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November 9, 2016

Gannett Fleming Engineers and Architects, P.C.
2500 Corporate Exchange Drive
Columbus, Ohio 43231

Attention: Mr. Robert W. Parker, MS
Phone: (614) 794-9424, ext. 6813
Email: rparker@gfnet.com

Reference: Exploratory Environmental Site Assessment (ESA)
Project Name: ODOT SUM-8-1.75 (PID 91710)
Site Location: 359 Harris Street; Akron, Ohio 44304
CTL Engineering Project No. 16510222COL

Dear Mr. Parker:

In accordance with our contract, on behalf of **Gannett Fleming Engineers and Architects, P.C.**, and others who may rely on this report, namely Ohio Department of Transportation (ODOT), CTL Engineering of Ohio, Inc. performed an Exploratory Environmental Site Assessment (ESA) on a portion of a property, currently comprised of vegetated/wooded land, located to the northeast of 359 Harris Street in Summit County; Akron, Ohio 44304.

If you should have any questions regarding the attached Exploratory ESA report, or require any further information, please feel free to contact Mr. McClelland at (614) 276-8123, ext. 1227. Please refer to CTL Engineering Project No. 16510222COL in all future inquiries. It was a pleasure working with you on this project.

Respectfully submitted,

CTL ENGINEERING OF OHIO, INC.

Matthew W. McClelland, B.S.
Environmental Scientist

Exploratory
Environmental Site Assessment

Site Name/Location:

ODOT SUM-8-1.75 (PID 91710)
359 Harris Street
Summit County – Akron, Ohio 44304

Prepared for:

Gannett Fleming Engineers and Architects, P.C.
2500 Corporate Exchange Drive
Columbus, Ohio 43231

CTL Engineering Project No. 16510222COL

Prepared by:

CTL Engineering of Ohio, Inc.
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Columbus, Ohio 43204

November 9, 2016

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1.0 INTRODUCTION and BACKGROUND

In accordance with our contract, on behalf of **Gannett Fleming Engineers and Architects, P.C.** (hereinafter referred to as Client) and others who may rely on this report, namely Ohio Department of Transportation (ODOT), CTL Engineering of Ohio, Inc. (CTL Engineering) performed an Exploratory Environmental Site Assessment (ESA) on a portion of a property, currently comprised of vegetated/wooded land, located to the northeast of 359 Harris Street in Summit County; Akron, Ohio 44304 (hereinafter referred to as the "**project site**").

Figures 1 and **2** illustrate the general site location, **Figure 3** is a Google Earth Pro® image of the project site with the soil boring locations noted, and **Figure 4** is the site survey (dated 01/20/16) provided by the Client. Photographs taken during the field activities are provided in **Appendix A**.

This Exploratory ESA has been performed as part of Ohio Department of Transportation (ODOT) project SUM-8-1.75; ODOT PID – 91710, and was requested due to the suspected presence of a former unregulated landfill located on or adjacent to the proposed OH-8/59 bridge, that is being planned to be constructed to the west of the existing bridge. The purpose of this Exploratory ESA is to determine the composition of subsurface soil/materials in the vicinity of the proposed bridge piers and to identify the presence of constituents of concern in the subsurface soils.

NOTE: Soil borings were proposed to be advanced on both ODOT right-of-way and former landfill right-of-way. Per the Client, any Ohio EPA Rule 13 permits (i.e., drilling within a landfill) or other applicable permits were already acquired by ODOT.

1.1 Reliability, Limitations and Exceptions of This Assessment

Although this report was prepared for the exclusive use of **Gannett Fleming Engineers and Architects, P.C.** (Client), the contents of this report may be relied upon by any applicable federal, state, and local governmental regulatory agency or entity expressly designated by the client (i.e., ODOT), provided that CTL Engineering is also informed in writing, and that the use of the report is subject to the limitations and exceptions set forth in **Section 1.1** of the report, as well as the terms and conditions contained in the original contract documents signed by CTL Engineering and the Client.

However, CTL Engineering will not distribute or publish this proprietary report to any third party without the Client's written consent, except as required by law or a court order. Any unauthorized use of or reliance on this report shall release CTL Engineering from any liability resulting from such use or reliance.

The following items outline limitations and exceptions to the Exploratory ESA conducted for this Project Site:

- According to regulatory guidelines, vertical and horizontal extent of contaminant migration is defined as the delineation of constituents of concern concentrations to a non-detect or below the regulatory screening levels. Therefore, a comprehensive assessment should include a sufficient number of borings to delineate the constituent migration boundaries vertically and horizontally. However, the scope of this project was rather limited since the purpose was to first confirm or deny the presence of constituents of concern in the subsurface soils in the area of interest, if any.

  Therefore, the performance of this assessment is intended to reduce, but not eliminate, uncertainty regarding the potential presence of a range of contaminants which are within the scope of work defined for this project, while recognizing reasonable limits of time and costs. Additionally, the boring locations and the parameters to be analyzed were provided by ODOT.

- The information provided in this report is valid for this particular Project Site in its present condition (as determined on the day of the fieldwork). The technical information included herein is based on our experience, the information obtained during the field study, and procedures described herein and does not warrant against future alterations of conditions at the Site or adjacent properties, or subsequent changes in the environmental regulations. Any changes in the operations or physical condition of the Site may alter the findings of this report.

- The drilling and soil sampling program provide discrete samples and, therefore, do not warrant against undetected areas of adverse environmental impact, if any. Moreover, the Exploratory ESA is not intended to satisfy the level of inquiry that may be necessary to support remedial solutions required for the Property, if any.

- Several considerations that may be important in property transactions but that are outside the scope of this assessment may include asbestos-containing materials, radon, lead-based paint, lead in drinking water, and wetlands. No implication is intended as to the relative importance of such considerations, nor is this list intended to be all-inclusive.

- This report does not represent a legal opinion as to the liabilities associated with property transfers or transactions.

- CTL Engineering attempts to conduct as thorough an assessment as is practicable. However, it shall not be held liable for inaccessible portions of the project site that are identified as such in this report, if any.

- CTL Engineering warrants that the services, findings, and/or recommendations provided herein have been performed in accordance with procedures, practices, and standards generally accepted in the environmental consulting profession for use in similar assignments in the same locale and time frame. No other warranty is expressed or implied.

- Any subsequent documents received by CTL Engineering after the issuance date and which do not alter the findings of this report, will be kept in CTL Engineering's project file; otherwise, an addendum will be issued expeditiously.

If additional information becomes available to the Client, CTL Engineering asks to be informed as soon as practical so that CTL Engineering can review the information, reassess the potential environmental concerns, and modify this assessment's conclusions and recommendations, if appropriate (at no charge, if the information is submitted to CTL Engineering within thirty [30] calendar days from the date of this report).

2.0 SITE DESCRIPTION

The project site is a property of unknown acreage located northeast of 359 Harris Street in Summit County; Akron, Ohio. The northern portion of the project site consists of brush-covered land and the southern portion consists of dense wooded land. A dirt and gravel-covered drive extends to the north/northwest from Harris Street for approximately 800 feet, and then turns to the east and continues for approximately 600 feet to provide access to the project site.

Geological Setting:

According to interpretation of the Akron West, Ohio USGS 7.5 Minute Series Topographic Map (1996) for the area, the project site is located in an urban area at elevations ranging from approximately 950-1,010 feet above mean sea level (AMSL) in Summit County; Akron, Ohio (see **Figure 1**). The northern portion of the project site slopes slightly/moderately to the southwest and the southern portion of the project site slopes steeply to the south. The entire project site and vicinity generally slopes to the south to southwest, in the direction of the Cuyahoga River, located approximately 700 feet to the southwest of the project site. Based on the topographic gradient and presence of the Cuyahoga River, the inferred direction of groundwater flow in the area of the project site is anticipated to the south or southwest.

According to ODNR Bulletin 44, Geology of Water in Ohio (1943), Akron is located on the glaciated, hilly, deeply dissected Allegheny Plateau. The Cuyahoga River is located to the southeast of Akron. The region was glaciated by the Wisconsin ice sheet. The deposits of glacial drift are thin and variable, approximately less than 25 feet in thickness. The Deep Stage Cleveland River is located in the western portion of the city, with fill deposits ranging from 150 to 300 feet in thickness. The city's elevation is near the contact elevation of the Mississippian and Pennsylvanian rocks. The highlands' upper bedrock consists of the Sharon Conglomerate, while the lower lands' upper bedrock is composed of the Logan Formation. Water resources are confined to the deeply entrenched valleys and surface streams and lakes.

During this investigation, seven (7) soil borings were advanced on the project site. Four borings (i.e., EB-1, EB-2, EB-3, EB-4) were advanced in a line from north to south, roughly parallel to the existing OH-8/59 bridge and near the estimated edge of the former landfill. Two borings (i.e., EB-5 and EB-6) were advanced further east and roughly perpendicular to the existing bridge, in the approximate location of the proposed bridge pier supports. The final boring (EB-7) was planned to be advanced further south/southwest of the aforementioned borings; however, due to the steep terrain, this boring location could not be accessed by the track-mounted GeoProbe™ rig and, therefore, a mechanical hand sampler was used to advance this boring. Due to refusal conditions encountered at 2 feet bgs while using the hand sampler at this boring location (identified in the boring logs and Figure 3 as HS-1), which was caused by the presence of numerous concrete boulders and pieces of scrap metal, boring EB-7 was relocated approximately 50 feet to the north, and adjacent to the southwest of EB-4, to allow for Geoprobe access.

In accordance with ODOT's scope of work, each of the borings was advanced to 10 feet bgs. Although some variations in soil composition were noted, the soil profile at borings EB-1 to EB-7 generally consisted of fill material comprised of a combination of silt, sand, clay, gravel and rock fragments with the following debris observed:

- EB-1: plastic, rubber, wood, newspaper fragments and landscaping debris from 4-10' bgs
- EB-2: crushed concrete from 1-2' bgs; cardboard, plastic, wood, fiberglass insulation and brick fragments from 3-10' bgs
- EB-3: glass and wood fragments from 0.5-6' bgs; wood, plastic, paper, glass and fiberglass from 6-10' bgs
- EB-4: clothing, plastic and wood fragments from 3-5' bgs; brick and wood fragments from 5-10' bgs
- EB-5: plastic fragments from 0-10' bgs; crushed concrete from 4.5-5' and 5.5-6' bgs; rubber fragments from 1-3' and 7-8.5' bgs; brick fragments from 8.5-9' bgs; carpet fragments from 7-8.5' bgs; and built-up roofing from 6-7' bgs
- EB-6: plastic fragments from 0-10' bgs; rock salt from 4-5' bgs; wood fragments from 7-8' bgs; rubber/plastic fragments from 8-8.5' bgs, and black organic matter from 9-10' bgs
- EB-7: plastic and brick fragments from 0-10' bgs

Upper zone perched or groundwater was not encountered in any of the borings; therefore, no water samples were collected or analyzed. The boring logs detailing the lithographic details of the observed soils are presented in **Appendix C** and the boring locations are depicted on **Figure 3**.

3.0 PROJECT APPROACH and ACTIVITIES

As previously indicated, an Exploratory ESA was conducted to determine the composition of subsurface soil/materials in the vicinity of the proposed bridge piers and to identify the presence of constituents of concern in the subsurface soils, if any.

In accordance with ODOT's requirement, CTL retained a 3rd party utility locator (i.e., Blood Hound, Inc.) to identify the locations of underground utilities at the site prior to drilling. Documentation provided by Blood Hound, Inc. regarding their findings is provided in **Appendix B**. Based on the information provided, and conditions encountered during the drilling activities, no underground utilities were disturbed/damaged during this Exploratory ESA.

As previously stated, CTL Engineering advanced seven (7) borings at the project site at the locations approved by the client. One sample per boring was analyzed in the laboratory for the analytical parameters specified by the client and/or ODOT, to determine the presence or absence of common organic constituents and poly-chlorinated biphenyls (PCBs) above the regulatory standards as well as the eight RCRA heavy metals, i.e., total arsenic, cadmium, chromium, lead, mercury, selenium, and silver above regulatory standards and typical background heavy metal concentrations.

The boring/sample locations are depicted on **Figure 3**.

Field Activities:

The Exploratory ESA field activities were conducted by Mr. Matt McClelland, Environmental Scientist for CTL Engineering, on October 12, 2016 and were completed the same day. The weather conditions were sunny with temperatures in the lower 70s degrees Fahrenheit. The boring locations were determined by ODOT. CTL personnel were also on-site on October 11, 2016 to perform land clearing activities in the wooded portions of the project site to enable access for the GeoProbe track rig, as well as for the underground utility locating personnel.

Field Observations:

During the drilling operations, site conditions, such as petroleum or solvent-like odors and unusual coloration of soil, were qualitatively assessed through visual/olfactory observations and using an organic-vapor, field-screening instrument. Findings were noted on the boring logs (**Appendix C**). The presence of unusual odors, discolored soil, and appreciable readings on the field-screening instrument typically indicate areas of possible contamination and provide a means to focus the sampling activities around areas of concern.

A summary of subsurface soil descriptions has been further discussed in the geological setting description provided in **Section 2.0**.

Organic odors and black soil discoloration, presumably from rotting organic matter, was encountered at varying depths in each of the borings, except for EB-5 where no odor was noted. Field-screen readings ranging from 35 to 56 parts-per-million by volume (ppmV) were detected in soil samples collected from borings EB-1 through EB-3. No field screen readings above 3.1 ppmV were encountered in soil samples collected from borings EB-4 through EB-7, thereby indicating that these soils were not likely impacted by petroleum and/or chemicals containing common VOCs.

3.1 Regulatory Framework

CTL Engineering's subsurface investigation was conducted using various guidance documents and regulations as guidelines. Although these regulations are only applicable to regulated sites (i.e., permitted), these regulations could be used to determine the appropriate sampling techniques and for comparison of residual concentrations of the constituents of concern in order to determine the need for further action, if any.

According to the Ohio EPA's Division of Environmental Response and Revitalization (DERR), the Ohio EPA's Voluntary Action Program (VAP) regulations under OAC 3745-300-08 could only be used as guidelines for non-regulated sites. Since the project site is considered a non-regulated site, CTL Engineering used the Ohio EPA's VAP Generic Standards under regulation 3745-300-08 for comparison with the concentrations of the COCs, effective May 26, 2016.

The American Society of Testing Materials (ASTM) standards D4700-91 *Guide for Soil Sampling in the Vadose Zone* and D5434-93 *Guide for Field Logging of Subsurface Exploration of Soil and Rock)* were used for soil sampling techniques.

In addition, CTL Engineering's Quality Assurance/Quality Control (QA/QC) program and proposed scope of work, as detailed in CTL Engineering Proposal No. 16510085COL-PPL (Rev. 3, dated July 7, 2016), were adhered to during the performance of this project.

4.0 SAMPLING METHODOLOGY

The purpose of the sampling program is to collect representative samples that can identify soil composition and presence of suspect landfill debris, as well as constituents of concern (COCs) to characterize the impact on the in-situ soil, if any.

4.1 Environmental Boring and Soil Sampling

CTL Engineering retained EnviroCore Ltd. to advance the soil borings. EnviroCore used a track-mounted GeoProbe™ 7822DT hydraulic Direct Push unit with GeoProbe™ soil sampling equipment to advance soil borings EB-1 to EB-7.

This GeoProbe™ model utilizes a Macro-Core™ soil-sampling assembly consisting of 5-foot lengths of 2-inch-diameter threaded, steel pipe, a cutting shoe, and inner polyethylene liner. A soil-sampler was driven into the ground and a continuous soil-core was recovered. The sampler was removed from the ground and the liner was cut open, thereby exposing the soil core.

After recording observations about the type of soil, moisture content, foreign material and unusual odors or discoloration, if any, representative portions of soil were removed and placed in a 4-oz. glass sample jars, while minimizing vapor headspace. The jars were then capped, using a Teflon-lined lid, labeled, recorded onto a chain-of-custody form, and placed in an iced cooler for potential laboratory analysis. Chain-of-custody documentation is provided in **Appendix D**. Split portions of the core were placed in plastic Ziploc™ bags for field screening.

Although continuous soil samples were removed, examined, and collected at 2-foot intervals, only selected soil samples were submitted for laboratory analysis from each of the soil borings. Of the 35 soil samples collected from the borings, initially 7 soil samples were submitted for laboratory analysis. The rationale for sample selection is described in **Section 6.0**.

Upon completion of the drilling activities, the borings were filled with bentonite chips to mitigate the potential for any direct contamination of groundwater from surface water run-off and other sources.

4.2 Groundwater Sampling

No perched water or groundwater was encountered during this assessment to a maximum drilling depth of 10 feet; therefore, no water samples were collected.

4.3 Field-Screening Procedures

As previously stated, split portions of each representative soil sample were sealed in individual Ziploc™ plastic bags. The bags were then set aside for at least 10 minutes, thus allowing vapor-phase organic compounds, if present, to accumulate within the bags. The plastic sample bags were then penetrated with the decontaminated photoionization device (PID) probe for headspace screening.

A RAE Systems, Inc. PID, MiniRAE 3000, employing a 10.6 eV ionization lamp, was used for the headspace analysis. CTL's Environmental Scientist calibrated the PID on the day of its field use, using a 100 parts-per-million (ppm) isobutylene gas standard, according to the published manufacturer's instructions.

It should be noted that the PID is a qualitative device that gives an indication of total volatile organic vapor concentration. The PID is considered an accurate indicator of the presence of contamination, only when substantiated by laboratory analysis. Therefore, the PID was used only to assist in selecting the soil samples for laboratory analysis based on the highest field screen readings, thereby minimizing overall analytical costs, while pursuing a "worst case scenario."

Organic odors and black soil discoloration, presumably from rotting organic solid waste matter, was encountered at varying depths in each of the borings, except for EB-5 where no odor was noted. Field-screen readings ranging from 35 to 56 parts-per-million by volume (ppmV) were detected in soil samples collected from borings EB-1 through EB-3. No field screen readings above 3.1 ppmV were encountered in soil samples collected from borings EB-4 through EB-7, thereby indicating that these soils were not likely impacted by petroleum and/or chemicals containing common VOCs. Field-screening readings are indicated on the soil boring logs (see **Appendix C**) and chain-of-custody forms (**Appendix D**).

5.0 QUALITY CONTROL and ASSURANCE

The following precautions were taken during this project to ensure quality control and assurance.

- Disposable tubing and nitrile gloves were used during the collection of the soil samples and changed between each sample/sampling interval to mitigate potential cross-contamination of samples.

- All samples were labeled and the collection information was recorded on the soil boring logs and later transferred onto the chain-of-custody forms.

- Samples were stored in laboratory-cleaned environmental sample containers with Teflon™-lined lids and preserved at 4°C on ice during storage and transported to CTL Engineering's chemistry laboratory.

- Field-screening equipment was calibrated on the day of sampling in accordance with the published manufacturer's instructions.

- Soil cuttings and rinse water were staged on-site in an ODOT-compliant 55-gallon steel drum, awaiting for lab analytical results to allow for proper characterization and final disposal. In accordance with our scope of work, CTL is currently in the process of coordinating with a licensed disposal facility for transport and off-site disposal of the drum. Although a schedule has yet to be determined, the anticipated timeframe for drum pick-up is December 2016.

5.1 Decontamination Procedures

CTL Engineering follows pre-established decontamination procedures in the field. The following is a summary of these procedures.

- Prior to sampling activities at the site, the direct-push cutting shoes, and samplers were scrubbed with a stiff brush in a phosphate-free laboratory grade detergent solution and rinsed with de-ionized water.

- In order to avoid cross-contamination of samples, the non-dedicated sampling equipment was decontaminated between each sampling event at 5-foot intervals, which is the interval length of the Macro-Core™ soil sampling assembly.

5.2 Chain-of-Custody Documents

Chain-of-custody procedures are intended as a means of ensuring sample integrity by documenting the identification and legal ownership of the sample and providing a written tracking mechanism that lists the person in charge of the samples at any given time. The Chain-of-Custody document is provided in **Appendix D**.

6.0 RATIONALE FOR PARAMETER SELECTION and CHEMICAL ANALYSIS

In accordance with the scope of work determined by ODOT, the soil samples were analyzed for the following common contaminants using United States Environmental Protection Agency (US EPA) approved methods:

- Volatile Organic Compounds (VOCs) using EPA Method 8260;
- Semi-Volatile Organic Compounds (SVOCs) using EPA Method 8270;
- Poly-Chlorinated Biphenyls (PCBs) using EPA Method 8082; and,
- Selected Resource Conservation and Recovery Act (RCRA) Heavy Metals, namely Total Arsenic, Total Cadmium, Total Chromium, Total Lead, Total Mercury, Total Selenium, and Total Silver using EPA Method 7000 Series.

One soil sample from each of the seven (7) borings (EB-1-5, EB-2-4, EB-3-5, EB-4-3, EB-5-5, EB-6-4, and EB-7-5) that exhibited the highest PID reading were analyzed for the above-referenced contaminants, thereby representing a 'worst case' scenario'.

7.0 DISCUSSION OF CHEMICAL RESULTS

7.1 Soil Sample Results

The following sections describe the analytical results of the soil samples submitted for laboratory analysis. A summary of the laboratory analytical results is provided in **Tables 1-3**.

Volatile Organic Compounds (VOCs)

Seven (7) soil samples were analyzed for VOCs (EB-1-5, EB-2-4, EB-3-5, EB-4-3, EB-5-5, EB-6-4, and EB-7-5). Between one (1) and fourteen (14) VOC constituents were detected in each of the soil samples analyzed. However, each of these concentrations is below their respective most conservative, i.e., residential land use scenario, Ohio EPA's Voluntary Action Program (VAP) – Generic Numeric Direct Contact Soil Standard (GNDCSS) for VOC constituents.

Semi-Volatile Organic Compounds (SVOCs)

Seven (7) soil samples were analyzed for SVOCs (EB-1-5, EB-2-4, EB-3-5, EB-4-3, EB-5-5, EB-6-4, and EB-7-5). Between one (1) and twelve (12) SVOC constituents were detected in each of the soil samples analyzed, except for sample EB-5-5, which exhibited no constituents above the analytical method detection limit. However, the detected concentrations and the method detection limits are below their respective most conservative, i.e., residential land use scenario, Ohio EPA's VAP GNDCSS for SVOC constituents.

Poly-Chlorinated Biphenyls (PCBs)

Seven (7) soil samples were analyzed for PCBs (EB-1-5, EB-2-4, EB-3-5, EB-4-3, EB-5-5, EB-6-4, and EB-7-5). No PCB constituents were detected above the analytical method detection limit in any of the soil samples analyzed. The method detection limits are below the most conservative, i.e., residential land use scenario, Ohio EPA's VAP GNDCSS for PCBs.

RCRA (8) Heavy Metals

The RCRA heavy metals are also naturally occurring, as well as are ubiquitously used in the industrial processes and products and are typically deposited onto soils in the non-industrial areas due to anthropogenic activities. Therefore, detection of higher than the background concentrations may indicate improper disposal and/or past releases. As previously noted, seven (7) soil samples were analyzed for RCRA (8) Heavy Metals (EB-1-5, EB-2-4, EB-3-5, EB-4-3, EB-5-5, EB-6-4, and EB-7-5).

Total Arsenic was detected in each of the seven soil samples at concentrations ranging from 3.65 to 13.9 mg/kg. Although one of these concentrations (i.e., EB-3-5; 13.9 mg/kg) was above the most conservative, i.e., residential land use scenario, Ohio EPA's VAP GNDCSS, i.e., 12 mg/kg for arsenic, all of these concentrations are less than the construction category of 690 mg/kg for arsenic.

Moreover, based on the Summary Report for Ohio EPA's Voluntary Action Program, "Evaluation of Background Metal Soil Concentrations in Summit County – Akron Area" (2015), the representative soil background arsenic concentration in Summit County, Ohio surficial soils was estimated to be 13.5 mg/kg.

Based on the above information, the concentration of arsenic detected in one of the seven soil samples exceeded the representative soil background arsenic concentration detected in Summit County, Ohio.

Total Barium was detected in each of the seven samples at concentrations ranging from 58.6 to 297 mg/kg. None of these concentrations were above the most conservative, i.e., residential land use scenario, Ohio EPA's VAP GNDCSS of 30,000 mg/kg for total barium.

Moreover, based on the Summary Report for Ohio EPA's Voluntary Action Program, "Evaluation of Background Metal Soil Concentrations in Summit County – Akron Area" (2015), the representative soil background barium concentration in Summit County, Ohio surficial soils was estimated to be 107 mg/kg.

Based on the above information, the concentrations of barium detected in three of the seven soil samples exceeded the representative soil background barium concentration detected in Summit County, Ohio.

Total Cadmium was detected in only one of the seven samples (EB-3-5) at a concentration of 4.13 mg/kg. This concentration is below the most conservative, i.e., residential land use scenario, Ohio EPA's VAP GNDCSS of 140 mg/kg for total cadmium.

Moreover, based on the Summary Report for Ohio EPA's Voluntary Action Program, "Evaluation of Background Metal Soil Concentrations in Summit County – Akron Area" (2015), the representative soil background cadmium concentration in Summit County, Ohio surficial soils was estimated to be 0.0672 mg/kg.

Based on the above information, the concentration of cadmium detected in the one soil sample exceeded the representative soil background cadmium concentration detected in Summit County, Ohio. Please note that the analytical method detection limit for cadmium is higher than the soil background concentration. Therefore, no comparison to the background concentration can be made for the remaining six samples.

Total Chromium was detected in each of the seven samples at concentrations ranging from 7.74 to 109 mg/kg. Although three of these concentrations were above the most conservative, i.e., residential land use scenario, Ohio EPA's VAP GNDCSS of 24 mg/kg for chromium, all of these concentrations are less than the construction land use category of 1,200 mg/kg for chromium.

Moreover, based on the Summary Report for Ohio EPA's Voluntary Action Program, "Evaluation of Background Metal Soil Concentrations in Summit County – Akron Area" (2015), the representative soil background chromium concentration in Summit County, Ohio surficial soils was estimated to be 19 mg/kg.

Based on the above information, the concentrations of chromium detected in three of the seven soil samples exceeded the representative soil background chromium concentration detected in Summit County, Ohio.

Total Lead was detected in each of the seven samples at concentrations ranging from 89.6 to 5,580 mg/kg. Five of these concentrations were above the most conservative, i.e., residential land use and construction scenarios, Ohio EPA's VAP GNDCSS of 400 mg/kg for total lead. Three of these concentrations were also above the commercial/industrial land use category of 800 mg/kg.

Moreover, based on the Summary Report for Ohio EPA's Voluntary Action Program, "Evaluation of Background Metal Soil Concentrations in Summit County – Akron Area" (2015), the representative soil background arsenic concentration in Summit County, Ohio surficial soils was estimated to be 19 mg/kg.

Based on the above information, the concentrations of lead detected in all seven soil samples exceeded the representative soil background lead concentration detected in Summit County, Ohio.

Total Mercury was detected in six of the seven samples at concentrations ranging from 0.0937 to 0.242 mg/kg. None of these concentrations were above the most conservative, i.e., residential land use scenario, Ohio EPA's VAP GNDCSS of 3.1 mg/kg for total mercury.

Moreover, based on the Summary Report for Ohio EPA's Voluntary Action Program, "Evaluation of Background Metal Soil Concentrations in Summit County – Akron Area" (2015), the representative soil background mercury concentration in Summit County, Ohio surficial soils was estimated to be 0.066 mg/kg.

Based on the above information, the concentrations of mercury detected in six of the seven soil samples exceeded the representative soil background mercury concentration detected in Summit County, Ohio.

Total Selenium was detected in six of the seven samples at concentrations ranging from 0.321 to 1.04 mg/kg. None of these concentrations were above the most conservative, i.e., residential land use scenario, Ohio EPA's VAP GNDCSS of 780 mg/kg for total selenium.

Moreover, based on the Summary Report for Ohio EPA's Voluntary Action Program, "Evaluation of Background Metal Soil Concentrations in Summit County – Akron Area" (2015), the representative soil background selenium concentration in Summit County, Ohio surficial soils was estimated to be 1.05 mg/kg.

Based on the above information, none of the detected selenium concentrations exceeded the representative soil background selenium concentration detected in Summit County, Ohio.

Total Silver was not detected above the analytical method detection limits in any of the soil samples analyzed.

8.0 CONCLUSIONS

Based on the findings of this Exploratory ESA, the following conclusions are presented.

a) The project site is a property of unknown acreage located northeast of 359 Harris Street in Summit County; Akron, Ohio. The northern portion of the project site consists of brush-covered land and the southern portion consists of dense wooded land. A dirt and gravel-covered drive extends to the north/northwest from Harris Street for approximately 800 feet, and then turns to the east and continues for approximately 600 feet to provide access to the project site.

b) This Exploratory ESA has been performed as part of Ohio Department of Transportation (ODOT) project SUM-8-1.75; ODOT PID – 91710, and was requested due to the suspected presence of a former unregulated landfill located on or adjacent to the proposed OH-8/59 bridge, which is being planned to be constructed to the west of the existing bridge.

The purpose of this Exploratory ESA was to determine the composition of subsurface soil/materials in the vicinity of the proposed bridge piers and to identify the presence of constituents of concern in the subsurface soils, if any.

c) During this investigation, seven (7) soil borings were advanced on the project site. Four borings (i.e., EB-1, EB-2, EB-3, EB-4) were advanced in a line from north to south, roughly parallel to the existing OH-8/59 bridge and near the estimated edge of the former landfill. Two borings (i.e., EB-5 and EB-6) were advanced further east and roughly perpendicular to the existing bridge, in the approximate location of the proposed bridge pier supports. The final boring (EB-7) was planned to be advanced further south/southwest of the aforementioned borings; however, due to the steep terrain, this boring location could not be accessed by the track-mounted GeoProbe™ rig and, therefore, a mechanical hand sampler was used to advance the boring. Due to refusal conditions encountered at 2 feet bgs while using the hand sampler at this boring location (identified in the boring logs and Figure 3 as HS-1), which was caused by the presence of numerous concrete boulders and pieces of scrap metal, boring EB-7 was relocated approximately 50 feet to the north, and adjacent to the southwest of EB-4, to allow for Geoprobe access.

d) One soil sample per boring was laboratory analyzed to determine the presence or absence of VOCs, SVOCs, and PCBs above the regulatory standards, as well as the eight RCRA heavy metals, i.e., total arsenic, cadmium, chromium, lead, mercury, selenium, and silver above regulatory standards and typical background metal concentrations.

e) None of the soil samples analyzed exhibited VOCs, SVOCs, PCBs, Total Barium, Total Cadmium, Total Mercury, Total Selenium, or Total Silver concentrations above the laboratory method detection limits and/or most conservative (i.e., Residential Land Use category) Ohio EPA's Voluntary Action Program (VAP) – Generic Numeric Direct Contact Soil Standard (GNDCSS).

Total Arsenic was detected in each of the seven soil samples at concentrations ranging from 3.65 to 13.9 mg/kg. Although one of these concentrations (i.e., EB-3-5; 13.9 mg/kg) was above the most conservative Ohio EPA's VAP GNDCSS for residential land use category, i.e., 12 mg/kg for arsenic, and also above the representative soil background concentration, all of these concentrations are less than the construction use category of 690 mg/kg for arsenic.

Total Chromium was detected in each of the seven samples at concentrations ranging from 7.74 to 109 mg/kg. Although three of these concentrations were above the most conservative Ohio EPA's VAP GNDCSS for residential land use category, i.e., 24 mg/kg for chromium, and also above the representative soil background concentration, all of these concentrations are less than the construction use category of 1,200 mg/kg for chromium.

Total Lead was detected in each of the seven samples at concentrations ranging from 89.6 to 5,580 mg/kg. Five of these concentrations were above the most conservative Ohio EPA's VAP GNDCSS for residential land use and construction scenarios of 400 mg/kg for total lead. Three of these concentrations were also above the commercial/industrial land use category of 800 mg/kg. Additionally, the concentrations of lead detected in all seven soil samples exceeded the representative soil background lead concentration detected in Summit County, Ohio.

Total Mercury was detected in six of the seven samples at concentrations ranging from 0.0937 to 0.242 mg/kg. Although three of these were above the representative soil background concentration, none of these concentrations were above the most conservative Ohio EPA's VAP GNDCSS for residential land use scenario of 3.1 mg/kg for total mercury.

f) As previously indicated, drill cuttings and rinse water were placed in a DOT compliant 55-gallon drum, awaiting laboratory results to properly characterize for final disposal, and was left on site. In accordance with our scope of work, CTL is currently in the process of coordinating with a licensed disposal facility for transport and off-site disposal of the drum. Although a schedule has yet to be determined, the anticipated timeframe for drum pick-up is December 2016.

9.0 CLOSING

CTL Engineering certifies the accuracy and completeness of this report, in accordance with the reliability, limitations, and exceptions of the assessment included in **Section 1.1**. CTL Engineering warrants that the services, findings, and/or recommendations provided herein have been performed in accordance with procedures, practices, and standards generally accepted in the environmental consulting profession for use in similar assignments. No other warranty is expressed or implied.

If additional information becomes available, we request the opportunity to review the information, reassess the potential environmental concerns, and modify our conclusions and recommendations, if appropriate. Please refer to CTL Project No. 16510222COL in all future correspondence.

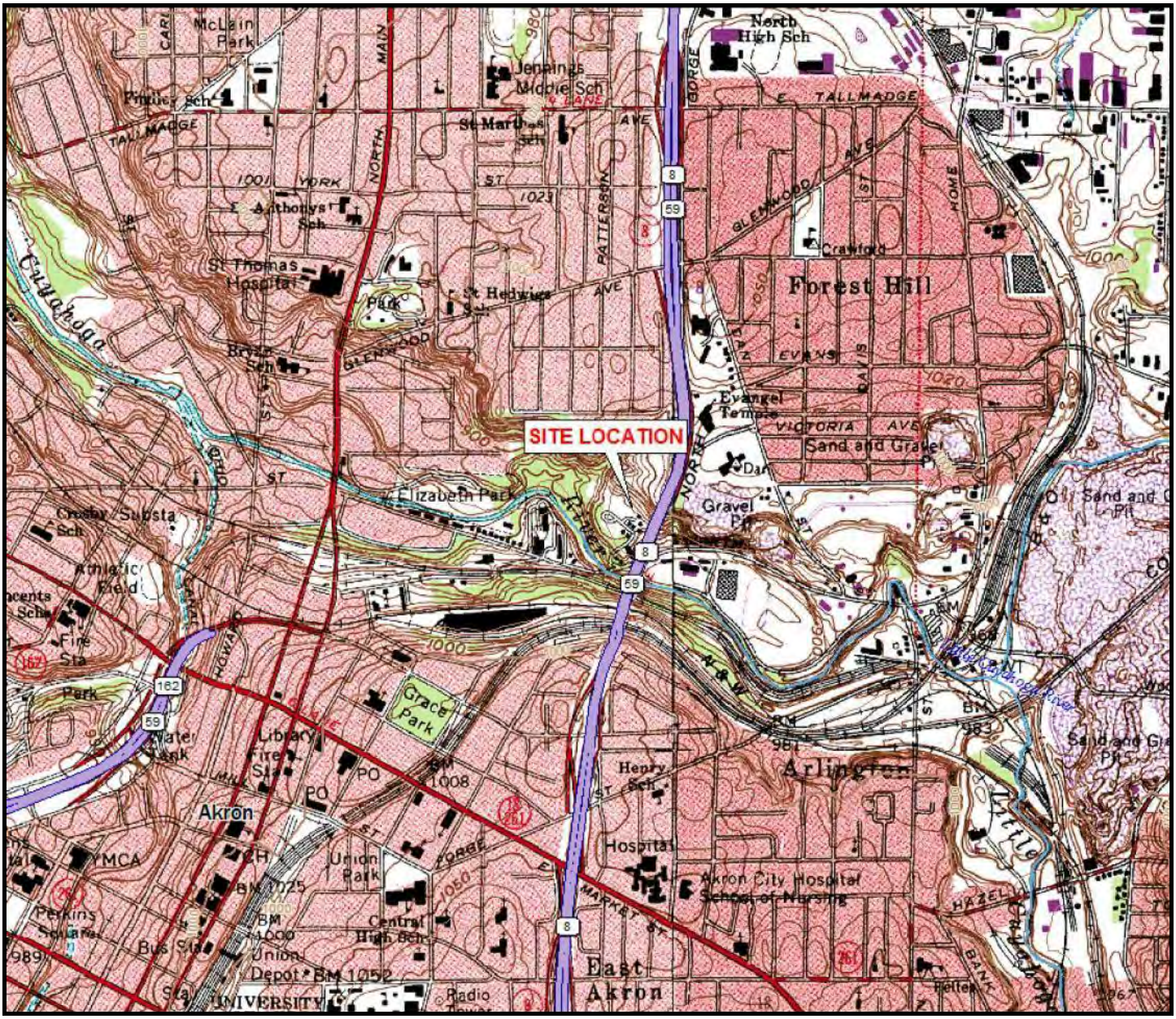
Respectfully submitted,

CTL ENGINEERING of OHIO, INC.

Matthew W. McClelland, B.S.
Environmental Scientist

Bipender S. Jindal, P.E., C.P.
Director of Environmental Services
(Technical Review)

FIGURES



CTL ENGINEERING

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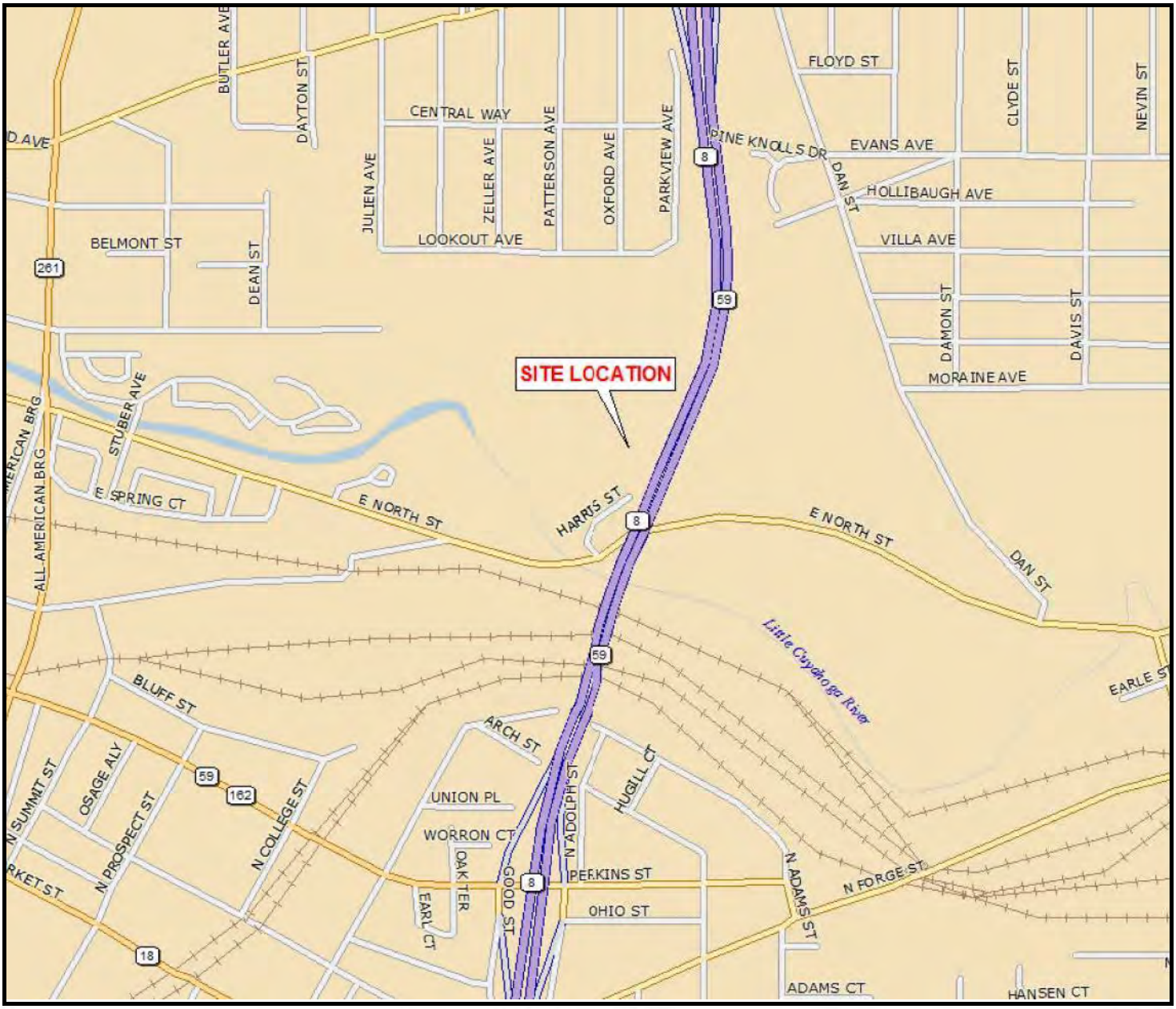
Laboratory Services

GENERAL LOCATION	DATE 8/15/16	GANNETT FLEMING EXPLORATORY ESA ODOT SUM-8-1.75 (PID 91710) 359 Harris Street Akron, Ohio 44304	
AKRON WEST, OH QUADRANGLE 1996	SCALE As Shown		
7.5 MINUTE SERIES (TOPOGRAPHIC)	DRAWN BY Dept. 51-abm	Figure No. 1	Project No. 16510222COL



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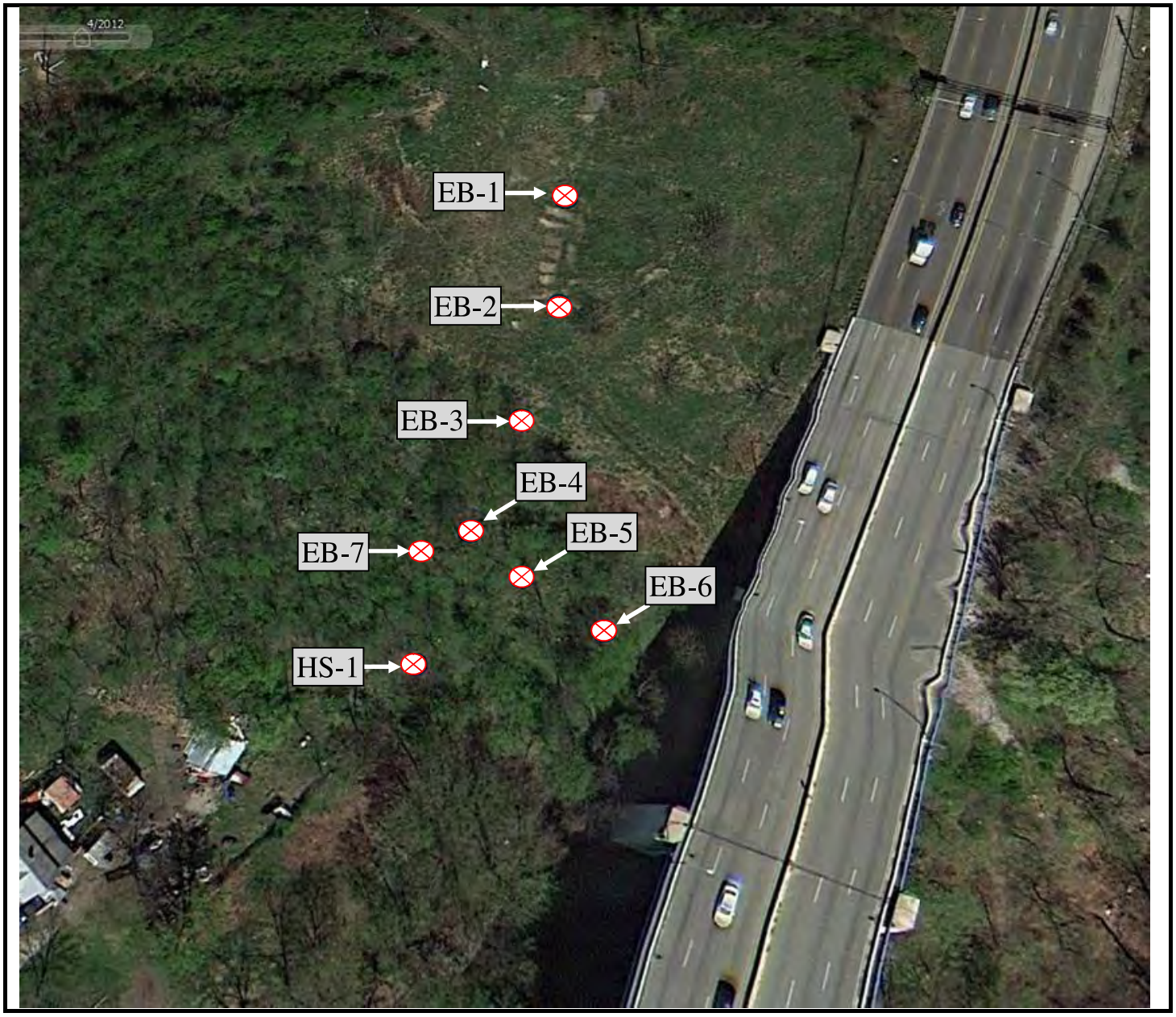
Laboratory Services

GENERAL LOCATION **STREET ATLAS**	DATE 8/15/16	GANNETT FLEMING EXPLORATORY ESA ODOT SUM-8-1.75 (PID 91710) 359 Harris Street Akron, Ohio 44304	
	SCALE ---		
	DRAWN BY Dept. 51-abm	Figure No. 2	Project No. 16510222COL



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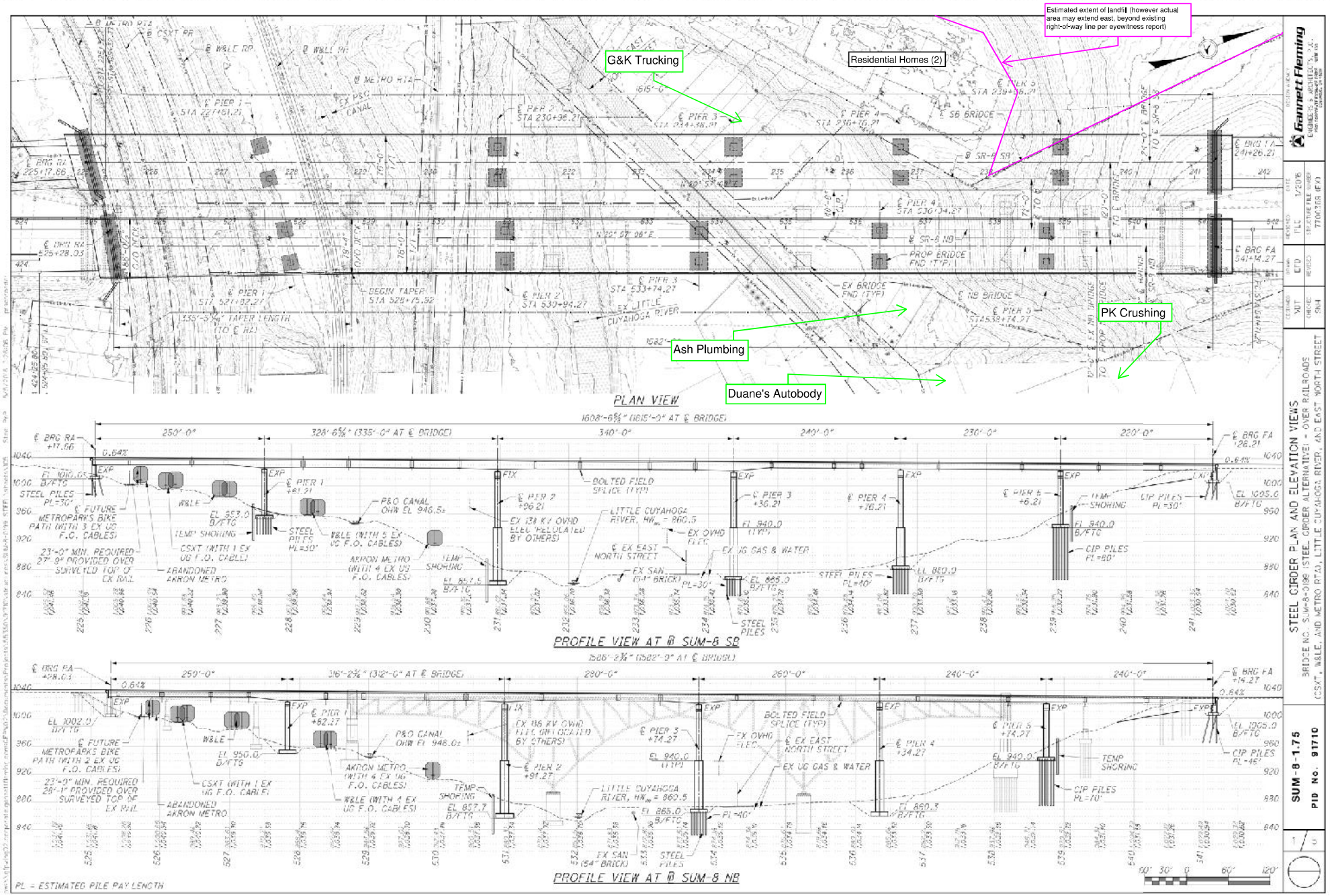
SOIL BORING LOCATION PLAN Source: 2016 Google Earth Pro Image Imagery Date: April 2012	DATE 10/21/16	GANNETT FLEMING EXPLORATORY ESA ODOT SUM-8-1.75 (PID 91710) 359 Harris Street Akron, Ohio 44304	
	SCALE Not Shown		
	DRAWN BY Dept. 51 - MM	Figure No. 3	Project No. 16510222COL


Estimated extent of landfill (however actual area may extend east, beyond existing right-of-way line per eyewitness report)
G&K Trucking
Residential Homes (2)
PK Crushing
Ash Plumbing
Duane's Autobody
PLAN VIEW
PROFILE VIEW AT @ SUM-8 SB
PROFILE VIEW AT @ SUM-8 NB
PL = ESTIMATED PILE PAY LENGTH
STEEL GIRDER PLAN AND ELEVATION VIEWS
BRIDGE NO. SUM-8-0196 (STEEL GIRDER ALTERNATIVE) - OVER RAILROADS
(CSXT, W&LE, AND METRO RTA), LITTLE CUYAHOGA RIVER, AND EAST NORTH STREET
SUM-8-1.75
PID No. 91710
Gannett Fleming

TABLES

Exploratory ESA - ODOT SUM-8-1.75 (PID 91710)
Location: 359 Harris Street; Akron, Ohio
CTL Engineering Project No. 16510222COL

Table 1: Soil Analytical Results - VOCs

Ohio EPA - VAP - Generic Direct-Contact Soil Standards (GDCSS)				Chemicals of Concern (mg/kg)														
				Benzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Ethylbenzene	Isopropylbenzene	4-Isopropyltoluene	Naphthalene	n-Propylbenzene	Styrene	Trichlorofluoromethane	Toluene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Xylenes	Other VOC Constituents
GDCSS - Construction				120	NA	2,600	480	NA	160	560	260	870	1,200	820	220	180	260	Various
GDCSS - Commercial/Industrial				140	NA	310	480	NA	160	450	260	870	1,200	820	220	180	260	Various
GDCSS - Residential				26	NA	61	130	NA	160	90	260	870	1,200	820	160	180	260	Various
Soil Sample No.	**Date**	**Depth (ft bgs)**	**PID (ppmv)**	**Laboratory Analytical Results (mg/kg)**														
EB-1-5	10/12/2016	8-10'	37.4	0.056	0.0147	0.0193	0.305	0.0276	0.035	0.131	<0.005	0.00964	<0.05	0.283	0.0905	0.0295	0.82	BDL
EB-2-4	10/12/2016	6-8'	56.8	0.0215	<0.005	0.00574	0.224	0.0272	0.00763	0.0723	0.0184	<0.005			0.0742	0.0202	0.386	BDL
EB-3-5	10/12/2016	8-10'	35.2	0.0234	0.0124	0.0141	0.0131	0.0164	0.0126	0.0968	0.0136	<0.005			0.0524	0.0163	0.284	BDL
EB-4.3	10/12/2016	4-6'	3.0	<0.005						0.00658	<0.005						<0.015	BDL
EB-5-5	10/12/2016	8-10'	1.6	<0.005									0.236	<0.005			<0.015	BDL
EB-6-4	10/12/2016	6-8'	3.1	<0.005			0.0163	<0.005				0.017	<0.005				<0.015	BDL
EB-7-5	10/12/2016	8-10'	1.5	<0.005					0.00631	<0.005							<0.015	BDL

Notes:
ppmv - parts per million in vapor
mg/kg - soil analytical results reported in milligrams/killogram
Ohio EPA - VAP - Generic Direct Contact Soils Standards (GDCSS) from OAC 3745-300-08
GDCSS current as of 5/26/2016; Supplemental Criteria current as of 5/26/2015
NA = Not applicable since Standards have not been published.
< ### or BDL - Below Detection Limit

Exploratory ESA - ODOT SUM-8-1.75 (PID 91710)
Location: 359 Harris Street; Akron, Ohio
CTL Engineering Project No. 16510222COL

Table 2: Soil Analytical Results - SVOCs & PCBs

Ohio EPA - VAP - Generic Direct-Contact Soil Standards (GDCSS)				Chemicals of Concern (mg/kg)													
				SVOCs													PCBs
				Naphthalene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Chrysene	Benzo(a)anthracene	3,3'-Dichlorobenzidine	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Other SVOC Constituents	
GDCSS - Construction				560	520,000	1,000,000	1,000,000	160,000	390,000	120,000	1,200	2,200	1,200	12,000	120	Various	440
GDCSS - Commercial/Industrial				450	60,000	450,000	450,000	60,000	45,000	5,800	58	110	58	580	5.8	Various	20
GDCSS - Residential				90	4,600	34,000	34,000	4,600	3,400	1,200	12	22	12	120	1.24	Various	4.4
Soil Sample No.	**Date**	**Depth (ft bgs)**	**PID (ppmv)**	**Laboratory Analytical Results (mg/kg)**													
EB-1-5	10/12/2016	8-10'	37.4	0.6	<0.15	1.35	<0.15	2.11	<0.15	0.59	0.57	0.59	<0.15			BDL	<1.0
EB-2-4	10/12/2016	6-8'	56.8	<0.15			1.19	2.11	3.37	0.55	0.72	<0.15				BDL	<1.0
EB-3-5	10/12/2016	8-10'	35.2	<0.15	0.5	2.64	<0.15	4.9	4.8	<0.15						BDL	<1.0
EB-4.3	10/12/2016	4-6'	3.0	<0.15			0.62	0.81	3.56	<0.15			1.39	1.19	<0.15	BDL	<1.0
EB-5-5	10/12/2016	8-10'	1.6	<0.15												BDL	<1.0
EB-6-4	10/12/2016	6-8'	3.1	<0.15					0.89	<0.15						BDL	<1.0
EB-7-5	10/12/2016	8-10'	1.5	<0.15				1.36	3.26	0.55	0.69	<0.15	1.47	1.3	0.54	BDL	<1.0

Notes:
ppmv - parts per million in vapor
mg/kg - soil analytical results reported in milligrams/killogram
Ohio EPA - VAP - Generic Direct Contact Soils Standards (GDCSS) from OAC 3745-300-08
GDCSS current as of 5/26/2016; Supplemental Criteria current as of 5/26/2015
< ### or BDL - Below Detection Limit

Exploratory ESA - ODOT SUM-8-1.75 (PID 91710)
Location: 359 Harris Street; Akron, Ohio
CTL Engineering Project No. 16510222COL

Table 3: Soil Analytical Results - RCRA (8) Heavy Metals

Regulatory Standards / Background Levels				Chemicals of Concern (mg/kg)							
				Arsenic	**Barium**	**Cadmium**	**Chromium**	**Lead**	**Mercury**	**Selenium**	**Silver**
Ohio EPA – VAP – Generic Direct-Contact Soils Standards (Construction)				690	320,000	1,000	1,200	400	3.1	11,000	11,000
Ohio EPA – VAP – Generic Direct-Contact Soils Standards (Commercial/Industrial)				77	680,000	2,600	210	800	3.1	20,000	20,000
Ohio EPA – VAP – Generic Direct-Contact Soils Standards (Residential)				12	30,000	140	24	400	3.1	780	780
Total Metal Background Concentrations in Soil - 95% Upper Prediction Limit*				13.5	107	0.672	19.0	22.7	0.066	1.05	NA
Soil Sample No.	**Date**	**Depth (ft bgs)**	**PID (ppmv)**	**Laboratory Analytical Results (mg/kg)**							
EB-1-5	10/12/2016	8-10'	37.4	3.68	70.9	<1.83	**26.5**	**144**	0.242	0.471	<1.47
EB-2-4	10/12/2016	6-8'	56.8	5.26	60.9	<1.87	15.6	89.6	0.0937	0.321	<1.50
EB-3-5	10/12/2016	8-10'	35.2	**13.9**	297	4.13	**50**	**1,050**	0.149	1.04	<1.48
EB-4.3	10/12/2016	4-6'	3.0	7.06	81.3	<1.82	14	113	0.0939	<0.182	<1.45
EB-5-5	10/12/2016	8-10'	1.6	3.65	162	<1.89	18.1	**926**	0.209	0.878	<1.51
EB-6-4	10/12/2016	6-8'	3.1	7.3	215	<1.90	**109**	**435**	0.103	0.502	<1.52
EB-7-5	10/12/2016	8-10'	1.5	6.2	58.6	<1.79	7.74	**5,580**	<0.0742	0.448	<1.47

Notes:
ppmv - parts per million in vapor
mg/kg - soil analytical results reported in milligrams/kilogram
Ohio EPA - VAP - Generic Direct Contact Soils Standards (GDCSS) from OAC 3745-300-08
GDCSS current as of 5/26/2016; Supplemental Criteria current as of 5/26/2015
* = Evaluation of Background Metal Soil Concentrations in Summit County - Akron Area," by Ohio EPA - March 2015.
NA = Not applicable since Silver background concentration has not been determined.
< ### - Below Detection Limit
Bold indicates constituent detected above VAP Residential standard
Yellow indicates constutuent detected above background concentration

APPENDIX A

Site Photographs

Photo 1 – View of boring location EB-1, facing east.

Photo 2 – View of soil profile at EB-1 (0-5’ below ground surface [bgs]). See soil boring logs for soil profile description.

Photo 3 - View of soil profile at EB-1 (5-10’ bgs). See soil boring logs for soil profile description.

Photo 4 – Close up view of debris materials at EB-1 (plastic, rubber, wood, newspaper, landscaping waste).

Photo 5 – Another close up view of debris materials at EB-1 (plastic, rubber, wood, newspaper, landscaping waste).

Photo 6 – View of Geoprobe drill rig set up at boring EB-2, facing north.

Photo 7 - View of soil profile at EB-2 (0-5’ bgs). See soil boring logs for soil profile description.

Photo 8 - View of soil profile at EB-2 (5-10’ bgs). See soil boring logs for soil profile description.

Photo 9 - Close up view of debris materials at EB-2 (cardboard, plastic, wood, fiberglass insulation, brick fragments).

Photo 10 - View of Geoprobe drill rig set up at boring EB-3, facing southeast.

Photo 11 - View of soil profile at EB-3 (0-5’ bgs). See soil boring logs for soil profile description.

Photo 12 - View of soil profile at EB-3 (5-10’ bgs). See soil boring logs for soil profile description.

Photo 13 - Close up view of debris materials at EB-3 (wood, plastic, paper, fiberglass, and glass fragments).

Photo 14 - View of Geoprobe drill rig set up at boring EB-4, facing south.

Photo 15 - View of soil profile at EB-4 (0-5’ bgs). See soil boring logs for soil profile description.

Photo 16 - View of soil profile at EB-4 (5-10’ bgs). See soil boring logs for soil profile description.

Photo 17 - Close up view of debris materials at EB-4 (brick and wood fragments).

Photo 18 - Close up view of clothing debris materials at EB-4.

Photo 19 - View of boring location EB-5, facing south.

Photo 20 - View of soil profile at EB-5 (0-5' bgs). See soil boring logs for soil profile description.

Photo 21 - View of soil profile at EB-5 (5-10’ bgs). See soil boring logs for soil profile description.

Photo 22 - Close up view of debris materials at EB-5 (crushed concrete, rubber, brick, carpet, built up roofing fragments).

Photo 23 – Another close up view of debris materials at EB-5 (crushed concrete, rubber, brick, carpet, built up roofing fragments).

Photo 24 - View of boring location EB-6, facing southeast.

Photo 25 - View of soil profile at EB-6 (0-5’ bgs) w/ plastic fragments and salt. See soil boring logs for soil profile description.

Photo 26 - View of soil profile at EB-6 (5-10’ bgs) w/ plastic, wood, rubber, plastic fragments and organic matter. See soil boring logs for soil profile description.

Photo 27 - View of Geoprobe drill rig set up at boring EB-7, facing east.

Photo 28 - View of soil profile at EB-7 (0-5’ bgs) w/ limestone, brick and plastic fragments. See soil boring logs for soil profile description.

Photo 29 - View of soil profile at EB-7 (5-10’ bgs) w/ brick and plastic fragments. See soil boring logs for soil profile description.

Photo 30 - View of HS-1, facing south.

Photo 31 - Close up view of fill materials at HS-1 (concrete, rock and brick boulders and scrap metal).

Photo 32 – Another close up view of fill materials at HS-1 (concrete, rock and brick boulders and scrap metal).

Photo 33 – Typical view of rebar protruding from the ground throughout the wooded portions of the project site.

Photo 34 – Typical view of rebar and concrete throughout the wooded portions of the project site.

Photo 35 – Typical view of partially-buried scrap metal throughout the wooded portions of the project site.

Photo 36 – Typical view of brick fragments throughout the wooded portions of the project site.

Photo 37 - Typical view of paper and rubber scrap throughout the wooded portions of the project site.

Photo 38 – View of the drum containing non-hazardous soil cuttings and decontamination rinse water located at the bridge pier foundation, awaiting characterization for proper disposal.

APPENDIX B

Underground Utility
Clearance Documentation

GO BACK

BLOOD HOUND, INC
750 Patricks Place, Brownsburg, IN 46112
(888) 858-9830 Office
(888) 858-9829 Fax
www.bhug.com

WORK ORDER# 68470
Estimate #: 30241
Region: CLV
Start Date: 10/11/2016
Finish Date: 10/11/2016

BILL TO: CTL Engineering
2860 Fishers Rd.
Columbus,OH,43204
Phone: (614) 276-8123
Fax: (614) 276-6377
Attention: Accounts Payable
Customer Job/PO#: 16510222COL

JOB LOCATION: Vacant Lot - E North St
E North St
Akron,OH,44304
Prints Available: Attached
Contact: Matt McClelland
(614) 276-8123
mmcclelland@ctleng.com

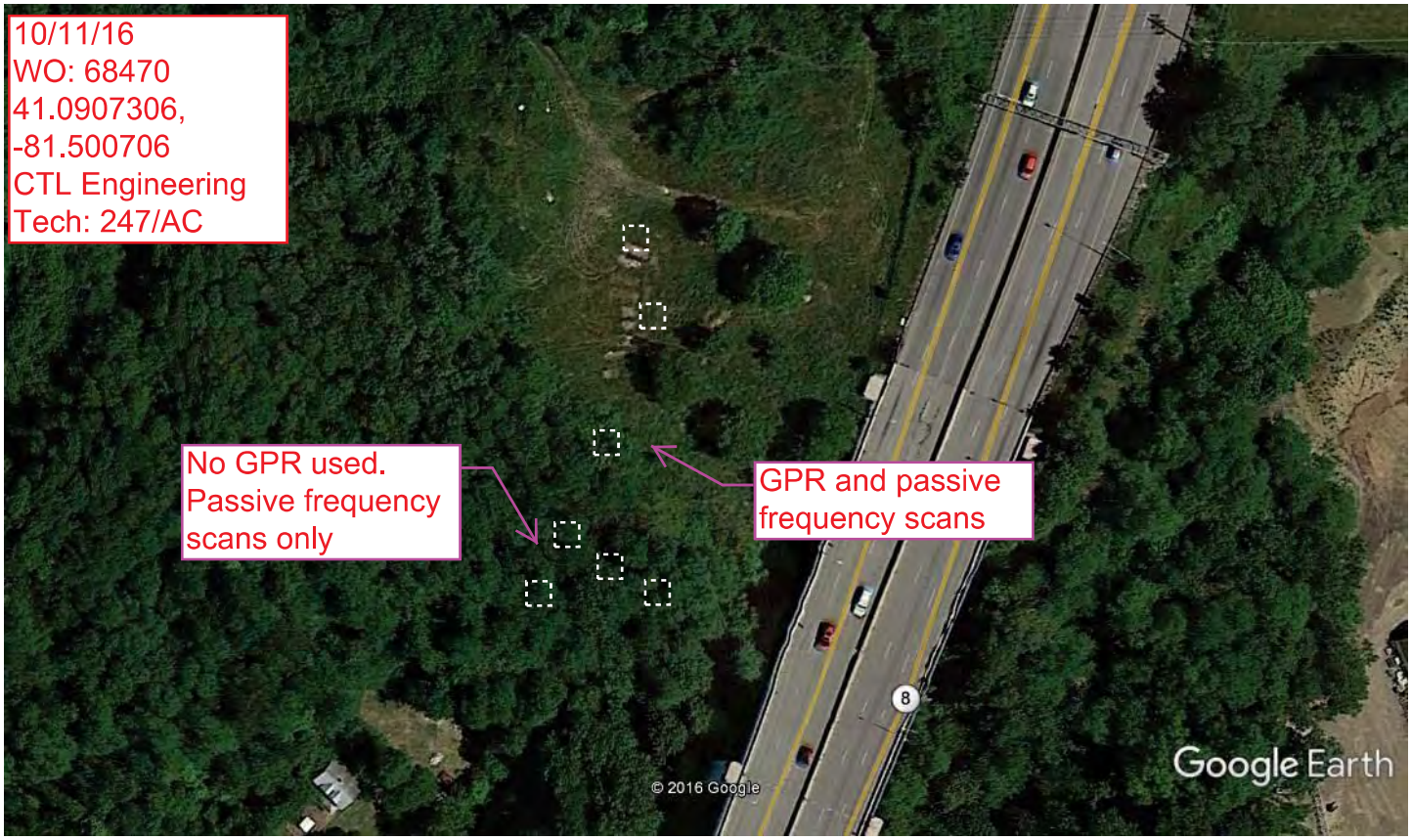
Utilities Marked:

Deliverables Provided To Customer:

Work Order:	Yes	**Credit Card Receipt:**	N/A	**Field Sketch:**	Yes
Site Photos:	Yes	**Written Report:**	N/A		
Other Items:					

	Date
Services:	10/11/2016

Date	**Field Notes:**
10/11/2016	I arrived on site and met with Matt McClelland. Matt showed me the location of seven soil boring locations. Three of the locations are on the top of the hill in the clearing. The other four borings are in the wooded area. I explained to Matt that I would not be able to use GPR on the four locations in the wooded area due to the terrain. The ground is covered in debris and the hillside the borings are on is steep. I did not receive any signals while using passive frequency scans at any location. I did not observe any linear anomalies while using GPR at the three locations at the top of the hill. All findings were discussed with Matt on site. No further locations are needed at this time.



Google Earth

feet 400

meters 100

Red - Electric power lines, conduit and street light cable	Yellow - Gas, Oil, Steam, petroleum or gaseous material	Orange - Communications, Fiber Optic, CATV, and/or alarm.	Blue - Potable water.	Purple - Reclaimed water, irrigation, and/or slurry lines	Green - Sewers and drains	Pink - Temporary survey marking or unknown structure	White - proposed excavation.

This is NOT to-scale

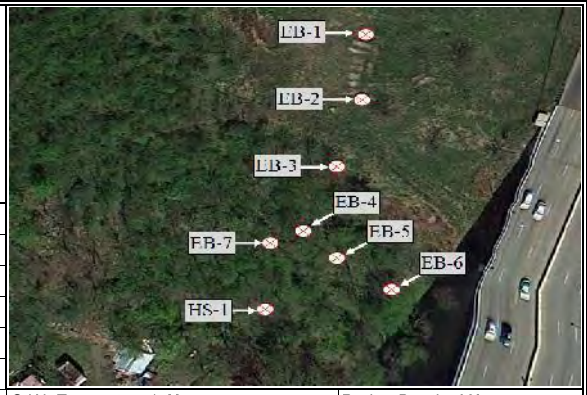
888-858-9830 / www.BHUG.com

BLOOD HOUND
Underground Utility Locators

APPENDIX C

CTL Exploratory Boring Logs

CTL Engineering, Inc.
2860 Fisher Road
Columbus, Ohio 43204
phone: 614-276-8123 fax: 614-276-6377
www.ctleng.com

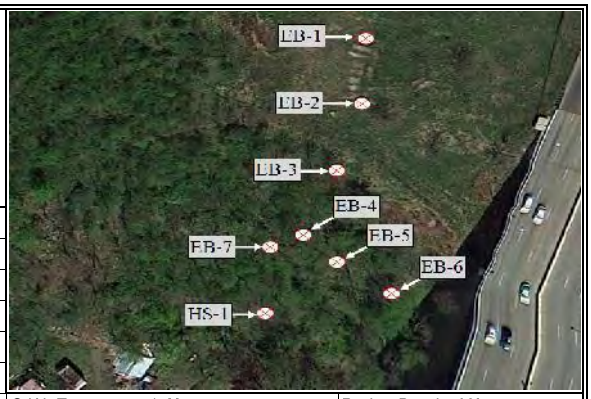


Boring: **EB-1**	Geologist: **Matt McClelland**		
Client: **Gannett Fleming Engineers & Architects**	Drilling Co.: **Envirocore**		
Project: **Exploratory ESA**	Driller: **Collin Conley**		
Location: **Akron, Ohio**	Install Rig: **Geoprobe 6600DT**		
Project #: **16510222COL**	Boring Location: **See Map**		
Date: **10/12/2016**	Sampler: **Matt McClelland**		
Weather: **Sunny, ~70-75° F**	Auger Type: **Direct Push Technology**	G.W. Encountered: **No**	Boring Depth: **10'**
Time Start/Stop: **9:30 / 12:30**	Type of Bit: **Macro-Core**	At Depth of: **n/a**	Page **1 of 1**

Depth (ft.)	Sample ID and Depth	Sample Time (24 hr)	PID (Meter Units)	Recovery (feet)	Sample(s) Selected for Lab Analysis	Soil/Geologic Description	Depth (ft.)
						0-0.5' Brown topsoil.	
1	EB-1-1 0-2'	9:51	1.0	4		0.5-4' Brown to grayish brown FILL - silt, sand, gravel and rock fragments. Damp, medium dense.	1
2							2
3	EB-1-2 2-4'	9:52	2.5				3
4							4
5	EB-1-3 4-6'	9:52	15.8			4-10' Brown, gray, black FILL - sand, silt, gravel and rock fragments w/ debris (plastic, rubber, wood, newspaper fragments & landscaping debris). Damp, dense.	5
6				4			6
7	EB-1-4 6-8'	9:58	17.2				7
8							8
9	EB-1-5 8-10'	9:59	37.4		X		9
10						BORING COMPLETE AT 10'	10
11							11
12							12
13							13
14							14
15							15

Note: Organic odor @ 4-10'. No discoloration or odors were apparent in any of the remaining soil samples noted above.

CTL Engineering, Inc.
2860 Fisher Road
Columbus, Ohio 43204
phone: 614-276-8123 fax: 614-276-6377
www.ctleng.com



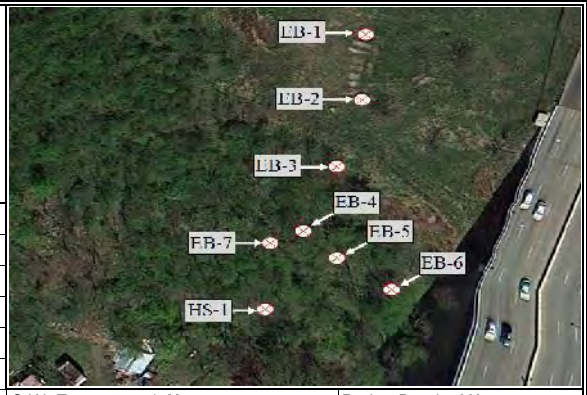
Boring:	**EB-2**	Geologist:	**Matt McClelland**
Client:	**Gannett Fleming Engineers & Architects**	Drilling Co.:	**Envirocore**
Project:	**Exploratory ESA**	Driller:	**Collin Conley**
Location:	**Akron, Ohio**	Install Rig:	**Geoprobe 6600DT**
Project #:	**16510222COL**	Boring Location:	**See Map**
Date:	**10/12/2016**	Sampler:	**Matt McClelland**
Weather:	**Sunny, ~70-75° F**	Auger Type:	**Direct Push Technology**
Time Start/Stop:	**9:30 / 12:30**	Type of Bit:	**Macro-Core**

G.W. Encountered: **No** | Boring Depth: **10'**
At Depth of: **n/a** | Page **1 of 1**

Depth (ft.)	Sample ID and Depth	Sample Time (24 hr)	PID (Meter Units)	Recovery (feet)	Sample(s) Selected for Lab Analysis	Soil/Geologic Description	Depth (ft.)
1	EB-2-1 0-2'	10:14	0.4	3		0-1' Brown topsoil/silt w/ trace sand and gravel.	1
2						1-2' Fill - crushed concrete. Damp, medium dense.	2
3	EB-2-2 2-4'	10:15	0.4			2-3' Brown FILL - sand and silt w/ gravel. Damp, medium dense.	3
4							4
5	EB-2-3 4-6'	10:15	13.8	2			5
6						3-10' Gray, brown and black FILL - silt, clay, gravel and rock fragments w/ debris (cardboard, plastic, wood, fiberglass insulation and brick fragments). Damp, dense.	6
7	EB-2-4 6-8'	10:26	56.8		X		7
8							8
9	EB-2-5 8-10'	10:27	15.7				9
10						BORING COMPLETE AT 10'	10
11							11
12							12
13							13
14							14
15							15

Note: Organic odor @ 3-10'. No discoloration or odors were apparent in any of the remaining soil samples noted above.

CTL Engineering, Inc.
2860 Fisher Road
Columbus, Ohio 43204
phone: 614-276-8123 fax: 614-276-6377
www.ctleng.com



Boring:	**EB-3**	Geologist:	**Matt McClelland**
Client:	**Gannett Fleming Engineers & Architects**	Drilling Co.:	**Envirocore**
Project:	**Exploratory ESA**	Driller:	**Collin Conley**
Location:	**Akron, Ohio**	Install Rig:	**Geoprobe 6600DT**
Project #:	**16510222COL**	Boring Location:	**See Map**
Date:	**10/12/2016**	Sampler:	**Matt McClelland**
Weather:	**Sunny, ~70-75° F**	Auger Type:	**Direct Push Technology**
Time Start/Stop:	**9:30 / 12:30**	Type of Bit:	**Macro-Core**

G.W. Encountered: **No** | Boring Depth: **10'**
At Depth of: **n/a** | Page **1 of 1**

Depth (ft.)	Sample ID and Depth	Sample Time (24 hr)	PID (Meter Units)	Recovery (feet)	Sample(s) Selected for Lab Analysis	Soil/Geologic Description	Depth (ft.)
1	EB-3-1 0-2'	10:36	0.3	2.5		0-0.5' Brown topsoil.	1
2							2
3	EB-3-2 2-4'	10:37	0.3			0.5-6' Brown to grayish brown FILL - silt w/ gravel and rock fragments, trace glass and wood fragments at 4-6'. Dense, medium dense to dense.	3
4							4
5	EB-3-3 4-6'	10:37	0.5				5
6				2			6
7	EB-3-4 6-8'	10:45	21.2			6-10' Black FILL - silt, sand, gravel, rock fragments and debris (Wood, plastic, paper, glass and fiberglass fragments). Damp, dense.	7
8							8
9	EB-3-5 8-10'	10:46	35.2		X		9
10						BORING COMPLETE AT 10'	10
11							11
12							12
13							13
14							14
15							15

Note: Faint organic odor @ 6-10'. No discoloration or odors were apparent in any of the remaining soil samples noted above.

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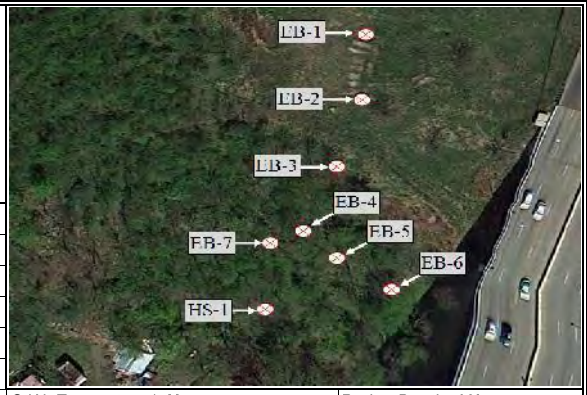

Boring: **EB-4**	Geologist: **Matt McClelland**		
Client: **Gannett Fleming Engineers & Architects**	Drilling Co.: **Envirocore**		
Project: **Exploratory ESA**	Driller: **Collin Conley**		
Location: **Akron, Ohio**	Install Rig: **Geoprobe 6600DT**		
Project #: **16510222COL**	Boring Location: **See Map**		
Date: **10/12/2016**	Sampler: **Matt McClelland**		
Weather: **Sunny, ~70-75° F**	Auger Type: **Direct Push Technology**	G.W. Encountered: **No**	Boring Depth: **10'**
Time Start/Stop: **9:30 / 12:30**	Type of Bit: **Macro-Core**	At Depth of: **n/a**	Page **1 of 1**

Depth (ft.)	Sample ID and Depth	Sample Time (24 hr)	PID (Meter Units)	Recovery (feet)	Sample(s) Selected for Lab Analysis	Soil/Geologic Description	Depth (ft.)
1	EB-4-1 0-2'	11:03	0.3	3		0-5' Brown and gray FILL - silt, sand, gravel and rock fragments. Weathered limestone @ 2-3', trace debris (clothing, plastic and wood fragments) @ 3-5'. Damp, medium dense.	1
2							2
3	EB-4-2 2-4'	11:03	1.7				3
4							4
5	EB-4-3 4-6'	11:04	3.0		X		5
6				3		5-10' Brown to black FILL - silt, sand, gravel, rock fragments, some debris (brick and wood fragments). Damp to moist, dense.	6
7	EB-4-4 6-8'	11:09	2.1				7
8							8
9	EB-4-5 8-10'	11:10	1.2				9
10						BORING COMPLETE AT 10'	10
11							11
12							12
13							13
14							14
15							15

Note: Faint organic odor @ 5-10'. No discoloration or odors were apparent in any of the remaining soil samples noted above.

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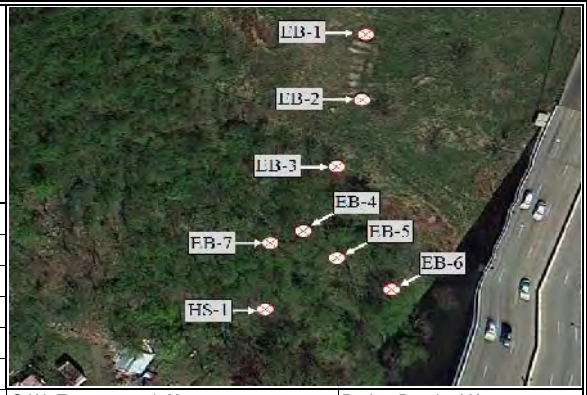

Boring:	**EB-5**	Geologist:	**Matt McClelland**
Client:	**Gannett Fleming Engineers & Architects**	Drilling Co.:	**Envirocore**
Project:	**Exploratory ESA**	Driller:	**Collin Conley**
Location:	**Akron, Ohio**	Install Rig:	**Geoprobe 6600DT**
Project #:	**16510222COL**	Boring Location:	**See Map**
Date:	**10/12/2016**	Sampler:	**Matt McClelland**
Weather:	**Sunny, ~70-75° F**	Auger Type:	**Direct Push Technology**
Time Start/Stop:	**9:30 / 12:30**	Type of Bit:	**Macro-Core**

G.W. Encountered: **No** | Boring Depth: **10'**
At Depth of: **n/a** | Page **1 of 1**

Depth (ft.)	Sample ID and Depth	Sample Time (24 hr)	PID (Meter Units)	Recovery (feet)	Sample(s) Selected for Lab Analysis	Soil/Geologic Description	Depth (ft.)
1	EB-5-1 0-2'	11:14	0.2	2		0-10' Brown, gray and black FILL - silt, sand, gravel and rock fragments with debris (plastic @ 0-10'; crushed concrete @ 4.5-5 and 5.5-6'; rubber fragments @ 1-3' and 7-8.5'; brick fragments @ 8.5-9'; carpet fragments @ 7-8.5'; and built-up roofing @ 6-7'). Damp, medium dense to dense.	1
2							2
3	EB-5-2 2-4'	11:15	0.2				3
4							4
5	EB-5-3 4-6'	11:15	0.3	2.5			5
6							6
7	EB-5-4 6-8'	11:21	0.8				7
8							8
9	EB-5-5 8-10'	11:22	1.6		X		9
10						BORING COMPLETE AT 10'	10
11							11
12							12
13							13
14							14
15							15

Note: No discoloration or odors were apparent in any of the soil samples noted above.

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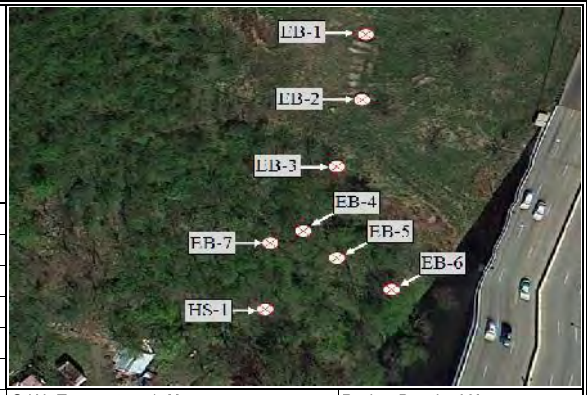

Boring:	**EB-6**	Geologist:	**Matt McClelland**
Client:	**Gannett Fleming Engineers & Architects**	Drilling Co.:	**Envirocore**
Project:	**Exploratory ESA**	Driller:	**Collin Conley**
Location:	**Akron, Ohio**	Install Rig:	**Geoprobe 6600DT**
Project #:	**16510222COL**	Boring Location:	**See Map**
Date:	**10/12/2016**	Sampler:	**Matt McClelland**
Weather:	**Sunny, ~70-75° F**	Auger Type:	**Direct Push Technology**
Time Start/Stop:	**9:30 / 12:30**	Type of Bit:	**Macro-Core**

G.W. Encountered: **No** | Boring Depth: **10'**
At Depth of: **n/a** | Page **1 of 1**

Depth (ft.)	Sample ID and Depth	Sample Time (24 hr)	PID (Meter Units)	Recovery (feet)	Sample(s) Selected for Lab Analysis	Soil/Geologic Description	Depth (ft.)
1	EB-6-1 0-2'	11:36	0.7	1.5		0-10' Brown, gray and black FILL - silt, sand, gravel and rock fragments with debris (plastic @ 0-10'; salt @ 4-5'; wood fragments @ 7-8'; molded rubber/plastic fragments @ 8-8.5'; wet black silty organic matter @ 9-10'). Damp, medium dense to dense.	1
2							2
3	EB-6-2 2-4'	11:37	0.7				3
4							4
5	EB-6-3 4-6'	11:42	1.0				5
6				2.5			6
7	EB-6-4 6-8'	11:43	3.1		X		7
8							8
9	EB-6-5 8-10'	11:44	0.8				9
10						BORING COMPLETE AT 10'	10
11							11
12							12
13							13
14							14
15							15

Note: Organic odor @ 9-10'. No discoloration or odors were apparent in any of the remaining soil samples noted above.

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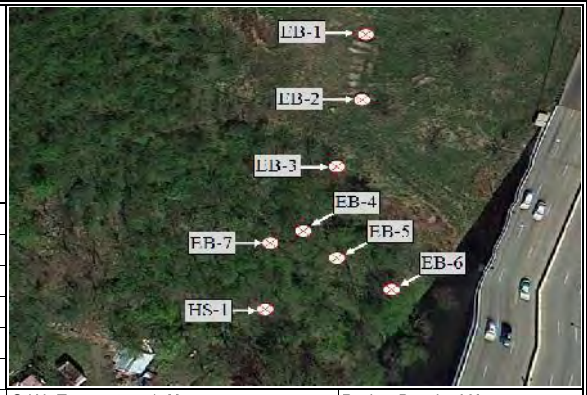

Boring:	**EB-7**	Geologist:	**Matt McClelland**
Client:	**Gannett Fleming Engineers & Architects**	Drilling Co.:	**Envirocore**
Project:	**Exploratory ESA**	Driller:	**Collin Conley**
Location:	**Akron, Ohio**	Install Rig:	**Geoprobe 6600DT**
Project #:	**16510222COL**	Boring Location:	**See Map**
Date:	**10/12/2016**	Sampler:	**Matt McClelland**
Weather:	**Sunny, ~70-75° F**	Auger Type:	**Direct Push Technology**
Time Start/Stop:	**9:30 / 12:30**	Type of Bit:	**Macro-Core**

G.W. Encountered: **No** | Boring Depth: **10'**
At Depth of: **n/a** | Page **1 of 1**

Depth (ft.)	Sample ID and Depth	Sample Time (24 hr)	PID (Meter Units)	Recovery (feet)	Sample(s) Selected for Lab Analysis	Soil/Geologic Description	Depth (ft.)
1	EB-7-1 0-2'	11:53	0.3	4		0-10' Brown, gray and black FILL - sand, silt, gravel and rock fragments with debris (trace plastic fragments @ 0-10'; brick fragments @ 0-10'; weathered limestone fragments @ 2-3'). Damp, medium dense to dense.	1
2							2
3	EB-7-2 2-4'	11:53	0.3				3
4							4
5	EB-7-3 4-6'	11:54	0.4				5
6				4			6
7	EB-7-4 6-8'	12:02	0.5				7
8							8
9	EB-7-5 8-10'	12:03	1.5		X		9
10						BORING COMPLETE AT 10'	10
11							11
12							12
13							13
14							14
15							15

Note: Faint organic odor @ 9-10'. No discoloration or odors were apparent in any of the remaining soil samples noted above.

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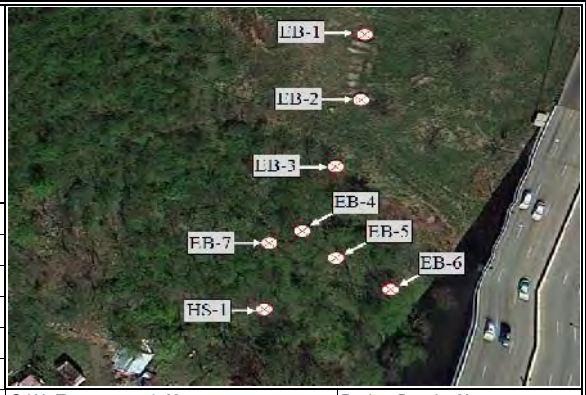

Boring:	**HS-1**	Geologist:	**Matt McClelland**
Client:	**Gannett Fleming Engineers & Architects**	Drilling Co.:	**NA**
Project:	**Exploratory ESA**	Driller:	**NA**
Location:	**Akron, Ohio**	Install Rig:	**NA**
Project #:	**16510222COL**	Boring Location:	**See Map**
Date:	**10/12/2016**	Sampler:	**Matt McClelland**
Weather:	**Sunny, ~70-75° F**	Auger Type:	**Hand Auger**
Time Start/Stop:	**9:30 / 12:30**	Type of Bit:	**NA**

G.W. Encountered: **No** | Boring Depth: **2'**
At Depth of: **n/a** | Page **1 of 1**

Depth (ft.)	Sample ID and Depth	Sample Time (24 hr)	PID (Meter Units)	Recovery (feet)	Sample(s) Selected for Lab Analysis	Soil/Geologic Description	Depth (ft.)
1	HS-1-1 0-2'	12:26	0.0	2		0-2' Brown and gray FILL - concrete, rock and brick boulders with metal fragments, some sand, silt, gravel and rock fragments. Damp, dense.	1
2						HAND AUGER REFUSAL @ 2'	2
3							3
4							4
5							5
6							6
7							7
8							8
9							9
10							10
11							11
12							12
13							13
14							14
15							15

Note: No discoloration or odors were apparent in the soil sample noted above.

APPENDIX D

Chain-of-Custody Forms

CTL Engineering, Inc.
2860 Fisher Road, P.O. Box 44548, Columbus, Ohio 43204
Phone: 614/276-8123 • Fax: 614/276-6377
e-mail: ctl@ctleng.com

CHAIN-OF-CUSTODY RECORD

18230

AN EMPLOYEE OWNED COMPANY

Consulting Engineers • Testing • Inspection Services • Analytical Laboratories

Established 1927

Project Location: Akron, OH Client Name: Gannett Fleming
Project No.: 165102222COL Project Name: Exploratory Sampling
Sampler's Signature: _____ Sampler's Name (Print): Matt McClelland
Sampler's Affiliation: CTL-COL Dept. 57
Laboratory (Name): CTL-COL Dept. 31
Address: same

Sample I.D.	Date	Time	Sample Location & Matrix Description i.e. Liquid, Sludge, Soil Type	(Note 1) Grab	Composite	PID	Preserved	No. of Containers	Sealed Y/N (Note 2)	VOCs	SVOCs	PCBs	RCRA 8 Metals	Field Observations Sample Container Description (Note 3)
eb-1-1	10/12/16	9:51	0-2 brown/black/grey fill	X		1.0		1						eb-1: organic odor @ 4-10'
1-2		9:52	2-4			2.5								
1-3		9:52	4-6			15.8								
1-4		9:58	6-8			17.2								
1-5		9:59	8-10			37.4				X	X	X	X	
2-1		10:14	0-2			0.4								eb-2: organic odor @ 3-10'
2-2		10:15	2-4			0.4								
2-3		10:15	4-6			13.8								
2-4		10:26	6-8			56.8				X	X	X	X	
2-5		10:27	8-10			15.7								
3-1		10:36	0-2			0.3								see page 2
3-2		10:37	2-4			0.3								

(Note 4)

					Seal Intact? (Circle One)
Relinquished by: Signature		Affiliation: CTL, COL 51	Date: 10/13/16	Time: 14:30	YES NO N/A
Received by: Signature	Johnny T	Affiliation: CTL, COL 51	Date: 10/13/16	Time: 14:30	YES NO N/A
Relinquished by: Signature		Affiliation:	Date:	Time:	YES NO N/A
Received by: Signature		Affiliation:	Date:	Time:	YES NO N/A
Relinquished by: Signature		Affiliation:	Date:	Time:	YES NO N/A
Received by: Signature		Affiliation:	Date:	Time:	YES NO N/A

Remarks by laboratory person receiving the samples **(Note 5)**:

Special Instructions **(Note 6)**:

Delivery Method: ☒ In Person ☐ Lab. Carrier ☐ Common Carrier _____ (Name of Carier) ☐ Other _____ (Specify)

(Note 7)

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CHAIN-OF-CUSTODY RECORD

18231

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Established 1927

Project Location: Akron, OH Client Name: _____

Project No.: 16510222.002 Project Name: _____

Sampler's Signature: _____ Sampler's Name (Print): _____

Sampler's Affiliation: _____

Laboratory (Name): _____

Address: _____

Sample I.D.	Date	Time	Sample Location & Matrix Description i.e. Liquid, Sludge, Soil Type	(Note 1) Grab	Composite PID	Preserved	No. of Containers	Sealed Y/N (Note 2)	VOCs	SVOCs	PCBs	RCRA 8 Metals	Field Observations Sample Container Description (Note 3)
eb-3-3	10/12/16	10:37	4-6' brown/gray/black fill	X	0.5	1							eb-3 = organic odor @ 6-10'
3-4		10:45	6-8'		21.2								
3-5		10:46	8-10'		35.2			X	X	X	X		
4-1		11:03	0-2'		0.3								eb-4 = organic odor @ 5-10'
4-2		11:03	2-4'		1.7								
4-3		11:04	4-6'		3.0			X	X	X	X		
4-4		11:09	6-8'		2.1								
4-5		11:10	8-10'		1.2								
5-1		11:14	0-2'		0.2								eb-5 = no odor/staining
5-2		11:15	2-4'		0.2								
5-3		11:15	4-6'		0.3								
5-4		11:21	6-8'		0.8								

Rev. 9-10

(Note 4)

					Seal Intact? (Circle One)
Relinquished by: Signature		Affiliation: CTL, Col 51	Date: 10/13/16	Time: 14:30	YES NO (N/A)
Received by: Signature	Johnny Tilon	Affiliation: CTL, Col 31	Date: 10/13/16	Time: 14:30	YES NO N/A
Relinquished by: Signature		Affiliation:	Date:	Time:	YES NO N/A
Received by: Signature		Affiliation:	Date:	Time:	YES NO N/A
Relinquished by: Signature		Affiliation:	Date:	Time:	YES NO N/A
Received by: Signature		Affiliation:	Date:	Time:	YES NO N/A

Remarks by laboratory person receiving the samples **(Note 5)**: _____

Special Instructions **(Note 6)**: _____

Delivery Method: ☒ In Person ☐ Lab. Carrier ☐ Common Carrier _____ ☐ Other _____

(Note 7) (Name of Carier) (Specify)

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CHAIN-OF-CUSTODY RECORD

18232

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Established 1927

Project Location: Akron, OH Client Name: _____

Project No.: 165T0222COL Project Name: _____

Sampler's Signature: _____ Sampler's Name (Print): _____

Sampler's Affiliation: _____

Laboratory (Name): _____

Address: _____

Sample I.D.	Date	Time	Sample Location & Matrix Description i.e. Liquid, Sludge, Soil Type	(Note 1) Grab	Composite PID	Preserved	No. of Containers	Sealed Y/N (Note 2)	VOCs	SVOCs	PCBs	RCRA 8 Metals	Field Observations Sample Container Description (Note 3)
eb-5-5	10/12/16	11:22	8-10' brown/gray/black fill	X	1.6		2		X	X	X	X	See page 2
6-1		11:36	0-2'		0.7								eb-6: organic odor @ 9-10'
6-2		11:37	2-4'		0.7								
6-3		11:42	4-6'		1.0								
6-4		11:43	6-8'		3.1				X	X	X	X	
6-5		11:44	8-10'		0.8								
7-1		11:53	0-2'		0.3								eb-7: organic odor @ 9-10'
7-2		11:53	2-4'		0.3								
7-3		11:54	4-6'		0.4								
7-4		12:02	6-8'		0.5								
7-5		12:03	8-10'		1.5				X	X	X	X	

Rev. 9-10

(Note 4)

					Seal Intact? (Circle One)
Relinquished by: Signature		Affiliation: CTL, COL 51	Date: 10/13/16	Time: 14:30	YES NO N/A
Received by: Signature	Johnny Tillman	Affiliation: CTL, COL 31	Date: 10/13/16	Time: 14:30	YES NO N/A
Relinquished by: Signature		Affiliation:	Date:	Time:	YES NO N/A
Received by: Signature		Affiliation:	Date:	Time:	YES NO N/A
Relinquished by: Signature		Affiliation:	Date:	Time:	YES NO N/A
Received by: Signature		Affiliation:	Date:	Time:	YES NO N/A

Remarks by laboratory person receiving the samples **(Note 5)**: _____

Special Instructions **(Note 6)**: _____

Delivery Method: ☒ In Person ☐ Lab. Carrier ☐ Common Carrier _____ ☐ Other _____

(Note 7) (Name of Carier) (Specify)

APPENDIX E

Analytical Laboratory Reports

CTL Engineering, Inc.
2860 Fisher Road, P.O. Box 44548, Columbus, Ohio 43204
Phone: 614/276-8123 Fax: 614/276-6377
Email: jtjioe@ctleng.com

AN EMPLOYEE OWNED COMPANY

Consulting Engineers – Testing – Inspection Services – Analytical Laboratories

Established 1927

Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Sample Identification: EB-1-5 from 359 Harris Street, Akron, Ohio

Date Sample Collected: 10-12-16
Date Sample Received: 10-13-16
Date Sample Analyzed: 10-14-16

Volatile Organic Compounds

Compound	Concentration (µg/kg)	Detection Limit (µg/kg)
Benzene	56.0	5
Bromobenzene	< 5	5
Bromochloromethane	< 5	5
Bromodichloromethane	< 5	5
Bromomethane	< 5	5
Bromoform	< 5	5
n-butylbenzene	< 5	5
sec-butylbenzene	< 5	5
tert-butylbenzene	< 5	5
Carbon Tetrachloride	< 5	5
Chlorobenzene	< 5	5
Chlorodibromomethane	< 5	5
Chloroethane	< 5	5
Chloromethane	< 5	5
Chloroform	< 5	5
2-Chlorotoluene	< 5	5
4-Chlorotoluene	< 5	5
Dichlorodifluoromethane	< 5	5
1,2-Dibromoethane	< 5	5
1,1-Dichloroethene	< 5	5
1,2-Dichloroethane	< 5	5
1,1-Dichloroethane	< 5	5
1,2-Dichlorobenzene	< 5	5
1,3-Dichlorobenzene	14.7	5
1,4-Dichlorobenzene	19.3	5
cis-1,2-Dichloroethene	< 5	5
trans-1,2-Dichloroethene	< 5	5
1,2-Dichloropropane	< 5	5
cis-1,3-Dichloropropene	< 5	5
trans-1,3-Dichloropropene	< 5	5

Volatile Organic Compounds (continued)

Sample I.D. EB-1-5

	Concentration(µg/kg)	Detection Limit (µg/kg)
Ethylbenzene	305	50
Hexachlorobutadiene	< 5	5
Isopropylbenzene	27.6	5
4-Isopropyltoluene	35.0	5
Methylene Chloride	< 5	5
Naphthalene	131	5
n-Propylbenzene	< 5	5
Styrene	9.64	5
Tetrachloroethylene	< 5	5
Trichlorofluoromethane	< 5	5
Trichloroethylene	< 5	5
1,1,1-Trichloroethane	< 5	5
1,1,2-Trichloroethane	< 5	5
1,1,1,2-Tetrachloroethane	< 5	5
1,1,2,2-Tetrachloroethane	< 5	5
Toluene	283	50
1,2,3-Trichlorobenzene	< 5	5
1,2,4-Trichlorobenzene	< 5	5
1,2,3-Trichloropropane	< 5	5
1,2,4-Trimethylbenzene	90.5	5
1,3,5-Trimethylbenzene	29.5	5
Vinyl Chloride	< 5	5
Xylenes	820	150

Quality Control Data:

Sample I.D.	Compound	% Matrix Spike Recovery
EB-1-5	Toluene	96
EB-1-5	Benzene	97
EB-1-5	Toluene-D_8 (surrogate)	100

Test Method: Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Method 8260C, from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Respectfully submitted,

Johnny Tjioe

Analyst: Johnny Tjioe, Chemist
Verified: October 24, 2016

JT/gm

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AN EMPLOYEE OWNED COMPANY

Consulting Engineers – Testing – Inspection Services – Analytical Laboratories

Established 1927

Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Sample Identification: EB-2-4 from 359 Harris Street, Akron, Ohio

Date Sample Collected: 10-12-16
Date Sample Received: 10-13-16
Date Sample Analyzed: 10-14-16

Volatile Organic Compounds

Compound	Concentration (µg/kg)	Detection Limit (µg/kg)
Benzene	21.5	5
Bromobenzene	< 5	5
Bromochloromethane	< 5	5
Bromodichloromethane	< 5	5
Bromomethane	< 5	5
Bromoform	< 5	5
n-butylbenzene	< 5	5
sec-butylbenzene	< 5	5
tert-butylbenzene	< 5	5
Carbon Tetrachloride	< 5	5
Chlorobenzene	< 5	5
Chlorodibromomethane	< 5	5
Chloroethane	< 5	5
Chloromethane	< 5	5
Chloroform	< 5	5
2-Chlorotoluene	< 5	5
4-Chlorotoluene	< 5	5
Dichlorodifluoromethane	< 5	5
1,2-Dibromoethane	< 5	5
1,1-Dichloroethene	< 5	5
1,2-Dichloroethane	< 5	5
1,1-Dichloroethane	< 5	5
1,2-Dichlorobenzene	< 5	5
1,3-Dichlorobenzene	< 5	5
1,4-Dichlorobenzene	5.74	5
cis-1,2-Dichloroethene	< 5	5
trans-1,2-Dichloroethene	< 5	5
1,2-Dichloropropane	< 5	5
cis-1,3-Dichloropropene	< 5	5
trans-1,3-Dichloropropene	< 5	5

Volatile Organic Compounds (continued)

Sample I.D. EB-2-4

	Concentration(µg/kg)	Detection Limit (µg/kg)
Ethylbenzene	224	50
Hexachlorobutadiene	< 5	5
Isopropylbenzene	27.2	5
4-Isopropyltoluene	7.63	5
Methylene Chloride	< 5	5
Naphthalene	72.3	5
n-Propylbenzene	18.4	5
Styrene	< 5	5
Tetrachloroethylene	< 5	5
Trichlorofluoromethane	< 5	5
Trichloroethylene	< 5	5
1,1,1-Trichloroethane	< 5	5
1,1,2-Trichloroethane	< 5	5
1,1,1,2-Tetrachloroethane	< 5	5
1,1,2,2-Tetrachloroethane	< 5	5
Toluene	< 5	5
1,2,3-Trichlorobenzene	< 5	5
1,2,4-Trichlorobenzene	< 5	5
1,2,3-Trichloropropane	< 5	5
1,2,4-Trimethylbenzene	74.2	5
1,3,5-Trimethylbenzene	20.2	5
Vinyl Chloride	< 5	5
Xylenes	386	150

Quality Control Data:

Sample I.D.	Compound	% Matrix Spike Recovery
EB-1-5	Toluene	96
EB-1-5	Benzene	97
EB-2-4	Toluene-D_8 (surrogate)	102

Test Method: Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Method 8260C, from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Respectfully submitted,

Johnny Tjioe

Analyst: Johnny Tjioe, Chemist
Verified: October 24, 2016

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Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Sample Identification: EB-3-5 from 359 Harris Street, Akron, Ohio

Date Sample Collected: 10-12-16
Date Sample Received: 10-13-16
Date Sample Analyzed: 10-14-16

Volatile Organic Compounds

Compound	Concentration (µg/kg)	Detection Limit (µg/kg)
Benzene	23.4	5
Bromobenzene	< 5	5
Bromochloromethane	< 5	5
Bromodichloromethane	< 5	5
Bromomethane	< 5	5
Bromoform	< 5	5
n-butylbenzene	< 5	5
sec-butylbenzene	< 5	5
tert-butylbenzene	< 5	5
Carbon Tetrachloride	< 5	5
Chlorobenzene	< 5	5
Chlorodibromomethane	< 5	5
Chloroethane	< 5	5
Chloromethane	< 5	5
Chloroform	< 5	5
2-Chlorotoluene	< 5	5
4-Chlorotoluene	< 5	5
Dichlorodifluoromethane	< 5	5
1,2-Dibromoethane	< 5	5
1,1-Dichloroethene	< 5	5
1,2-Dichloroethane	< 5	5
1,1-Dichloroethane	< 5	5
1,2-Dichlorobenzene	< 5	5
1,3-Dichlorobenzene	12.4	5
1,4-Dichlorobenzene	14.1	5
cis-1,2-Dichloroethene	< 5	5
trans-1,2-Dichloroethene	< 5	5
1,2-Dichloropropane	< 5	5
cis-1,3-Dichloropropene	< 5	5
trans-1,3-Dichloropropene	< 5	5

Volatile Organic Compounds (continued)

Sample I.D. EB-3-5

	Concentration(µg/kg)	Detection Limit (µg/kg)
Ethylbenzene	13.1	5
Hexachlorobutadiene	< 5	5
Isopropylbenzene	16.4	5
4-Isopropyltoluene	12.6	5
Methylene Chloride	< 5	5
Naphthalene	96.8	5
n-Propylbenzene	13.6	5
Styrene	< 5	5
Tetrachloroethylene	< 5	5
Trichlorofluoromethane	< 5	5
Trichloroethylene	< 5	5
1,1,1-Trichloroethane	< 5	5
1,1,2-Trichloroethane	< 5	5
1,1,1,2-Tetrachloroethane	< 5	5
1,1,2,2-Tetrachloroethane	< 5	5
Toluene	< 5	5
1,2,3-Trichlorobenzene	< 5	5
1,2,4-Trichlorobenzene	< 5	5
1,2,3-Trichloropropane	< 5	5
1,2,4-Trimethylbenzene	52.4	5
1,3,5-Trimethylbenzene	16.3	5
Vinyl Chloride	< 5	5
Xylenes	284	150

Quality Control Data:

Sample I.D.	Compound	% Matrix Spike Recovery
EB-1-5	Toluene	96
EB-1-5	Benzene	97
EB-3-5	Toluene-D_8 (surrogate)	107

Test Method: Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Method 8260C, from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Respectfully submitted,

Johnny Tjioe

Analyst: Johnny Tjioe, Chemist

JT/gm

Verified: October 24, 2016

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Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Sample Identification: EB-4-3 from 359 Harris Street, Akron, Ohio

Date Sample Collected: 10-12-16
Date Sample Received: 10-13-16
Date Sample Analyzed: 10-14-16

Volatile Organic Compounds

Compound	Concentration (µg/kg)	Detection Limit (µg/kg)
Benzene	< 5	5
Bromobenzene	< 5	5
Bromochloromethane	< 5	5
Bromodichloromethane	< 5	5
Bromomethane	< 5	5
Bromoform	< 5	5
n-butylbenzene	< 5	5
sec-butylbenzene	< 5	5
tert-butylbenzene	< 5	5
Carbon Tetrachloride	< 5	5
Chlorobenzene	< 5	5
Chlorodibromomethane	< 5	5
Chloroethane	< 5	5
Chloromethane	< 5	5
Chloroform	< 5	5
2-Chlorotoluene	< 5	5
4-Chlorotoluene	< 5	5
Dichlorodifluoromethane	< 5	5
1,2-Dibromoethane	< 5	5
1,1-Dichloroethene	< 5	5
1,2-Dichloroethane	< 5	5
1,1-Dichloroethane	< 5	5
1,2-Dichlorobenzene	< 5	5
1,3-Dichlorobenzene	< 5	5
1,4-Dichlorobenzene	< 5	5
cis-1,2-Dichloroethene	< 5	5
trans-1,2-Dichloroethene	< 5	5
1,2-Dichloropropane	< 5	5
cis-1,3-Dichloropropene	< 5	5
trans-1,3-Dichloropropene	< 5	5

Volatile Organic Compounds (continued)

Sample I.D. EB-4-3

	Concentration(µg/kg)	Detection Limit (µg/kg)
Ethylbenzene	< 5	5
Hexachlorobutadiene	< 5	5
Isopropylbenzene	< 5	5
4-Isopropyltoluene	< 5	5
Methylene Chloride	< 5	5
Naphthalene	6.58	5
n-Propylbenzene	< 5	5
Styrene	< 5	5
Tetrachloroethylene	< 5	5
Trichlorofluoromethane	< 5	5
Trichloroethylene	< 5	5
1,1,1-Trichloroethane	< 5	5
1,1,2-Trichloroethane	< 5	5
1,1,1,2-Tetrachloroethane	< 5	5
1,1,2,2-Tetrachloroethane	< 5	5
Toluene	< 5	5
1,2,3-Trichlorobenzene	< 5	5
1,2,4-Trichlorobenzene	< 5	5
1,2,3-Trichloropropane	< 5	5
1,2,4-Trimethylbenzene	< 5	5
1,3,5-Trimethylbenzene	< 5	5
Vinyl Chloride	< 5	5
Xylenes	< 15	15

Quality Control Data:

Sample I.D.	Compound	% Matrix Spike Recovery
EB-1-5	Toluene	96
EB-1-5	Benzene	97
EB-4-3	Toluene-D_8 (surrogate)	98

Test Method: Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Method 8260C, from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Respectfully submitted,

Johnny Tjioe

Analyst: Johnny Tjioe, Chemist
Verified: October 24, 2016

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Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Sample Identification: EB-5-5 from 359 Harris Street, Akron, Ohio

Date Sample Collected: 10-12-16
Date Sample Received: 10-13-16
Date Sample Analyzed: 10-14-16

Volatile Organic Compounds

Compound	Concentration (µg/kg)	Detection Limit (µg/kg)
Benzene	< 5	5
Bromobenzene	< 5	5
Bromochloromethane	< 5	5
Bromodichloromethane	< 5	5
Bromomethane	< 5	5
Bromoform	< 5	5
n-butylbenzene	< 5	5
sec-butylbenzene	< 5	5
tert-butylbenzene	< 5	5
Carbon Tetrachloride	< 5	5
Chlorobenzene	< 5	5
Chlorodibromomethane	< 5	5
Chloroethane	< 5	5
Chloromethane	< 5	5
Chloroform	< 5	5
2-Chlorotoluene	< 5	5
4-Chlorotoluene	< 5	5
Dichlorodifluoromethane	< 5	5
1,2-Dibromoethane	< 5	5
1,1-Dichloroethene	< 5	5
1,2-Dichloroethane	< 5	5
1,1-Dichloroethane	< 5	5
1,2-Dichlorobenzene	< 5	5
1,3-Dichlorobenzene	< 5	5
1,4-Dichlorobenzene	< 5	5
cis-1,2-Dichloroethene	< 5	5
trans-1,2-Dichloroethene	< 5	5
1,2-Dichloropropane	< 5	5
cis-1,3-Dichloropropene	< 5	5
trans-1,3-Dichloropropene	< 5	5

Volatile Organic Compounds (continued)

Sample I.D. EB-5-5

	Concentration(µg/kg)	Detection Limit (µg/kg)
Ethylbenzene	< 5	5
Hexachlorobutadiene	< 5	5
Isopropylbenzene	< 5	5
4-Isopropyltoluene	< 5	5
Methylene Chloride	< 5	5
Naphthalene	< 5	5
n-Propylbenzene	< 5	5
Styrene	< 5	5
Tetrachloroethylene	< 5	5
Trichlorofluoromethane	236	50
Trichloroethylene	< 5	5
1,1,1-Trichloroethane	< 5	5
1,1,2-Trichloroethane	< 5	5
1,1,1,2-Tetrachloroethane	< 5	5
1,1,2,2-Tetrachloroethane	< 5	5
Toluene	< 5	5
1,2,3-Trichlorobenzene	< 5	5
1,2,4-Trichlorobenzene	< 5	5
1,2,3-Trichloropropane	< 5	5
1,2,4-Trimethylbenzene	< 5	5
1,3,5-Trimethylbenzene	< 5	5
Vinyl Chloride	< 5	5
Xylenes	< 15	15

Quality Control Data:

Sample I.D.	Compound	% Matrix Spike Recovery
EB-1-5	Toluene	96
EB-1-5	Benzene	97
EB-5-5	Toluene-D_8 (surrogate)	91

Test Method: Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Method 8260C, from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Respectfully submitted,

Johnny Tjioe

Analyst: Johnny Tjioe, Chemist
Verified: October 24, 2016

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Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Sample Identification: EB-6-4from 359 Harris Street, Akron, Ohio

Date Sample Collected: 10-12-16
Date Sample Received: 10-13-16
Date Sample Analyzed: 10-14-16

Volatile Organic Compounds

Compound	Concentration (µg/kg)	Detection Limit (µg/kg)
Benzene	< 5	5
Bromobenzene	< 5	5
Bromochloromethane	< 5	5
Bromodichloromethane	< 5	5
Bromomethane	< 5	5
Bromoform	< 5	5
n-butylbenzene	< 5	5
sec-butylbenzene	< 5	5
tert-butylbenzene	< 5	5
Carbon Tetrachloride	< 5	5
Chlorobenzene	< 5	5
Chlorodibromomethane	< 5	5
Chloroethane	< 5	5
Chloromethane	< 5	5
Chloroform	< 5	5
2-Chlorotoluene	< 5	5
4-Chlorotoluene	< 5	5
Dichlorodifluoromethane	< 5	5
1,2-Dibromoethane	< 5	5
1,1-Dichloroethene	< 5	5
1,2-Dichloroethane	< 5	5
1,1-Dichloroethane	< 5	5
1,2-Dichlorobenzene	< 5	5
1,3-Dichlorobenzene	< 5	5
1,4-Dichlorobenzene	< 5	5
cis-1,2-Dichloroethene	< 5	5
trans-1,2-Dichloroethene	< 5	5
1,2-Dichloropropane	< 5	5
cis-1,3-Dichloropropene	< 5	5
trans-1,3-Dichloropropene	< 5	5

Volatile Organic Compounds (continued)

Sample I.D. EB-6-4

	Concentration(µg/kg)	Detection Limit (µg/kg)
Ethylbenzene	16.3	5
Hexachlorobutadiene	< 5	5
Isopropylbenzene	< 5	5
4-Isopropyltoluene	< 5	5
Methylene Chloride	< 5	5
Naphthalene	< 5	5
n-Propylbenzene	< 5	5
Styrene	17.0	5
Tetrachloroethylene	< 5	5
Trichlorofluoromethane	< 5	5
Trichloroethylene	< 5	5
1,1,1-Trichloroethane	< 5	5
1,1,2-Trichloroethane	< 5	5
1,1,1,2-Tetrachloroethane	< 5	5
1,1,2,2-Tetrachloroethane	< 5	5
Toluene	< 5	5
1,2,3-Trichlorobenzene	< 5	5
1,2,4-Trichlorobenzene	< 5	5
1,2,3-Trichloropropane	< 5	5
1,2,4-Trimethylbenzene	< 5	5
1,3,5-Trimethylbenzene	< 5	5
Vinyl Chloride	< 5	5
Xylenes	< 15	15

Quality Control Data:

Sample I.D.	Compound	% Matrix Spike Recovery
EB-1-5	Toluene	96
EB-1-5	Benzene	97
EB-6-4	Toluene-D_8 (surrogate)	98

Test Method: Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Method 8260C, from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Respectfully submitted,

Johnny Tjioe

Analyst: Johnny Tjioe, Chemist
Verified: October 24, 2016

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Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Sample Identification: EB-7-5 from 359 Harris Street, Akron, Ohio

Date Sample Collected: 10-12-16
Date Sample Received: 10-13-16
Date Sample Analyzed: 10-14-16

Volatile Organic Compounds

Compound	Concentration (µg/kg)	Detection Limit (µg/kg)
Benzene	< 5	5
Bromobenzene	< 5	5
Bromochloromethane	< 5	5
Bromodichloromethane	< 5	5
Bromomethane	< 5	5
Bromoform	< 5	5
n-butylbenzene	< 5	5
sec-butylbenzene	< 5	5
tert-butylbenzene	< 5	5
Carbon Tetrachloride	< 5	5
Chlorobenzene	< 5	5
Chlorodibromomethane	< 5	5
Chloroethane	< 5	5
Chloromethane	< 5	5
Chloroform	< 5	5
2-Chlorotoluene	< 5	5
4-Chlorotoluene	< 5	5
Dichlorodifluoromethane	< 5	5
1,2-Dibromoethane	< 5	5
1,1-Dichloroethene	< 5	5
1,2-Dichloroethane	< 5	5
1,1-Dichloroethane	< 5	5
1,2-Dichlorobenzene	< 5	5
1,3-Dichlorobenzene	< 5	5
1,4-Dichlorobenzene	< 5	5
cis-1,2-Dichloroethene	< 5	5
trans-1,2-Dichloroethene	< 5	5
1,2-Dichloropropane	< 5	5
cis-1,3-Dichloropropene	< 5	5
trans-1,3-Dichloropropene	< 5	5

Volatile Organic Compounds (continued)

Sample I.D. EB-7-5

	Concentration(µg/kg)	Detection Limit (µg/kg)
Ethylbenzene	< 5	5
Hexachlorobutadiene	< 5	5
Isopropylbenzene	< 5	5
4-Isopropyltoluene	6.31	5
Methylene Chloride	< 5	5
Naphthalene	< 5	5
n-Propylbenzene	< 5	5
Styrene	< 5	5
Tetrachloroethylene	< 5	5
Trichlorofluoromethane	< 5	5
Trichloroethylene	< 5	5
1,1,1-Trichloroethane	< 5	5
1,1,2-Trichloroethane	< 5	5
1,1,1,2-Tetrachloroethane	< 5	5
1,1,2,2-Tetrachloroethane	< 5	5
Toluene	< 5	5
1,2,3-Trichlorobenzene	< 5	5
1,2,4-Trichlorobenzene	< 5	5
1,2,3-Trichloropropane	< 5	5
1,2,4-Trimethylbenzene	< 5	5
1,3,5-Trimethylbenzene	< 5	5
Vinyl Chloride	< 5	5
Xylenes	< 15	15

Quality Control Data:

Sample I.D.	Compound	% Matrix Spike Recovery
EB-1-5	Toluene	96
EB-1-5	Benzene	97
EB-7-5	Toluene-D_8 (surrogate)	101

Test Method: Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Method 8260C, from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Respectfully submitted,

Johnny Tjioe

Analyst: Johnny Tjioe, Chemist
Verified: October 24, 2016

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Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-1-5 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 9:59 am on October 12, 2016.

Test Methods: Sonication Extraction, Method 3550 and GC/MS for Semivolatile Base/Neutral Acid Organics, Capillary Column Technique, Method 8270D, both from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Test Results:

BASE/NEUTRALS

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
1,2-Dichlorobenzene	< 0.15	0.15
1,3-Dichlorobenzene	< 0.15	0.15
1,4-Dichlorobenzene	< 0.15	0.15
Hexachloroethane	< 0.15	0.15
bis(2-Chloroethyl)ether	< 0.15	0.15
bis(2-Chloroisopropyl)ether	< 0.15	0.15
N-Nitroso-*n*-propylamine	< 0.15	0.15
Nitrobenzene	< 0.15	0.15
Hexachlorobutadiene	< 0.15	0.15
1,2,4-Trichlorobenzene	< 0.15	0.15
Isophorone	< 0.15	0.15
Naphthalene	0.60	0.15
bis-(2-chloroethoxy)methane	< 0.15	0.15
Hexachlorocyclopentadiene	< 0.15	0.15
2-Chloronaphthalene	< 0.15	0.15
Acenaphthalyene	< 0.15	0.15

Project No. 16510222COL
Client: Gannett Fleming Engineers & Architect PC

Sample No. EB-1-5
Page Two

BASE/NEUTRALS (continued)

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
Acenaphthene	< 0.15	0.15
Dimethyl phthalate	< 0.15	0.15
2,6-Dinitrotoluene	< 0.15	0.15
Fluorene	< 0.15	0.15
4-Chlorophenyl phenyl ether	< 0.15	0.15
2,4-Dinitrotoluene	< 0.15	0.15
Diethyl phthalate	< 0.15	0.15
N-Nitrosodiphenylamine	< 0.15	0.15
Hexachlorobenzene	< 0.15	0.15
4-Bromophenyl phenyl ether	< 0.15	0.15
Phenanthrene	1.35	0.15
Anthracene	< 0.15	0.15
Di-n-butyl phthalate	< 0.15	0.15
Fluoranthene	2.11	0.15
Pyrene	< 0.15	0.15
Benzidine	< 0.15	0.15
Butyl benzyl phthalate	< 0.15	0.15
bis(2-Ethylhexyl)phthalate	< 0.15	0.15
Chrysene	0.59	0.15
Benzo[a]anthracene	0.57	0.15
3,3'-Dichlorobenzidine	0.59	0.15
Di-n-octylphthalate	< 0.15	0.15
Benzo[b]fluoranthene	< 0.15	0.15
Benzo[k]fluoranthene	< 0.15	0.15
Benzo[a]pyrene	< 0.15	0.15
Indeno[1,2,3-c,d]pyrene	< 0.15	0.15
Dibenzo[a,h]anthracene	< 0.15	0.15
Benzo[ghi]perylene	< 0.15	0.15
N-Nitrosodimethyl amine	< 0.15	0.15

Project No. 16510222COL
Client: Gannett Fleming Engineers & Architect PC

Sample No. EB-1-5

Page Three

ACIDS

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
4-Chloro-3-methylphenol	< 0.15	0.15
2-Chlorophenol	< 0.15	0.15
2,4-Dichlorophenol	< 0.15	0.15
2,6-Dichlorophenol	< 0.15	0.15
2,4-Dimethylphenol	< 0.15	0.15
2,4-Dinitrophenol	< 0.15	0.15
4,6-Dinitro-2-methylphenol	< 0.15	0.15
2-Methylphenol (ortho-cresol)	< 0.15	0.15
3-Methylphenol (meta-cresol)	< 0.15	0.15
4-Methylphenol (para-cresol)	< 0.15	0.15
2-nitrophenol	< 0.15	0.15
4-nitrophenol	< 0.15	0.15
Pentachlorophenol	< 0.15	0.15
Phenol	< 0.15	0.15
2,3,4,6-Tetrachlorophenol	< 0.15	0.15
2,4,5-Trichlorophenol	< 0.15	0.15
2,4,6-Trichlorophenol	< 0.15	0.15

Quality Control Data:

Sample ID	Compound	% Matrix Spike Recovery
EB-1-5	Fluorene	96
EB-1-5	2-Fluorobiphenyl (Surrogate)	95

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

JT/gm

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2860 Fisher Road, P.O. Box 44548, Columbus, Ohio 43204
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Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-2-4 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 10:26 am on October 12, 2016.

Test Methods: Sonication Extraction, Method 3550 and GC/MS for Semivolatile Base/Neutral Acid Organics, Capillary Column Technique, Method 8270D, both from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Test Results:

BASE/NEUTRALS

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
1,2-Dichlorobenzene	< 0.15	0.15
1,3-Dichlorobenzene	< 0.15	0.15
1,4-Dichlorobenzene	< 0.15	0.15
Hexachloroethane	< 0.15	0.15
bis(2-Chloroethyl)ether	< 0.15	0.15
bis(2-Chloroisopropyl)ether	< 0.15	0.15
N-Nitroso-*n*-propylamine	< 0.15	0.15
Nitrobenzene	< 0.15	0.15
Hexachlorobutadiene	< 0.15	0.15
1,2,4-Trichlorobenzene	< 0.15	0.15
Isophorone	< 0.15	0.15
Naphthalene	< 0.15	0.15
bis-(2-chloroethoxy)methane	< 0.15	0.15
Hexachlorocyclopentadiene	< 0.15	0.15
2-Chloronaphthalene	< 0.15	0.15
Acenaphthalyene	< 0.15	0.15

Project No. 16510222COL
Client: Gannett Fleming Engineers & Architect PC

Sample No. EB-2-4
Page Two

BASE/NEUTRALS (continued)

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
Acenaphthene	< 0.15	0.15
Dimethyl phthalate	< 0.15	0.15
2,6-Dinitrotoluene	< 0.15	0.15
Fluorene	< 0.15	0.15
4-Chlorophenyl phenyl ether	< 0.15	0.15
2,4-Dinitrotoluene	< 0.15	0.15
Diethyl phthalate	< 0.15	0.15
N-Nitrosodiphenylamine	< 0.15	0.15
Hexachlorobenzene	< 0.15	0.15
4-Bromophenyl phenyl ether	< 0.15	0.15
Phenanthrene	< 0.15	0.15
Anthracene	1.19	0.15
Di-n-butyl phthalate	< 0.15	0.15
Fluoranthene	2.11	0.15
Pyrene	3.37	0.15
Benzidine	< 0.15	0.15
Butyl benzyl phthalate	< 0.15	0.15
bis(2-Ethylhexyl)phthalate	< 0.15	0.15
Chrysene	0.55	0.15
Benzo[a]anthracene	0.72	0.15
3,3'-Dichlorobenzidine	< 0.15	0.15
Di-n-octylphthalate	< 0.15	0.15
Benzo[b]fluoranthene	< 0.15	0.15
Benzo[k]fluoranthene	< 0.15	0.15
Benzo[a]pyrene	< 0.15	0.15
Indeno[1,2,3-c,d]pyrene	< 0.15	0.15
Dibenzo[a,h]anthracene	< 0.15	0.15
Benzo[ghi]perylene	< 0.15	0.15
N-Nitrosodimethyl amine	< 0.15	0.15

Project No. 16510222COL
Client: Gannett Fleming Engineers & Architect PC

Sample No. EB-2-4

Page Three

ACIDS

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
4-Chloro-3-methylphenol	< 0.15	0.15
2-Chlorophenol	< 0.15	0.15
2,4-Dichlorophenol	< 0.15	0.15
2,6-Dichlorophenol	< 0.15	0.15
2,4-Dimethylphenol	< 0.15	0.15
2,4-Dinitrophenol	< 0.15	0.15
4,6-Dinitro-2-methylphenol	< 0.15	0.15
2-Methylphenol (ortho-cresol)	< 0.15	0.15
3-Methylphenol (meta-cresol)	< 0.15	0.15
4-Methylphenol (para-cresol)	< 0.15	0.15
2-nitrophenol	< 0.15	0.15
4-nitrophenol	< 0.15	0.15
Pentachlorophenol	< 0.15	0.15
Phenol	< 0.15	0.15
2,3,4,6-Tetrachlorophenol	< 0.15	0.15
2,4,5-Trichlorophenol	< 0.15	0.15
2,4,6-Trichlorophenol	< 0.15	0.15

Quality Control Data:

Sample ID	Compound	% Matrix Spike Recovery
EB-1-5	Fluorene	96
EB-2-4	2-Fluorobiphenyl (Surrogate)	95

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

JT/gm

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Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-3-5 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 10:46 am on October 12, 2016.

Test Methods: Sonication Extraction, Method 3550 and GC/MS for Semivolatile Base/Neutral Acid Organics, Capillary Column Technique, Method 8270D, both from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Test Results:

BASE/NEUTRALS

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
1,2-Dichlorobenzene	< 0.15	0.15
1,3-Dichlorobenzene	< 0.15	0.15
1,4-Dichlorobenzene	< 0.15	0.15
Hexachloroethane	< 0.15	0.15
bis(2-Chloroethyl)ether	< 0.15	0.15
bis(2-Chloroisopropyl)ether	< 0.15	0.15
N-Nitroso-*n*-propylamine	< 0.15	0.15
Nitrobenzene	< 0.15	0.15
Hexachlorobutadiene	< 0.15	0.15
1,2,4-Trichlorobenzene	< 0.15	0.15
Isophorone	< 0.15	0.15
Naphthalene	< 0.15	0.15
bis-(2-chloroethoxy)methane	< 0.15	0.15
Hexachlorocyclopentadiene	< 0.15	0.15
2-Chloronaphthalene	< 0.15	0.15
Acenaphthalyene	< 0.15	0.15

Project No. 16510222COL
Client: Gannett Fleming Engineers & Architect PC

Sample No. EB-3-5
Page Two

BASE/NEUTRALS (continued)

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
Acenaphthene	< 0.15	0.15
Dimethyl phthalate	< 0.15	0.15
2,6-Dinitrotoluene	< 0.15	0.15
Fluorene	0.50	0.15
4-Chlorophenyl phenyl ether	< 0.15	0.15
2,4-Dinitrotoluene	< 0.15	0.15
Diethyl phthalate	< 0.15	0.15
N-Nitrosodiphenylamine	< 0.15	0.15
Hexachlorobenzene	< 0.15	0.15
4-Bromophenyl phenyl ether	< 0.15	0.15
Phenanthrene	2.64	0.15
Anthracene	< 0.15	0.15
Di-n-butyl phthalate	< 0.15	0.15
Fluoranthene	4.90	0.15
Pyrene	4.80	0.15
Benzidine	< 0.15	0.15
Butyl benzyl phthalate	< 0.15	0.15
bis(2-Ethylhexyl)phthalate	< 0.15	0.15
Chrysene	< 0.15	0.15
Benzo[a]anthracene	< 0.15	0.15
3,3'-Dichlorobenzidine	< 0.15	0.15
Di-n-octylphthalate	< 0.15	0.15
Benzo[b]fluoranthene	< 0.15	0.15
Benzo[k]fluoranthene	< 0.15	0.15
Benzo[a]pyrene	< 0.15	0.15
Indeno[1,2,3-c,d]pyrene	< 0.15	0.15
Dibenzo[a,h]anthracene	< 0.15	0.15
Benzo[ghi]perylene	< 0.15	0.15
N-Nitrosodimethyl amine	< 0.15	0.15

Project No. 16510222COL
Client: Gannett Fleming Engineers & Architect PC

Sample No. EB-3-5

Page Three

ACIDS

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
4-Chloro-3-methylphenol	< 0.15	0.15
2-Chlorophenol	< 0.15	0.15
2,4-Dichlorophenol	< 0.15	0.15
2,6-Dichlorophenol	< 0.15	0.15
2,4-Dimethylphenol	< 0.15	0.15
2,4-Dinitrophenol	< 0.15	0.15
4,6-Dinitro-2-methylphenol	< 0.15	0.15
2-Methylphenol (ortho-cresol)	< 0.15	0.15
3-Methylphenol (meta-cresol)	< 0.15	0.15
4-Methylphenol (para-cresol)	< 0.15	0.15
2-nitrophenol	< 0.15	0.15
4-nitrophenol	< 0.15	0.15
Pentachlorophenol	< 0.15	0.15
Phenol	< 0.15	0.15
2,3,4,6-Tetrachlorophenol	< 0.15	0.15
2,4,5-Trichlorophenol	< 0.15	0.15
2,4,6-Trichlorophenol	< 0.15	0.15

Quality Control Data:

Sample ID	Compound	% Matrix Spike Recovery
EB-1-5	Fluorene	96
EB-3-5	2-Fluorobiphenyl (Surrogate)	91

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

JT/gm

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Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-4-3 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 11:04 am on October 12, 2016.

Test Methods: Sonication Extraction, Method 3550 and GC/MS for Semivolatile Base/Neutral Acid Organics, Capillary Column Technique, Method 8270D, both from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Test Results:

BASE/NEUTRALS

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
1,2-Dichlorobenzene	< 0.15	0.15
1,3-Dichlorobenzene	< 0.15	0.15
1,4-Dichlorobenzene	< 0.15	0.15
Hexachloroethane	< 0.15	0.15
bis(2-Chloroethyl)ether	< 0.15	0.15
bis(2-Chloroisopropyl)ether	< 0.15	0.15
N-Nitroso-*n*-propylamine	< 0.15	0.15
Nitrobenzene	< 0.15	0.15
Hexachlorobutadiene	< 0.15	0.15
1,2,4-Trichlorobenzene	< 0.15	0.15
Isophorone	< 0.15	0.15
Naphthalene	< 0.15	0.15
bis-(2-chloroethoxy)methane	< 0.15	0.15
Hexachlorocyclopentadiene	< 0.15	0.15
2-Chloronaphthalene	< 0.15	0.15
Acenaphthalyene	< 0.15	0.15

Project No. 16510222COL
Client: Gannett Fleming Engineers & Architect PC

Sample No. EB-4-3
Page Two

BASE/NEUTRALS (continued)

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
Acenaphthene	< 0.15	0.15
Dimethyl phthalate	< 0.15	0.15
2,6-Dinitrotoluene	< 0.15	0.15
Fluorene	< 0.15	0.15
4-Chlorophenyl phenyl ether	< 0.15	0.15
2,4-Dinitrotoluene	< 0.15	0.15
Diethyl phthalate	< 0.15	0.15
N-Nitrosodiphenylamine	< 0.15	0.15
Hexachlorobenzene	< 0.15	0.15
4-Bromophenyl phenyl ether	< 0.15	0.15
Phenanthrene	< 0.15	0.15
Anthracene	0.62	0.15
Di-n-butyl phthalate	< 0.15	0.15
Fluoranthene	0.81	0.15
Pyrene	3.56	0.15
Benzidine	< 0.15	0.15
Butyl benzyl phthalate	< 0.15	0.15
bis(2-Ethylhexyl)phthalate	< 0.15	0.15
Chrysene	< 0.15	0.15
Benzo[a]anthracene	< 0.15	0.15
3,3'-Dichlorobenzidine	< 0.15	0.15
Di-n-octylphthalate	< 0.15	0.15
Benzo[b]fluoranthene	1.39	0.15
Benzo[k]fluoranthene	1.19	0.15
Benzo[a]pyrene	< 0.15	0.15
Indeno[1,2,3-c,d]pyrene	< 0.15	0.15
Dibenzo[a,h]anthracene	< 0.15	0.15
Benzo[ghi]perylene	< 0.15	0.15
N-Nitrosodimethyl amine	< 0.15	0.15

Project No. 16510222COL
Client: Gannett Fleming Engineers & Architect PC

Sample No. EB-4-3

Page Three

ACIDS

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
4-Chloro-3-methylphenol	< 0.15	0.15
2-Chlorophenol	< 0.15	0.15
2,4-Dichlorophenol	< 0.15	0.15
2,6-Dichlorophenol	< 0.15	0.15
2,4-Dimethylphenol	< 0.15	0.15
2,4-Dinitrophenol	< 0.15	0.15
4,6-Dinitro-2-methylphenol	< 0.15	0.15
2-Methylphenol (ortho-cresol)	< 0.15	0.15
3-Methylphenol (meta-cresol)	< 0.15	0.15
4-Methylphenol (para-cresol)	< 0.15	0.15
2-nitrophenol	< 0.15	0.15
4-nitrophenol	< 0.15	0.15
Pentachlorophenol	< 0.15	0.15
Phenol	< 0.15	0.15
2,3,4,6-Tetrachlorophenol	< 0.15	0.15
2,4,5-Trichlorophenol	< 0.15	0.15
2,4,6-Trichlorophenol	< 0.15	0.15

Quality Control Data:

Sample ID	Compound	% Matrix Spike Recovery
EB-1-5	Fluorene	96
EB-4-3	2-Fluorobiphenyl (Surrogate)	90

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

JT/gm

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Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-5-5 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 11:22 am on October 12, 2016.

Test Methods: Sonication Extraction, Method 3550 and GC/MS for Semivolatile Base/Neutral Acid Organics, Capillary Column Technique, Method 8270D, both from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Test Results:

BASE/NEUTRALS

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
1,2-Dichlorobenzene	< 0.15	0.15
1,3-Dichlorobenzene	< 0.15	0.15
1,4-Dichlorobenzene	< 0.15	0.15
Hexachloroethane	< 0.15	0.15
bis(2-Chloroethyl)ether	< 0.15	0.15
bis(2-Chloroisopropyl)ether	< 0.15	0.15
N-Nitroso-*n*-propylamine	< 0.15	0.15
Nitrobenzene	< 0.15	0.15
Hexachlorobutadiene	< 0.15	0.15
1,2,4-Trichlorobenzene	< 0.15	0.15
Isophorone	< 0.15	0.15
Naphthalene	< 0.15	0.15
bis-(2-chloroethoxy)methane	< 0.15	0.15
Hexachlorocyclopentadiene	< 0.15	0.15
2-Chloronaphthalene	< 0.15	0.15
Acenaphthalyene	< 0.15	0.15

Project No. 16510222COL
Client: Gannett Fleming Engineers & Architect PC

Sample No. EB-5-5
Page Two

BASE/NEUTRALS (continued)

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
Acenaphthene	< 0.15	0.15
Dimethyl phthalate	< 0.15	0.15
2,6-Dinitrotoluene	< 0.15	0.15
Fluorene	< 0.15	0.15
4-Chlorophenyl phenyl ether	< 0.15	0.15
2,4-Dinitrotoluene	< 0.15	0.15
Diethyl phthalate	< 0.15	0.15
N-Nitrosodiphenylamine	< 0.15	0.15
Hexachlorobenzene	< 0.15	0.15
4-Bromophenyl phenyl ether	< 0.15	0.15
Phenanthrene	< 0.15	0.15
Anthracene	< 0.15	0.15
Di-n-butyl phthalate	< 0.15	0.15
Fluoranthene	< 0.15	0.15
Pyrene	< 0.15	0.15
Benzidine	< 0.15	0.15
Butyl benzyl phthalate	< 0.15	0.15
bis(2-Ethylhexyl)phthalate	< 0.15	0.15
Chrysene	< 0.15	0.15
Benzo[a]anthracene	< 0.15	0.15
3,3'-Dichlorobenzidine	< 0.15	0.15
Di-n-octylphthalate	< 0.15	0.15
Benzo[b]fluoranthene	< 0.15	0.15
Benzo[k]fluoranthene	< 0.15	0.15
Benzo[a]pyrene	< 0.15	0.15
Indeno[1,2,3-c,d]pyrene	< 0.15	0.15
Dibenzo[a,h]anthracene	< 0.15	0.15
Benzo[ghi]perylene	< 0.15	0.15
N-Nitrosodimethyl amine	< 0.15	0.15

Project No. 16510222COL
Client: Gannett Fleming Engineers & Architect PC

Sample No. EB-5-5

Page Three

ACIDS

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
4-Chloro-3-methylphenol	< 0.15	0.15
2-Chlorophenol	< 0.15	0.15
2,4-Dichlorophenol	< 0.15	0.15
2,6-Dichlorophenol	< 0.15	0.15
2,4-Dimethylphenol	< 0.15	0.15
2,4-Dinitrophenol	< 0.15	0.15
4,6-Dinitro-2-methylphenol	< 0.15	0.15
2-Methylphenol (ortho-cresol)	< 0.15	0.15
3-Methylphenol (meta-cresol)	< 0.15	0.15
4-Methylphenol (para-cresol)	< 0.15	0.15
2-nitrophenol	< 0.15	0.15
4-nitrophenol	< 0.15	0.15
Pentachlorophenol	< 0.15	0.15
Phenol	< 0.15	0.15
2,3,4,6-Tetrachlorophenol	< 0.15	0.15
2,4,5-Trichlorophenol	< 0.15	0.15
2,4,6-Trichlorophenol	< 0.15	0.15

Quality Control Data:

Sample ID	Compound	% Matrix Spike Recovery
EB-1-5	Fluorene	96
EB-5-5	2-Fluorobiphenyl (Surrogate)	91

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

JT/gm

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e-mail: jtjioe@ctleng.com

Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-6-4 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 11:43 am on October 12, 2016.

Test Methods: Sonication Extraction, Method 3550 and GC/MS for Semivolatile Base/Neutral Acid Organics, Capillary Column Technique, Method 8270D, both from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Test Results:

BASE/NEUTRALS

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
1,2-Dichlorobenzene	< 0.15	0.15
1,3-Dichlorobenzene	< 0.15	0.15
1,4-Dichlorobenzene	< 0.15	0.15
Hexachloroethane	< 0.15	0.15
bis(2-Chloroethyl)ether	< 0.15	0.15
bis(2-Chloroisopropyl)ether	< 0.15	0.15
N-Nitroso-*n*-propylamine	< 0.15	0.15
Nitrobenzene	< 0.15	0.15
Hexachlorobutadiene	< 0.15	0.15
1,2,4-Trichlorobenzene	< 0.15	0.15
Isophorone	< 0.15	0.15
Naphthalene	< 0.15	0.15
bis-(2-chloroethoxy)methane	< 0.15	0.15
Hexachlorocyclopentadiene	< 0.15	0.15
2-Chloronaphthalene	< 0.15	0.15
Acenaphthalyene	< 0.15	0.15

Project No. 16510222COL
Client: Gannett Fleming Engineers & Architect PC

Sample No. EB-6-4
Page Two

BASE/NEUTRALS (continued)

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
Acenaphthene	< 0.15	0.15
Dimethyl phthalate	< 0.15	0.15
2,6-Dinitrotoluene	< 0.15	0.15
Fluorene	< 0.15	0.15
4-Chlorophenyl phenyl ether	< 0.15	0.15
2,4-Dinitrotoluene	< 0.15	0.15
Diethyl phthalate	< 0.15	0.15
N-Nitrosodiphenylamine	< 0.15	0.15
Hexachlorobenzene	< 0.15	0.15
4-Bromophenyl phenyl ether	< 0.15	0.15
Phenanthrene	< 0.15	0.15
Anthracene	< 0.15	0.15
Di-n-butyl phthalate	< 0.15	0.15
Fluoranthene	< 0.15	0.15
Pyrene	0.89	0.15
Benzidine	< 0.15	0.15
Butyl benzyl phthalate	< 0.15	0.15
bis(2-Ethylhexyl)phthalate	< 0.15	0.15
Chrysene	< 0.15	0.15
Benzo[a]anthracene	< 0.15	0.15
3,3'-Dichlorobenzidine	< 0.15	0.15
Di-n-octylphthalate	< 0.15	0.15
Benzo[b]fluoranthene	< 0.15	0.15
Benzo[k]fluoranthene	< 0.15	0.15
Benzo[a]pyrene	< 0.15	0.15
Indeno[1,2,3-c,d]pyrene	< 0.15	0.15
Dibenzo[a,h]anthracene	< 0.15	0.15
Benzo[ghi]perylene	< 0.15	0.15
N-Nitrosodimethyl amine	< 0.15	0.15

Project No. 16510222COL
Client: Gannett Fleming Engineers & Architect PC

Sample No. EB-6-4

Page Three

ACIDS

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
4-Chloro-3-methylphenol	< 0.15	0.15
2-Chlorophenol	< 0.15	0.15
2,4-Dichlorophenol	< 0.15	0.15
2,6-Dichlorophenol	< 0.15	0.15
2,4-Dimethylphenol	< 0.15	0.15
2,4-Dinitrophenol	< 0.15	0.15
4,6-Dinitro-2-methylphenol	< 0.15	0.15
2-Methylphenol (ortho-cresol)	< 0.15	0.15
3-Methylphenol (meta-cresol)	< 0.15	0.15
4-Methylphenol (para-cresol)	< 0.15	0.15
2-nitrophenol	< 0.15	0.15
4-nitrophenol	< 0.15	0.15
Pentachlorophenol	< 0.15	0.15
Phenol	< 0.15	0.15
2,3,4,6-Tetrachlorophenol	< 0.15	0.15
2,4,5-Trichlorophenol	< 0.15	0.15
2,4,6-Trichlorophenol	< 0.15	0.15

Quality Control Data:

Sample ID	Compound	% Matrix Spike Recovery
EB-1-5	Fluorene	96
EB-6-4	2-Fluorobiphenyl (Surrogate)	96

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

JT/gm

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2860 Fisher Road, P.O. Box 44548, Columbus, Ohio 43204
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Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-7-5 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 12:03 pm on October 12, 2016.

Test Methods: Sonication Extraction, Method 3550 and GC/MS for Semivolatile Base/Neutral Acid Organics, Capillary Column Technique, Method 8270D, both from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Test Results:

BASE/NEUTRALS

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
1,2-Dichlorobenzene	< 0.15	0.15
1,3-Dichlorobenzene	< 0.15	0.15
1,4-Dichlorobenzene	< 0.15	0.15
Hexachloroethane	< 0.15	0.15
bis(2-Chloroethyl)ether	< 0.15	0.15
bis(2-Chloroisopropyl)ether	< 0.15	0.15
N-Nitroso-*n*-propylamine	< 0.15	0.15
Nitrobenzene	< 0.15	0.15
Hexachlorobutadiene	< 0.15	0.15
1,2,4-Trichlorobenzene	< 0.15	0.15
Isophorone	< 0.15	0.15
Naphthalene	< 0.15	0.15
bis-(2-chloroethoxy)methane	< 0.15	0.15
Hexachlorocyclopentadiene	< 0.15	0.15
2-Chloronaphthalene	< 0.15	0.15
Acenaphthalyene	< 0.15	0.15

Project No. 16510222COL
Client: Gannett Fleming Engineers & Architect PC

Sample No. EB-7-5
Page Two

BASE/NEUTRALS (continued)

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
Acenaphthene	< 0.15	0.15
Dimethyl phthalate	< 0.15	0.15
2,6-Dinitrotoluene	< 0.15	0.15
Fluorene	< 0.15	0.15
4-Chlorophenyl phenyl ether	< 0.15	0.15
2,4-Dinitrotoluene	< 0.15	0.15
Diethyl phthalate	< 0.15	0.15
N-Nitrosodiphenylamine	< 0.15	0.15
Hexachlorobenzene	< 0.15	0.15
4-Bromophenyl phenyl ether	< 0.15	0.15
Phenanthrene	< 0.15	0.15
Anthracene	< 0.15	0.15
Di-n-butyl phthalate	< 0.15	0.15
Fluoranthene	1.36	0.15
Pyrene	3.26	0.15
Benzidine	< 0.15	0.15
Butyl benzyl phthalate	< 0.15	0.15
bis(2-Ethylhexyl)phthalate	< 0.15	0.15
Chrysene	0.55	0.15
Benzo[a]anthracene	0.69	0.15
3,3'-Dichlorobenzidine	< 0.15	0.15
Di-n-octylphthalate	< 0.15	0.15
Benzo[b]fluoranthene	1.47	0.15
Benzo[k]fluoranthene	1.30	0.15
Benzo[a]pyrene	0.54	0.15
Indeno[1,2,3-c,d]pyrene	< 0.15	0.15
Dibenzo[a,h]anthracene	< 0.15	0.15
Benzo[ghi]perylene	< 0.15	0.15
N-Nitrosodimethyl amine	< 0.15	0.15

Project No. 16510222COL
Client: Gannett Fleming Engineers & Architect PC

Sample No. EB-7-5

Page Three

ACIDS

Compound	Concentration (mg/kg)	Detection Limit (mg/kg)
4-Chloro-3-methylphenol	< 0.15	0.15
2-Chlorophenol	< 0.15	0.15
2,4-Dichlorophenol	< 0.15	0.15
2,6-Dichlorophenol	< 0.15	0.15
2,4-Dimethylphenol	< 0.15	0.15
2,4-Dinitrophenol	< 0.15	0.15
4,6-Dinitro-2-methylphenol	< 0.15	0.15
2-Methylphenol (ortho-cresol)	< 0.15	0.15
3-Methylphenol (meta-cresol)	< 0.15	0.15
4-Methylphenol (para-cresol)	< 0.15	0.15
2-nitrophenol	< 0.15	0.15
4-nitrophenol	< 0.15	0.15
Pentachlorophenol	< 0.15	0.15
Phenol	< 0.15	0.15
2,3,4,6-Tetrachlorophenol	< 0.15	0.15
2,4,5-Trichlorophenol	< 0.15	0.15
2,4,6-Trichlorophenol	< 0.15	0.15

Quality Control Data:

Sample ID	Compound	% Matrix Spike Recovery
EB-1-5	Fluorene	96
EB-7-5	2-Fluorobiphenyl (Surrogate)	77

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

JT/gm

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Consulting Engineers – Testing – Inspection Services – Analytical Laboratories

Established 1927

Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-1-5 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 9:59 am on October 12, 2016.

Test Methods: Arsenic – Method 7060, Barium – Method 7080, Cadmium - Method 7130, Chromium – Method 7190, Lead - Method 7380, Mercury - Method 7470, Selenium - Method 7740 and Silver - Method 7760A, all from Test Methods for Evaluating Solid Waste, USEPA Document SW 846.

Test Results:

Parameter	Result (mg/kg)
Arsenic (As)	3.68
Barium (Ba)	70.9
Cadmium (Cd)	< 1.83
Chromium (Cr)	26.5
Lead (Pb)	144
Mercury (Hg)	0.242
Selenium (Se)	0.471
Silver (Ag)	< 1.47

Quality Control Data:

Sample ID	Parameter	Spike recovery (%)
EB-1-5	Arsenic	107
EB-1-5	Barium	93
EB-1-5	Cadmium	89
EB-1-5	Chromium	108
EB-1-5	Lead	108
EB-1-5	Mercury	98
EB-1-5	Selenium	104
EB-1-5	Silver	98

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

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Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-2-4 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 10:26 am on October 12, 2016.

Test Methods: Arsenic – Method 7060, Barium – Method 7080, Cadmium - Method 7130, Chromium – Method 7190, Lead - Method 7380, Mercury - Method 7470, Selenium - Method 7740 and Silver - Method 7760A, all from Test Methods for Evaluating Solid Waste, USEPA Document SW 846.

Test Results:

Parameter	Result (mg/kg)
Arsenic (As)	5.26
Barium (Ba)	60.9
Cadmium (Cd)	< 1.87
Chromium (Cr)	15.6
Lead (Pb)	89.6
Mercury (Hg)	0.0937
Selenium (Se)	0.321
Silver (Ag)	< 1.50

Quality Control Data:

Sample ID	Parameter	Spike recovery (%)
EB-1-5	Arsenic	107
EB-1-5	Barium	93
EB-1-5	Cadmium	89
EB-1-5	Chromium	108
EB-1-5	Lead	108
EB-1-5	Mercury	98
EB-1-5	Selenium	104
EB-1-5	Silver	98

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

JT/gm

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Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-3-5 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 10:46 am on October 12, 2016.

Test Methods: Arsenic – Method 7060, Barium – Method 7080, Cadmium - Method 7130, Chromium – Method 7190, Lead - Method 7380, Mercury - Method 7470, Selenium - Method 7740 and Silver - Method 7760A, all from Test Methods for Evaluating Solid Waste, USEPA Document SW 846.

Test Results:

Parameter	Result (mg/kg)
Arsenic (As)	13.9
Barium (Ba)	297
Cadmium (Cd)	4.13
Chromium (Cr)	50.0
Lead (Pb)	1,050
Mercury (Hg)	0.149
Selenium (Se)	1.04
Silver (Ag)	< 1.48

Quality Control Data:

Sample ID	Parameter	Spike recovery (%)
EB-1-5	Arsenic	107
EB-1-5	Barium	93
EB-1-5	Cadmium	89
EB-1-5	Chromium	108
EB-1-5	Lead	108
EB-1-5	Mercury	98
EB-1-5	Selenium	104
EB-1-5	Silver	98

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

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Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-4-3 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 11:04 am on October 12, 2016.

Test Methods: Arsenic – Method 7060, Barium – Method 7080, Cadmium - Method 7130, Chromium – Method 7190, Lead - Method 7380, Mercury - Method 7470, Selenium - Method 7740 and Silver - Method 7760A, all from Test Methods for Evaluating Solid Waste, USEPA Document SW 846.

Test Results:

Parameter	Result (mg/kg)
Arsenic (As)	7.06
Barium (Ba)	81.3
Cadmium (Cd)	< 1.82
Chromium (Cr)	14.0
Lead (Pb)	113
Mercury (Hg)	0.0939
Selenium (Se)	< 0.182
Silver (Ag)	< 1.45

Quality Control Data:

Sample ID	Parameter	Spike recovery (%)
EB-1-5	Arsenic	107
EB-1-5	Barium	93
EB-1-5	Cadmium	89
EB-1-5	Chromium	108
EB-1-5	Lead	108
EB-1-5	Mercury	98
EB-1-5	Selenium	104
EB-1-5	Silver	98

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

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Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-5-5 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 11:22 am on October 12, 2016.

Test Methods: Arsenic – Method 7060, Barium – Method 7080, Cadmium - Method 7130, Chromium – Method 7190, Lead - Method 7380, Mercury - Method 7470, Selenium - Method 7740 and Silver - Method 7760A, all from Test Methods for Evaluating Solid Waste, USEPA Document SW 846.

Test Results:

Parameter	Result (mg/kg)
Arsenic (As)	3.65
Barium (Ba)	162
Cadmium (Cd)	< 1.89
Chromium (Cr)	18.1
Lead (Pb)	926
Mercury (Hg)	0.209
Selenium (Se)	0.878
Silver (Ag)	< 1.51

Quality Control Data:

Sample ID	Parameter	Spike recovery (%)
EB-1-5	Arsenic	107
EB-1-5	Barium	93
EB-1-5	Cadmium	89
EB-1-5	Chromium	108
EB-1-5	Lead	108
EB-1-5	Mercury	98
EB-1-5	Selenium	104
EB-1-5	Silver	98

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

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Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-6-4 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 11:42 am on October 12, 2016.

Test Methods: Arsenic – Method 7060, Barium – Method 7080, Cadmium - Method 7130, Chromium – Method 7190, Lead - Method 7380, Mercury - Method 7470, Selenium - Method 7740 and Silver - Method 7760A, all from Test Methods for Evaluating Solid Waste, USEPA Document SW 846.

Test Results:

Parameter	Result (mg/kg)
Arsenic (As)	7.30
Barium (Ba)	215
Cadmium (Cd)	< 1.90
Chromium (Cr)	109
Lead (Pb)	435
Mercury (Hg)	0.103
Selenium (Se)	0.502
Silver (Ag)	< 1.52

Quality Control Data:

Sample ID	Parameter	Spike recovery (%)
EB-1-5	Arsenic	107
EB-1-5	Barium	93
EB-1-5	Cadmium	89
EB-1-5	Chromium	108
EB-1-5	Lead	108
EB-1-5	Mercury	98
EB-1-5	Selenium	104
EB-1-5	Silver	98

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

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Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-7-5 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 12: 03 pm on October 12, 2016.

Test Methods: Arsenic – Method 7060, Barium – Method 7080, Cadmium - Method 7130, Chromium – Method 7190, Lead - Method 7380, Mercury - Method 7470, Selenium - Method 7740 and Silver - Method 7760A, all from Test Methods for Evaluating Solid Waste, USEPA Document SW 846.

Test Results:

Parameter	Result (mg/kg)
Arsenic (As)	6.20
Barium (Ba)	58.6
Cadmium (Cd)	< 1.79
Chromium (Cr)	7.74
Lead (Pb)	5,580
Mercury (Hg)	< 0.0742
Selenium (Se)	0.448
Silver (Ag)	< 1.47

Quality Control Data:

Sample ID	Parameter	Spike recovery (%)
EB-1-5	Arsenic	107
EB-1-5	Barium	93
EB-1-5	Cadmium	89
EB-1-5	Chromium	108
EB-1-5	Lead	108
EB-1-5	Mercury	98
EB-1-5	Selenium	104
EB-1-5	Silver	98

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

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CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-1-5 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 9:59 am on October 12, 2016.

Test Methods Sonication Extraction, Method 3550, Organochlorine Pesticides and PCB's, Method 8082A, all from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Test Results:

PCBs

Compound	Results (ppm)	Detection Limit (ppm)
PCB-1016	< 1.0	1.0
PCB-1221	< 1.0	1.0
PCB-1232	< 1.0	1.0
PCB-1242	< 1.0	1.0
PCB-1248	< 1.0	1.0
PCB-1254	< 1.0	1.0
PCB-1260	< 1.0	1.0

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

JT/gm

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Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-2-4 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 10:26 am on October 12, 2016.

Test Methods Sonication Extraction, Method 3550, Organochlorine Pesticides and PCB's, Method 8082A, all from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Test Results:

PCBs

Compound	Results (ppm)	Detection Limit (ppm)
PCB-1016	< 1.0	1.0
PCB-1221	< 1.0	1.0
PCB-1232	< 1.0	1.0
PCB-1242	< 1.0	1.0
PCB-1248	< 1.0	1.0
PCB-1254	< 1.0	1.0
PCB-1260	< 1.0	1.0

Respectfully submitted,

Johnny Tjioe, Chemist

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CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-3-5 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 10:46 am on October 12, 2016.

Test Methods Sonication Extraction, Method 3550, Organochlorine Pesticides and PCB's, Method 8082A, all from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Test Results:

PCBs

Compound	Results (ppm)	Detection Limit (ppm)
PCB-1016	< 1.0	1.0
PCB-1221	< 1.0	1.0
PCB-1232	< 1.0	1.0
PCB-1242	< 1.0	1.0
PCB-1248	< 1.0	1.0
PCB-1254	< 1.0	1.0
PCB-1260	< 1.0	1.0

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

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Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-4-3 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 11:04 am on October 12, 2016.

Test Methods Sonication Extraction, Method 3550, Organochlorine Pesticides and PCB's, Method 8082A, all from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Test Results:

PCBs

Compound	Results (ppm)	Detection Limit (ppm)
PCB-1016	< 1.0	1.0
PCB-1221	< 1.0	1.0
PCB-1232	< 1.0	1.0
PCB-1242	< 1.0	1.0
PCB-1248	< 1.0	1.0
PCB-1254	< 1.0	1.0
PCB-1260	< 1.0	1.0

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

JT/gm

CTL Engineering, Inc.
2860 Fisher Road, P.O. Box 44548, Columbus, Ohio 43204
Phone: 614/276-8123 Fax: 614/276-6377
Email: jtjioe@ctleng.com

AN EMPLOYEE OWNED COMPANY

Consulting Engineers – Testing – Inspection Services – Analytical Laboratories

Established 1927

Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-5-5 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 11:22 am on October 12, 2016.

Test Methods Sonication Extraction, Method 3550, Organochlorine Pesticides and PCB's, Method 8082A, all from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Test Results:

PCBs

Compound	Results (ppm)	Detection Limit (ppm)
PCB-1016	< 1.0	1.0
PCB-1221	< 1.0	1.0
PCB-1232	< 1.0	1.0
PCB-1242	< 1.0	1.0
PCB-1248	< 1.0	1.0
PCB-1254	< 1.0	1.0
PCB-1260	< 1.0	1.0

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

JT/gm

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Email: jtjioe@ctleng.com

Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-6-4 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 11:43 am on October 12, 2016.

Test Methods Sonication Extraction, Method 3550, Organochlorine Pesticides and PCB's, Method 8082A, all from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Test Results:

PCBs

Compound	Results (ppm)	Detection Limit (ppm)
PCB-1016	< 1.0	1.0
PCB-1221	< 1.0	1.0
PCB-1232	< 1.0	1.0
PCB-1242	< 1.0	1.0
PCB-1248	< 1.0	1.0
PCB-1254	< 1.0	1.0
PCB-1260	< 1.0	1.0

Respectfully submitted,

Johnny Tjioe, Chemist

JT/gm

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Phone: 614/276-8123 Fax: 614/276-6377
Email: jtjioe@ctleng.com

AN EMPLOYEE OWNED COMPANY

Consulting Engineers – Testing – Inspection Services – Analytical Laboratories

Established 1927

Report on Sample of Soil

CTL Project No.: 16510222COL October 24, 2016

Client: Gannett Fleming Engineers & Architect PC
4151 Executive Parkway, Suite 350
Westerville, Ohio 43081 – Attn: Robert W. Parker

Client Proj. No.: GF Project No. 055350

Identification: EB-7-5 soil sample collected by a CTL Engineering representative from 359 Harris Street, Akron, Ohio at 12:03 pm on October 12, 2016.

Test Methods Sonication Extraction, Method 3550, Organochlorine Pesticides and PCB's, Method 8082A, all from Test Methods for Evaluating Solid Waste, USEPA Document SW 846, revised February 2007.

Test Results:

PCBs

Compound	Results (ppm)	Detection Limit (ppm)
PCB-1016	< 1.0	1.0
PCB-1221	< 1.0	1.0
PCB-1232	< 1.0	1.0
PCB-1242	< 1.0	1.0
PCB-1248	< 1.0	1.0
PCB-1254	< 1.0	1.0
PCB-1260	< 1.0	1.0

Respectfully submitted,

Johnny Tjioe

Johnny Tjioe, Chemist

JT/gm

APPENDIX F

Statements of Qualifications

MATTHEW W. MCCLELLAND

Environmental Scientist

Expertise

Mr. McClelland has been with CTL Engineering since March of 2012 and has over 10 years of experience in environmental consulting. Mr. McClelland has expertise in the following areas: Phase I & II Environmental Site Assessments (ESAs); soil/groundwater remediation; UST closures and corrective actions, asbestos surveys/abatement oversight; mold surveys/abatement oversight; lead-based paint surveys; indoor air quality surveys; radon testing; and wetland assessments/permitting.

Education

B.S. in Environmental Health, 2005
Bowling Green State University; Bowling Green, OH

Professional Registrations/Certifications

State of Ohio Certified Asbestos Hazard Evaluation Specialist #ES34598
State of Ohio Certified Asbestos Hazard Abatement Specialist #AS29319
State of Ohio Certified Lead Risk Assessor #LA-007913
State of Ohio Certified Radon Tester #RT684
State of West Virginia Certified Asbestos Inspector #AI007183
OSHA 40-Hour Hazardous Waste Operations Training (29 CFR 1910.120)

Experience

A partial listing of Mr. McClelland's relevant project experience includes:

Verizon Wireless: Various Sites throughout Ohio
Conducted numerous Phase I ESAs and Limited Phase II ESAs at proposed or co-location cellular communication tower sites throughout Ohio. Mr. McClelland also developed and implemented oversight of Soil/Groundwater Management Plans, which are used during tower construction activities at locations where on-site soils/groundwater have been adversely impacted by historic uses of the property.

Buckeye Community Hope: Locations throughout Ohio, West Virginia and Georgia
Conducted multiple Phase I ESAs, asbestos surveys, lead-based paint surveys, and radon testing for apartment complexes throughout the states of Ohio, West Virginia and Georgia prior to renovation.

Zaremba Construction, Inc.: Cleveland & Cuyahoga Falls, Ohio
Conducted multiple Phase I ESAs and Limited Phase II ESAs at the Cleveland Avenue District and Manchester Square developments. Sites have been re-developed for up-scale residential housing and commercial use.

Ohio Department of Transportation: Various Sites in Ohio
Conducted multiple Ohio Department of Transportation (ODOT) Limited Phase II ESAs in adherence to ODOT's Environmental Site Assessment Guidelines.

Hukill Chemical Corporation: Bedford, Ohio
Conducted a Phase I ESA and limited asbestos survey at an 8.5-acre hazardous waste recycling, treatment, disposal and transporting facility, which contained over 1,000 ASTs, drums and plastic tote containers of various acids, solvents, blended waste fuels and hazardous wastes; three waste treatment systems including acid neutralizing, air stripping and fractionation distilling systems; and was identified in 17 environmental database listings with over 140 environmental violations.

Celmark: Columbus, Ohio
Conducted a Limited Phase II ESA at a former dry cleaning facility for redevelopment of the property as mixed use (residential/commercial). Mr. McClelland also conducted a subsequent Delineation Phase II ESA as well as remedial excavation oversight of approximately 1,100 tons of soil due to contamination by tetrachloroethylene (PERC) and its degradation products.

Granville Township Trustees: Granville, Ohio
Conducted a Limited Phase II ESA at a former trap shooting range for potential reutilization of the property as a city park. Further delineation is planned at a future date for a portion of the property due to lead concentrations detected in shallow soil samples above site-specific background levels.

Perez Service Station: West Portsmouth, Ohio
Conducted a Tier I Investigation at a former gasoline filling station in response to a Bureau of Underground Storage Tank Regulations (BUSTR) letter indicating the previously conducted Tier I (performed by a previous consulting company) was not completed to appropriate BUSTR guidelines.

Gilbert Law Offices – Phoenix Recycling: Columbus, Ohio
Conducted waste characterization sampling of paper/plastic products due to a 4-alarm fire at the Phoenix Recycling facility. Mr. McClelland also performed pre-demolition asbestos surveys of eight fire-damaged buildings, and sampling of approximately 40 drums containing various chemicals/wastes utilized at the facility. Extensive communication with the EPA, client, site operator, and laboratories was necessary for successful completion of the project within stringent governmental requirements and deadlines.

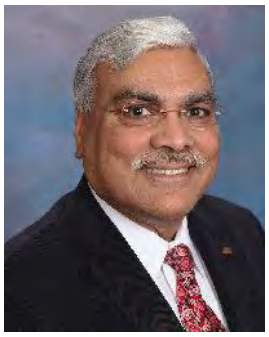
Battelle: Columbus, OH
Conducted asbestos surveys for several office and research buildings throughout the Battelle campus that were planned for demolition or renovation.

Verizon Wireless: Bowling Green State University, Akron University & Ohio State University
Conducted asbestos and lead-based paint surveys within several on-campus buildings where Verizon was planning improvements to their in-building wireless communications systems. Mr. McClelland has performed well over 100 similar surveys for in-building systems, including the OSU and Paul Brown Stadiums, Cleveland Clinic and OSU medical facilities, and numerous corporate office complexes.

Dayton Senior Care – Friendship Village: Englewood, Ohio
Conducted asbestos surveys, oversight and air monitoring for asbestos abatement work, and performed visual clearance for the 3-story assisted living community prior to renovation.

Wright State University: Dayton, Ohio
Conducted oversight and air monitoring services for asbestos abatement work, and performed visual clearance for Brehm Laboratory at Wright State University prior to renovation.

BIPENDER S. JINDAL, P.E., C.P. ***Director, Environmental Services***



Expertise

Mr. Bipender Jindal, P.E., CP is Assistant Vice President and the Director of Environmental Services for CTL Engineering, Inc., with over 29 years of experience in Hazardous Waste Management, Underground Storage Tank (UST) Services, and other aspects of environmental services. In addition to responsibilities to oversee the assigned projects to their successful completion, Mr. Jindal has been involved in the preparation of sampling and analysis plans for numerous Phase II site investigations, PCB-contaminated soil remediation sites, underground storage tank removals, and hazardous waste sites. Mr. Jindal has written several UST Closure Assessments, Remedial Action Plans for petroleum-contaminated sites, RCRA Closure Plans for hazardous waste generators, Phase I and II Environmental Site Assessments for commercial properties, hazardous waste characterization and management reports, and Environmental Compliance Audits; Permitting, designing, sampling, and monitoring of a land-farm and bio-piles to successfully treat petroleum-contaminated soils; Performed soil and groundwater sampling at various petroleum- and hazardous waste-contaminated sites to evaluate contaminant migration; Gained experience in project management, sampling, and monitoring sites for hazardous and toxic substances using field-screening instruments and assuring workers' safety; Prepared and implemented sampling, analyses, and remediation plans for contaminated sites, due to the release of PCBs from electrical transformers, and saved over $20,000 due to cost-effective approach.

Prior to joining CTL Engineering, Mr. Jindal worked for the Ohio Hazardous Waste Facility Board as an Environmental Manager (for over five years), where he supervised a technical staff and reviewed all technical aspects of various hazardous waste treatment, storage, and disposal (TSDFs) facilities permit applications.

Education

B.ChE. / 1986 / Chemical Engineering, The Ohio State University
B.Sc. / 1976 / Biological Sciences, Meerut University, U.P., India

Professional Registrations/Certifications/Training

Registered Professional Engineer, Ohio #54980 (1991 – Current)
Ohio VAP Certified Professional #328 (2010 – Current)
Asbestos Hazard Abatement Project Designer #PD60699 (2007 – Current - Renewal in Process)
40-Hour OSHA Health and Safety (29 CFR 1910.120) (1992 – Current)
Certified Hazardous Materials Manager, CHMM #07252 (Lapsed)

Continuing Education / Training:

Asbestos Hazard Abatement Project Designer Refresher (2012)
Certified Professional – Various OEPA sponsored courses (2010 to present)
Stormwater, The Ohio LTAP Center/2001
Managing the Three Rs of Corrective Action, Petroleum UST Board, and BUSTR / 2001
Nationwide Permits Complete Certification, Wetland Training Institute, Inc. – April 10-11, 2002
Categorical Exclusion Certification, Ohio Department of Transportation – May 21, 2002
Section 4(f) Certification, Ohio Department of Transportation – December 9, 2002
ODOT Category Exclusion Training / 2000

Experience
A partial listing of Mr. Jindal's relevant project experience includes:

Brownfields

Kingsdale Shopping Center – City of Upper Arlington
VAP compliant Phase I ESA, Phase II ESA, Asbestos Abatement Design and Monitoring. Prepared No Further Action Letter and received a Covenant Not to Sue from the Ohio EPA.

Asbestos

JSDI Celmark, Horseshoe On High, Phase I Environmental Site Assessment and Asbestos Survey, Columbus, Ohio

EMH&T, Bowstring Bridge PID89468 ESA Screening/Asbestos Survey, Lisbon, Ohio

CESO, Inc., Wal-Mart Remediation Oversight and Peer Review, Columbus, OH

EMH&T, Ecological Survey Report, Phase I Environmental Site Assessment, & Asbestos Survey of BEL CR10-20.22, Belmont County, Ohio

Davis Wince Architects, Ltd; Columbus, OH; 2006-2008
Conducted hazardous material survey for the former 6-story, Ohio Department of Job and Family Services Building. Assisted in preparing hazardous material abatement bid specifications, conducted bid review, and assisted in abatement project oversight.

Davis Wince Architects, Ltd; Columbus, OH; 2007
Conducted site visit for developing the hazardous material survey plan for the OSU Jones Graduate Tower Renovations project. Managed the survey and provided quality control and peer review of the survey report. Prepared hazardous material abatement bid specifications and coordinated bid review.

Braun & Steidl Architects, Inc., Columbus, OH 2007-2008
Managed the hazardous material survey for the abandoned City of Columbus water treatment laboratory facility. Developed bid specifications for asbestos abatement, and solicited bids for the removal and disposal of abandoned laboratory chemicals.

Harris Design, Columbus, OH; 2008
Conducted site visit for developing the hazardous material survey plan for the former City of Columbus Police Building renovation project. Managed the survey and provided quality control and peer review of the hazardous material survey report.

City of Grove City; Grove City, OH; 2006-2007
Conducted site visit and developed the sampling plan, managed indoor air quality analysis for indoor firing range that included personal and area samples for airborne lead concentrations, as well as surface wipe sampling for lead dust. Later, developed specifications and monitored the lead abatement project.

135 S 21st Street LLC; Newark, Ohio 2008
Developed sampling plan, reviewed established methodology and provided project oversight for indoor air quality analysis/vapor intrusion screening for a former dry cleaning facility.

Franklin County Commissioners; Columbus, OH; 2006
Visited site for initial evaluation and provided quality control and project oversight for asbestos and lead-based paint survey on sixteen (16) buildings that comprised the former Franklin County Children's Services complex scheduled for demolition.

The Huntington National Bank; Lima, OH; 2006 - present
Developed sampling plan and provided technical project oversight for asbestos survey and indoor air quality analysis in Huntington Bank building, including sampling of indoor air for asbestos and mold concentrations.

CORE Properties, LLC; Columbus, OH; 2006-present
Project oversight and quality control for asbestos surveys on multiple hotel properties scheduled for demolition and redevelopment.

Fairfax Properties, LLC; Columbus, OH; 2006-2007
Project planning, quality control, and oversight for the asbestos surveys, Phase I and Phase II Environmental Site Assessments on multiple properties scheduled for demolition and subsequent commercial development.

First Community Village; Columbus, OH; 2005
Visited the site for initial evaluation and provided project oversight for asbestos survey of 85,000 square-feet Burkhart Center building, as well as for eleven additional apartment buildings scheduled for demolition.

Celmark Development; Columbus, OH; 2005
Visited the site to develop sampling plan and provided quality control and project oversight for the asbestos survey on 40,000 square-feet church and school building scheduled for demolition.

New Par dba Verizon Wireless; Locations throughout Ohio, Kentucky, West Virginia
Managed numerous Phase I site assessments and asbestos and lead-based paint surveys.

Nourse Family Dealerships, Columbus, Ohio
Project manager responsible for managing the Asbestos Surveying, Monitoring and Abatement.

Harley Hotels, Columbus, Ohio
Project Manager responsible for asbestos surveying at this site. Based on a review of previous analytical data from other consultant, recommended limited re-surveying and analysis using transmission electron microscopy which resulted in a substantial saving to the client, nearly $100,000.

Private Facilities

Superior Tube Company, Ohio (No longer in business)
Project Manager responsible for developing the sampling and analysis plan, overseeing the Closure of RCRA permitted facilities. Planned and certified RCRA Closure for metal treating hazardous waste storage areas.

Ohio Precious Metals, Jackson, Ohio
Prepared RCRA Closure Plan for heavy metal contaminated area, developed health and safety plan, implemented clean up in accordance with the Ohio EPA's rules and regulations.

Ohio School for the Deaf, Columbus, Ohio
Prepared sampling plan, conducted sampling for PCB contaminated concrete and soils using the US EPA Hexagonal Grid System. Provided oversight for contaminated soil removal.

Techneglas, Inc. Columbus, Ohio
An out of service transformer leaked during its removal and contaminated soil. Several hundred square feet of soils were affected. Rain and snow events spread the oil even more. Managed emergency response to clean free product, developed and marked sampling locations, based on the US EPA's Hexagonal Grid System, managed the remedial actions and prepared the final report for the Ohio EPA's review and approval.

Ameritech Company, Warehouse Facility, Solon, Ohio
Project manager responsible for in-situ bioremediation for a gasoline contaminated fuel service station. The project is still going on and is subject to Risk-based Closure by the end of the year 2002.

Public Employee Retirement System Building (PERS), Columbus, Ohio
Project manager responsible for Phase I, Phase II, UST Closure Assessment, Asbestos Surveying at this site.

Warehouse Distribution Facilities/Retail Outlets

Eddie Bauer Distribution Center, Columbus, Ohio
Project Manager responsible for the Environmental Services performed at this site.

Kroger, Chillicothe, Marion, Washington Courthouse, Ohio Sites
Project Manager responsible for Phase I & II ESAs, drum sampling, analysis, and disposal..

Rite-Aid Stores, Dayton, Lima, Springdale, Ohio Sites
Project Manager responsible for Phase I & II Environmental Site Assessments.

Airport Facilities
Port Columbus Airport Authority, Columbus, Ohio
Project manager responsible for Phase I, Phase II and UST Closure Assessment for various locations for the Authority.

Delaware Municipal Airport, Delaware, Ohio
Project manager responsible for the remediation of petroleum-contaminated soils at this site.

Roadway Projects

Preferred Alternative Corridor, Nelsonville-by-Pass, Hocking County, Ohio, Three corridors for the proposed Nelsonville-by-Pass.
Project Manager responsible for the Feasibility Stage I and II Environmental Studies relating to the environmental issues for the Ohio Department of Transportation, through Gannett Fleming Corddry and Carpenter.

McNaughten Road Improvements from Broad Street to E. Livingston Avenue, Franklin County, Columbus, Ohio
Project Manager for Phase I ESA, Preliminary Wetland Determination, and possible Phase II ESA for this project through Wilbur Smith and Associates, Inc. on behalf of the City of Columbus. The Stage I study has been completed. Limited Phase II ESA was recommended at a few locations suspect of having underground storage tanks. This work has not yet been authorized by the City of Columbus.

Sinclair Road Improvements from North Freeway to Dublin Granville Road, Franklin County, Columbus, Ohio
Project Manager for Phase I ESA, Preliminary Wetland Determination, and Asbestos Survey and Evaluation for this project through Wilbur Smith and Associates, Inc. No Phase II ESA has yet been authorized by the City of Columbus.

Educational Facilities

City of Columbus Public Schools
Project manager responsible for cost estimation and management of permanent removal and closure of various underground storage tank sites. Managed soil remediation and confirmatory sampling at some sites.

Delaware City Schools, Ohio
Project manager responsible for the removal of Underground Storage Tanks (UST's) and soils remediation. Conducted Phase I ESAs for new school sites.

Eastern Local Schools, Reedsville, Ohio
Project manager for developing the site assessment plans to delineate the horizontal and vertical extent of contaminant migration at two school sites.

Jackson City Schools, Jackson, Ohio
Project manager responsible for the oversight of Phase I Environmental Site Assessments and Wetlands Delineations.

Southwestern City Schools, Columbus, Ohio
Project manager for Phase I & II Environmental Site Assessments and the oversight of Wetlands Delineation at various school sites.