:** | **CS Drilling** |
| **Total Depth:** | **20'** | **Length:** | **N/A** | **Method:** | GeoProbe |
| **Hole Diameter:** | **2"** | **Slot Size:** | **N/A** | **Driller:** | **Pat Cox** |
| **Elev. G.L.:** | **N/A** **TOC:** **N/A** | **Casing Dia:** | **N/A** | **Geologist:** | Evan Meinzer |
| **Water elev:** | | | | | |
| **Initial:** | **N/A** **Static:** **N/A** | **Length:** | **N/A** | **Sampling Method(s):** | Continuous |
| | | **Type:** | **N/A** | **Analysis Equip:** | Ion Tiger LT |

| Sample Depth | Headspace (ppm) | Monitoring Well Diagram | Depth (feet) | Graph Symbol | Lithologic Description | Moisture | Observations/Remarks |
|---|---|---|---|---|---|---|---|
| 0-2 | *0.0* | | 1 | | Slag and Brick Fill, Sulfurous Odor | Wet | |
| | | | 2 | | | | |
| 2-4 | *0.2* | | 3 | | Sand, fine, light brown, poorly sorted, well graded, loose, no odors | | |
| | | | 4 | | | | |
| 4-6 | *0.6* | | 5 | | | | |
| | | | 6 | | | | |
| 6-8 | *3.1* | | 7 | | | | |
| | | | 8 | | | | |
| 8-10 | *30.9* | | 9 | | | | |
| | | | 10 | | | | |
| 10-12 | *71.8* | | 11 | | Sand, fine, gray, poorly sorted, well graded, loose, diesel odor | | Sample S-02 collected from 10-12 feet bgs at 10:55 AM |
| | | | 12 | | | | |
| 12-14 | *18.3* | | 13 | | | Sat. | |
| | | | 14 | | | | |
| 14-16 | *3.8* | | 15 | | | | |
| | | | 16 | | | | |
| 16-18 | *0.2* | | 17 | | | | |
| | | | 18 | | | | |
| 18-20 | *0* | | 19 | | | | |
| | | | 20 | | | | |

Well Logged by: Evan Meinzer
A3 Environmental, LLC - 888-405-1742

| | | | | | |
|---|---|---|---|---|---|
| **A3E Project No.** | **2021.114** | **Start Time:** | 7:50 AM | **Boring No:** | **SB-3** |
| **Project:** | **Gary Phase 2** | **End Time:** | 8:25 AM | **Monitoring Well No:** | **N/A** |
| **Location:** | **Gary, IN** | | | | |
| **Date Drilled:** | **1/6/2021** | **Screen Dia:** | **N/A** | **Drilling Co:** | **CS Drilling** |
| **Total Depth:** | **20'** | **Length:** | **N/A** | **Method:** | GeoProbe |
| **Hole Diameter:** | **2"** | **Slot Size:** | **N/A** | **Driller:** | **Pat Cox** |
| **Elev. G.L.:** | **N/A** **TOC:** **N/A** | **Casing Dia:** | **N/A** | **Geologist:** | Evan Meinzer |
| **Water elev:** | | | | | |
| **Initial:** | **N/A** **Static:** **N/A** | **Length:** | **N/A** | **Sampling Method(s):** | Continuous |
| | | **Type:** | **N/A** | **Analysis Equip:** | Ion Tiger LT |

| Sample Depth | Headspace (ppm) | Monitoring Well Diagram | Depth (feet) | Graph Symbol | Lithologic Description | Moisture | Observations/Remarks |
|---|---|---|---|---|---|---|---|
| 0-2 | *0.0* | | 1 | | Auger from 0 to 3 feet bgs | Wet | |
| | | | 2 | | | | |
| 2-4 | *3.2* | | 3 | | | | |
| | | | 4 | | Silty clay, dark brown, loose, low plasticity, some odors | | |
| 4-6 | *4.4* | | 5 | | Sand, fine, gray, poorly sorted, well graded, loose, slight odors | | Sample S-03 collected from 4-6 feet bgs at 8:25 AM |
| | | | 6 | | | | |
| 6-8 | *2.6* | | 7 | | | Sat. | |
| | | | 8 | | | | |
| 8-10 | *2.0* | | 9 | | | | |
| | | | 10 | | | | |
| 10-12 | *9.0* | | 11 | | | | |
| | | | 12 | | | | |
| 12-14 | *7.4* | | 13 | | | | |
| | | | 14 | | | | |
| 14-16 | *4.2* | | 15 | | | | |
| | | | 16 | | | | |
| 16-18 | *1* | | 17 | | | | |
| | | | 18 | | | | |
| 18-20 | *3.2* | | 19 | | | | |
| | | | 20 | | | | |

Well Logged by: Evan Meinzer
A3 Environmental, LLC - 888-405-1742

| | | | | | |
|---|---|---|---|---|---|
| **A3E Project No.** | **2021.114** | **Start Time:** | 8:30 AM | **Boring No:** | **SB-4** |
| **Project:** | **Gary Phase 2** | **End Time:** | 8:55 AM | **Monitoring Well No:** | **N/A** |
| **Location:** | **Gary, IN** | | | | |
| **Date Drilled:** | **1/6/2021** | **Screen Dia:** | **N/A** | **Drilling Co:** | **CS Drilling** |
| **Total Depth:** | **20'** | **Length:** | **N/A** | **Method:** | GeoProbe |
| **Hole Diameter:** | **2"** | **Slot Size:** | **N/A** | **Driller:** | **Pat Cox** |
| **Elev. G.L.:** | **N/A** **TOC:** **N/A** | **Casing Dia:** | **N/A** | **Geologist:** | Evan Meinzer |
| **Water elev:** | | | | | |
| **Initial:** | **N/A** **Static:** **N/A** | **Length:** | **N/A** | **Sampling Method(s):** | Continuous |
| | | **Type:** | **N/A** | **Analysis Equip:** | Ion Tiger LT |

| Sample Depth | Headspace (ppm) | Monitoring Well Diagram | Depth (feet) | Graph Symbol | Lithologic Description | Moisture | Observations/Remarks |
|---|---|---|---|---|---|---|---|
| 0-2 | *N/A* | | 1 | | Auger to 2 ft bgs | Wet | |
| | | | 2 | | | | |
| 2-4 | *N/A* | | 3 | | Gravel and Slag Fill | | |
| | | | 4 | | | | |
| 4-6 | *3.7* | | 5 | | Sand, fine, light brown, poorly sorted, well graded, loose, slight odors | | |
| | | | 6 | | | | |
| 6-8 | *6.2* | | 7 | | | | |
| | | | 8 | | | | |
| 8-10 | *9.1* | | 9 | | | | Sample S-04 collected from 8-10 feet bgs at 8:50 AM |
| | | | 10 | | | | |
| 10-12 | *8.2* | | 11 | | | Sat. | |
| | | | 12 | | | | |
| 12-14 | *4.7* | | 13 | | | | |
| | | | 14 | | | | |
| 14-16 | *3.2* | | 15 | | | | |
| | | | 16 | | | | |
| 16-18 | *0* | | 17 | | | | |
| | | | 18 | | | | |
| 18-20 | *0* | | 19 | | | | |
| | | | 20 | | | | |

Well Logged by: Evan Meinzer
A3 Environmental, LLC - 888-405-1742

| | | | | | |
|---|---|---|---|---|---|
| **A3E Project No.** | **2021.114** | **Start Time:** | 9:00 AM | **Boring No:** | **SB-5** |
| **Project:** | **Gary Phase 2** | **End Time:** | 9:40 AM | **Monitoring Well No:** | **N/A** |
| **Location:** | **Gary, IN** | | | | |
| **Date Drilled:** | **1/6/2021** | **Screen Dia:** | **N/A** | **Drilling Co:** | **CS Drilling** |
| **Total Depth:** | **10'** | **Length:** | **N/A** | **Method:** | GeoProbe |
| **Hole Diameter:** | **2"** | **Slot Size:** | **N/A** | **Driller:** | **Pat Cox** |
| **Elev. G.L.:** | **N/A** **TOC:** **N/A** | **Casing Dia:** | **N/A** | **Geologist:** | Evan Meinzer |
| **Water elev:** | | | | | |
| **Initial:** | **N/A** **Static:** **N/A** | **Length:** | **N/A** | **Sampling Method(s):** | Continuous |
| | | **Type:** | **N/A** | **Analysis Equip:** | Ion Tiger LT |

| Sample Depth | Headspace (ppm) | Monitoring Well Diagram | Depth (feet) | Graph Symbol | Lithologic Description | Moisture | Observations/Remarks |
|---|---|---|---|---|---|---|---|
| 0-2 | *N/A* | | 1 | | Auger to 2 feet bgs | | |
| | | | 2 | | | | |
| 2-4 | *2.2* | | 3 | | Clay with gravel, black, loose, low plasticity, some odors | | |
| | | | 4 | | | | |
| 4-6 | *2.8* | | 5 | | Sand, fine, gray to light brown, poorly sorted, well graded, loose, slight odors | Wet | |
| | | | 6 | | | | |
| 6-8 | *5.5* | | 7 | | | | Sample S-05 collected from 6-8 feet bgs at 9:30 AM |
| | | | 8 | | | | |
| 8-10 | *5.0* | | 9 | | | | |
| | | | 10 | | | Sat. | |

Well Logged by: Evan Meinzer
A3 Environmental, LLC - 888-405-1742

| | | | | | |
|---|---|---|---|---|---|
| **A3E Project No.** | **2021.114** | **Start Time:** | 9:45 AM | **Boring No:** | **SB-6** |
| **Project:** | **Gary Phase 2** | **End Time:** | 10:10 AM | **Monitoring Well No:** | **N/A** |
| **Location:** | **Gary, IN** | | | | |
| **Date Drilled:** | **1/6/2021** | **Screen Dia:** | **N/A** | **Drilling Co:** | **CS Drilling** |
| **Total Depth:** | **10'** | **Length:** | **N/A** | **Method:** | GeoProbe |
| **Hole Diameter:** | **2"** | **Slot Size:** | **N/A** | **Driller:** | **Pat Cox** |
| **Elev. G.L.:** | **N/A** **TOC:** **N/A** | **Casing Dia:** | **N/A** | **Geologist:** | Evan Meinzer |
| **Water elev:** | | | | | |
| **Initial:** | **N/A** **Static:** **N/A** | **Length:** | **N/A** | **Sampling Method(s):** | Continuous |
| | | **Type:** | **N/A** | **Analysis Equip:** | Ion Tiger LT |

| Sample Depth | Headspace (ppm) | Monitoring Well Diagram | Depth (feet) | Graph Symbol | Lithologic Description | Moisture | Observations/Remarks |
|---|---|---|---|---|---|---|---|
| 0-2 | *N/A* | | 1 | | Auger to 2 feet bgs | | |
| | | | 2 | | | | |
| 2-4 | *4.7* | | 3 | | Sand, fine, gray to black, poorly sorted, well graded, loose, some odors | Wet | |
| | | | 4 | | | | |
| 4-6 | *4.9* | | 5 | | | | Sample S-06 collected from 4-6 feet bgs at 10:10 AM |
| | | | 6 | | | | |
| 6-8 | *3.9* | | 7 | | | | |
| | | | 8 | | | | |
| 8-10 | *1.3* | | 9 | | | | |
| | | | 10 | | | Sat. | |

Well Logged by: Evan Meinzer
A3 Environmental, LLC - 888-405-1742

| | | | | | |
|---|---|---|---|---|---|
| **A3E Project No.** | **2021.114** | **Start Time:** | 10:15 AM | **Boring No:** | **SB-7** |
| **Project:** | **Gary Phase 2** | **End Time:** | 10:35 AM | **Monitoring Well No:** | **N/A** |
| **Location:** | **Gary, IN** | | | | |
| **Date Drilled:** | **1/6/2021** | **Screen Dia:** | **N/A** | **Drilling Co:** | **CS Drilling** |
| **Total Depth:** | **10'** | **Length:** | **N/A** | **Method:** | GeoProbe |
| **Hole Diameter:** | **2"** | **Slot Size:** | **N/A** | **Driller:** | **Pat Cox** |
| **Elev. G.L.:** | **N/A** **TOC:** **N/A** | **Casing Dia:** | **N/A** | **Geologist:** | Evan Meinzer |
| **Water elev:** | | | | | |
| **Initial:** | **N/A** **Static:** **N/A** | **Length:** | **N/A** | **Sampling Method(s):** | Continuous |
| | | **Type:** | **N/A** | **Analysis Equip:** | Ion Tiger LT |

| Sample Depth | Headspace (ppm) | Monitoring Well Diagram | Depth (feet) | Graph Symbol | Lithologic Description | Moisture | Observations/Remarks |
|---|---|---|---|---|---|---|---|
| 0-2 | *N/A* | | 1 | | Auger to 2 feet bgs | | |
| | | | 2 | | | | |
| 2-4 | *10.8* | | 3 | | Clay with gravel and slag, black, loose, low plasticity, some odors | Wet | |
| | | | 4 | | | | |
| 4-6 | *17.0* | | 5 | | Sand, fine, brown to light brown, poorly sorted, well graded, loose, slight odors | | Sample S-07 collected from 4-6 feet bgs at 10:45 AM |
| | | | 6 | | | | |
| 6-8 | *4.5* | | 7 | | | | |
| | | | 8 | | | | |
| 8-10 | *7.6* | | 9 | | | | |
| | | | 10 | | | Sat. | |

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| | | | | | |
|---|---|---|---|---|---|
| **A3E Project No.** | **2021.114** | **Start Time:** | 10:50 AM | **Boring No:** | **SB-8** |
| **Project:** | **Gary Phase 2** | **End Time:** | 11:25 AM | **Monitoring Well No:** | **N/A** |
| **Location:** | **Gary, IN** | | | | |
| **Date Drilled:** | **1/6/2021** | **Screen Dia:** | **N/A** | **Drilling Co:** | **CS Drilling** |
| **Total Depth:** | **10'** | **Length:** | **N/A** | **Method:** | GeoProbe |
| **Hole Diameter:** | **2"** | **Slot Size:** | **N/A** | **Driller:** | **Pat Cox** |
| **Elev. G.L.:** | **N/A** **TOC:** **N/A** | **Casing Dia:** | **N/A** | **Geologist:** | Evan Meinzer |
| **Water elev:** | | | | | |
| **Initial:** | **N/A** **Static:** **N/A** | **Length:** | **N/A** | **Sampling Method(s):** | Continuous |
| | | **Type:** | **N/A** | **Analysis Equip:** | Ion Tiger LT |

| Sample Depth | Headspace (ppm) | Monitoring Well Diagram | Depth (feet) | Graph Symbol | Lithologic Description | Moisture | Observations/Remarks |
|---|---|---|---|---|---|---|---|
| 0-2 | *N/A* | | 1 | | Auger to 2.5 feet bgs | | |
| | | | 2 | | | | |
| 2-4 | *7.4* | | 3 | | | | |
| | | | 4 | | | | |
| 4-6 | *6.8* | | 5 | | Sand, fine, brown to gray, poorly sorted, well graded, loose, slight odors | Wet | |
| | | | 6 | | | | |
| 6-8 | *10.6* | | 7 | | | | Sample S-08 collected from 6-8 feet bgs at 11:20 AM |
| | | | 8 | | | | |
| 8-10 | *6.9* | | 9 | | | | |
| | | | 10 | | | Sat. | |

Well Logged by: Evan Meinzer
A3 Environmental, LLC - 888-405-1742

| | | | | | |
|---|---|---|---|---|---|
| **A3E Project No.** | **2021.114** | **Start Time:** | 11:30 AM | **Boring No:** | **SB-9** |
| **Project:** | **Gary Phase 2** | **End Time:** | 11:55 AM | **Monitoring Well No:** | **N/A** |
| **Location:** | **Gary, IN** | | | | |
| **Date Drilled:** | **1/6/2021** | **Screen Dia:** | **N/A** | **Drilling Co:** | **CS Drilling** |
| **Total Depth:** | **10'** | **Length:** | **N/A** | **Method:** | GeoProbe |
| **Hole Diameter:** | **2"** | **Slot Size:** | **N/A** | **Driller:** | **Pat Cox** |
| **Elev. G.L.:** | **N/A** **TOC:** **N/A** | **Casing Dia:** | **N/A** | **Geologist:** | Evan Meinzer |
| **Water elev:** | | | | | |
| **Initial:** | **N/A** **Static:** **N/A** | **Length:** | **N/A** | **Sampling Method(s):** | Continuous |
| | | **Type:** | **N/A** | **Analysis Equip:** | Ion Tiger LT |

| Sample Depth | Headspace (ppm) | Monitoring Well Diagram | Depth (feet) | Graph Symbol | Lithologic Description | Moisture | Observations/Remarks |
|---|---|---|---|---|---|---|---|
| 0-2 | *N/A* | | 1 | | Auger to 2 feet bgs | | |
| | | | 2 | | | | |
| 2-4 | *5.2* | | 3 | | Sand, fine, gray to brown, poorly sorted, well graded, loose, slight odors | Wet | Sample S-09 collected from 2-4 feet bgs at 11:50 AM |
| | | | 4 | | | | |
| 4-6 | *3.1* | | 5 | | | | |
| | | | 6 | | | | |
| 6-8 | *3.0* | | 7 | | | | |
| | | | 8 | | | | |
| 8-10 | *2.8* | | 9 | | | | |
| | | | 10 | | | Sat. | |

Well Logged by: Evan Meinzer
A3 Environmental, LLC - 888-405-1742

| | | | | | |
|---|---|---|---|---|---|
| **A3E Project No.** | **2021.114** | **Start Time:** | 12:00 PM | **Boring No:** | **SB-10** |
| **Project:** | **Gary Phase 2** | **End Time:** | 12:35 PM | **Monitoring Well No:** | **N/A** |
| **Location:** | **Gary, IN** | | | | |
| **Date Drilled:** | **1/6/2021** | **Screen Dia:** | **N/A** | **Drilling Co:** | **CS Drilling** |
| **Total Depth:** | **12'** | **Length:** | **N/A** | **Method:** | GeoProbe |
| **Hole Diameter:** | **2"** | **Slot Size:** | **N/A** | **Driller:** | **Pat Cox** |
| **Elev. G.L.:** | **N/A** **TOC:** **N/A** | **Casing Dia:** | **N/A** | **Geologist:** | Evan Meinzer |
| **Water elev:** | | | | | |
| **Initial:** | **N/A** **Static:** **N/A** | **Length:** | **N/A** | **Sampling Method(s):** | Continuous |
| | | **Type:** | **N/A** | **Analysis Equip:** | Ion Tiger LT |

| Sample Depth | Headspace (ppm) | Monitoring Well Diagram | Depth (feet) | Graph Symbol | Lithologic Description | Moisture | Observations/Remarks |
|---|---|---|---|---|---|---|---|
| 0-2 | *N/A* | | 1 | | Auger to 2 feet bgs | | |
| | | | 2 | | | | |
| 2-4 | *15.9* | | 3 | | Gravel, brick, and slag fill | Wet | |
| | | | 4 | | | | |
| 4-6 | *13.6* | | 5 | | | | |
| | | | 6 | | | | |
| 6-8 | *20.1* | | 7 | | Sand, fine, gray to brown, loose, poorly sorted, well graded, slight odor | | Sample S-10 collected from 6-8 feet bgs at 12:35 AM |
| | | | 8 | | | | |
| 8-10 | *10.3* | | 9 | | | | |
| | | | 10 | | | | |
| 10-12 | *9.7* | | 11 | | | | |
| | | | 12 | | | Sat. | |

Well Logged by: Evan Meinzer
A3 Environmental, LLC - 888-405-1742

| | | | | | |
|---|---|---|---|---|---|
| **A3E Project No.** | **2021.114** | **Start Time:** | 12:40 PM | **Boring No:** | **SB-11** |
| **Project:** | **Gary Phase 2** | **End Time:** | 13:10 PM | **Monitoring Well No:** | **N/A** |
| **Location:** | **Gary, IN** | | | | |
| **Date Drilled:** | **1/6/2021** | **Screen Dia:** | **N/A** | **Drilling Co:** | **CS Drilling** |
| **Total Depth:** | **10'** | **Length:** | **N/A** | **Method:** | GeoProbe |
| **Hole Diameter:** | **2"** | **Slot Size:** | **N/A** | **Driller:** | **Pat Cox** |
| **Elev. G.L.:** | **N/A** **TOC:** **N/A** | **Casing Dia:** | **N/A** | **Geologist:** | Evan Meinzer |
| **Water elev:** | | | | | |
| **Initial:** | **N/A** **Static:** **N/A** | **Length:** | **N/A** | **Sampling Method(s):** | Continuous |
| | | **Type:** | **N/A** | **Analysis Equip:** | Ion Tiger LT |

| Sample Depth | Headspace (ppm) | Monitoring Well Diagram | Depth (feet) | Graph Symbol | Lithologic Description | Moisture | Observations/Remarks |
|---|---|---|---|---|---|---|---|
| 0-3 | *N/A* | | 1 | | Auger to 3 feet bgs | | |
| | | | 2 | | | | |
| | | | 3 | | | | |
| 3-4 | *4.7* | | 4 | | Sand, fine, gray to brown, poorly sorted, well graded, loose, slight odors | Wet | Sample S-11 collected from 3-4 feet bgs at 13:05 |
| 4-6 | *1.8* | | 5 | | | | |
| | | | 6 | | | | |
| 6-8 | *3.3* | | 7 | | | | |
| | | | 8 | | | | |
| 8-10 | *4.6* | | 9 | | | | |
| | | | 10 | | | Sat. | |

Well Logged by: Evan Meinzer
A3 Environmental, LLC - 888-405-1742

# Appendix C
# Analytical Tables

**Table 1a**
Soil Analytical Results
BTEX
IDEM SSLs
[redacted]

| | *Soil Exposure* | **Sample** | SB-1 | SB-2 | SB-3 | SB-4 | SB-5 | SB-6 | SB-7 | SB-8 | SB-9 | SB-10 | SB-11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Date** | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 |
| | | **Depth (ft)** | (6-8) | (10-12) | (4-6) | (8-10) | (6-8) | (4-6) | (4-6) | (6-8) | (2-4) | (6-8) | (3-4) |
| **Analyte** | **Com/Ind** | | | | | | | | | | | | |
| Benzene | 51 | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Toluene | 820 | | ND | 0.0274 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Methyl tert-butyl ether | 2,100 | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethylbenzene | 250 | | ND | ND | ND | ND | ND | 0.00135 | ND | ND | ND | ND | ND |
| Xylenes, Total | 260 | | ND | 0.204 | ND | ND | ND | 0.00426 | 0.000945 | ND | 0.00233 | 0.0638 | ND |

**NOTES**
All results expressed in milligrams per kilogram (mg/kg)
ND = Non Detect

**Table 1b**
Soil Analytical Results
PNAs
IDEM SSLs
[redacted]

| | *Soil Exposure* | **Sample** | SB-1 | SB-2 | SB-3 | SB-4 | SB-5 | SB-6 | SB-7 | SB-8 | SB-9 | SB-10 | SB-11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Date** | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 |
| | | **Depth (ft)** | (6-8) | (10-12) | (4-6) | (8-10) | (6-8) | (4-6) | (4-6) | (6-8) | (2-4) | (6-8) | (3-4) |
| **Analyte** | **Com/Ind** | | | | | | | | | | | | |
| Acenaphthene | 45,000 | | ND | ND | 0.0648 | ND | ND | 1.66 | 0.465 | ND | ND | ND | ND |
| Acenaphthylene | N/A | | ND | ND | 0.00610 | ND | ND | ND | 0.0256 | ND | ND | ND | 0 00715 |
| Anthracene | 100,000 | | ND | 0.437 | 0.119 | ND | ND | 2.03 | 0 531 | ND | ND | ND | 0.0168 |
| Benzo[a]anthracene | 210 | | ND | 1.20 | 0.356 | ND | ND | 2.24 | 0 984 | ND | ND | ND | 0.0615 |
| Benzo[a]pyrene | 21 | | ND | ND | 0.450 | ND | ND | 2.36 | 1.39 | ND | 0.578 | ND | 0.0839 |
| Benzo[b]fluoranthene | 210 | | ND | ND | 0.665 | ND | ND | 2.95 | 0.968 | ND | ND | ND | 0.153 |
| Benzo[g,h,i]perylene | NC | | ND | ND | 0.159 | ND | ND | 1.58 | 0.510 | ND | ND | ND | 0.0507 |
| Benzo[k]fluoranthene | 2,100 | | ND | ND | 0.259 | ND | ND | 0.898 | 1.42 | ND | ND | ND | 0.0336 |
| Chrysene | 21,000 | | ND | 0.722 | 0.393 | ND | ND | 3.18 | 1.27 | ND | 1.53 | 5.52 | 0.117 |
| Dibenz(a,h)anthracene | 21 | | ND | ND | 0.0488 | ND | ND | 0.363 | ND | ND | ND | ND | 0.0160 |
| Fluoranthene | 30,000 | | ND | ND | 0.978 | ND | ND | 7.83 | 3.88 | ND | 1.05 | 1.24 | 0.114 |
| Fluorene | 30,000 | | ND | 0.611 | 0.0807 | ND | ND | 1.59 | 0.402 | ND | ND | 0.789 | ND |
| Indeno[1,2,3-cd]pyrene | 210 | | ND | ND | 0.137 | ND | ND | 1.25 | 0.415 | ND | ND | ND | 0.0445 |
| Naphthalene | 170 | | ND | 0.222 | 0.0443 | ND | ND | 1.97 | 0.0511 | ND | 0.353 | 0.647 | 0.0355 |
| Phenanthrene | N/A | | ND | 4.14 | 0.655 | ND | ND | 8.13 | 1.87 | ND | 0.653 | 2.77 | 0.129 |
| Pyrene | 23,000 | | ND | 1.29 | 0.742 | ND | 0.256 | 7.13 | 3.65 | ND | 1.13 | 2.44 | 0.0886 |

**NOTES**
All results expressed in milligrams per kilogram (mg/kg)
NC = No toxicity criteria for this exposure route.
ND = Non Detect

**Table 1c**
Soil Analytical Results
RCRA Metals
IDEM SSLs
[redacted]

| | *Soil Exposure* | **Sample** | SB-1 | SB-2 | SB-3 | SB-4 | SB-5 | SB-6 | SB-7 | SB-8 | SB-9 | SB-10 | SB-11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Date** | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 | 1/6/2021 |
| | | **Depth (ft)** | (6-8) | (10-12) | (4-6) | (8-10) | (6-8) | (4-6) | (4-6) | (6-8) | (2-4) | (6-8) | (3-4) |
| **Analyte** | **Com/Ind** | | | | | | | | | | | | |
| Arsenic | 30 | | 0.966 | 0.664 | 3.31 | 0.631 | 1.13 | 1.17 | 3.91 | 1.55 | 2.85 | 2.90 | 7.96 |
| Barium | 100,000 | | 2.80 | 3.37 | 43.3 | 3.24 | 6.60 | 20.0 | 30.7 | 3.03 | 47.1 | 33.9 | 202 |
| Cadmium | 980 | | ND | 0.0440 | 0.336 | ND | ND | ND | ND | 0.0432 | 0.142 | ND | 2.33 |
| Chromium | NC | | 1.76 | 1.77 | 44.9 | 1.91 | 2.13 | 55.0 | 47.3 | 1.78 | 9.56 | 58.0 | 78.7 |
| Lead | 800 | | 1.10 | 1.40 | 91.9 | 1.28 | 1.41 | 6.34 | 60.0 | 1.52 | 18.7 | 398 | 257 |
| Selenium | 5,800 | | ND | ND | ND | ND | ND | ND | ND | ND | 0.734 | 0.870 | 0.844 |
| Silver | 5,800 | | ND | ND | 0.329 | ND | ND | ND | 0.598 | ND | 0.147 | 0.915 | 2.67 |
| Mercury | 3.1 | | ND | ND | 0.0306 | ND | 0.00998 | 0.0124 | 0.112 | ND | 0.0167 | 0.197 | 0.0643 |

**NOTES**
All results expressed in milligrams per kilogram (mg/kg)
ND = Non Detect
NC = No Criteria

# Appendix D
# Laboratory Analytical Reports

eurofins | Environment Testing America

# ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-193409-1
Client Project/Site: Gary, Indiana Phase II Project

For:
A3 Environmental LLC
3030 Wareenville Rd
Suite 418
Lisle, Illinois 60532

Attn: Evan Meinzer

*Authorized for release by:*
*1/14/2021 4:04:44 PM*

Jim Knapp, Project Manager II
(630)758-0262
Jim.Knapp@Eurofinset.com



*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

# Table of Contents

## Job ID: 500-193409-1

### Laboratory: Eurofins TestAmerica, Chicago

**Narrative**

**Job Narrative**
**500-193409-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 1/6/2021 2:05 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.6º C.

**GC/MS VOA**
Methods 624, 8260B: The following samples were diluted due to the abundance of non-target analytes: S-02 (500-193409-2) and S-10 (500-193409-10). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**GC/MS Semi VOA**
Method 8270D: The following samples were diluted due to the nature of the sample matrix: S-02 (500-193409-2), S-05 (500-193409-5), S-06 (500-193409-6), S-07 (500-193409-7), S-09 (500-193409-9) and S-10 (500-193409-10). Elevated reporting limits (RLs) are provided.

Method 8270D: The following samples required a dilution due to the nature of the sample matrix: S-06 (500-193409-6), S-09 (500-193409-9) and S-10 (500-193409-10). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method 8270D: The following sample required a dilution due to the nature of the sample matrix: S-02 (500-193409-2). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**Metals**
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**General Chemistry**
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**Organic Prep**
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-01 — Lab Sample ID: 500-193409-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.966 | J | 1.14 | 0.389 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Barium | 2.80 | | 1.14 | 0.130 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Chromium | 1.76 | | 1.14 | 0.564 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Lead | 1.10 | | 0.569 | 0.263 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| pH | 6.9 | | 0.2 | 0.2 | SU | 1 | | 9045D | Total/NA |

## Client Sample ID: S-02 — Lab Sample ID: 500-193409-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | 0.0274 | | 0.0175 | 0.0128 | mg/Kg | 50 | ☼ | 8260B | Total/NA |
| Xylenes, Total | 0.204 | | 0.0351 | 0.0154 | mg/Kg | 50 | ☼ | 8260B | Total/NA |
| Anthracene | 0.437 | J | 0.756 | 0.127 | mg/Kg | 20 | ☼ | 8270D | Total/NA |
| Benzo[a]anthracene | 1.20 | | 0.756 | 0.102 | mg/Kg | 20 | ☼ | 8270D | Total/NA |
| Chrysene | 0.722 | J | 0.756 | 0.208 | mg/Kg | 20 | ☼ | 8270D | Total/NA |
| Naphthalene | 0.222 | J | 0.756 | 0.117 | mg/Kg | 20 | ☼ | 8270D | Total/NA |
| Phenanthrene | 4.14 | | 0.756 | 0.106 | mg/Kg | 20 | ☼ | 8270D | Total/NA |
| Pyrene | 1.29 | | 0.756 | 0.151 | mg/Kg | 20 | ☼ | 8270D | Total/NA |
| Fluorene | 0.611 | J | 0.756 | 0.107 | mg/Kg | 20 | ☼ | 8270D | Total/NA |
| Arsenic | 0.664 | J | 1.09 | 0.374 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Barium | 3.37 | | 1.09 | 0.125 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Cadmium | 0.0440 | J | 0.218 | 0.0393 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Chromium | 1.77 | | 1.09 | 0.541 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Lead | 1.40 | | 0.546 | 0.252 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| pH | 7.0 | | 0.2 | 0.2 | SU | 1 | | 9045D | Total/NA |

## Client Sample ID: S-03 — Lab Sample ID: 500-193409-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 0.0648 | | 0.0411 | 0.00744 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Acenaphthylene | 0.00610 | J | 0.0411 | 0.00546 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Anthracene | 0.119 | | 0.0411 | 0.00692 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Benzo[a]anthracene | 0.356 | | 0.0411 | 0.00557 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Benzo[a]pyrene | 0.450 | | 0.0411 | 0.00802 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Benzo[b]fluoranthene | 0.665 | | 0.0411 | 0.00894 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Benzo[g,h,i]perylene | 0.159 | | 0.0411 | 0.0133 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Benzo[k]fluoranthene | 0.259 | | 0.0411 | 0.0122 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Chrysene | 0.393 | | 0.0411 | 0.0113 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Dibenz(a,h)anthracene | 0.0488 | | 0.0411 | 0.00800 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Fluoranthene | 0.978 | | 0.0411 | 0.00768 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Indeno[1,2,3-cd]pyrene | 0.137 | | 0.0411 | 0.0107 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Naphthalene | 0.0443 | | 0.0411 | 0.00637 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Phenanthrene | 0.655 | | 0.0411 | 0.00577 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Pyrene | 0.742 | | 0.0411 | 0.00823 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Fluorene | 0.0807 | | 0.0411 | 0.00582 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Arsenic | 3.31 | | 1.22 | 0.416 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Barium | 43.3 | | 1.22 | 0.139 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Cadmium | 0.336 | | 0.243 | 0.0437 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Chromium | 44.9 | | 1.22 | 0.601 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Lead | 91.9 | | 0.608 | 0.281 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Silver | 0.329 | J | 0.608 | 0.157 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Mercury | 30.6 | | 19.4 | 6.47 | ug/Kg | 1 | ☼ | 7471A | Total/NA |
| pH | 7.4 | | 0.2 | 0.2 | SU | 1 | | 9045D | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Chicago

# Detection Summary

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-04 — Lab Sample ID: 500-193409-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.631 | J | 1.06 | 0.361 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Barium | 3.24 | | 1.06 | 0.120 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Chromium | 1.91 | | 1.06 | 0.522 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Lead | 1.28 | | 0.528 | 0.244 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| pH | 7.7 | | 0.2 | 0.2 | SU | 1 | | 9045D | Total/NA |

## Client Sample ID: S-05 — Lab Sample ID: 500-193409-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Pyrene | 0.256 | J | 0.403 | 0.0806 | mg/Kg | 10 | ☼ | 8270D | Total/NA |
| Arsenic | 1.13 | | 1.12 | 0.383 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Barium | 6.60 | | 1.12 | 0.128 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Chromium | 2.13 | | 1.12 | 0.555 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Lead | 1.41 | | 0.560 | 0.259 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Mercury | 9.98 | J | 19.6 | 6.51 | ug/Kg | 1 | ☼ | 7471A | Total/NA |
| pH | 6.5 | | 0.2 | 0.2 | SU | 1 | | 9045D | Total/NA |

## Client Sample ID: S-06 — Lab Sample ID: 500-193409-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Toluene | 0.00135 | J | 0.00213 | 0.000537 | mg/Kg | 1 | ☼ | 8260B | Total/NA |
| Xylenes, Total | 0.00426 | | 0.00425 | 0.000681 | mg/Kg | 1 | ☼ | 8260B | Total/NA |
| Acenaphthene | 1.66 | J | 1.80 | 0.326 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Anthracene | 2.03 | | 1.80 | 0.303 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Benzo[a]anthracene | 2.24 | | 1.80 | 0.244 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Benzo[a]pyrene | 2.36 | | 1.80 | 0.351 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Benzo[b]fluoranthene | 2.95 | | 1.80 | 0.391 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Benzo[g,h,i]perylene | 1.58 | J | 1.80 | 0.584 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Benzo[k]fluoranthene | 0.898 | J | 1.80 | 0.534 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Chrysene | 3.18 | | 1.80 | 0.494 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Dibenz(a,h)anthracene | 0.363 | J | 1.80 | 0.350 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Fluoranthene | 7.83 | | 1.80 | 0.336 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Indeno[1,2,3-cd]pyrene | 1.25 | J | 1.80 | 0.470 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Naphthalene | 1.97 | | 1.80 | 0.279 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Phenanthrene | 8.13 | | 1.80 | 0.253 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Pyrene | 7.13 | | 1.80 | 0.360 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Fluorene | 1.59 | J | 1.80 | 0.255 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Arsenic | 1.17 | | 0.995 | 0.340 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Barium | 20.0 | | 0.995 | 0.113 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Chromium | 55.0 | | 0.995 | 0.493 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Lead | 6.34 | | 0.498 | 0.230 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Mercury | 12.4 | J | 17.5 | 5.84 | ug/Kg | 1 | ☼ | 7471A | Total/NA |
| pH | 6.9 | | 0.2 | 0.2 | SU | 1 | | 9045D | Total/NA |

## Client Sample ID: S-07 — Lab Sample ID: 500-193409-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Xylenes, Total | 0.000945 | J | 0.00411 | 0.000657 | mg/Kg | 1 | ☼ | 8260B | Total/NA |
| Acenaphthene | 0.465 | | 0.175 | 0.0316 | mg/Kg | 5 | ☼ | 8270D | Total/NA |
| Acenaphthylene | 0.0256 | J | 0.175 | 0.0232 | mg/Kg | 5 | ☼ | 8270D | Total/NA |
| Anthracene | 0.531 | | 0.175 | 0.0294 | mg/Kg | 5 | ☼ | 8270D | Total/NA |
| Benzo[a]anthracene | 0.984 | | 0.175 | 0.0237 | mg/Kg | 5 | ☼ | 8270D | Total/NA |

This Detection Summary does not include radiochemical test results.

## Client Sample ID: S-07 (Continued) — Lab Sample ID: 500-193409-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Benzo[a]pyrene | 1.39 | | 0.175 | 0.0341 | mg/Kg | 5 | ☼ | 8270D | Total/NA |
| Benzo[b]fluoranthene | 0.968 | | 0.175 | 0.0380 | mg/Kg | 5 | ☼ | 8270D | Total/NA |
| Benzo[g,h,i]perylene | 0.510 | | 0.175 | 0.0567 | mg/Kg | 5 | ☼ | 8270D | Total/NA |
| Benzo[k]fluoranthene | 1.42 | | 0.175 | 0.0519 | mg/Kg | 5 | ☼ | 8270D | Total/NA |
| Chrysene | 1.27 | | 0.175 | 0.0480 | mg/Kg | 5 | ☼ | 8270D | Total/NA |
| Fluoranthene | 3.88 | | 0.175 | 0.0326 | mg/Kg | 5 | ☼ | 8270D | Total/NA |
| Indeno[1,2,3-cd]pyrene | 0.415 | | 0.175 | 0.0456 | mg/Kg | 5 | ☼ | 8270D | Total/NA |
| Naphthalene | 0.0511 | J | 0.175 | 0.0271 | mg/Kg | 5 | ☼ | 8270D | Total/NA |
| Phenanthrene | 1.87 | | 0.175 | 0.0245 | mg/Kg | 5 | ☼ | 8270D | Total/NA |
| Pyrene | 3.65 | | 0.175 | 0.0350 | mg/Kg | 5 | ☼ | 8270D | Total/NA |
| Fluorene | 0.402 | | 0.175 | 0.0247 | mg/Kg | 5 | ☼ | 8270D | Total/NA |
| Arsenic | 3.91 | | 0.982 | 0.336 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Barium | 30.7 | | 0.982 | 0.112 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Chromium | 47.3 | | 0.982 | 0.486 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Lead | 60.0 | | 0.491 | 0.227 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Silver | 0.598 | | 0.491 | 0.127 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Mercury | 112 | | 17.4 | 5.78 | ug/Kg | 1 | ☼ | 7471A | Total/NA |
| pH | 7.7 | | 0.2 | 0.2 | SU | 1 | | 9045D | Total/NA |

## Client Sample ID: S-08 — Lab Sample ID: 500-193409-8

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.55 | | 1.07 | 0.365 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Barium | 3.03 | | 1.07 | 0.122 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Cadmium | 0.0432 | J | 0.213 | 0.0384 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Chromium | 1.78 | | 1.07 | 0.528 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Lead | 1.52 | | 0.533 | 0.246 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| pH | 7.2 | | 0.2 | 0.2 | SU | 1 | | 9045D | Total/NA |

## Client Sample ID: S-09 — Lab Sample ID: 500-193409-9

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Xylenes, Total | 0.00233 | J | 0.00505 | 0.000808 | mg/Kg | 1 | ☼ | 8260B | Total/NA |
| Benzo[a]pyrene | 0.578 | J | 1.79 | 0.349 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Chrysene | 1.53 | J | 1.79 | 0.492 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Fluoranthene | 1.05 | J | 1.79 | 0.334 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Naphthalene | 0.353 | J | 1.79 | 0.277 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Phenanthrene | 0.653 | J | 1.79 | 0.251 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Pyrene | 1.13 | J | 1.79 | 0.358 | mg/Kg | 50 | ☼ | 8270D | Total/NA |
| Arsenic | 2.85 | | 1.05 | 0.358 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Barium | 47.1 | | 1.05 | 0.119 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Cadmium | 0.142 | J | 0.209 | 0.0377 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Chromium | 9.56 | | 1.05 | 0.518 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Lead | 18.7 | | 0.523 | 0.242 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Selenium | 0.734 | J | 1.05 | 0.615 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Silver | 0.147 | J | 0.523 | 0.135 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Mercury | 16.7 | J | 17.2 | 5.71 | ug/Kg | 1 | ☼ | 7471A | Total/NA |
| pH | 7.8 | | 0.2 | 0.2 | SU | 1 | | 9045D | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-10 — Lab Sample ID: 500-193409-10

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Xylenes, Total | 0.0638 | | 0.0314 | 0.0138 | mg/Kg | 50 | ☼ | 8260B | Total/NA |
| Chrysene | 5.52 | | 3.76 | 1.03 | mg/Kg | 100 | ☼ | 8270D | Total/NA |
| Fluoranthene | 1.24 | J | 3.76 | 0.703 | mg/Kg | 100 | ☼ | 8270D | Total/NA |
| Naphthalene | 0.647 | J | 3.76 | 0.583 | mg/Kg | 100 | ☼ | 8270D | Total/NA |
| Phenanthrene | 2.77 | J | 3.76 | 0.528 | mg/Kg | 100 | ☼ | 8270D | Total/NA |
| Pyrene | 2.44 | J | 3.76 | 0.753 | mg/Kg | 100 | ☼ | 8270D | Total/NA |
| Fluorene | 0.789 | J | 3.76 | 0.533 | mg/Kg | 100 | ☼ | 8270D | Total/NA |
| Arsenic | 2.90 | | 1.04 | 0.354 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Barium | 33.9 | | 1.04 | 0.118 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Chromium | 58.0 | | 1.04 | 0.513 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Lead | 398 | | 0.518 | 0.239 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Selenium | 0.870 | J | 1.04 | 0.609 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Silver | 0.915 | | 0.518 | 0.134 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Mercury | 197 | | 17.4 | 5.80 | ug/Kg | 1 | ☼ | 7471A | Total/NA |
| pH | 6.4 | | 0.2 | 0.2 | SU | 1 | | 9045D | Total/NA |

## Client Sample ID: S-11 — Lab Sample ID: 500-193409-11

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthylene | 0.00715 | J | 0.0368 | 0.00488 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Anthracene | 0.0168 | J | 0.0368 | 0.00619 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Benzo[a]anthracene | 0.0615 | | 0.0368 | 0.00498 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Benzo[a]pyrene | 0.0839 | | 0.0368 | 0.00717 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Benzo[b]fluoranthene | 0.153 | | 0.0368 | 0.00799 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Benzo[g,h,i]perylene | 0.0507 | | 0.0368 | 0.0119 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Benzo[k]fluoranthene | 0.0336 | J | 0.0368 | 0.0109 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Chrysene | 0.117 | | 0.0368 | 0.0101 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Dibenz(a,h)anthracene | 0.0160 | J | 0.0368 | 0.00716 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Fluoranthene | 0.114 | | 0.0368 | 0.00687 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Indeno[1,2,3-cd]pyrene | 0.0445 | | 0.0368 | 0.00960 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Naphthalene | 0.0355 | J | 0.0368 | 0.00570 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Phenanthrene | 0.129 | | 0.0368 | 0.00516 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Pyrene | 0.0886 | | 0.0368 | 0.00736 | mg/Kg | 1 | ☼ | 8270D | Total/NA |
| Arsenic | 7.96 | | 1.04 | 0.355 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Barium | 202 | | 1.04 | 0.118 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Cadmium | 2.33 | | 0.208 | 0.0374 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Chromium | 78.7 | | 1.04 | 0.514 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Lead | 257 | | 0.519 | 0.240 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Selenium | 0.844 | J | 1.04 | 0.611 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Silver | 2.67 | | 0.519 | 0.134 | mg/Kg | 1 | ☼ | 6010C | Total/NA |
| Mercury | 64.3 | | 17.1 | 5.69 | ug/Kg | 1 | ☼ | 7471A | Total/NA |
| pH | 7.0 | | 0.2 | 0.2 | SU | 1 | | 9045D | Total/NA |

This Detection Summary does not include radiochemical test results.

# Method Summary

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260B | Volatile Organic Compounds (GC/MS) | SW846 | TAL CHI |
| 8270D | Semivolatile Organic Compounds (GC/MS) | SW846 | TAL CHI |
| 6010C | Metals (ICP) | SW846 | TAL CHI |
| 7471A | Mercury (CVAA) | SW846 | TAL CHI |
| 9045D | pH | SW846 | TAL CHI |
| Moisture | Percent Moisture | EPA | TAL CHI |
| 3050B | Preparation, Metals | SW846 | TAL CHI |
| 3541 | Automated Soxhlet Extraction | SW846 | TAL CHI |
| 5035 | Closed System Purge and Trap | SW846 | TAL CHI |
| 7471A | Preparation, Mercury | SW846 | TAL CHI |

**Protocol References:**

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

# Sample Summary

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---|---|---|---|---|---|
| 500-193409-1 | S-01 | Solid | 01/05/21 10:20 | 01/06/21 14:05 | |
| 500-193409-2 | S-02 | Solid | 01/05/21 10:35 | 01/06/21 14:05 | |
| 500-193409-3 | S-03 | Solid | 01/06/21 08:23 | 01/06/21 14:05 | |
| 500-193409-4 | S-04 | Solid | 01/06/21 08:50 | 01/06/21 14:05 | |
| 500-193409-5 | S-05 | Solid | 01/06/21 09:30 | 01/06/21 14:05 | |
| 500-193409-6 | S-06 | Solid | 01/06/21 10:10 | 01/06/21 14:05 | |
| 500-193409-7 | S-07 | Solid | 01/06/21 10:45 | 01/06/21 14:05 | |
| 500-193409-8 | S-08 | Solid | 01/06/21 11:20 | 01/06/21 14:05 | |
| 500-193409-9 | S-09 | Solid | 01/06/21 11:50 | 01/06/21 14:05 | |
| 500-193409-10 | S-10 | Solid | 01/06/21 12:35 | 01/06/21 14:05 | |
| 500-193409-11 | S-11 | Solid | 01/06/21 13:05 | 01/06/21 14:05 | |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-01

**Date Collected: 01/05/21 10:20**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-1

**Matrix: Solid**
**Percent Solids: 83.7**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00190 | | 0.00190 | 0.000484 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 11:46 | 1 |
| Toluene | <0.00190 | | 0.00190 | 0.000480 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 11:46 | 1 |
| Ethylbenzene | <0.00190 | | 0.00190 | 0.000909 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 11:46 | 1 |
| Xylenes, Total | <0.00380 | | 0.00380 | 0.000608 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 11:46 | 1 |
| Methyl tert-butyl ether | <0.00190 | | 0.00190 | 0.000558 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 11:46 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *102* | | *70 - 134* | *01/06/21 17:34* | *01/08/21 11:46* | *1* |
| *Toluene-d8 (Surr)* | *93* | | *75 - 124* | *01/06/21 17:34* | *01/08/21 11:46* | *1* |
| *4-Bromofluorobenzene (Surr)* | *89* | | *75 - 131* | *01/06/21 17:34* | *01/08/21 11:46* | *1* |
| *Dibromofluoromethane (Surr)* | *100* | | *75 - 126* | *01/06/21 17:34* | *01/08/21 11:46* | *1* |

### Method: 8270D - Semivolatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <0.0393 | | 0.0393 | 0.00712 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 14:40 | 1 |
| Acenaphthylene | <0.0393 | | 0.0393 | 0.00522 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 14:40 | 1 |
| Anthracene | <0.0393 | | 0.0393 | 0.00662 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 14:40 | 1 |
| Benzo[a]anthracene | <0.0393 | | 0.0393 | 0.00533 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 14:40 | 1 |
| Benzo[a]pyrene | <0.0393 | | 0.0393 | 0.00767 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 14:40 | 1 |
| Benzo[b]fluoranthene | <0.0393 | | 0.0393 | 0.00855 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 14:40 | 1 |
| Benzo[g,h,i]perylene | <0.0393 | F1 | 0.0393 | 0.0128 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 14:40 | 1 |
| Benzo[k]fluoranthene | <0.0393 | | 0.0393 | 0.0117 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 14:40 | 1 |
| Chrysene | <0.0393 | | 0.0393 | 0.0108 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 14:40 | 1 |
| Dibenz(a,h)anthracene | <0.0393 | F1 | 0.0393 | 0.00765 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 14:40 | 1 |
| Fluoranthene | <0.0393 | | 0.0393 | 0.00734 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 14:40 | 1 |
| Indeno[1,2,3-cd]pyrene | <0.0393 | F1 | 0.0393 | 0.0103 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 14:40 | 1 |
| Naphthalene | <0.0393 | | 0.0393 | 0.00609 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 14:40 | 1 |
| Phenanthrene | <0.0393 | | 0.0393 | 0.00552 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 14:40 | 1 |
| Pyrene | <0.0393 | | 0.0393 | 0.00787 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 14:40 | 1 |
| Fluorene | <0.0393 | | 0.0393 | 0.00557 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 14:40 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Nitrobenzene-d5 (Surr)* | *114* | | *37 - 147* | *01/08/21 16:40* | *01/11/21 14:40* | *1* |
| *2-Fluorobiphenyl (Surr)* | *95* | | *43 - 145* | *01/08/21 16:40* | *01/11/21 14:40* | *1* |
| *Terphenyl-d14 (Surr)* | *92* | | *42 - 157* | *01/08/21 16:40* | *01/11/21 14:40* | *1* |

### Method: 6010C - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Arsenic** | **0.966** | **J** | 1.14 | 0.389 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 18:43 | 1 |
| **Barium** | **2.80** | | 1.14 | 0.130 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 18:43 | 1 |
| Cadmium | <0.228 | | 0.228 | 0.0410 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 18:43 | 1 |
| **Chromium** | **1.76** | | 1.14 | 0.564 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 18:43 | 1 |
| **Lead** | **1.10** | | 0.569 | 0.263 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 18:43 | 1 |
| Selenium | <1.14 | | 1.14 | 0.670 | mg/Kg | ☼ | 01/08/21 06:40 | 01/13/21 16:12 | 1 |
| Silver | <0.569 | | 0.569 | 0.147 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 18:43 | 1 |

### Method: 7471A - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | <18.9 | | 18.9 | 6.29 | ug/Kg | ☼ | 01/07/21 13:40 | 01/08/21 09:05 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-01

**Date Collected: 01/05/21 10:20**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-1

**Matrix: Solid**
**Percent Solids: 83.7**

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| pH | 6.9 | | 0.2 | 0.2 | SU | | | 01/08/21 08:31 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-02

**Date Collected: 01/05/21 10:35**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-2

**Matrix: Solid**
**Percent Solids: 87.1**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.0175 | | 0.0175 | 0.0102 | mg/Kg | ☼ | 01/05/21 10:35 | 01/08/21 15:34 | 50 |
| Toluene | <0.0175 | | 0.0175 | 0.0103 | mg/Kg | ☼ | 01/05/21 10:35 | 01/08/21 15:34 | 50 |
| **Ethylbenzene** | **0.0274** | | 0.0175 | 0.0128 | mg/Kg | ☼ | 01/05/21 10:35 | 01/08/21 15:34 | 50 |
| **Xylenes, Total** | **0.204** | | 0.0351 | 0.0154 | mg/Kg | ☼ | 01/05/21 10:35 | 01/08/21 15:34 | 50 |
| Methyl tert-butyl ether | <0.0701 | | 0.0701 | 0.0276 | mg/Kg | ☼ | 01/05/21 10:35 | 01/08/21 15:34 | 50 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *97* | | *75 - 126* | *01/05/21 10:35* | *01/08/21 15:34* | *50* |
| *Toluene-d8 (Surr)* | *98* | | *75 - 120* | *01/05/21 10:35* | *01/08/21 15:34* | *50* |
| *4-Bromofluorobenzene (Surr)* | *93* | | *72 - 124* | *01/05/21 10:35* | *01/08/21 15:34* | *50* |
| *Dibromofluoromethane (Surr)* | *106* | | *75 - 120* | *01/05/21 10:35* | *01/08/21 15:34* | *50* |

### Method: 8270D - Semivolatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <0.756 | | 0.756 | 0.137 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 20:50 | 20 |
| Acenaphthylene | <0.756 | | 0.756 | 0.100 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 20:50 | 20 |
| **Anthracene** | **0.437** | **J** | 0.756 | 0.127 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 20:50 | 20 |
| **Benzo[a]anthracene** | **1.20** | | 0.756 | 0.102 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 20:50 | 20 |
| Benzo[a]pyrene | <0.756 | | 0.756 | 0.147 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 20:50 | 20 |
| Benzo[b]fluoranthene | <0.756 | | 0.756 | 0.164 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 20:50 | 20 |
| Benzo[g,h,i]perylene | <0.756 | | 0.756 | 0.245 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 20:50 | 20 |
| Benzo[k]fluoranthene | <0.756 | | 0.756 | 0.224 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 20:50 | 20 |
| **Chrysene** | **0.722** | **J** | 0.756 | 0.208 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 20:50 | 20 |
| Dibenz(a,h)anthracene | <0.756 | | 0.756 | 0.147 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 20:50 | 20 |
| Fluoranthene | <0.756 | | 0.756 | 0.141 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 20:50 | 20 |
| Indeno[1,2,3-cd]pyrene | <0.756 | | 0.756 | 0.197 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 20:50 | 20 |
| **Naphthalene** | **0.222** | **J** | 0.756 | 0.117 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 20:50 | 20 |
| **Phenanthrene** | **4.14** | | 0.756 | 0.106 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 20:50 | 20 |
| **Pyrene** | **1.29** | | 0.756 | 0.151 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 20:50 | 20 |
| **Fluorene** | **0.611** | **J** | 0.756 | 0.107 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 20:50 | 20 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Nitrobenzene-d5 (Surr)* | *0* | *D* | *37 - 147* | *01/08/21 16:40* | *01/11/21 20:50* | *20* |
| *2-Fluorobiphenyl (Surr)* | *0* | *D* | *43 - 145* | *01/08/21 16:40* | *01/11/21 20:50* | *20* |
| *Terphenyl-d14 (Surr)* | *0* | *D* | *42 - 157* | *01/08/21 16:40* | *01/11/21 20:50* | *20* |

### Method: 6010C - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Arsenic** | **0.664** | **J** | 1.09 | 0.374 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:07 | 1 |
| **Barium** | **3.37** | | 1.09 | 0.125 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:07 | 1 |
| **Cadmium** | **0.0440** | **J** | 0.218 | 0.0393 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:07 | 1 |
| **Chromium** | **1.77** | | 1.09 | 0.541 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:07 | 1 |
| **Lead** | **1.40** | | 0.546 | 0.252 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:07 | 1 |
| Selenium | <1.09 | | 1.09 | 0.642 | mg/Kg | ☼ | 01/08/21 06:40 | 01/13/21 16:35 | 1 |
| Silver | <0.546 | | 0.546 | 0.141 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:07 | 1 |

### Method: 7471A - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | <18.4 | | 18.4 | 6.11 | ug/Kg | ☼ | 01/07/21 13:40 | 01/08/21 09:07 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-02

**Date Collected: 01/05/21 10:35**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-2

**Matrix: Solid**
**Percent Solids: 87.1**

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| pH | 7.0 | | 0.2 | 0.2 | SU | | | 01/08/21 08:36 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-03

**Date Collected: 01/06/21 08:23**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-3

**Matrix: Solid**
**Percent Solids: 79.9**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00211 | | 0.00211 | 0.000538 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 12:11 | 1 |
| Toluene | <0.00211 | | 0.00211 | 0.000532 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 12:11 | 1 |
| Ethylbenzene | <0.00211 | | 0.00211 | 0.00101 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 12:11 | 1 |
| Xylenes, Total | <0.00422 | | 0.00422 | 0.000675 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 12:11 | 1 |
| Methyl tert-butyl ether | <0.00211 | | 0.00211 | 0.000619 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 12:11 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *101* | | *70 - 134* | *01/06/21 17:34* | *01/08/21 12:11* | *1* |
| *Toluene-d8 (Surr)* | *95* | | *75 - 124* | *01/06/21 17:34* | *01/08/21 12:11* | *1* |
| *4-Bromofluorobenzene (Surr)* | *89* | | *75 - 131* | *01/06/21 17:34* | *01/08/21 12:11* | *1* |
| *Dibromofluoromethane (Surr)* | *99* | | *75 - 126* | *01/06/21 17:34* | *01/08/21 12:11* | *1* |

### Method: 8270D - Semivolatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acenaphthene** | **0.0648** | | 0.0411 | 0.00744 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 15:37 | 1 |
| **Acenaphthylene** | **0.00610** | **J** | 0.0411 | 0.00546 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 15:37 | 1 |
| **Anthracene** | **0.119** | | 0.0411 | 0.00692 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 15:37 | 1 |
| **Benzo[a]anthracene** | **0.356** | | 0.0411 | 0.00557 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 15:37 | 1 |
| **Benzo[a]pyrene** | **0.450** | | 0.0411 | 0.00802 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 15:37 | 1 |
| **Benzo[b]fluoranthene** | **0.665** | | 0.0411 | 0.00894 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 15:37 | 1 |
| **Benzo[g,h,i]perylene** | **0.159** | | 0.0411 | 0.0133 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 15:37 | 1 |
| **Benzo[k]fluoranthene** | **0.259** | | 0.0411 | 0.0122 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 15:37 | 1 |
| **Chrysene** | **0.393** | | 0.0411 | 0.0113 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 15:37 | 1 |
| **Dibenz(a,h)anthracene** | **0.0488** | | 0.0411 | 0.00800 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 15:37 | 1 |
| **Fluoranthene** | **0.978** | | 0.0411 | 0.00768 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 15:37 | 1 |
| **Indeno[1,2,3-cd]pyrene** | **0.137** | | 0.0411 | 0.0107 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 15:37 | 1 |
| **Naphthalene** | **0.0443** | | 0.0411 | 0.00637 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 15:37 | 1 |
| **Phenanthrene** | **0.655** | | 0.0411 | 0.00577 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 15:37 | 1 |
| **Pyrene** | **0.742** | | 0.0411 | 0.00823 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 15:37 | 1 |
| **Fluorene** | **0.0807** | | 0.0411 | 0.00582 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 15:37 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Nitrobenzene-d5 (Surr)* | *87* | | *37 - 147* | *01/08/21 16:40* | *01/11/21 15:37* | *1* |
| *2-Fluorobiphenyl (Surr)* | *83* | | *43 - 145* | *01/08/21 16:40* | *01/11/21 15:37* | *1* |
| *Terphenyl-d14 (Surr)* | *93* | | *42 - 157* | *01/08/21 16:40* | *01/11/21 15:37* | *1* |

### Method: 6010C - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Arsenic** | **3.31** | | 1.22 | 0.416 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:10 | 1 |
| **Barium** | **43.3** | | 1.22 | 0.139 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:10 | 1 |
| **Cadmium** | **0.336** | | 0.243 | 0.0437 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:10 | 1 |
| **Chromium** | **44.9** | | 1.22 | 0.601 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:10 | 1 |
| **Lead** | **91.9** | | 0.608 | 0.281 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:10 | 1 |
| Selenium | <1.22 | | 1.22 | 0.714 | mg/Kg | ☼ | 01/08/21 06:40 | 01/13/21 16:38 | 1 |
| **Silver** | **0.329** | **J** | 0.608 | 0.157 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:10 | 1 |

### Method: 7471A - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Mercury** | **30.6** | | 19.4 | 6.47 | ug/Kg | ☼ | 01/07/21 13:40 | 01/08/21 09:09 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-03

**Date Collected: 01/06/21 08:23**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-3

**Matrix: Solid**
**Percent Solids: 79.9**

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| pH | 7.4 | | 0.2 | 0.2 | SU | | | 01/08/21 08:39 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-04

**Date Collected: 01/06/21 08:50**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-4

**Matrix: Solid**
**Percent Solids: 81.5**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00260 | | 0.00260 | 0.000664 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 12:37 | 1 |
| Toluene | <0.00260 | | 0.00260 | 0.000657 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 12:37 | 1 |
| Ethylbenzene | <0.00260 | | 0.00260 | 0.00125 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 12:37 | 1 |
| Xylenes, Total | <0.00521 | | 0.00521 | 0.000833 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 12:37 | 1 |
| Methyl tert-butyl ether | <0.00260 | | 0.00260 | 0.000764 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 12:37 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *101* | | *70 - 134* | *01/06/21 17:34* | *01/08/21 12:37* | *1* |
| *Toluene-d8 (Surr)* | *94* | | *75 - 124* | *01/06/21 17:34* | *01/08/21 12:37* | *1* |
| *4-Bromofluorobenzene (Surr)* | *88* | | *75 - 131* | *01/06/21 17:34* | *01/08/21 12:37* | *1* |
| *Dibromofluoromethane (Surr)* | *99* | | *75 - 126* | *01/06/21 17:34* | *01/08/21 12:37* | *1* |

### Method: 8270D - Semivolatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <0.0404 | | 0.0404 | 0.00730 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:06 | 1 |
| Acenaphthylene | <0.0404 | | 0.0404 | 0.00536 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:06 | 1 |
| Anthracene | <0.0404 | | 0.0404 | 0.00679 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:06 | 1 |
| Benzo[a]anthracene | <0.0404 | | 0.0404 | 0.00547 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:06 | 1 |
| Benzo[a]pyrene | <0.0404 | | 0.0404 | 0.00787 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:06 | 1 |
| Benzo[b]fluoranthene | <0.0404 | | 0.0404 | 0.00877 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:06 | 1 |
| Benzo[g,h,i]perylene | <0.0404 | | 0.0404 | 0.0131 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:06 | 1 |
| Benzo[k]fluoranthene | <0.0404 | | 0.0404 | 0.0120 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:06 | 1 |
| Chrysene | <0.0404 | | 0.0404 | 0.0111 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:06 | 1 |
| Dibenz(a,h)anthracene | <0.0404 | | 0.0404 | 0.00785 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:06 | 1 |
| Fluoranthene | <0.0404 | | 0.0404 | 0.00754 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:06 | 1 |
| Indeno[1,2,3-cd]pyrene | <0.0404 | | 0.0404 | 0.0105 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:06 | 1 |
| Naphthalene | <0.0404 | | 0.0404 | 0.00625 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:06 | 1 |
| Phenanthrene | <0.0404 | | 0.0404 | 0.00566 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:06 | 1 |
| Pyrene | <0.0404 | | 0.0404 | 0.00807 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:06 | 1 |
| Fluorene | <0.0404 | | 0.0404 | 0.00571 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:06 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Nitrobenzene-d5 (Surr)* | *88* | | *37 - 147* | *01/08/21 16:40* | *01/11/21 16:06* | *1* |
| *2-Fluorobiphenyl (Surr)* | *76* | | *43 - 145* | *01/08/21 16:40* | *01/11/21 16:06* | *1* |
| *Terphenyl-d14 (Surr)* | *97* | | *42 - 157* | *01/08/21 16:40* | *01/11/21 16:06* | *1* |

### Method: 6010C - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Arsenic** | **0.631** | **J** | 1.06 | 0.361 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:13 | 1 |
| **Barium** | **3.24** | | 1.06 | 0.120 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:13 | 1 |
| Cadmium | <0.211 | | 0.211 | 0.0380 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:13 | 1 |
| **Chromium** | **1.91** | | 1.06 | 0.522 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:13 | 1 |
| **Lead** | **1.28** | | 0.528 | 0.244 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:13 | 1 |
| Selenium | <1.06 | | 1.06 | 0.621 | mg/Kg | ☼ | 01/08/21 06:40 | 01/13/21 16:41 | 1 |
| Silver | <0.528 | | 0.528 | 0.136 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:13 | 1 |

### Method: 7471A - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | <19.1 | | 19.1 | 6.35 | ug/Kg | ☼ | 01/07/21 13:40 | 01/08/21 09:10 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-04

**Date Collected: 01/06/21 08:50**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-4

**Matrix: Solid**
**Percent Solids: 81.5**

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| pH | 7.7 | | 0.2 | 0.2 | SU | | | 01/08/21 08:41 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-05

**Date Collected: 01/06/21 09:30**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-5

**Matrix: Solid**
**Percent Solids: 81.7**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00188 | | 0.00188 | 0.000480 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 13:02 | 1 |
| Toluene | <0.00188 | | 0.00188 | 0.000475 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 13:02 | 1 |
| Ethylbenzene | <0.00188 | | 0.00188 | 0.000900 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 13:02 | 1 |
| Xylenes, Total | <0.00376 | | 0.00376 | 0.000602 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 13:02 | 1 |
| Methyl tert-butyl ether | <0.00188 | | 0.00188 | 0.000552 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 13:02 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *105* | | *70 - 134* | *01/06/21 17:34* | *01/08/21 13:02* | *1* |
| *Toluene-d8 (Surr)* | *96* | | *75 - 124* | *01/06/21 17:34* | *01/08/21 13:02* | *1* |
| *4-Bromofluorobenzene (Surr)* | *93* | | *75 - 131* | *01/06/21 17:34* | *01/08/21 13:02* | *1* |
| *Dibromofluoromethane (Surr)* | *101* | | *75 - 126* | *01/06/21 17:34* | *01/08/21 13:02* | *1* |

### Method: 8270D - Semivolatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <0.403 | | 0.403 | 0.0729 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:31 | 10 |
| Acenaphthylene | <0.403 | | 0.403 | 0.0535 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:31 | 10 |
| Anthracene | <0.403 | | 0.403 | 0.0678 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:31 | 10 |
| Benzo[a]anthracene | <0.403 | | 0.403 | 0.0546 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:31 | 10 |
| Benzo[a]pyrene | <0.403 | | 0.403 | 0.0786 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:31 | 10 |
| Benzo[b]fluoranthene | <0.403 | | 0.403 | 0.0876 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:31 | 10 |
| Benzo[g,h,i]perylene | <0.403 | | 0.403 | 0.131 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:31 | 10 |
| Benzo[k]fluoranthene | <0.403 | | 0.403 | 0.120 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:31 | 10 |
| Chrysene | <0.403 | | 0.403 | 0.111 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:31 | 10 |
| Dibenz(a,h)anthracene | <0.403 | | 0.403 | 0.0784 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:31 | 10 |
| Fluoranthene | <0.403 | | 0.403 | 0.0753 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:31 | 10 |
| Indeno[1,2,3-cd]pyrene | <0.403 | | 0.403 | 0.105 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:31 | 10 |
| Naphthalene | <0.403 | | 0.403 | 0.0624 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:31 | 10 |
| Phenanthrene | <0.403 | | 0.403 | 0.0566 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:31 | 10 |
| **Pyrene** | **0.256** | **J** | 0.403 | 0.0806 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:31 | 10 |
| Fluorene | <0.403 | | 0.403 | 0.0571 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:31 | 10 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Nitrobenzene-d5 (Surr)* | *94* | | *37 - 147* | *01/08/21 16:40* | *01/11/21 17:31* | *10* |
| *2-Fluorobiphenyl (Surr)* | *90* | | *43 - 145* | *01/08/21 16:40* | *01/11/21 17:31* | *10* |
| *Terphenyl-d14 (Surr)* | *102* | | *42 - 157* | *01/08/21 16:40* | *01/11/21 17:31* | *10* |

### Method: 6010C - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Arsenic** | **1.13** | | 1.12 | 0.383 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:16 | 1 |
| **Barium** | **6.60** | | 1.12 | 0.128 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:16 | 1 |
| Cadmium | <0.224 | | 0.224 | 0.0404 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:16 | 1 |
| **Chromium** | **2.13** | | 1.12 | 0.555 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:16 | 1 |
| **Lead** | **1.41** | | 0.560 | 0.259 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:16 | 1 |
| Selenium | <1.12 | | 1.12 | 0.659 | mg/Kg | ☼ | 01/08/21 06:40 | 01/13/21 16:44 | 1 |
| Silver | <0.560 | | 0.560 | 0.145 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:16 | 1 |

### Method: 7471A - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Mercury** | **9.98** | **J** | 19.6 | 6.51 | ug/Kg | ☼ | 01/07/21 13:40 | 01/08/21 09:12 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-05

**Date Collected: 01/06/21 09:30**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-5

**Matrix: Solid**
**Percent Solids: 81.7**

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| pH | 6.5 | | 0.2 | 0.2 | SU | | | 01/08/21 08:44 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-06

**Date Collected: 01/06/21 10:10**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-6

**Matrix: Solid**
**Percent Solids: 91.3**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00213 | | 0.00213 | 0.000542 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 13:28 | 1 |
| **Toluene** | **0.00135** | **J** | 0.00213 | 0.000537 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 13:28 | 1 |
| Ethylbenzene | <0.00213 | | 0.00213 | 0.00102 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 13:28 | 1 |
| **Xylenes, Total** | **0.00426** | | 0.00425 | 0.000681 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 13:28 | 1 |
| Methyl tert-butyl ether | <0.00213 | | 0.00213 | 0.000624 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 13:28 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *103* | | *70 - 134* | *01/06/21 17:34* | *01/08/21 13:28* | *1* |
| *Toluene-d8 (Surr)* | *97* | | *75 - 124* | *01/06/21 17:34* | *01/08/21 13:28* | *1* |
| *4-Bromofluorobenzene (Surr)* | *117* | | *75 - 131* | *01/06/21 17:34* | *01/08/21 13:28* | *1* |
| *Dibromofluoromethane (Surr)* | *102* | | *75 - 126* | *01/06/21 17:34* | *01/08/21 13:28* | *1* |

### Method: 8270D - Semivolatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acenaphthene** | **1.66** | **J** | 1.80 | 0.326 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:21 | 50 |
| Acenaphthylene | <1.80 | | 1.80 | 0.239 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:21 | 50 |
| **Anthracene** | **2.03** | | 1.80 | 0.303 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:21 | 50 |
| **Benzo[a]anthracene** | **2.24** | | 1.80 | 0.244 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:21 | 50 |
| **Benzo[a]pyrene** | **2.36** | | 1.80 | 0.351 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:21 | 50 |
| **Benzo[b]fluoranthene** | **2.95** | | 1.80 | 0.391 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:21 | 50 |
| **Benzo[g,h,i]perylene** | **1.58** | **J** | 1.80 | 0.584 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:21 | 50 |
| **Benzo[k]fluoranthene** | **0.898** | **J** | 1.80 | 0.534 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:21 | 50 |
| **Chrysene** | **3.18** | | 1.80 | 0.494 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:21 | 50 |
| **Dibenz(a,h)anthracene** | **0.363** | **J** | 1.80 | 0.350 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:21 | 50 |
| **Fluoranthene** | **7.83** | | 1.80 | 0.336 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:21 | 50 |
| **Indeno[1,2,3-cd]pyrene** | **1.25** | **J** | 1.80 | 0.470 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:21 | 50 |
| **Naphthalene** | **1.97** | | 1.80 | 0.279 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:21 | 50 |
| **Phenanthrene** | **8.13** | | 1.80 | 0.253 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:21 | 50 |
| **Pyrene** | **7.13** | | 1.80 | 0.360 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:21 | 50 |
| **Fluorene** | **1.59** | **J** | 1.80 | 0.255 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:21 | 50 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Nitrobenzene-d5 (Surr)* | *0* | *D* | *37 - 147* | *01/08/21 16:40* | *01/12/21 00:21* | *50* |
| *2-Fluorobiphenyl (Surr)* | *0* | *D* | *43 - 145* | *01/08/21 16:40* | *01/12/21 00:21* | *50* |
| *Terphenyl-d14 (Surr)* | *0* | *D* | *42 - 157* | *01/08/21 16:40* | *01/12/21 00:21* | *50* |

### Method: 6010C - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Arsenic** | **1.17** | | 0.995 | 0.340 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:20 | 1 |
| **Barium** | **20.0** | | 0.995 | 0.113 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:20 | 1 |
| Cadmium | <0.199 | | 0.199 | 0.0358 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:20 | 1 |
| **Chromium** | **55.0** | | 0.995 | 0.493 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:20 | 1 |
| **Lead** | **6.34** | | 0.498 | 0.230 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:20 | 1 |
| Selenium | <0.995 | | 0.995 | 0.585 | mg/Kg | ☼ | 01/08/21 06:40 | 01/13/21 16:48 | 1 |
| Silver | <0.498 | | 0.498 | 0.128 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:20 | 1 |

### Method: 7471A - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Mercury** | **12.4** | **J** | 17.5 | 5.84 | ug/Kg | ☼ | 01/07/21 13:40 | 01/08/21 09:19 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-06

**Date Collected: 01/06/21 10:10**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-6

**Matrix: Solid**
**Percent Solids: 91.3**

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| pH | 6.9 | | 0.2 | 0.2 | SU | | | 01/08/21 08:46 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-07

**Date Collected: 01/06/21 10:45**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-7

**Matrix: Solid**
**Percent Solids: 94.2**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00205 | | 0.00205 | 0.000524 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 13:53 | 1 |
| Toluene | <0.00205 | | 0.00205 | 0.000519 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 13:53 | 1 |
| Ethylbenzene | <0.00205 | | 0.00205 | 0.000983 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 13:53 | 1 |
| **Xylenes, Total** | **0.000945** | **J** | 0.00411 | 0.000657 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 13:53 | 1 |
| Methyl tert-butyl ether | <0.00205 | | 0.00205 | 0.000603 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 13:53 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *103* | | *70 - 134* | *01/06/21 17:34* | *01/08/21 13:53* | *1* |
| *Toluene-d8 (Surr)* | *96* | | *75 - 124* | *01/06/21 17:34* | *01/08/21 13:53* | *1* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *75 - 131* | *01/06/21 17:34* | *01/08/21 13:53* | *1* |
| *Dibromofluoromethane (Surr)* | *98* | | *75 - 126* | *01/06/21 17:34* | *01/08/21 13:53* | *1* |

### Method: 8270D - Semivolatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Acenaphthene** | **0.465** | | 0.175 | 0.0316 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 18:28 | 5 |
| **Acenaphthylene** | **0.0256** | **J** | 0.175 | 0.0232 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 18:28 | 5 |
| **Anthracene** | **0.531** | | 0.175 | 0.0294 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 18:28 | 5 |
| **Benzo[a]anthracene** | **0.984** | | 0.175 | 0.0237 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 18:28 | 5 |
| **Benzo[a]pyrene** | **1.39** | | 0.175 | 0.0341 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 18:28 | 5 |
| **Benzo[b]fluoranthene** | **0.968** | | 0.175 | 0.0380 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 18:28 | 5 |
| **Benzo[g,h,i]perylene** | **0.510** | | 0.175 | 0.0567 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 18:28 | 5 |
| **Benzo[k]fluoranthene** | **1.42** | | 0.175 | 0.0519 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 18:28 | 5 |
| **Chrysene** | **1.27** | | 0.175 | 0.0480 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 18:28 | 5 |
| Dibenz(a,h)anthracene | <0.175 | | 0.175 | 0.0340 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 18:28 | 5 |
| **Fluoranthene** | **3.88** | | 0.175 | 0.0326 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 18:28 | 5 |
| **Indeno[1,2,3-cd]pyrene** | **0.415** | | 0.175 | 0.0456 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 18:28 | 5 |
| **Naphthalene** | **0.0511** | **J** | 0.175 | 0.0271 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 18:28 | 5 |
| **Phenanthrene** | **1.87** | | 0.175 | 0.0245 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 18:28 | 5 |
| **Pyrene** | **3.65** | | 0.175 | 0.0350 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 18:28 | 5 |
| **Fluorene** | **0.402** | | 0.175 | 0.0247 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 18:28 | 5 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Nitrobenzene-d5 (Surr)* | *106* | | *37 - 147* | *01/08/21 16:40* | *01/11/21 18:28* | *5* |
| *2-Fluorobiphenyl (Surr)* | *94* | | *43 - 145* | *01/08/21 16:40* | *01/11/21 18:28* | *5* |
| *Terphenyl-d14 (Surr)* | *129* | | *42 - 157* | *01/08/21 16:40* | *01/11/21 18:28* | *5* |

### Method: 6010C - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Arsenic** | **3.91** | | 0.982 | 0.336 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:23 | 1 |
| **Barium** | **30.7** | | 0.982 | 0.112 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:23 | 1 |
| Cadmium | <0.196 | | 0.196 | 0.0353 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:23 | 1 |
| **Chromium** | **47.3** | | 0.982 | 0.486 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:23 | 1 |
| **Lead** | **60.0** | | 0.491 | 0.227 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:23 | 1 |
| Selenium | <0.982 | | 0.982 | 0.577 | mg/Kg | ☼ | 01/08/21 06:40 | 01/13/21 16:51 | 1 |
| **Silver** | **0.598** | | 0.491 | 0.127 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:23 | 1 |

### Method: 7471A - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Mercury** | **112** | | 17.4 | 5.78 | ug/Kg | ☼ | 01/07/21 13:40 | 01/08/21 09:20 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-07

**Date Collected: 01/06/21 10:45**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-7

**Matrix: Solid**
**Percent Solids: 94.2**

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| pH | 7.7 | | 0.2 | 0.2 | SU | | | 01/08/21 08:49 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-08

**Date Collected: 01/06/21 11:20**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-8

**Matrix: Solid**
**Percent Solids: 92.8**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00213 | | 0.00213 | 0.000542 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 14:18 | 1 |
| Toluene | <0.00213 | | 0.00213 | 0.000537 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 14:18 | 1 |
| Ethylbenzene | <0.00213 | | 0.00213 | 0.00102 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 14:18 | 1 |
| Xylenes, Total | <0.00425 | | 0.00425 | 0.000681 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 14:18 | 1 |
| Methyl tert-butyl ether | <0.00213 | | 0.00213 | 0.000624 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 14:18 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *102* | | *70 - 134* | *01/06/21 17:34* | *01/08/21 14:18* | *1* |
| *Toluene-d8 (Surr)* | *92* | | *75 - 124* | *01/06/21 17:34* | *01/08/21 14:18* | *1* |
| *4-Bromofluorobenzene (Surr)* | *89* | | *75 - 131* | *01/06/21 17:34* | *01/08/21 14:18* | *1* |
| *Dibromofluoromethane (Surr)* | *99* | | *75 - 126* | *01/06/21 17:34* | *01/08/21 14:18* | *1* |

### Method: 8270D - Semivolatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <0.0355 | | 0.0355 | 0.00641 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:34 | 1 |
| Acenaphthylene | <0.0355 | | 0.0355 | 0.00471 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:34 | 1 |
| Anthracene | <0.0355 | | 0.0355 | 0.00596 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:34 | 1 |
| Benzo[a]anthracene | <0.0355 | | 0.0355 | 0.00480 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:34 | 1 |
| Benzo[a]pyrene | <0.0355 | | 0.0355 | 0.00691 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:34 | 1 |
| Benzo[b]fluoranthene | <0.0355 | | 0.0355 | 0.00770 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:34 | 1 |
| Benzo[g,h,i]perylene | <0.0355 | | 0.0355 | 0.0115 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:34 | 1 |
| Benzo[k]fluoranthene | <0.0355 | | 0.0355 | 0.0105 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:34 | 1 |
| Chrysene | <0.0355 | | 0.0355 | 0.00973 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:34 | 1 |
| Dibenz(a,h)anthracene | <0.0355 | | 0.0355 | 0.00690 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:34 | 1 |
| Fluoranthene | <0.0355 | | 0.0355 | 0.00662 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:34 | 1 |
| Indeno[1,2,3-cd]pyrene | <0.0355 | | 0.0355 | 0.00925 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:34 | 1 |
| Naphthalene | <0.0355 | | 0.0355 | 0.00549 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:34 | 1 |
| Phenanthrene | <0.0355 | | 0.0355 | 0.00497 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:34 | 1 |
| Pyrene | <0.0355 | | 0.0355 | 0.00709 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:34 | 1 |
| Fluorene | <0.0355 | | 0.0355 | 0.00502 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 16:34 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Nitrobenzene-d5 (Surr)* | *99* | | *37 - 147* | *01/08/21 16:40* | *01/11/21 16:34* | *1* |
| *2-Fluorobiphenyl (Surr)* | *87* | | *43 - 145* | *01/08/21 16:40* | *01/11/21 16:34* | *1* |
| *Terphenyl-d14 (Surr)* | *91* | | *42 - 157* | *01/08/21 16:40* | *01/11/21 16:34* | *1* |

### Method: 6010C - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Arsenic** | **1.55** | | 1.07 | 0.365 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:26 | 1 |
| **Barium** | **3.03** | | 1.07 | 0.122 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:26 | 1 |
| **Cadmium** | **0.0432** | **J** | 0.213 | 0.0384 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:26 | 1 |
| **Chromium** | **1.78** | | 1.07 | 0.528 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:26 | 1 |
| **Lead** | **1.52** | | 0.533 | 0.246 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:26 | 1 |
| Selenium | <1.07 | | 1.07 | 0.627 | mg/Kg | ☼ | 01/08/21 06:40 | 01/13/21 16:54 | 1 |
| Silver | <0.533 | | 0.533 | 0.138 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:26 | 1 |

### Method: 7471A - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | <16.1 | | 16.1 | 5.36 | ug/Kg | ☼ | 01/07/21 13:40 | 01/08/21 09:22 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-08

**Date Collected: 01/06/21 11:20**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-8

**Matrix: Solid**
**Percent Solids: 92.8**

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| pH | 7.2 | | 0.2 | 0.2 | SU | | | 01/08/21 08:51 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-09

**Date Collected: 01/06/21 11:50**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-9

**Matrix: Solid**
**Percent Solids: 91.8**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00253 | | 0.00253 | 0.000644 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 14:44 | 1 |
| Toluene | <0.00253 | | 0.00253 | 0.000638 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 14:44 | 1 |
| Ethylbenzene | <0.00253 | | 0.00253 | 0.00121 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 14:44 | 1 |
| **Xylenes, Total** | **0.00233** | **J** | 0.00505 | 0.000808 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 14:44 | 1 |
| Methyl tert-butyl ether | <0.00253 | | 0.00253 | 0.000741 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 14:44 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *101* | | *70 - 134* | *01/06/21 17:34* | *01/08/21 14:44* | *1* |
| *Toluene-d8 (Surr)* | *97* | | *75 - 124* | *01/06/21 17:34* | *01/08/21 14:44* | *1* |
| *4-Bromofluorobenzene (Surr)* | *108* | | *75 - 131* | *01/06/21 17:34* | *01/08/21 14:44* | *1* |
| *Dibromofluoromethane (Surr)* | *100* | | *75 - 126* | *01/06/21 17:34* | *01/08/21 14:44* | *1* |

### Method: 8270D - Semivolatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <1.79 | | 1.79 | 0.324 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:47 | 50 |
| Acenaphthylene | <1.79 | | 1.79 | 0.238 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:47 | 50 |
| Anthracene | <1.79 | | 1.79 | 0.301 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:47 | 50 |
| Benzo[a]anthracene | <1.79 | | 1.79 | 0.243 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:47 | 50 |
| **Benzo[a]pyrene** | **0.578** | **J** | 1.79 | 0.349 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:47 | 50 |
| Benzo[b]fluoranthene | <1.79 | | 1.79 | 0.389 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:47 | 50 |
| Benzo[g,h,i]perylene | <1.79 | | 1.79 | 0.581 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:47 | 50 |
| Benzo[k]fluoranthene | <1.79 | | 1.79 | 0.532 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:47 | 50 |
| **Chrysene** | **1.53** | **J** | 1.79 | 0.492 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:47 | 50 |
| Dibenz(a,h)anthracene | <1.79 | | 1.79 | 0.349 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:47 | 50 |
| **Fluoranthene** | **1.05** | **J** | 1.79 | 0.334 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:47 | 50 |
| Indeno[1,2,3-cd]pyrene | <1.79 | | 1.79 | 0.467 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:47 | 50 |
| **Naphthalene** | **0.353** | **J** | 1.79 | 0.277 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:47 | 50 |
| **Phenanthrene** | **0.653** | **J** | 1.79 | 0.251 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:47 | 50 |
| **Pyrene** | **1.13** | **J** | 1.79 | 0.358 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:47 | 50 |
| Fluorene | <1.79 | | 1.79 | 0.254 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 00:47 | 50 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Nitrobenzene-d5 (Surr)* | *0* | *D* | *37 - 147* | *01/08/21 16:40* | *01/12/21 00:47* | *50* |
| *2-Fluorobiphenyl (Surr)* | *0* | *D* | *43 - 145* | *01/08/21 16:40* | *01/12/21 00:47* | *50* |
| *Terphenyl-d14 (Surr)* | *0* | *D* | *42 - 157* | *01/08/21 16:40* | *01/12/21 00:47* | *50* |

### Method: 6010C - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Arsenic** | **2.85** | | 1.05 | 0.358 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:30 | 1 |
| **Barium** | **47.1** | | 1.05 | 0.119 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:30 | 1 |
| **Cadmium** | **0.142** | **J** | 0.209 | 0.0377 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:30 | 1 |
| **Chromium** | **9.56** | | 1.05 | 0.518 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:30 | 1 |
| **Lead** | **18.7** | | 0.523 | 0.242 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:30 | 1 |
| **Selenium** | **0.734** | **J** | 1.05 | 0.615 | mg/Kg | ☼ | 01/08/21 06:40 | 01/13/21 16:57 | 1 |
| **Silver** | **0.147** | **J** | 0.523 | 0.135 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:30 | 1 |

### Method: 7471A - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Mercury** | **16.7** | **J** | 17.2 | 5.71 | ug/Kg | ☼ | 01/07/21 13:40 | 01/08/21 09:24 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-09

**Date Collected: 01/06/21 11:50**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-9

**Matrix: Solid**
**Percent Solids: 91.8**

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| pH | 7.8 | | 0.2 | 0.2 | SU | | | 01/08/21 08:54 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-10

**Date Collected: 01/06/21 12:35**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-10

**Matrix: Solid**
**Percent Solids: 86.8**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.0157 | | 0.0157 | 0.00917 | mg/Kg | ☼ | 01/06/21 12:35 | 01/11/21 14:31 | 50 |
| Toluene | <0.0157 | | 0.0157 | 0.00923 | mg/Kg | ☼ | 01/06/21 12:35 | 01/11/21 14:31 | 50 |
| Ethylbenzene | <0.0157 | | 0.0157 | 0.0115 | mg/Kg | ☼ | 01/06/21 12:35 | 01/11/21 14:31 | 50 |
| **Xylenes, Total** | **0.0638** | | 0.0314 | 0.0138 | mg/Kg | ☼ | 01/06/21 12:35 | 01/11/21 14:31 | 50 |
| Methyl tert-butyl ether | <0.0628 | | 0.0628 | 0.0247 | mg/Kg | ☼ | 01/06/21 12:35 | 01/11/21 14:31 | 50 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *106* | | *75 - 126* | *01/06/21 12:35* | *01/11/21 14:31* | *50* |
| *Toluene-d8 (Surr)* | *95* | | *75 - 120* | *01/06/21 12:35* | *01/11/21 14:31* | *50* |
| *4-Bromofluorobenzene (Surr)* | *92* | | *72 - 124* | *01/06/21 12:35* | *01/11/21 14:31* | *50* |
| *Dibromofluoromethane (Surr)* | *84* | | *75 - 120* | *01/06/21 12:35* | *01/11/21 14:31* | *50* |

### Method: 8270D - Semivolatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <3.76 | | 3.76 | 0.681 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 01:14 | 100 |
| Acenaphthylene | <3.76 | | 3.76 | 0.500 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 01:14 | 100 |
| Anthracene | <3.76 | | 3.76 | 0.633 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 01:14 | 100 |
| Benzo[a]anthracene | <3.76 | | 3.76 | 0.510 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 01:14 | 100 |
| Benzo[a]pyrene | <3.76 | | 3.76 | 0.734 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 01:14 | 100 |
| Benzo[b]fluoranthene | <3.76 | | 3.76 | 0.818 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 01:14 | 100 |
| Benzo[g,h,i]perylene | <3.76 | | 3.76 | 1.22 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 01:14 | 100 |
| Benzo[k]fluoranthene | <3.76 | | 3.76 | 1.12 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 01:14 | 100 |
| **Chrysene** | **5.52** | | 3.76 | 1.03 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 01:14 | 100 |
| Dibenz(a,h)anthracene | <3.76 | | 3.76 | 0.732 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 01:14 | 100 |
| **Fluoranthene** | **1.24** | **J** | 3.76 | 0.703 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 01:14 | 100 |
| Indeno[1,2,3-cd]pyrene | <3.76 | | 3.76 | 0.982 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 01:14 | 100 |
| **Naphthalene** | **0.647** | **J** | 3.76 | 0.583 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 01:14 | 100 |
| **Phenanthrene** | **2.77** | **J** | 3.76 | 0.528 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 01:14 | 100 |
| **Pyrene** | **2.44** | **J** | 3.76 | 0.753 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 01:14 | 100 |
| **Fluorene** | **0.789** | **J** | 3.76 | 0.533 | mg/Kg | ☼ | 01/08/21 16:40 | 01/12/21 01:14 | 100 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Nitrobenzene-d5 (Surr)* | *0* | *D* | *37 - 147* | *01/08/21 16:40* | *01/12/21 01:14* | *100* |
| *2-Fluorobiphenyl (Surr)* | *0* | *D* | *43 - 145* | *01/08/21 16:40* | *01/12/21 01:14* | *100* |
| *Terphenyl-d14 (Surr)* | *0* | *D* | *42 - 157* | *01/08/21 16:40* | *01/12/21 01:14* | *100* |

### Method: 6010C - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Arsenic** | **2.90** | | 1.04 | 0.354 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:33 | 1 |
| **Barium** | **33.9** | | 1.04 | 0.118 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:33 | 1 |
| Cadmium | <0.207 | | 0.207 | 0.0373 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:33 | 1 |
| **Chromium** | **58.0** | | 1.04 | 0.513 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:33 | 1 |
| **Lead** | **398** | | 0.518 | 0.239 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:33 | 1 |
| **Selenium** | **0.870** | **J** | 1.04 | 0.609 | mg/Kg | ☼ | 01/08/21 06:40 | 01/13/21 17:01 | 1 |
| **Silver** | **0.915** | | 0.518 | 0.134 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:33 | 1 |

### Method: 7471A - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Mercury** | **197** | | 17.4 | 5.80 | ug/Kg | ☼ | 01/07/21 13:40 | 01/08/21 09:26 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-10

**Date Collected: 01/06/21 12:35**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-10

**Matrix: Solid**
**Percent Solids: 86.8**

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| pH | 6.4 | | 0.2 | 0.2 | SU | | | 01/08/21 08:59 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-11

**Date Collected: 01/06/21 13:05**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-11

**Matrix: Solid**
**Percent Solids: 89.2**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00210 | | 0.00210 | 0.000535 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 15:35 | 1 |
| Toluene | <0.00210 | | 0.00210 | 0.000530 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 15:35 | 1 |
| Ethylbenzene | <0.00210 | | 0.00210 | 0.00100 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 15:35 | 1 |
| Xylenes, Total | <0.00420 | | 0.00420 | 0.000671 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 15:35 | 1 |
| Methyl tert-butyl ether | <0.00210 | | 0.00210 | 0.000616 | mg/Kg | ☼ | 01/06/21 17:34 | 01/08/21 15:35 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *70 - 134* | *01/06/21 17:34* | *01/08/21 15:35* | *1* |
| *Toluene-d8 (Surr)* | *94* | | *75 - 124* | *01/06/21 17:34* | *01/08/21 15:35* | *1* |
| *4-Bromofluorobenzene (Surr)* | *88* | | *75 - 131* | *01/06/21 17:34* | *01/08/21 15:35* | *1* |
| *Dibromofluoromethane (Surr)* | *99* | | *75 - 126* | *01/06/21 17:34* | *01/08/21 15:35* | *1* |

### Method: 8270D - Semivolatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <0.0368 | | 0.0368 | 0.00666 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:03 | 1 |
| **Acenaphthylene** | **0.00715** | **J** | 0.0368 | 0.00488 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:03 | 1 |
| **Anthracene** | **0.0168** | **J** | 0.0368 | 0.00619 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:03 | 1 |
| **Benzo[a]anthracene** | **0.0615** | | 0.0368 | 0.00498 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:03 | 1 |
| **Benzo[a]pyrene** | **0.0839** | | 0.0368 | 0.00717 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:03 | 1 |
| **Benzo[b]fluoranthene** | **0.153** | | 0.0368 | 0.00799 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:03 | 1 |
| **Benzo[g,h,i]perylene** | **0.0507** | | 0.0368 | 0.0119 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:03 | 1 |
| **Benzo[k]fluoranthene** | **0.0336** | **J** | 0.0368 | 0.0109 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:03 | 1 |
| **Chrysene** | **0.117** | | 0.0368 | 0.0101 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:03 | 1 |
| **Dibenz(a,h)anthracene** | **0.0160** | **J** | 0.0368 | 0.00716 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:03 | 1 |
| **Fluoranthene** | **0.114** | | 0.0368 | 0.00687 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:03 | 1 |
| **Indeno[1,2,3-cd]pyrene** | **0.0445** | | 0.0368 | 0.00960 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:03 | 1 |
| **Naphthalene** | **0.0355** | **J** | 0.0368 | 0.00570 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:03 | 1 |
| **Phenanthrene** | **0.129** | | 0.0368 | 0.00516 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:03 | 1 |
| **Pyrene** | **0.0886** | | 0.0368 | 0.00736 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:03 | 1 |
| Fluorene | <0.0368 | | 0.0368 | 0.00521 | mg/Kg | ☼ | 01/08/21 16:40 | 01/11/21 17:03 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Nitrobenzene-d5 (Surr)* | *100* | | *37 - 147* | *01/08/21 16:40* | *01/11/21 17:03* | *1* |
| *2-Fluorobiphenyl (Surr)* | *93* | | *43 - 145* | *01/08/21 16:40* | *01/11/21 17:03* | *1* |
| *Terphenyl-d14 (Surr)* | *97* | | *42 - 157* | *01/08/21 16:40* | *01/11/21 17:03* | *1* |

### Method: 6010C - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Arsenic** | **7.96** | | 1.04 | 0.355 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:43 | 1 |
| **Barium** | **202** | | 1.04 | 0.118 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:43 | 1 |
| **Cadmium** | **2.33** | | 0.208 | 0.0374 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:43 | 1 |
| **Chromium** | **78.7** | | 1.04 | 0.514 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:43 | 1 |
| **Lead** | **257** | | 0.519 | 0.240 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:43 | 1 |
| **Selenium** | **0.844** | **J** | 1.04 | 0.611 | mg/Kg | ☼ | 01/08/21 06:40 | 01/13/21 17:04 | 1 |
| **Silver** | **2.67** | | 0.519 | 0.134 | mg/Kg | ☼ | 01/08/21 06:40 | 01/11/21 19:43 | 1 |

### Method: 7471A - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Mercury** | **64.3** | | 17.1 | 5.69 | ug/Kg | ☼ | 01/07/21 13:40 | 01/08/21 09:27 | 1 |

# Client Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-11

**Date Collected: 01/06/21 13:05**
**Date Received: 01/06/21 14:05**

## Lab Sample ID: 500-193409-11

**Matrix: Solid**
**Percent Solids: 89.2**

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| pH | 7.0 | | 0.2 | 0.2 | SU | | | 01/08/21 09:02 | 1 |

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### GC/MS Semi VOA

| Qualifier | Qualifier Description |
|---|---|
| D | Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D. |
| D | Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples. |
| F1 | MS and/or MSD recovery exceeds control limits. |
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### Metals

| Qualifier | Qualifier Description |
|---|---|
| F5 | Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. |
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CFU | Colony Forming Unit |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL | Detection Limit (DoD/DOE) |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision Level Concentration (Radiochemistry) |
| EDL | Estimated Detection Limit (Dioxin) |
| LOD | Limit of Detection (DoD/DOE) |
| LOQ | Limit of Quantitation (DoD/DOE) |
| MCL | EPA recommended "Maximum Contaminant Level" |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| MPN | Most Probable Number |
| MQL | Method Quantitation Limit |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| NEG | Negative / Absent |
| POS | Positive / Present |
| PQL | Practical Quantitation Limit |
| PRES | Presumptive |
| QC | Quality Control |
| RER | Relative Error Ratio (Radiochemistry) |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |
| TNTC | Too Numerous To Count |

# QC Association Summary

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## GC/MS VOA

### Prep Batch: 579964

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-193409-2 | S-02 | Total/NA | Solid | 5035 | |
| 500-193409-10 | S-10 | Total/NA | Solid | 5035 | |

### Prep Batch: 579969

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-193409-1 | S-01 | Total/NA | Solid | 5035 | |
| 500-193409-3 | S-03 | Total/NA | Solid | 5035 | |
| 500-193409-4 | S-04 | Total/NA | Solid | 5035 | |
| 500-193409-5 | S-05 | Total/NA | Solid | 5035 | |
| 500-193409-6 | S-06 | Total/NA | Solid | 5035 | |
| 500-193409-7 | S-07 | Total/NA | Solid | 5035 | |
| 500-193409-8 | S-08 | Total/NA | Solid | 5035 | |
| 500-193409-9 | S-09 | Total/NA | Solid | 5035 | |
| 500-193409-11 | S-11 | Total/NA | Solid | 5035 | |

### Analysis Batch: 580169

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-193409-1 | S-01 | Total/NA | Solid | 8260B | 579969 |
| 500-193409-3 | S-03 | Total/NA | Solid | 8260B | 579969 |
| 500-193409-4 | S-04 | Total/NA | Solid | 8260B | 579969 |
| 500-193409-5 | S-05 | Total/NA | Solid | 8260B | 579969 |
| 500-193409-6 | S-06 | Total/NA | Solid | 8260B | 579969 |
| 500-193409-7 | S-07 | Total/NA | Solid | 8260B | 579969 |
| 500-193409-8 | S-08 | Total/NA | Solid | 8260B | 579969 |
| 500-193409-9 | S-09 | Total/NA | Solid | 8260B | 579969 |
| 500-193409-11 | S-11 | Total/NA | Solid | 8260B | 579969 |
| MB 500-580169/7 | Method Blank | Total/NA | Solid | 8260B | |
| LCS 500-580169/4 | Lab Control Sample | Total/NA | Solid | 8260B | |
| LCSD 500-580169/5 | Lab Control Sample Dup | Total/NA | Solid | 8260B | |

### Analysis Batch: 580261

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-193409-2 | S-02 | Total/NA | Solid | 8260B | 579964 |
| MB 500-580261/6 | Method Blank | Total/NA | Solid | 8260B | |
| LCS 500-580261/4 | Lab Control Sample | Total/NA | Solid | 8260B | |

### Analysis Batch: 580374

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-193409-10 | S-10 | Total/NA | Solid | 8260B | 579964 |
| MB 500-580374/6 | Method Blank | Total/NA | Solid | 8260B | |
| LCS 500-580374/4 | Lab Control Sample | Total/NA | Solid | 8260B | |

## GC/MS Semi VOA

### Prep Batch: 580294

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-193409-1 | S-01 | Total/NA | Solid | 3541 | |
| 500-193409-2 | S-02 | Total/NA | Solid | 3541 | |
| 500-193409-3 | S-03 | Total/NA | Solid | 3541 | |
| 500-193409-4 | S-04 | Total/NA | Solid | 3541 | |
| 500-193409-5 | S-05 | Total/NA | Solid | 3541 | |

## GC/MS Semi VOA (Continued)

### Prep Batch: 580294 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-193409-6 | S-06 | Total/NA | Solid | 3541 | |
| 500-193409-7 | S-07 | Total/NA | Solid | 3541 | |
| 500-193409-8 | S-08 | Total/NA | Solid | 3541 | |
| 500-193409-9 | S-09 | Total/NA | Solid | 3541 | |
| 500-193409-10 | S-10 | Total/NA | Solid | 3541 | |
| 500-193409-11 | S-11 | Total/NA | Solid | 3541 | |
| MB 500-580294/1-A | Method Blank | Total/NA | Solid | 3541 | |
| LCS 500-580294/2-A | Lab Control Sample | Total/NA | Solid | 3541 | |
| 500-193409-1 MS | S-01 | Total/NA | Solid | 3541 | |
| 500-193409-1 MSD | S-01 | Total/NA | Solid | 3541 | |

### Analysis Batch: 580409

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-193409-1 | S-01 | Total/NA | Solid | 8270D | 580294 |
| 500-193409-2 | S-02 | Total/NA | Solid | 8270D | 580294 |
| 500-193409-3 | S-03 | Total/NA | Solid | 8270D | 580294 |
| 500-193409-4 | S-04 | Total/NA | Solid | 8270D | 580294 |
| 500-193409-5 | S-05 | Total/NA | Solid | 8270D | 580294 |
| 500-193409-7 | S-07 | Total/NA | Solid | 8270D | 580294 |
| 500-193409-8 | S-08 | Total/NA | Solid | 8270D | 580294 |
| 500-193409-11 | S-11 | Total/NA | Solid | 8270D | 580294 |
| MB 500-580294/1-A | Method Blank | Total/NA | Solid | 8270D | 580294 |
| LCS 500-580294/2-A | Lab Control Sample | Total/NA | Solid | 8270D | 580294 |
| 500-193409-1 MS | S-01 | Total/NA | Solid | 8270D | 580294 |
| 500-193409-1 MSD | S-01 | Total/NA | Solid | 8270D | 580294 |

### Analysis Batch: 580525

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-193409-6 | S-06 | Total/NA | Solid | 8270D | 580294 |
| 500-193409-9 | S-09 | Total/NA | Solid | 8270D | 580294 |
| 500-193409-10 | S-10 | Total/NA | Solid | 8270D | 580294 |

## Metals

### Prep Batch: 580064

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-193409-1 | S-01 | Total/NA | Solid | 7471A | |
| 500-193409-2 | S-02 | Total/NA | Solid | 7471A | |
| 500-193409-3 | S-03 | Total/NA | Solid | 7471A | |
| 500-193409-4 | S-04 | Total/NA | Solid | 7471A | |
| 500-193409-5 | S-05 | Total/NA | Solid | 7471A | |
| 500-193409-6 | S-06 | Total/NA | Solid | 7471A | |
| 500-193409-7 | S-07 | Total/NA | Solid | 7471A | |
| 500-193409-8 | S-08 | Total/NA | Solid | 7471A | |
| 500-193409-9 | S-09 | Total/NA | Solid | 7471A | |
| 500-193409-10 | S-10 | Total/NA | Solid | 7471A | |
| 500-193409-11 | S-11 | Total/NA | Solid | 7471A | |
| MB 500-580064/12-A | Method Blank | Total/NA | Solid | 7471A | |
| LCS 500-580064/13-A | Lab Control Sample | Total/NA | Solid | 7471A | |

# QC Association Summary

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Metals

### Prep Batch: 580164

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-193409-1 | S-01 | Total/NA | Solid | 3050B | |
| 500-193409-2 | S-02 | Total/NA | Solid | 3050B | |
| 500-193409-3 | S-03 | Total/NA | Solid | 3050B | |
| 500-193409-4 | S-04 | Total/NA | Solid | 3050B | |
| 500-193409-5 | S-05 | Total/NA | Solid | 3050B | |
| 500-193409-6 | S-06 | Total/NA | Solid | 3050B | |
| 500-193409-7 | S-07 | Total/NA | Solid | 3050B | |
| 500-193409-8 | S-08 | Total/NA | Solid | 3050B | |
| 500-193409-9 | S-09 | Total/NA | Solid | 3050B | |
| 500-193409-10 | S-10 | Total/NA | Solid | 3050B | |
| 500-193409-11 | S-11 | Total/NA | Solid | 3050B | |
| MB 500-580164/1-A | Method Blank | Total/NA | Solid | 3050B | |
| LCS 500-580164/2-A | Lab Control Sample | Total/NA | Solid | 3050B | |
| 500-193409-1 MS | S-01 | Total/NA | Solid | 3050B | |
| 500-193409-1 MSD | S-01 | Total/NA | Solid | 3050B | |
| 500-193409-1 DU | S-01 | Total/NA | Solid | 3050B | |

### Analysis Batch: 580232

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-193409-1 | S-01 | Total/NA | Solid | 7471A | 580064 |
| 500-193409-2 | S-02 | Total/NA | Solid | 7471A | 580064 |
| 500-193409-3 | S-03 | Total/NA | Solid | 7471A | 580064 |
| 500-193409-4 | S-04 | Total/NA | Solid | 7471A | 580064 |
| 500-193409-5 | S-05 | Total/NA | Solid | 7471A | 580064 |
| 500-193409-6 | S-06 | Total/NA | Solid | 7471A | 580064 |
| 500-193409-7 | S-07 | Total/NA | Solid | 7471A | 580064 |
| 500-193409-8 | S-08 | Total/NA | Solid | 7471A | 580064 |
| 500-193409-9 | S-09 | Total/NA | Solid | 7471A | 580064 |
| 500-193409-10 | S-10 | Total/NA | Solid | 7471A | 580064 |
| 500-193409-11 | S-11 | Total/NA | Solid | 7471A | 580064 |
| MB 500-580064/12-A | Method Blank | Total/NA | Solid | 7471A | 580064 |
| LCS 500-580064/13-A | Lab Control Sample | Total/NA | Solid | 7471A | 580064 |

### Analysis Batch: 580543

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-193409-1 | S-01 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-2 | S-02 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-3 | S-03 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-4 | S-04 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-5 | S-05 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-6 | S-06 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-7 | S-07 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-8 | S-08 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-9 | S-09 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-10 | S-10 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-11 | S-11 | Total/NA | Solid | 6010C | 580164 |
| MB 500-580164/1-A | Method Blank | Total/NA | Solid | 6010C | 580164 |
| LCS 500-580164/2-A | Lab Control Sample | Total/NA | Solid | 6010C | 580164 |
| 500-193409-1 MS | S-01 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-1 MSD | S-01 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-1 DU | S-01 | Total/NA | Solid | 6010C | 580164 |

# QC Association Summary

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Metals

### Analysis Batch: 580938

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-193409-1 | S-01 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-2 | S-02 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-3 | S-03 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-4 | S-04 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-5 | S-05 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-6 | S-06 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-7 | S-07 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-8 | S-08 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-9 | S-09 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-10 | S-10 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-11 | S-11 | Total/NA | Solid | 6010C | 580164 |
| MB 500-580164/1-A | Method Blank | Total/NA | Solid | 6010C | 580164 |
| LCS 500-580164/2-A | Lab Control Sample | Total/NA | Solid | 6010C | 580164 |
| 500-193409-1 MS | S-01 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-1 MSD | S-01 | Total/NA | Solid | 6010C | 580164 |
| 500-193409-1 DU | S-01 | Total/NA | Solid | 6010C | 580164 |

## General Chemistry

### Analysis Batch: 579991

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-193409-1 | S-01 | Total/NA | Solid | Moisture | |
| 500-193409-2 | S-02 | Total/NA | Solid | Moisture | |
| 500-193409-3 | S-03 | Total/NA | Solid | Moisture | |
| 500-193409-4 | S-04 | Total/NA | Solid | Moisture | |
| 500-193409-5 | S-05 | Total/NA | Solid | Moisture | |
| 500-193409-6 | S-06 | Total/NA | Solid | Moisture | |
| 500-193409-7 | S-07 | Total/NA | Solid | Moisture | |
| 500-193409-8 | S-08 | Total/NA | Solid | Moisture | |
| 500-193409-9 | S-09 | Total/NA | Solid | Moisture | |
| 500-193409-10 | S-10 | Total/NA | Solid | Moisture | |
| 500-193409-11 | S-11 | Total/NA | Solid | Moisture | |
| 500-193409-1 DU | S-01 | Total/NA | Solid | Moisture | |

### Analysis Batch: 580230

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-193409-1 | S-01 | Total/NA | Solid | 9045D | |
| 500-193409-2 | S-02 | Total/NA | Solid | 9045D | |
| 500-193409-3 | S-03 | Total/NA | Solid | 9045D | |
| 500-193409-4 | S-04 | Total/NA | Solid | 9045D | |
| 500-193409-5 | S-05 | Total/NA | Solid | 9045D | |
| 500-193409-6 | S-06 | Total/NA | Solid | 9045D | |
| 500-193409-7 | S-07 | Total/NA | Solid | 9045D | |
| 500-193409-8 | S-08 | Total/NA | Solid | 9045D | |
| 500-193409-9 | S-09 | Total/NA | Solid | 9045D | |
| 500-193409-10 | S-10 | Total/NA | Solid | 9045D | |
| 500-193409-11 | S-11 | Total/NA | Solid | 9045D | |
| 500-193409-1 DU | S-01 | Total/NA | Solid | 9045D | |

# Surrogate Summary

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Matrix: Solid** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| | | DCA | TOL | BFB | DBFM |
| Lab Sample ID | Client Sample ID | (70-134) | (75-124) | (75-131) | (75-126) |
| 500-193409-1 | S-01 | 102 | 93 | 89 | 100 |
| 500-193409-3 | S-03 | 101 | 95 | 89 | 99 |
| 500-193409-4 | S-04 | 101 | 94 | 88 | 99 |
| 500-193409-5 | S-05 | 105 | 96 | 93 | 101 |
| 500-193409-6 | S-06 | 103 | 97 | 117 | 102 |
| 500-193409-7 | S-07 | 103 | 96 | 99 | 98 |
| 500-193409-8 | S-08 | 102 | 92 | 89 | 99 |
| 500-193409-9 | S-09 | 101 | 97 | 108 | 100 |
| 500-193409-11 | S-11 | 96 | 94 | 88 | 99 |
| LCS 500-580169/4 | Lab Control Sample | 96 | 98 | 86 | 95 |
| LCSD 500-580169/5 | Lab Control Sample Dup | 94 | 95 | 85 | 96 |
| MB 500-580169/7 | Method Blank | 100 | 92 | 86 | 97 |

**Surrogate Legend**

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Matrix: Solid** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| | | DCA | TOL | BFB | DBFM |
| Lab Sample ID | Client Sample ID | (75-126) | (75-120) | (72-124) | (75-120) |
| 500-193409-2 | S-02 | 97 | 98 | 93 | 106 |
| 500-193409-10 | S-10 | 106 | 95 | 92 | 84 |
| LCS 500-580261/4 | Lab Control Sample | 95 | 97 | 94 | 106 |
| LCS 500-580374/4 | Lab Control Sample | 98 | 96 | 94 | 90 |
| MB 500-580261/6 | Method Blank | 98 | 98 | 94 | 109 |
| MB 500-580374/6 | Method Blank | 101 | 95 | 94 | 90 |

**Surrogate Legend**

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

**Matrix: Solid** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | |
|---|---|---|---|---|
| | | NBZ | FBP | TPHL |
| Lab Sample ID | Client Sample ID | (37-147) | (43-145) | (42-157) |
| 500-193409-1 | S-01 | 114 | 95 | 92 |
| 500-193409-1 MS | S-01 | 84 | 85 | 97 |
| 500-193409-2 | S-02 | 0 D | 0 D | 0 D |
| 500-193409-3 | S-03 | 87 | 83 | 93 |
| 500-193409-4 | S-04 | 88 | 76 | 97 |
| 500-193409-5 | S-05 | 94 | 90 | 102 |
| 500-193409-6 | S-06 | 0 D | 0 D | 0 D |

# Surrogate Summary

Client: A3 Environmental LLC
Job ID: 500-193409-1
Project/Site: Gary, Indiana Phase II Project

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Matrix: Solid** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | |
|---|---|---|---|---|
| | | NBZ | FBP | TPHL |
| Lab Sample ID | Client Sample ID | (37-147) | (43-145) | (42-157) |
| 500-193409-7 | S-07 | 106 | 94 | 129 |
| 500-193409-8 | S-08 | 99 | 87 | 91 |
| 500-193409-9 | S-09 | 0 D | 0 D | 0 D |
| 500-193409-10 | S-10 | 0 D | 0 D | 0 D |
| 500-193409-11 | S-11 | 100 | 93 | 97 |
| LCS 500-580294/2-A | Lab Control Sample | 124 | 117 | 100 |
| MB 500-580294/1-A | Method Blank | 112 | 98 | 83 |

**Surrogate Legend**

NBZ = Nitrobenzene-d5 (Surr)
FBP = 2-Fluorobiphenyl (Surr)
TPHL = Terphenyl-d14 (Surr)

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

**Matrix: Solid** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | |
|---|---|---|---|---|
| | | NBZ | FBP | TPHL |
| Lab Sample ID | Client Sample ID | | | |
| 500-193409-1 MSD | S-01 | | | |

**Surrogate Legend**

NBZ = Nitrobenzene-d5 (Surr)
FBP = 2-Fluorobiphenyl (Surr)
TPHL = Terphenyl-d14 (Surr)

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 500-580169/7**
**Matrix: Solid**
**Analysis Batch: 580169**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | | 0.00200 | 0.000510 | mg/Kg | | | 01/08/21 11:21 | 1 |
| Toluene | <0.00200 | | 0.00200 | 0.000505 | mg/Kg | | | 01/08/21 11:21 | 1 |
| Ethylbenzene | <0.00200 | | 0.00200 | 0.000957 | mg/Kg | | | 01/08/21 11:21 | 1 |
| Xylenes, Total | <0.00400 | | 0.00400 | 0.000640 | mg/Kg | | | 01/08/21 11:21 | 1 |
| Methyl tert-butyl ether | <0.00200 | | 0.00200 | 0.000587 | mg/Kg | | | 01/08/21 11:21 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *100* | | *70 - 134* | | *01/08/21 11:21* | *1* |
| *Toluene-d8 (Surr)* | *92* | | *75 - 124* | | *01/08/21 11:21* | *1* |
| *4-Bromofluorobenzene (Surr)* | *86* | | *75 - 131* | | *01/08/21 11:21* | *1* |
| *Dibromofluoromethane (Surr)* | *97* | | *75 - 126* | | *01/08/21 11:21* | *1* |

**Lab Sample ID: LCS 500-580169/4**
**Matrix: Solid**
**Analysis Batch: 580169**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | 0.04618 | | mg/Kg | | 92 | 70 - 125 |
| Toluene | 0.0500 | 0.04725 | | mg/Kg | | 94 | 70 - 125 |
| Ethylbenzene | 0.0500 | 0.04871 | | mg/Kg | | 97 | 61 - 136 |
| Xylenes, Total | 0.100 | 0.09089 | | mg/Kg | | 91 | 53 - 147 |
| Methyl tert-butyl ether | 0.0500 | 0.04387 | | mg/Kg | | 88 | 50 - 140 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *70 - 134* |
| *Toluene-d8 (Surr)* | *98* | | *75 - 124* |
| *4-Bromofluorobenzene (Surr)* | *86* | | *75 - 131* |
| *Dibromofluoromethane (Surr)* | *95* | | *75 - 126* |

**Lab Sample ID: LCSD 500-580169/5**
**Matrix: Solid**
**Analysis Batch: 580169**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | 0.04594 | | mg/Kg | | 92 | 70 - 125 | 1 | 30 |
| Toluene | 0.0500 | 0.04553 | | mg/Kg | | 91 | 70 - 125 | 4 | 30 |
| Ethylbenzene | 0.0500 | 0.04741 | | mg/Kg | | 95 | 61 - 136 | 3 | 30 |
| Xylenes, Total | 0.100 | 0.08966 | | mg/Kg | | 90 | 53 - 147 | 1 | 30 |
| Methyl tert-butyl ether | 0.0500 | 0.04398 | | mg/Kg | | 88 | 50 - 140 | 0 | 30 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *70 - 134* |
| *Toluene-d8 (Surr)* | *95* | | *75 - 124* |
| *4-Bromofluorobenzene (Surr)* | *85* | | *75 - 131* |
| *Dibromofluoromethane (Surr)* | *96* | | *75 - 126* |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 500-580261/6**
**Matrix: Solid**
**Analysis Batch: 580261**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000250 | | 0.000250 | 0.000146 | mg/Kg | | | 01/08/21 15:05 | 1 |
| Toluene | <0.000250 | | 0.000250 | 0.000147 | mg/Kg | | | 01/08/21 15:05 | 1 |
| Ethylbenzene | <0.000250 | | 0.000250 | 0.000183 | mg/Kg | | | 01/08/21 15:05 | 1 |
| Xylenes, Total | <0.000500 | | 0.000500 | 0.000220 | mg/Kg | | | 01/08/21 15:05 | 1 |
| Methyl tert-butyl ether | <0.00100 | | 0.00100 | 0.000394 | mg/Kg | | | 01/08/21 15:05 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *98* | | *75 - 126* | | *01/08/21 15:05* | *1* |
| *Toluene-d8 (Surr)* | *98* | | *75 - 120* | | *01/08/21 15:05* | *1* |
| *4-Bromofluorobenzene (Surr)* | *94* | | *72 - 124* | | *01/08/21 15:05* | *1* |
| *Dibromofluoromethane (Surr)* | *109* | | *75 - 120* | | *01/08/21 15:05* | *1* |

**Lab Sample ID: LCS 500-580261/4**
**Matrix: Solid**
**Analysis Batch: 580261**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | 0.05609 | | mg/Kg | | 112 | 70 - 120 |
| Toluene | 0.0500 | 0.05290 | | mg/Kg | | 106 | 70 - 125 |
| Ethylbenzene | 0.0500 | 0.05198 | | mg/Kg | | 104 | 70 - 123 |
| Xylenes, Total | 0.100 | 0.1021 | | mg/Kg | | 102 | 70 - 125 |
| Methyl tert-butyl ether | 0.0500 | 0.05058 | | mg/Kg | | 101 | 55 - 123 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *75 - 126* |
| *Toluene-d8 (Surr)* | *97* | | *75 - 120* |
| *4-Bromofluorobenzene (Surr)* | *94* | | *72 - 124* |
| *Dibromofluoromethane (Surr)* | *106* | | *75 - 120* |

**Lab Sample ID: MB 500-580374/6**
**Matrix: Solid**
**Analysis Batch: 580374**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000250 | | 0.000250 | 0.000146 | mg/Kg | | | 01/11/21 10:54 | 1 |
| Toluene | <0.000250 | | 0.000250 | 0.000147 | mg/Kg | | | 01/11/21 10:54 | 1 |
| Ethylbenzene | <0.000250 | | 0.000250 | 0.000183 | mg/Kg | | | 01/11/21 10:54 | 1 |
| Xylenes, Total | <0.000500 | | 0.000500 | 0.000220 | mg/Kg | | | 01/11/21 10:54 | 1 |
| Methyl tert-butyl ether | <0.00100 | | 0.00100 | 0.000394 | mg/Kg | | | 01/11/21 10:54 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *101* | | *75 - 126* | | *01/11/21 10:54* | *1* |
| *Toluene-d8 (Surr)* | *95* | | *75 - 120* | | *01/11/21 10:54* | *1* |
| *4-Bromofluorobenzene (Surr)* | *94* | | *72 - 124* | | *01/11/21 10:54* | *1* |
| *Dibromofluoromethane (Surr)* | *90* | | *75 - 120* | | *01/11/21 10:54* | *1* |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 500-580374/4**
**Matrix: Solid**
**Analysis Batch: 580374**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | 0.05057 | | mg/Kg | | 101 | 70 - 120 |
| Toluene | 0.0500 | 0.04999 | | mg/Kg | | 100 | 70 - 125 |
| Ethylbenzene | 0.0500 | 0.05201 | | mg/Kg | | 104 | 70 - 123 |
| Xylenes, Total | 0.100 | 0.1056 | | mg/Kg | | 106 | 70 - 125 |
| Methyl tert-butyl ether | 0.0500 | 0.04591 | | mg/Kg | | 92 | 55 - 123 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *98* | | *75 - 126* |
| *Toluene-d8 (Surr)* | *96* | | *75 - 120* |
| *4-Bromofluorobenzene (Surr)* | *94* | | *72 - 124* |
| *Dibromofluoromethane (Surr)* | *90* | | *75 - 120* |

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 500-580294/1-A**
**Matrix: Solid**
**Analysis Batch: 580409**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 580294**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <0.0330 | | 0.0330 | 0.00597 | mg/Kg | | 01/08/21 16:40 | 01/11/21 11:20 | 1 |
| Acenaphthylene | <0.0330 | | 0.0330 | 0.00438 | mg/Kg | | 01/08/21 16:40 | 01/11/21 11:20 | 1 |
| Anthracene | <0.0330 | | 0.0330 | 0.00555 | mg/Kg | | 01/08/21 16:40 | 01/11/21 11:20 | 1 |
| Benzo[a]anthracene | <0.0330 | | 0.0330 | 0.00447 | mg/Kg | | 01/08/21 16:40 | 01/11/21 11:20 | 1 |
| Benzo[a]pyrene | <0.0330 | | 0.0330 | 0.00643 | mg/Kg | | 01/08/21 16:40 | 01/11/21 11:20 | 1 |
| Benzo[b]fluoranthene | <0.0330 | | 0.0330 | 0.00717 | mg/Kg | | 01/08/21 16:40 | 01/11/21 11:20 | 1 |
| Benzo[g,h,i]perylene | <0.0330 | | 0.0330 | 0.0107 | mg/Kg | | 01/08/21 16:40 | 01/11/21 11:20 | 1 |
| Benzo[k]fluoranthene | <0.0330 | | 0.0330 | 0.00979 | mg/Kg | | 01/08/21 16:40 | 01/11/21 11:20 | 1 |
| Chrysene | <0.0330 | | 0.0330 | 0.00906 | mg/Kg | | 01/08/21 16:40 | 01/11/21 11:20 | 1 |
| Dibenz(a,h)anthracene | <0.0330 | | 0.0330 | 0.00642 | mg/Kg | | 01/08/21 16:40 | 01/11/21 11:20 | 1 |
| Fluoranthene | <0.0330 | | 0.0330 | 0.00616 | mg/Kg | | 01/08/21 16:40 | 01/11/21 11:20 | 1 |
| Indeno[1,2,3-cd]pyrene | <0.0330 | | 0.0330 | 0.00861 | mg/Kg | | 01/08/21 16:40 | 01/11/21 11:20 | 1 |
| Naphthalene | <0.0330 | | 0.0330 | 0.00511 | mg/Kg | | 01/08/21 16:40 | 01/11/21 11:20 | 1 |
| Phenanthrene | <0.0330 | | 0.0330 | 0.00463 | mg/Kg | | 01/08/21 16:40 | 01/11/21 11:20 | 1 |
| Pyrene | <0.0330 | | 0.0330 | 0.00660 | mg/Kg | | 01/08/21 16:40 | 01/11/21 11:20 | 1 |
| Fluorene | <0.0330 | | 0.0330 | 0.00467 | mg/Kg | | 01/08/21 16:40 | 01/11/21 11:20 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Nitrobenzene-d5 (Surr)* | *112* | | *37 - 147* | *01/08/21 16:40* | *01/11/21 11:20* | *1* |
| *2-Fluorobiphenyl (Surr)* | *98* | | *43 - 145* | *01/08/21 16:40* | *01/11/21 11:20* | *1* |
| *Terphenyl-d14 (Surr)* | *83* | | *42 - 157* | *01/08/21 16:40* | *01/11/21 11:20* | *1* |

**Lab Sample ID: LCS 500-580294/2-A**
**Matrix: Solid**
**Analysis Batch: 580409**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 580294**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Acenaphthene | 1.33 | 1.213 | | mg/Kg | | 91 | 65 - 124 |
| Acenaphthylene | 1.33 | 1.288 | | mg/Kg | | 97 | 68 - 120 |

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 500-580294/2-A**
**Matrix: Solid**
**Analysis Batch: 580409**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 580294**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Anthracene | 1.33 | 1.211 | | mg/Kg | | 91 | 70 - 114 |
| Benzo[a]anthracene | 1.33 | 1.149 | | mg/Kg | | 86 | 67 - 122 |
| Benzo[a]pyrene | 1.33 | 1.378 | | mg/Kg | | 103 | 65 - 133 |
| Benzo[b]fluoranthene | 1.33 | 1.321 | | mg/Kg | | 99 | 69 - 129 |
| Benzo[g,h,i]perylene | 1.33 | 1.476 | | mg/Kg | | 111 | 72 - 131 |
| Benzo[k]fluoranthene | 1.33 | 1.323 | | mg/Kg | | 99 | 68 - 127 |
| Chrysene | 1.33 | 1.167 | | mg/Kg | | 88 | 63 - 120 |
| Dibenz(a,h)anthracene | 1.33 | 1.465 | | mg/Kg | | 110 | 64 - 131 |
| Fluoranthene | 1.33 | 1.191 | | mg/Kg | | 89 | 62 - 120 |
| Indeno[1,2,3-cd]pyrene | 1.33 | 1.459 | | mg/Kg | | 109 | 68 - 130 |
| Naphthalene | 1.33 | 1.218 | | mg/Kg | | 91 | 63 - 110 |
| Phenanthrene | 1.33 | 1.174 | | mg/Kg | | 88 | 62 - 120 |
| Pyrene | 1.33 | 1.187 | | mg/Kg | | 89 | 61 - 128 |
| Fluorene | 1.33 | 1.248 | | mg/Kg | | 94 | 62 - 120 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Nitrobenzene-d5 (Surr)* | *124* | | *37 - 147* |
| *2-Fluorobiphenyl (Surr)* | *117* | | *43 - 145* |
| *Terphenyl-d14 (Surr)* | *100* | | *42 - 157* |

**Lab Sample ID: 500-193409-1 MS**
**Matrix: Solid**
**Analysis Batch: 580409**

**Client Sample ID: S-01**
**Prep Type: Total/NA**
**Prep Batch: 580294**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <0.0393 | | 1.58 | 1.120 | | mg/Kg | ☼ | 71 | 65 - 124 |
| Acenaphthylene | <0.0393 | | 1.58 | 1.230 | | mg/Kg | ☼ | 78 | 68 - 120 |
| Anthracene | <0.0393 | | 1.58 | 1.149 | | mg/Kg | ☼ | 73 | 70 - 114 |
| Benzo[a]anthracene | <0.0393 | | 1.58 | 1.274 | | mg/Kg | ☼ | 81 | 67 - 122 |
| Benzo[a]pyrene | <0.0393 | | 1.58 | 1.567 | | mg/Kg | ☼ | 99 | 65 - 133 |
| Benzo[b]fluoranthene | <0.0393 | | 1.58 | 1.798 | | mg/Kg | ☼ | 114 | 69 - 129 |
| Benzo[g,h,i]perylene | <0.0393 | F1 | 1.58 | 0.6777 | F1 | mg/Kg | ☼ | 43 | 72 - 131 |
| Benzo[k]fluoranthene | <0.0393 | | 1.58 | 1.823 | | mg/Kg | ☼ | 115 | 68 - 127 |
| Chrysene | <0.0393 | | 1.58 | 1.254 | | mg/Kg | ☼ | 79 | 63 - 120 |
| Dibenz(a,h)anthracene | <0.0393 | F1 | 1.58 | 0.8542 | F1 | mg/Kg | ☼ | 54 | 64 - 131 |
| Fluoranthene | <0.0393 | | 1.58 | 1.285 | | mg/Kg | ☼ | 81 | 62 - 120 |
| Indeno[1,2,3-cd]pyrene | <0.0393 | F1 | 1.58 | 0.8074 | F1 | mg/Kg | ☼ | 51 | 68 - 130 |
| Naphthalene | <0.0393 | | 1.58 | 1.053 | | mg/Kg | ☼ | 67 | 63 - 110 |
| Phenanthrene | <0.0393 | | 1.58 | 1.126 | | mg/Kg | ☼ | 71 | 62 - 120 |
| Pyrene | <0.0393 | | 1.58 | 1.364 | | mg/Kg | ☼ | 86 | 61 - 128 |
| Fluorene | <0.0393 | | 1.58 | 1.213 | | mg/Kg | ☼ | 77 | 62 - 120 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *Nitrobenzene-d5 (Surr)* | *84* | | *37 - 147* |
| *2-Fluorobiphenyl (Surr)* | *85* | | *43 - 145* |
| *Terphenyl-d14 (Surr)* | *97* | | *42 - 157* |

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 500-193409-1 MSD**
**Matrix: Solid**
**Analysis Batch: 580409**

**Client Sample ID: S-01**
**Prep Type: Total/NA**
**Prep Batch: 580294**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <0.0393 | | 1.59 | 1.101 | | mg/Kg | ☼ | | | | |
| Acenaphthylene | <0.0393 | | 1.59 | 1.185 | | mg/Kg | ☼ | | | | |
| Anthracene | <0.0393 | | 1.59 | 1.142 | | mg/Kg | ☼ | | | | |
| Benzo[a]anthracene | <0.0393 | | 1.59 | 1.198 | | mg/Kg | ☼ | | | | |
| Benzo[a]pyrene | <0.0393 | | 1.59 | 1.455 | | mg/Kg | ☼ | | | | |
| Benzo[b]fluoranthene | <0.0393 | | 1.59 | 1.620 | | mg/Kg | ☼ | | | | |
| Benzo[g,h,i]perylene | <0.0393 | F1 | 1.59 | 0.6410 | | mg/Kg | ☼ | | | | |
| Benzo[k]fluoranthene | <0.0393 | | 1.59 | 1.676 | | mg/Kg | ☼ | | | | |
| Chrysene | <0.0393 | | 1.59 | 1.162 | | mg/Kg | ☼ | | | | |
| Dibenz(a,h)anthracene | <0.0393 | F1 | 1.59 | 0.8184 | | mg/Kg | ☼ | | | | |
| Fluoranthene | <0.0393 | | 1.59 | 1.238 | | mg/Kg | ☼ | | | | |
| Indeno[1,2,3-cd]pyrene | <0.0393 | F1 | 1.59 | 0.7573 | | mg/Kg | ☼ | | | | |
| Naphthalene | <0.0393 | | 1.59 | 1.079 | | mg/Kg | ☼ | | | | |
| Phenanthrene | <0.0393 | | 1.59 | 1.099 | | mg/Kg | ☼ | | | | |
| Pyrene | <0.0393 | | 1.59 | 1.289 | | mg/Kg | ☼ | | | | |
| Fluorene | <0.0393 | | 1.59 | 1.182 | | mg/Kg | ☼ | | | | |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *Nitrobenzene-d5 (Surr)* | | | |
| *2-Fluorobiphenyl (Surr)* | | | |
| *Terphenyl-d14 (Surr)* | | | |

## Method: 6010C - Metals (ICP)

**Lab Sample ID: MB 500-580164/1-A**
**Matrix: Solid**
**Analysis Batch: 580543**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 580164**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | <1.00 | | 1.00 | 0.342 | mg/Kg | | 01/08/21 06:40 | 01/11/21 18:40 | 1 |
| Barium | <1.00 | | 1.00 | 0.114 | mg/Kg | | 01/08/21 06:40 | 01/11/21 18:40 | 1 |
| Cadmium | <0.200 | | 0.200 | 0.0360 | mg/Kg | | 01/08/21 06:40 | 01/11/21 18:40 | 1 |
| Chromium | <1.00 | | 1.00 | 0.495 | mg/Kg | | 01/08/21 06:40 | 01/11/21 18:40 | 1 |
| Lead | <0.500 | | 0.500 | 0.231 | mg/Kg | | 01/08/21 06:40 | 01/11/21 18:40 | 1 |
| Silver | <0.500 | | 0.500 | 0.129 | mg/Kg | | 01/08/21 06:40 | 01/11/21 18:40 | 1 |

**Lab Sample ID: MB 500-580164/1-A**
**Matrix: Solid**
**Analysis Batch: 580938**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 580164**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Selenium | <1.00 | | 1.00 | 0.588 | mg/Kg | | 01/08/21 06:40 | 01/13/21 16:06 | 1 |

**Lab Sample ID: LCS 500-580164/2-A**
**Matrix: Solid**
**Analysis Batch: 580543**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 580164**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | | | 10.0 | 9.941 | | mg/Kg | | 99 | 80 - 120 | | |

## Method: 6010C - Metals (ICP) (Continued)

**Lab Sample ID: LCS 500-580164/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 580543** — **Prep Batch: 580164**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Barium | 200 | 201.5 | | mg/Kg | | 101 | 80 - 120 |
| Cadmium | 5.00 | 4.752 | | mg/Kg | | 95 | 80 - 120 |
| Chromium | 20.0 | 20.15 | | mg/Kg | | 101 | 80 - 120 |
| Lead | 10.0 | 9.872 | | mg/Kg | | 99 | 80 - 120 |
| Silver | 5.00 | 4.573 | | mg/Kg | | 91 | 80 - 120 |

**Lab Sample ID: LCS 500-580164/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 580938** — **Prep Batch: 580164**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Selenium | 10.0 | 8.543 | | mg/Kg | | 85 | 80 - 120 |

**Lab Sample ID: 500-193409-1 MS** — **Client Sample ID: S-01**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 580543** — **Prep Batch: 580164**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.966 | J | 11.1 | 11.87 | | mg/Kg | ☼ | 98 | 75 - 125 |
| Barium | 2.80 | | 222 | 220.9 | | mg/Kg | ☼ | 98 | 75 - 125 |
| Cadmium | <0.228 | | 5.55 | 5.154 | | mg/Kg | ☼ | 93 | 75 - 125 |
| Chromium | 1.76 | | 22.2 | 24.06 | | mg/Kg | ☼ | 100 | 75 - 125 |
| Lead | 1.10 | | 11.1 | 12.57 | | mg/Kg | ☼ | 103 | 75 - 125 |
| Silver | <0.569 | | 5.55 | 4.977 | | mg/Kg | ☼ | 90 | 75 - 125 |

**Lab Sample ID: 500-193409-1 MS** — **Client Sample ID: S-01**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 580938** — **Prep Batch: 580164**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Selenium | -0.4667 | | 11.1 | 9.017 | | mg/Kg | ☼ | 81 | 75 - 125 |

**Lab Sample ID: 500-193409-1 MSD** — **Client Sample ID: S-01**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 580543** — **Prep Batch: 580164**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.966 | J | 11.3 | 12.27 | | mg/Kg | ☼ | 100 | 75 - 125 | 3 | 20 |
| Barium | 2.80 | | 225 | 225.9 | | mg/Kg | ☼ | 99 | 75 - 125 | 2 | 20 |
| Cadmium | <0.228 | | 5.63 | 5.267 | | mg/Kg | ☼ | 94 | 75 - 125 | 2 | 20 |
| Chromium | 1.76 | | 22.5 | 24.22 | | mg/Kg | ☼ | 100 | 75 - 125 | 1 | 20 |
| Lead | 1.10 | | 11.3 | 12.73 | | mg/Kg | ☼ | 103 | 75 - 125 | 1 | 20 |
| Silver | <0.569 | | 5.63 | 5.184 | | mg/Kg | ☼ | 92 | 75 - 125 | 4 | 20 |

**Lab Sample ID: 500-193409-1 MSD** — **Client Sample ID: S-01**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 580938** — **Prep Batch: 580164**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Selenium | -0.4667 | | 11.3 | 9.906 | | mg/Kg | ☼ | 88 | 75 - 125 | 9 | 20 |

# QC Sample Results

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Method: 6010C - Metals (ICP)

**Lab Sample ID: 500-193409-1 DU**
**Matrix: Solid**
**Analysis Batch: 580543**

**Client Sample ID: S-01**
**Prep Type: Total/NA**
**Prep Batch: 580164**

| Analyte | Sample Result | Sample Qualifier | | DU Result | DU Qualifier | Unit | D | | | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.966 | J | | 1.200 | F5 | mg/Kg | ☼ | | | 22 | 20 |
| Barium | 2.80 | | | 2.912 | | mg/Kg | ☼ | | | 4 | 20 |
| Cadmium | <0.228 | | | <0.222 | | mg/Kg | ☼ | | | NC | 20 |
| Chromium | 1.76 | | | 2.140 | | mg/Kg | ☼ | | | 19 | 20 |
| Lead | 1.10 | | | 1.590 | F5 | mg/Kg | ☼ | | | 37 | 20 |
| Silver | <0.569 | | | <0.555 | | mg/Kg | ☼ | | | NC | 20 |

**Lab Sample ID: 500-193409-1 DU**
**Matrix: Solid**
**Analysis Batch: 580938**

**Client Sample ID: S-01**
**Prep Type: Total/NA**
**Prep Batch: 580164**

| Analyte | Sample Result | Sample Qualifier | | DU Result | DU Qualifier | Unit | D | | | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Selenium | -0.4667 | | | <1.11 | | mg/Kg | ☼ | | | NC | 20 |

## Method: 7471A - Mercury (CVAA)

**Lab Sample ID: MB 500-580064/12-A**
**Matrix: Solid**
**Analysis Batch: 580232**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 580064**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | <16.7 | | 16.7 | 5.56 | ug/Kg | | 01/07/21 13:40 | 01/08/21 08:15 | 1 |

**Lab Sample ID: LCS 500-580064/13-A**
**Matrix: Solid**
**Analysis Batch: 580232**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 580064**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | | | 167 | 171.5 | | ug/Kg | | 103 | 80 - 120 | | |

## Method: 9045D - pH

**Lab Sample ID: 500-193409-1 DU**
**Matrix: Solid**
**Analysis Batch: 580230**

**Client Sample ID: S-01**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | | DU Result | DU Qualifier | Unit | D | | | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| pH | 6.9 | | | 7.1 | | SU | | | | 2 | |

# Lab Chronicle

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-01
**Lab Sample ID: 500-193409-1**
**Date Collected: 01/05/21 10:20**
**Matrix: Solid**
**Date Received: 01/06/21 14:05**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 9045D | | 1 | 580230 | 01/08/21 08:31 | LWN | TAL CHI |
| Total/NA | Analysis | Moisture | | 1 | 579991 | 01/07/21 07:56 | LWN | TAL CHI |

## Client Sample ID: S-01
**Lab Sample ID: 500-193409-1**
**Date Collected: 01/05/21 10:20**
**Matrix: Solid**
**Date Received: 01/06/21 14:05**
**Percent Solids: 83.7**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 579969 | 01/06/21 17:34 | WRE | TAL CHI |
| Total/NA | Analysis | 8260B | | 1 | 580169 | 01/08/21 11:46 | JDD | TAL CHI |
| Total/NA | Prep | 3541 | | | 580294 | 01/08/21 16:40 | ACK | TAL CHI |
| Total/NA | Analysis | 8270D | | 1 | 580409 | 01/11/21 14:40 | GWB | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580543 | 01/11/21 18:43 | EEN | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580938 | 01/13/21 16:12 | JJB | TAL CHI |
| Total/NA | Prep | 7471A | | | 580064 | 01/07/21 13:40 | MJG | TAL CHI |
| Total/NA | Analysis | 7471A | | 1 | 580232 | 01/08/21 09:05 | MJG | TAL CHI |

## Client Sample ID: S-02
**Lab Sample ID: 500-193409-2**
**Date Collected: 01/05/21 10:35**
**Matrix: Solid**
**Date Received: 01/06/21 14:05**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 9045D | | 1 | 580230 | 01/08/21 08:36 | LWN | TAL CHI |
| Total/NA | Analysis | Moisture | | 1 | 579991 | 01/07/21 07:56 | LWN | TAL CHI |

## Client Sample ID: S-02
**Lab Sample ID: 500-193409-2**
**Date Collected: 01/05/21 10:35**
**Matrix: Solid**
**Date Received: 01/06/21 14:05**
**Percent Solids: 87.1**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 579964 | 01/05/21 10:35 | WRE | TAL CHI |
| Total/NA | Analysis | 8260B | | 50 | 580261 | 01/08/21 15:34 | JDD | TAL CHI |
| Total/NA | Prep | 3541 | | | 580294 | 01/08/21 16:40 | ACK | TAL CHI |
| Total/NA | Analysis | 8270D | | 20 | 580409 | 01/11/21 20:50 | GWB | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580543 | 01/11/21 19:07 | EEN | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580938 | 01/13/21 16:35 | JJB | TAL CHI |
| Total/NA | Prep | 7471A | | | 580064 | 01/07/21 13:40 | MJG | TAL CHI |
| Total/NA | Analysis | 7471A | | 1 | 580232 | 01/08/21 09:07 | MJG | TAL CHI |

# Lab Chronicle

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-03
**Lab Sample ID: 500-193409-3**
**Date Collected: 01/06/21 08:23**
**Matrix: Solid**
**Date Received: 01/06/21 14:05**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 9045D | | 1 | 580230 | 01/08/21 08:39 | LWN | TAL CHI |
| Total/NA | Analysis | Moisture | | 1 | 579991 | 01/07/21 07:56 | LWN | TAL CHI |

## Client Sample ID: S-03
**Lab Sample ID: 500-193409-3**
**Date Collected: 01/06/21 08:23**
**Matrix: Solid**
**Date Received: 01/06/21 14:05**
**Percent Solids: 79.9**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 579969 | 01/06/21 17:34 | WRE | TAL CHI |
| Total/NA | Analysis | 8260B | | 1 | 580169 | 01/08/21 12:11 | JDD | TAL CHI |
| Total/NA | Prep | 3541 | | | 580294 | 01/08/21 16:40 | ACK | TAL CHI |
| Total/NA | Analysis | 8270D | | 1 | 580409 | 01/11/21 15:37 | GWB | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580543 | 01/11/21 19:10 | EEN | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580938 | 01/13/21 16:38 | JJB | TAL CHI |
| Total/NA | Prep | 7471A | | | 580064 | 01/07/21 13:40 | MJG | TAL CHI |
| Total/NA | Analysis | 7471A | | 1 | 580232 | 01/08/21 09:09 | MJG | TAL CHI |

## Client Sample ID: S-04
**Lab Sample ID: 500-193409-4**
**Date Collected: 01/06/21 08:50**
**Matrix: Solid**
**Date Received: 01/06/21 14:05**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 9045D | | 1 | 580230 | 01/08/21 08:41 | LWN | TAL CHI |
| Total/NA | Analysis | Moisture | | 1 | 579991 | 01/07/21 07:56 | LWN | TAL CHI |

## Client Sample ID: S-04
**Lab Sample ID: 500-193409-4**
**Date Collected: 01/06/21 08:50**
**Matrix: Solid**
**Date Received: 01/06/21 14:05**
**Percent Solids: 81.5**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 579969 | 01/06/21 17:34 | WRE | TAL CHI |
| Total/NA | Analysis | 8260B | | 1 | 580169 | 01/08/21 12:37 | JDD | TAL CHI |
| Total/NA | Prep | 3541 | | | 580294 | 01/08/21 16:40 | ACK | TAL CHI |
| Total/NA | Analysis | 8270D | | 1 | 580409 | 01/11/21 16:06 | GWB | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580543 | 01/11/21 19:13 | EEN | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580938 | 01/13/21 16:41 | JJB | TAL CHI |
| Total/NA | Prep | 7471A | | | 580064 | 01/07/21 13:40 | MJG | TAL CHI |
| Total/NA | Analysis | 7471A | | 1 | 580232 | 01/08/21 09:10 | MJG | TAL CHI |

# Lab Chronicle

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-05
**Date Collected: 01/06/21 09:30**
**Date Received: 01/06/21 14:05**

**Lab Sample ID: 500-193409-5**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 9045D | | 1 | 580230 | 01/08/21 08:44 | LWN | TAL CHI |
| Total/NA | Analysis | Moisture | | 1 | 579991 | 01/07/21 07:56 | LWN | TAL CHI |

## Client Sample ID: S-05
**Date Collected: 01/06/21 09:30**
**Date Received: 01/06/21 14:05**

**Lab Sample ID: 500-193409-5**
**Matrix: Solid**
**Percent Solids: 81.7**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 579969 | 01/06/21 17:34 | WRE | TAL CHI |
| Total/NA | Analysis | 8260B | | 1 | 580169 | 01/08/21 13:02 | JDD | TAL CHI |
| Total/NA | Prep | 3541 | | | 580294 | 01/08/21 16:40 | ACK | TAL CHI |
| Total/NA | Analysis | 8270D | | 10 | 580409 | 01/11/21 17:31 | GWB | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580543 | 01/11/21 19:16 | EEN | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580938 | 01/13/21 16:44 | JJB | TAL CHI |
| Total/NA | Prep | 7471A | | | 580064 | 01/07/21 13:40 | MJG | TAL CHI |
| Total/NA | Analysis | 7471A | | 1 | 580232 | 01/08/21 09:12 | MJG | TAL CHI |

## Client Sample ID: S-06
**Date Collected: 01/06/21 10:10**
**Date Received: 01/06/21 14:05**

**Lab Sample ID: 500-193409-6**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 9045D | | 1 | 580230 | 01/08/21 08:46 | LWN | TAL CHI |
| Total/NA | Analysis | Moisture | | 1 | 579991 | 01/07/21 07:56 | LWN | TAL CHI |

## Client Sample ID: S-06
**Date Collected: 01/06/21 10:10**
**Date Received: 01/06/21 14:05**

**Lab Sample ID: 500-193409-6**
**Matrix: Solid**
**Percent Solids: 91.3**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 579969 | 01/06/21 17:34 | WRE | TAL CHI |
| Total/NA | Analysis | 8260B | | 1 | 580169 | 01/08/21 13:28 | JDD | TAL CHI |
| Total/NA | Prep | 3541 | | | 580294 | 01/08/21 16:40 | ACK | TAL CHI |
| Total/NA | Analysis | 8270D | | 50 | 580525 | 01/12/21 00:21 | SS | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580543 | 01/11/21 19:20 | EEN | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580938 | 01/13/21 16:48 | JJB | TAL CHI |
| Total/NA | Prep | 7471A | | | 580064 | 01/07/21 13:40 | MJG | TAL CHI |
| Total/NA | Analysis | 7471A | | 1 | 580232 | 01/08/21 09:19 | MJG | TAL CHI |

# Lab Chronicle

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-07
**Date Collected: 01/06/21 10:45**
**Date Received: 01/06/21 14:05**

**Lab Sample ID: 500-193409-7**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 9045D | | 1 | 580230 | 01/08/21 08:49 | LWN | TAL CHI |
| Total/NA | Analysis | Moisture | | 1 | 579991 | 01/07/21 07:56 | LWN | TAL CHI |

## Client Sample ID: S-07
**Date Collected: 01/06/21 10:45**
**Date Received: 01/06/21 14:05**

**Lab Sample ID: 500-193409-7**
**Matrix: Solid**
**Percent Solids: 94.2**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 579969 | 01/06/21 17:34 | WRE | TAL CHI |
| Total/NA | Analysis | 8260B | | 1 | 580169 | 01/08/21 13:53 | JDD | TAL CHI |
| Total/NA | Prep | 3541 | | | 580294 | 01/08/21 16:40 | ACK | TAL CHI |
| Total/NA | Analysis | 8270D | | 5 | 580409 | 01/11/21 18:28 | GWB | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580543 | 01/11/21 19:23 | EEN | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580938 | 01/13/21 16:51 | JJB | TAL CHI |
| Total/NA | Prep | 7471A | | | 580064 | 01/07/21 13:40 | MJG | TAL CHI |
| Total/NA | Analysis | 7471A | | 1 | 580232 | 01/08/21 09:20 | MJG | TAL CHI |

## Client Sample ID: S-08
**Date Collected: 01/06/21 11:20**
**Date Received: 01/06/21 14:05**

**Lab Sample ID: 500-193409-8**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 9045D | | 1 | 580230 | 01/08/21 08:51 | LWN | TAL CHI |
| Total/NA | Analysis | Moisture | | 1 | 579991 | 01/07/21 07:56 | LWN | TAL CHI |

## Client Sample ID: S-08
**Date Collected: 01/06/21 11:20**
**Date Received: 01/06/21 14:05**

**Lab Sample ID: 500-193409-8**
**Matrix: Solid**
**Percent Solids: 92.8**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 579969 | 01/06/21 17:34 | WRE | TAL CHI |
| Total/NA | Analysis | 8260B | | 1 | 580169 | 01/08/21 14:18 | JDD | TAL CHI |
| Total/NA | Prep | 3541 | | | 580294 | 01/08/21 16:40 | ACK | TAL CHI |
| Total/NA | Analysis | 8270D | | 1 | 580409 | 01/11/21 16:34 | GWB | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580543 | 01/11/21 19:26 | EEN | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580938 | 01/13/21 16:54 | JJB | TAL CHI |
| Total/NA | Prep | 7471A | | | 580064 | 01/07/21 13:40 | MJG | TAL CHI |
| Total/NA | Analysis | 7471A | | 1 | 580232 | 01/08/21 09:22 | MJG | TAL CHI |

# Lab Chronicle

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-09
**Date Collected: 01/06/21 11:50**
**Date Received: 01/06/21 14:05**

**Lab Sample ID: 500-193409-9**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 9045D | | 1 | 580230 | 01/08/21 08:54 | LWN | TAL CHI |
| Total/NA | Analysis | Moisture | | 1 | 579991 | 01/07/21 07:56 | LWN | TAL CHI |

## Client Sample ID: S-09
**Date Collected: 01/06/21 11:50**
**Date Received: 01/06/21 14:05**

**Lab Sample ID: 500-193409-9**
**Matrix: Solid**
**Percent Solids: 91.8**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 579969 | 01/06/21 17:34 | WRE | TAL CHI |
| Total/NA | Analysis | 8260B | | 1 | 580169 | 01/08/21 14:44 | JDD | TAL CHI |
| Total/NA | Prep | 3541 | | | 580294 | 01/08/21 16:40 | ACK | TAL CHI |
| Total/NA | Analysis | 8270D | | 50 | 580525 | 01/12/21 00:47 | SS | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580543 | 01/11/21 19:30 | EEN | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580938 | 01/13/21 16:57 | JJB | TAL CHI |
| Total/NA | Prep | 7471A | | | 580064 | 01/07/21 13:40 | MJG | TAL CHI |
| Total/NA | Analysis | 7471A | | 1 | 580232 | 01/08/21 09:24 | MJG | TAL CHI |

## Client Sample ID: S-10
**Date Collected: 01/06/21 12:35**
**Date Received: 01/06/21 14:05**

**Lab Sample ID: 500-193409-10**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 9045D | | 1 | 580230 | 01/08/21 08:59 | LWN | TAL CHI |
| Total/NA | Analysis | Moisture | | 1 | 579991 | 01/07/21 07:56 | LWN | TAL CHI |

## Client Sample ID: S-10
**Date Collected: 01/06/21 12:35**
**Date Received: 01/06/21 14:05**

**Lab Sample ID: 500-193409-10**
**Matrix: Solid**
**Percent Solids: 86.8**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 579964 | 01/06/21 12:35 | WRE | TAL CHI |
| Total/NA | Analysis | 8260B | | 50 | 580374 | 01/11/21 14:31 | STW | TAL CHI |
| Total/NA | Prep | 3541 | | | 580294 | 01/08/21 16:40 | ACK | TAL CHI |
| Total/NA | Analysis | 8270D | | 100 | 580525 | 01/12/21 01:14 | SS | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580543 | 01/11/21 19:33 | EEN | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580938 | 01/13/21 17:01 | JJB | TAL CHI |
| Total/NA | Prep | 7471A | | | 580064 | 01/07/21 13:40 | MJG | TAL CHI |
| Total/NA | Analysis | 7471A | | 1 | 580232 | 01/08/21 09:26 | MJG | TAL CHI |

# Lab Chronicle

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Client Sample ID: S-11

**Lab Sample ID: 500-193409-11**

**Date Collected: 01/06/21 13:05**
**Matrix: Solid**
**Date Received: 01/06/21 14:05**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 9045D | | 1 | 580230 | 01/08/21 09:02 | LWN | TAL CHI |
| Total/NA | Analysis | Moisture | | 1 | 579991 | 01/07/21 07:56 | LWN | TAL CHI |

## Client Sample ID: S-11

**Lab Sample ID: 500-193409-11**

**Date Collected: 01/06/21 13:05**
**Matrix: Solid**
**Date Received: 01/06/21 14:05**
**Percent Solids: 89.2**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 579969 | 01/06/21 17:34 | WRE | TAL CHI |
| Total/NA | Analysis | 8260B | | 1 | 580169 | 01/08/21 15:35 | JDD | TAL CHI |
| Total/NA | Prep | 3541 | | | 580294 | 01/08/21 16:40 | ACK | TAL CHI |
| Total/NA | Analysis | 8270D | | 1 | 580409 | 01/11/21 17:03 | GWB | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580543 | 01/11/21 19:43 | EEN | TAL CHI |
| Total/NA | Prep | 3050B | | | 580164 | 01/08/21 06:40 | LMN | TAL CHI |
| Total/NA | Analysis | 6010C | | 1 | 580938 | 01/13/21 17:04 | JJB | TAL CHI |
| Total/NA | Prep | 7471A | | | 580064 | 01/07/21 13:40 | MJG | TAL CHI |
| Total/NA | Analysis | 7471A | | 1 | 580232 | 01/08/21 09:27 | MJG | TAL CHI |

**Laboratory References:**

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

# Accreditation/Certification Summary

Client: A3 Environmental LLC
Project/Site: Gary, Indiana Phase II Project

Job ID: 500-193409-1

## Laboratory: Eurofins TestAmerica, Chicago

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| California | State | 2903 | 04-30-21 |
| Georgia | State | N/A | 04-30-20 * |
| Georgia (DW) | State | 939 | 04-30-21 |
| Hawaii | State | NA | 04-30-20 * |
| Illinois | NELAP | IL00035 | 04-29-21 |
| Indiana | State | C-IL-02 | 06-29-21 |
| Iowa | State | 082 | 05-01-22 |
| Kentucky (UST) | State | AI # 108083 | 04-30-20 * |
| Louisiana | NELAP | 02046 | 06-30-21 |
| Mississippi | State | NA | 04-30-20 * |
| New York | NELAP | 12019 | 04-01-21 |
| North Carolina (WW/SW) | State | 291 | 12-31-21 |
| North Dakota | State | R-194 | 04-29-21 |
| Oklahoma | State | 8908 | 08-31-21 |
| South Carolina | State | 77001003 | 04-29-21 |
| USDA | US Federal Programs | P330-18-00018 | 02-11-21 |
| Wisconsin | State | 999580010 | 08-31-21 |
| Wyoming | State | 8TMS-Q | 04-30-20 * |

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Login Sample Receipt Checklist

Client: A3 Environmental LLC

Job Number: 500-193409-1

**Login Number: 193409**
**List Number: 1**
**Creator: Hernandez, Stephanie**

**List Source: Eurofins TestAmerica, Chicago**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | True | |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 5.6 |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | N/A | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

# Appendix E
# Qualifications of Environmental Professional(s)

## Alisa Allen, M.S., P.G.

*Owner/Manager*

19 Years' Experience

## Areas of Expertise:

Client Management
Soil Sampling
Groundwater Sampling
Soil Gas Sampling
Environmental Site Assessments
Soil/Groundwater Remediation
Project Management
LUST/VCP

## Education:

Master of Science, Geology
University of Florida,
Gainesville, Florida, 2001

Bachelor of Arts, Geology
Lawrence University,
Appleton, Wisconsin, 1996

## Training/Registrations:

Licensed Professional Geologist, #196.001406, IL

OSHA 40-Hour HAZWOPER Certificate

## Qualifications Summary:

Alisa A. Allen is the Owner and Principle Scientist for A3 Environmental, LLC, which she founded. She has more than 19 years of experience in environmental consulting. During that time, she has served as Project Manager and/or Project Geologist for a variety of environmental projects for local, state, federal governments and private industry. Ms. Allen has worked in the commercial lending and real-estate development industries, leveraging her broad knowledge to holistically manage the myriad of environmental concerns that confront clients on a daily basis. Her sound understanding of actual and potential challenges facing clients has enabled her to cost-effectively and quickly assist real-estate developers and loan officers with their projects. She focuses on forecasting any potential issues, then proactively implements solutions to avoid unnecessary delays and unexpected cost overruns.

## Representative Project Experience:

**Underground Storage Tank (UST) Removal Oversight, *Various Locations***

Ms. Allen has supervised the removal of numerous USTs for commercial and residential properties. Her involvement included developing the scope, coordinating UST removal activities, collecting confirmation soil samples, supervising soil removal activities, and preparing the required budgeting and reporting in accordance with applicable regulatory agencies.

**Phase I Environmental Site Investigations, *Various Locations***

Performed several Phase I ESAs and transaction screens across the Midwest and nationwide. Property types have included residential, light and heavy industrial/manufacturing facilities, commercial buildings, and agricultural properties. Assessment activities include a site reconnaissance, historical data collection and analysis, regulatory database review, and report preparation. All reporting has been prepared in accordance with ASTM 1527 and 1528 standards as well as client-specific specifications.

**Phase II Environmental Site Assessments/ Comprehensive Site Investigations, *Various Locations***

Participated in multiple Phase II ESA investigations, including the collection of surface and subsurface soil samples, installation of temporary monitoring wells, and groundwater sampling. Reviewed analytical data, compared data to the applicable regulatory agency objectives and authored reports.

**Site Investigation/ Reporting, *Various Locations***

Involvement in investigations included remediation oversight, performing comprehensive site investigations, reviewing analytical data and historical information. Also, prepared the Comprehensive Site Investigation reports, Corrective Action Plans and Completion Reports.

ERPIMS/US AFCEC

FEMA Incident Command System 100, 200, 300, 400, 700

**Performance-based Remediation Contract; Air Force Civil Engineer Center, Department of Defense, Malmstrom Air Force Base, Great Falls, Montana**

Senior Project Manager on a performance-based remediation (PBR) contract with the Air Force Civil Engineer Center (AFCEC) for the Department of Defense (DOD) nuclear missile alert facilities and Malmstrom Air Force Base (MAFB) in Great Falls, Montana. The project included conducting remedial investigation studies, Underground Storage Tank (UST) Closures, Geophysical Surveys, Corrective Action Plans, Site Remediation, Long-Term Monitoring, and developing Optimized Exit Strategies at over 20 different sites regulated under both RCRA and CERCLA components. Contaminants include: petroleum hydrocarbons, volatile organic compounds, chlorinated solvents, heavy metals, and PCBs. Remedial strategies included source removal, in-situ bioremediation (aerobic and anaerobic), in-situ chemical oxidation, and landfill cap management with long term monitoring.