

# Site Investigation Status Report BRRTS #02-13-552179

Smoke-Out Cleaners 535 Half Mile Road Verona, Wisconsin

### **Prepared For:**

Wisconsin Department of Natural Resources Milwaukee, Wisconsin

October 13, 2023 Project No. 1E-1105024







# GILES ENGINEERING PSSOCIATES, INC.

GEOTECHNICAL, ENVIRONMENTAL & CONSTRUCTION MATERIALS CONSULTANTS

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October 13, 2023

Wisconsin Department of Natural Resources 1027 W. St. Paul Avenue Milwaukee, WI 53233

Attention: Mr. Trevor Bannister

Hydrogeologist

Subject: Site Investigation Status Update Report

Smoke Out Cleaners 535 Half Mile Road Verona, Wisconsin BRRTS #02-13-552179 Project ID: 1E-1105024

Dear Mr. Bannister:

The following Site Status Update Report was prepared at the request of Mr. Mark Woppert, for the properties located south of Half Mile Road between S. Nine Mound Road and W Verona Avenue in Verona, Wisconsin. The Site Status Update summarizes the findings of the historical investigations conducted at 535 Half Mile Road and the investigative activities performed by Giles Engineering Associates, Inc. to date. Please contact the undersigned if you have any questions regarding the information contained herein.

Very truly yours,

GILES ENGINEERING ASSOCIATES, INC.

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Distribution: Wisconsin Department of Natural Resources (1 pdf: RR Program Submittal Portal)

Attn: Mr. Trevor Bannister (1 copy uploaded)

#### **EXECUTIVE SUMMARY**

On behalf of Mr. Mark Woppert, Giles Engineering Associates, Inc. (Giles) submits this site investigation status report to the Wisconsin Department of Natural Resources (WDNR) for the property ("Site") is located south of Half Mile Road between S. Nine Mound Road and W. Verona Avenue in the City of Verona, Dane County, Wisconsin. The site investigation activities completed to date included the completion of soil borings, monitoring wells, and sub-slab vapor probes, with soil, groundwater, and sub-slab vapor sampling to define the degree and extent of impacts related to historical uses.

The Site currently consists of a single parcel currently owned by Krantz Properties LLC and Patch Real Estate LLC. The parcel tax number is 286/0608-211-1032-7. The Site is listed in the WDNR Bureau of Remediation and Redevelopment Tracking System (BRRTS) website as an open Environmental Repair Program (ERP) activity which was opened in 2008. Residual contamination due to the sites former use as a dry cleaner was discovered during a Preliminary Site Assessment consisting of three soil borings conducted on the interior and exterior of the building.

The Site is covered in one foot of asphalt and base course or landscaped topsoil. Underlying soils consist of native silty or sandy clay with trace sand and/or gravel to a depth of 5-12 feet bgs. Silty/sandy clay is underlain by clayey silt or silty sand with some interbedded sandy clay and gravel layers to the maximum depth drilled.

Based on observations by Giles during site investigation activities, the saturated conditions were generally observed within soil borings at approximately 24 to 44 feet at the Site. The depth of groundwater varied between 22 feet and 36 feet below ground surface (bgs) in permanent monitoring wells. The direction of groundwater flow appears to be to the northwest on the southern portion of the site, and to the southwest on the northern portion of the site.

Soil samples were analyzed for volatile organic compounds (VOCs). Review of the analytical data indicates the shallow soil is impacted with VOCs, generally in the locations below the building slab in the location of the current dry-cleaning facility. Several VOCs including cis-1,2-dichloroethene, tetrachloroethene (PCE), and trichloroethene (TCE) were detected at concentrations greater than their Ch. NR 720 RCLs for groundwater protection.

Groundwater grab samples were collected from 7 groundwater monitoring wells and one piezometer. The oldest monitoring wells installed on the site have been sampled during a total of twelve sampling events. Sampling events are now performed quarterly. Several VOCs were detected in the sampled monitoring wells. Cis-1,2-Dichloroethene, PCE, and/or TCE exceeded their respective Ch. NR 140 PAL or ES in all monitoring wells except for MW-4 in at least one sampling event. Naphthalene was also detected in MW-1 exceeding its NR 140 PAL. Concentrations of contaminants decreased in their respective monitoring wells during the most recent sampling event and show an overall negative trend in MW-1, PZ-1, MW-3, and MW-7. Concentrations are stable at MW-2, MW-4 (no exceedances), and MW-5.

Multiple VOCs including trans-1,2-Dichloroethene, cis-1,2-Dichloroethene, 1,2-Dichloroethene



(total), PCE, TCE, and Vinyl chloride were detected in each of the sub-slab vapor samples collected. A total of twenty-six (26) sub-slab vapor samples were collected from fifteen (15) sampling locations over multiple sampling events. PCE was detected in SS-1, SS-2, SS-3, SS-12, SS-13, SS-14, and SS-15 at concentrations greater than its Wisconsin Vapor Risk Screening Level (VRSL) for a Residential, Small Commercial, and/or Large Commercial/Industrial property. TCE was also detected in SS-13, SS-14 and SS-15 exceeding its VRSL for a Small Commercial or Large Commercial/Industrial property. Additional detections did not exceed their respective VRSLs established by the WDNR.

Giles recommends the completion of site investigation activities and the continued implementation and monitoring of remedial actions at the Site. Additional site investigation activities and remedial actions include the following:

- Soil impacts consist of exceedances of the Ch. NR 720 protection of groundwater RCLs by the VOCs cis-1,2-Dichloroethene. Based on detected contamination, direct contact is not a concern and additional soil investigation is not warranted.
- Shallow groundwater has been impacted at concentrations greater than Ch. NR 140 ESs.
  Piezometer groundwater samples were identified to be impacted at concentrations
  greater than the Ch. NR 140 PAL for PCE. Overall, groundwater concentrations have
  been stable or decreasing, except for MW-6. Continued monitoring is recommended.
- Sub-slab vapor sampling indicates the presence of TCE and PCE at concentrations exceeding large commercial VRSLs. The continued monitoring sub-slab vapor is recommended after system upgrades to the vapor mitigation system.
- Recent sub-slab vapor sampling indicates that the current vapor mitigation system is not sufficient to mitigate sub-slab contamination. The system will be upgraded to improve its effect on the sub-slab environment. Details of system upgrades will be submitted in a separate submittal, and pressure field extension testing will be performed after its installation.



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Appendix B	Monitoring Well Construction Logs and Development Forms
Appendix C	Soil Laboratory Reports and Chain of Custody Documentation
Appendix D	Groundwater Laboratory Reports & Chain of Custody Documentation
Appendix E	Sub-Slab Vapor Laboratory Reports & Chain of Custody Documentation



#### 1 INTRODUCTION

On behalf of Mr. Mark Woppert, Giles Engineering Associates, Inc. (Giles) is submitting this site investigation status report to the Wisconsin Department of Natural Resources (WDNR) for the property ("Site") is located south of Half Mile Road between S. Nine Mound Road and W. Verona Avenue in the City of Verona, Dane County, Wisconsin. The site investigation activities completed to date included the completion of soil borings, monitoring wells, and sub-slab vapor probes, with soil, groundwater, and sub-slab vapor sampling to define the degree and extent of impacts related to historical uses.

Giles has prepared this report to review and summarize the subsurface conditions encountered during the completion of these site investigation activities. Giles's site investigation activities were completed in general accordance with Wisconsin laws and regulations at the time work was performed; specifically, Wisconsin Administrative Code (WAC) Chapters NR 700 through NR 726, NR 140, and NR 141.

#### 2 BACKGROUND INFORMATION AND HISTORICAL USE

#### 2.1 Site Information

The following parties and contractors are associated with the project and/or provided services during site investigation activities:

Current Owner / Responsible Party: Smoke-Out Cleaners

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Verona, Wisconsin 53593 Attn: Mr. Mark Woppert

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#### 2.2 Project Area Information

The Site is situated in a commercial area in the City of Verona. The Site is described as being in the northeast ¼ of the northeast ¼ of Section 21, Township 6 North, Range 8 East. The location of the site is shown in Figure 1. The approximate geographic coordinates (in the Wisconsin Transverse Mercator '91 system) of the property boundary corners are as follows:

Northeast corner: 557041, 279504
Southeast corner: 557043, 279423
Southwest corner: 556947, 279421
Northwest corner: 556930, 279465

The coordinates were determined using the WDNR Interactive Geographic Information System (GIS)<sup>1</sup> at a scale of 1:1,980.

The Site is bounded commercial properties (636 through 700 S. Nine Mound Road, 517 through 655 Half Mile Road) to the north, south, and west; and Hayes Transport (514 S. Nine Mound Road) and Holiday Inn Express & Suites Madison-Verona (515 W. Verona Avenue) to the east.

#### 2.3 Site Description

The Site currently consists of a single parcel currently owned by Krantz Properties LLC and Patch Real Estate LLC. The parcel tax number is 286/0608-211-1032-7. The approximately 2.029-acre Site is located in the west-central portion of the City of Verona. The majority of the property consists of a multi-tenant commercial development with two primary structures. The Site is located in the east building, with several additional tenants. The west building on Site contains one tenant. The remainder of the site is occupied by asphalt parking and landscaped areas. A Detailed Site Map is provided as Figure 2.

#### 2.3.1 Zoning

The parcel is zoned as UI Urban Industrial District.

#### 2.3.2 Topography and Drainage

The USGS Verona, Wisconsin, 7.5-Minute Series (topographic) Quadrangle Map (2022) was reviewed and is included as Figure 1. The Site generally slopes to the east, however the surrounding area sloped southwest, towards an unnamed creek and wetlands to the southwest of the Site. The property undulates with an overall surface elevation difference of approximately 5 feet. Surface elevation ranges from approximately 973 feet mean sea level (MSL) on the northern portion of the Site, to approximately 978 feet MSL on the southwestern portion.

<sup>&</sup>lt;sup>1</sup> Wisconsin Department of Natural Resources Interactive Geographic Information System http://dnrmaps.wi.gov/H5/?viewer= rrsites



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#### 2.3.3 Utility Review

Information regarding utilities is based on field markings provided by Diggers Hotline representatives and observations by Giles personnel. Underground utilities run from Half Mile Road to the north of the site, to the respective buildings constructed on the Site. Water, gas, telecommunications, and sanitary sewer utilities are installed beneath the access drive connecting Half Mile Road to the Site. An additional gas line as well as the storm sewer are located to the east of the access road and enter the Site from the north. Underground electrical lines connect two transformers in the southwest and southeast corners of the Site to each other as well as the two Site buildings.

#### 2.3.4 Potential Receptors

Review of the current site conditions identifies the following potential receptors: on-site buildings, utility corridors, surface bodies of water/wetlands, drinking water wells and monitoring wells.

There are two structures currently developed on the Site. The west building, which includes the Site, has been the target of a sub-slab vapor investigation due to its history as a dry cleaner. The locations of sub-slab impacts have not been delineated; additional vapor points are planned to be installed to better define the extent of contamination. Based on pressure field extension testing and sub-slab vapor sampling, the vapor mitigation system currently installed does not appear to adequately depressurize the sub-slab environment. The system is planned to be upgraded in order to remediate the source of contamination. The east building on Site is also a potential receptor for vapors. Sub-slab sampling was conducted in the east building in 2014 and 2020.

Underground utilities run from Half Mile Road to the north of the site, to the respective buildings constructed on the Site. Water, gas, telecommunications, and sanitary sewer utilities are installed beneath the access drive connecting Half Mile Road to the Site. An additional gas line as well as the storm sewer are located to the east of the access road and enter the Site from the north. Underground electrical lines connect two transformers in the southwest and southeast corners of the Site to each other as well as the two Site buildings.

The closest surface water body, as identified on the U.S.G.S. 7.5-minute series topographic map, is an unnamed creek to the southwest of the Site, as shown in Figure 1, and the wetlands surrounding the creek.

Potable well construction reports from WDNR Well Construction Information System<sup>2</sup> were reviewed in August 2023. Records indicate that 68 potable wells were identified within 1,200 feet of the Site, abandoned well records were searched on the WDNR website. Each of the wells identified on nearby sites are 150-300 feet in depth and completed into either a gravel layer or bedrock. Based on the depth of these wells and limited impacts on the Site, it is unlikely that the Site has impacted these offsite wells.

<sup>&</sup>lt;sup>2</sup> Wisconsin Department of Natural Resources Well Construction Information System https://dnr.wi.gov/WellConstructionSearch/#!/PublicSearch/Index



#### 2.4 Site Geology and Hydrogeology

Soil types in the area belong to the St. Charles silt loam, which is described as well drained soils with a subsoil of silty clay loam and sandy loam, or the McHenry silt loam, which is described as well drained soils with a subsoil of fine sandy loam. The fill and reworked soils are underlain by clayey silt / silty clay with pebbles, inferred to be glacial till of the Holy Hill Formation.<sup>3</sup> The unconsolidated section beneath the Site ranges from 100 to 150 feet in thickness in Dane County and is underlain by the quartz sandstone, dolomitic sandstone, silty dolomite, and sandy dolomite of Trempealeau Group.<sup>4</sup>

Based on observation by Giles during site investigation activities, the saturated conditions were generally observed within soil borings at approximately 24-44 feet at the Site. The depth to groundwater varied between 22 feet below ground surface (bgs) and 36 feet bgs in permanent, Ch. NR 141-compliant monitoring wells. The direction of groundwater flow appears to be to the northwest on the southern portion of the site, and to the southwest on the northern portion of the site. The direction of deep groundwater is presumed to flow west towards the Mississippi River. According to published conductivity values<sup>5</sup> for soil types consistent with those found on the Site (Fine to Coarse Sand/Silty Sand) range from 10E-5 to 10E-3 centimeters per second (cm/sec), or approximately 0.283 to 28.339 feet per day (ft/day). The intrinsic permeability ranges from 10E-2 to 1 cm/sec, or approximately 283.46 to 2834.65 ft/day.

#### 3 SCOPE OF WORK / INVESTIGATION ACTIVITIES

The Site has been listed in the WDNR Bureau of Remediation and Redevelopment Tracking System (BRRTS) website as an open Environmental Repair Program (ERP) activity (BRRTS #02-13-552179) since 2008. The Site is identified with contaminated soil and groundwater due to chlorinated volatile organic compounds (CVOCs), including tetrachloroethene (PCE), at concentrations exceeding their respective Ch. NR 720 Residual Contaminant Levels (RCLs) for direct contact and/or groundwater protection. The Site is also enrolled in the Dry Cleaner Environmental Response Fund (DERF) program.

#### 3.1 Purpose of Work

The purpose of additional subsurface investigation activities was to: 1) adequately identify and define the degree and extent of impacts to soil, groundwater, and soil vapor related to the historical uses of the site; 2) generate sufficient data to evaluate potential risks to human health and the surrounding environment; and 3) provide recommendations for strategies to address identified risks as part of proposed site development activities.

<sup>&</sup>lt;sup>5</sup> Fetter, C.W., *Applied Hydrogeology*, 1988



<sup>&</sup>lt;sup>3</sup> Syverson, K.M., Clayton, L., Attig, J.M. and Mickelson, D.M., 2011, *Lexicon of Pleistocene Units of Wisconsin*. Wisconsin Geological and Natural History Survey, Technical Report 1.

<sup>&</sup>lt;sup>4</sup> Evans, T.J., 2004, *Preliminary bedrock map of Dane County, Wisconsin*, Wisconsin Geologic and Natural History Survey Open-File Report 2013-14C.

#### 3.2 Investigation Methods and Procedures

#### 3.2.1 Initial Soil Sampling - August 2008

On August 6, 2008, Giles conducted environmental sampling (Initial Scoping) on the Site parcel. Three soil borings were completed at the Site. The locations of the soil borings are shown in Figure 2. Soil borings were completed using a 1.5-inch inside diameter (ID) 5-foot long Macro-Core® soil sampler, advanced with track-mounted direct-push equipment (Geoprobe®) by Giles. Soil samples were collected in continuous 5-foot sample intervals. The extracted 5-foot soil sample was subsequently logged in 2-foot intervals. The soil descriptions were documented on the soil boring logs which are included in Appendix A. Upon completion of sampling, the borings were abandoned with bentonite chips. Abandonment forms are provided in Appendix A.

Two (2) soil samples were collected from each of the soil borings. One soil sample was collected from the interval 2 to 4feet bgs and a second soil sample was collected from the interval 12 to 14-feet in HP-1 and HP-2; or from the interval 18 to 20-feet bgs in GP-1. The sample containers were placed in an iced cooler and shipped with chain of custody documentation to a Wisconsin certified laboratory for analysis. Soil samples were analyzed for VOCs by EPA Method 8260.

#### 3.2.2 Sub-slab Vapor Investigation – November 2012

On November 7, 2012, Giles performed sub-slab vapor sampling at three (3) locations beneath the floor of the dry-cleaning facility (SS-1 through SS-3). To install vapor points, a 1-inch diameter hole was drilled to a depth of approximately 3 inches into the concrete slab, and a 0.8-inch drill guide was inserted into the hole. Using the guide, a 3/8-inch hole was drilled in the center of the 1-inch hole to 2 inches below the bottom of the concrete slab. A vacuum cleaner and damp towel were used to clean the hole. A preassembled vapor sampling point was placed into the hole and quick-drying hydraulic cement was used to seal the annular space. The cement was allowed to cure for a minimum of 30 minutes prior to collecting the vapor samples. Each sample was then collected by using tubing to connect the vapor sampling point to a 200-milliliter per minute flow regulator attached to a laboratory-provided, vacuum charged 6-liter Summa canister. Each sample was collected in the Summa canister for a period of approximately 30 minutes. The samples were shipped via FedEx under chain-of-custody to TestAmerica for analysis. The sub-slab vapor samples were submitted for laboratory analysis of VOCs using Method TO-15. Upon completion of sampling, the vapor pins were extracted and the holes in the slab were patched with concrete.

Boring logs and abandonment forms are provided in Appendix A.

### 3.2.3 Supplemental Soil Sampling, Monitoring Well Installation, and Supplemental Vapor Investigation – March through September 2014

On March 13, 2014, Giles performed additional soil gas sampling to further delineate the extent of potential sub-slab vapor and ambient indoor air impacts to both buildings present on the Site.



A total of nine (9) additional sub-slab vapor samples (SS-4 through SS-12) and two (2) indoor air samples were collected. The samples were shipped under chain-of-custody to TestAmerica for laboratory analysis of VOCs using Method TO-15.

Additionally, from August 26 through August 27, 2014, Giles advanced additional soil borings on the Site (MW-1 through MW-3) to delineate the extent of VOC impacts beneath the building on the Site. Soil samples were taken from the interval 32 to 34 feet bgs in MW-1, the interval 40 to 42 feet bgs in MW-2, and the interval 30 to -32 feet bgs in MW-3. Soil samples were placed in an iced cooler and shipped with chain of custody documentation to a Wisconsin certified laboratory for analysis for VOCs by EPA Method 8260.

MW-1 through MW-3 were completed as NR 141 compliant monitoring wells. Additionally, NR 141 wells MW-4 and MW-5 were blind drilled due to a mechanical problem with the Geoprobe rig. The monitoring wells were constructed using 10 feet of 2-inch inside diameter (ID), factory-cut, 0.010-inch slotted, schedule 40 PVC screen flush-threaded to a length of 2-inch ID PVC riser casing to extend the well to the ground surface. The monitoring wells were secured with an expandable well cap and completed with a 10-inch outside diameter (OD) bolted-cover traffic-rated flush-mount cover within a concrete surface seal. Giles developed the groundwater monitoring wells using a new 1.5-inch OD polyethylene bailer and submersible pump to surge and purge the well until the water from the well was relatively free of suspended solids. Each well was purged with a peristaltic pump or a polyethylene bailer for several minutes to reduce suspended solids prior to sampling. During each sampling event, one groundwater sample was collected after purging, stored on ice, and submitted to a Wisconsin certified laboratory for analysis of VOCs. Monitoring well construction and abandonment forms are included in Appendix B.

### 3.2.4 Additional Sub-slab Vapor Sampling and Monitoring Well Installation – September through October 2019

On September 18, 2019, Giles performed additional sub-slab vapor sampling to further delineate the extent of sub-slab vapor impacts below the structure on the Site. Two sub-slab vapor samples (SS-13 and SS-14) were collected from below the concrete slab. The samples were shipped under chain-of-custody to TestAmerica for laboratory analysis of VOCs using Method TO-15.

Additionally, two monitoring wells (MW-6 and MW-7) were installed by Giles on October 3, 2019. Both monitoring wells were advanced to a depth of 36 feet bgs to delineate the extent of groundwater impacts on the Site. No soil samples were collected during the installation of the monitoring wells.

#### 3.2.5 Well Replacement and Peizometer Installation – September 2022

On September 14, 2022, Giles advanced two additional soil borings on the subject site (PZ-1 and MW-3R) to delineate the vertical extent of VOC impacts on the Site and to collect a shallow soil sample north of the building in the area of MW-3. A shallow soil sample was collected from PZ-



1 from the interval 2 to 4 feet bgs and was then blind drilled to a depth of 60 feet. A soil sample was collected from MW-3R at 2-4 feet bgs and the boring was abandoned. The soil boring logs and abandonment form are provided in Appendix A and the well construction form for PZ-1 is provided in Appendix B.

#### 3.2.6 Additional Vapor Pin Installation and Sampling – July 2023

On July 5, 2023, Giles installed 4 additional vapor pins (SS-15 through SS-18) for additional pressure field extension testing in the building. Sub-slab vapor samples were collected from SS-14 and SS-15 within the dry cleaner portion of the building and SS-12, located in the Valhalla Hobby storefront portion of the building. The samples were shipped under chain-of-custody to TestAmerica for laboratory analysis of VOCs using Method TO-15.

#### 4 INVESTIGATION RESULTS

The results of the investigation activities completed at the site are presented below.

#### 4.1 Physical Conditions

#### 4.1.1 Site Geology

The Site is covered in one foot of asphalt and base course or landscaped topsoil. Underlying soils appear to consist of native silty or sandy clay with trace sand and/or gravel to a depth of 5-12 feet bgs. Silty/sandy clay is underlain by clayey silt or silty sand with some interbedded sandy clay and gravel layers to the maximum depth drilled. Boring logs and abandonment forms are provided in Appendix A.

#### 4.1.2 Site Hydrogeology

Saturated soil conditions were generally encountered between 23.6 and 44 feet in the soil borings completed on the Site. The depth of groundwater historically varied from 22.04 feet bgs in groundwater monitoring well MW-7 to 35.94 feet bgs in groundwater monitoring well MW-3. During the last 4 gauging events for MW-6, less than 2 feet of water was observed within the well. During the December 2022 sampling event, monitoring well MW-6 was dry. Currently, groundwater ranges from 30.40 to 35.31 feet bgs.

Between 2020 and 2022, groundwater elevations fell by approximately 3 to 5 feet in all wells on the Site. This drop in groundwater elevation coincides with the construction of the Epic Systems campus to the northwest of the Site. The campus has high-capacity wells installed on the property, with a withdrawal of several million gallons per year. The direction of groundwater flow has remained the same at the Site, however, the drop in groundwater levels may be resulting in interactions between groundwater flow and bedrock. This interaction is a potential cause of the higher groundwater elevations in MW-6 and MW-7.



Based on the groundwater elevations in the monitoring wells in the July 2023 sampling event the direction of groundwater flow is to the north-northwest on the southern portion of the Site, and to the south-southwest on the northern portion of the Site. This creates Site groundwater lows in the central portion of the Site. Groundwater monitoring wells MW-6 and MW-7 are consistently dry, indicating that the higher groundwater elevations at those locations are possibly due to fragmented bedrock which interrupts a regional groundwater trend to the northwest. The direction of groundwater flow is consistent with previous sampling events. Groundwater elevations are summarized in Table 1 and the direction of groundwater flow is shown on Figure 3.

#### 4.2 Analytical Results

#### 4.2.1 Soil In-Field Screening Results

Soil samples from the borings were field screened for organic vapors using a MiniRAE Lite photoionization detector (PID) equipped with a 10.6 eV lamp. The PID readings for the soil samples ranged from 0.0 to 1241 instrument units (iu). The PID instrument readings are included on the boring logs in Appendix A.

#### 4.2.2 Soil Quality Results

Soil sampling for the open ERP activity has included the submittal of 11 soil samples for VOCs. Two hand augers (HP-1 and HP-2) were advanced near the former dry-cleaning machine to collect soil samples below the building in 2008. Soil samples were collected at 4 to 6 feet and 12 to 14 feet. Laboratory analysis of soil samples indicated the presence of PCE and c-1,2-DCE in both samples at concentrations greater than their NR 720 RCLs for groundwater protection. TCE was also detected in the deep sample of HP-1 and shallow sample of HP-2 greater than its NR 720 RCL for groundwater protection. One soil boring (GP-1) was also advanced in the former dumpster area to the east of the loading dock. No VOCs were detected in the 2 to 4 foot or 18-to-20-foot samples.

Soil samples were collected at the water table interface during the installation of monitoring wells MW-1, MW-2, and MW-3. PCE was detected at concentrations greater than NR 720 RCLs for groundwater protection in the samples from MW-1 and MW-3. In 2022, a soil boring (MW-3R) was completed proximate to MW-3 and a soil sample was collected at 2 to 4 feet. No VOCs were detected in the sample. One soil sample was collected from PZ-1 at 2 to 4 feet during the piezometer installation. PCE was detected at a concentration greater than its NR 720 RCL for groundwater protection. There were no additional detections of VOCs in MW-3R or PZ-1.

Soil analytical results are included on Table 2 and soil laboratory data is provided in Appendix C. A soil contamination map is provided as Figure 4.

#### 4.2.3 Groundwater Quality Results

Groundwater samples were collected from 7 groundwater monitoring wells, and one piezometer.



Up to 12 groundwater sampling events have been conducted for the Site. Cis-1,2-DCE, PCE, and/or TCE exceeded their respective NR 140 Preventive Action Limits (PALs) or Enforcement Standards (ES) in each of the monitoring wells, except for MW-4, in at least one sampling event.

Review of the groundwater laboratory analytical results indicates that PCE has been detected in each of the 12 sampling events in groundwater samples collected from MW-1 and MW-3; and 8 groundwater sampling events from MW-7 at concentrations greater than the ES. The highest concentrations of PCE were detected in samples collected from MW-1 in 2017 at 9,300  $\mu$ g/L. PCE detection in groundwater from MW-1 during the most recent sampling event (July 2023) was reported at a concentration of 4,800  $\mu$ g/L. Concentrations of PCE in groundwater samples collected from MW-3 are approximately an order of magnitude less than MW-1, and range from 56 to 680  $\mu$ g/L, with the July 2023 concentration of 380  $\mu$ g/L. Concentrations in MW-7 decrease another order of magnitude compared to MW-1 and range from 27 to 43  $\mu$ g/L, with a July 2023 concentration of 29  $\mu$ g/L. PCE was detected in two of the sampling events for MW-6, with PAL exceedances in the remaining 5 sampling events. PCE exceeded the PAL in 7 of 12 sampling events for MW-5 and 2 of 12 sampling events in MW-2. For PZ-1, PCE was detected at 5.3  $\mu$ g/L in the first sampling event, greater than its ES, and at concentrations greater than its PAL for the 3 following sampling events.

Additionally, monitoring wells MW-1 and MW-3 were identified with concentrations of TCE in groundwater samples collected from 12 and 11 sampling events, respectively, with concentrations ranging between 7.2 and 58  $\mu$ g/L. Cis-1,2-DCE was detected in 10 sampling events from MW-1 and 11 events from of MW-3 greater than its ES, with concentrations ranging from 72 to 260  $\mu$ g/L. Additionally, naphthalene was detected in MW-1 in October 2019 at a concentration of 16  $\mu$ g/L, exceeding its NR 140 PAL. No exceedances of naphthalene were detected in the 7 groundwater sampling events from MW-1 since October 2019.

Several detections of trans-1,2-dichloroethene, ethylbenzene, toluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, n-butylbenzene, and/or styrene were detected in groundwater samples collected from MW-1, MW-2, MW-3, MW-4 and MW-7, however, these detections did not exceed their respective NR 140 PALs or ESs.

The most recent analytical data is included in Table 3. The laboratory analytical report is included as Appendix D. A groundwater isoconcentration map is provided as Figure 5.

#### 4.2.4 Sub-slab Vapor Results

Multiple VOCs including trans-1,2-dichloroethene, cis-1,2-DCE, 1,2-dichloroethene (total), PCE, TCE, and vinyl chloride were detected in each of the sub-slab vapor samples collected at the Site. A total of twenty-six (26) sub-slab vapor samples were collected from fifteen (15) sampling locations over multiple sampling events.

Historically, PCE was detected in SS-1, SS-2, SS-3, SS-12, SS-13, and SS-14 at concentrations greater than its Wisconsin Vapor Risk Screening Level (VRSL) for a residential, small commercial,



and/or large commercial/industrial setting. TCE was also detected in SS-13 and SS-14 greater than its VRSL for residential, small commercial, and large commercial/industrial settings.

Sub-slab samples SS-6 through SS-11 were collected in 2014 and 2020 from the west building on Site's occupant Karate America (SS-6 and SS-7), and offsite properties to the north Bethke Heating and Air Conditioning (SS-8 and SS-9) and Atkins Verona Bicycle Shoppe (SS-10 and SS-11). No VOCs were detected at concentrations greater than residential VRSLs in these 6 samples during either sampling event.

A vapor mitigation system was installed in August 2022. Pressure field extension testing was conducted on the sub-slab vapor pins S-12 through SS-18 quarterly between September 2022 and July 2023.

Pressure field extension testing has indicated that the current system does not provide adequate vacuum in the sub-slab environment. The most recent round of testing shows readings between -0.001 and -0.006 inches of water. The only testing point to exceed the benchmark of -0.004 inches of water was SS-15. All other points tested did not exceed the benchmark. Previous rounds of testing indicate that SS-15 consistently meets or exceeds the benchmark, with measurements between -0.004 and -0.008.

Sub-slab vapor samples were collected in July 2023 from SS-12, SS-14, and SS-15. PCE was detected in SS-14 and SS-15 greater than its VRSL for a large commercial/industrial setting and was greater than its residential VRSL in SS-12. TCE was detected greater than its small commercial VRSL in SS-14 and large commercial/industrial VRSL in SS-15. Additional detections of chlorinated VOCs did not exceed the VRSLs established by the WDNR.

The sub-slab vapor analytical results are summarized in Table 4, and the laboratory report and chain-of-custody documentation are included in Appendix E.

#### 4.2.5 Indoor Air Sampling Results

No VOCs were detected in exceedance of laboratory reporting limits in indoor air samples IA-1 and IA-2, except for PCE, which was detected in IA-2 at a concentration below the WDNR Indoor Air vapor action level (VAL) for residential, small, and large commercial/industrial properties.

The indoor air vapor analytical results are summarized in Table 4, and the laboratory report and chain-of-custody documentation are included in Appendix E.

#### 4.3 Summary and Conclusions / Conceptual Site Model

The Site appears to be covered in one foot of asphalt and base course or topsoil in landscaped areas. Underlying soils appear to consist of native silty or sandy clay with trace sand and/or gravel to a depth of 5 to 12 feet bgs. Silty/sandy clay is underlain by clayey silt or silty sand with some interbedded sandy clay and gravel layers to the maximum depth drilled. Currently,



groundwater ranges from 30.40 to 35.31 feet bgs.

Based on the groundwater elevations in the monitoring wells in the July 2023 sampling event the direction of groundwater flow is to the north-northwest on the southern portion of the Site, and to the south-southwest on the northern portion of the Site. This creates Site groundwater lows in the central portion of the Site. Groundwater monitoring wells MW-6 and MW-7 are consistently dry, indicating that the higher groundwater elevations at those locations are possibly due to fragmented bedrock which interrupts a regional groundwater trend to the northwest.

#### 4.3.1 Soil Quality

Review of the analytical data indicates that the shallow soil interval is impacted with CVOCs is located beneath the building and extends to the southwest outside of the building, and below the landscaping and parking lot (area of PZ-1). Additionally, soil impacts at the water table interface were observed in MW-1 and MW-3. Each of these concentrations was detected exceeding their NR 720 RCL for groundwater protection. Since the dry-cleaning machine has been removed from service, concentrations in the soil are expected to decrease as additional contaminants will not be added to the soil. The NR 720 exceedances will be addressed by capping or removal at case closure.

#### 4.3.2 Groundwater Quality

Based on the groundwater analytical data collected to date, a declining trend of PCE concentrations is shown for monitoring wells MW-1, PZ-1, MW-3, MW-5, and MW-7. No detections of PCE were observed in the 12 groundwater sampling events of sampling for MW-4, and in the last 4 sampling events for MW-2. A slightly increasing trend of the breakdown product TCE is observed in MW-1 and MW-3, nearest the source of the release.

It appears that natural attenuation (aka reductive dichlorination) is occurring on site. Groundwater geochemical parameters will be collected during upcoming sampling events to corroborate these results. Additionally, since the dry-cleaning operations have ceased, soil will act as a secondary contaminant source to groundwater, however, concentrations in the groundwater are expected to decrease over time.

#### 4.3.3 Vapor Assessment

A sub-slab vapor assessment was initially conducted in 2012 and indicated PCE contamination exceeding large commercial/industrial VRSLs. Additional sub-slab vapor sampling was conducted on and off-site in 2014 and 2020. No sub-slab vapor impacts were identified in the sub-slab samples collected in the west building on Site or in the two north adjoining properties.

A vapor mitigation system was installed near the former dry-cleaning machine and SS-13 in August 2022. Pressure field extension testing was conducted on the sub-slab vapor pins S-12 through SS-18 quarterly between September 2022 and July 2023. Additionally, sub-slab vapor



samples were collected in July 2023. Sub-slab vapor samples were collected in July 2023 from SS-12, SS-14, and SS-15. PCE was detected in SS-14 and SS-15 at concentrations greater than the VRSL for a large commercial/industrial structure and was greater than its residential VRSL in SS-12. TCE was detected greater than its small commercial VRSL in SS-14 and large commercial/industrial VRSL in SS-15. Additional detections of CVOCs did not exceed the VRSLs established by the WDNR. The sub-slab vapor extents of CVOCs are not fully defined below the east building.

#### 5 RECOMMENDATIONS

Giles recommends the completion of site investigation activities and the continued implementation and monitoring of remedial actions at the Site. Additional site investigation activities and remedial actions include the following:

- Soil impacts consist of exceedances of the NR 720 protection of groundwater RCLs by the VOCs PCE, TCE, and cis-1,2-Dichloroethene. Based on detected contamination, direct contact is not a concern and additional soil investigation is not warranted.
- Shallow groundwater has been impacted at concentrations greater than Ch. NR 140 Ess, with MW-1 exhibiting the highest PCE concentrations in groundwater. Piezometer PZ-1 is "nested" with MW-1. Groundwater samples from PZ-1 were impacted at concentrations exceeding the Ch. NR ES (first sampling event) and exceeding the Ch. NR 140 PAL for PCE in the remailing events. The vertical concentrations of PCE dissipate two orders of magnitude from an ES to a PAL when comparing samples from MW-1 to PZ-1. Overall, groundwater concentrations have been stable or decreasing, except for MW-6. Continued monitoring is recommended.
- Sub-slab vapor sampling results indicate the presence of TCE and PCE at concentrations exceeding large commercial VRSLs. The continued monitoring sub-slab vapor is recommended after system upgrades to the vapor mitigation system.
- Recent sub-slab vapor sampling indicates that the current vapor mitigation system is not sufficient to mitigate sub-slab contamination. The system will be upgraded to improve the pressure field. Details of system upgrades will be submitted in a separate submittal, and pressure field extension testing will be performed after its installation.



#### 6 SUBMITTAL CERTIFICATION

I, Michelle L. Peed, hereby certify that I am a registered professional geologist in the State of Wisconsin, registered in accordance with the requirements of Ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in Ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in Ch. NR 700 to Ch. 726, Wis. Adm. Code.

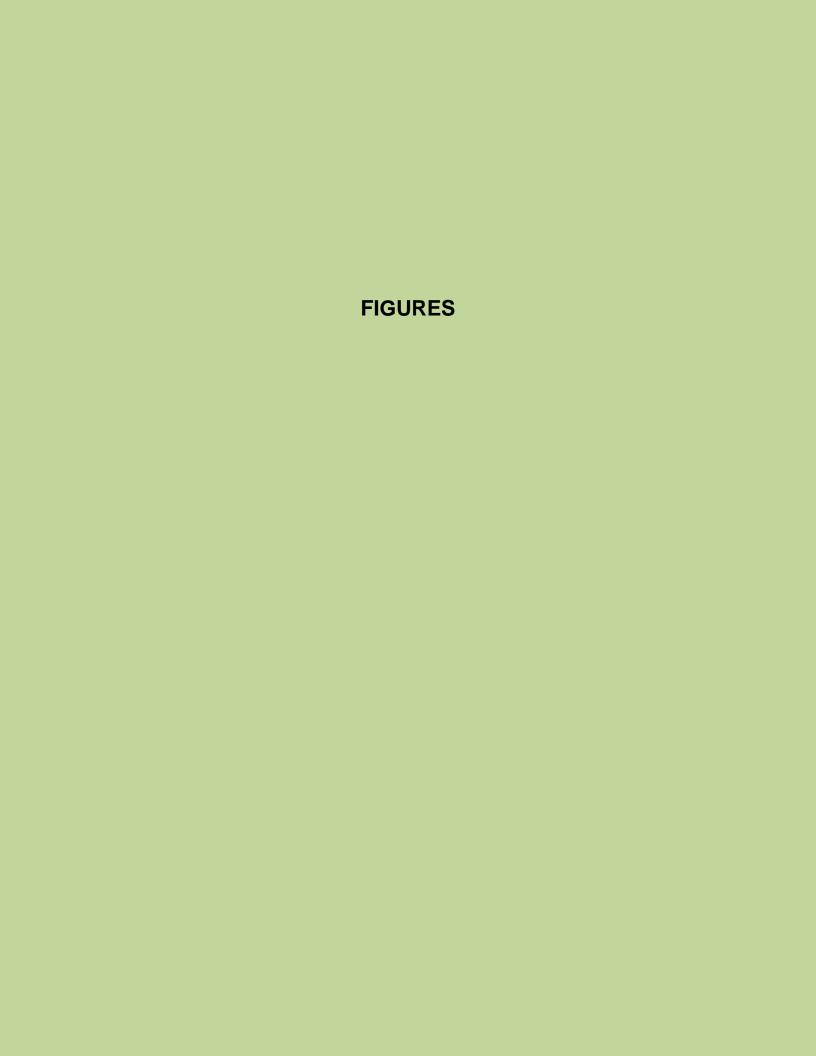
Michelle L. Peed, P.G., Project Manager	P.G. Stamp	
Signature and Title		

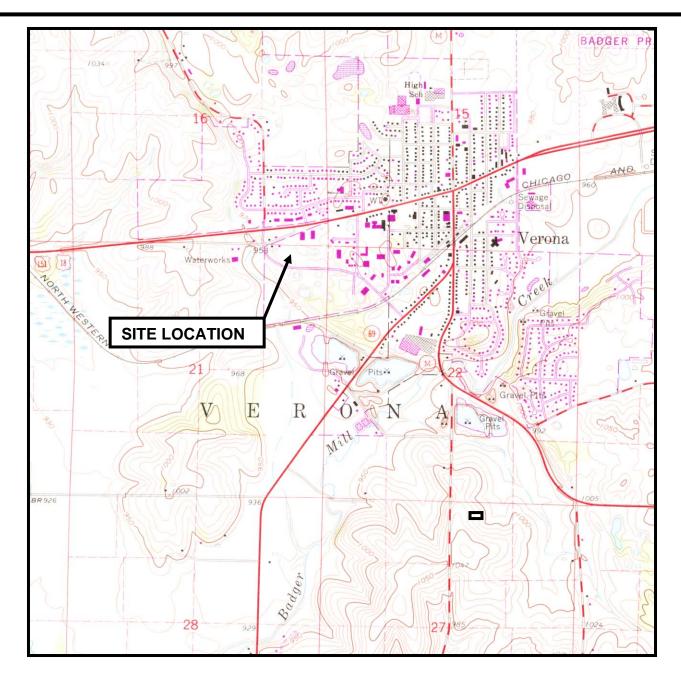
#### 7 GENERAL COMMENTS

This Site Investigation Status Report has been prepared to aid in the evaluation of the Site located south of Half Mile Road between S. Nine Mound Road and W. Verona Avenue in the City of Verona, Dane County, Wisconsin, with regard to the known release of a hazardous substance. The conclusions presented in this report were based on available information pertaining to various points in time. We do not warrant the accuracy of information supplied by others.

The boring logs and related information enclosed within the Appendices depict subsurface conditions only at specific locations drilled and at the particular times designated on the logs. Soil conditions at other locations may differ from conditions occurring at these boring locations. Also, the passage of time may result in a change of soil conditions at the boring locations drilled.







USGS 7.5 Minute Series (Topographic) Verona, Wisconsin Quadrangle Map Source:

(1962, photo-revised 1982)

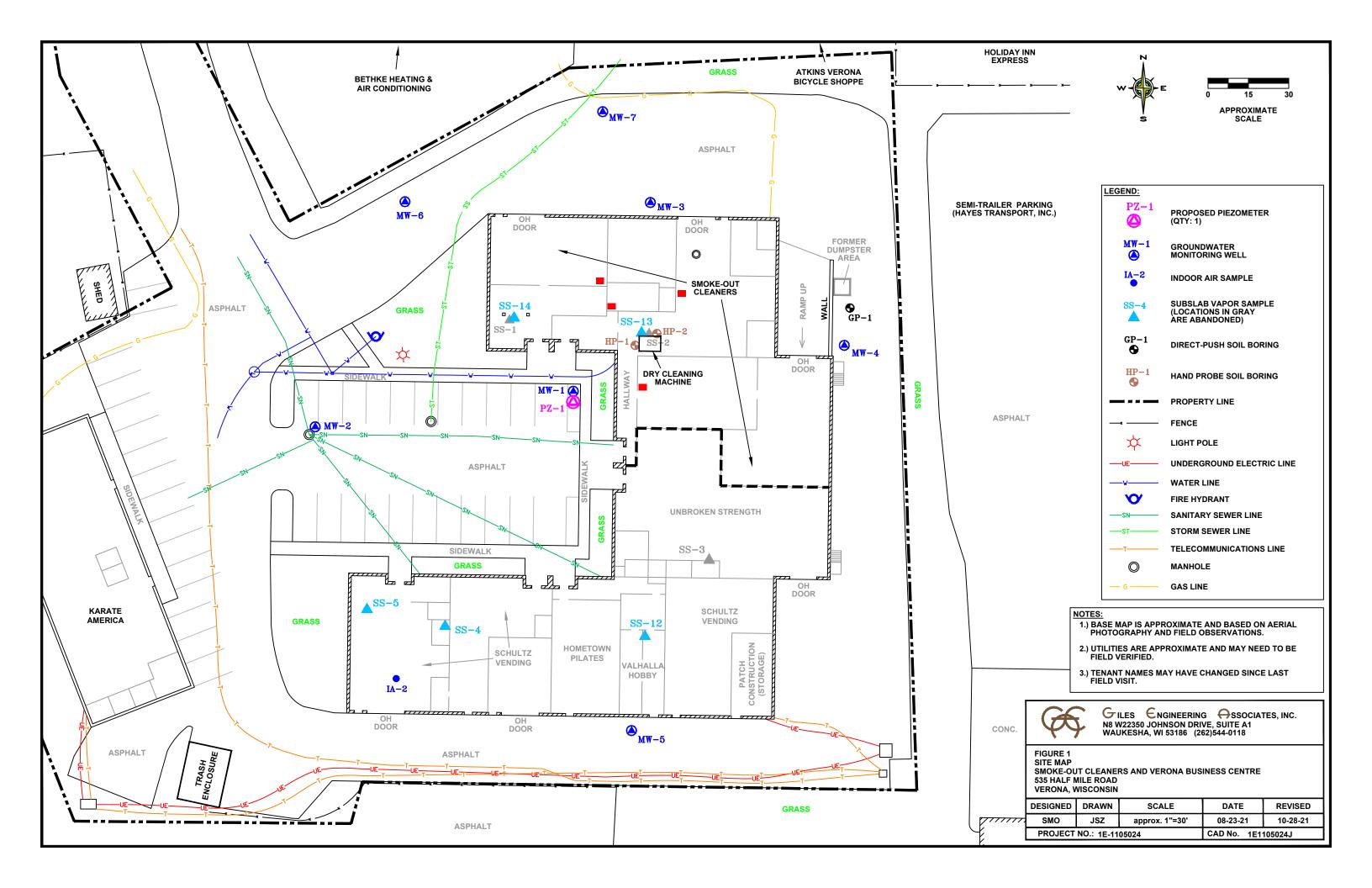
Scale: 1:24,000 10 feet Contour Interval:

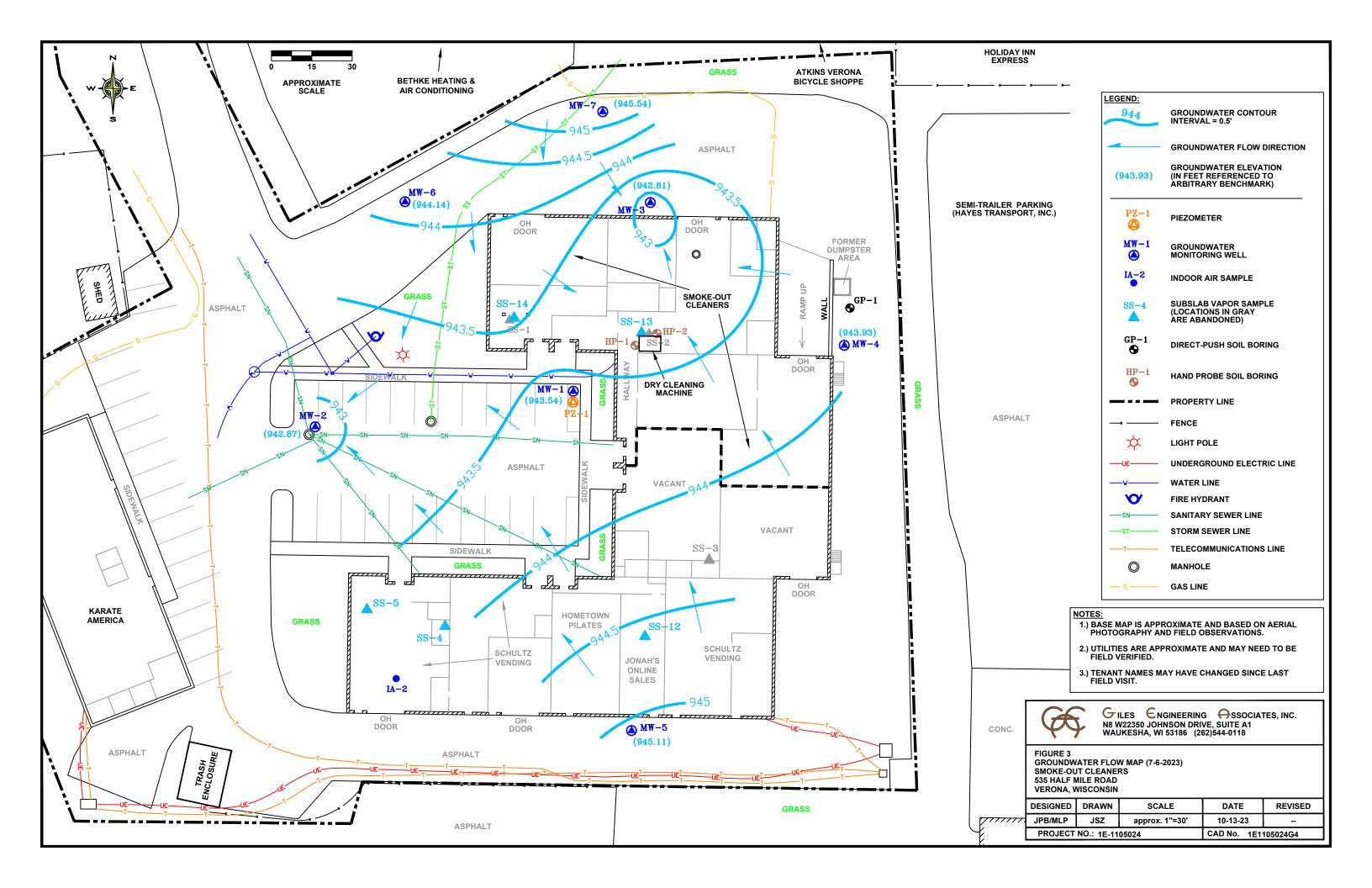


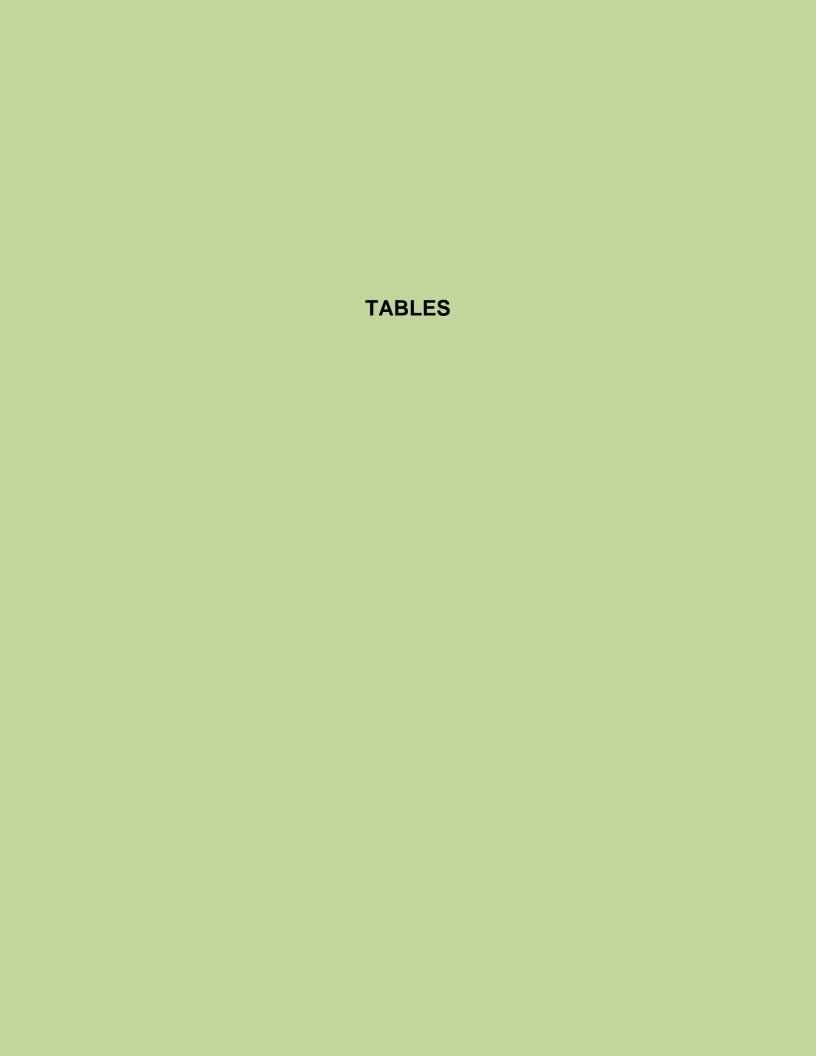
FIGURE 1 **SITE LOCATION MAP** 

**Smoke-Out Cleaners** 535 Half Mile Road Verona, WI Project No. 1E-1105024









## Table 1 Groundwater Elevation Summary

Smoke-Out Cleaners 535 Half Mile Road Verona, Wisconsin Giles Project No. 1E-1105024

		Floyetion			Croundwater	Calculated	
Well ID	Elevation	Elevation	Well	Screen	Groundwater	Calculated	Dete
well iD	(TOC)*	Ground	Depth	Length	Depth	Groundwater	Date
	` ′	Surface			(TOC)	Elevation	0/=///
					33.11	944.52	9/5/14
					31.88	945.75	1/19/17
					30.23	947.40	6/28/17
					29.85	947.78	9/27/17
					28.81	948.82	9/18/19
					27.69	949.94	10/23/19
MW-1	977.63	977.71	44.5	15	29.83	947.80	1/28/20
''''	011.00	011.11	11.0	10	29.80	947.83	4/30/20
					30.33	947.30	8/26/20
					34.52	943.11	9/28/22
					35.14	942.49	12/13/22
					33.45	944.18	3/13/23
					34.09	943.54	7/6/23
					33.14	944.32	9/5/14
					32.02	945.44	1/19/17
					30.80	946.66	6/28/17
					36.20	941.26	9/27/17
					29.55	947.91	9/18/19
					28.75	948.71	10/23/19
NAVA ( O	077.40	077.57	40.5	4.5	30.51	946.95	1/28/20
MW-2	977.46	7.46 977.57 48.5 15		15			
				30.28	947.18	4/30/20	
					31.28	946.18	8/26/20
					34.75	942.71	9/28/22
					35.48	941.98	12/13/22
					33.51	943.95	3/13/23
					34.59	942.87	7/6/23
					33.38	944.56	9/5/14
				32.44	945.50	1/19/17	
					31.15	946.79	6/28/17
					31.10	946.84	9/27/17
					29.98	947.96	9/18/19
					29.15	948.79	10/23/19
MW-3	977.94	977.89	44.5	15	30.91	947.03	1/29/20
					30.71	947.23	4/30/20
					31.75	946.19	8/26/20
					35.54	942.40	9/28/22
					35.94	942.00	12/13/22
					34.14	943.80	3/13/23
					35.13	942.81	7/6/23
					28.54	945.79	9/5/14
					27.25	947.08	1/19/17
					24.05	950.28	6/28/17
					25.13	949.20	9/27/17
	974.33	974.36			23.33	951.00	9/18/19
	57 1.00	57 1.00			22.39	951.94	10/23/19
N A N A / A			40	4 5	25.25	949.08	1/28/20
MW-4			40	15	24.99	949.34	4/30/20
					26.23	948.10	8/26/20
					30.68	943.65	9/28/22
						l repaired 9/28	
						· ' ·	
	074.00	074.00			31.58	942.75	12/13/22
	974.33	974.36			28.13	946.20	3/13/23
					30.40	943.93	7/6/23

					31.82	946.00	9/5/14
					31.29	946.53	1/19/17
					28.70	949.12	6/28/17
					28.51	949.31	9/27/17
	077.00	077.74			27.00	950.82	9/18/19
	977.82	977.71			25.28	952.54	10/23/19
N 41 A / F			40	4.5	28.40	949.42	1/28/20
MW-5			42	15	28.24	949.58	4/30/20
					28.59	949.23	8/26/20
					33.05	944.77	9/28/22
					wel	l repaired 9/28	3/22
					34.22	943.60	12/13/22
	977.82	977.71			32.27	945.55	3/13/23
			27.00		32.71	945.11	7/6/23
					27.41	950.23	10/23/19
					29.49	948.15	1/28/20
			77.82 35		28.14	949.50	4/30/20
MW-6	977.64	077 00		15	30.19	947.45	8/26/20
10100-0	977.04	911.02	33	15	34.69	942.95	9/28/22
					DRY		12/13/22
					33.22	944.42	3/13/23
					33.50	944.14	7/6/23
					22.04	954.92	10/23/19
					27.19	949.77	1/28/20
					26.20	950.76	4/30/20
MW-7	976.96	977.11	35	15	27.76	949.20	8/26/20
10100-7	970.90	911.11	33	13	31.01	945.95	9/28/22
					32.56	944.40	12/13/22
					29.20	947.76	3/13/23
					31.42	945.54	7/6/23
					35.48	942.26	9/28/22
D7 4	077.74		60	5	35.94	941.80	12/13/22
PZ-1	977.74				34.08	943.66	3/13/23
					35.31	942.43	7/6/23

Notes:

TOC = Top of Casing

\* = Elevations referenced to mean sea level.

## TABLE 2 SOIL ANALYTICAL RESULTS (DETECTED VOCs)

Smoke-Out Cleaners 535 Half Mile Road Verona, Wisconsin 1E-1105024

Analyte					San	nple Loca	ation						NR 720 RCLs <sup>1</sup>	
Allalyte	GI	P-1	HF	P-1	HF	P-2	MW-1	MW-2	MW-3 MW-3R PZ-1			NK 720 KCLS		
Sample Depth (feet)	2-4	18-20	4-6	12-14	4-6	12-14	32-34	40-42	30-32	2-4	2-4	Soil to	Direct Contact	Direct Contact
Sample Date	8/6/08	8/6/08	8/6/08	8/6/08	8/6/08	8/6/08	8/27/14	8/26/14	8/27/14	9/14/22	9/14/22	Goundwater	Pathway <sup>2</sup>	Pathway <sup>2</sup>
PID	<5	<5	266	40.3	209.5	964	<5	<5	<5	<5	<5	Pathway	(Non-Industrial)	(Non-Industrial)
Detected VOCs (μg/kg)														
cis-1,2-Dichloroethene	<29	<30	<u>1,400</u>	<u>320</u>	<u>1,400</u>	<u>170</u>	<7.3	<7.3	<7.3	<29	<31	41.2	156,000	2,340,000
Tetrachloroethene (PCE)	<29	<30	34,000	10,000	<u>7,600</u>	2,800	<u>280</u>	<9.9	94	<28	2,200	4.5	33,000	145,000
Trichloroethene (TCE)	<29	<30	<280	<u>26</u>	<u>79</u>	<27	<11	<25	<11	<11	<13	3.6	8,410	

#### NOTES:

**RCLs:** Residual Contaminant Levels

1: Wisconsin Adminiarative Code Natural Resources Chapter (NR) 720 RCLs from WDNR RCL Spreadsheet (updated December 2018)

PID: Photoionization Detector

VOCs: Volatile Organic Compounds

μg/kg: Micrograms per kilogram; equivalent to parts per billion (ppb)

Results shown in <u>blue/underline</u> exceed the RCL for Soil to Groundwater Pathway

<sup>&</sup>lt;sup>2</sup>: Direct Contact Pathway RCLs only apply to soil within 4 feet of ground surface

Smoke Out Cleaners Verona, Wisconsin Project No. 1E-1105024

Sample Location	NR 140 <sup>1</sup> PAL	NR 140 <sup>1</sup> ES												
Sample Date	(μg/L)	(μg/L)	9/5/14	1/19/17	6/28/17	9/27/17	10/23/19	1/28/20	4/30/20	8/26/20	9/28/22	12/13/22	3/13/23	7/6/23
DTW (ft TOC)			33.11	31.88	30.23	29.85	27.69	29.83	29.80	30.33	34.52	35.14	33.45	34.09
Detected VOCs (μg/L)														
cis-1,2-Dichloroethene	7	70	<u>120</u>	<u>220</u>	<u>210</u>	<u>220</u>	<u>180</u>	<u>140</u>	<u>150</u>	<u>130</u>	<u>74</u>	(62)	<u>72</u>	(52)
trans-1,2-Dichloroethene	20	100	<1.3	<3.5	<3.5	<3.5	<7.0	<3.5	<3.5	<3.5	<1.7	<3.5	<3.5	<1.7
Ethylbenzene	140	700	<0.65	<1.8	<1.8	<1.8	<3.7	<1.8	<1.8	2.0 J	<0.92	<1.8	<1.8	<0.92
Naphthalene	10	100	<0.80	<0.34	8.3 J	<3.4	(16 JB)	<3.4	<3.4	7.9 J	<1.7	<3.4	8.5 JB	<1.7
Toluene	160	800	<0.55	3.8 J	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<0.76	<1.5	<1.5	<0.76
1,2,4-Trimethylbenzene	96	480	<0.70	<3.6	<3.6	<3.6	13 JB	<3.6	<3.6	<3.6	<1.8	<3.6	7.6 JB	<1.8
1,3,5-Trimethylbenzene	96	480	<0.90	<2.5	<2.5	<2.5	12 JB	<2.5	<2.5	<2.5	<1.3	<2.5	<2.5	<1.3
n-Butylbenzene	NS	NS	<0.65	<3.9	<3.9	<3.9	11 JB	<3.9	<3.9	<3.9	<1.9	<3.9	<3.9	<1.9
Styrene	10	100	<0.50	<3.9	<3.9	<3.9	9.8 JB	<3.9	<3.9	<3.9	<1.9	<3.9	<3.9	<1.9
Tetrachloroethene	0.5	5	<u>2,800</u>	<u>6,700</u>	<u>6,900</u>	<u>9,300</u>	<u>7,600</u>	<u>6,000</u>	<u>6,700</u>	<u>6,300</u>	<u>5,100</u>	<u>5,400</u>	<u>5700</u>	<u>4800</u>
Trichloroethene	0.5	5	<u>25</u>	<u>46</u>	<u>44</u>	<u>57</u>	<u>58</u>	<u>48</u>	<u>56</u>	<u>57</u>	<u>39</u>	<u>41</u>	<u>48</u>	<u>34</u>

#### NOTES:

(1): Wisconsin Administrative Code Natural Resources Chapter (NR)

140

**ES**: Enforcement Standard **PAL**: Preventive Action Limit **NS**: No Standard Established

**DTW (ft TOC):** Depth to water in feet below top of casing

**VOCs**: Volatile Organic Compounds

μg/L: Micrograms per Liter; equivalent to parts per billion (ppb)

--: Not analyzed

**J**: Result is less than the reporting limit but greater than the method detection limit and the concentration is an approximate value

**B:** Compound was found in the blank and sample

Concentrations expressed in (Italics / Blue / Parentheses) exceed NR 140 Preventive Action Limit

Smoke Out Cleaners Verona, Wisconsin Project No. 1E-1105024

	T																	
Sample Location	NR 140 <sup>1</sup> PAL	NR 140 <sup>1</sup> ES		PZ	Z-1							MV	N-2					
Sample Date	(μg/L)	(μg/L)	9/28/22	12/13/22	3/13/23	7/6/23	9/5/14	1/19/17	6/28/17	9/27/17	10/23/19	1/28/20	4/30/20	8/26/20	9/28/22	12/13/22	3/13/23	7/6/23
DTW (ft TOC)			35.48	35.94	34.08	35.31	33.14	32.02	30.80	36.20	28.75	30.51	30.28	31.28	34.75	35.48	33.51	34.59
Detected VOCs (μg/L)																		•
cis-1,2-Dichloroethene	7	70	1.4	0.94 J	<0.41	<0.41	<0.12	<0.41	<0.41	<0.41	<0.41	<0.39	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41
trans-1,2-Dichloroethene	20	100	< 0.35	< 0.35	<0.35	<0.35	<0.25	<0.35	<0.35	<0.35	< 0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35
Ethylbenzene	140	700	<0.18	<0.18	<0.18	<0.18	<0.13	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18
Naphthalene	10	100	<0.34	<0.34	< 0.34	<0.34	<0.16	<0.34	<0.34	< 0.34	<0.34	<0.34	< 0.34	<0.34	<0.34	< 0.34	<0.34	<0.34
Toluene	160	800	<0.15	<0.15	<0.15	<0.15	0.25 J	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
1,2,4-Trimethylbenzene	96	480	< 0.36	<0.36	<0.36	<0.36	<0.14	<0.36	<0.36	<0.36	0.63 JB	<0.38	<0.36	<0.36	<0.36	<0.36	0.74 JB	<0.36
1,3,5-Trimethylbenzene	96	480	<0.25	<0.25	<0.25	<0.25	<0.18	<0.25	<0.25	<0.25	0.59 JB	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
n-Butylbenzene	NS	NS	< 0.39	<0.39	<0.39	<0.39	<0.13	<0.39	<0.39	<0.39	0.52 JB	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39
Styrene	10	100	<0.39	<0.39	<0.39	<0.39	<0.10	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39
Tetrachloroethene	0.5	5	<u>6.3</u>	(2.8)	(1.9)	(1.5)	<0.17	<0.37	<0.37	<0.37	<0.37	(1.1)	<0.37	(0.80 J)	<0.37	<0.37	<0.37	<0.37
Trichloroethene	0.5	5	<0.16	<0.16	<0.16	<0.16	<0.19	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16

#### NOTES:

(1): Wisconsin Administrative Code Natural Resources Chapter (NR)

140

**ES**: Enforcement Standard **PAL**: Preventive Action Limit **NS**: No Standard Established

**DTW (ft TOC):** Depth to water in feet below top of casing

**VOCs**: Volatile Organic Compounds

**μg/L**: Micrograms per Liter; equivalent to parts per billion (ppb)

--: Not analyzed

**J**: Result is less than the reporting limit but greater than the method detection limit and the concentration is an approximate value

**B:** Compound was found in the blank and sample

Concentrations expressed in (Italics / Blue / Parentheses) exceed NR 140 Preventive Action Limit

Smoke Out Cleaners Verona, Wisconsin Project No. 1E-1105024

Sample Location	NR 140 <sup>1</sup> PAL	NR 140 <sup>1</sup> ES						MV	V-3					
Sample Date	(μ <b>g/L</b> )	(μg/L)	9/5/14	1/19/17	6/28/17	9/27/17	10/23/19	1/29/20	4/30/20	8/26/20	9/28/22	12/13/22	3/13/23	7/6/23
DTW (ft TOC)			33.38	32.44	31.15	31.10	29.15	30.91	30.71	31.75	35.54	35.94	34.14	35.13
Detected VOCs (μg/L)														
cis-1,2-Dichloroethene	7	70	(57)	<u>210</u>	<u>200</u>	<u>260</u>	<u>180</u>	<u>150</u>	<u>130</u>	<u>110</u>	<u>91</u>	<u>73</u>	<u>190</u>	<u>160</u>
trans-1,2-Dichloroethene	20	100	<0.25	0.57 J	0.60 J	<0.70	0.53 J	0.50 J	0.44 J	<0.35	<0.35	0.44 J	0.65 J	0.69 J
Ethylbenzene	140	700	<0.13	<0.18	<0.18	<0.37	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18
Naphthalene	10	100	<0.16	<0.34	< 0.34	<0.67	0.66 JB	0.66 JB	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34
Toluene	160	800	<0.11	<0.15	<0.15	<0.30	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
1,2,4-Trimethylbenzene	96	480	<0.14	<0.36	<0.36	<0.72	0.65 JB	<0.36	<0.36	<0.36	<0.36	<0.36	0.73 JB	<0.36
1,3,5-Trimethylbenzene	96	480	<0.18	<0.25	<0.25	<0.51	0.59 JB	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
n-Butylbenzene	NS	NS	<0.13	<0.39	<0.39	<0.78	0.53 JB	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39
Styrene	10	100	<0.10	<0.39	< 0.39	<0.77	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39
Tetrachloroethene	0.5	5	<u>56</u>	<u>370</u>	<u>430</u>	<u>680</u>	<u>660</u>	<u>590</u>	<u>490</u>	<u>500</u>	<u>300</u>	<u>260</u>	<u>430</u>	<u>380</u>
Trichloroethene	0.5	5	(2.8)	<u>11</u>	<u>13</u>	<u>15</u>	<u>13</u>	<u>13</u>	<u>12</u>	<u>13</u>	<u>7.2</u>	<u>6.3</u>	<u>14</u>	<u>11</u>

#### NOTES:

(1): Wisconsin Administrative Code Natural Resources Chapter (NR)

140

**ES**: Enforcement Standard **PAL**: Preventive Action Limit **NS**: No Standard Established

**DTW (ft TOC):** Depth to water in feet below top of casing

**VOCs**: Volatile Organic Compounds

μg/L: Micrograms per Liter; equivalent to parts per billion (ppb)

--: Not analyzed

**J**: Result is less than the reporting limit but greater than the method detection limit and the concentration is an approximate value

**B:** Compound was found in the blank and sample

Concentrations expressed in (Italics / Blue / Parentheses) exceed NR 140 Preventive Action Limit

Smoke Out Cleaners Verona, Wisconsin Project No. 1E-1105024

Sample Location	NR 140 <sup>1</sup> PAL	NR 140 <sup>1</sup> ES						MV	V-4					
Sample Date	(μg/L)	(μg/L)	9/5/14	1/19/17	6/28/17	9/27/17	10/23/19	1/28/20	4/30/20	8/26/20	9/28/22	12/13/22	3/13/23	7/6/23
DTW (ft TOC)			28.54	27.25	24.05	25.13	22.39	25.25	24.99	26.23	30.68	31.58	28.13	30.40
Detected VOCs (μg/L)		_												
cis-1,2-Dichloroethene	7	70	<0.12	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41
trans-1,2-Dichloroethene	20	100	<0.25	<0.35	< 0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	< 0.35	<0.35	<0.35
Ethylbenzene	140	700	<0.16	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18
Naphthalene	10	100	<0.16	<0.34	< 0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34
Toluene	160	800	<0.11	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
1,2,4-Trimethylbenzene	96	480	<0.14	<0.36	<0.36	<0.36	0.63 JB	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36
1,3,5-Trimethylbenzene	96	480	<0.18	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
n-Butylbenzene	NS	NS	<0.13	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39
Styrene	10	100	<0.10	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39
Tetrachloroethene	0.5	5	<0.17	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37
Trichloroethene	0.5	5	<0.19	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16

#### NOTES:

(1): Wisconsin Administrative Code Natural Resources Chapter (NR)

140

**ES**: Enforcement Standard **PAL**: Preventive Action Limit **NS**: No Standard Established

DTW (ft TOC): Depth to water in feet below top of casing

**VOCs**: Volatile Organic Compounds

μg/L: Micrograms per Liter; equivalent to parts per billion (ppb)

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**J**: Result is less than the reporting limit but greater than the method detection limit and the concentration is an approximate value

**B:** Compound was found in the blank and sample

Concentrations expressed in (Italics / Blue / Parentheses) exceed NR 140 Preventive Action Limit

Smoke Out Cleaners Verona, Wisconsin Project No. 1E-1105024

Sample Location	NR 140 <sup>1</sup> PAL	NR 140 <sup>1</sup> ES						MV	N-5					
Sample Date	(μg/L)	(μ <b>g/L</b> )	9/5/14	1/19/17	6/28/17	9/27/17	10/23/19	1/28/20	4/30/20	8/26/20	9/28/22	12/13/22	3/13/23	7/6/23
DTW (ft TOC)			31.82	31.29	28.70	28.51	25.28	28.40	28.24	28.59	33.05	34.22	32.27	32.71
Detected VOCs (μg/L)		_												
cis-1,2-Dichloroethene	7	70	<0.12	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41
trans-1,2-Dichloroethene	20	100	<0.25	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	< 0.35	<0.35	<0.35
Ethylbenzene	140	700	<0.13	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18
Naphthalene	10	100	<0.16	<0.34	< 0.34	<0.34	<0.34	< 0.34	< 0.34	<0.34	<0.34	<0.34	<0.34	<0.34
Toluene	160	800	<0.11	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
1,2,4-Trimethylbenzene	96	480	<0.14	<0.36	< 0.36	<0.36	< 0.36	<0.36	< 0.36	<0.36	<0.36	<0.36	<0.36	<0.36
1,3,5-Trimethylbenzene	96	480	<0.18	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
n-Butylbenzene	NS	NS	<0.13	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39
Styrene	10	100	<0.10	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39
Tetrachloroethene	0.5	5	(2.5)	<0.37	<0.37	<0.37	(0.79 J)	(0.90 J)	(0.65 J)	(0.81 J)	<0.37	(0.57 J)	<0.37	0.88 J
Trichloroethene	0.5	5	<0.19	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16

#### NOTES:

(1): Wisconsin Administrative Code Natural Resources Chapter (NR)

140

**ES**: Enforcement Standard **PAL**: Preventive Action Limit **NS**: No Standard Established

DTW (ft TOC): Depth to water in feet below top of casing

**VOCs**: Volatile Organic Compounds

μg/L: Micrograms per Liter; equivalent to parts per billion (ppb)

--: Not analyzed

**J**: Result is less than the reporting limit but greater than the method detection limit and the concentration is an approximate value

**B:** Compound was found in the blank and sample

Concentrations expressed in (Italics / Blue / Parentheses) exceed NR 140 Preventive Action Limit

Smoke Out Cleaners Verona, Wisconsin Project No. 1E-1105024

Sample Location	NR 140 <sup>1</sup> PAL	NR 140 <sup>1</sup> ES				M\	N-6				MW-7							
Sample Date	(μg/L)	(μg/L)	10/23/19	1/28/20	4/30/20	8/26/20	9/28/22	12/13/22	3/13/23	7/6/23	10/23/19	1/28/20	4/30/20	8/26/20	9/28/22	12/13/22	3/13/23	7/6/23
DTW (ft TOC)			27.41	29.49	28.14	30.19	34.69	34.98	33.22	33.50	22.04	27.19	26.20	27.76	31.01	32.56	29.20	31.42
Detected VOCs (μg/L)																		
cis-1,2-Dichloroethene	7	70	<0.41	<0.41	<0.41	<0.41	<0.41		<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41
trans-1,2-Dichloroethene	20	100	< 0.35	<0.35	<0.35	<0.35	<0.35		<0.35	<0.35	< 0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35
Ethylbenzene	140	700	<0.18	<0.18	<0.18	<0.18	<0.18		<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18
Naphthalene	10	100	< 0.34	<0.34	<0.34	<0.34	<0.34		<0.34	<0.34	< 0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34
Toluene	160	800	<0.15	<0.15	<0.15	<0.15	<0.15		<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
1,2,4-Trimethylbenzene	96	480	< 0.36	<0.36	<0.36	<0.36	<0.36		<0.36	<0.36	0.63 JB	0.63 JB	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36
1,3,5-Trimethylbenzene	96	480	<0.25	<0.25	<0.25	<0.25	<0.25		<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
n-Butylbenzene	NS	NS	< 0.39	<0.39	<0.39	<0.39	<0.39		<0.39	<0.39	< 0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39
Styrene	10	100	< 0.39	<0.39	<0.39	<0.39	<0.39		<0.39	<0.39	< 0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39
Tetrachloroethene	0.5	5	(1.1)	(1.2)	(1.8)	(1.6)	<u>6.1</u>		<u>7.4</u>	(4.7)	<u>43</u>	<u>30</u>	<u>27</u>	<u>29</u>	<u>33</u>	<u>31</u>	<u>35</u>	<u>29</u>
Trichloroethene	0.5	5	<0.16	<0.16	<0.16	<0.16	<0.16		<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	0.23 J	<0.16	<0.16

#### NOTES:

(1): Wisconsin Administrative Code Natural Resources Chapter (NR)

140

**ES**: Enforcement Standard **PAL**: Preventive Action Limit **NS**: No Standard Established

**DTW (ft TOC):** Depth to water in feet below top of casing

**VOCs**: Volatile Organic Compounds

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--: Not analyzed

**J**: Result is less than the reporting limit but greater than the method detection limit and the concentration is an approximate value

**B:** Compound was found in the blank and sample

Concentrations expressed in (Italics / Blue / Parentheses) exceed NR 140 Preventive Action Limit

### TABLE 4 SUB-SLAB VAPOR ANALYTICAL RESULTS (VOCs)

Smoke-Out Cleaners 535 Half Mile Road Verona, Wisconsin Project No. 1E-1105024

Analyte				Sub-Slab Vapor VRSLs* (µg/m³)							
	SS-1	SS-2	SS-3		SS-4		SS-5	SS-6	Desidential	Small	Large
Sample Date	11/7/12	11/7/12	11/7/12	3/13/14	10/10/19	1/29/20	3/13/14	3/13/14	Residential	Commerical	Commerical / Industrial
Detected VOCs (μg/m³)		-					-	-		-	-
trans-1,2-Dichloroethene	<250	<7,900	<200	<0.79	<0.40	<0.20	<0.79	<0.79	1,400	5,800	18,000
cis-1,2-Dichloroethene	1,300	500,000	<200	<0.79	<0.48	<0.24	<0.79	<0.79	NS	NS	NS
1,2-Dichloroethene (total)	1,300	500,000	<400	<1.58	<0.88	<0.44	<1.58	<1.58	NS	NS	NS
Tetrachloroethene	[81,000]	[22,000,000]	[55,000]	35	150	110	27	<1.4	1,400	5,800	18,000
Trichloroethene	<340	<110,000	<270	<1.1	<0.39	<0.19	<1.1	<1.1	70	290	880
Vinyl chloride	<160	<51,000	<0.29	<0.51	<0.36	<0.18	<0.51	<0.51	57	930	2,800

#### Notes:

VRSLs: Vapor Risk Screening Levels VOCs: Volatile Organic Compounds μg/m³: Micrograms per cubic meter

J: Concentration reported between the laboratory method detection limit and the reporting limit.

--: Not analyzed

NS: No Established Standard

Results shown in **blue/underline** exceed the Residential VRSLs

Results shown in (green/parentheses) exceed the Small Commercial and Residential VRSLs

Results shown in [red/brackets] exceed the Large Commercial / Industrial, Small Commercial and Residential VRSLs

\* VRSLs obtained from the Wisconsin Department of Natural Resources WI Quick Look-Up Table (updated September 2021)

### TABLE 4 SUB-SLAB VAPOR ANALYTICAL RESULTS (VOCs)

Smoke-Out Cleaners 535 Half Mile Road Verona, Wisconsin Project No. 1E-1105024

Analyte			Sub-Slab Vapor VRSLs (μg/m³)								
	SS-7		SS-8	S-8 SS-9		SS-10		SS-11	Desidential	Small	Large
Sample Date	3/13/14	1/29/20	3/13/14	3/13/14	1/29/20	3/13/14	1/29/20	3/13/14	Residential	Commerical	Commerical / Industrial
Detected VOCs (μg/m³)			-							-	-
trans-1,2-Dichloroethene	<0.79	<0.20	1.6	1.0	1.6 J	<0.79	<0.20	<0.79	1,400	5,800	18,000
cis-1,2-Dichloroethene	<0.79	<0.24	<0.79	<0.79	<1.2	<0.79	<0.24	<0.79	NS	NS	NS
1,2-Dichloroethene (total)	<1.58	<0.44	1.6	1.0	1.6 J	<1.58	<0.44	<1.58	NS	NS	NS
Tetrachloroethene	<1.4	1.5	4.5	4.1	2.7 J	<1.4	1.0 J	2.5	1,400	5,800	18,000
Trichloroethene	<1.1	<0.19	<1.1	<1.1	<0.97	<1.1	<0.19	<1.1	70	290	880
Vinyl chloride	<0.51	<0.18	<0.51	<0.51	<0.91	<0.51	<0.18	<0.51	57	930	2,800

#### Notes:

VRSLs: Vapor Risk Screening Levels VOCs: Volatile Organic Compounds μg/m³: Micrograms per cubic meter

J: Concentration reported between the laboratory method detection limit and the reporting limit.

--: Not analyzed

**NS:** No Established Standard

Results shown in **blue/underline** exceed the Residential VRSLs

Results shown in (green/parentheses) exceed the Small Commercial and Residenial VRSLs

Results shown in [red/brackets] exceed the Large Commercial / Industrial, Small Commercial and Residenial VRSLs

\* VRSLs obtained from the Wisconsin Department of Natural Resources WI Quick Look-Up Table (updated September 2021)

### TABLE 4 SUB-SLAB VAPOR ANALYTICAL RESULTS (VOCs)

Smoke-Out Cleaners 535 Half Mile Road Verona, Wisconsin Project No. 1E-1105024

Analyte	Sample Location											Sub-Slab Vapor VRSLs* (µg/m3)		
		SS	-12		SS-13		SS-14			SS-15	Desidential	Small	Large	
Sample Date	3/13/14	10/10/19	1/29/20	7/5/23	9/18/19	1/29/20	9/18/19	1/29/20	7/5/23	7/5/23	Residential	Commerical	Commerical / Industrial	
Detected VOCs (μg/m³)					-									
trans-1,2-Dichloroethene	<2.0	<4.0	<3.6	<4.5	<5,900	<5,500	<400	<110	<80	1,200 J	1,400	5,800	18,000	
cis-1,2-Dichloroethene	<2.0	<4.8	<4.3	<3.4	320,000	230,000	<480	280 J	83 J	5,600	NS	NS	NS	
1,2-Dichloroethene (total)	<4.0	<8.8	<7.9	<7.9	320,000	230,000	<880	280 J	83 J	6,800	NS	NS	NS	
Tetrachloroethene	550	3,800	2,900	2,600	[4,700,000]	[3,900,000]	[220,000]	[60,000]	[67,000]	[300,000]	1,400	5,800	18,000	
Trichloroethene	<2.7	<3.9	<3.5	<6.1	[58,000]	[50,000]	[1,000 J]	(390 J)	(340 J)	[3,300]	70	290	880	
Vinyl chloride	<1.3	<3.6	<3.3	<5.7	<5,400	<3,700	<360	<99	<100	<400	57	930	2,800	

#### Notes:

VRSLs: Vapor Risk Screening Levels VOCs: Volatile Organic Compounds μg/m³: Micrograms per cubic meter

**J:** Concentration reported between the laboratory method detection limit and the reporting limit.

--: Not analyzed

NS: No Established Standard

Results shown in **blue/underline** exceed the Residential VRSLs

Results shown in (green/parentheses) exceed the Small Commercial and Residential VRSLs

Results shown in [red/brackets] exceed the Large Commercial / Industrial, Small Commercial and Residential VRSLs

\* VRSLs obtained from the Wisconsin Department of Natural Resources WI Quick Look-Up Table (updated September 2021)

# Table 5 INDOOR AIR ANALYTICAL RESULTS

Smoke Out Cleaners Verona, Wisconsin Project Number 1E-1105024

Sample Location	IA-1	IA-2	Indoor	· Air VAL (µg/m³)
Cample Location	10-1	IA-Z		Land Use
Sample Depth			Destalential	Small and Large
Sample Date	3/13/2014	3/13/2014	Residential	Commercial / Industrial
CVOCs (μg/m³)				•
1,1-Dichloroethene			210	880
1,2-Dichloroethane			1.10	4.70
cis-1,2-Dichloroethene	<0.20	<0.20	42	180
Tetrachloroethene (PCE)	<0.20	0.23	42	180
trans-1,2-Dichloroethene	<0.20	<0.20	42	180
Trichloroethene (TCE)	<0.20	<0.20	2.1	8.80
Vinyl chloride	<0.20	<0.20	1.7	28

#### Notes:

VAL: Vapor Action Level

**CVOCs**: Chlorinated Volatile Organic Compounds

μg/m³: Micrograms per cubic meter

xx.x: Underlined results exceed the VAL for Residential land use

(xx.x): Parenthesized results exceed the sub-slab VAL for both Residential and Small Commercial la [xx.x]: Bracketed results exceed the VAL for Residential, Small Commercial, and Large Commercial/

VALs were obtained/calculated from the Wisconsin Vapor Quick Look-Up Table based on the August 2023 US EPA Regional Scree

# APPENDIX A Boring Logs and Abandonment Forms

DIMINE OF THE LOCATION Department of Natural Resources

# SOIL BORING LOG INFORMATION

Fax: 262-549-5868

Form 4400-122

				E	Route To:			Wastewater				gement								
						Re	mediatio	n/Redevelopment 🗵	] (	Other										
Faci	lity/Pro	iect N	Van	ie.			······································		17 -		<del></del>					·			l of	3
Sr	noke-	Out	Cl	eaner	s (1E-11	1050	24)		Lic	cense/F	'ermi	t/Monit	oring N	lumbei	r	Borin	g Numl		1W-1	
Bori	ng Drill Beau f	led B	y: 1	Vame	of crew ch	ief (fi	rst, last)	and Firm	Da	te Dril	ling S	Started		D	ate Drill	ing Co	mpleted			illing Method
Č	Giles	Er	ng:	inee	ring A	Asso	ciate	es, Inc.			0 (0.	<b>~</b> / <b>~</b> ^ *							i i	Hollow-Ster
	Jnique `				DNR V			Common Well Nar	me Fin			7/2014 ater Lev		Surfa	ce Eleva	8/27/	2014		0 11	Auger e Diameter
<del></del>	10:14	<del></del>						MW-1				MSL		Journa		et MS	L	]	8.25	inches
	l Grid ( e Plane	)rıgır	n	(e	estimated:		or Bo N,	ring Location   E S/C/N		Lat		٥	,	14	Local (	Grid Lo	cation		······································	
		4 of	S	SE	1/4 of Sec	tion	16,	T 6 N, R 8E		Long		0	,	"		East	□ N t □ S			Е
Facil	ity ID		***************************************		1	County	1		Coun	ity Cod		Civil 7	Town/C	ity/ or	Village	ree	: Ш 8	)		Feet W
	mple	<del></del>			<del></del>	Dane	<u> </u>		13	·		Verd	na		-					
	T						C 110								ļ	Soil	Prope	erties	3	
4.	Length Att. & Recovered (in)	linte		Depth In Feet				Rock Description cologic Origin For							\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \					
lber Type	Length Att.	Blow Counts	3	h In				ch Major Unit			S	ic	a		ressi	일	_	ţ		ents
Number and Type	Leng	Blox		Depi							nsc	Graphic	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity	200	RQD/ Comments
1-SS	24/0			-	Aspha	ilt an	d Base	Course Sand and	d Grave	el		-		+=	S	20	12 -2	<u> </u>		<del>  20</del>
			Ė	- - -1																
			F		Green rootlet	ish B	rown S	Silty Clay with tra	ace					0						
2-SS	24/11			-2	100010	13 - IV	ioist													
4-33	24/11																			
			E	-3							CL									
			F											0.6						
3-SS	24/13		F	-4						i Line										
			E	ŀ	Tan ve	ry fir	ne Sano	d - Moist												
			E	-5		•								0						
			F								SP									
4-SS	24/18		E	-6																
			E	-7						anni de la compania d										
			E		Brown staining	Clay	ey San	d with trace Ora	nge		sc			3.0						
5-SS	24/16		F	-8							sc									
2-00	24/10		F		trace C	it and Iav a	i very f nd trac	ine Sand with litt e Gravel - Moist	tle to			-								
			E	9																
			F											4.9						
6-SS	24/14		F	10				•		N	AL									
			E													l				
			F	11										6.5						
			E	12																
I hereb	y certifi	that			nation on	thie fo	rm is to	e and correct to the be	oot = f											
Signatu	re /	1			7.1			153					:	Υ		······			<del></del>	
<del></del>	P	the		Nun	Olo	ew	<u>a</u>	l Gii	les Eng W22350	Johns	on Di	ASSOC	iates, te Al	111C. Wauke	sha, WI	53186				62-544-0118 62-549-5868

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

	g Numl	er	MV	V-1 Use only as an attachment to Form 4400-	122.	<del>,</del>	<del></del>	_		•	Pa	ge 2	of	3
San	nple									Soil	Prop	erties		
	Length Att. & Recovered (in)	ıts	eet	Soil/Rock Description					9					
<u>ہ</u> ھ	Aff	Blow Counts	Depth In Feet	And Geologic Origin For					ssiv	6)		>		ıts
mbe Ty	ngth	) ≱	tt.	Each Major Unit	CS	phic	1	FIL	ipre ngth	stur	.pt.	icit		mer
SS-Number and Type	Lei	B	Del		uscs	Graphic Log	Well	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
7-SS	24/20		E	Brown Clayey very fine Sand with little to	1			<del>                                     </del>	1 00	20		<u> </u>	<del> </del>	
			-	trace Gravel and trace Orange mottling -										
			-13	Moist				11.3						
			F					11.3						
8-SS	24/18		-14											
0.55	2 1/10		E		SC									
			- -15											
			"					7.8						
			F ,											
9-SS	24/24		-16 -											
			E											
			-17	Brown to Tan Silt and very fine Sand with		······································		10.5						
			- 1	Brown to Tan Silt and very fine Sand with trace Clay and dolomite rock chips - Moist				10.5						
10-SS	24/16		-18	1										
			<u> </u>											
			-19											
			- 1					7.9		ĺ				
			-20											
11-SS	24/19		- 20											
	l									7				
			-21					14.2						
			<u> </u>											
12-SS	24/0		-22											
			-											
			_23											
									ĺ		ļ			
13-SS	24/20		-24											
13-33	24/20		-		ML					l				
			-25		IVIL									
		ļ						6.7				1		
		ŀ	- 26											
14-SS 2	24/20	E	-26											
		ŀ	-											
		}	-27					8.1						
		F	-					0,1		1				
15-SS 2	24/22	E	-28						1					
V-and-and-and-and-and-and-and-and-and-and		-	-						1					
		-	-29											
		E				1		8.8						
		-	-30											
						-								
		F	-31						-					
	-	E	31											
		F					1							
1	1	F	-32			-	1				1			

Boring Nu		er	MV	V-1 Use only as an attachment to Form 4400-	122.						Pa	age 3	of	3
Sample										Soil	Prop	erties		
Number and Type Length Att. &	Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	uscs	Graphic Log	Vell	Diagram PID/FID	Compressive Strength		Liquid			RQD/ Comments
Nur and and Len	Rec		-33 -34 -35 -36 -37 -38 -39 -40 -41 -42 -43	Brown to Tan Silt and very fine Sand with trace Clay and dolomite rock chips - Moist (continued)  Wet at 34 feet  Borings Terminated at 44.5 feet	OS (I	Grap	Well Well	PID/F	Comp	Moist	Liquit	Plastic Index	P 200	RQD/ Comm

# SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

			Ī	Route To: Watershed/ Remediation	Wastewater   NRedevelopment	Waste Other		gement								
Faci	lity/Proj	ect Na	me		_	17:	<b>4</b> 3				***************************************	·			of	3
				rs (1E-1105024)		Licenso	/Permi	t/Monit	oring N	umber		Boring	g Num		33.7.0	
Bori	ng Drill	ed By:	Name	of crew chief (first, last)	and Firm	Date D	rilling :	Started	······	D:	ate Drill	ing Co	mnlete	1VI	W-2	illing Method
				es ering Associate			J					5 00	присс			Hollow-Ster
	Jnique \			DNR Well ID No.				6/2014				8/26/	2014			Auger
****	mique (	WCII IN	J. ,	DINK WEILID NO.	Common Well Name	Final St			el el	Surfac	e Eleva		_		orehol	e Diameter
Loca	l Grid C	rigin		estimated:  or Bo	ring Location		reet	MSL				et MS Grid Lo		18	3.25	inches
State	e Plane			N,	E S/C/N	L	at				Local	טוע גטווכ		.7		
	SE 1/4	of	SE	1/4 of Section 16,	T 6 N, R 8E	Lor		<u> </u>		11		Feet				☐ E Feet ☐ W
Facil	ity iD			County Dane		County C	ode	1	own/C	ty/ or	Village				<del></del>	
Sa	mple	T	T	Dalle		13	<del></del>	Verd	na	1	-					
	<del></del>	1		0 1100							-	Soil	Prop	erties	·	
	d (ir	nuts	Feet	i .	ock Description					ļ	ç					
ber Sype	th A	Š	l i	i	ologic Origin For h Major Unit		S	.2	3	Ω	essi	5 ±		2		suts
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Lac	ar Major Onit		SC	Graphic	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	200	RQD/ Comments
	J part 1525	Щ	<del>  11</del>	Asphalt, fine to co	parca Graval		12	5 3	<u> </u>	PI.	S 25	Σ్రి	Li.	문 로	P 2	<u>S</u> <u>S</u>
			F		arse Graver											
			-1	Tan fine to coarse	Sand same Cilt t		<del> </del>	ļ								
			Ė	fine Gravel - Mois	t	гасе										
1-SS	10/24		-2													
			-													
			-3													
			-							0						
2-SS	14/24		- 4													
2 00	14/24		_													
			- 5													
		Ī	-				SP			0						
3-SS	11/24	ļ	-6							l			***************************************			
3-33	11/24	ŀ	-													
		Ė	- 7													
		E	- 1							0						
4.00	10/24		-8													
4-SS	18/24	F	-										1			
			-9													
		F								0						
		E	-10	Tan fine to coarse g	grained Sandy Cla	y -									-	
5-SS	18/24	þ		Moist			SC									
		E	-11	Tan Clayey Silt, so	ft, Gray and rust c	olored										
	-	F	* 1	mottling - Moist			CL			0						
		E	-12											-		
I hereby	certify	that the		nation on this farm is												
Signatur	re\	,		mation on this form is true	153.											
		20	m	Willen	Firm Giles	s Engine	ering .	Assoc	iates	nc			-		Tal. 2	(2 544 0112

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Borin	ıg Numb	er	ΜV	V-2 Use only as an attachment to Form 4400-	122.						Pag	ge 2	of	3
Sar	nple									Soil	Prope			
Solumber and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	uscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	T		Plasticity Index	P 200	RQD/ Comments
6-SS	24/24		E	Tan Clayey Silt, soft, Gray and rust colored mottling - Moist (continued)	CL	-								
7-SS	19/24	٠	-13 - -14	Tan fine to coarse grained Sandy Clay with Gray mottling - Moist	SC		Property and Automatical States of the State	0						
			-15 -16	Tan Silty Clay, some fine to coarse Sand, trace fine gravel - Moist				0						
8-SS	16/24		-17				4	0						
9-SS	6/24		-18 - - - - - - - - - - - - - - - - - -	Increases in Gravel				0						
10-SS	0/24		-20 -21		CL									
11-SS	18/24		-22 -23	fine to medium grained Gravel seam				0						
12-SS	24/24		-24 24 25					0						
13-SS	10/24		-26 -27	Tan Sandy Silt, fine to coarse grained, trace fine Gravel, Gray mottling - Moist				0						
14-SS	24/24		- -28 - - -29		SM			0						
15-SS	0/24		-30 -31	Tan fine to coarse grained Sandy Silt, trace fine Gravel - Moist	SM			٥						
			-32		SIVI			0	100000000000000000000000000000000000000	And and a second				

Borin	g Numl	oer	MV	V-2 Use only as an attachment to Form 4400-	122.							Pag	ge 3	of	3
***************************************	nple				T			T			Soil	Prop			
SS Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	uscs	Graphic Log	Well	Diagram	PID/FID	Compressive Strength	Moisture Content		y.	P 200	RQD/ Comments
16-SS	18/24		33	Tan fine to coarse grained Sandy Silt, trace fine Gravel - Moist (continued)	SM		The state of the s		0			-			
17-SS	16/24		34 	Tan fine to coarse Sand, Gray Mottling - Moist					0						
18-SS	13/24		-36 - -37	some fine Gravel					0						
19-SS	12/24		38 	some rust colored mottling			Trust de la constitución de la c		0						
20-SS	14/24		-40 -41					***************************************	0						
21-SS	6/24		-42 -43		SW				V						
22-SS	24/24		- - 44 - -	Wet				***************************************	0						
23-SS	/24		-45 - - -46 -						0						
24-SS	/24		-47   48	Borings Terminated at 48.5 feet					0						
									0						

Department of Natural Resources

## SUIL BURING LUG INFORMATION

Form 4400-122 Rev. 7-98

			R	Coute To: Watershed/Wastewat Remediation/Redevel		Waste N		gement								
				None diagon (Cueve)	iopinent (23	Other								,		2
	ity/Proje					License/P	ermit	/Monito	oring N	umber	****	Boring	Pa Numb	ge l	of	3
Sn	noke-C	Out C	leaner	s (1E-1105024)										M	[W-3	
Вопп	Beau	a By: Ifor	t Jor	of crew chief (first, last) and Firm		Date Drill	ling S	Started		Da	ite Drill	ing Cor	npleted			illing Method
	Gile	s E	ngine	eering Associates,	Inc.		8/25	7/2014	Į.			8/27/.	2014			Hollow-Ster
WIU	nique V	Vell N	0.	DNR Well ID No.   Comme	on Well Name	Final Stati				Surfac	e Eleva		2014	I.E		Auger e Diameter
Logo	Grid O		<del></del>	MW-		F	eet	MSL				et MS		1		inches
	Plane	rigin		estimated:   ) or Boring Loca  N, E	ition [] S/C/N	Lat		0	,	1)	Local C	Grid Lo				
	E 1/4	of	SE	1/4 of Section 16, T 6	N, R 8E	Long		0	1	11		East	ר □ s □ :			□ E
Facili				County		County Cod		Civil 1	own/C	ty/ or	Village	reet	. Ц 3		~	Feet W
	<del></del>	·		Dane		13		Vero	na							
Sar	nple	-										Soil	Prope	erties		
	Length Att. & Recovered (in)	nts	cet	Soil/Rock Des	•						ပ္					
er ype	h At	Con	l F	And Geologic O	-		S	၁	E		essiv h	5 1		<b>₹</b>	-	nts
Number and Type	Length Att. Recovered (	Blow Counts	Depth In Feet	Each Major	Unit		SC	Graphic Log	Well Diagram	PID/FID	mpr	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
<u> </u>	1-7 ~	B	1-	Asphalt and Base Course	Sand and C		<u> </u>	Grap	ă ï	<u> </u>	Str	ည္သိ ပိ	<u> </u>	Pla	P 2	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
			F	Asphan and Base Course	sand and G	ravei										
			-1	Dark Brown to Gray Silty	y or Sandy C	lov										
			F	and very fine Sand with I	ittle Clay and	d										
1-SS	24/10		-2	trace Gravel - Moist	·											
			F													
			-3							0.5						
			E							0.3						
2-SS	24/12		-4				CL									
			E													
			<u>-5</u>							0.8						
			E							0.0						
3-SS	24*22		-6													
			E				j									
			<del>-</del> 7							1.1						
			E	Tan very fine Sand - Mois	st					***						
4-SS	24/19		-8				SP		1		1					
				Brown Clayey Sand - Mo	1.4							ĺ				
			-9	Brown Clayey Sand - Mo	IST		00			1.9						
							SC									
5-SS	24/17		10	Tan to Brown and Gray S	ilt with some	e to										
				trace very fine Sand, local	ly with little	Clay										
			-11	and trace Gravel - Moist		N	ИL			3.4						
			_													
I b - 4			<u>-12</u>													
Signatu	y certify	that t	ne infor	mation on this form is true and cor	177.				**************************************	·						
Jignatti	10	Stan	0.1	(),	Firm Giles	Engineer	ing	Assoc	iates,	Inc.					Tel: 2	62-544-0118

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Percentally identified to

result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

	ng Nun	nber	M	W-3 Use only as an attachment to Form 4400	-122								_	
Sa	mple	4		100	T		T	T	T	Soil	Prop	ge ertie	2 of	3.
	Length Att. & Recovered (in)	) ş	Ge	Soil/Rock Description						1	T	litte	S	-
er 70e	n Att	Blow Counts	Depth In Feet	And Geologic Origin For					sive					
umb id Ty	ingt!	W(0	bth	Each Major Unit	CS	ohic	_ E	18	pres	ture	.g _	oity		rents
9-9 Number Sand Type	24/22	m m	ļ <u>ĕ</u>		USCS	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity 1-den	P 200	RQD/ Comments
0-33	24/22		E	Tan to Brown and Gray Silt with some to trace very fine Sand, locally with little Clay and trace Gravel - Moist (continued)					0 02			-	-	<u> </u>
			- -13	and trace Gravel - Moist (continued)		-								
				, (Communica)				8.0						
7-SS	24/22		- 14											
7 00	24122		_		ML									
			- 15											
		-	-					12.2						
8 <b>-</b> SS	24/19	E	-16											
	- "	<b>,</b>	:											
		E	-17											
		F	:					13.0						
9-SS	24/24	E	-18					ĺ			1			
	1	E							l	1				•
•		F	-19						.					
		E						2.0						
10-55	24/17	F	-20				1	1			.			
		E						1			1		1	
		E	-21			1		13.1						
		. <b> </b>						13.1		l	1			
11-SS 2	24/22	· E	-22	trace dolomite rock chips							1			
		F	l	•	- 1								1	
.		E	23		I			16.5						
		F	.				-	10.5						
12-SS 2	4/14	E	24		ML					1				
		F	25											
		E	25					2.7						
		E	26		1									
13-SS 2	4/15	F.	20		1									
		E.	27		1									
		F.	-					3.0	- 1					
14 00 0		E,	28											
14-SS 24	1/21	E				ļ								
		E	19											
		E						7.4						
15-SS 24	/16	F-3	0 .	777.										
13-00   24	/10	E		Wet										
		<u> </u> 3	1											
		E					10	5.8		-				
		-3	2						7					
				ı	I	l	1	1		1			l	

South   Company   Compan		g Num	ber	MV	V-3 Use only as an attachment to Form 4400-1	22.						Pag	ge 3	of	3
Solid   Soli											Soil				
17-SS 24/13		æ (£	"	<u>+</u>	Soil/Rock Description							<u> </u>		T	1
17-SS 24/13		d #	T H	Fee	i e					ive					
17-SS 24/13	ype	h A	ō	H	1	S	.2	E	<u> </u>	th	it is		ΪŢ		ents
17-SS 24/13	ם	ngt co	§	l pt	Each Major Unit	SC	aph	H age	[H]	inpi	ist	E E	stic	8	) À W
17-SS 24/13	ŹĦ	12 %	<u>m</u>	ļă		j j	5 3	 N iii N	H	St	×ို ပိ	[: [	Pla Ind	P 2	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
17-SS 24/13	16-SS	24/19		þ	Tan to Brown and Gray Silt with some to										
17-SS 24/13				-	trace very fine Sand, locally with little Clay										
17-SS 24/13			ĺ	<del>-33</del>	and trace Gravel - Moist (continued)				19						
18-SS 24/13				F					***	İ					
18-SS 24/13	17 00	24/12		-34											
18-SS 24/13	17-33	24/13		F											
18-SS 24/13				F											
18-SS 24/13				-33				ļ.	0.8						
19-SS 24/17				F											
19-SS 24/17	22-81	24/13		<del>-36</del>											
19-SS 24/17	10 00	- 013		E											
19-SS 24/17				-37									 		
20-SS 24/19				F "					0.6						
20-SS 24/19				-											
20-SS 24/19	19-SS	24/17		-38											
20-SS   24/19				<u> </u>		MIL									
20-SS   24/19				-39											
21-SS   24/9   -41   -41   -42   -43   -44   -44   -44   -45   Feet   Borings Terminated at 44.5 feet				-					1.7						
21-SS   24/9   -41   -41   -42   -43   -44   -44   -44   -45   Feet   Borings Terminated at 44.5 feet				F											
21-SS   24/9	20-SS	24/19		F <sup>40</sup>											
21-SS   24/9				F											
21-SS   24/9   -42   -43   -44				-41											
Borings Terminated at 44.5 feet				E					0.3						
Borings Terminated at 44.5 feet				-42											
Borings Terminated at 44.5 feet	21-SS	24/9		F 42											
Borings Terminated at 44.5 feet				E											
Borings Terminated at 44.5 feet				-43					Λ0						
Borings Terminated at 44.5 feet	l	l		<u> </u>					0.9						
Borings Terminated at 44.5 feet				L <sub>44</sub>											
				<b> </b>											
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# SOIL BORING LOG INFORMATION

Form 4400-122

			E		Vastewater □ /Redevelopment ☑	Wast Other		gement								
Facil	ity/Proj	eet No	nza											nge l	of	3
Sn	noke-(	Out C	leaner	rs (1E-1105024)		License	e/Permi	t/Monit	oring N	umb	er	Borin	g Numl		W-4	
Borii E	ng Drille Beauf	ed By: ort	Name Jone	of crew chief (first, last) a	nd Firm	Date D	rilling :	Started	***************************************		Date Dril	ling Co	mpleted			lling Method
				ering Associate			Q/2	8/2014	1			0 (20)	2014			Iollow-Sten
WIL	Inique V	Vell No	D.	DNR Well ID No.	Common Well Name	e Final S				Sur	face Eleva	8/28/ ation	2014	Bo	rehole	uger Diameter
Loca	l Grid C	rigin	T (6	estimated:  ) or Bor	MW-4		Feet	MSL				et MS		8	.25	inches
	Plane	Ū	C Fr	N,	E S/C/N	1	at	o 			Local	Grid Lo	cation $\square$	LT.		□ Е
Facili	1/4	of	SE	1/4 of Section 16,	T 6 N, R 8E	Lor		0				Fee	t 🗆 S			Feet W
				Dane		County C	ode	Verd		ity/ c	or Village					
Sa	mple				***************************************	1.5		1	T	T		Soil	Prop	erties		
	% (ii)	ıts	cet	1	ock Description						6)					1
er ype	h Att	Coun	In F		ologic Origin For		S	S	B	c	sssive	p _		<i>y</i> 3		nts
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Eac	h Major Unit		SC	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
× 00			E	Asphalt and Base	Course Sand and	Gravel	1-	0 7	≱ 🖸	<u>a</u>	: O is	ΣÖ	2 2	E E	~	<u>%</u> %
			E,	•												
			E	Brown to Dark Bro	own Silty Clay w	ith trace			-							
1.00	24/26		-2	to little very fine S - Moist	and, locally trace	Gravel										
1-SS	24/20		E													
			-3							^						
			E							0						
2-SS	24/24		-4													
			E _													
			5 							0						
3.00	24/24		-6													
3-SS	24/24						CL									
			7													
										0						
4-SS	24/14		-8									ļ				
			-9	2" Brown very fine	to medium Sand	with	SW					77772				
		F	-	trace Gravel - Mois	t					0						
5-SS	24/12		-10						į							
2-22	24/13	-	-													
		ļ	-11	6" Brown very fine	to madium Cand	vrith.	CL			C						
	-	E		trace Gravel - Mois	to medium Sand	with		- Income		0						
			-12													
Signatu	re certify		e infor	mation on this form is true	and correct to the bes	st of my kno	owledg	3.	···			•				

Styles Wivers Giles Engineering Associates, Inc. Tel: 262-544-0118 N8 W22350 Johnson Drive Suite A1 Waukesha, WI 53186 Fax: 262-549-5868 This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may

result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

	g Numl	er	MV	V-4 Use only as an attachment to Form 4400-1	22.						Pag	ge 2	of	3
San	nple									Soil	Prope			I
	3 (ii.	įsą.	l ti	Soil/Rock Description					-					
. 0	Att.	ount	Fe	And Geologic Origin For					sive	4.				ts
ryp Typ	sth /	, C	th Ir	Each Major Unit	CS	hic	ram	ED	pres	ture	r ëd	icity		/ men
Nun	Length Att. & Recovered (in)	Blow Counts	Depth In Feet		usc	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
S Number and Type	24/7		<del>                                     </del>	Brown to Dark Brown Silty Clay with trace	1-	<del>                                     </del>		<del>                                     </del>	100	20		<u> </u>	<u> </u>	<u> </u>
			E	Brown to Dark Brown Silty Clay with trace to little very fine Sand, locally trace Gravel										
			-13	- Moist (continued)	CL			0						
			-					"						
7-SS	24/0		-14	No magazana Daillian an haalda	-	ļ								
7-33	2410		E	No recovery; Drilling on boulder										
			- 15											
			F											
			_ _16											
			F 10	Remainder of boring blind drilled due to mechanical problem with motor for rig's										
			- -17	hammer										
				nammer										
			-											
			-18											
			<del>-</del> 19											
			E											
			-20		-									
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	g Numb	er	MV	V-4 Use only as an attachment to Form 4400-	122.	<b>.</b>					Pag		of	3
San	nple ਕ ਵਿ	s	34	Soil/Rock Description						Soil	Prope	erties		
er /pe	Length Att. & Recovered (in	Counts	In Fee	And Geologic Origin For	S	2	e e	Q	essive	15 14		ity		ents
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Each Major Unit	USC	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			E	Remainder of boring blind drilled due to mechanical problem with motor for rig's					0 07				<del> </del>	
			<del>-</del> 33	hammer (continued)	***************************************		***************************************							
			-34											
			E											
			<del>-35</del>											
			-36		700 000 700 700 700 700 700 700 700 700									
					***************************************									
			-38											
			E											
			-39 -					THE PROPERTY OF THE PROPERTY O						
			-40	Borings Terminated at 40 feet										
						-								
	***************************************													
	1				1							-		

# SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

			<u>R</u>	Route To: Watershed/V Remediation	Vastewater   /Redevelopment   x	Waste Other		gement								
	<u> </u>				-								Pa	ge l	of	3
	lity/Proj			- (1E 110500 t)		License	/Permi	t/Monit	oring N	umber		Boring	g Numb			
Bori	ng Drille	ed By:	Name (	rs (1E-1105024)	nd Eisen	Dec 15									W-5	
				of crew chief (first, last) a		Date Dr	illing S	started		D	ate Drill	ing Co	mpleted		1	lling Method
				ering Associate	s, Inc.		8/2	3/2014	1	l		8/28/	2014			lollow-Sten
WIL	Jnique V	Vell No	),	DNR Well ID No.	Common Well Name	Final St				Surfa	ce Eleva		2014	В		uger Diameter
Loop	10::10		- Francis		MW-5		Feet	MSL			Fee	et MS	L			nches
	l Grid O Plane	rigin	∐ (e		ing Location   E S/C/N	1 .	at	0	ſ	11	Local (	Grid Lo	cation			
SI		of S	EΕ	1/4 of Section 16,	E S/C/N T 6 N, R 8E	1		•	1							□Е
Facili			<u> </u>	County	TO N, KOL	Lon County Co		Civil T	`own/Ci	ty/ or	Village	Fee	t 🗆 S			Feet W
				Dane		13		Vero		ity/ Of	vinage					
Sa	mple				***************************************			1	<u> </u>	T	Т	Soil	Prope	erties		
	ii)	S	75	Soil/R	ock Description							T	· · · · ·	100	T	1
ູ່ຊ	Length Att. Recovered (	Blow Counts	Depth In Feet	And Ge	ologic Origin For						sive					S
nbei Tyr	gth	O *	th L	Eac	h Major Unit		CS	hic	ram	6	gth	ture	P	city		nent
Number and Type	Length Att. & Recovered (in)	Blo	Dep				O.S.	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	200	RQD/ Comments
			-	Blind drilled due t	o mechanical prot	blem		† <del></del>		1	100	20	,i	<u> </u>	<u>c.</u>	~ 0
			-	with rig's hammer.												
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1 nereb	y certify	that th	e infor	mation on this form is true		st of my kno	wledge	€.								
Signatu	ire 🌶	Stens	9000	Owens	Firm Gile	s Engine	ering	Assoc	iates,	Inc.	·	************			Tel: 26	62-544-0118
		- yp	er)	rvew	N8 W	V22350 Joh	nson D	rive Su	ite A1	Wauke	sha, Wl	53186				2-549-5868

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	g Numl	er	MW	V-5 Use only as an attachment to Form 4400-	122.						Pa	ige 2	of	3
San	nple									Soil	Prop	erties		
	tt. & d (in	ınts	Feet	Soil/Rock Description					ve					
iber Type	th A	Blow Counts	Depth In Feet	And Geologic Origin For Each Major Unit	S	iic			ressi	n re		ity		ents
Number and Type	Length Att. & Recovered (in)	Blov	Dept		USCS	Grapl	Well	PID/FID	Compressive Strength	Moisture Content	Liquid	Plasticity Index	P 200	RQD/ Comments
			E	Blind drilled due to mechanical problem with rig's hammer. (continued)						20			<u> </u>	<u>%</u> O
			_ 13	with fig's hammer. (continuea)										
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		E	-31											
		F									***************************************			
	-	<u> </u>	32											

Soil/Rock Description And Geologic Origin For Each Major Unit  Soil/Rock Description And Geol	Boring Number	MV	V-5 Use only as an attachment to Form 4400-	122.						Pa	ge 3	of	3
Soil/Rock Description And Geologic Origin For Each Major Unit  Soil/Rock Description And Geol	Sample								Soil				Ī
Blind drilled due to mechanical problem with rig's hammer. (continued)  -34  -35  -36  -37  -38  -39  -40  -41  -41  -41  -50  Borings Terminated at 42 feet	s (in)	t t	Soil/Rock Description						1	T			1
Blind drilled due to mechanical problem with rig's hammer. (continued)  -34  -35  -36  -37  -38  -39  -40  -41  -41  -41  -50  Borings Terminated at 42 feet	e Att.	ı Fe	And Geologic Origin For					sive					s
Blind drilled due to mechanical problem with rig's hammer. (continued)  -34  -35  -36  -37  -38  -39  -40  -41  -41  -41  -50  Borings Terminated at 42 feet	Typ yv C.	h Ir		S	hic	uæ	Ü	gth g	ure	-6	cjt		lent
Blind drilled due to mechanical problem with rig's hammer. (continued)  -34  -35  -36  -37  -38  -39  -40  -41  -41  -41  -50  Borings Terminated at 42 feet	Second Slow	)ept		SC	rapl	ell iagr	, <u>G</u>	omp	oist	qui	astic	200	)QC
with rig's hammer. (continued)  -33  -34  -35  -36  -37  -38  -39  -40  -41  -41		+ -	Blind drilled due to mechanical problem	+ -	0 7	<u> ≥ 0</u>		10 <u>22</u>	ΣÖ	<u> </u>	로 호	۵.	<u> </u>
-33 -34 -35 -36 -37 -38 -39 -40 -41 -42  Borings Terminated at 42 feet		-	with rig's hammer. (continued)										
-35 -36 -37 -38 -39 -40 -41 -41 -42 -42 -42 -48 -49 -40 -41 -41 -42 -40 -41 -41 -42		-33	2										
-35 -36 -37 -38 -39 -40 -41 -41 -42 -42 -42 -48 -49 -40 -41 -41 -42 -40 -41 -41 -42		F							į				
-35 -36 -37 -38 -39 -40 -41 -41 -42 -42 -42 -48 -49 -40 -41 -41 -42 -40 -41 -41 -42		E 24											
-36 -37 -38 -39 -40 -41 -42 Borings Terminated at 42 feet		- 34											
-36 -37 -38 -39 -40 -41 -42 Borings Terminated at 42 feet		-											
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-37 -38 -39 -40 -41 -42 -42 -42 -42 -42 -42 -42 -43 -44 -45 -44 -45 -44 -45 -46 -47 -48 -48 -49 -49 -49 -49 -49 -49 -49 -49 -49 -49		F											
-38 -39 -40 -41 -42  Borings Terminated at 42 feet		-36											
-38 -39 -40 -41 -42  Borings Terminated at 42 feet		<u> </u>											
-38 -39 -40 -41 -42  Borings Terminated at 42 feet		<u></u>											
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#### SOIL BORING LOG INFORMATION

Form 4400-122

Rev. 5-97

			<u>Rc</u>	oute To:	Waters	shed/W	astewater	r 🗌		Waste	Manag	ement								
					Remed	diation/	Redevelo	pment 🛚		Other										
																	Pa	ge 1	of	1
Facili	y/Projec	et Nam	ie			***************************************			L	icense	Permit	/Monito	oring N	umber		Boring	Numb	er		***************************************
					105024)														W-6	
Borin	g Drilleo	d By (F	irm nar	ne and n	name of cr	ew chie	ef)		D	Oate Dr	illing S	tarted		Da	te Drill	ing Cor	npleted		- 1	ing Method
77	.1 771		0.1	ъ.	. ,		4				10/5	/ <b>^</b> ^1				10/2//	3010		1	ollow-Stem
	th Fio				eering <i>A</i> Well ID N			n Well Nam	ne F	inal St		3/2019 iter Lev		Surfac	e Eleva	10/3/2	2019	Be		uger Diameter
***	nque w	CII I VO.	•	Divic	Wen ib i	10.	1	MW-6		mai ou	Feet		<b>C</b> 1	Jarrae		et MS	I.			Inches
Borin	g Locati	on or I	Local G	rid Origi	n (	Check i	1	ed: 🔲 )				0		L				(If appli		***************************************
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Facilit	y ID				County				1	unty Co	ode	1		ity/ or	Village					
	1		1		Dane				13	·····	·	Verc	na	T	T	0 1	T.			
Sar	nple													}		Soil	Prop	erties		
	Length Att. & Recovered (in)	ıts	Depth In Feet				ock Desc	-							ve Ve					
n ed	Length Att. Recovered (	Blow Counts	ln F		Α		ologic Or	_			S	o o	n		Compressive Strength	5 t		ty		RQD/ Comments
Number and Type	ngth cove	) W	pt			Eacl	h Major U	Jnit			SC	Graphic Log	Well Diagram	PID/FID	Compress Strength	Moisture Content	Liquid Limit	Plasticity Index	200	D/ Dmm
Nu	Lei Re	эIВ	Deg								n S	Grap Log	Well Diagr	PIL	Con	Mo	Liquic Limit	Plastic Index	P 2	RQ
			F		nalt, fine						Asphal			0.1						
1-SS	24/18		_3	Dark	Brown	Silty	Clay w	ith some			CL			0.1						
2-SS	24/24		E 3	L				tive-Mois		1				0.2						
	24/24		E_4	Red-	·Brown ve-Mois	Claye	y Siit, t	race fine	Sano	1,	CL-MI			0.3						
3-SS	24/12		<del>-</del> 6		-Brown		ınd Cla	v with						0.2	ļ					
1-SS	24/24		F	Red-	Brown	mottli	ng, trac	e roots,			CL			0.3					ļ	
	24/24		<u></u> −9	Nativ	ve-Mois	t								0.4						
5-SS	24/24		- -12					with trac	ce fin	ie _	SM			0.4						
5-SS	24/24		E		el, Nati			1						0.5						
7-SS	24/24		-15		el and c			th trace fi	ine					0.6						
3-SS	24/12		E		ve-Mois			· <b>,</b>												
9-SS	24/24		<del>- 18</del>											1.1						
0-SS	24/24		- -21											0.9						
1-SS	24/24		F - 1								***************************************			0.9						
2-SS	24/24		-24	***	. 24.6	c .					SM			0.6					- 474	
3-SS	24/24		F 37	Wet	at 24.6	teet								1.4						
4-SS	24/24		27											0.8						
5-SS	24/12		_30											0.9						
6-SS	24/18		_											0.5						
7-SS	24/18		<del>-33</del>											0.4						
8-SS	24/18		-36	Domi	na tamai	matad	at 26 f	ant han	·					0.5						
0-33	2 0 10			DUIII	ng termi	mated	at 30 I	eet ogs.												
l herel	y certif	y that t	he info	rmation (	on this for	m is tru	ue and co	rrect to the	best o	f my k	nowled	ge.	<u></u>	<u> </u>	L		<u>.                                    </u>			
Signat	ure	-			- 4			T-5:				g Asso	ociate	s. Inc					Tel	262-544-0118
	<u></u>	/_	7 1	ر. ل	4										kesha, V	WI 531	86			262-549-5868

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State of Wisconsin

### SOIL BORING LOG INFORMATION

Department of Natural Resources Form 4400-122 Waste Management Watershed/Wastewater Route To: Remediation/Redevelopment Other Page License/Permit/Monitoring Number Boring Number Facility/Project Name MW-7 Smoke-Out Cleaners (1E-1105024) Date Drilling Completed Boring Drilled By (Firm name and name of crew chief) Date Drilling Started Drilling Method Hollow-Stem 10/3/2019 Auger Keith Flowers, Giles Engineering Associates 10/3/2019 Common Well Name Final Static Water Level Surface Elevation Borehole Diameter WI Unique Well No. DNR Well ID No. MW-7 Feet MSL Feet MSL 8.3 Inches Local Grid Location (If applicable) Boring Location or Local Grid Origin (Check if estimated: \( \) Lat. S/C/N State Plane  $\square$  N  $\square$  E ,, Feet W Feet  $\square$  S Long. SE 1/4 of SE 1/4 of Section 16, T 6 N, R 8 E Civil Town/City/ or Village Facility ID County County Code Dane 13 Verona Soil Properties Sample Length Att. & Recovered (in) Soil/Rock Description Depth In Feet Blow Counts Compressive Length Att. And Geologic Origin For Number and Type PID/FID Moisture Plasticity Diagram Content Each Major Unit Graphic Liquid Limit SCIndex P 200 Well 80 Asphalt, fine to coarse Gravel Asphal 0.1 24/12 Dark Brown Silty Clay with trace Roots 1-SS CL - 3 0.1 and Red mottling, Native-Moist 24/24 2-SS Light Brown fine Sand and Silt with trace 0.2 -6 fine Gravel, Native-Moist 24/24 3-SS 0.2 SM 24/24 4-SS 0.3 24/24 5-SS 0.4 12 6-SS 24/12 Brown-Gray Clayey Silt and fine Sand CL-ML 0.6 with trace fine Gravel, Native-Moist 24/24 **7-SS** -15Light Brown Silty Sand with trace fine 0.4 24/24 8-SS Gravel and dolomite/sandstone rock chips, 0.4 Native-Moist 18 9-SS 24/24 0.4 24/24 10-SS 21 0.7 24/24 11-SS 0.5 -24Wet at 23.6 feet 24/24 12-SS SM 0.2 24/24 13-SS 27 0.6 14-SS 24/24 0.9 30 15-SS 24/24 0.7 24/24 16-SS -330.4 24/18 17-SS 0.1 36 24/24 18-SS Boring terminated at 36 feet bgs. I hereby certify that the information on this form is true and correct to the best of my knowledge. Signature Firm Giles Engineering Associates, Inc. Tel: 262-544-0118

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completions of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form

N8 W22350 Johnson Drive Suite A1 Waukesha, WI 53186

Fax: 262-549-5868

should be sent.

State of Wisconsin	
Department of Natural	Resources

#### SOIL BORING LOG INFORMATION Form 4400-122 Rev. 7-98

				Rou	te To: Watershed/Wastewater Remediation/Revelopm			gement									
					Remodiation Revelops	ilent 🔲 Ou	ici [	J						٠	1		າ
	Facilit						Licen	se/Pen	mit/Mc	nitorir	ig Nun	nber	Borin	Page g Num	ber	_ of _	
	Ver	ona	5	mole	e Out Cleaners IE of crew chief (first, last) and I	-1105024								PZ.	- (	-	×
	First N	lame:	za by: Sim	Name	Last Name: B(ciir	rırın			Starte						Drillir	ig Met	hod HSA
	Firm:	6	1125	E	DNR Well ID No.   Well Nar							114		$\frac{y}{y}$			DP
	WE	3	41_	_			Final _		Water Feet N		Suriac	e Elev	ation _Feet	MSL	Boreh 8.	ole Di	ameter P-2
	Local State F	Grid C lane _	rioin 	☐ (es	stimated:  On Boring Locat N,	ion □ _E	1	at	0	10	Local	Grid L					
	NE	1/4 of	NE	1/4 of	Section 21 , T 06 N, R	08.	Lo		0 '	11			eel 🗆	IN IS _			□ E □ W
	Facilit	y ID			County	Co	ייינע C	The	Civil	Town	City/o	τ Villa	ge / T				
	Sam	ple		(Soc		1				V -			ter out use accressor	Prope	rties		
	Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Descrip And Geologic Origi Each Major Un	in For		uscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
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		24		processor processor processors	Sai laura & War	13+ C-0					0.4						
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				coreste present property	well set @1	60'						e.					
				6													
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				OR ACTUAL CHARGE													
				10												£	
				Problems of amore problems													
j	hereb	y certi	fy tha	it the i	nformation on this form is tru	ie and correc	t to th	e best	of my	knov	vledge	l :.			1		
	Signatu			1	1 -		Firm		,		-00						

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Giles Engr

State of W	isconsin	
Departmen	nt of Natural	Resources

# SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98 Watershed/Wastewater Waste Management Route To: Remediation/Revelopment Other Facility/Project Name
SMOKL O License/Permit/Monitoring Number out 1E-1105024 Cleaners Boring Drilled By: Name of crew chief (first, last) and Firm Date Drilling Started Date Drilling Completed Drilling Method Direct  $\frac{0}{m}\frac{q}{m}, \frac{1}{d}\frac{q}{d}, \frac{20}{y}\frac{2}{y}\frac{2}{y}$  $\frac{\mathcal{O}}{m} \frac{q}{m} / \frac{1}{d} \frac{4}{d} / \frac{1}{d}$  $\frac{2}{y}\frac{2}{y}\frac{2}{y}\frac{2}{y}$ push <u>y</u> <u>y</u> WI Unique Well No. DNR Well ID No. Well Name Final Static Water Level Surface Elevation Borehole Diameter Feet MSL 2 Feet MSL inches Local Grid Origin □ (estimated: □ ) or Boring Location □ Local Grid Location Lat  $\square$  N DE NE 1/4 of NE 1/4 of Section 21 TOG N. R 08 Long Feet□ W Feet  $\square$  S Facility ID County Code County Civil Town/City/ or Village Dane Verona WI Sample Soil Properties Depth in Feet (Below ground surface) જ Recovered (in) Soil/Rock Description Blow Counts Length Att. And Geologic Origin For USCS PID/FID Plasticity Index Moisture Content Well Diagram Graphic Log Each Major Unit Liquid Limit P 200 ASP, base course Stg, tanc-S 0.0 1241 08-2 0.4 4 6 10 I hereby certify that the information on this form is true and correct to the best of my knowledge. Signature Firm Giles Engr

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wis., Dept. of Natural Resources Well / Drillhole / Borehole Filling & Sealing Report dnr.wi.gov Form 3300-005 (R 4/2015) Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information. Route to DNR Bureau: **Drinking Water** Watershed/Wastewater Remediation/Redevelopment Verification Only of Fill and Seal Waste Management Other: 1. Well Location Information 2. Facility / Owner Information WI Unique Well # of Hicap # Facility Name County Removed Well

					Facility ID (F	ID or PWS)				
Latitude / Longitu	ide (see instruction	s) Fo	ormat Cod	e Method Code GPS008						
		N		SCR002	License/Perr	mit/Monitoring #	#			
		W	DDM			=				
1/4 / 1/4	1/4	Section	Townsh	ip Range E	Original Wel	l Owner				
or Gov't Lot #	1			$N \qquad \qquad \square \qquad W$						
Well Street Addre	ess				Present Wel	l Owner				
Well City, Village	or Town		٧	Vell ZIP Code	Mailing Addr	ess of Present	Owner			
					City of Prese	ont Owner		State	ZIP Cod	40
Subdivision Nam	е		L	ot #	City of Frese	ent Owner		State	ZIF COO	ie
		h	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	(5. 1	4 Pump I	iner Screen	, Casing & Sea	ling Mate	rial	
Reason for Remo	oval from Service	WI Unique	e Well # of	Replacement Well		piping remove			Yes 🗌	No N/A
0 E'II I 0 0	L LW/ II / B :III				Liner(s) re	•			Yes 🗌	No N/A
3. Filled & Sea	aled Well / Drillh			ormation ate (mm/dd/yyyy)	Liner(s) po				Yes 🗌	No N/A
Monitoring	Well	Jilgiliai Colis	iluciion Da	ate (mm/dd/yyyy)	Screen re			H	Yes 🗌	No N/A
Water Well					Casing lef	t in place?			Yes 🗍	No N/A
Borehole / I	D.:101 L.	If a Well Cons please attach		Report is available,		ng cut off below	v surface?		Yes $\square$	No □ N/A
Construction Typ		piease allacii				ng material rise			Yes 🗀	No N/A
				Dur	Did mater	ial settle after 2	24 hours?		Yes 🗀	No N/A
Drilled	Driven (S	anapoint)		Dug	If yes	, was hole reto	pped?		Yes 🗀	No N/A
Other (spec	cify):						sed, were they hyd	Irated		
Formation Type:					with water	from a known	safe source?		Yes	No N/A
Unconsolida	ated Formation		Bedrock		Required Me	thod of Placing	g Sealing Material			
Total Well Depth	From Ground Surf	ace (ft.) Ca	asing Dian	neter (in.)	Condu	ctor Pipe-Gravi	ty Conductor	Pipe-Pump	ed	
						ed & Poured	Other (Exp	lain):		
Lower Drillhole D	Diameter (in.)	Ca	asing Dept	th (ft.)	Sealing Mate	nite Chips) erials				
	( )		3 -1		I — "	ement Grout		Concrete		
						Cement (Concre	ete) Grout	Bentonite	Chins	
Was well annular	space grouted?	Ye	es 🗌	No Unknown		,	Ionitoring Well Bor	J.	•	
If yes, to what de	pth (feet)?	Depth to	Water (fe	eet)	1	ite Chips		nite - Ceme		
					Granul	ar Bentonite	Bento	nite - Sand	Slurry	
5. Material Use	ed to Fill Well /	Drillhole			From (ft.)	To (ft.)	No. Yards, Sacks Volume (circle			Ratio or d Weight
							Volume (circle	one,	IVIC	a vveignt
6. Comments										
7. Supervision	of Work							ND Has	Only	
Name of Dames				# Doto of Fil		\	Data Danaina d	ONR Use	Uniy	

# 7. Supervision of Work Name of Person or Firm Doing Filling & Sealing License # Date of Filling & Sealing or Verification (mm/dd/yyyy) Street or Route Telephone Number ( ) City State ZIP Code Signature of Person Doing Work DATE Received Noted By Comments Comments Date Signed

# **APPENDIX B**

Monitoring Well Construction Logs and Development Forms

	Watershed/Wastewater	Waste Manag	cutcut [	MONITORING WELL Form 4400-113A	CONSTRUCT	LION
IE-1105024 I	Remediation/Redevelopment	Other				
Sinoke-Out Cleaner	ft.	] Ņ.	tr.   W.	Well Name MW-	1	
Facility License, Permit or Monitoring No.	Your Grid Origin F7 ( as	18.	<u>и пw.</u> _	1	•	<del></del>
	Lat,	Long	well Location U	Wis. Unique Well No.		Yo
Facility ID		Ţ, <u></u>	fr. E. S/C/N	Date Well Installed 0/2/2	27,201	4
Type of Well	Section Location of Waste/Sou		FR F	m m	dvvv	Y
Well Code // MW	<u>SE14 of SE 1/4 of Sec.</u>		N, R. 8 8 8	Well Installed By: Name Beaufort Jone		I Firm
Distance from Waste/   Enf. Stds.	Location of Well Relative to W u Upgradient s	Vaste/Source	Gov. Lat Number			
Sourceft. Apply [	d Downgradient n	Sidegradient   Not Known	**************************************	Giles Engineeriv	ig Associai	tes, Inc
A. Protective pipe, top elevation	ft_MSL	.1 ر	Cap and lock?		☑ Yes 🔲	
B. Well casing, top elevation	fi.MSL	7 10 2	Protective cover p a. Inside diameter	oipe: Flush Mount	_8	_in.
C. Land surface elevation	fr.MSL		b. Length:		_T_ :	_ ft.
D. Surface seal, bottom ft. M	er 15 n	1	c. Material:		Steel 🖾	04
12. USCS classification of soil near scree	#12277447	1.38		#	Other 🗆	
		1X	d. Additional pro		☐ Yes ☐	No
GP□GM□GC□GW□SM□SC□ML□MH□	SW   SP	18//	If yes, describe	P	<del></del>	
Bedrock []		₩ `3.	Surface scal:		Bentonite [	30
13. Sieve analysis performed?	Yes 🖾 No				Concrete 2	01
1		<b>₩</b>		~~~~	Other 🗆	
_	otary 🗆 50	4.	. Material between	well casing and protectiv		
Hollow Stem A			Fine sa	nd	Bentonite	30
	Other 🗆 🔛	<b>X</b>			Other 🗆	
15. Drilling fluid used: Water □ 02	Air 🗆 01		. Annular space se			33
	None 99			nud weightBentonite-		35
3 = 03				nud weight Bento		31
16. Drilling additives used?	Yes No	d d	% Benton	ite Bentonite-ce	ment grout 🗆	50
		KW2		o volume added for any o		
Describe		f g	. How installed		Tremie 🗆	01
17. Source of water (attach analysis, if req	puired):	₩		rrem	ic pumped 🗆	02
		<b>×</b>	. Bentonite seal:	n Bentemi	Gravity ဩ te granules □	08
	==	- <b>₩</b>		3/8 in. □1/2 in. Ben		33
E. Bentonite seal, topft. M	st. or 1.5 n.		D. —1/4 III.	polonic milkur Beu		32
	_ \ Kg		Cina and matai	al: Manufacturer, produc	Other 🗆	
	SL or _27.5_ft.		a. Red Hint	#15	e name of mest	i size
G. Filter pack, top ft. M	SL or _28.5_ft.\			d 1-50 # bay no	3-	en en en
		8 🖺	. Filter pack mater	rial: Manufacturer, produ		h size
	SL or 29.5 ft.		a. Red Flir	nt#40 d10-50#bags fr	3-	
I. Well bottom ft. M	SL or 44.5 ft.	<b>三</b>	. Well casing:	Flush threaded PVC sc	hedule 40 図	23
J. Filter pack, bottom ft. M	SL or 44.5 ft			Flush threaded PVC so	hedule 80  Other	24
		10	). Screen material:	PVC	Other Li	
K. Borehole, bottom ft. M	SL or 44.5 ft.		a. Screen type:		Factory cut 🖾	11
L. Borehole, diameter 8,25 in.				Cont	inuous slot  Other	01
M. O.D. well casing 2.375 in.			b. Manufacturer c. Slot size:	Johnson	0.01	
		/	d. Slotted length	h:		<u>2</u> ft.
N. I.D. well casing 2.067 in.		13	l. Backfill materia	I (below filter pack):	None 🗵	14
I hereby certify that the information on th	is form is true and correct to the	hest of my know	wledge		Other 🛘	
	Firm	o oost or my kno				<del></del>
Signature Stylen Owens		Engineeriv	19 Associat	er i Inc		

	Watershed/Wastcwater ☐ Remediation/Redevelopment⊠	Waste Management Other	MONITORING WELL C Form 4400-113A	CONSTRUCTION Roy, 7-98
Pacility/Project Name			Well Name	
Smoke-Out Cleaners	Local Grid Location of Wellft.	S:tr Br.	MW-	
Pacility License, Permit or Monitoring No.	Local Grid Origin (estima	ated: 🗌 ) or Well Location 🗆		NR Well ID No.
	Lat	Long'o	r	
Facility ID	St. Planeft. N	ft. E. S/C/N	Date Well Installed 8/2	2612014
Type of Well	Section Location of Waste/Sou	irce	m m d	d v v v v
Well Code // / mw	SE1/4 of SE 1/4 of Sec.	16 .t. 6 N.R. 8 T	Well Installed By: Name	(first, last) and Firm
Distance from Waste/   Enf. Stds.	Location of Well Relative to W	Vaste/Source Gov. Lot Number	Beautost Jone.	5
Sourceft.   Apply [	u 🗆 Upgradient s 🗆		Giles Engineerin	
A. Protective pips, top elevation	ft.MSL	1. Cap and lock?		☑ Yes □ No
B. Well casing, top elevation	ft MSL		rpipe: Flush Mount	σ.
	11	a. Inside diamet	er:	_A_ in.
	ft_MSL	b. Length:		_111,
D. Surface seal, bottom ft. MS	SLor _ 62_ ft. Significant	C. Material:		Steel 🔯 04
12. USCS classification of soil near scree		d. Additional p	rotection?	Other 🗆 🍇
GP GM GC GW S	sw 🗆 sp 🖂   🕅	114	ibe:	☐ 162 ☐ 140
SM SC C ML MHC	CL CH CH C			Bentonite D 30
Bedrock 🗆		3. Surface scal:		Concrete 2 01
13. Sieve analysis performed?	Yes 🔀 No			Other 🗆 🦥
14. Drilling method used: Ro	otary 🗆 50	4. Material between	en well casing and protective	
Hollow Stem As		₩ . <u></u>		Bentonite □ 30
O	Other 🗆 🔛	fine s		Other 🗆 🌉
15. Drilling fluid used: Water □ 02		5. Annular space :	seal: a. Granular/Chipped	Bentonite 🗆 33
	Air 🗆 01 💮 None 🖾 99		l mud weight Bentonite-s	
	None of the second		mud weight Bentor	
16. Drilling additives used?	Yes No		onite Bentonite-cer	
			t o volume added for any of	
Describe		f. How installe		Tremie □ 01
17. Source of water (attach analysis, if req	uired):		Henn	e pumped 🗆 02
		6. Bentonite seal:	a. Rentonit	Gravity № 08 egranules ☐ 33
			Ø3/8 in. □1/2 in. Benta	onite chips 🖾 32
E. Bentonite seal, topft. MS	SL orft.,	Ø / c		Other 🗆 🎇
	SL or _ 31.5_ft.	7. Fine sand mate	rial: Manufacturer, product	
		Red Flin	t #15	- 3
G. Filter pack, top ft. MS	SL or _ 33.5 ft.	b. Volume add	led 1-50# bag 113	,
H. Screen joint, top ft. MS	sl or _33,5_ ft.	8. Filter pack man a. Red FI	terial: Manufacturer, produc In + # 40	t name & mesh size
	. 400		ded <u>10 - 50# bags</u> fr3	•
I. Well bottom ft. MS	SL or 48.5_ft.	9. Well casing:	Flush threaded PVC sch	
J. Filter pack, bottom ft. M.	SL or 48.5 ft.		Flush threaded PVC sch	other 🗆 🎇
K. Borchole, bottom ft. M	SL or 48.5 ft.	10. Screen materia		
· _	3001	a. Screen type	: F	actory cut 🖾 11
L. Borehole, diameter 8.25 in.				nuous slot 🔲 01 Other 🗆
M. O.D. well casing 2.375 in.		b. Manufactur	er <u>Jehnson</u>	
M. O.D. well casing $2.575$ in.		c. Slot size:	neh.	0. <u>0</u> <u>1</u> 0 in.
N. I.D. well casing 2.067 in.		d. Slotted len	•	<u></u>
The rice well cashing m.		11. Backini mater	ial (below filter pack):	None 🗵 14
I hereby certify that the information on thi	is form is true and correct to the	best of my knowledge.		Other 🛘 👑
a.	Firm			
Signature Stylien Owens		Engineering Associa	tes Inc	

	Watershed/Wastewater ☐ Remediation/Redevelopment⊠	it age ittaliagement	MONITORING WELL CONSTRUCTION Form 4400-113A Rov. 7-98
Pacility/Project Name	Local Grid Location of Well		Well Name
Smoke-out Cleaners	r	Nr. DE.	MW-3
Facility License, Permit or Monitoring No.	Local Grid Origin (estima) Lat, "1	ted: [] ) or Well Location [] ong	Wis, Unique Well No. DNR Well ID No.
Facility ID	St. Plancft. N,	ft. E. S/C/N	Date Well Installed 9/27/2014
Type of Well	Section Location of Waste/Sour		m m d d y y y y Well Installed By: Name (first, last) and Firm
Well Code II I mw	<u>SE14 of SE 14 of Sec.</u>		Beautost Jones
Distance from Waste/ Enf. Stds.	Location of Well Relative to W u Upgradient s	aste/Source Gov. Lot Number Sidegradient	
Sourceft. Apply [	d Downgradient n		Giles Engineering Assocrates.
A. Protective pips, top elevation	ft_MSL	I. Cap and lock?	✓ Yes □ No
B. Well casing, top elevation	ft. MSL	2. Protective cover	pipe: Flush Mount
C. Land surface elevation	fLMSL	b. Length:	
D. Surface seal, bottom ft. M	SL or _ 15 ft 3	c. Material:	Steel 🖾 04
12. USCS classification of soil near scree		d. Additional pro	Other D
GP GM GC GW C	SW 🗆 SP 🖂   🗡	If yes, describ	
SM SC MLM MHO	CT CH CH CH CH	3. Surface scal:	Bentonite □ 30
	Yes ⊠ No	3. duriact scar:	Concrete 2 01
_	1 100		Other 🗆
14. Drilling method used: Ro Hollow Stem A:	otary 50	4. Material between	well casing and protective pipe:
Hollow Stellt A	Other 🗆 💮	Sine sa	nd Bentonite □ 30 Other □
		5. Annular space se	
15. Drilling fluid used: Water □ 0 2	Air 🗆 01	KCG	nud weightBentonite-sand slurry 35
Drilling Mud □ 03	None 🕅 99		nud weight Bentonite slurry [] 31
16. Drilling additives used?	Yes No	d % Benton	nite Bentonite-cement grout [ 50
		KW	volume added for any of the above
Describe		f. How installed	ft7 . • • • · · ·
17. Source of water (attach analysis, if req	uired):		Gravity 🖾 08
		6. Bentonite seal:	a. Bentonite granules [] 33
		b. □1/4 in. 🔀	13/8 in. 1/2 in. Bentonite chips 2 32
E. Bentonite scal, topft. MS	SL or L2_ft.	/ c	Other 🗆 🎆
F. Fine sand, top ft. MS	SL or _ 27.5 ft.	7. Fine sand materi	ial: Manufacturer, product name & mesh size
G. Filter pack, top ft. M	SL or _ 28.5 ft.	b. Volume adde	a 1-50# bug a3
H. Screen joint, top ft. M	SL or _ 29.5_ft.	a Red Fli	502205
I. Well bottom ft. Mi	SL or _ <u>44.5</u> ft.	b. Volume adde 9. Well casing:	:d 10-50# bags ft <sup>3</sup> Flush threaded PVC schedule 40 区 23
J. Filter pack, bottomft.M		,,,	Flush threaded PVC schedule 80  24 Other  Other
K. Borehole, bottom ft. M	SL or _ 44.5_ft.	10. Screen material a. Screen type:	: PVC   Factory cut ☑ 11
L. Borehole, diameter 8.25 in.			Continuous slot  Other  Other
M. O.D. well easing 2.375 in.		b. Manufacturer c. Slot size:	0.010 in.
N. I.D. well casing 2.067 in.		\ d. Slotted lengt	h:ft. d (below filter pack): None 屋 14
-			Other []
I hereby certify that the information on the		best of my knowledge.	
Signature Stylen Owens	Firm Giles	Engineering Associat	a Tuc

1 1	Watershed/Wastewater [] Remediation/Redevelopment[	Waste Mans	Pourour	MONITORING WELL Form 4400-113A	CONSTRUCT	TION
	I agal Grid I agation of Wall			Well Name MW-	4	
Facility License, Permit or Monitoring No.	Local Grid Origin [ ] (esti-	mated: 🗆 ) or	Well Location	Wis, Unique Well No.		No.
Facility ID	Lat, ft.	 . N,	or fr.E. S/C/N	Date Well Installed	00 2	
	Section Location of Waste/S			m m	d d v v v	<del></del>
Type of Well Code 11 m W	<u>SE14 of SE 1/4 of Se</u>		N, R. 8 🖥 🕏	Well Installed By: Nam Beaufort Jone	e (first, last) and	d Firm
Distance from Waste/ Enf. Stds. Source ft. Apply	Location of Well Relative to u  Upgradient s d  Downgradient n	☐ Sidegradient	Gov. Lot Number	Giles Engineer		tes. Inc
A. Protective pipe, top elevation	fc.MSL	1	. Cap and lock?	<u></u>	☑ Yes □	
B. Well casing, top elevation	ft. MSL		. Protective cover p a. Inside diameter	sipe: Flush Mount	8	in.
C. Land surface elevation	fr.MSL		b. Length:		Ĭ.	_ ſt.
D. Surface seal, bottom ft. M	SLor _/_5_ft.		c. Material:			0.4
12. USCS classification of soil near scree	X1-31/47-1		d. Additional pro	tection?	Other □ □ Yes □	No.
GP GM GC GW C	SW L SP L		If yes, describe			110
SM C SC MLC MHC	CT O CH O I		3. Surface scal:		Bentonite 🛘	30
13. Sieve analysis performed?	Yes 🛮 No				Concrete 🗵	01
14. Drilling method used: Ro	otary □ 50	)	1. Material between	well casing and protective	Other 🛘	
Hollow Stem A			fine sa		Bentonite 🗆	30
	Other 🗆 🎆				Other 🗆	
15. Drilling fluid used: Water □ 0 2	Air 🗆 01		5. Annular space se	al: a. Granular/Chippe nud weight Bentonite		33 35
Drilling Mud □ 03	None 🛛 99			nud weight Bento		31
16. Drilling additives used?	Yes No		d % Benton	ite Bentonite-co	ement grout 🗆	50
				3 volume added for any o		
Describe			f. How installed		Tremie □	01 02
17. Source of water (attach analysis, if req	uired):				Gravity 🖾	02
			6. Bentonite seal:		ite granules 🔲	33
E. Bentonite seal, top ft. M	SLor_1.5 ft.		b. □1/4 in. )⊘	3/8 in. □1/2 in. Bcn	tonite chips 🖾 Other 🛚	32
-	SL or _ 23_ft.			al: Manufacturer, produc		n size
	SL or _ 24_ft		a. Red Flint	#15 1_1-50#bag_a		
				ial: Manufacturer, produ		h cize
H. Screen joint, top ft. M	SL or _ 25_ft.		a. Red Flir			
I. Well bottom	SL or40_ft.		9. Well casing:	Flush threaded PVC so	hedule 40 🗵	23
J. Filter pack, bottomft. M	SL or40_ft.		***************************************	Flush threaded PVC so	Other	24
K. Borchole, bottom ft. M	SL orft		0. Screen material: a. Screen type:		Factory cut 🖾	11
L. Borehole, diameter 8.25 in.					inuous slot	01
M. O.D. well easing 2.375 in.			b. Manufacturer c. Slot size:	Johnson	0.01	
N. I.D. well casing 2.067 in.		\	d. Slotted length	h: I (below filter pack):		A.
				(Bolow Hitel pack):	Other [	
I hereby certify that the information on the Signature	is form is true and correct to t	the best of my kno	owiedge.			-
Signature Stylier Owens		es Engineeri	ing Associati	es Inc		

	Watershed/Wastewater ☐ Remediation/Redevelopment▷	Waste Mans  ✓ Other □	Rememel 1	MONITORING WELL Form 4400-113A	CONSTRUC Rov. 7-98	TION
Facility/Project Name	I ocal Grid Location of Well			Well Name		
Smoke-out Cleaners	<u> </u>	□ N. □ S	tr. 🛮 E.	MW-		
Pacility License, Permit or Monitoring No.	Local Grid Origin (estin	nated: 🗆 ) or	Well Location [ "or	Wis, Unique Well No.		No.
Facility ID	St. Planeft.	и,		Date Well Installed	281201	4
Type of Well	Section Location of Waste/So		~ MF	Well Installed By: Nam	તે તે પ્રથ	7 Y
Well Code Il , mw	SE1/4 of SE 1/4 of Sex	c <u>, /6     ,T.                               </u>		Beaufort Jone	c (mer' mer') am	u rum
Distance from Waste/   Enf. Stds.	Location of Well Relative to u Upgradient s	Waste/Source ☐ Sidegradient	Gov. Lot Number			
Source ft. Apply [	d Downgradient n			Giles Engineer	ng Associa:	tes. Inc
A. Protective pips, top elevation	ft.MSL		. Cap and lock?		☑ Yes 🗆	No
B. Well casing, top elevation	ft. MSL		a. Inside diameter	oipe: Flush Mount	8	in.
C. Land surface elevation	ft_MSL		b. Length:			_ ſt.
D. Surface seal, bottom ft. MS	SLor 15 a si		c. Material:			0 4
12. USCS classification of soil near scree			d. Additional pro	tection?	Other 🗆	424,224
GP GM GC GW G	SW   SP		If yes, describe		LI IES LI	140
SM SC ML MH O	CT CH CH CH C	1 图 / /	3. Surface scal:		Bentonite 🗆	30
	Y 67 N		o, ourrace scar:		Concrete 12	01
	Yes ⊠ No	<b>                                     </b>			Other 🗆	
14. Drilling method used: Ro Hollow Stem A	otery 050	¥ ₩ '	4. Material between	well casing and protectiv		
	Other 🗆 💮		fine sa	nd	Bentonite  Other	30
			5. Annular space se			33
15. Drilling fluid used: Water □ 0 2	Air □ 01	R RCCI	_	nud weight Bentonite		35
Drilling Mud □ 03	None 🛛 99			nud weight Bento		31
16. Drilling additives used?	Yes No &		d % Bentor	ite Bentonite-co	ment grout 🗆	50
		₩ ₩		3 volume added for any o		
Describe	1 100	8 🕷	f. How installed		Tremie □	01
17. Source of water (attach analysis, if req	puired):	<b>X X X</b>		1100	Gravity 🖼	02
			6. Bentonite seal:	a. Bentoni	ite granules [	08 33
			b. □1/4 in. 🂢	√3/8 in. □1/2 in. Ben	tonite chips 🖾	32
E. Bentonite seal, top ft. MS	SL orf2ft.		c		Other 🛘	
	SLor_25_ft.		7. Fine sand materi a. Red Fint	al: Manufacturer, produc #15	t name & mesh	ı size
G. Filter pack, top ft. M	SL or _ 26_ft.		b. Volume adde	d 1-50# bag m		
H. Screen joint, top ft. M	SL or _ 27_ft.		a. Red Flin			h size
I. Well bottom ft. MS	SL or _ 42_ft.		<ol> <li>Volume adde</li> <li>Well casing:</li> </ol>	d <u>9-50Hbugs</u> fr Flush threaded PVC so	hedule 40 🗵	23
J. Filter pack, bottomft. M	SL or 42 ft.			Flush threaded PVC so	hedule 80 🗆 Other 🗆	24
K. Borchole, bottom ft. M	SLor_42_ft.		<ol> <li>Screen material:</li> <li>Screen type:</li> </ol>		Factory cut 🗵	11
L. Borehole, diameter 8.25 in.				Cont	inuous slot  Other	01
M. O.D. well casing 2.375 in.			b. Manufacturer c. Slot size:		0.0	0 in.
N. I.D. well casing 2.067 in.		`	d. Slotted lengt	h: I (below filter pack):	None 🗵	<u>5</u> ft.
_				a toton anto pack).	Other 🗆	
I hereby certify that the information on this		he best of my kn	owledge.			
Signature Liveus	Firm Gile	s Engineeri	ing Associat	es IIvic		

Route to: Watershed/Waste	water	Waste Management				
Remediation/Redevelopment 🔀		Other				
Facility/Project Name	County Name	<u> </u>	Well Name		, i	
Smoke-Out Cleaners		Dane		MU	)-1	
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Nu	imber	DNR Wel	I ID Number	
1. Can this well be purged dry?	s 🗆 No	11. Depth to Water	Before Dev	velopment	After Development	
surged with bailer and pumped  surged with block and bailed  surged with block and pumped  surged with block, bailed and pumped  compressed air  bailed only  pumped only  pumped slowly  Other	7 0 2 0 1 0	(from top of well casing)  Date	b. <u>09</u> 1 <u>0</u> m m d d	3/20/ d y y y y y y y p p p.minches		
6. Volume of water in filter pack and well	<u> </u>		***************************************			
7. Volume of water removed from well	gal gal gal.			mg/l	nt solid waste facility:mg/lmg/l	
10. Analysis performed on water added? Y (If yes, attach results)	es 🗆 No	16. Well developed b First Name: Lea	2	Last Nam	e: Wilson octates, Inc.	
Name and Address of Facility Contact /Owner/Responsib  First Name: Mayk Last Name: Wopper  Facility/Firm: Smoke-Out Cleaners		of my knowledge.	<u></u>	oformation i	s true and correct to the best	
Street: 535 Half Mile Road			tephen (	sweis Owens	<u> </u>	
City/State/Zip: Verona, W/ 5359	13			g A5500	ciates, Inca	

Route to: Watershed/Wastev	vater	Waste Management		
Remediation/Rede	velopment 🔀	Other	***************************************	
Facility/Project Name Smokel-Out Cleaners	County Name	Dane	Well Name M (	W-2
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well N	umber DNR We	ell ID Number ———
1. Can this well be purged dry?  2. Well development method  surged with bailer and bailed  surged with bailer and pumped  surged with block and bailed  surged with block and pumped  surged with block, bailed and pumped  compressed air  bailed only  pumped only	1 1 2 2 0 0	[	a. $33.32$ ft.  b. $09/03/20$ c. $159$ m.	at After Development
pumped slowly	0	bottom 13. Water clarity	Clear [] 10 Turbid 🗵 15	Clear □ 20 Turbid ⊠ 25
	<u>0</u> min. . <u>0</u> ft.		(Describe) medium	(Describe) 10w-medium
5. Inside diameter of well	27 in.			
6. Volume of water in filter pack and well casing  7. Volume of water removed from well  8. Volume of water added (if any)	-		ds were used and well is	at solid waste facility:
9. Source of water added	·	15. COD	mg/!	l mg/l
10. Analysis performed on water added?  (If yes, attach results)	s 🗆 No	First Name: Le		me: Wilson sochates, Inc.
Name and Address of Facility Contact/Owner/Responsible First Name: Mark Last Name: Wopper Facility/Firm: Smoke-Out Cleaners		of my knowledge.		n is true and correct to the best
Street: 535 Half Mile Road		Print Name: 5	tephen Owen	5
City/State/Zip: Verona, W/ 5359.	3	Firm: Giles E	ingvineering Asso	crates, Inc.

Route to: Watershed/Wastev	water	Waste Management				
Remediation/Redevelopment 🔀		Other				
Facility/Project Name Smoke-Out Cleaners	County Name	Dane	Well Name	Mu	J-3	
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well N	umber	DNR Wel	I ID Number	***************************************
1. Can this well be purged dry?  2. Well development method	s 🗆 No	11. Depth to Water (from top of			After Development  42 18 ft.	
surged with bailer and pumped	2	1			4 09103120 y m m d d y y	<u>2 / /</u> y y
compressed air 2 bailed only 1 pumped only 5 pumped slowly 5 Other	0	Time 12. Sediment in well bottom 13. Water clarity		inches	15:15 □ a.m.  15:15 □ p.m.  inches	
	<u>5</u> min. 2_ ft.		(Describe)		Turbid  2 5 (Describe)	
4. Depth of well (from top of well casising) 4. S. Inside diameter of well 2.			CONTROL OF A PART OF THE ALL OF			
6. Volume of water in filter pack and well	gal.	Fill in if drilling fluid	ds were used a	nd well is a	t solid waste facility:	
8. Volume of water added (if any)		14. Total suspended solids	. Summer straints straint mounts	mg/l	mg/l	
9. Source of water added		15. COD			mg/l	
10. Analysis performed on water added?   (If yes, attach results)	es 🗆 No	16. Well developed to First Name: Les	e	Last Nam	e: Wilson octates, Inc.	
17. Additional comments on development:				<u> </u>	20 1001 2 7 12 (0)	
Name and Address of Facility Contact/Owner/Responsible First Name: Mayk Last Name: Woppey	-	I hereby certify the of my knowledge.		aformation i	s true and correct to the bes	st
Facility/Firm: Smoke-Out Cleaners  Street: 535 Half Mile Road		Signature: 5	Johan ( teplien 1	Sweens	W	
City/State/Zip: Verona, W/ 5359	3	Firm: Giles E	***************************************	g Associ	rates, Inco	

Route to: Watershed/Waster	water	Waste Management			
Remediation/Redo	evelopment 🔀	Other			
Facility/Project Name Smoke-Out Cleaners	County Name	Dane	Well Name	Mu	1-4
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Nu	ımber	DNR Well	ID Number
surged with bailer and pumped  surged with block and bailed  surged with block and pumped  surged with block, bailed and pumped  compressed air  bailed only  pumped only  pumped slowly	5 1 5 1 5 2 5 2 7 0 8 0	well casing)  Date	a 2 8 . b. <u>0 9 1 0 3</u> c. 12 : 5 1	56 ft.  3/20/ i y y y  □ a.m. □ p.m inches	After Development  39.53 ft.  409/03/20/9  y m m d d y y y y y  14:55 am.  inches  Clear 20
3. Time spent developing well 4. Depth of well (from top of well easising)	3 min.		(Describe)	(	Turbid ■ 2.5 (Describe)
5. Inside diameter of well				***************************************	
7. Volume of water removed from well  8. Volume of water added (if any)	gal gal gal.	solids		mg/l	mg/l
9. Source of water added  10. Analysis performed on water added? Ye (If yes, attach results)  17. Additional comments on development:	es 🗆 No	15. COD  16. Well developed b  First Name: Les  Firm: Giles E	oy: Name (first, l	last) and Firm Last Name	: Wilson octates tuc.
Name and Address of Facility Contact/Owner/Responsible First Name: Mark Last Name: Woppey Facility/Firm: Smoke-Out Cleaners  Street: 535 Half Mile Road	<u>(†</u>	of my knowledge.  Signature: 5	John 1 tephen (	Ower Ovens	true and correct to the best
City/State/Zip: Verona, W/ 5359	3	Firm: Giles E	ngvneevin	g Assoc	iates, Inco

Route to: Watershed/Wastewa	Waste Management					
Remediation/Redev	Other					
Facility/Project Name	County Name	N	Well Name	A 1	Phone:	
Smoke-Out Cleaners		Dane		MW-	5	
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well N	lumber	DNR Well ID	Number	
1. Can this well be purged dry?	□ No	11. Depth to Water			ter Development	
2. Well development method		(from top of	a = 31.8	<u>. 4 a.                                  </u>	41270.	
surged with bailer and bailed 💢 41	l	well casing)				
surged with bailer and pumped \( \square 6 \)	l					
surged with block and bailed 42	2	Date	b.09103	12014	0910312014 mm d d v v v v	
surged with block and pumped 62			mm d d	уууу	mm ddyyyy	
surged with block, bailed and pumped 7 (			1409	Ç∏ a.m.	14:23 a.m.	
compressed air	_	Time	c:	<u>'</u> '	<u> </u>	
bailed only		12. Sediment in well	1			
		bottom		_inches	inches	
Pumped slowly 5 (	)	13. Water clarity	Clear Fr 1	O Clas	n= ===================================	
		13. Walci Clarity	Clear ☑ 1 ( Turbid ☐ 1 :		ar ⊠ 20 bid□ 25	
3. Time spent developing well	<u>5</u> min.		(Describe)		scribe)	
4. Depth of well (from top of well casisng) $-41$ .	<u>3</u> ft.		***************************************			
5. Inside diameter of well	<u>7</u> in.		***************************************			
6. Volume of water in filter pack and well casing	gal.		#.W. #. # #. # #. # #. #. #. #. #. #. #. #.			
7. Volume of water removed from well		Fill in if drilling flui			•	
8. Volume of water added (if any)	gal.	14. Total suspended solids	I	mg/l	mg/l	
9. Source of water added		15. COD		mg/l	mg/l	
	***************************************	16. Well developed	by: Name (first la	st) and Firm		
10. Analysis performed on water added?	□ No	First Name: Le	- , .	Last Name: $\ell$	$U_{i} _{\leq on}$	
(If yes, attach results)		Firm: Giles Engineering Associates, Inc.				
17. Additional comments on development:		Firm: O(125)	ngmeenv	19 /13500	rares, Inc.	
- ,						
Name and Address of Facility Contact /Owner/Responsible	-	I hereby certify th	at the above info	ormation is to	e and correct to the best	
First Name: Mark Last Wopper	<u>†</u>	of my knowledge			- und dorroot to the bost	
Facility/Firm: Smoke-Out Cleaners		Signature: 57	John a	wew		
Street: 535 Half Mile Road			tephen C	wens_		
City/State/Zip: Vevona, W/ 53593	3	Firm: Giles E	engineering	Associa	tes, Inco	
		ı	_			

	Vatershed/Wastewater [ Remediation/Redevelops		agement []	MONITORING WELL CONST Form 4400-113A Rev. 7-9	
Facility/Project Name Smoke-Out Cleaners 1E-1105024	Local Grid Location of	Well N.	ft.	Well Name MW-6	
Facility License, Permit or Monitoring No.	Local Grid Origin   Lat	(estimated: 🗆 ) or	Well Location	Wis. Unique Well No. DNR We	II ID No.
Facility ID	St. Plane	ft. N,		Date Well Installed 1 0 / 0 3 / 2 m m d d d y	0 1 9
Type of Well Well Code 11 / MW	SE 1/4 of SE 1/4 of	of Sec. 16 .T. 6		Well Installed By: Name (first, la Keith Flowers	st) and Firm
Distance from Waste/ Enf. Stds. Source ft. Apply	Location of Well Relati u  Upgradient d  Downgradient	s 🗌 Sidegradient	Gov. Lot Number	Giles Engineering Associate:	S
A. Protective pipe, top elevation	ft. MSL	~	1. Cap and lock?	<del></del>	s 🗆 No
B. Well casing, top elevation	ft. MSL	TABLE	<ol><li>Protective cover p a. Inside diameter</li></ol>	•	_ 8 _ in.
C. Land surface elevation	ft. MSL _		b. Length:	_	_ 1 _ ft.
D. Surface seal, bottom ft. MS	Lor _ 1.5 ft.		c. Material:		1 <b>⊠</b> 04 ar □ <u></u>
12. USCS classification of soil near screen	12 - 12 (C)		d. Additional pro		s □ No
GP□ GM□ GC□ GW□ S	SW 🗆 SP 🗆 🗎		If yes, describe		
SM ⊠ SC □ ML□ MH□ C Bedrock □	CL CH CH	/ 图 / /	3. Surface scal:	Bentonit	e 🗆 30
1	Vac 571 N.T.		o, ourrace sear.	Concret	
7 .	Yes 🛛 No		4 ) (	Othe	r 🗆 🧘
14. Drilling method used: Rot Hollow Stem Au	tary □ 50		4. Material between	well casing and protective pipe:  Bentonia	te 🗆 30
	ther $\square$		Fine Sand	Othe	0000000
***************************************			5. Annular space se		
15. Drilling fluid used: Water □ 0 2	Air 🗆 01		5. Aimutai space se	nud weight Bentonite-sand slur	
Drilling Mud □ 0 3 N	Vone Ø 99			nud weight Bentonite slurr	
16. Drilling additives used?	Yes ⊠ No		d % Benton	ite Bentonite-cement gro	ut 🗆 50
Describe			f. How installed:		
17. Source of water (attach analysis, if requ	nired):			Tremie pumpe	
				Gravit	
			6. Bentonite seal:	a. Bentonite granuk	
E. Bentonite seal, top ft. MS	L or1.5ft.		С	3/8 in. □ 1/2 in. Bentonite chip Other	
F. Fine sand, top ft. MS.	L or17ft.		7. Fine sand materia Red Fli	al: Manufacturer, product name & int #15	mesh size
G. Filter pack, top ft. MS	Lor 18 ft.		b. Volume added	1 1 ft <sup>3</sup>	4000
H. Screen joint, top ft. MS.			8. Filter pack mater	ial: Manufacturer, product name &	t mesh size
			b. Volume added		22
I. Well bottom	L or 35.5 _ ft.		9. Well casing:	Flush threaded PVC schedule 40 Flush threaded PVC schedule 80	
J. Filter pack, bottom ft. MS			0. Screen material:	PVC	53-548
K. Borehole, bottom ft. MS	L or ft.		a. Screen type:	Factory ca Continuous slo	ıt 🛛 11
L. Borehole, diameter 8.25 in.				Othe	er 🗆 💮
M. O.D. well casing in.			b. Manufacturer c. Slot size:		0. $\frac{010}{15}$ in.
N. 1.D. well casing in.		1	d. Slotted length  1. Backfill material	(below filter pack): Non	ne ⊠ 14
I hereby certify that the information on this	form is true and correct	to the best of my kan	wledge	Othe	er 🗆 📗
Signature	Firm	to the ocst of my kill	,		
Jan Wall		Giles Engineering	Associates		

Facility License, Permit or Monitoring No.   Local Grid Origin     eminated:	F	Watershed/Wastewate Remediation/Redevelo	opment Other	anagement	MONITORING WELL CONS Form 4400-113A Rev. 7	
Facility License, Permit or Monatoring No. Local Grid Origin   Cestimated:   ) or Well Location     Ws. Unique well No. DNR Well DNo. Long.	Facility/Project Name Smoke-Out Cleaners 1E-1105024	Local Grid Location	of Well N.	ft. □ E.	!VI¥/V - //	
Facility ID   Sp. Plane   ft. N.   ft. E. S/C/N   Date Well Installed   ft.	Facility License, Permit or Monitoring No.	Local Grid Origin	] (estimated: 🗆 ) o	or Well Location		Vell ID No.
Type of Well   Well Code   11	Facility ID	St. Plane	ft. N,			
Distance from the state   Earl Sides   Leaston of Well Relative to Waste/Source   Source   R. State   Source   R. State   Source   R. State   Source   R. State   Source   R. State   Source   R. State   Source   R. State   Source   R. State   Source   R. State   State	Type of Well	1	,	NR 8F DE	Well Installed By: Name (first,	
Distance from Waste/  A. Protective pipa, top elevation  A. Protective pipa, top elevation  A. Protective pipa, top elevation  C. Land surface elevation  C. Land surface elevation  C. Land surface elevation  G. MSL  C. Land surface elevation  G. MSL  C. Land surface elevation  G. MSL  C. Land surface elevation  G. MSL  C. Land surface elevation  G. MSL  C. Land surface elevation  G. MSL  G. MSSL  G. MSL  G. MSS  G. MSS  G. MSS  G. MSS  G. MSS  G. MSS  G. MSS  G. MSS  G. MSS  G. MSS  G. M	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				Keith Flowers	
B. Well casting, top elevation	A 1	u 🗌 Upgradient	s 🗌 Sidegradie	nt	Giles Engineering Associate	tes
B. Well casing, top elevation  C. Land surface seal, between the land surface elevation  C. Land surface elevation  C. Land surface elevation  C. Land surface elevation  C. Land surface elevation  C. Land surface elevation  C. Land surface seal, between the land surface elevation  C. Land surface seal, between the land surface elevation  Construct Surface seal.  Surface seal:  Bentonite  S. Annutar space seal:  Bentonite elevation  Construct Surface seal:  Con	A. Protective pipe, top elevation	ft. MSL —		•	<del></del>	res 🗌 No
C. Land surface clevation  D. Surface seal, bottom  ft. MSL or  ft. MSL or  ft. MSL or  ft. MSL or  ft. MSL or  ft. MSL or  ft. MSL or  ft. MSL or  ft. MSL or  ft. MSL or  ft. MSL or  ft. MSL or  ft. MSL or  ft. MSL or  ft. MSL or  ft. MSL or  ft. MSL or  ft. MSL or  ft. MsL or  ft	R Well casing top elevation	ft. MSL			• •	8 :
D. Surface seal bottom	3, 1				r.	
13. Surface seal, bottom   Gravity		4		•	Ste	
GP   GM   GC   GW   SW   SP   Bedrock   SM S   SC   ML   GL   CH   Bedrock   SM S   SC   ML   MH   CL   CH   CH   Bedrock   SM S   SC   ML   MH   CL   CH   CH   Bedrock   SM S   SC   ML   MH   CL   CH   CH   SM S   SC   ML   MH   CL   CH   CH   SM S   Sc   ML   MH   CL   CH   CH   SM S   Surface seal:   Bentonite   31   Cherrorete   30   Other   Since analysis performed?   Yes Since   No   Since   Since analysis performed?   Yes Since   Since analysis performed?   Since a	D. Surface seal, bottom ft. MS	SLor ft.		<u> </u>	Ot	her 🗆 🚉
SM SC ML ML MH CL CH CH Check Selectory Concrete Signature Medicock 13. Surface seal: Surface seal: Concrete Signature Concrete Signature Firms	i .		Carl Kack	•		Yes 🗆 No
Bedrock				If yes, describ		
13. Sieve analysis performed?		L G CH G		3. Surface scal:		
14. Drilling method used:   Rotary   5 0   Hollow Stem Auger   24 1   Other   3	13. Sieve analysis performed?	Yes ⊠ No		<b>\</b>		
Hollow Stem Auger	14. Drilling method used: Rot	tary □ 50		4. Material between		, may
15. Drilling fluid used: Water   0 2   Air   0 1   Drilling Mud   0 3   None   9 9	Hollow Stem Au	ıger ☑ 41				
15. Drilling fluid used: Water   0 2 Air   0 1 Drilling Mud   0 3 None   20 99	O	ther 🗆 🕮 📗		Fine Sand		-344-144
Drilling Mud	15 Deilling finid used. Water [] 0.2	Air [] 01		5. Annular space se		
16. Drilling additives used?   Yes   No		i i				
16. Drilling additives used?   Yes   No   No   Pes   No   Pes   No   Describe   Tremie   O   Tremie pumped   O   Gravity   0   O   Gravity   0   O   Gravity   0   O   Gravity   0   O   Gravity   0   O   Gravity   0   O   Gravity   0   O   Gravity   0   O   Gravity   0   O   Gravity   0   O   Gravity   0   O   Gravity   0   O   Gravity   0   O   Gravity   0   O   Gravity   0   O   Other     Signature   Signature   Signature   Firm   Solution   Signature   Firm   Solution   Signature   Signature   Firm   Signature   Firm   Signature   Firm   Signature   Firm   Signature   Sig		_				,
Describe   Tremie   Describe   Describe   Tremie   Describe   D	16. Drilling additives used?	Yes ⊠ No		eFt	volume added for any of the ab	ove
17. Source of water (attach analysis, if required):   18. Bentonite seal, top	Dagariba				: Tren	mie 🔲 0 🛚
E. Bentonite seal, top						,
E. Bentonite seal, top				6 Dantanita anali		
E. Bentonite seal, top ft. MSL or 15 ft.  F. Fine sand, top ft. MSL or 17 ft.  G. Filter pack, top ft. MSL or 18 ft.  H. Screen joint, top ft. MSL or 21 ft.  I. Well bottom ft. MSL or 35.5 ft.  J. Filter pack, bottom ft. MSL or 36 ft.  J. Filter pack material: Manufacturer, product name & mesh size.  Red Flint #15  b. Volume added 1 ft.  Flush threaded PVC schedule 40 M2  J. Flush threaded PVC schedule 40 M2  J. Flush threaded PVC schedule 80 PVC  Schedule 40 M2  J. Flush threaded PVC schedule 80 PVC  Schedule 40 M2  J. Flush threaded PVC schedule 80 PVC  Schedule 40 M2  J. Flush threaded PVC schedule 80 PVC  Schedule 40 M2  J. Flush threaded PVC schedule 80 PVC  Schedule 40 M2  J. Flush threaded PVC schedule 80 PVC  Schedule 40 M2  J. Flush threaded PVC schedule 80 PVC  Schedule 40 M2  J. Flush threaded PVC schedule 80 PVC  Schedule 40 M2  J. Flush threaded PVC schedule 80 PVC  Schedule 40 M2  J. Flush threaded PVC schedule 80 PVC  Schedule 40 M2  J. Flush threaded PVC schedule 40 M2  J. Flush threaded PVC schedule 40 M2  J. Flush threaded PVC schedule 40 M2  J. Flush threaded PVC schedule 40 M2  J. Flush threaded PVC schedule 40 M2  J. Flush threaded PVC schedule 40 M2  J. Flush threaded PVC schedule 40 M2  J. Flush threaded P					<del>_</del>	
A. Red Flint #15  b. Volume added 1 ft 3  8. Filter pack material: Manufacturer, product name & mesh si Red Flint #40  b. Volume added 1 ft 3  9. Well casing: Flush threaded PVC schedule 40 2 2  Flush threaded PVC schedule 80 2  Flush threaded PVC schedule 80 2  Flush threaded PVC schedule 80 2  Flush threaded PVC schedule 80 2  Flush threaded PVC schedule 80 2  Flush threaded PVC schedule 80 2  Flush threaded PVC schedule 80 2  Flush threaded PVC schedule 80 2  Flush threaded PVC schedule 80 2  Flush threaded PVC schedule 80 2  Flush threaded PVC schedule 80 2  Flush threaded PVC schedule 80 2  Flush threaded PVC schedule 80 2  Flush threaded PVC schedule 80 12  Flush threaded PVC schedule 80 12  Flush threaded PVC schedule 80 12  Flush threaded PVC schedule 80 12  Flush threaded PVC schedule 80 12  Flush threaded PVC schedule 80 12  Flush threaded PVC schedule 80 12  Flush threaded PVC schedule 80 12  Flush threaded PVC schedule 80 12  Flush threaded PVC schedule 80 12  Flush threaded PVC schedule 80 12  Flush threaded PVC schedule 80 12  Flush threaded PVC schedule 80 12  Flush threaded PVC schedule 80 12  Flush threaded PVC schedule 40 2 2  Flush threaded PVC schedule 80 12  Flush th	E. Bentonite seal, topft. MS	L orft.		c		-
G. Filter pack, top ft. MSL or 18 ft. Screen joint, top ft. MSL or 21 ft. Screen joint, top ft. MSL or 35.5 ft. Selected by the selection of t	F. Fine sand, top ft. MS	L or17ft. \				& mesh size
H. Screen joint, top	a ru	18	/科 图 /	a	1 3	22
H. Screen joint, top ft. MSL or 21 ft.  b. Volume added 11 ft 3  9. Well casing: Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 80 🖂 2  Flush threaded PVC schedule 80 🖂 2  Flush threaded PVC schedule 80 🖂 2  Flush threaded PVC schedule 80 🖂 2  Flush threaded PVC schedule 80 🖂 2  Flush threaded PVC schedule 80 🖂 2  Flush threaded PVC schedule 80 🖂 2  Flush threaded PVC schedule 80 🖂 2  Flush threaded PVC schedule 80 🖂 2  Flush threaded PVC schedule 80 🖂 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 80 🖂 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 80 🖂 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 80 🖂 2  Flush threaded PVC schedule 80 🖂 2  Flush threaded PVC schedule 80 🖂 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 40 💆 2  Flush threaded PVC schedule 40 $\bigcirc$ 2  Flush threaded PVC schedule 40 $\bigcirc$ 2  Flush threaded PVC schedule 40 $\bigcirc$ 2  Flush threaded PVC schedule 40 $\bigcirc$ 2  Flush threaded PVC schedule 40 $\bigcirc$ 2  Flush threaded PVC schedule 40 $\bigcirc$ 2  Flush threaded PVC schedule 40 $\bigcirc$ 2  Flush threaded PVC schedule 40 $\bigcirc$ 2  Flush threaded PVC schedule 40 $\bigcirc$ 2  Flush threaded PVC schedule 40 $\bigcirc$ 2  Flush threaded PVC schedule 40 $\bigcirc$ 2  Flush threaded PVC schedule 40 $\bigcirc$ 2  Flush threaded PVC schedule 40 $\bigcirc$ 2  Flush threaded PVC schedule 40 $\bigcirc$ 2  Flush threaded PVC schedule 40 $\bigcirc$ 2  Flush threaded PVC schedule 40 $\bigcirc$ 2  Flush threaded PVC schedu	G. Filter pack, top n. MS	L or IL			1112	. A. manhain
I. Well bottom  ft. MSL or 35.5 ft.  9. Well casing: Flush threaded PVC schedule 40. 2  Flush threaded PVC schedule 80 2  Flush threaded PVC schedule 80 2  I. Filter pack, bottom ft. MSL or 36 ft.  I. Borehole, bottom ft. MSL or 36 ft.  I. Borehole, diameter 8.25 in.  M. O.D. well casing 2.38 in.  Description in the process of the pro	H. Screen joint, top ft. MS	L or $_{-}^{21}_{-}$ ft.		a. Red FI	int #40	& mesh siz
Flush threaded PVC schedule 80   2	I Well borrom ft. MS	Lor 35.5 ft.				40 🕅 23
J. Filter pack, bottom	1. Well bolton	20		J. Well cashig.		
K. Borehole, bottom	J. Filter pack, bottom ft. MS	L or $\frac{36}{}$ _ ft.			Oth	ner 🗆 🚛
L. Borehole, diameter	K. Borehole, bottom ft. MS	L or ft.				
L. Borehole, diameter				a. Gordon typo.		
M. O.D. well casing 2.38 in.  b. Manufacturer Johnson c. Slot size: d. Slotted length: 15 f. Mone □ 1. Backfill material (below filter pack): None □ 1. Backfill material (below filter	L. Borehole, diameter = 8.25 in.		18222		Oi	
M. O.D. well casing in.  c. Slot size: d. Slotted length:  15 f  N. I.D. well casing in.  11. Backfill material (below filter pack): Other   Signature   Firm			\		Johnson	010
N. I.D. well casing in.	M. O.D. well casing $\frac{2.30}{100}$ in.		\			O m
I hereby certify that the information on this form is true and correct to the best of my knowledge.  Signature  Firm	N. I.D. well casing $\frac{2.00}{1.00}$ in.		`	,	(below filter pack): No	one 🖾 14
Signature Firm	I househousestife, that the language of the	form in terms 1	eat to the best - C 1	nowledge	Ot:	her 🗌 🚆
				iowieage,		**************************************
Silos Engineering Associates				ng Associates		

Route to: Watershed/Wastewater	
Remediation/Redevelopme	ent X Other
Facility/Project Name Smoke-Out Cleaners, 1E-1105024	Name Dane  Well Name MW-6
Facility License, Permit or Monitoring Number  County  1  1	
1. Can this well be purged dry?  2. Well development method surged with bailer and bailed surged with bailer and pumped surged with block and bailed surged with block and pumped surged with block and pumped surged with block, bailed and pumped compressed air bailed only pumped only	No    Before Development   After Development
pumped slowly	bottom  13. Water clarity Clear   Turbid   15 Turbid   20  Turbid   25
3. Time spent developing well  3. 0 min.  4. Depth of well (from top of well casisng)  3. 5. 3 ft.	(Describe) (Describe)  Thick, Brown Brown - Translucent  Sediment Laden
5. Inside diameter of well	
6. Volume of water in filter pack and well casing gal.  7. Volume of water removed from well 6 _ 5 _ gal.  8. Volume of water added (if any) gal.	Fill in if drilling fluids were used and well is at solid waste facility:  14. Total suspended mg/l mg/l
9. Source of water added	15. COD mg/l mg/l
10. Analysis performed on water added? Yes (If yes, attach results)	No First Name: Joseph Last Name: Wolske  Firm: Giles Engineering Associates
17. Additional comments on development:	
Name and Address of Facility Contact /Owner/Responsible Party  First Name: Mark Last Name: Woppert	I hereby certify that the above information is true and correct to the best of my knowledge.
Facility/Firm: Smoke-Out Cleaners	Signature: Jy W
Street: 535 Half Mile Road	Print Name: Jaseph waste
City/State/Zip: Verona, WI 53593	Firm: Ges'les Engineering As societes

#### State of Wisconsin Department of Natural Resources

# MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 7-98

Route to: Watershed/Wast	ewater [	Waste Management			
Remediation/Rec	development 💢	Other			e B
Facility/Project Name	County Name		Well Name		
Smoke-Out Cleaners, 1E-1105024	Dane			MW-7	•
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well No. VQ	umber 767	DNR We	il ID Number 
1. Can this well be purged dry?	es ⊠ No	11. Depth to Water			After Development
2. Well development method			a 1 9 .	<u>/</u> 6 ft.	<u>34.82</u> ft.
	4 1	well casing)			
surged with block and bailed	6 1 4 2 6 2	Date	b. $\frac{1}{m} \frac{0}{m} / \frac{1}{d} \frac{1}{d}$	$\frac{0}{4} / \frac{2}{y} = \frac{0}{y} / \frac{3}{y}$	$\frac{1}{\sqrt{y}} = \frac{1}{m} \frac{0}{m} / \frac{1}{d} \frac{0}{d} / \frac{2}{y} \frac{0}{y} \frac{1}{y} \frac{9}{y}$
surged with block, bailed and pumped compressed air	7 0 2 0	Time	c. <u>1</u> <u>2</u> : <u>3</u>	0 ☐ a.m. p.m.	1 3 · 3 0 ☐ a.m.
pumped only	1 0 5 1 5 0	12. Sediment in well bottom	***************************************	inches	inches
Other		13. Water clarity	Clear □ 1 Turbid □ 1	. 5	Clear □ 20 Turbid ☑ 25
	3 0 min.		(Describe) Thick, Br	own	(Describe) Translucent
4. Depth of well (from top of well casisng) 3 5  5. Inside diameter of well 2	0 0 in.		Sedimen	<u>it Laden</u>	Light Brown
5. Histor diameter of weit	<u> </u>				
6. Volume of water in filter pack and well casing	, gal.				
7. Volume of water removed from well 1 3	3 <u>5</u> gal.				at solid waste facility:
8. Volume of water added (if any)	gal.	solids		mg/I	mg/l
9. Source of water added		15. COD		mg/l	mg/l
	·····	16. Well developed b	y: Name (first, l	ast) and Firm	1
10. Analysis performed on water added? You (If yes, attach results)	es □ No	First Name: Josep			e: Wolske
17. Additional comments on development:		Firm: Glies Eligi	neening Ass		
Trividant commons on development.					
Name and Address of Facility Contact/Owner/Responsib First Last Name: Mark Name: Woppert	ole Party	I hereby certify that of my knowledge.	t the above inf	formation is	s true and correct to the best
Facility/Firm: Smoke-Out Cleaners		Signature:	4	2.//	
Street: 535 Half Mile Road		Print Name: 302	con w	olske	
City/State/Zip: Verona, WI 53593		Firm: Gile	s Engin	eering	Associates

<u> </u>			MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 7-98
			Well Name
	Local Grid Location of Well ☐ N ft. ☐ S	ft.	
Facility License, Permit or Monitoring No.	Local Grid Origin (estimate	d: 🗌 ) or Well Location 🔲	Wis. Unique Well No. DNR Well ID No.
W 111 TR		-	Date Well Installed
Lacinty 10	St. Plane ft. N, _		$\frac{1}{m} \frac{1}{m} \frac{1}{d} \frac{1}{d} \frac{1}{v} \frac{1}{v} \frac{1}{v} \frac{1}{v}$
Type of Well	Section Location of Waste/Source		Well Installed By: Name (first, last) and Firm
Well Code/	1/4 of1/4 of Sec,	, T N, R 🗖 🕏	The state of the s
Distance from Waste/ Enf. Stds.	Location of Well Relative to Was		
~ · · · · · · · · · · · · · · · · · · ·	0 _	Sidegradient	
	d Downgradient n 1	1. Cap and lock?	
A. Protective pipe, top elevation	ft. MSL —	51 <i>-</i>	
B. Well casing, top elevation	ft. MSL	2. Protective cover p	<del>-</del>
a,		a. Inside diameter	
C. Land surface elevation	ft. MSL	b. Length:	ft.
D. Surface seal, bottom ft. MS	IL or ft.	c. Material:	Steel □ 04
	#250000A*1	<u> </u>	Other 🗆 🤍
12. USCS classification of soil near screen	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	d. Additional pro	
GP GM GC GW S SM SC ML MH G	SW   SP	If yes, describe	e;
Bedrock		3, Surface scal:	Bentonite   30
<u> </u>			Concrete □ 01
	Yes □ No	×	Other 🗆 🧱
	ary □ 50	4. Material between	well casing and protective pipe:
Hollow Stem Au			Bentonite □ 30
	ther □    SS	<b></b>	Other 🗆 🏬
	👹	5. Annular space se	
	Air 🗆 01	bLbs/gal n	nud weight Bentonite-sand slurry □ 35
Drilling Mud □ 0 3	None 🗆 99	cLbs/gal n	nud weight Bentonite slurry 🗖 31
1.6 (0.00)	/ P.N.		ite Bentonite-cement grout 🗆 50
16. Drilling additives used?	res ⊔ No	🛱 eFt '	olume added for any of the above
F. "		f. How installed:	Tremie 🗖 01
Describe	<del></del>		Tremie pumped 🔲 02
17. Source of water (attach analysis, if requ	iired):	<b>X</b>	Gravity 🗆 08
		6. Bentonite seal:	a. Bentonite granules   33
		Β. □1/4 in. □	3/8 in. □1/2 in. Bentonite chips □ 3 2
E. Bentonite seal, top ft. MS	Lorft.、 💥	🤻 / c	Other 🗆 🧼
-		<b>3</b> / 25	
F. Fine sand, top ft. MS	Lorft. 🔪 💥	7. Fine sand materia	al: Manufacturer, product name & mesh size
	<b>\</b> 13	a	
G. Filter pack, top ft. MS	Lorft.	b. Volume added	3
• • •			ial: Manufacturer, product name & mesh size
H. Screen joint, top ft. MS	L or ft.		
• • • = = = = =		b. Volume added	1 ft <sup>3</sup>
I. Well bottom ft. MS	Lorft.	9. Well casing:	Flush threaded PVC schedule 40 \( \simeq 2 3
			Flush threaded PVC schedule 80   24
J. Filter pack, bottom ft. MS	Lor ft.		Other 🗆 🎎
p. T.m. Pand conom = = = = =		10. Screen material:	Access .
K. Borehole, bottom ft. MS	Lor ft.	a. Screen type:	Factory cut 11
K. Boldkolo, boltom		a. Gereen type.	Continuous slot  01
L. Borehole, diameter in.		<b>a</b> (	
L. Borehole, diameter in.		h Manufacturas	Other 🗆 ַ
M OD wall assing :-		c. Slot size:	
M. O.D. well casing in.		d. Slotted length	
N. I.D. well assing		11. Backfill material	
N. I.D. well casing in.		II. Dackini matchai	Other 🗆
I hereby certify that the information on this	form is true and appear to the ha	et of my knowledge	
	Firm	t of my knowledge.	
Signature	ելու		

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent

State of Wisconsin Department of Natural Resources

#### MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 7-98

Route to: Watershed/Wast	ewater	Waste Management			
Remediation/Re	development	Other			
Facility/Project Name	County Name		Well Name		
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Nu	ımber	DNR W	ell ID Number
1. Can this well be purged dry?	les □ No	11. Depth to Water	Before Dev	elopmen/	t After Development
surged with bailer and pumped surged with block and bailed surged with block and pumped surged with block, bailed and pumped compressed air bailed only pumped only pumped slowly Other   3. Time spent developing well  4. Depth of well (from top of well casisng)	4 1 6 1 4 2 6 2 7 0 2 0 1 0 5 1 5 0	well casing)  Date	b/	/ y y   a.m.   p.m.   p.m.	y y m m / d d / y y y y y g a.m.    a.m.   p.m.   inches    Clear   20   Turbid   25   (Describe)
7. Volume of water removed from well	gal. gal. gal.	<ul><li>14. Total suspended solids</li><li>15. COD</li></ul>		nd well is mg/l mg/l	at solid waste facility:mg/lmg/l
10. Analysis performed on water added?	Yes □ No	16. Well developed by First Name: Firm:	y: Name (first,	last) and Firi Last Nan	
17. Additional comments on development:					
Name and Address of Facility Contact/Owner/Responsit  First Last  Name: Name:	-	I hereby certify that of my knowledge.	t the above int	formation	is true and correct to the best
Facility/Firm:		Signature:			
Street:		Print Name:			
City/State/Zip:		Firm:			

#### State of Wisconsin Department of Natural Resources

## INSTRUCTIONS Monitoring Well Construction Form 4400-113A

**General Instructions**: Fill out both a monitoring well construction form (4400-113A) and a monitoring well development form (4400-113B) for each well installed. Sign each form. Please note that these forms are subject to change. (Personally identifiable information on these forms is not intended to be used for any other purpose.)

**Routing:** Return these forms to the project manager or plan reviewer for the DNR program who required the well installation. If the project manager/plan reviewer is in the Regional Office, send the original forms to the Regional Office and a copy to the Central Office in Madison. If the project manager/plan reviewer is in the Central Office, send the original forms there and a copy to the Regional Office. If your project does not have a project manager or plan reviewer or you don't know who it is, send the forms to the appropriate program in the Central Office. The addresses of the DNR offices are provided on the attached map.

Check the appropriate routing box at the top of the forms to assure proper routing once the forms reach DNR.

**Time-saving tip:** When filling out many forms at once, you can save time by using a photocopier. Fill out one form (the "original") with any information that is the same for all wells, such as facility name, section location, grid origin location, drilling method and well casing type. Photocopy both sides of the "original", making as many copies as there are wells. On the separate copies, fill in the details that are unique for each well.

#### TOP LEFT

Facility/Project Name: Fill in the name of landfill, wastewater treatment facility, surface impoundment, spill or project.

Facility License, Permit, or Monitoring Number: Fill in number assigned to facility by the Department. If unknown, leave blank.

Facility ID: Fill in the nine digit Facility ID (FID) assigned to the site.

we11)

99/Ot

Other

**Type of Well:** Record the type of well code (number/initials) from the following list:

	wen)
12/pz	Piezometer (monitoring well with screen sealed below the water table) (non Subtitle D well)
17/gc	Gradient control
18/at	Aquifer test
24/lh	Leachate head well
26/ew	Groundwater extraction well
27/he	Horizontal groundwater extraction well
28/hw	Horizontal monitoring well
29/ha	Horizontal vapor extraction well
51/gp	Gas probe
53/ge	Gas extraction well
57/sv	Soil venting wells (includes both soil vapor extraction and bioventing, includes both extraction
	and unsaturated zone gas phase injection wells installed in soil or fill, but not refuse
61/ij	Injection well (injection of liquids not gases)
62/as	In situ air sparging well (injection well to inject gases into the aquifer
63/uv	Unterdruck Verdampfer Brunnen (UVB) wells (sparging wells where the gases remain in the well and are not injected into the aquifer)
64/le	Groundwater and light non-aqueous phase liquid (LNAPL) extraction wells
65/de	Groundwater and dense non-aqueous phase liquid (DNAPL) extraction wells
66/ve	Vacuum enhanced groundwater extraction wells
67/vi	Vacuum enhanced groundwater and LNAPL extraction wells
68/vd	Vacuum enhanced groundwater and DNAPL extraction wells
71/dw	Subtitle D water table observation well (see 11/mw above)
72/dp	Subtitle D piezometer (see 12/pz above)

11/mw Water table observation well (monitoring well screen intersecting the water table) (non Subtitle D

**Distance From Waste/Source:** Enter distance in feet from the monitoring well to the edge of a facility waste storage or discharge structure, e.g., from the edge of a wastewater lagoon or the approved waste fill boundary for a landfill. For a contaminant source which is not a facility, e.g., a spill, enter the distance the well is from the contaminant source.

**Enf. Stds. Apply:** Check this box only if enforcement standards apply at this well. Enforcement standards apply at any well beyond the Design Management Zone or the property boundary of the facility or at a water supply well. For spills, enforcement standards apply at every point at which groundwater is monitored. (For more information, see s. NR 140.22, Wis. Adm. Code.)

#### TOP CENTER

**Local Grid Location:** The location of the well to the nearest foot, in relation to the grid origin established for the site. If the exact location of the well is given in State Plane Coordinates, then leave these fields blank.

Local Grid Origin or Well Location: Check the appropriate box behind the Local Grid Origin or the Well Location text. Locate the grid origin at a permanent feature near the waste or source of contamination. Give the location in State Plane Coordinates or Latitude and Longitude in degrees, minutes and seconds (using 1927 North American Datum). If State Plane Coordinates are used, circle the appropriate letter for south, central or north zone. Alternately, an acceptable method for providing this information without surveying is to locate the Grid Origin on a USGS 7.5 minute quadrangle map. The Location of the Grid Origin can then be interpolated (estimated) using standard cartographic techniques. If the Grid Origin location is estimated, check the estimated box.

The Well Location can be determined directly by surveying or by Global Positioning System (GPS) (with processing to be accurate within 1 foot and reported with precision to hundredths of a second). If the exact location of the well is given in State Plane Coordinates, then leave the Local Grid Location fields blank.

Section Location of Waste/Source: Fill in the quarter quarter and quarter section, section, township, range and range direction of the waste or source.

**Location of Well Relative to Waste/Source:** Check the box which describes the location of the well in the groundwater flow system relative to the disposal site, spill, etc. If groundwater flow directions are unknown, check "not known."

**Gov. Lot Number:** Provide the government lot number for the property if applicable. (Government lot numbers are the legal description of a tract of land adjacent to a lake or stream where a proper quarter or quarter quarter section corner could not be established.)

#### TOP RIGHT

Well Name: Fill in common well name, such as B-ll, OW-13A, or MW-5R. (Use the suffix "R" for a replacement well.)

**Wis. Unique Well Number:** Fill in the 2 alphabetic and 3 numeric Wisconsin Unique Well Number (WUWN) on this form. In addition, attach the WUWN tag to the inside of the protective cover pipe and record that number on the Soil Boring Log Information form 4400-122 and Monitoring Well Development form 4400-113B. WUWN tags are available from the DNR Central or Regional Offices.

**DNR Well ID Number:** The 3 digit number assigned to the well by the Department.

Date Well Installed: List Month/Day/Year (mm/dd/yyyy) the well was installed.

Well Installed By: Fill in name (first and last) and firm of the person who supervised the drilling. The person must be a hydrogeologist, a drilling crew chief or experienced engineering technician.

#### **LEFT SIDE**

**Numerical Specifications:** Fill in data for letters A through N which refer to design elements on the figure on the form. Letters A, B and C must be reported as elevations in feet above mean sea level (MSL), surveyed to the nearest 0.01 foot. Letters D through K may be either elevation above MSL or depth below land surface, accurate to the nearest 0.1 foot.

- A. **Protective pipe, top elevation**. With cap off. Referenced to Mean Sea Level (MSL).
- B. Well casing, top elevation. With cap off. Referenced to MSL.
- C. **Land surface elevation**. Referenced to MSL.
- D. **Surface seal, bottom**. Fill in elevation, MSL or depth below land surface.
- E. **Bentonite seal, top.** MSL or depth below land surface. (See NR 141.13(1) to determine if this seal is required)
- F. **Fine sand, top.** MSL or depth below land surface. Cross out if not installed.

- G. **Filter pack, top.** MSL or depth below land surface.
- H. Screen joint, top. MSL or depth below land surface. (Top of the entire screen section, NOT the top slot)
- L. **Well bottom**. MSL or depth below land surface.
- J. **Filter pack, bottom**. MSL or depth below land surface.
- K. **Borehole, bottom**. MSL or depth below land surface.
- L. **Borehole, diameter**: Diameter to nearest 0.1 inch.
- M. **O.D. well casing**: Outside diameter to nearest 0.01 inch.
- N. **I.D. well casing**: Inside diameter to nearest 0.01 inch.

#### LEFT CENTER INSERT (BOX)

- 12. **USCS classification of soil near screen**: Check boxes for all soil types (or bedrock) found at the depths spanned by the well screen, using the Unified Soil Classification System symbols. Refer to the native soil near the screen, not to the filter pack material.
- 13. **Sieve analysis performed?**: Check box. A sieve analysis for soil near the screen is required for all wells.
- 14. **Drilling method used**: Choose from among the choices on the form or check "Other" and write in one of the choices below:

Reverse rotary Solid stem auger Cable tool Driven point Vibratory Casing hammer Wash boring

- 15. **Drilling fluid used**: Check appropriate box or boxes.
- 16. **Drilling additives used**: Check box. If yes, describe.
- 17. **Source of water**: Cite source(s) of any water used to drill the well OR to hydrate dry bentonite OR to mix annular space sealant. Cite exact source so that a sample of the water can be obtained later, if necessary. If the well is at a solid waste facility, attach an analysis of the water according to s. NR 507.06(1), Wis. Adm. Code.

#### RIGHT SIDE

- 1. **Cap and Lock**: Check box.
- 2. **Protective pipe**: Provide the information below.
  - a. **Inside diameter**: Give to nearest 0.1 inch.
  - b. **Length**: Give to nearest 0.1 foot
  - c. Material: Check box. If "Other", describe.
  - d. **Additional protection?**: Check box. If 'Yes', describe.
- 3. **Surface seal**: Check box for the material used to prevent surface water from entering the borehole. If "Other," describe.
- 4. **Material between well casing and protective pipe:** Check box. If "Other", describe.
- Annular space seal: Check boxes for both materials used and how installed, and fill in volume used.

Material: If dry bentonite, list source of water used for hydration on line #17. For wells installed at a solid waste site, attach an analysis of water (see s. NR 507.06(1), Wis. Adm. Code.) For other choices, fill in pounds per gallon mud weight or percent bentonite as appropriate.

- e. Volume: Fill in volume used in cubic feet.
- f. **How installed**: Check box for how the annular space seal was installed. If dropped from the land surface, check "Gravity."

- 6. **Bentonite seal**: If bentonite pellets were used, also check the pellet diameter. If material installed was the same as the annular space seal, or if no filter pack seal was installed, write "none."
- 7. **Fine sand material**: Fine sand is used to prevent migration of annular space seal material into the filter pack.
  - a. Indicate manufacturer, product name, and mesh size.
  - b. Indicate volume added.
- 8. **Filter pack material**: General description of filter pack material, e.g., "430 grit sand," and name of filter pack manufacturer, product name or number, and volume added. Attach grain size analysis of filter pack and state quantity used.
- 9. **Well casing**: Check box for PVC type. If "Other", describe. Examples of "Other" include stainless steel, steel, and Teflon ©.
- 10. **Screen material**: If same as well casing, write "same."
  - a. Screen type: Check box. If "Other", describe the design.
  - b. **Manufacturer**: List name of manufacturer.
  - c. **Slot size**: Give width of slot in thousandths (0.001) of an inch.
  - d. Slotted length: Give distance from top slot to bottom slot to nearest 0.1 foot.
- 11. **Backfill material**: Check "None" or, if "Other", describe any backfill installed below the filter pack.

#### FAR BOTTOM

"I hereby certify that the information on this form is true and correct to the best of my knowledge.": Sign the form and indicate name of firm.

#### MONITORING WELL DEVELOPMENT FORM 4400-113B

#### TOP TWO LINES

Facility/Project Name: Fill in the name of landfill, wastewater treatment facility, surface impoundment, spill or project.

Facility License Permit, or Monitoring Number: Enter number assigned to facility by the DNR. If unknown, leave blank.

**County Name**: Fill in the name of the county in which the well is installed.

County Code: Fill in the two digit county code number.

1 . Adams	16. Douglas	31. Kewaunee	46. Ozaukee	61. Taylor
2. Ashland	17. Dunn	32. La Crosse	47. Pepin	62. Trempealeau
3. Barron	18. Eau Claire	33. Lafayette	48. Pierce	63. Vernon
4. Bayfield	19. Florence	34. Langlade	49. Polk	64. Vilas
5. Brown	20. Fond Du Lac	35. Lincoln	50. Portage	65. Walworth
6. Buffalo	21. Forest	36. Manitowoc	51. Price	66. Washburn
7. Burnett	22. Grant	37. Marathon	52. Racine	67. Washington
8. Calumet	23. Green	38. Marinette	53. Richland	68. Waukesha
9. Chippewa	24. Green Lake	39. Marquette	54. Rock	69. Waupaca
10. Clark	25. Iowa	40. Menominee	55. Rusk	70. Waushara
11. Columbia	26. Iron	41. Mlwaukee	56. St. Croix	71. Winnebago
12. Crawford	27. Jackson	42. Monroe	57. Sauk	72. Wood
13. Dane	28 Jefferson	43. Oconto	58. Sawyer	
14. Dodge	29. Juneau	44. Oneida	59. Shawano	
15. Door	30. Kenosha	45. Outagamie	60. Sheboygan	

Well Name: Fill in common well name, such as P-11, OW-13A, or MW-5R. (Use the suffix "R" for a replacement well.)

Wis. Unique Well Number: Record the Wisconsin Unique Well Number assigned to the well.

**DNR Well ID Number**: The 3 digit number assigned to the well by the Department.

#### LEFT COLUMN

- 1. **Can this well be purged dry?** Check whether well can or cannot be purged dry (all water removed).
- 2. **Well development method**: Check appropriate box. If "Other", describe. Note that a well shall be surged and purged for a minimum of 30 minutes.
- 3. **Time spent developing well**: In minutes.
- 4. **Depth of well**: In tenths (0.1) of feet, from top of well casing.
- 5. **Inside diameter of well**: In hundredths (0.01) of inches.
- 6. **Volume of water in filter pack and well casing**: In tenths (0.1) of gallons.
- 7. **Volume of water removed from well**: In tenths (0.1) of gallons.
- 8. **Volume of water added, if any**: In tenths (0.1) of gallons.
- 9. **Source of water added**: Cite exact source so that a sample of the water can be obtained later, if necessary.
- 10. **Analysis performed on water added?** Check appropriate box. If well is installed at a solid waste facility, attach analysis of water according to s. NR 507.06(1), Wis. Adm. Code.

#### RIGHT COLUMN

#### 11. **Depth to water**:

- a. Enter distance from top of well casing to water level in well, in hundredths (0.01) of a foot, both before and after development.
- b. **Date**: Enter month/day/year (mm/dd/yyyy) development began and ended.
- c. **Time**: Enter according to a twelve hour clock the time development began and ended.
- 12. **Sediment in well bottom**: Compute to tenths (0.1) of inches, both before and after development.
- 13. Water clarity: Check box and describe.
- 14. **Total suspended solids**: Total Suspended Solids, as determined by a certified or registered analytical laboratory. Required only for wells near solid waste facilities when drilling fluids were used
- 15. **COD**: Chemical oxygen demand, as determined by a certified or registered analytical laboratory. Required only for wells near solid waste facilities when drilling fluids were used.
- Well developed by: Enter the name (first and last) and firm of the person who supervised the development This person must be a hydrogeologist, the drilling crew chief, or an experienced engineering technician.

#### **BOTTOM SECTION**

17. **Additional comments on development**: Describe any of the above in more detail or add information such as the relative recovery rates of wells or the amount of drilling fluid lost to the formation and the amount of water removed to account for lost drilling fluid. For example, if 150 gallons of drilling water were, lost, you should remove the volume of water in the filter pack and well casing plus 150 gallons as part of development.

Name and Address of Facility/Owner/Responsible Party Contact: Enter a contact name (first and last), or a firm name or facility name, street address, city, state, and zip code of the facility or site.

**Signature, Print Name, and Firm**: Signature and printed name of the person filling out the form and name of firm for which the person works.

## **APPENDIX C**

Soil Laboratory Report and Chain of Custody Documentation



# **Environment Testing America**

## **ANALYTICAL REPORT**

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

Laboratory Job ID: 500-222351-1

Client Project/Site: Smoke Out Cleaners

For:

Giles Engineering Associates N8 W 22350 Johnson Road Waukesha, Wisconsin 53186

Attn: Michelle Peed

9/26/2022 3:13:40 PM

Authorized for release by:

Sandie Fredrick, Project Manager II (920)261-1660

Sandra.Fredrick@et.eurofinsus.com

LINKS .....



Have a Question?



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

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

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

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#### **Case Narrative**

Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners Job ID: 500-222351-1

Job ID: 500-222351-1

**Laboratory: Eurofins Chicago** 

Narrative

Job Narrative 500-222351-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 9/16/2022 9:50 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.6° C.

#### **Receipt Exceptions**

A trip blank was submitted for analysis with these samples; however, it was not listed on the Chain of Custody (COC). Added to COC and logged in.

#### **GC/MS VOA**

Method 8260B: The matrix spike duplicate (MSD) for the following sample was analyzed outside the 12 hour tune window. No further action was taken.PZ-1 (2-4) (500-222351-1)

Methods 8260B, 8260D: Methylene chloride was detected in the following items: PZ-1 (2-4) (500-222351-1), PZ-1 Comp (500-222351-2), MW-3R (2-4) (500-222351-3) and Trip Blank (500-222351-4). Methylene chloride is a known lab contaminant; therefore all low level detects for this compound could be suspected as lab contamination.

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

#### Metals

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

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## **Detection Summary**

Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners Job ID: 500-222351-1

Client Sample ID: PZ-1 (2-4) Lab Sample ID: 500-222351-1 Analyte Result Qualifier RL **MDL** Unit Dil Fac D Method **Prep Type** Methylene Chloride 350 50 ☆ 8260B 150 JB 110 ug/Kg Total/NA Tetrachloroethene 2200 70 50 ☆ 8260B Total/NA 26 ug/Kg Client Sample ID: PZ-1 Comp Lab Sample ID: 500-222351-2 Result Qualifier RLMDL Unit Dil Fac D Method **Prep Type** Methylene Chloride 110 JΒ 300 50 ☆ 8260B Total/NA 97 ug/Kg Tetrachloroethene 130 50 ☆ 8260B Total/NA 59 22 ug/Kg Client Sample ID: MW-3R (2-4) Lab Sample ID: 500-222351-3 Result Qualifier RL MDL Unit Dil Fac D Method Analyte **Prep Type** 380 8260B Methylene Chloride 160 JB 130 ug/Kg 50 ⊅ Total/NA Client Sample ID: Trip Blank Lab Sample ID: 500-222351-4 Result Qualifier Analyte RL MDL Unit Dil Fac D Method **Prep Type** Methylene Chloride 89 JB 250 82 ug/Kg 50 8260B Total/NA

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## **Method Summary**

Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

Job ID: 500-222351-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	EET CHI
Moisture	Percent Moisture	EPA	EET CHI
5035	Closed System Purge and Trap	SW846	EET CHI

#### **Protocol References:**

EPA = US Environmental Protection Agency

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

#### **Laboratory References:**

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

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## **Sample Summary**

Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

Job ID: 500-222351-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-222351-1	PZ-1 (2-4)	Soil	09/14/22 09:32	09/16/22 09:50
500-222351-2	PZ-1 Comp	Soil	09/14/22 10:35	09/16/22 09:50
500-222351-3	MW-3R (2-4)	Soil	09/14/22 12:45	09/16/22 09:50
500-222351-4	Trip Blank	Soil	09/14/22 00:00	09/16/22 09:50

Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

Client Sample ID: PZ-1 (2-4)

Lab Sample ID: 500-222351-1

Date Collected: 09/14/22 09:32 Matrix: Soil
Date Received: 09/16/22 09:50 Percent Solids: 83.6

Analyte		Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fa
1,1,1,2-Tetrachloroethane	<32		70		ug/Kg	☼		09/21/22 18:30	į
1,1,1-Trichloroethane	<27		70		ug/Kg	☼		09/21/22 18:30	į
1,1,2,2-Tetrachloroethane	<28		70		ug/Kg			09/21/22 18:30	!
1,1,2-Trichloroethane	<25		70		ug/Kg	☼		09/21/22 18:30	į
1,1-Dichloroethane	<29		70		ug/Kg	☼		09/21/22 18:30	;
1,1-Dichloroethene	<27		70		ug/Kg			09/21/22 18:30	
1,1-Dichloropropene	<21		70		ug/Kg	☼		09/21/22 18:30	;
1,2,3-Trichlorobenzene	<32		70	32	ug/Kg	☼	09/14/22 09:32	09/21/22 18:30	
1,2,3-Trichloropropane	<29		140	29	ug/Kg			09/21/22 18:30	
1,2,4-Trichlorobenzene	<24		70		ug/Kg	☼	09/14/22 09:32	09/21/22 18:30	
1,2,4-Trimethylbenzene	<25		70		ug/Kg	☼	09/14/22 09:32	09/21/22 18:30	
1,2-Dibromo-3-Chloropropane	<140		350	140	ug/Kg		09/14/22 09:32	09/21/22 18:30	
Ethylene Dibromide	<27		70	27	ug/Kg	☼	09/14/22 09:32	09/21/22 18:30	;
1,2-Dichlorobenzene	<23		70	23	ug/Kg	☼	09/14/22 09:32	09/21/22 18:30	;
1,2-Dichloroethane	<27		70	27	ug/Kg	☼	09/14/22 09:32	09/21/22 18:30	
1,2-Dichloropropane	<30		70	30	ug/Kg	₽	09/14/22 09:32	09/21/22 18:30	
1,3,5-Trimethylbenzene	<27		70	27	ug/Kg	☼	09/14/22 09:32	09/21/22 18:30	
1,3-Dichlorobenzene	<28		70	28	ug/Kg	≎	09/14/22 09:32	09/21/22 18:30	
1,3-Dichloropropane	<25		70	25	ug/Kg	₽	09/14/22 09:32	09/21/22 18:30	
1,4-Dichlorobenzene	<25		70	25	ug/Kg	₽	09/14/22 09:32	09/21/22 18:30	
2,2-Dichloropropane	<31		70	31	ug/Kg	₽	09/14/22 09:32	09/21/22 18:30	
2-Chlorotoluene	<22		70	22	ug/Kg	⊅	09/14/22 09:32	09/21/22 18:30	
4-Chlorotoluene	<24		70	24	ug/Kg	₽	09/14/22 09:32	09/21/22 18:30	
Benzene	<10		17	10	ug/Kg	☼	09/14/22 09:32	09/21/22 18:30	
Bromobenzene	<25		70	25	ug/Kg	₽	09/14/22 09:32	09/21/22 18:30	
Bromochloromethane	<30		70	30	ug/Kg	₽	09/14/22 09:32	09/21/22 18:30	
Bromodichloromethane	<26		70	26	ug/Kg	₽	09/14/22 09:32	09/21/22 18:30	
Bromoform	<34		70	34	ug/Kg	₩	09/14/22 09:32	09/21/22 18:30	
Bromomethane	<56		210		ug/Kg	☼	09/14/22 09:32	09/21/22 18:30	
Carbon tetrachloride	<27		70		ug/Kg	☼	09/14/22 09:32	09/21/22 18:30	
Chlorobenzene	<27		70	27	ug/Kg	₩	09/14/22 09:32	09/21/22 18:30	
Chloroethane	<35		70		ug/Kg	☼	09/14/22 09:32	09/21/22 18:30	
Chloroform	<26		140		ug/Kg	☼	09/14/22 09:32	09/21/22 18:30	
Chloromethane	<22		70		ug/Kg	 ф	09/14/22 09:32	09/21/22 18:30	
cis-1,2-Dichloroethene	<29		70		ug/Kg	☼	09/14/22 09:32	09/21/22 18:30	
cis-1,3-Dichloropropene	<29		70		ug/Kg	₽	09/14/22 09:32	09/21/22 18:30	
Dibromochloromethane	<34		70		ug/Kg	 .⇔	09/14/22 09:32		
Dibromomethane	<19		70		ug/Kg	☆		09/21/22 18:30	
Dichlorodifluoromethane	<47		210		ug/Kg	☆		09/21/22 18:30	
Ethylbenzene	<13		17		ug/Kg		09/14/22 09:32		
Hexachlorobutadiene	<31		70		ug/Kg			09/21/22 18:30	
Isopropyl ether	<19		70		ug/Kg			09/21/22 18:30	
Isopropylbenzene	<27		70		ug/Kg			09/21/22 18:30	
Methyl tert-butyl ether	<28		70		ug/Kg ug/Kg	₩		09/21/22 18:30	
Methylene Chloride	150	I.B.	350		ug/Kg ug/Kg	₩		09/21/22 18:30	
Naphthalene	<23	<b></b>	70		ug/Kg ug/Kg	¥. 		09/21/22 18:30	
napritrialerie n-Butylbenzene	<23 <27		70 70		ug/Kg ug/Kg	₩		09/21/22 18:30	
N-Propylbenzene	<29		70 70					09/21/22 18:30	
n-Propylbenzene p-Isopropyltoluene	<29 <25		70		ug/Kg ug/Kg	 		09/21/22 18:30	

Eurofins Chicago

9/26/2022

Job ID: 500-222351-1

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Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

Lab Sample ID: 500-222351-1

**Matrix: Soil** 

Percent Solids: 83.6

Job ID: 500-222351-1

Client Sample ID: PZ-1 (2-4) Date Collected: 09/14/22 09:32

Date Received: 09/16/22 09:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<28		70	28	ug/Kg	<del>-</del>	09/14/22 09:32	09/21/22 18:30	50
Styrene	<27		70	27	ug/Kg	₽	09/14/22 09:32	09/21/22 18:30	50
tert-Butylbenzene	<28		70	28	ug/Kg	₽	09/14/22 09:32	09/21/22 18:30	50
Tetrachloroethene	2200		70	26	ug/Kg	₽	09/14/22 09:32	09/21/22 18:30	50
Toluene	<10		17	10	ug/Kg	₽	09/14/22 09:32	09/21/22 18:30	50
trans-1,2-Dichloroethene	<24		70	24	ug/Kg	₽	09/14/22 09:32	09/21/22 18:30	50
trans-1,3-Dichloropropene	<25		70	25	ug/Kg	₽	09/14/22 09:32	09/21/22 18:30	50
Trichloroethene	<11		35	11	ug/Kg	₽	09/14/22 09:32	09/21/22 18:30	50
Trichlorofluoromethane	<30		70	30	ug/Kg	₽	09/14/22 09:32	09/21/22 18:30	50
Vinyl chloride	<18		70	18	ug/Kg	₽	09/14/22 09:32	09/21/22 18:30	50
Xylenes, Total	<15		35	15	ug/Kg	₩	09/14/22 09:32	09/21/22 18:30	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		75 - 126				09/14/22 09:32	09/21/22 18:30	50
4-Bromofluorobenzene (Surr)	82		72 - 124				09/14/22 09:32	09/21/22 18:30	50
Dibromofluoromethane (Surr)	100		75 - 120				09/14/22 09:32	09/21/22 18:30	50
Toluene-d8 (Surr)	97		75 - 120				09/14/22 09:32	09/21/22 18:30	50

Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

Lab Sample ID: 500-222351-2

Matrix: Soil

Percent Solids: 91.0

Job ID: 500-222351-1

<b>Client Sample</b>	ID: PZ	-1	Comp
Date Collected: 0	9/14/22	10-	35

Date Received: 09/16/22 09:50

p-Isopropyltoluene

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<27		59	27	ug/Kg	<u></u>	09/14/22 10:35	09/21/22 18:53	5
1,1,1-Trichloroethane	<23		59	23	ug/Kg	₩	09/14/22 10:35	09/21/22 18:53	50
1,1,2,2-Tetrachloroethane	<24		59	24	ug/Kg	☆	09/14/22 10:35	09/21/22 18:53	50
1,1,2-Trichloroethane	<21		59	21	ug/Kg		09/14/22 10:35	09/21/22 18:53	50
1,1-Dichloroethane	<24		59	24	ug/Kg	₩	09/14/22 10:35	09/21/22 18:53	50
1,1-Dichloroethene	<23		59		ug/Kg	☆	09/14/22 10:35	09/21/22 18:53	50
1,1-Dichloropropene	<18		59		ug/Kg		09/14/22 10:35	09/21/22 18:53	50
1,2,3-Trichlorobenzene	<27		59		ug/Kg	☼		09/21/22 18:53	5
1,2,3-Trichloropropane	<25		120		ug/Kg	₩		09/21/22 18:53	5
1,2,4-Trichlorobenzene	<20		59		ug/Kg	 ☆		09/21/22 18:53	50
1,2,4-Trimethylbenzene	<21		59		ug/Kg	₩		09/21/22 18:53	50
1,2-Dibromo-3-Chloropropane	<120		300	120	ug/Kg			09/21/22 18:53	50
Ethylene Dibromide	<23		59		ug/Kg			09/21/22 18:53	50
1,2-Dichlorobenzene	<20		59	20	ug/Kg			09/21/22 18:53	50
1.2-Dichloroethane	<23		59	23	ug/Kg	₩		09/21/22 18:53	5
1,2-Dichloropropane	<25		59		ug/Kg	 ☆		09/21/22 18:53	50
• •	<23		59 59	23	ug/Kg ug/Kg			09/21/22 18:53	50
1,3,5-Trimethylbenzene	<24				0 0	<b>*</b>			
1,3-Dichlerence			59			· · · · ·		09/21/22 18:53	50
1,3-Dichloropropane	<21		59 50	21	ug/Kg	:D:		09/21/22 18:53	50
1,4-Dichlorobenzene	<22		59		ug/Kg	<b>*</b>		09/21/22 18:53	50
2,2-Dichloropropane	<26		59		ug/Kg	<u>.</u> .		09/21/22 18:53	50
2-Chlorotoluene	<19		59		ug/Kg	₩		09/21/22 18:53	50
4-Chlorotoluene	<21		59	21	ug/Kg	₩		09/21/22 18:53	50
Benzene	<8.7		15		ug/Kg			09/21/22 18:53	50
Bromobenzene	<21		59		ug/Kg	☼		09/21/22 18:53	50
Bromochloromethane	<25		59		ug/Kg	₩		09/21/22 18:53	5
Bromodichloromethane	<22		59		ug/Kg		09/14/22 10:35	09/21/22 18:53	50
Bromoform	<29		59	29	ug/Kg	☼	09/14/22 10:35	09/21/22 18:53	50
Bromomethane	<47		180		ug/Kg	≎	09/14/22 10:35	09/21/22 18:53	50
Carbon tetrachloride	<23		59	23	ug/Kg	₩	09/14/22 10:35	09/21/22 18:53	50
Chlorobenzene	<23		59	23	ug/Kg	☆	09/14/22 10:35	09/21/22 18:53	50
Chloroethane	<30		59	30	ug/Kg	☆	09/14/22 10:35	09/21/22 18:53	50
Chloroform	<22		120	22	ug/Kg	☼	09/14/22 10:35	09/21/22 18:53	50
Chloromethane	<19		59	19	ug/Kg	₩	09/14/22 10:35	09/21/22 18:53	50
cis-1,2-Dichloroethene	<24		59	24	ug/Kg	₩	09/14/22 10:35	09/21/22 18:53	50
cis-1,3-Dichloropropene	<25		59	25	ug/Kg	☼	09/14/22 10:35	09/21/22 18:53	50
Dibromochloromethane	<29		59	29	ug/Kg	₽	09/14/22 10:35	09/21/22 18:53	50
Dibromomethane	<16		59	16	ug/Kg	☆	09/14/22 10:35	09/21/22 18:53	50
Dichlorodifluoromethane	<40		180	40	ug/Kg	₽	09/14/22 10:35	09/21/22 18:53	50
Ethylbenzene	<11		15		ug/Kg		09/14/22 10:35	09/21/22 18:53	50
Hexachlorobutadiene	<26		59		ug/Kg	☼	09/14/22 10:35	09/21/22 18:53	50
Isopropyl ether	<16		59		ug/Kg	₩		09/21/22 18:53	5
Isopropylbenzene	<23		59		ug/Kg	 ☆		09/21/22 18:53	5(
Methyl tert-butyl ether	<23		59		ug/Kg	☆		09/21/22 18:53	5
Methylene Chloride	110	JB	300		ug/Kg	☆		09/21/22 18:53	5
Naphthalene	<20	T. T	59		ug/Kg			09/21/22 18:53	50
n-Butylbenzene	<23		59			<b>☆</b>		09/21/22 18:53	50
N-Propylbenzene	<25		59 59		ug/Kg	244		09/21/22 18:53	50

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© 09/14/22 10:35 09/21/22 18:53

Page 9 of 31

<21

21 ug/Kg

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1 /

Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

Lab Sample ID: 500-222351-2

Matrix: Soil

Job ID: 500-222351-1

Percent Solids: 91.0

Client Sample ID: PZ-1 Comp Date Collected: 09/14/22 10:35

Date Received: 09/16/22 09:50

Method: 8260B - Volatile On Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<24	<u> </u>	59	24	ug/Kg	<u></u>	09/14/22 10:35		50
Styrene	<23		59	23	ug/Kg	₩	09/14/22 10:35	09/21/22 18:53	50
tert-Butylbenzene	<24		59	24	ug/Kg	₩	09/14/22 10:35	09/21/22 18:53	50
Tetrachloroethene	130		59	22	ug/Kg	₩	09/14/22 10:35	09/21/22 18:53	50
Toluene	<8.7		15	8.7	ug/Kg	₩	09/14/22 10:35	09/21/22 18:53	50
trans-1,2-Dichloroethene	<21		59	21	ug/Kg	₩	09/14/22 10:35	09/21/22 18:53	50
trans-1,3-Dichloropropene	<21		59	21	ug/Kg	₩	09/14/22 10:35	09/21/22 18:53	50
Trichloroethene	<9.7		30	9.7	ug/Kg	≎	09/14/22 10:35	09/21/22 18:53	50
Trichlorofluoromethane	<25		59	25	ug/Kg	₩	09/14/22 10:35	09/21/22 18:53	50
Vinyl chloride	<16		59	16	ug/Kg	₩	09/14/22 10:35	09/21/22 18:53	50
Xylenes, Total	<13		30	13	ug/Kg	₩	09/14/22 10:35	09/21/22 18:53	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		75 - 126				09/14/22 10:35	09/21/22 18:53	50
4-Bromofluorobenzene (Surr)	85		72 - 124				09/14/22 10:35	09/21/22 18:53	50
Dibromofluoromethane (Surr)	100		75 - 120				09/14/22 10:35	09/21/22 18:53	50
Toluene-d8 (Surr)	100		75 - 120				09/14/22 10:35	09/21/22 18:53	50

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Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

Client Sample ID: MW-3R (2-4)

Lab Sample ID: 500-222351-3

Date Collected: 09/14/22 12:45

Date Received: 09/16/22 09:50

Matrix: Soil
Percent Solids: 78.9

Method: 8260B - Volatile Orga Analyte	Result Qualifier	RL	MDL		<u>D</u>	Prepared	Analyzed	Dil Fa
1,1,1,2-Tetrachloroethane	<36	77	36	ug/Kg	₩	09/14/22 12:45	09/21/22 19:16	5
1,1,1-Trichloroethane	<29	77	29	ug/Kg	₽	09/14/22 12:45	09/21/22 19:16	5
1,1,2,2-Tetrachloroethane	<31	77	31		☼	09/14/22 12:45	09/21/22 19:16	5
1,1,2-Trichloroethane	<27	77	27	ug/Kg	₽	09/14/22 12:45	09/21/22 19:16	50
1,1-Dichloroethane	<32	77	32	ug/Kg	≎	09/14/22 12:45	09/21/22 19:16	50
1,1-Dichloroethene	<30	77	30	ug/Kg	☼	09/14/22 12:45	09/21/22 19:16	50
1,1-Dichloropropene	<23	77	23	ug/Kg	₽	09/14/22 12:45	09/21/22 19:16	50
1,2,3-Trichlorobenzene	<35	77	35	ug/Kg	☼	09/14/22 12:45	09/21/22 19:16	50
1,2,3-Trichloropropane	<32	150	32	ug/Kg	₽	09/14/22 12:45	09/21/22 19:16	50
1,2,4-Trichlorobenzene	<26	77	26	ug/Kg	₽	09/14/22 12:45	09/21/22 19:16	50
1,2,4-Trimethylbenzene	<28	77	28	ug/Kg	☼	09/14/22 12:45	09/21/22 19:16	50
1,2-Dibromo-3-Chloropropane	<150	380	150	ug/Kg	☼	09/14/22 12:45	09/21/22 19:16	50
Ethylene Dibromide	<30	77	30	ug/Kg		09/14/22 12:45	09/21/22 19:16	50
1,2-Dichlorobenzene	<26	77	26	ug/Kg	₽	09/14/22 12:45	09/21/22 19:16	50
1,2-Dichloroethane	<30	77	30	ug/Kg	₩	09/14/22 12:45	09/21/22 19:16	50
1,2-Dichloropropane	<33	77	33	ug/Kg	 \$	09/14/22 12:45	09/21/22 19:16	5(
1,3,5-Trimethylbenzene	<29	77	29	ug/Kg	₩	09/14/22 12:45	09/21/22 19:16	50
1,3-Dichlorobenzene	<31	77	31	ug/Kg	₩	09/14/22 12:45	09/21/22 19:16	5
1,3-Dichloropropane	<28	77		ug/Kg		09/14/22 12:45	09/21/22 19:16	5
1,4-Dichlorobenzene	<28	77		ug/Kg	₩		09/21/22 19:16	5
2,2-Dichloropropane	<34	77		ug/Kg	Ö	09/14/22 12:45	09/21/22 19:16	50
2-Chlorotoluene	<24	77		ug/Kg	 ∰		09/21/22 19:16	50
4-Chlorotoluene	<27	77		ug/Kg	₩		09/21/22 19:16	50
Benzene	<11	19	11	ug/Kg	₩		09/21/22 19:16	50
Bromobenzene	<27	77		ug/Kg			09/21/22 19:16	50
Bromochloromethane	<33	77	33	ug/Kg	₩		09/21/22 19:16	50
Bromodichloromethane	<29	77	29	ug/Kg	Ť.		09/21/22 19:16	5
Bromoform	<37	77		ug/Kg	T. #		09/21/22 19:16	5
Bromomethane	<61	230	61	ug/Kg	Ť.		09/21/22 19:16	50
Carbon tetrachloride	<30	77	30	ug/Kg	Ť.		09/21/22 19:16	50
Chlorobenzene	<30	77		ug/Kg	 ☆		09/21/22 19:16	50
Chloroethane	<39	77	39	ug/Kg	Ť		09/21/22 19:16	50
Chloroform	<28	150	28	ug/Kg	₩		09/21/22 19:16	5
Chloromethane	<25	77		ug/Kg	 ☆		09/21/22 19:16	50
cis-1,2-Dichloroethene	<31	77		ug/Kg	Ť		09/21/22 19:16	5
cis-1,3-Dichloropropene	<32	77		ug/Kg	₩		09/21/22 19:16	50
Dibromochloromethane	<38	77		ug/Kg	· · · · · · · · · · · · · · · · · · ·		09/21/22 19:16	5
Dibromomethane	<21	77	21	ug/Kg	₩		09/21/22 19:16	5
Dichlorodifluoromethane	<52	230		ug/Kg ug/Kg	₩		09/21/22 19:16	50
Ethylbenzene	<14	19		ug/Kg	بر  بر		09/21/22 19:16	5(
Hexachlorobutadiene	<34	77		ug/Kg ug/Kg	₩		09/21/22 19:16	50
	<21	77	21				09/21/22 19:16	5
Isopropyl ether				ug/Kg				
Isopropylbenzene	<30	77 77		ug/Kg	*		09/21/22 19:16 09/21/22 19:16	5
Methyl tert-butyl ether	<30	77 280		ug/Kg	*			5
Methylene Chloride	160 JB	380		ug/Kg	· · · · ·		09/21/22 19:16	
Naphthalene	<26	77		ug/Kg	₩		09/21/22 19:16	5
n-Butylbenzene N-Propylbenzene	<30 <32	77		ug/Kg ug/Kg	<b>#</b>		09/21/22 19:16	5
NI PRODUIDODZODO	< 37	77	(′۲:	HO/K O	☼	ロロバルバン コン・オム	09/21/22 19:16	5

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9/26/2022

© 09/14/22 12:45 09/21/22 19:16

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p-Isopropyltoluene

28 ug/Kg

Job ID: 500-222351-1

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Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

Lab Sample ID: 500-222351-3

Matrix: Soil

Percent Solids: 78.9

Job ID: 500-222351-1

Client Sample	ID: MW-3R	(2-4)
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Date Collected: 09/14/22 12:45 Date Received: 09/16/22 09:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<31		77	31	ug/Kg	<del>-</del>	09/14/22 12:45	09/21/22 19:16	50
Styrene	<30		77	30	ug/Kg	☼	09/14/22 12:45	09/21/22 19:16	50
tert-Butylbenzene	<31		77	31	ug/Kg	₽	09/14/22 12:45	09/21/22 19:16	50
Tetrachloroethene	<28		77	28	ug/Kg	☼	09/14/22 12:45	09/21/22 19:16	50
Toluene	<11		19	11	ug/Kg	☼	09/14/22 12:45	09/21/22 19:16	50
trans-1,2-Dichloroethene	<27		77	27	ug/Kg	₽	09/14/22 12:45	09/21/22 19:16	50
trans-1,3-Dichloropropene	<28		77	28	ug/Kg	₽	09/14/22 12:45	09/21/22 19:16	50
Trichloroethene	<13		38	13	ug/Kg	₩	09/14/22 12:45	09/21/22 19:16	50
Trichlorofluoromethane	<33		77	33	ug/Kg	₽	09/14/22 12:45	09/21/22 19:16	50
Vinyl chloride	<20		77	20	ug/Kg	₩	09/14/22 12:45	09/21/22 19:16	50
Xylenes, Total	<17		38	17	ug/Kg	₩	09/14/22 12:45	09/21/22 19:16	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		75 - 126				09/14/22 12:45	09/21/22 19:16	50
4-Bromofluorobenzene (Surr)	83		72 - 124				09/14/22 12:45	09/21/22 19:16	50
Dibromofluoromethane (Surr)	99		75 - 120				09/14/22 12:45	09/21/22 19:16	50
Toluene-d8 (Surr)	99		75 - 120				09/14/22 12:45	09/21/22 19:16	50

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Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

Client Sample ID: Trip Blank

Lab Sample ID: 500-222351-4

Matrix: Soil

Job ID: 500-222351-1

Date Collected: 09/14/22 00:00
Date Received: 09/16/22 09:50

Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fa
1,1,1,2-Tetrachloroethane	<23		50	23	ug/Kg		09/14/22 00:00	09/21/22 19:39	
1,1,1-Trichloroethane	<19		50	19	ug/Kg		09/14/22 00:00	09/21/22 19:39	į
1,1,2,2-Tetrachloroethane	<20		50	20	ug/Kg		09/14/22 00:00	09/21/22 19:39	
1,1,2-Trichloroethane	<18		50	18	ug/Kg		09/14/22 00:00	09/21/22 19:39	
1,1-Dichloroethane	<21		50	21	ug/Kg		09/14/22 00:00	09/21/22 19:39	Ę
1,1-Dichloroethene	<20		50	20	ug/Kg		09/14/22 00:00	09/21/22 19:39	Ę
1,1-Dichloropropene	<15		50	15	ug/Kg		09/14/22 00:00	09/21/22 19:39	
1,2,3-Trichlorobenzene	<23		50	23	ug/Kg		09/14/22 00:00	09/21/22 19:39	Ę
1,2,3-Trichloropropane	<21		100	21	ug/Kg		09/14/22 00:00	09/21/22 19:39	Ę
1,2,4-Trichlorobenzene	<17		50	17	ug/Kg		09/14/22 00:00	09/21/22 19:39	
1,2,4-Trimethylbenzene	<18		50	18	ug/Kg		09/14/22 00:00	09/21/22 19:39	į
1,2-Dibromo-3-Chloropropane	<100		250	100	ug/Kg		09/14/22 00:00	09/21/22 19:39	
Ethylene Dibromide	<19		50	19	ug/Kg		09/14/22 00:00	09/21/22 19:39	
1,2-Dichlorobenzene	<17		50		ug/Kg		09/14/22 00:00	09/21/22 19:39	Ę
1,2-Dichloroethane	<20		50				09/14/22 00:00	09/21/22 19:39	Ę
1,2-Dichloropropane	<21		50		ug/Kg		09/14/22 00:00	09/21/22 19:39	
1,3,5-Trimethylbenzene	<19		50		ug/Kg		09/14/22 00:00	09/21/22 19:39	į
1,3-Dichlorobenzene	<20		50		ug/Kg		09/14/22 00:00	09/21/22 19:39	į
1,3-Dichloropropane	<18		50		ug/Kg		09/14/22 00:00	09/21/22 19:39	
1,4-Dichlorobenzene	<18		50		ug/Kg			09/21/22 19:39	
2,2-Dichloropropane	<22		50		ug/Kg			09/21/22 19:39	
2-Chlorotoluene	<16		50		ug/Kg			09/21/22 19:39	
4-Chlorotoluene	<18		50		ug/Kg			09/21/22 19:39	
Benzene	<7.3		13		ug/Kg			09/21/22 19:39	į
Bromobenzene	<18		50		ug/Kg			09/21/22 19:39	
Bromochloromethane	<21		50	21	ug/Kg			09/21/22 19:39	į
Bromodichloromethane	<19		50		ug/Kg			09/21/22 19:39	į
Bromoform	<24		50		ug/Kg			09/21/22 19:39	
Bromomethane	<40		150		ug/Kg			09/21/22 19:39	į
Carbon tetrachloride	<19		50		ug/Kg			09/21/22 19:39	;
Chlorobenzene	<19		50		ug/Kg			09/21/22 19:39	
Chloroethane	<25		50		ug/Kg			09/21/22 19:39	;
Chloroform	<19		100		ug/Kg			09/21/22 19:39	
Chloromethane	<16		50		ug/Kg ug/Kg			09/21/22 19:39	
cis-1,2-Dichloroethene	<20		50 50		ug/Kg ug/Kg			09/21/22 19:39	;
cis-1,3-Dichloropropene	<21		50	21	ug/Kg		09/14/22 00:00	09/21/22 19:39 09/21/22 19:39	
Dibromochloromethane	<24		50 50		ug/Kg				;
Dibromomethane	<14		50 450		ug/Kg			09/21/22 19:39	;
Dichlorodifluoromethane	<34		150		ug/Kg			09/21/22 19:39	
Ethylbenzene	<9.2		13		ug/Kg			09/21/22 19:39	;
Hexachlorobutadiene	<22		50		ug/Kg			09/21/22 19:39	
Isopropyl ether	<14		50		ug/Kg			09/21/22 19:39	
Isopropylbenzene	<19		50		ug/Kg			09/21/22 19:39	
Methyl tert-butyl ether	<20		50		ug/Kg			09/21/22 19:39	
Methylene Chloride		JB	250		ug/Kg			09/21/22 19:39	
Naphthalene	<17		50		ug/Kg			09/21/22 19:39	;
n-Butylbenzene	<19		50		ug/Kg			09/21/22 19:39	Ę
N-Propylbenzene	<21		50		ug/Kg ug/Kg		09/14/22 00:00	09/21/22 19:39	

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Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

Lab Sample ID: 500-222351-4

Matrix: Soil

Job ID: 500-222351-1

Client Sample ID: Trip Blank Date Collected: 09/14/22 00:00 Date Received: 09/16/22 09:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<20		50	20	ug/Kg		09/14/22 00:00	09/21/22 19:39	50
Styrene	<19		50	19	ug/Kg		09/14/22 00:00	09/21/22 19:39	50
tert-Butylbenzene	<20		50	20	ug/Kg		09/14/22 00:00	09/21/22 19:39	50
Tetrachloroethene	<19		50	19	ug/Kg		09/14/22 00:00	09/21/22 19:39	50
Toluene	<7.4		13	7.4	ug/Kg		09/14/22 00:00	09/21/22 19:39	50
trans-1,2-Dichloroethene	<18		50	18	ug/Kg		09/14/22 00:00	09/21/22 19:39	50
trans-1,3-Dichloropropene	<18		50	18	ug/Kg		09/14/22 00:00	09/21/22 19:39	50
Trichloroethene	<8.2		25	8.2	ug/Kg		09/14/22 00:00	09/21/22 19:39	50
Trichlorofluoromethane	<21		50	21	ug/Kg		09/14/22 00:00	09/21/22 19:39	50
Vinyl chloride	<13		50	13	ug/Kg		09/14/22 00:00	09/21/22 19:39	50
Xylenes, Total	<11		25	11	ug/Kg		09/14/22 00:00	09/21/22 19:39	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)			75 - 126				09/14/22 00:00	09/21/22 19:39	50
4-Bromofluorobenzene (Surr)	85		72 - 124				09/14/22 00:00	09/21/22 19:39	50
Dibromofluoromethane (Surr)	103		75 - 120				09/14/22 00:00	09/21/22 19:39	50
Toluene-d8 (Surr)	100		75 - 120				09/14/22 00:00	09/21/22 19:39	50

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## **Definitions/Glossary**

Client: Giles Engineering Associates

Job ID: 500-222351-1

Project/Site: Smoke Out Cleaners

#### **Qualifiers**

#### **GC/MS VOA**

Qualifier Qualifier Description

B Compound was found in the blank and sample.

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

#### **Glossary**

Abbreviation	These commonly	y used abbreviations may	y or may not be	present in this report.
Appleviation	These commonly	y useu abbievialions ma	y or illay hot be	present in this report.

Example 2 Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CFL Contains Free Liquid
CFU Colony Forming Unit
CNF Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac Dilution Factor

DL Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level"

MDA Minimum Detectable Activity (Radiochemistry)

MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)
MPN Most Probable Number
MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present

PQL Practical Quantitation Limit

PRES Presumptive QC Quality Control

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

TNTC Too Numerous To Count

7

10

12

13

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## **QC Association Summary**

Client: Giles Engineering Associates
Project/Site: Smoke Out Cleaners

Job ID: 500-222351-1

## **GC/MS VOA**

#### **Prep Batch: 675515**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-222351-1	PZ-1 (2-4)	Total/NA	Soil	5035	
500-222351-2	PZ-1 Comp	Total/NA	Soil	5035	
500-222351-3	MW-3R (2-4)	Total/NA	Soil	5035	
500-222351-4	Trip Blank	Total/NA	Soil	5035	
LB3 500-675515/21-A	Method Blank	Total/NA	Solid	5035	
LCS 500-675515/22-A	Lab Control Sample	Total/NA	Solid	5035	
500-222351-1 MS	PZ-1 (2-4)	Total/NA	Soil	5035	
500-222351-1 MSD	PZ-1 (2-4)	Total/NA	Soil	5035	

#### **Analysis Batch: 675584**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-222351-1	PZ-1 (2-4)	Total/NA	Soil	8260B	675515
500-222351-2	PZ-1 Comp	Total/NA	Soil	8260B	675515
500-222351-3	MW-3R (2-4)	Total/NA	Soil	8260B	675515
500-222351-4	Trip Blank	Total/NA	Soil	8260B	675515
LB3 500-675515/21-A	Method Blank	Total/NA	Solid	8260B	675515
MB 500-675584/7	Method Blank	Total/NA	Solid	8260B	
LCS 500-675515/22-A	Lab Control Sample	Total/NA	Solid	8260B	675515
LCS 500-675584/4	Lab Control Sample	Total/NA	Solid	8260B	
500-222351-1 MS	PZ-1 (2-4)	Total/NA	Soil	8260B	675515
500-222351-1 MSD	PZ-1 (2-4)	Total/NA	Soil	8260B	675515

## **General Chemistry**

#### Analysis Batch: 675311

Lab Sample ID 500-222351-1	Client Sample ID PZ-1 (2-4)	Prep Type Total/NA	Matrix Soil	Method Moisture	Prep Batch
500-222351-2	PZ-1 Comp	Total/NA	Soil	Moisture	
500-222351-3	MW-3R (2-4)	Total/NA	Soil	Moisture	

3

4

8

4.0

11

14

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## **Surrogate Summary**

Client: Giles Engineering Associates

Job ID: 500-222351-1

Project/Site: Smoke Out Cleaners

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

Matrix: Soil Prep Type: Total/NA

			Pe	ercent Surre	ogate Reco
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(75-126)	(72-124)	(75-120)	(75-120)
500-222351-1	PZ-1 (2-4)	106	82	100	97
500-222351-1 MS	PZ-1 (2-4)	102	89	97	102
500-222351-1 MSD	PZ-1 (2-4)	106	91	99	101
500-222351-2	PZ-1 Comp	105	85	100	100
500-222351-3	MW-3R (2-4)	108	83	99	99
500-222351-4	Trip Blank	107	85	103	100
Currente Lenend					

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

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

Matrix: Solid Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)						
		DCA	BFB	DBFM	TOL			
Lab Sample ID	Client Sample ID	(75-126)	(72-124)	(75-120)	(75-120)			
LB3 500-675515/21-A	Method Blank	105	87	99	96			
LCS 500-675515/22-A	Lab Control Sample	104	92	100	102			
LCS 500-675584/4	Lab Control Sample	97	91	94	104			
MB 500-675584/7	Method Blank	102	89	98	99			

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

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4 4

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Client: Giles Engineering Associates

Job ID: 500-222351-1

Project/Site: Smoke Out Cleaners

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

Lab Sample ID: LB3 500-675515/21-A

**Matrix: Solid** 

Analysis Batch: 675584

Client Sam	ple ID:	Meth	od Bl	ank
	Prep	Type:	Total	I/NA

Prep Batch: 675515

Analysis Batch: 675584	I R3	LB3						Prep Batch:	6/5515
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<23		50	23	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
1,1,1-Trichloroethane	<19		50	19	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
1,1,2,2-Tetrachloroethane	<20		50	20	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
1,1,2-Trichloroethane	<18		50	18	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
1,1-Dichloroethane	<21		50	21	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
1,1-Dichloroethene	<20		50	20	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
1,1-Dichloropropene	<15		50	15	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
1,2,3-Trichlorobenzene	<23		50	23	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
1,2,3-Trichloropropane	<21		100	21	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
1,2,4-Trichlorobenzene	<17		50	17	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
1,2,4-Trimethylbenzene	<18		50	18	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
1,2-Dibromo-3-Chloropropane	<100		250	100	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Ethylene Dibromide	<19		50	19	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
1,2-Dichlorobenzene	<17		50	17	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
1,2-Dichloroethane	<20		50	20	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
1,2-Dichloropropane	<21		50	21	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
1,3,5-Trimethylbenzene	<19		50	19	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
1,3-Dichlorobenzene	<20		50	20	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
1,3-Dichloropropane	<18		50	18	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
1,4-Dichlorobenzene	<18		50		ug/Kg		09/20/22 15:00	09/21/22 17:21	50
2,2-Dichloropropane	<22		50		ug/Kg		09/20/22 15:00	09/21/22 17:21	50
2-Chlorotoluene	<16		50		ug/Kg		09/20/22 15:00	09/21/22 17:21	50
4-Chlorotoluene	<18		50		ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Benzene	<7.3		13		ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Bromobenzene	<18		50	18	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Bromochloromethane	<21		50	21	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Bromodichloromethane	<19		50		ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Bromoform	<24		50	24	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Bromomethane	<40		150		ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Carbon tetrachloride	<19		50		ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Chlorobenzene	<19		50	19	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Chloroethane	<25		50		ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Chloroform	<19		100		ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Chloromethane	<16		50		ug/Kg		09/20/22 15:00	09/21/22 17:21	50
cis-1,2-Dichloroethene	<20		50		ug/Kg		09/20/22 15:00	09/21/22 17:21	50
cis-1,3-Dichloropropene	<21		50		ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Dibromochloromethane	<24		50		ug/Kg			09/21/22 17:21	50
Dibromomethane	<14		50		ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Dichlorodifluoromethane	<34		150		ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Ethylbenzene	<9.2		13		ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Hexachlorobutadiene	<22		50		ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Isopropyl ether	<14		50		ug/Kg			09/21/22 17:21	50
Isopropylbenzene	<19		50		ug/Kg			09/21/22 17:21	50
Methyl tert-butyl ether	<20		50		ug/Kg			09/21/22 17:21	50
Methylene Chloride	107	J	250		ug/Kg			09/21/22 17:21	50
Naphthalene	<17		50		ug/Kg			09/21/22 17:21	50
n-Butylbenzene	<19		50		ug/Kg			09/21/22 17:21	50
N-Propylbenzene	<21		50		ug/Kg			09/21/22 17:21	50

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Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

Job ID: 500-222351-1

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

Lab Sample ID: LB3 500-675515/21-A

**Matrix: Solid** 

**Analysis Batch: 675584** 

**Client Sample ID: Method Blank** 

Prep Type: Total/NA

**Prep Batch: 675515** 

	LD3	LD3							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	<18		50	18	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
sec-Butylbenzene	<20		50	20	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Styrene	<19		50	19	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
tert-Butylbenzene	<20		50	20	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Tetrachloroethene	<19		50	19	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Toluene	<7.4		13	7.4	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
trans-1,2-Dichloroethene	<18		50	18	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
trans-1,3-Dichloropropene	<18		50	18	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Trichloroethene	<8.2		25	8.2	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Trichlorofluoromethane	<21		50	21	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Vinyl chloride	<13		50	13	ug/Kg		09/20/22 15:00	09/21/22 17:21	50
Xylenes, Total	<11		25	11	ug/Kg		09/20/22 15:00	09/21/22 17:21	50

LB3 LB3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		75 - 126	09/20/22 15:00	09/21/22 17:21	50
4-Bromofluorobenzene (Surr)	87		72 - 124	09/20/22 15:00	09/21/22 17:21	50
Dibromofluoromethane (Surr)	99		75 - 120	09/20/22 15:00	09/21/22 17:21	50
Toluene-d8 (Surr)	96		75 - 120	09/20/22 15:00	09/21/22 17:21	50

Lab Sample ID: LCS 500-675515/22-A

**Matrix: Solid** 

4-Chlorotoluene

Benzene

**Analysis Batch: 675584** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA **Prep Batch: 675515** 

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits 2500 1,1,1,2-Tetrachloroethane 2440 98 70 - 125 ug/Kg 2500 1,1,1-Trichloroethane 2490 ug/Kg 100 70 - 125 2500 2210 1,1,2,2-Tetrachloroethane ug/Kg 88 62 - 1402500 2600 104 71 - 130 1,1,2-Trichloroethane ug/Kg 2500 2490 1,1-Dichloroethane ug/Kg 100 70 - 125 1,1-Dichloroethene 2500 2370 ug/Kg 95 67 - 122 94 1,1-Dichloropropene 2500 2350 70 - 121ug/Kg 1,2,3-Trichlorobenzene 2500 1800 72 51 - 145 ug/Kg 2500 2310 1,2,3-Trichloropropane ug/Kg 93 50 - 133 1,2,4-Trichlorobenzene 2500 2000 80 57 - 137 ug/Kg 1,2,4-Trimethylbenzene 2500 2340 94 70 - 123 ug/Kg 2500 84 1,2-Dibromo-3-Chloropropane 2100 ug/Kg 56 - 123 Ethylene Dibromide 2500 2470 ug/Kg 99 70 - 125 1,2-Dichlorobenzene 2500 2400 96 70 - 125 ug/Kg 1.2-Dichloroethane 2500 2650 ug/Kg 106 68 - 127 1,2-Dichloropropane 2500 2470 ug/Kg 99 67 - 1301,3,5-Trimethylbenzene 2500 2300 ug/Kg 92 70 - 123 2500 2360 95 1,3-Dichlorobenzene 70 - 125 ug/Kg 1,3-Dichloropropane 2500 2490 100 62 - 136 ug/Kg 1,4-Dichlorobenzene 2500 2350 ug/Kg 94 70 - 120 2,2-Dichloropropane 2500 2130 ug/Kg 85 58 - 139 2500 93 70 - 125 2-Chlorotoluene 2320 ug/Kg

**Eurofins Chicago** 

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2290

2490

ug/Kg

ug/Kg

92

100

68 - 124

70 - 120

2500

Spike

LCS LCS

Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

Job ID: 500-222351-1

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

Lab Sample ID: LCS 500-675515/22-A

**Matrix: Solid** 

Analysis Batch: 675584

**Client Sample ID: Lab Control Sample** 

Prep	Type: Total/NA
Prep	Batch: 675515
%Rec	;

	- P				,	
Analyte	Added	Result	Qualifier Unit	D %Rec	Limits	
Bromobenzene	2500	2450	ug/Kg	98	70 - 122	
Bromochloromethane	2500	2620	ug/Kg	105	65 - 122	
Bromodichloromethane	2500	2710	ug/Kg	109	69 - 120	
Bromoform	2500	2750	ug/Kg	110	56 - 132	
Bromomethane	2500	2320	ug/Kg	93	40 - 152	
Carbon tetrachloride	2500	2520	ug/Kg	101	59 - 133	
Chlorobenzene	2500	2520	ug/Kg	101	70 - 120	
Chloroethane	2500	2280	ug/Kg	91	48 - 136	
Chloroform	2500	2500	ug/Kg	100	70 - 120	
Chloromethane	2500	1620	ug/Kg	65	56 - 152	
cis-1,2-Dichloroethene	2500	2480	ug/Kg	99	70 - 125	
cis-1,3-Dichloropropene	2500	2410	ug/Kg	96	64 - 127	
Dibromochloromethane	2500	2650	ug/Kg	106	68 - 125	
Dibromomethane	2500	2480	ug/Kg	99	70 - 120	
Dichlorodifluoromethane	2500	1010	ug/Kg	41	40 - 159	
Ethylbenzene	2500	2340	ug/Kg	93	70 - 123	
Hexachlorobutadiene	2500	2350	ug/Kg	94	51 - 150	
Isopropylbenzene	2500	2270	ug/Kg	91	70 - 126	
Methyl tert-butyl ether	2500	2420	ug/Kg	97	55 - 123	
Methylene Chloride	2500	2580	ug/Kg	103	69 - 125	
Naphthalene	2500	1700	ug/Kg	68	53 - 144	
n-Butylbenzene	2500	2190	ug/Kg	88	68 - 125	
N-Propylbenzene	2500	2270	ug/Kg	91	69 - 127	
p-Isopropyltoluene	2500	2250	ug/Kg	90	70 - 125	
sec-Butylbenzene	2500	2300	ug/Kg	92	70 - 123	
Styrene	2500	2480	ug/Kg	99	70 - 120	
tert-Butylbenzene	2500	2320	ug/Kg	93	70 - 121	
Tetrachloroethene	2500	2620	ug/Kg	105	70 - 128	
Toluene	2500	2380	ug/Kg	95	70 - 125	
trans-1,2-Dichloroethene	2500	2420	ug/Kg	97	70 - 125	
trans-1,3-Dichloropropene	2500	2360	ug/Kg	95	62 - 128	
Trichloroethene	2500	2430	ug/Kg	97	70 - 125	
Trichlorofluoromethane	2500	2290	ug/Kg	92	55 - 128	
Vinyl chloride	2500	1730	ug/Kg	69	64 - 126	
Xylenes, Total	5000	4820	ug/Kg	96	70 - 125	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		75 - 126
4-Bromofluorobenzene (Surr)	92		72 - 124
Dibromofluoromethane (Surr)	100		75 - 120
Toluene-d8 (Surr)	102		75 - 120

Lab Sample ID: 500-222351-1 MS

**Matrix: Soil** 

Analysis Batch: 675584

Prep Type: Total/NA **Prep Batch: 675515** MS MS %Rec Sample Sample Spike

Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits 1,1,1,2-Tetrachloroethane <32 3500 3320 ug/Kg 95 70 - 125

**Eurofins Chicago** 

Client Sample ID: PZ-1 (2-4)

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Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

Job ID: 500-222351-1

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

Lab Sample ID: 500-222351-1 MS

V

Styrene

Lab Sample ID: 500-222351 Matrix: Soil Analysis Batch: 675584	-1 MS							Client	Sample ID: PZ-1 (2-4) Prep Type: Total/NA Prep Batch: 675515
-	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
1,1,1-Trichloroethane	<27		3500	3370		ug/Kg	<u></u>	96	70 - 125
1,1,2,2-Tetrachloroethane	<28		3500	2880		ug/Kg	₩	82	62 - 140
1 1 2-Trichloroethane	<25		3500	3420		ua/Ka		98	71 - 130

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1,1,1-Trichloroethane	<27		3500	3370		ug/Kg	<u></u>	96	70 - 125	
1,1,2,2-Tetrachloroethane	<28		3500	2880		ug/Kg	₩	82	62 - 140	
1,1,2-Trichloroethane	<25		3500	3420		ug/Kg	₩	98	71 - 130	
1,1-Dichloroethane	<29		3500	3320		ug/Kg	₩	95	70 - 125	
1,1-Dichloroethene	<27		3500	3400		ug/Kg	₩	97	67 - 122	
1,1-Dichloropropene	<21		3500	3190		ug/Kg	☼	91	70 - 121	
1,2,3-Trichlorobenzene	<32		3500	2650		ug/Kg	₩	76	51 - 145	
1,2,3-Trichloropropane	<29		3500	3020		ug/Kg	₩	86	50 - 133	
1,2,4-Trichlorobenzene	<24		3500	2840		ug/Kg	₩	81	57 - 137	
1,2,4-Trimethylbenzene	<25		3500	3120		ug/Kg	₩	89	70 - 123	
1,2-Dibromo-3-Chloropropane	<140		3500	2740		ug/Kg	₩	78	56 - 123	
Ethylene Dibromide	<27		3500	3100		ug/Kg	₩	89	70 - 125	
1,2-Dichlorobenzene	<23		3500	3220		ug/Kg	₩	92	70 - 125	
1,2-Dichloroethane	<27		3500	3510		ug/Kg	₩	100	68 - 127	
1,2-Dichloropropane	<30		3500	3230		ug/Kg	 ☆	92	67 - 130	
1,3,5-Trimethylbenzene	<27		3500	3110		ug/Kg	₩	89	70 - 123	
1,3-Dichlorobenzene	<28		3500	3170		ug/Kg	₩	90	70 - 125	
1,3-Dichloropropane	<25		3500	3250		ug/Kg		93	62 - 136	
1,4-Dichlorobenzene	<25		3500	3160		ug/Kg	₩	90	70 - 120	
2,2-Dichloropropane	<31		3500	2950		ug/Kg	₩	84	58 - 139	
2-Chlorotoluene	<22		3500	3130		ug/Kg	 ☆	89	70 - 125	
4-Chlorotoluene	<24		3500	3100		ug/Kg	₩	89	68 - 124	
Benzene	<10		3500	3330		ug/Kg	₩	95	70 - 120	
Bromobenzene	<25		3500	3300		ug/Kg	 ☆	94	70 - 122	
Bromochloromethane	<30		3500	3470		ug/Kg	₩	99	65 - 122	
Bromodichloromethane	<26		3500	3590		ug/Kg	₩	103	69 - 120	
Bromoform	<34		3500	3540		ug/Kg	 ☆	101	56 - 132	
Bromomethane	<56		3500	3390		ug/Kg	₩	97	40 - 152	
Carbon tetrachloride	<27		3500	3500		ug/Kg	₩	100	59 - 133	
Chlorobenzene	<27		3500	3390		ug/Kg	 ☆	97	70 - 120	
Chloroethane	<35		3500	3360		ug/Kg	₩	96	48 - 136	
Chloroform	<26		3500	3340		ug/Kg	⊅	95	70 - 120	
Chloromethane	<22		3500	2820		ug/Kg		81	56 - 152	
cis-1,2-Dichloroethene	<29		3500	3310		ug/Kg		95	70 - 125	
cis-1,3-Dichloropropene	<29		3500	3270		ug/Kg		93	64 - 127	
Dibromochloromethane	<34		3500	3540		ug/Kg		101	68 - 125	
Dibromomethane	<19		3500	3330		ug/Kg		95	70 - 120	
Dichlorodifluoromethane	<47		3500	2540		ug/Kg	☆	73	40 - 159	
Ethylbenzene	<13		3500	3170		ug/Kg		90	70 - 123	
Hexachlorobutadiene	<31		3500	3220		ug/Kg	☆	92	51 - 150	
Isopropylbenzene	<27		3500	3070		ug/Kg ug/Kg	₩	88	70 - 126	
Methyl tert-butyl ether	<28		3500	3150		ug/Kg		90	55 - 123	
Methylene Chloride		JB	3500	3400		ug/Kg ug/Kg	₩	93	69 - 125	
Naphthalene	<23	0.0	3500	2540		ug/Kg ug/Kg	₩ \$	73	53 - 144	
n-Butylbenzene	<27		3500	2870		ug/Kg ug/Kg	 ☆	82	68 - 125	
N-Propylbenzene	<29		3500	3060		ug/Kg ug/Kg	₩	87	69 <sub>-</sub> 127	
	<25		3500	3050			₩	87	70 - 125	
p-Isopropyltoluene sec-Butylbenzene				3150		ug/Kg		90	70 - 123	
Strong	<28		3500	3130		ug/Kg	<b>#</b>	90	70 - 123	

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70 - 120

95

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3310

ug/Kg

3500

<27

Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

Job ID: 500-222351-1

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

Lab Sample ID: 500-222351-1 MS

**Matrix: Soil** 

**Analysis Batch: 675584** 

Client Sample ID: PZ-1 (2-4)

**Prep Type: Total/NA** 

**Prep Batch: 675515** 

	Sample	Sample	<b>Spike</b>	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
tert-Butylbenzene	<28		3500	3180		ug/Kg	☆	91	70 - 121	
Tetrachloroethene	2200		3500	5890		ug/Kg	☼	104	70 - 128	
Toluene	<10		3500	3300		ug/Kg	☆	94	70 - 125	
trans-1,2-Dichloroethene	<24		3500	3380		ug/Kg	☆	97	70 - 125	
trans-1,3-Dichloropropene	<25		3500	3120		ug/Kg	≎	89	62 - 128	
Trichloroethene	<11		3500	3430		ug/Kg	☆	98	70 - 125	
Trichlorofluoromethane	<30		3500	3330		ug/Kg	≎	95	55 - 128	
Vinyl chloride	<18		3500	2840		ug/Kg	☼	81	64 - 126	
Xylenes, Total	<15		7000	6610		ug/Kg	☆	95	70 - 125	

MS MS

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		75 - 126
4-Bromofluorobenzene (Surr)	89		72 - 124
Dibromofluoromethane (Surr)	97		75 - 120
Toluene-d8 (Surr)	102		75 - 120

Lab Sample ID: 500-222351-1 MSD

**Matrix: Soil** 

Analysis Batch: 675584

Client Sample ID: PZ-1 (2-4)

**Prep Type: Total/NA** 

Prep Batch: 675515

Analysis Batch: 6/5584									Prep Ba	itch: 6	
	•	Sample	Spike	_	MSD				%Rec		RPD
Analyte		Qualifier	Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,1,1,2-Tetrachloroethane	<32		3500	3250		ug/Kg	₩	93	70 - 125	2	30
1,1,1-Trichloroethane	<27		3500	3400		ug/Kg	☼	97	70 - 125	1	30
1,1,2,2-Tetrachloroethane	<28		3500	3000		ug/Kg	₩	86	62 - 140	4	30
1,1,2-Trichloroethane	<25		3500	3400		ug/Kg	₽	97	71 - 130	1	30
1,1-Dichloroethane	<29		3500	3340		ug/Kg	☼	96	70 - 125	1	30
1,1-Dichloroethene	<27		3500	3400		ug/Kg	☼	97	67 - 122	0	30
1,1-Dichloropropene	<21		3500	3360		ug/Kg	₽	96	70 - 121	5	30
1,2,3-Trichlorobenzene	<32		3500	2800		ug/Kg	☼	80	51 - 145	5	30
1,2,3-Trichloropropane	<29		3500	3260		ug/Kg	☼	93	50 - 133	8	30
1,2,4-Trichlorobenzene	<24		3500	2920		ug/Kg	₩	83	57 - 137	3	30
1,2,4-Trimethylbenzene	<25		3500	3260		ug/Kg	☼	93	70 - 123	4	30
1,2-Dibromo-3-Chloropropane	<140		3500	2680		ug/Kg	☼	77	56 - 123	2	30
Ethylene Dibromide	<27		3500	3170		ug/Kg	☼	91	70 - 125	2	30
1,2-Dichlorobenzene	<23		3500	3340		ug/Kg	☼	95	70 - 125	4	30
1,2-Dichloroethane	<27		3500	3610		ug/Kg	☼	103	68 - 127	3	30
1,2-Dichloropropane	<30		3500	3430		ug/Kg	₩	98	67 - 130	6	30
1,3,5-Trimethylbenzene	<27		3500	3220		ug/Kg	☼	92	70 - 123	4	30
1,3-Dichlorobenzene	<28		3500	3230		ug/Kg	₩	92	70 - 125	2	30
1,3-Dichloropropane	<25		3500	3210		ug/Kg	₩	92	62 - 136	1	30
1,4-Dichlorobenzene	<25		3500	3170		ug/Kg	₩	91	70 - 120	0	30
2,2-Dichloropropane	<31		3500	2910		ug/Kg	₩	83	58 - 139	2	30
2-Chlorotoluene	<22		3500	3210		ug/Kg	⊅	92	70 - 125	3	30
4-Chlorotoluene	<24		3500	3170		ug/Kg	₩	91	68 - 124	2	30
Benzene	<10		3500	3400		ug/Kg	☼	97	70 - 120	2	30
Bromobenzene	<25		3500	3370		ug/Kg	☼	96	70 - 122	2	30
Bromochloromethane	<30		3500	3520		ug/Kg	☼	101	65 - 122	2	30
Bromodichloromethane	<26		3500	3560		ug/Kg	₩	102	69 - 120	1	30

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Job ID: 500-222351-1 Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

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

Lab Sample ID: 500-222351-1 MSD

**Matrix: Soil** 

**Analysis Batch: 675584** 

Client Sample ID: PZ-1 (2-4)

**Prep Type: Total/NA** 

**Prep Batch: 675515** 

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Bromoform	<34		3500	3540		ug/Kg	<del>-</del>	101	56 - 132	0	30
Bromomethane	<56		3500	3440		ug/Kg	☼	98	40 - 152	1	30
Carbon tetrachloride	<27		3500	3580		ug/Kg	☼	102	59 - 133	2	30
Chlorobenzene	<27		3500	3360		ug/Kg	☼	96	70 - 120	1	30
Chloroethane	<35		3500	3480		ug/Kg	☼	100	48 - 136	4	30
Chloroform	<26		3500	3370		ug/Kg	☼	96	70 - 120	1	30
Chloromethane	<22		3500	3020		ug/Kg	≎	86	56 - 152	7	30
cis-1,2-Dichloroethene	<29		3500	3380		ug/Kg	☼	97	70 - 125	2	30
cis-1,3-Dichloropropene	<29		3500	3220		ug/Kg	☼	92	64 - 127	1	30
Dibromochloromethane	<34		3500	3370		ug/Kg	⊅	96	68 - 125	5	30
Dibromomethane	<19		3500	3410		ug/Kg	☼	97	70 - 120	2	30
Dichlorodifluoromethane	<47		3500	2990		ug/Kg	☼	86	40 - 159	16	30
Ethylbenzene	<13		3500	3130		ug/Kg	₩	89	70 - 123	1	30
Hexachlorobutadiene	<31		3500	3450		ug/Kg	₩	99	51 - 150	7	30
Isopropylbenzene	<27		3500	3200		ug/Kg	☼	91	70 - 126	4	30
Methyl tert-butyl ether	<28		3500	3230		ug/Kg	₩	92	55 - 123	3	30
Methylene Chloride	150	JB	3500	3470		ug/Kg	₩	95	69 - 125	2	30
Naphthalene	<23		3500	2670		ug/Kg	☼	76	53 - 144	5	30
n-Butylbenzene	<27		3500	3010		ug/Kg	⊅	86	68 - 125	5	30
N-Propylbenzene	<29		3500	3210		ug/Kg	☼	92	69 - 127	5	30
p-Isopropyltoluene	<25		3500	3180		ug/Kg	☼	91	70 - 125	4	30
sec-Butylbenzene	<28		3500	3240		ug/Kg	≎	93	70 - 123	3	30
Styrene	<27		3500	3350		ug/Kg	☼	96	70 - 120	1	30
tert-Butylbenzene	<28		3500	3280		ug/Kg	☼	94	70 - 121	3	30
Tetrachloroethene	2200		3500	5900		ug/Kg	⊅	104	70 - 128	0	30
Toluene	<10		3500	3190		ug/Kg	☼	91	70 - 125	3	30
trans-1,2-Dichloroethene	<24		3500	3290		ug/Kg	₩	94	70 - 125	3	30
trans-1,3-Dichloropropene	<25		3500	3030		ug/Kg	☼	87	62 - 128	3	30
Trichloroethene	<11		3500	3450		ug/Kg	₩	99	70 - 125	1	30
Trichlorofluoromethane	<30		3500	3460		ug/Kg	☼	99	55 - 128	4	30
Vinyl chloride	<18		3500	2890		ug/Kg	☼	82	64 - 126	2	30
Xylenes, Total	<15		7000	6600		ug/Kg	₩	94	70 - 125	0	30

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	106		75 - 126
4-Bromofluorobenzene (Surr)	91		72 - 124
Dibromofluoromethane (Surr)	99		75 - 120
Toluene-d8 (Surr)	101		75 - 120

Lab Sample ID: MB 500-675584/7

**Matrix: Solid** 

Analysis Batch: 675584

**Client Sample ID: Method Blank** 

**Prep Type: Total/NA** 

MB MB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/Kg			09/21/22 11:35	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/Kg			09/21/22 11:35	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/Kg			09/21/22 11:35	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/Kg			09/21/22 11:35	1

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Client: Giles Engineering Associates

Job ID: 500-222351-1

Project/Site: Smoke Out Cleaners

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

Lab Sample ID: MB 500-675584/7

Matrix: Solid

**Analysis Batch: 675584** 

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	<0.41		1.0	0.41	ug/Kg		•	09/21/22 11:35	1
1,1-Dichloroethene	< 0.39		1.0		ug/Kg			09/21/22 11:35	1
1,1-Dichloropropene	<0.30		1.0		ug/Kg			09/21/22 11:35	1
1,2,3-Trichlorobenzene	<0.46		1.0		ug/Kg			09/21/22 11:35	1
1,2,3-Trichloropropane	<0.41		2.0		ug/Kg			09/21/22 11:35	1
1,2,4-Trichlorobenzene	0.380	J	1.0		ug/Kg			09/21/22 11:35	1
1,2,4-Trimethylbenzene	<0.36		1.0		ug/Kg			09/21/22 11:35	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0		ug/Kg			09/21/22 11:35	1
Ethylene Dibromide	<0.39		1.0		ug/Kg			09/21/22 11:35	1
1,2-Dichlorobenzene	<0.33		1.0		ug/Kg			09/21/22 11:35	1
1,2-Dichloroethane	<0.39		1.0		ug/Kg			09/21/22 11:35	1
1,2-Dichloropropane	<0.43		1.0		ug/Kg			09/21/22 11:35	
1,3,5-Trimethylbenzene	<0.38		1.0		ug/Kg			09/21/22 11:35	1
1,3-Dichlorobenzene	<0.40		1.0		ug/Kg			09/21/22 11:35	1
1,3-Dichloropropane	<0.36		1.0		ug/Kg			09/21/22 11:35	· · · · · · · · · · · · · · · · · · ·
1,4-Dichlorobenzene	<0.36		1.0		ug/Kg			09/21/22 11:35	1
2,2-Dichloropropane	<0.44		1.0		ug/Kg			09/21/22 11:35	1
2-Chlorotoluene	<0.31		1.0		ug/Kg			09/21/22 11:35	· · 1
4-Chlorotoluene	<0.35		1.0		ug/Kg			09/21/22 11:35	1
Benzene	<0.15		0.25		ug/Kg			09/21/22 11:35	1
Bromobenzene	<0.15		1.0		ug/Kg ug/Kg			09/21/22 11:35	
Bromochloromethane	<0.43		1.0		ug/Kg			09/21/22 11:35	1
Bromodichloromethane	<0.43		1.0		ug/Kg ug/Kg			09/21/22 11:35	1
Bromoform	<0.48		1.0		ug/Kg ug/Kg			09/21/22 11:35	
Bromomethane	<0.40		3.0					09/21/22 11:35	1
Carbon tetrachloride	<0.38		3.0 1.0		ug/Kg				
					ug/Kg			09/21/22 11:35	1
Chlorosthana	<0.39		1.0		ug/Kg			09/21/22 11:35 09/21/22 11:35	1
Chloroethane Chloroform	<0.50 <0.37		1.0 2.0		ug/Kg				1
Chloromethane					ug/Kg			09/21/22 11:35	
	<0.32 <0.41		1.0		ug/Kg			09/21/22 11:35	1
cis-1,2-Dichloroethene			1.0		ug/Kg			09/21/22 11:35	1
cis-1,3-Dichloropropene Dibromochloromethane	<0.42		1.0		ug/Kg			09/21/22 11:35	
	<0.49		1.0		ug/Kg			09/21/22 11:35	1
Dibromomethane	<0.27		1.0		ug/Kg			09/21/22 11:35	1
Dichlorodifluoromethane	<0.67		3.0		ug/Kg			09/21/22 11:35	
Ethylbenzene	<0.18		0.25		ug/Kg			09/21/22 11:35	1
Hexachlorobutadiene	<0.45		1.0		ug/Kg			09/21/22 11:35	1
Isopropyl ether	<0.28		1.0		ug/Kg			09/21/22 11:35	1
Isopropylbenzene	<0.38		1.0		ug/Kg			09/21/22 11:35	1
Methyl tert-butyl ether	<0.39		1.0		ug/Kg			09/21/22 11:35	1
Methylene Chloride	<1.6	.,	5.0		ug/Kg			09/21/22 11:35	1
Naphthalene	0.412	J	1.0		ug/Kg			09/21/22 11:35	1
n-Butylbenzene	<0.39		1.0		ug/Kg			09/21/22 11:35	1
N-Propylbenzene	<0.41		1.0		ug/Kg			09/21/22 11:35	1
p-Isopropyltoluene	<0.36		1.0		ug/Kg			09/21/22 11:35	1
sec-Butylbenzene	<0.40		1.0		ug/Kg			09/21/22 11:35	1
Styrene	<0.39		1.0		ug/Kg			09/21/22 11:35	1
tert-Butylbenzene	<0.40		1.0		ug/Kg			09/21/22 11:35	1
Tetrachloroethene	< 0.37		1.0	0.37	ug/Kg			09/21/22 11:35	1

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Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

Job ID: 500-222351-1

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

Lab Sample ID: MB 500-675584/7

**Matrix: Solid** 

Analysis Batch: 675584

**Client Sample ID: Method Blank** 

Prep Type: Total/NA

	MB	MR							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<0.15		0.25	0.15	ug/Kg			09/21/22 11:35	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/Kg			09/21/22 11:35	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/Kg			09/21/22 11:35	1
Trichloroethene	<0.16		0.50	0.16	ug/Kg			09/21/22 11:35	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/Kg			09/21/22 11:35	1
Vinyl chloride	<0.26		1.0	0.26	ug/Kg			09/21/22 11:35	1
Xylenes, Total	<0.22		0.50	0.22	ug/Kg			09/21/22 11:35	1

MB MB Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 1,2-Dichloroethane-d4 (Surr) 75 - 126 09/21/22 11:35 102 4-Bromofluorobenzene (Surr) 72 - 124 89 09/21/22 11:35 Dibromofluoromethane (Surr) 98 75 - 120 09/21/22 11:35 Toluene-d8 (Surr) 99 75 - 120 09/21/22 11:35

Lab Sample ID: LCS 500-675584/4

**Matrix: Solid** 

Client Sample ID:	<b>Lab Control Sample</b>
	Prep Type: Total/NA

Analysis Batch: 675584						
	Spike	LCS L			%Rec	
Analyte	Added	Result C	<u> </u>	D %Rec	Limits	
1,1,1,2-Tetrachloroethane	50.0	50.9	ug/Kg	102	70 - 125	
1,1,1-Trichloroethane	50.0	53.4	ug/Kg	107	70 - 125	
1,1,2,2-Tetrachloroethane	50.0	44.7	ug/Kg	89	62 - 140	
1,1,2-Trichloroethane	50.0	49.3	ug/Kg	99	71 - 130	
1,1-Dichloroethane	50.0	49.5	ug/Kg	99	70 - 125	
1,1-Dichloroethene	50.0	52.4	ug/Kg	105	67 - 122	
1,1-Dichloropropene	50.0	51.1	ug/Kg	102	70 - 121	
1,2,3-Trichlorobenzene	50.0	40.0	ug/Kg	80	51 - 145	
1,2,3-Trichloropropane	50.0	44.4	ug/Kg	89	50 - 133	
1,2,4-Trichlorobenzene	50.0	46.3	ug/Kg	93	57 - 137	
1,2,4-Trimethylbenzene	50.0	51.0	ug/Kg	102	70 - 123	
1,2-Dibromo-3-Chloropropane	50.0	41.3	ug/Kg	83	56 - 123	
Ethylene Dibromide	50.0	48.1	ug/Kg	96	70 - 125	
1,2-Dichlorobenzene	50.0	49.2	ug/Kg	98	70 - 125	
1,2-Dichloroethane	50.0	50.0	ug/Kg	100	68 - 127	
1,2-Dichloropropane	50.0	48.0	ug/Kg	96	67 - 130	
1,3,5-Trimethylbenzene	50.0	50.6	ug/Kg	101	70 - 123	
1,3-Dichlorobenzene	50.0	50.9	ug/Kg	102	70 - 125	
1,3-Dichloropropane	50.0	47.4	ug/Kg	95	62 - 136	
1,4-Dichlorobenzene	50.0	50.0	ug/Kg	100	70 - 120	
2,2-Dichloropropane	50.0	47.1	ug/Kg	94	58 - 139	
2-Chlorotoluene	50.0	49.8	ug/Kg	100	70 - 125	
4-Chlorotoluene	50.0	49.3	ug/Kg	99	68 - 124	
Benzene	50.0	49.7	ug/Kg	99	70 - 120	
Bromobenzene	50.0	51.0	ug/Kg	102	70 - 122	
Bromochloromethane	50.0	50.4	ug/Kg	101	65 - 122	
Bromodichloromethane	50.0	51.6	ug/Kg	103	69 - 120	
Bromoform	50.0	55.3	ug/Kg	111	56 - 132	
Bromomethane	50.0	61.9	ug/Kg	124	40 - 152	
			5 5			

Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

Job ID: 500-222351-1

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

Lab Sample ID: LCS 500-675584/4

Matrix: Solid

**Analysis Batch: 675584** 

**Client Sample ID: Lab Control Sample** 

**Prep Type: Total/NA** 

Analysis Daton: 075504	Spike	LCS	LCS			%Rec
Analyte	Added	Result	Qualifier	Unit	D %Rec	Limits
Carbon tetrachloride	50.0	57.1		ug/Kg		59 - 133
Chlorobenzene	50.0	51.3		ug/Kg	103	70 - 120
Chloroethane	50.0	59.1		ug/Kg	118	48 - 136
Chloroform	50.0	49.1		ug/Kg	98	70 - 120
Chloromethane	50.0	43.7		ug/Kg	87	56 - 152
cis-1,2-Dichloroethene	50.0	49.3		ug/Kg	99	70 - 125
cis-1,3-Dichloropropene	50.0	49.8		ug/Kg	100	64 - 127
Dibromochloromethane	50.0	53.8		ug/Kg	108	68 - 125
Dibromomethane	50.0	46.8		ug/Kg	94	70 - 120
Dichlorodifluoromethane	50.0	48.4		ug/Kg	97	40 - 159
Ethylbenzene	50.0	49.5		ug/Kg	99	70 - 123
Hexachlorobutadiene	50.0	53.9		ug/Kg	108	51 - 150
Isopropylbenzene	50.0	51.1		ug/Kg	102	70 - 126
Methyl tert-butyl ether	50.0	45.0		ug/Kg	90	55 - 123
Methylene Chloride	50.0	50.6		ug/Kg	101	69 - 125
Naphthalene	50.0	36.5		ug/Kg	73	53 - 144
n-Butylbenzene	50.0	50.9		ug/Kg	102	68 - 125
N-Propylbenzene	50.0	51.7		ug/Kg	103	69 - 127
p-Isopropyltoluene	50.0	52.0		ug/Kg	104	70 - 125
sec-Butylbenzene	50.0	53.3		ug/Kg	107	70 - 123
Styrene	50.0	50.1		ug/Kg	100	70 - 120
tert-Butylbenzene	50.0	52.5		ug/Kg	105	70 - 121
Tetrachloroethene	50.0	59.2		ug/Kg	118	70 - 128
Toluene	50.0	49.8		ug/Kg	100	70 - 125
trans-1,2-Dichloroethene	50.0	49.8		ug/Kg	100	70 - 125
trans-1,3-Dichloropropene	50.0	47.0		ug/Kg	94	62 - 128
Trichloroethene	50.0	51.4		ug/Kg	103	70 - 125
Trichlorofluoromethane	50.0	54.8		ug/Kg	110	55 - 128
Vinyl chloride	50.0	43.4		ug/Kg	87	64 - 126
Xylenes, Total	100	102		ug/Kg	102	70 - 125
LCS LCS						

LCS	LCS
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Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		75 - 126
4-Bromofluorobenzene (Surr)	91		72 - 124
Dibromofluoromethane (Surr)	94		75 - 120
Toluene-d8 (Surr)	104		75 - 120

**Eurofins Chicago** 

#### Lab Chronicle

Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

Client Sample ID: PZ-1 (2-4)

Lab Sample ID: 500-222351-1

Job ID: 500-222351-1

Matrix: Soil

Date Collected: 09/14/22 09:32 Date Received: 09/16/22 09:50

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	Moisture		1	675311	LWN	EET CHI	09/19/22 14:53

Lab Sample ID: 500-222351-1 Client Sample ID: PZ-1 (2-4)

Date Collected: 09/14/22 09:32 **Matrix: Soil** Date Received: 09/16/22 09:50 Percent Solids: 83.6

Batch Batch Dilution Batch **Prepared Prep Type** Type Method Run **Factor** Number Analyst Lab or Analyzed 09/14/22 09:32 Total/NA Prep 5035 675515 WRE EET CHI Total/NA Analysis 8260B 50 675584 W1T EET CHI 09/21/22 18:30

Client Sample ID: PZ-1 Comp Lab Sample ID: 500-222351-2

Date Collected: 09/14/22 10:35 **Matrix: Soil** 

Date Received: 09/16/22 09:50

Dilution Batch Batch Batch Prepared **Prep Type** Method Run Factor **Number Analyst** or Analyzed Type Lab 09/19/22 14:53 Total/NA Moisture 675311 LWN EET CHI Analysis

Client Sample ID: PZ-1 Comp Lab Sample ID: 500-222351-2

Date Collected: 09/14/22 10:35 Matrix: Soil

Date Received: 09/16/22 09:50 Percent Solids: 91.0

Batch Batch Dilution Batch **Prepared** Method Factor Number Analyst or Analyzed **Prep Type** Type Run Lab 09/14/22 10:35 Total/NA 5035 675515 WRE EET CHI Prep Total/NA Analysis 8260B 50 675584 W1T EET CHI 09/21/22 18:53

Client Sample ID: MW-3R (2-4) Lab Sample ID: 500-222351-3

Date Collected: 09/14/22 12:45 Matrix: Soil

Date Received: 09/16/22 09:50

Batch Batch Dilution Batch Prepared **Prep Type** Type Method Run Factor **Number Analyst** or Analyzed Lab 09/19/22 14:53 Total/NA 675311 LWN EET CHI Analysis Moisture

Lab Sample ID: 500-222351-3 Client Sample ID: MW-3R (2-4)

Date Collected: 09/14/22 12:45 Matrix: Soil

Date Received: 09/16/22 09:50 Percent Solids: 78.9

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	е Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5035			675515	WRE	EET CHI	09/14/22 12:45
Total/NA	Analysis	8260B		50	675584	W1T	EET CHI	09/21/22 19:16

#### **Lab Chronicle**

Job ID: 500-222351-1 Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners

**Client Sample ID: Trip Blank** 

Lab Sample ID: 500-222351-4

**Matrix: Soil** 

Date Collected: 09/14/22 00:00 Date Received: 09/16/22 09:50

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5035			675515	WRE	EET CHI	09/14/22 00:00
Total/NA	Analysis	8260B		50	675584	W1T	EET CHI	09/21/22 19:39

#### **Laboratory References:**

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

## **Accreditation/Certification Summary**

Client: Giles Engineering Associates Job ID: 500-222351-1

# Project/Site: Smoke Out Cleaners Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	<b>Expiration Date</b>
Wisconsin	State	999580010	08-31-23

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2417 Bond Street

#### **Chain of Custody Record**

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Environment Testing America

University Park IL 60484-3101 Regulatory Program. Dw NPDES phone 708 534 5200 fax 708 534 5211 RCRA Other **Eurofins Environment Testing America** COC No 1 Project Manager Michelle Peed COCs of 1 Client Contact Email mpeed@gilesengr.com Site Contact M Peed Tel/Fax 262-544-0118 TALS Project # Lab Contact S Fredrick Giles Engineering Associates Inc. Carrier **Analysis Turnaround Time** Sampler C Reich Address N8 W22350 Johnson Dr Suite A1 For Lab Use Only CALENDAR DAYS WORKING DAYS City/State/Zip Waukesha, WI 53186 Walk-ın Client 262-544-0118 TAT if different from Below Lab Sampling 2 weeks Project Name Smoke Out Cleaners 1 week Site 1E-1105024 2 days Job / SDG No PO# 1E 1105024 1 day Sample Filtered 500-222351 COC Type Sample Sample # of (C=Comp, Sample Identification Date Time G=Grab) Matrix Cont. Sample Specific Notes 9 32 2 PZ 1 (2-4) 9/14/2022 G s х 9/14/2022 10 35 С 2 Х s PZ 1 Comp 9/14/2022 12 45 G s 2 X MW 3R (2-4) Trip Blank Added by RETH Preservation Used 1= Ice, 2= HCI; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month) Possible Hazard Identification Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample Poison B Unknown Archive for\_ Non-Hazard Flammable Return to Client Disposal by Lab Special Instructions/QC Requirements & Comments 2008415 Cooler Temp (°C) Obs d Corr'd Therm ID No Custody Seal No Yes No Custody Seals Intact Date/Time Company Giles Received by Company Evo HVS Date/Time Relinguished by 9.15.23 Date/Time Company Relinquished by Received by Company Date/Time Date/Time Received in Lapparatory by Relinquished by

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#### **Login Sample Receipt Checklist**

Client: Giles Engineering Associates

Job Number: 500-222351-1

Login Number: 222351 List Source: Eurofins Chicago

List Number: 1

Creator: Scott, Sherri L

oreator. Scott, Silerii L		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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## **APPENDIX D**

Groundwater Laboratory Reports and Chain-of Custody Documentation

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## **ANALYTICAL REPORT**

#### PREPARED FOR

Attn: Cody Reich Giles Engineering Associates N8 W 22350 Johnson Road Waukesha, Wisconsin 53186

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## **JOB DESCRIPTION**

Smoke Out Cleaners - 1E-1105024

## **JOB NUMBER**

500-236289-1

Eurofins Chicago 2417 Bond Street University Park IL 60484



## **Eurofins Chicago**

#### **Job Notes**

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of Eurofins Environment Testing North Central, LLC and its client. All questions regarding this report should be directed to the Eurofins Environment Testing North Central, LLC Project Manager who has signed this report.

Results relate only to the items tested and the sample(s) as received by the laboratory. The results, detection limits (LOD) and Quantitation Limits (LOQ) have been adjusted for sample dilutions and/or solids content.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

#### **Authorization**

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Authorized for release by Sandie Fredrick, Project Manager II Sandra.Fredrick@et.eurofinsus.com (920)261-1660

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#### **Case Narrative**

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Job ID: 500-236289-1

Job ID: 500-236289-1

**Laboratory: Eurofins Chicago** 

Narrative

Job Narrative 500-236289-1

#### Receipt

The samples were received on 7/8/2023 10:10 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.5° C.

#### **GC/MS VOA**

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

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Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Client Sample ID: PZ-1 Lab Sample ID: 500-236289-1 Result Qualifier Dil Fac D Method Analyte RL **MDL** Unit **Prep Type** 8260D Tetrachloroethene 1.0 0.37 ug/L Total/NA 1.5 Client Sample ID: MW-1 Lab Sample ID: 500-236289-2 Result Qualifier **Analyte** RL **MDL** Unit Dil Fac D Method Prep Type 5.0 5 cis-1,2-Dichloroethene 52 2.0 ug/L 8260D Total/NA 4800 Tetrachloroethene 50 50 8260D Total/NA 19 ug/L 5 8260D Trichloroethene 34 2.5 0.82 ug/L Total/NA Client Sample ID: MW-2 Lab Sample ID: 500-236289-3 No Detections. Lab Sample ID: 500-236289-4 Client Sample ID: MW-3 Analyte Result Qualifier RLMDL Unit Dil Fac D Method **Prep Type** cis-1,2-Dichloroethene 160 1.0 0.41 ug/L 1 8260D Total/NA 380 Tetrachloroethene 10 3.7 ug/L 10 8260D Total/NA trans-1,2-Dichloroethene 0.69 1.0 0.35 ug/L 8260D Total/NA 1 8260D Trichloroethene 11 0.50 0.16 ug/L Total/NA Client Sample ID: MW-4 Lab Sample ID: 500-236289-5 No Detections. Lab Sample ID: 500-236289-6 ID. MIM E

-			
7 -1	IANI	 mn	lΔ
	пепп		

Client Sample ID: WI	/V-5		Lab Sample ID: 5	000-236269-6
_				
	B 14 6 116	 8.8 m. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5 5 55 41 1	

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D Method	Prep Type
Tetrachloroethene	0.88 J	1.0	0.37 ug/L	1 8260D	Total/NA

#### Client Sample ID: MW-6 Lab Sample ID: 500-236289-7

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D M	Method Prep Type
Tetrachloroethene	4.7	1.0	0.37 ug/L	1	3260D Total/NA

#### Client Sample ID: MW-7 Lab Sample ID: 500-236289-8

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Prep Type
Tetrachloroethene	29	1.0	0.37 ug/L		8260D	Total/NA

#### Client Sample ID: Trip Blank Lab Sample ID: 500-236289-9

No Detections.

This Detection Summary does not include radiochemical test results.

Job ID: 500-236289-1

#### **Method Summary**

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

MethodMethod DescriptionProtocolLaboratory8260DVolatile Organic Compounds by GC/MSSW846EET CHI5030BPurge and TrapSW846EET CHI

#### **Protocol References:**

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

#### **Laboratory References:**

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

Job ID: 500-236289-1

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## **Sample Summary**

Client: Giles Engineering Associates Project/Site: Smoke Out Cleaners - 1E-1105024

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-236289-1	PZ-1	Water	07/06/23 12:10	07/08/23 10:10
500-236289-2	MW-1	Water	07/06/23 12:15	07/08/23 10:10
500-236289-3	MW-2	Water	07/06/23 08:50	07/08/23 10:10
500-236289-4	MW-3	Water	07/06/23 11:00	07/08/23 10:10
500-236289-5	MW-4	Water	07/06/23 07:50	07/08/23 10:10
500-236289-6	MW-5	Water	07/06/23 09:25	07/08/23 10:10
500-236289-7	MW-6	Water	07/06/23 09:55	07/08/23 10:10
500-236289-8	MW-7	Water	07/06/23 10:45	07/08/23 10:10
500-236289-9	Trip Blank	Water	07/06/23 00:00	07/08/23 10:10

Job ID: 500-236289-1

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Lab Sample ID: 500-236289-1

**Matrix: Water** 

Job ID: 500-236289-1

Client Sample ID: PZ-1

Date Collected: 07/06/23 12:10 Date Received: 07/08/23 10:10

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.15	0.50	0.15	ug/L		<u> </u>	07/13/23 02:11	
Bromobenzene	<0.36	1.0	0.36	ug/L			07/13/23 02:11	
Bromochloromethane	<0.43	1.0		ug/L			07/13/23 02:11	
Bromodichloromethane	<0.37	1.0	0.37	ug/L			07/13/23 02:11	
Bromoform	<0.48	1.0		ug/L			07/13/23 02:11	
Bromomethane	<0.80	3.0		ug/L			07/13/23 02:11	
Carbon tetrachloride	<0.38	1.0		ug/L			07/13/23 02:11	
Chlorobenzene	<0.39	1.0		ug/L			07/13/23 02:11	
Chloroethane	<0.51	1.0		ug/L			07/13/23 02:11	
Chloroform	<0.37	2.0		ug/L			07/13/23 02:11	
Chloromethane	<0.32 *-	5.0		ug/L			07/13/23 02:11	
2-Chlorotoluene	<0.31	1.0		ug/L			07/13/23 02:11	
4-Chlorotoluene	<0.35	1.0		ug/L			07/13/23 02:11	
cis-1,2-Dichloroethene	<0.41	1.0		ug/L			07/13/23 02:11	
cis-1,3-Dichloropropene	<0.42	1.0		ug/L			07/13/23 02:11	
Dibromochloromethane	<0.49	1.0		ug/L			07/13/23 02:11	
1,2-Dibromo-3-Chloropropane	<2.0	5.0		ug/L			07/13/23 02:11	
Dibromomethane	<0.27	1.0		ug/L			07/13/23 02:11	
1,2-Dichlorobenzene	<0.33	1.0		ug/L			07/13/23 02:11	
1,3-Dichlorobenzene	<0.40	1.0		ug/L			07/13/23 02:11	
1.4-Dichlorobenzene	<0.36	1.0		ug/L			07/13/23 02:11	
Dichlorodifluoromethane	<0.67	3.0		ug/L			07/13/23 02:11	
1,1-Dichloroethane	<0.41	1.0		ug/L			07/13/23 02:11	
1,2-Dichloroethane	<0.39	1.0		ug/L			07/13/23 02:11	
1,1-Dichloroethene	<0.39	1.0		ug/L			07/13/23 02:11	
1,2-Dichloropropane	<0.43	1.0		ug/L			07/13/23 02:11	
1,3-Dichloropropane	<0.36	1.0		ug/L			07/13/23 02:11	
2,2-Dichloropropane	<0.44	1.0		ug/L			07/13/23 02:11	
1,1-Dichloropropene	<0.30	1.0		ug/L			07/13/23 02:11	
Ethylbenzene	<0.18	0.50		ug/L			07/13/23 02:11	
Ethylene Dibromide	<0.39	1.0		ug/L			07/13/23 02:11	
Hexachlorobutadiene	<0.45	1.0		ug/L			07/13/23 02:11	
sopropylbenzene	<0.39	1.0		ug/L			07/13/23 02:11	
Isopropyl ether	<0.28	1.0		ug/L ug/L			07/13/23 02:11	
Methylene Chloride	<1.6	5.0		ug/L ug/L			07/13/23 02:11	
Methyl tert-butyl ether	<0.39	1.0		ug/L			07/13/23 02:11	
Naphthalene	<0.34			ug/L ug/L				
'		1.0		ug/L ug/L			07/13/23 02:11	
n-Butylbenzene	<0.39	1.0		-			07/13/23 02:11 07/13/23 02:11	
N-Propylbenzene	<0.41	1.0		ug/L				
p-Isopropyltoluene	<0.36	1.0		ug/L			07/13/23 02:11	
sec-Butylbenzene	<0.40	1.0		ug/L			07/13/23 02:11	
Styrene	<0.39	1.0		ug/L			07/13/23 02:11	
tert-Butylbenzene	<0.40	1.0		ug/L			07/13/23 02:11	
1,1,1,2-Tetrachloroethane	<0.46	1.0		ug/L			07/13/23 02:11	
1,1,2,2-Tetrachloroethane	<0.40	1.0		ug/L			07/13/23 02:11	
Tetrachloroethene	1.5	1.0		ug/L			07/13/23 02:11	
Toluene	<0.15	0.50		ug/L			07/13/23 02:11	
trans-1,2-Dichloroethene	<0.35	1.0		ug/L ug/L			07/13/23 02:11 07/13/23 02:11	

**Eurofins Chicago** 

7/13/2023

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Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Lab Sample ID: 500-236289-1

**Matrix: Water** 

Job ID: 500-236289-1

**Client Sample ID: PZ-1** Date Collected: 07/06/23 12:10 Date Received: 07/08/23 10:10

Method: SW846 8260D - Vo	latile Organic	Compoun	ds by GC/MS	(Contin	iued)				
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/13/23 02:11	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/13/23 02:11	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/13/23 02:11	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/13/23 02:11	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/13/23 02:11	1
Trichlorofluoromethane	<0.43	*-	1.0	0.43	ug/L			07/13/23 02:11	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/13/23 02:11	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/13/23 02:11	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/13/23 02:11	1
Vinyl chloride	<0.20	*_	1.0	0.20	ug/L			07/13/23 02:11	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/13/23 02:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		72 - 124			-		07/13/23 02:11	1
Dibromofluoromethane (Surr)	93		75 - 120					07/13/23 02:11	1
1,2-Dichloroethane-d4 (Surr)	103		75 - 126					07/13/23 02:11	1
Toluene-d8 (Surr)	99		75 - 120					07/13/23 02:11	1

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Lab Sample ID: 500-236289-2

**Matrix: Water** 

Job ID: 500-236289-1

Client Sample ID: MW-1

Date Collected: 07/06/23 12:15 Date Received: 07/08/23 10:10

Method: SW846 8260D - Vola		•						
Analyte	Result Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fa
Benzene	<0.73	2.5		ug/L			07/13/23 05:25	
Bromobenzene	<1.8	5.0		ug/L			07/13/23 05:25	
Bromochloromethane	<2.1	5.0		ug/L			07/13/23 05:25	
Bromodichloromethane	<1.9	5.0	1.9	ug/L			07/13/23 05:25	
Bromoform	<2.4	5.0	2.4	ug/L			07/13/23 05:25	
Bromomethane	<4.0	15	4.0	ug/L			07/13/23 05:25	
Carbon tetrachloride	<1.9	5.0	1.9	ug/L			07/13/23 05:25	
Chlorobenzene	<1.9	5.0	1.9	ug/L			07/13/23 05:25	
Chloroethane	<2.5	5.0	2.5	ug/L			07/13/23 05:25	
Chloroform	<1.9	10	1.9	ug/L			07/13/23 05:25	
Chloromethane	<1.6 *-	25	1.6	ug/L			07/13/23 05:25	
2-Chlorotoluene	<1.6	5.0	1.6	ug/L			07/13/23 05:25	
I-Chlorotoluene	<1.7	5.0	1.7	ug/L			07/13/23 05:25	
cis-1,2-Dichloroethene	<b>52</b>	5.0	2.0	ug/L			07/13/23 05:25	
cis-1,3-Dichloropropene	<2.1	5.0		ug/L			07/13/23 05:25	
Dibromochloromethane	<2.4	5.0	2.4	ug/L			07/13/23 05:25	
,2-Dibromo-3-Chloropropane	<10	25	10	ug/L			07/13/23 05:25	
Dibromomethane	<1.4	5.0	1.4	ug/L			07/13/23 05:25	
,2-Dichlorobenzene	<1.7	5.0	1.7	ug/L			07/13/23 05:25	
,3-Dichlorobenzene	<2.0	5.0		ug/L			07/13/23 05:25	
,4-Dichlorobenzene	<1.8	5.0		ug/L			07/13/23 05:25	
Dichlorodifluoromethane	<3.4	15		ug/L			07/13/23 05:25	
,1-Dichloroethane	<2.1	5.0		ug/L			07/13/23 05:25	
,2-Dichloroethane	<2.0	5.0		ug/L			07/13/23 05:25	
,1-Dichloroethene	<2.0	5.0		ug/L			07/13/23 05:25	
,2-Dichloropropane	<2.1	5.0		ug/L			07/13/23 05:25	
,3-Dichloropropane	<1.8	5.0		ug/L			07/13/23 05:25	
,2-Dichloropropane	<2.2	5.0		ug/L			07/13/23 05:25	
,1-Dichloropropene	<1.5	5.0		ug/L			07/13/23 05:25	
thylbenzene	<0.92	2.5		ug/L			07/13/23 05:25	
thylene Dibromide	<1.9	5.0		ug/L			07/13/23 05:25	
exachlorobutadiene	<2.2	5.0		ug/L			07/13/23 05:25	
sopropylbenzene	<1.9	5.0		ug/L			07/13/23 05:25	
sopropyl ether	<1.4	5.0		ug/L			07/13/23 05:25	
lethylene Chloride	<8.2	25		ug/L			07/13/23 05:25	
Methyl tert-butyl ether	<2.0	5.0		ug/L			07/13/23 05:25	
laphthalene	<1.7	5.0		ug/L			07/13/23 05:25	
-Butylbenzene	<1.9	5.0		ug/L			07/13/23 05:25	
I-Propylbenzene	<2.1	5.0		ug/L			07/13/23 05:25	
-Isopropyltoluene	<1.8	5.0		ug/L			07/13/23 05:25	
ec-Butylbenzene	<2.0	5.0		ug/L			07/13/23 05:25	
tyrene	<1.9	5.0		ug/L			07/13/23 05:25	
ert-Butylbenzene	<2.0	5.0		ug/L			07/13/23 05:25	
,1,1,2-Tetrachloroethane	<2.3	5.0		ug/L			07/13/23 05:25	
,1,2,2-Tetrachloroethane	<2.0	5.0 5.0		ug/L ug/L			07/13/23 05:25	
etrachloroethene		50		ug/L ug/L			07/13/23 05:49	
etrachioroethene oluene	<b>4800</b> <0.76	2.5		ug/L ug/L			07/13/23 05:49	
rans-1,2-Dichloroethene	<1.7			-				
rans-1,3-Dichloropropene	<1.8	5.0 5.0		ug/L ug/L			07/13/23 05:25 07/13/23 05:25	

**Eurofins Chicago** 

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Lab Sample ID: 500-236289-2

**Matrix: Water** 

Job ID: 500-236289-1

Client Sample ID: MW-1 Date Collected: 07/06/23 12:15

Date Received: 07/08/23 10:10

Method: SW846 8260D - Vo Analyte	_	Compoun Qualifier	ds by GC/MS RL	(Contin MDL	•	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<2.3		5.0	2.3	ug/L		-	07/13/23 05:25	5
1,2,4-Trichlorobenzene	<1.7		5.0	1.7	ug/L			07/13/23 05:25	5
1,1,1-Trichloroethane	<1.9		5.0	1.9	ug/L			07/13/23 05:25	5
1,1,2-Trichloroethane	<1.8		5.0	1.8	ug/L			07/13/23 05:25	5
Trichloroethene	34		2.5	0.82	ug/L			07/13/23 05:25	5
Trichlorofluoromethane	<2.1	*_	5.0	2.1	ug/L			07/13/23 05:25	5
1,2,3-Trichloropropane	<2.1		10	2.1	ug/L			07/13/23 05:25	5
1,2,4-Trimethylbenzene	<1.8		5.0	1.8	ug/L			07/13/23 05:25	5
1,3,5-Trimethylbenzene	<1.3		5.0	1.3	ug/L			07/13/23 05:25	5
Vinyl chloride	<1.0	*-	5.0	1.0	ug/L			07/13/23 05:25	5
Xylenes, Total	<1.1		5.0	1.1	ug/L			07/13/23 05:25	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			72 - 124					07/13/23 05:25	- 5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		72 - 124		07/13/23 05:25	5
4-Bromofluorobenzene (Surr)	115		72 - 124		07/13/23 05:49	50
Dibromofluoromethane (Surr)	98		75 - 120		07/13/23 05:25	5
Dibromofluoromethane (Surr)	96		75 - 120		07/13/23 05:49	50
1,2-Dichloroethane-d4 (Surr)	102		75 <sub>-</sub> 126		07/13/23 05:25	5
1,2-Dichloroethane-d4 (Surr)	102		75 - 126		07/13/23 05:49	50
Toluene-d8 (Surr)	96		75 - 120		07/13/23 05:25	5
Toluene-d8 (Surr)	96		75 - 120		07/13/23 05:49	50

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

**Client Sample ID: MW-2** Lab Sample ID: 500-236289-3 Date Collected: 07/06/23 08:50

Date Received: 07/08/23 10:10

**Matrix: Water** 

Job ID: 500-236289-1

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.15	0.50	0.15	ug/L			07/13/23 02:35	
Bromobenzene	<0.36	1.0	0.36	ug/L			07/13/23 02:35	
Bromochloromethane	<0.43	1.0	0.43	ug/L			07/13/23 02:35	
Bromodichloromethane	<0.37	1.0	0.37	ug/L			07/13/23 02:35	
Bromoform	<0.48	1.0	0.48	ug/L			07/13/23 02:35	
Bromomethane	<0.80	3.0	0.80	ug/L			07/13/23 02:35	
Carbon tetrachloride	<0.38	1.0	0.38	ug/L			07/13/23 02:35	
Chlorobenzene	<0.39	1.0	0.39	ug/L			07/13/23 02:35	
Chloroethane	<0.51	1.0	0.51	ug/L			07/13/23 02:35	
Chloroform	<0.37	2.0	0.37	ug/L			07/13/23 02:35	
Chloromethane	<0.32 *-	5.0	0.32	ug/L			07/13/23 02:35	
2-Chlorotoluene	<0.31	1.0		ug/L			07/13/23 02:35	
4-Chlorotoluene	<0.35	1.0		ug/L			07/13/23 02:35	
cis-1,2-Dichloroethene	<0.41	1.0		ug/L			07/13/23 02:35	
cis-1,3-Dichloropropene	<0.42	1.0		ug/L			07/13/23 02:35	
Dibromochloromethane	<0.49	1.0		ug/L			07/13/23 02:35	
1,2-Dibromo-3-Chloropropane	<2.0	5.0		ug/L			07/13/23 02:35	
Dibromomethane	<0.27	1.0		ug/L			07/13/23 02:35	
1,2-Dichlorobenzene	<0.33	1.0		ug/L			07/13/23 02:35	
1,3-Dichlorobenzene	<0.40	1.0		ug/L			07/13/23 02:35	
1.4-Dichlorobenzene	<0.36	1.0		ug/L			07/13/23 02:35	
Dichlorodifluoromethane	<0.67	3.0		ug/L			07/13/23 02:35	
1,1-Dichloroethane	<0.41	1.0		ug/L			07/13/23 02:35	
1,2-Dichloroethane	<0.39	1.0		ug/L			07/13/23 02:35	
1,1-Dichloroethene	<0.39	1.0		ug/L			07/13/23 02:35	
1,2-Dichloropropane	<0.43	1.0		ug/L			07/13/23 02:35	
1,3-Dichloropropane	<0.36	1.0		ug/L			07/13/23 02:35	
2,2-Dichloropropane	<0.44	1.0		ug/L			07/13/23 02:35	
1,1-Dichloropropene	<0.30	1.0		ug/L			07/13/23 02:35	
Ethylbenzene	<0.18	0.50		ug/L			07/13/23 02:35	
Ethylene Dibromide	<0.39	1.0		ug/L			07/13/23 02:35	
Hexachlorobutadiene	<0.45	1.0		ug/L			07/13/23 02:35	
Isopropylbenzene	<0.39	1.0		ug/L			07/13/23 02:35	
Isopropyl ether	<0.28	1.0		ug/L ug/L			07/13/23 02:35	
Methylene Chloride	<1.6	5.0		ug/L ug/L			07/13/23 02:35	
				-			07/13/23 02:35	
Methyl tert-butyl ether	<0.39 <0.34	1.0		ug/L ug/L			07/13/23 02:35	
Naphthalene		1.0						
n-Butylbenzene	<0.39	1.0		ug/L			07/13/23 02:35	
N-Propylbenzene	<0.41	1.0		ug/L			07/13/23 02:35	
p-Isopropyltoluene	< 0.36	1.0		ug/L			07/13/23 02:35	
sec-Butylbenzene	<0.40	1.0		ug/L			07/13/23 02:35	
Styrene	<0.39	1.0		ug/L			07/13/23 02:35	
tert-Butylbenzene	<0.40	1.0		ug/L			07/13/23 02:35	
1,1,1,2-Tetrachloroethane	<0.46	1.0		ug/L			07/13/23 02:35	
1,1,2,2-Tetrachloroethane	<0.40	1.0		ug/L			07/13/23 02:35	
Tetrachloroethene	<0.37	1.0		ug/L			07/13/23 02:35	
Toluene	<0.15	0.50		ug/L			07/13/23 02:35	
trans-1,2-Dichloroethene trans-1,3-Dichloropropene	<0.35 <0.36	1.0		ug/L ug/L			07/13/23 02:35 07/13/23 02:35	

**Eurofins Chicago** 

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Lab Sample ID: 500-236289-3

**Matrix: Water** 

Job ID: 500-236289-1

Date Collected: 07/06/23 08:50 Date Received: 07/08/23 10:10

**Client Sample ID: MW-2** 

Method: SW846 8260D - Vo	latile Organic	Compoun	ds by GC/MS	(Contin	ued)				
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/13/23 02:35	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/13/23 02:35	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/13/23 02:35	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/13/23 02:35	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/13/23 02:35	1
Trichlorofluoromethane	<0.43	*_	1.0	0.43	ug/L			07/13/23 02:35	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/13/23 02:35	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/13/23 02:35	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/13/23 02:35	1
Vinyl chloride	<0.20	*-	1.0	0.20	ug/L			07/13/23 02:35	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/13/23 02:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		72 - 124			-		07/13/23 02:35	1
Dibromofluoromethane (Surr)	94		75 - 120					07/13/23 02:35	1
1,2-Dichloroethane-d4 (Surr)	98		75 - 126					07/13/23 02:35	1
Toluene-d8 (Surr)	97		75 - 120					07/13/23 02:35	1

7/13/2023

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

**Client Sample ID: MW-3** Date Collected: 07/06/23 11:00

Date Received: 07/08/23 10:10

Lab	Sample	ID: 500	)-236289-4
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**Matrix: Water** 

Job ID: 500-236289-1

Analyte	Result Qua	alifier RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15	0.50	0.15	ug/L		-	07/13/23 04:36	
Bromobenzene	< 0.36	1.0	0.36	ug/L			07/13/23 04:36	1
Bromochloromethane	< 0.43	1.0	0.43	ug/L			07/13/23 04:36	•
Bromodichloromethane	<0.37	1.0	0.37	ug/L			07/13/23 04:36	· · · · · · · · ·
Bromoform	<0.48	1.0	0.48	ug/L			07/13/23 04:36	
Bromomethane	<0.80	3.0	0.80	ug/L			07/13/23 04:36	
Carbon tetrachloride	<0.38	1.0	0.38	ug/L			07/13/23 04:36	
Chlorobenzene	< 0.39	1.0	0.39	ug/L			07/13/23 04:36	
Chloroethane	<0.51	1.0	0.51	ug/L			07/13/23 04:36	
Chloroform	<0.37	2.0	0.37	ug/L			07/13/23 04:36	
Chloromethane	<0.32 *-	5.0	0.32	ug/L			07/13/23 04:36	1
2-Chlorotoluene	<0.31	1.0		ug/L			07/13/23 04:36	
4-Chlorotoluene	<0.35	1.0		ug/L			07/13/23 04:36	1
cis-1,2-Dichloroethene	160	1.0		ug/L			07/13/23 04:36	
cis-1,3-Dichloropropene	<0.42	1.0		ug/L			07/13/23 04:36	
Dibromochloromethane	<0.49	1.0		ug/L			07/13/23 04:36	
1,2-Dibromo-3-Chloropropane	<2.0	5.0		ug/L			07/13/23 04:36	
Dibromomethane	<0.27	1.0		ug/L			07/13/23 04:36	
1,2-Dichlorobenzene	<0.33	1.0		ug/L			07/13/23 04:36	
1,3-Dichlorobenzene	<0.40	1.0		ug/L			07/13/23 04:36	
1,4-Dichlorobenzene	<0.36	1.0		ug/L			07/13/23 04:36	
Dichlorodifluoromethane	<0.67	3.0		ug/L			07/13/23 04:36	,
1,1-Dichloroethane	<0.41	1.0		ug/L			07/13/23 04:36	
1,2-Dichloroethane	<0.39	1.0		ug/L			07/13/23 04:36	
1,1-Dichloroethene	<0.39	1.0		ug/L			07/13/23 04:36	
1,2-Dichloropropane	<0.43	1.0		ug/L			07/13/23 04:36	
1,3-Dichloropropane	<0.36	1.0		ug/L			07/13/23 04:36	
2,2-Dichloropropane	<0.44	1.0		ug/L			07/13/23 04:36	
1,1-Dichloropropene	<0.30	1.0		ug/L			07/13/23 04:36	
Ethylbenzene	<0.18	0.50		ug/L			07/13/23 04:36	
Ethylene Dibromide	<0.39	1.0		ug/L			07/13/23 04:36	
Hexachlorobutadiene	<0.45	1.0		ug/L			07/13/23 04:36	
Isopropylbenzene	<0.39	1.0		ug/L			07/13/23 04:36	1
Isopropyl ether	<0.28	1.0		ug/L			07/13/23 04:36	
Methylene Chloride	<1.6	5.0		ug/L			07/13/23 04:36	
Methyl tert-butyl ether	<0.39	1.0		ug/L			07/13/23 04:36	,
Naphthalene	<0.34	1.0		ug/L			07/13/23 04:36	,
n-Butylbenzene	<0.39	1.0		ug/L			07/13/23 04:36	,
N-Propylbenzene	<0.41	1.0		ug/L ug/L			07/13/23 04:36	
o-Isopropyltoluene	<0.36	1.0		ug/L ug/L			07/13/23 04:36	
sec-Butylbenzene	<0.40	1.0		•			07/13/23 04:36	,
•	<0.39	1.0		ug/L ug/L			07/13/23 04:36	
Styrene								
tert-Butylbenzene	<0.40	1.0		ug/L			07/13/23 04:36	
1,1,1,2-Tetrachloroethane	<0.46	1.0		ug/L			07/13/23 04:36	
1,1,2,2-Tetrachloroethane	<0.40	1.0		ug/L			07/13/23 04:36	
Tetrachloroethene	<b>380</b>	10		ug/L			07/13/23 05:00	10
Toluene	<0.15	0.50		ug/L			07/13/23 04:36	
trans-1,2-Dichloroethene trans-1,3-Dichloropropene	<b>0.69 J</b> <0.36	1.0		ug/L ug/L			07/13/23 04:36 07/13/23 04:36	1

**Eurofins Chicago** 

7/13/2023

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Lab Sample ID: 500-236289-4

**Matrix: Water** 

Job ID: 500-236289-1

07/13/23 04:36

07/13/23 05:00

07/13/23 04:36

07/13/23 05:00

07/13/23 04:36

07/13/23 05:00

Client Sample ID: MW-3
Date Collected: 07/06/23 11:00

Date Received: 07/08/23 10:10

Dibromofluoromethane (Surr)

Dibromofluoromethane (Surr)

1,2-Dichloroethane-d4 (Surr)

1,2-Dichloroethane-d4 (Surr)

Toluene-d8 (Surr)

Toluene-d8 (Surr)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/13/23 04:36	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/13/23 04:36	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/13/23 04:36	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/13/23 04:36	1
Trichloroethene	11		0.50	0.16	ug/L			07/13/23 04:36	1
Trichlorofluoromethane	<0.43	*_	1.0	0.43	ug/L			07/13/23 04:36	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/13/23 04:36	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/13/23 04:36	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/13/23 04:36	1
Vinyl chloride	<0.20	*-	1.0	0.20	ug/L			07/13/23 04:36	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/13/23 04:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			72 - 124			•		07/13/23 04:36	1
4-Bromofluorobenzene (Surr)	113		72 - 124					07/13/23 05:00	10

75 - 120

75 - 120

75 - 126

75 - 126

75 - 120

75 - 120

96

98

100

95

98

97

1

10

10

10

14

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Client Sample ID: MW-4 Date Collected: 07/06/23 07:50

Date Received: 07/08/23 10:10

Lab Sample ID: 500-236289-5	
Matrix: Water	

Job ID: 500-236289-1

Analyte         Result         Qualifier         RL         MDL         Unit         D         Prepared           Bernzene         <0.15         0.50         0.15         ugL         Image: Comparison of the compari	Analyzed	Dil Fa
Bromobenzene	07/13/23 02:59	
Bromochloromethane         <0.43	07/13/23 02:59	
Bromodichloromethane         <0.37	07/13/23 02:59	
Bromoform	07/13/23 02:59	
Bromomethane	07/13/23 02:59	
Carbon tetrachloride	07/13/23 02:59	
Chlorobenzene	07/13/23 02:59	
Chloroethane	07/13/23 02:59	
Chloroform	07/13/23 02:59	
Chloromethane	07/13/23 02:59	
2-Chlorotoluene	07/13/23 02:59	
4-Chlorotoluene	07/13/23 02:59	
cis-1,2-Dichloroethene         <0.41	07/13/23 02:59	
cis-1,3-Dichloropropene         <0.42	07/13/23 02:59	
Dibromochloromethane         <0.49	07/13/23 02:59	
1,2-Dibromo-3-Chloropropane   <2.0   5.0   2.0   ug/L	07/13/23 02:59	
Dibromomethane	07/13/23 02:59	
1,2-Dichlorobenzene       <0.33	07/13/23 02:59	
1,3-Dichlorobenzene       <0.40	07/13/23 02:59	
1,4-Dichlorobenzene	07/13/23 02:59	
Dichlorodifluoromethane   <0.67   3.0   0.67   ug/L     1,1-Dichloroethane   <0.41   1.0   0.41   ug/L     1,2-Dichloroethane   <0.39   1.0   0.39   ug/L     1,1-Dichloroethene   <0.39   1.0   0.39   ug/L     1,1-Dichloroptopane   <0.43   1.0   0.43   ug/L     1,3-Dichloropropane   <0.43   1.0   0.43   ug/L     1,3-Dichloropropane   <0.44   1.0   0.44   ug/L     1,1-Dichloropropane   <0.44   1.0   0.44   ug/L     1,1-Dichloropropene   <0.30   1.0   0.30   ug/L     1,1-Dichloropropene   <0.18   0.50   0.18   ug/L     Ethylene Dibromide   <0.39   1.0   0.39   ug/L     Ethylene Dibromide   <0.39   1.0   0.39   ug/L     Isopropylbenzene   <0.39   1.0   0.39   ug/L     Isopropyl ether   <0.28   1.0   0.28   ug/L     Methylene Chloride   <1.6   5.0   1.6   ug/L     Methylene Chloride   <1.6   5.0   1.6   ug/L     Methylene Chloride   <0.34   1.0   0.34   ug/L     Naphthalene   <0.34   1.0   0.34   ug/L     N-Propylbenzene   <0.39   1.0   0.39   ug/L     N-Propylbenzene   <0.39   1.0   0.39   ug/L     N-Propylbenzene   <0.41   1.0   0.41   ug/L     D-IsopropyItoluene   <0.36   1.0   0.36   ug/L     Styrene   <0.39   1.0   0.39   ug/L     Lett-Butylbenzene   <0.40   1.0   0.40   ug/L     Lett-Butylbenzene   <0.40   1.0   0.40   ug/L     Lett-Butylbenzene   <0.40   1.0   0.40   ug/L     Lett-Butylbenzene   <0.40   1.0   0.40   ug/L     Lett-Butylbenzene   <0.46   1.0   0.46   ug/L	07/13/23 02:59	
1,1-Dichloroethane       <0.41	07/13/23 02:59	
1,2-Dichloroethane       <0.39	07/13/23 02:59	
1,1-Dichloroethene       <0.39	07/13/23 02:59	
1,2-Dichloropropane       <0.43	07/13/23 02:59	
1,3-Dichloropropane       <0.36	07/13/23 02:59	
2,2-Dichloropropane       <0.44	07/13/23 02:59	
1,1-Dichloropropene       <0.30	07/13/23 02:59	
Ethylbenzene       <0.18	07/13/23 02:59	
Ethylene Dibromide       <0.39	07/13/23 02:59	
Hexachlorobutadiene	07/13/23 02:59	
Sopropy  S		
Sopropylether	07/13/23 02:59	
Methylene Chloride       <1.6	07/13/23 02:59	
Methyl tert-butyl ether       <0.39	07/13/23 02:59	
Naphthalene       <0.34	07/13/23 02:59	
n-Butylbenzene       <0.39	07/13/23 02:59	
N-Propylbenzene       <0.41	07/13/23 02:59	
p-Isopropyltoluene <0.36 1.0 0.36 ug/L sec-Butylbenzene <0.40 1.0 0.40 ug/L Styrene <0.39 1.0 0.39 ug/L tert-Butylbenzene <0.40 1.0 0.40 ug/L 1,1,1,2-Tetrachloroethane <0.46 1.0 0.46 ug/L	07/13/23 02:59	
sec-Butylbenzene       <0.40	07/13/23 02:59	
Styrene       <0.39	07/13/23 02:59	
tert-Butylbenzene <0.40 1.0 0.40 ug/L 1,1,1,2-Tetrachloroethane <0.46 1.0 0.46 ug/L	07/13/23 02:59	
1,1,1,2-Tetrachloroethane <0.46 1.0 0.46 ug/L	07/13/23 02:59	
	07/13/23 02:59	
	07/13/23 02:59	
1,1,2,2-Tetrachloroethane <0.40 1.0 0.40 ug/L	07/13/23 02:59	
Tetrachloroethene <0.37 1.0 0.37 ug/L	07/13/23 02:59	
Toluene <0.15 0.50 0.15 ug/L	07/13/23 02:59	
trans-1,2-Dichloroethene <0.35 1.0 0.35 ug/L trans-1,3-Dichloropropene <0.36 1.0 0.36 ug/L	07/13/23 02:59 07/13/23 02:59	

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Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Client Sample ID: MW-4 Lab Sample ID: 500-236289-5

**Matrix: Water** 

Job ID: 500-236289-1

Date Collected: 07/06/23 07:50 Date Received: 07/08/23 10:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/13/23 02:59	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/13/23 02:59	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/13/23 02:59	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/13/23 02:59	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/13/23 02:59	1
Trichlorofluoromethane	<0.43	*-	1.0	0.43	ug/L			07/13/23 02:59	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/13/23 02:59	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/13/23 02:59	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/13/23 02:59	1
Vinyl chloride	<0.20	*-	1.0	0.20	ug/L			07/13/23 02:59	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/13/23 02:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			72 - 124			-		07/13/23 02:59	1
Dibromofluoromethane (Surr)	94		75 - 120					07/13/23 02:59	1
1,2-Dichloroethane-d4 (Surr)	102		75 - 126					07/13/23 02:59	1
Toluene-d8 (Surr)	98		75 - 120					07/13/23 02:59	1

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Lab Sample ID: 500-236289-6

**Matrix: Water** 

Job ID: 500-236289-1

Client Sample ID: MW-5
Date Collected: 07/06/23 09:25

Date Received: 07/08/23 10:10

Method: SW846 8260D					11!4	_	D	A	D:: = :
Analyte		Qualifier	RL		Unit	<u>D</u> -	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50		ug/L			07/13/23 03:24	1
Bromobenzene	<0.36		1.0		ug/L			07/13/23 03:24	1
Bromochloromethane	<0.43		1.0		ug/L			07/13/23 03:24	
Bromodichloromethane	<0.37		1.0		ug/L			07/13/23 03:24	1
Bromoform	<0.48		1.0		ug/L			07/13/23 03:24	1
Bromomethane	<0.80		3.0		ug/L			07/13/23 03:24	1
Carbon tetrachloride	<0.38		1.0		ug/L			07/13/23 03:24	1
Chlorobenzene	<0.39		1.0		ug/L			07/13/23 03:24	1
Chloroethane	<0.51		1.0		ug/L			07/13/23 03:24	1
Chloroform	<0.37		2.0		ug/L			07/13/23 03:24	1
Chloromethane	<0.32	*_	5.0		ug/L			07/13/23 03:24	1
2-Chlorotoluene	<0.31		1.0		ug/L			07/13/23 03:24	1
4-Chlorotoluene	<0.35		1.0		ug/L			07/13/23 03:24	1
cis-1,2-Dichloroethene	<0.41		1.0		ug/L			07/13/23 03:24	1
cis-1,3-Dichloropropene	<0.42		1.0		ug/L			07/13/23 03:24	1
Dibromochloromethane	<0.49		1.0		ug/L			07/13/23 03:24	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0		ug/L			07/13/23 03:24	1
Dibromomethane	<0.27		1.0		ug/L			07/13/23 03:24	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/13/23 03:24	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/13/23 03:24	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/13/23 03:24	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			07/13/23 03:24	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/13/23 03:24	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/13/23 03:24	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/13/23 03:24	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/13/23 03:24	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/13/23 03:24	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/13/23 03:24	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/13/23 03:24	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/13/23 03:24	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			07/13/23 03:24	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/13/23 03:24	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/13/23 03:24	1
Isopropyl ether	<0.28		1.0		ug/L			07/13/23 03:24	1
Methylene Chloride	<1.6		5.0		ug/L			07/13/23 03:24	1
Methyl tert-butyl ether	<0.39		1.0		ug/L			07/13/23 03:24	1
Naphthalene	<0.34		1.0		ug/L			07/13/23 03:24	1
n-Butylbenzene	<0.39		1.0		ug/L			07/13/23 03:24	1
N-Propylbenzene	<0.41		1.0		ug/L			07/13/23 03:24	1
p-Isopropyltoluene	<0.36		1.0		ug/L			07/13/23 03:24	1
sec-Butylbenzene	<0.40		1.0		ug/L			07/13/23 03:24	1
Styrene	<0.39		1.0		ug/L			07/13/23 03:24	1
tert-Butylbenzene	<0.40		1.0		ug/L			07/13/23 03:24	
1,1,1,2-Tetrachloroethane	<0.46		1.0		ug/L			07/13/23 03:24	1
1,1,2,2-Tetrachloroethane	<0.40		1.0		ug/L			07/13/23 03:24	1
Tetrachloroethene	0.88		1.0		ug/L			07/13/23 03:24	
Toluene	<0.15	•	0.50		ug/L			07/13/23 03:24	1
trans-1,2-Dichloroethene	<0.15		1.0		ug/L			07/13/23 03:24	1
trans-1,3-Dichloropropene	<0.36		1.0		ug/L ug/L			07/13/23 03:24	· · · · · · · · · · · · · · · · · · ·

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7/13/2023

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Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Lab Sample ID: 500-236289-6 **Client Sample ID: MW-5 Matrix: Water** 

Date Collected: 07/06/23 09:25 Date Received: 07/08/23 10:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/13/23 03:24	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/13/23 03:24	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/13/23 03:24	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/13/23 03:24	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/13/23 03:24	1
Trichlorofluoromethane	<0.43	*-	1.0	0.43	ug/L			07/13/23 03:24	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/13/23 03:24	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/13/23 03:24	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/13/23 03:24	1
Vinyl chloride	<0.20	*_	1.0	0.20	ug/L			07/13/23 03:24	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/13/23 03:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		72 - 124			•		07/13/23 03:24	1
Dibromofluoromethane (Surr)	95		75 - 120					07/13/23 03:24	1
1,2-Dichloroethane-d4 (Surr)	102		75 - 126					07/13/23 03:24	1
Toluene-d8 (Surr)	97		75 - 120					07/13/23 03:24	1

Job ID: 500-236289-1

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

**Client Sample ID: MW-6** Date Collected: 07/06/23 09:55

Date Received: 07/08/23 10:10

Lab Samp	le ID:	500-2	36289-7
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**Matrix: Water** 

Job ID: 500-236289-1

Nesuit	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<0.15		0.50	0.15	ug/L			07/13/23 03:48	
< 0.36		1.0	0.36	ug/L			07/13/23 03:48	•
< 0.43		1.0	0.43	ug/L			07/13/23 03:48	•
< 0.37		1.0	0.37	ug/L			07/13/23 03:48	· · · · · · · · ·
<0.48		1.0	0.48	ug/L			07/13/23 03:48	
<0.80		3.0	0.80	ug/L			07/13/23 03:48	
<0.38		1.0	0.38	ug/L			07/13/23 03:48	
< 0.39		1.0	0.39	ug/L			07/13/23 03:48	
<0.51		1.0	0.51	ug/L			07/13/23 03:48	
<0.37		2.0	0.37	ug/L			07/13/23 03:48	
< 0.32	*_	5.0		-			07/13/23 03:48	
<0.31		1.0		-			07/13/23 03:48	
		1.0						
				-				
<0.42		1.0		-			07/13/23 03:48	
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<0.40		1.0		-			07/13/23 03:48	
<0.46		1.0		-			07/13/23 03:48	
<0.40		1.0					07/13/23 03:48	
4.7		1.0	0.37	ug/L			07/13/23 03:48	
<0.15		0.50	0.15	ug/L			07/13/23 03:48	•
< 0.35		1.0	0.35	ua/l			07/13/23 03:48	
	<0.36 <0.43 <0.37 <0.48 <0.80 <0.38 <0.39 <0.51 <0.37 <0.32 <0.31 <0.35 <0.41 <0.42 <0.49 <2.0 <0.27 <0.33 <0.40 <0.36 <0.67 <0.41 <0.39 <0.39 <0.43 <0.39 <0.44 <0.30 <0.18 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.46 <0.39 <0.41 <0.39 <0.41 <0.39 <0.41 <0.39 <0.41 <0.39 <0.41 <0.39 <0.41 <0.39 <0.41 <0.39 <0.41 <0.39 <0.41 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <0.40 <	<0.36 <0.43 <0.37 <0.48 <0.80 <0.38 <0.39 <0.51 <0.37 <0.32 *- <0.31 <0.35 <0.41 <0.42 <0.49 <2.0 <0.27 <0.33 <0.40 <0.36 <0.67 <0.41 <0.39 <0.39 <0.43 <0.39 <0.44 <0.30 <0.18 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.45 <0.39 <0.46 <0.40 <0.39 <0.41 <0.36 <0.40 <0.39 <0.40 <0.40 <0.40 <0.40 <4.7 <0.15	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36

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Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Lab Sample ID: 500-236289-7

**Matrix: Water** 

Job ID: 500-236289-1

**Client Sample ID: MW-6** Date Collected: 07/06/23 09:55 Date Received: 07/08/23 10:10

Method: SW846 8260D - Vo	_	•	•	•	•	_	Duna and	<b>A</b> a b a .d	Dil Faa
Analyte		Qualifier	RL _		Unit	<u>D</u> .	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/13/23 03:48	1
1,2,4-Trichlorobenzene	< 0.34		1.0	0.34	ug/L			07/13/23 03:48	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/13/23 03:48	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/13/23 03:48	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/13/23 03:48	1
Trichlorofluoromethane	<0.43	*_	1.0	0.43	ug/L			07/13/23 03:48	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/13/23 03:48	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/13/23 03:48	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/13/23 03:48	1
Vinyl chloride	<0.20	*-	1.0	0.20	ug/L			07/13/23 03:48	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/13/23 03:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			72 - 124			•		07/13/23 03:48	1
Dibromofluoromethane (Surr)	93		75 - 120					07/13/23 03:48	1
1,2-Dichloroethane-d4 (Surr)	99		75 - 126					07/13/23 03:48	1
Toluene-d8 (Surr)	97		75 - 120					07/13/23 03:48	1

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Lab Sample ID: 500-236289-8

**Matrix: Water** 

Job ID: 500-236289-1

Client Sample ID: MW-7 Date Collected: 07/06/23 10:45

Date Received: 07/08/23 10:10

Method: SW846 8260D	_		•		11!4	_	D	A	D:: = :
Analyte		Qualifier	RL		Unit	<u>D</u> .	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50		ug/L			07/13/23 04:12	1
Bromobenzene	<0.36		1.0		ug/L			07/13/23 04:12	1
Bromochloromethane	<0.43		1.0		ug/L			07/13/23 04:12	
Bromodichloromethane	<0.37		1.0		ug/L			07/13/23 04:12	1
Bromoform	<0.48		1.0		ug/L			07/13/23 04:12	1
Bromomethane	<0.80		3.0		ug/L			07/13/23 04:12	1
Carbon tetrachloride	<0.38		1.0		ug/L			07/13/23 04:12	1
Chlorobenzene	<0.39		1.0		ug/L			07/13/23 04:12	1
Chloroethane	<0.51		1.0		ug/L			07/13/23 04:12	1
Chloroform	<0.37		2.0		ug/L			07/13/23 04:12	1
Chloromethane	<0.32	*_	5.0		ug/L			07/13/23 04:12	1
2-Chlorotoluene	<0.31		1.0		ug/L			07/13/23 04:12	1
4-Chlorotoluene	<0.35		1.0		ug/L			07/13/23 04:12	1
cis-1,2-Dichloroethene	<0.41		1.0		ug/L			07/13/23 04:12	1
cis-1,3-Dichloropropene	<0.42		1.0		ug/L			07/13/23 04:12	1
Dibromochloromethane	<0.49		1.0		ug/L			07/13/23 04:12	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0		ug/L			07/13/23 04:12	1
Dibromomethane	<0.27		1.0		ug/L			07/13/23 04:12	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/13/23 04:12	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/13/23 04:12	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/13/23 04:12	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			07/13/23 04:12	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/13/23 04:12	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/13/23 04:12	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/13/23 04:12	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/13/23 04:12	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/13/23 04:12	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/13/23 04:12	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/13/23 04:12	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/13/23 04:12	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			07/13/23 04:12	1
Hexachlorobutadiene	<0.45		1.0		ug/L			07/13/23 04:12	1
Isopropylbenzene	<0.39		1.0		ug/L			07/13/23 04:12	1
Isopropyl ether	<0.28		1.0		ug/L			07/13/23 04:12	1
Methylene Chloride	<1.6		5.0		ug/L			07/13/23 04:12	1
Methyl tert-butyl ether	<0.39		1.0		ug/L			07/13/23 04:12	1
Naphthalene	<0.34		1.0		ug/L			07/13/23 04:12	1
n-Butylbenzene	<0.39		1.0		ug/L			07/13/23 04:12	1
N-Propylbenzene	<0.41		1.0		ug/L			07/13/23 04:12	1
p-Isopropyltoluene	<0.36		1.0		ug/L			07/13/23 04:12	1
sec-Butylbenzene	<0.40		1.0		ug/L			07/13/23 04:12	1
Styrene	<0.39		1.0		ug/L			07/13/23 04:12	1
tert-Butylbenzene	<0.40		1.0		ug/L			07/13/23 04:12	
1,1,1,2-Tetrachloroethane	<0.46		1.0		ug/L ug/L			07/13/23 04:12	1
1,1,2-Tetrachloroethane	<0.40		1.0		ug/L ug/L			07/13/23 04:12	1
<b>Tetrachloroethene</b> Toluene	<b>29</b>		1.0		ug/L ug/L			07/13/23 04:12	1
	<0.15		0.50					07/13/23 04:12	1
trans-1,2-Dichloroethene trans-1,3-Dichloropropene	<0.35 <0.36		1.0		ug/L ug/L			07/13/23 04:12 07/13/23 04:12	1 1

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Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Lab Sample ID: 500-236289-8

**Matrix: Water** 

Job ID: 500-236289-1

07/13/23 04:12

Client Sample ID: MW-7 Date Collected: 07/06/23 10:45 Date Received: 07/08/23 10:10

Toluene-d8 (Surr)

atile Organic	Compoun	ds by GC/MS	(Contin	ued)				
Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<0.46		1.0	0.46	ug/L			07/13/23 04:12	1
<0.34		1.0	0.34	ug/L			07/13/23 04:12	1
<0.38		1.0	0.38	ug/L			07/13/23 04:12	1
< 0.35		1.0	0.35	ug/L			07/13/23 04:12	1
<0.16		0.50	0.16	ug/L			07/13/23 04:12	1
<0.43	*_	1.0	0.43	ug/L			07/13/23 04:12	1
<0.41		2.0	0.41	ug/L			07/13/23 04:12	1
<0.36		1.0	0.36	ug/L			07/13/23 04:12	1
<0.25		1.0	0.25	ug/L			07/13/23 04:12	1
<0.20	*_	1.0	0.20	ug/L			07/13/23 04:12	1
<0.22		1.0	0.22	ug/L			07/13/23 04:12	1
%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
		72 - 124			•		07/13/23 04:12	1
96		75 - 120					07/13/23 04:12	1
102		75 - 126					07/13/23 04:12	1
	Result	Result   Qualifier	Result         Qualifier         RL           <0.46	Result         Qualifier         RL         MDL           <0.46	<0.46	Result         Qualifier         RL         MDL         Unit         D           <0.46	Result Qualifier   RL   MDL   Unit   ug/L	Result Qualifier         RL         MDL Unit         D Prepared         Analyzed           <0.46

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Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Lab Sample ID: 500-236289-9

**Matrix: Water** 

Job ID: 500-236289-1

Client Sample ID: Trip Blank Date Collected: 07/06/23 00:00

Date Received: 07/08/23 10:10

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15	0.50	0.15	ug/L			07/12/23 22:58	1
Bromobenzene	<0.36	1.0	0.36	ug/L			07/12/23 22:58	1
Bromochloromethane	<0.43	1.0	0.43	ug/L			07/12/23 22:58	1
Bromodichloromethane	<0.37	1.0	0.37	ug/L			07/12/23 22:58	1
Bromoform	<0.48	1.0	0.48	ug/L			07/12/23 22:58	1
Bromomethane	<0.80	3.0	0.80	ug/L			07/12/23 22:58	1
Carbon tetrachloride	<0.38	1.0	0.38	ug/L			07/12/23 22:58	1
Chlorobenzene	<0.39	1.0		ug/L			07/12/23 22:58	1
Chloroethane	<0.51	1.0		ug/L			07/12/23 22:58	1
Chloroform	<0.37	2.0		ug/L			07/12/23 22:58	1
Chloromethane	<0.32 *-	5.0		ug/L			07/12/23 22:58	1
2-Chlorotoluene	<0.31	1.0		ug/L			07/12/23 22:58	1
4-Chlorotoluene	<0.35	1.0		ug/L			07/12/23 22:58	1
cis-1,2-Dichloroethene	<0.41	1.0		ug/L			07/12/23 22:58	1
cis-1,3-Dichloropropene	<0.42	1.0		ug/L			07/12/23 22:58	1
Dibromochloromethane	<0.49	1.0		ug/L			07/12/23 22:58	1
1,2-Dibromo-3-Chloropropane	<2.0	5.0		ug/L			07/12/23 22:58	1
Dibromomethane	<0.27	1.0		ug/L			07/12/23 22:58	1
1,2-Dichlorobenzene	<0.33	1.0		ug/L			07/12/23 22:58	1
1,3-Dichlorobenzene	<0.40	1.0		ug/L			07/12/23 22:58	1
1.4-Dichlorobenzene	<0.36	1.0		ug/L			07/12/23 22:58	1
Dichlorodifluoromethane	<0.67	3.0		ug/L			07/12/23 22:58	1
1,1-Dichloroethane	<0.41	1.0		ug/L			07/12/23 22:58	. 1
1,2-Dichloroethane	<0.39	1.0		ug/L			07/12/23 22:58	. 1
1,1-Dichloroethene	<0.39	1.0		ug/L			07/12/23 22:58	
1,2-Dichloropropane	<0.43	1.0		ug/L			07/12/23 22:58	. 1
1,3-Dichloropropane	<0.36	1.0		ug/L			07/12/23 22:58	1
2,2-Dichloropropane	<0.44	1.0		ug/L			07/12/23 22:58	· · · · · · · · · · · · · · · · · · ·
1,1-Dichloropropene	<0.30	1.0		ug/L			07/12/23 22:58	1
Ethylbenzene	<0.18	0.50		ug/L			07/12/23 22:58	1
Ethylene Dibromide	<0.39	1.0		ug/L			07/12/23 22:58	· · · · · · · · · · · · · · · · · · ·
Hexachlorobutadiene	<0.45	1.0		ug/L			07/12/23 22:58	1
Isopropylbenzene	<0.39	1.0		ug/L			07/12/23 22:58	1
Isopropyl ether	<0.28	1.0		ug/L			07/12/23 22:58	
Methylene Chloride	<1.6	5.0		ug/L ug/L			07/12/23 22:58	1
Methyl tert-butyl ether	<0.39	1.0		ug/L			07/12/23 22:58	1
	<0.34	1.0		ug/L ug/L				
Naphthalene n-Butylbenzene							07/12/23 22:58	1
•	<0.39	1.0		ug/L			07/12/23 22:58	1
N-Propylbenzene	<0.41	1.0		ug/L			07/12/23 22:58	1
p-Isopropyltoluene	<0.36	1.0		ug/L			07/12/23 22:58	1
sec-Butylbenzene	<0.40	1.0		ug/L			07/12/23 22:58	1
Styrene	<0.39	1.0		ug/L			07/12/23 22:58	
tert-Butylbenzene	<0.40	1.0		ug/L			07/12/23 22:58	1
1,1,1,2-Tetrachloroethane	<0.46	1.0		ug/L			07/12/23 22:58	1
1,1,2,2-Tetrachloroethane	<0.40	1.0		ug/L			07/12/23 22:58	
Tetrachloroethene	<0.37	1.0		ug/L			07/12/23 22:58	1
Toluene	<0.15	0.50		ug/L			07/12/23 22:58	1
trans-1,2-Dichloroethene	<0.35	1.0		ug/L			07/12/23 22:58	1
trans-1,3-Dichloropropene	<0.36	1.0	0.36	ug/L			07/12/23 22:58	1

**Eurofins Chicago** 

7/13/2023

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Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Lab Sample ID: 500-236289-9

**Matrix: Water** 

Job ID: 500-236289-1

**Client Sample ID: Trip Blank** Date Collected: 07/06/23 00:00

Date Received: 07/08/23 10:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/12/23 22:58	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/12/23 22:58	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/12/23 22:58	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/12/23 22:58	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/12/23 22:58	1
Trichlorofluoromethane	<0.43	*_	1.0	0.43	ug/L			07/12/23 22:58	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/12/23 22:58	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/12/23 22:58	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/12/23 22:58	1
Vinyl chloride	<0.20	*_	1.0	0.20	ug/L			07/12/23 22:58	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/12/23 22:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			72 - 124			•		07/12/23 22:58	1
Dibromofluoromethane (Surr)	93		75 - 120					07/12/23 22:58	1
1,2-Dichloroethane-d4 (Surr)	98		75 - 126					07/12/23 22:58	1
Toluene-d8 (Surr)	99		75 - 120					07/12/23 22:58	1

#### **Definitions/Glossary**

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Job ID: 500-236289-1

#### **Qualifiers**

#### **GC/MS VOA**

Qualifier **Qualifier Description** 

LCS and/or LCSD is outside acceptance limits, low biased.

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

#### **Glossary**

Abbreviation	These commonly	y used abbreviations may	y or may not be	present in this report.
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¤ Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery **CFL** Contains Free Liquid CFU Colony Forming Unit CNF Contains No Free Liquid

Duplicate Error Ratio (normalized absolute difference) DER

Dil Fac **Dilution Factor** 

Detection Limit (DoD/DOE) DΙ

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

Decision Level Concentration (Radiochemistry) DLC

**EDL** Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level" MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit ML Minimum Level (Dioxin) MPN Most Probable Number MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present

PQL **Practical Quantitation Limit** 

**PRES** Presumptive QC **Quality Control** 

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

**RPD** Relative Percent Difference, a measure of the relative difference between two points

**TEF** Toxicity Equivalent Factor (Dioxin) Toxicity Equivalent Quotient (Dioxin) **TEQ** 

**TNTC** Too Numerous To Count

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## **QC Association Summary**

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

#### **GC/MS VOA**

#### **Analysis Batch: 722819**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-236289-1	PZ-1	Total/NA	Water	8260D	
500-236289-2	MW-1	Total/NA	Water	8260D	
500-236289-2	MW-1	Total/NA	Water	8260D	
500-236289-3	MW-2	Total/NA	Water	8260D	
500-236289-4	MW-3	Total/NA	Water	8260D	
500-236289-4	MW-3	Total/NA	Water	8260D	
500-236289-5	MW-4	Total/NA	Water	8260D	
500-236289-6	MW-5	Total/NA	Water	8260D	
500-236289-7	MW-6	Total/NA	Water	8260D	
500-236289-8	MW-7	Total/NA	Water	8260D	
500-236289-9	Trip Blank	Total/NA	Water	8260D	
MB 500-722819/6	Method Blank	Total/NA	Water	8260D	
LCS 500-722819/4	Lab Control Sample	Total/NA	Water	8260D	

Job ID: 500-236289-1

#### **Surrogate Summary**

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Job ID: 500-236289-1

#### Method: 8260D - Volatile Organic Compounds by GC/MS

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

			Pe	rcent Surro	ogate Recover	ry (Accept
		BFB	DBFM	DCA	TOL	
Lab Sample ID	Client Sample ID	(72-124)	(75-120)	(75-126)	(75-120)	
500-236289-1	PZ-1	113	93	103	99	
500-236289-2	MW-1	110	98	102	96	
500-236289-2	MW-1	115	96	102	96	
500-236289-3	MW-2	112	94	98	97	
500-236289-4	MW-3	112	96	100	98	
500-236289-4	MW-3	113	98	95	97	
500-236289-5	MW-4	113	94	102	98	
500-236289-6	MW-5	114	95	102	97	
500-236289-7	MW-6	110	93	99	97	
500-236289-8	MW-7	113	96	102	96	
500-236289-9	Trip Blank	112	93	98	99	
LCS 500-722819/4	Lab Control Sample	101	97	96	97	
MB 500-722819/6	Method Blank	113	92	96	96	

#### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

## **QC Sample Results**

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Job ID: 500-236289-1

#### Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 500-722819/6

**Matrix: Water** 

Analysis Batch: 722819

trans-1,2-Dichloroethene

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

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			07/12/23 22:07	1
Bromobenzene	<0.36		1.0	0.36	ug/L			07/12/23 22:07	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/12/23 22:07	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/12/23 22:07	1
Bromoform	<0.48		1.0	0.48	ug/L			07/12/23 22:07	1
Bromomethane	<0.80		3.0	0.80	ug/L			07/12/23 22:07	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/12/23 22:07	1
Chlorobenzene	< 0.39		1.0	0.39	ug/L			07/12/23 22:07	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/12/23 22:07	1
Chloroform	<0.37		2.0		ug/L			07/12/23 22:07	1
Chloromethane	<0.32		5.0		ug/L			07/12/23 22:07	1
2-Chlorotoluene	<0.31		1.0		ug/L			07/12/23 22:07	1
4-Chlorotoluene	<0.35		1.0		ug/L			07/12/23 22:07	1
cis-1,2-Dichloroethene	<0.41		1.0		ug/L			07/12/23 22:07	1
cis-1,3-Dichloropropene	<0.42		1.0		ug/L			07/12/23 22:07	1
Dibromochloromethane	<0.49		1.0		ug/L			07/12/23 22:07	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0		ug/L			07/12/23 22:07	1
Dibromomethane	<0.27		1.0		ug/L			07/12/23 22:07	1
1,2-Dichlorobenzene	<0.33		1.0		ug/L			07/12/23 22:07	1
1,3-Dichlorobenzene	<0.40		1.0		ug/L			07/12/23 22:07	1
1.4-Dichlorobenzene	<0.36		1.0		ug/L			07/12/23 22:07	1
Dichlorodifluoromethane	<0.67		3.0		ug/L			07/12/23 22:07	 1
1,1-Dichloroethane	<0.41		1.0		ug/L			07/12/23 22:07	1
1,2-Dichloroethane	<0.39		1.0		ug/L			07/12/23 22:07	1
1,1-Dichloroethene	<0.39		1.0		ug/L			07/12/23 22:07	· · · · · · · · · · · · · · · · · · ·
1,2-Dichloropropane	< 0.43		1.0		ug/L			07/12/23 22:07	1
1,3-Dichloropropane	<0.36		1.0		ug/L			07/12/23 22:07	1
2,2-Dichloropropane	<0.44		1.0		ug/L			07/12/23 22:07	
1,1-Dichloropropene	<0.30		1.0		ug/L			07/12/23 22:07	1
Ethylbenzene	<0.30		0.50		ug/L			07/12/23 22:07	1
Ethylene Dibromide	<0.39		1.0		ug/L			07/12/23 22:07	
Hexachlorobutadiene	<0.39		1.0		ug/L ug/L			07/12/23 22:07	1
	<0.43				-				
Isopropylbenzene			1.0		ug/L			07/12/23 22:07 07/12/23 22:07	1
Isopropyl ether	<0.28 <1.6		1.0 5.0		ug/L				1
Methylene Chloride					ug/L			07/12/23 22:07	1
Methyl tert-butyl ether	<0.39		1.0		ug/L			07/12/23 22:07	1
Naphthalene	<0.34		1.0		ug/L			07/12/23 22:07	1
n-Butylbenzene	<0.39		1.0		ug/L			07/12/23 22:07	1
N-Propylbenzene	<0.41		1.0		ug/L			07/12/23 22:07	
p-Isopropyltoluene	<0.36		1.0		ug/L			07/12/23 22:07	1
sec-Butylbenzene	<0.40		1.0		ug/L			07/12/23 22:07	1
Styrene	<0.39		1.0		ug/L			07/12/23 22:07	1
tert-Butylbenzene	<0.40		1.0		ug/L			07/12/23 22:07	1
1,1,1,2-Tetrachloroethane	<0.46		1.0		ug/L			07/12/23 22:07	1
1,1,2,2-Tetrachloroethane	<0.40		1.0		ug/L			07/12/23 22:07	1
Tetrachloroethene	<0.37		1.0		ug/L			07/12/23 22:07	1
Toluene	<0.15		0.50	0.15	ug/L			07/12/23 22:07	1

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07/12/23 22:07

1.0

0.35 ug/L

< 0.35

3

4

6

8

10

12

1 4

Le

#### QC Sample Results

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Job ID: 500-236289-1

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

Lab Sample ID: MB 500-722819/6

**Matrix: Water** 

**Analysis Batch: 722819** 

**Client Sample ID: Method Blank** 

**Prep Type: Total/NA** 

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/12/23 22:07	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/12/23 22:07	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/12/23 22:07	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/12/23 22:07	1
1,1,2-Trichloroethane	< 0.35		1.0	0.35	ug/L			07/12/23 22:07	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/12/23 22:07	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/12/23 22:07	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/12/23 22:07	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/12/23 22:07	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/12/23 22:07	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/12/23 22:07	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/12/23 22:07	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		72 - 124		07/12/23 22:07	1
Dibromofluoromethane (Surr)	92		75 - 120		07/12/23 22:07	1
1,2-Dichloroethane-d4 (Surr)	96		75 - 126		07/12/23 22:07	1
Toluene-d8 (Surr)	96		75 - 120		07/12/23 22:07	1

Lab Sample ID: LCS 500-722819/4

**Matrix: Water** 

**Analysis Batch: 722819** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Spike LCS LCS %Rec Added Result Qualifier Unit %Rec Limits **Analyte** D 50.0 47.4 70 - 120 Benzene ug/L 95 50.0 92 Bromobenzene 45.8 ug/L 70 - 122 50.0 86 65 - 122 Bromochloromethane 43.2 ug/L Bromodichloromethane 50.0 87 69 - 120 43.6 ug/L 50.0 75 Bromoform 37.6 ug/L 56 - 132 Bromomethane 50.0 52.6 ug/L 105 40 - 152 Carbon tetrachloride 50.0 45.8 92 59 - 133 ug/L ug/L Chlorobenzene 50.0 46.5 93 70 - 120 50.0 115 Chloroethane 57.4 ug/L 48 - 136 Chloroform 50.0 45.9 ug/L 92 70 - 120 ug/L Chloromethane 50.0 52.7 105 56 - 152 2-Chlorotoluene 50.0 46.2 ug/L 92 70 - 125 ug/L 4-Chlorotoluene 50.0 45.6 91 68 - 124 50.0 45.6 91 cis-1,2-Dichloroethene ug/L 70 - 125 cis-1,3-Dichloropropene 50.0 45.1 ug/L 90 64 - 127 Dibromochloromethane 50.0 39.9 ug/L 80 68 - 125 1,2-Dibromo-3-Chloropropane 50.0 36.5 ug/L 73 56 - 123 50.0 42.5 85 Dibromomethane ug/L 70 - 120 1,2-Dichlorobenzene 50.0 43.5 87 70 - 125 ug/L 1,3-Dichlorobenzene 50.0 43.9 ug/L 88 70 - 125 1,4-Dichlorobenzene 50.0 43.4 ug/L 87 70 - 120 133 Dichlorodifluoromethane 50.0 66.3 ug/L 40 - 159 1,1-Dichloroethane 50.0 47.1 ug/L 94 70 - 125 1,2-Dichloroethane 50.0 45.1 ug/L 90 68 - 127

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#### **QC Sample Results**

Spike

LCS LCS

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 500-722819/4

**Matrix: Water** 

**Analysis Batch: 722819** 

**Client Sample ID: Lab Control Sample** 

%Rec

Prep Type: Total/NA

Job ID: 500-236289-1

1,1-Dichloropropene         50.0         49.6         ug/L         99         70.121           Ethylbene Dibromide         50.0         45.2         ug/L         89         70.123           Ethylene Dibromide         50.0         45.2         ug/L         89         70.125           Hexachlorobutadiene         50.0         45.8         ug/L         112         51.150           Isopropylbenzene         50.0         47.7         ug/L         95         70.126           Methyl tert-butyl ether         50.0         47.7         ug/L         95         55.123           Naphthalene         50.0         36.4         ug/L         73         53.144           N-Propylbenzene         50.0         46.3         ug/L         90         68.125           N-Propylbenzene         50.0         46.5         ug/L         93         70.125           Styrene         50.0         46.5         ug/L         93         70.125           Styrene         50.0         46.6         ug/L         94         70.122           tert-Butylbenzene         50.0         47.0         ug/L         94         70.122           tert-Butylbenzene         50.0         45.6	Analyte	Added	Result	Qualifier Unit	D %R	ec Limits	
1,3-Dichloropropane       50.0       48.8       ug/L       98       62.136         2,2-Dichloropropane       50.0       44.8       ug/L       99       58.139         1,1-Dichloropropene       50.0       44.6       ug/L       99       70.121         Ethylene Dibromide       50.0       45.2       ug/L       89       70.123         Ethylene Dibromide       50.0       45.8       ug/L       112       51.150         Isopropylbenzene       50.0       47.7       ug/L       95       70.126         Methylene Chloride       50.0       47.7       ug/L       91       69.125         Methylene Chloride       50.0       45.3       ug/L       91       69.125         Methylethe Chloride       50.0       45.3       ug/L       91       69.125         Methylethe Chloride       50.0       45.3       ug/L       95       55.123         Naphthalene       50.0       46.3       ug/L       95       55.123         Naphthalene       50.0       48.8       ug/L       90       68.125         N-Propylbenzene       50.0       44.8       ug/L       90       68.125         N-Propylbenzene       50.0 <td>1,1-Dichloroethene</td> <td>50.0</td> <td>47.7</td> <td>ug/L</td> <td></td> <td>95 67 - 122</td> <td></td>	1,1-Dichloroethene	50.0	47.7	ug/L		95 67 - 122	
2,2-Dichloropropane         50.0         44.8         ug/L         90         58.139           1,1-Dichloropropene         50.0         49.6         ug/L         99         70.121           Ethylbenzene         50.0         45.2         ug/L         90         70.123           Ethylene Dibromide         50.0         44.6         ug/L         89         70.125           Hexachlorobutadiene         50.0         55.8         ug/L         95         70.126           Methylene Chloride         50.0         45.3         ug/L         91         69.125           Methyl tert-butyl ether         50.0         45.3         ug/L         95         55.123           Naphthalene         50.0         36.4         ug/L         95         55.123           Naphthalene         50.0         36.4         ug/L         90         68.125           N-Propylbenzene         50.0         46.3         ug/L         93         69.127           P-Isopropyltoluene         50.0         46.5         ug/L         94         70.125           Sec-Butylbenzene         50.0         45.6         ug/L         94         70.125           Istrace-Butylbenzene         50.0	1,2-Dichloropropane	50.0	45.8	ug/L		92 67 - 130	
1,1-Dichloropropene         50.0         49.6         ug/L         99         70.121           Ethylene Dibromide         50.0         45.2         ug/L         89         70.123           Ethylene Dibromide         50.0         45.2         ug/L         89         70.125           Hexachlorobutadiene         50.0         45.8         ug/L         112         51.150           Isopropylbenzene         50.0         47.7         ug/L         95         70.126           Methyl tert-butyl ether         50.0         47.7         ug/L         95         55.123           Naphthalene         50.0         36.4         ug/L         73         53.144           N-Propylbenzene         50.0         46.3         ug/L         90         68.125           N-Propylbenzene         50.0         46.3         ug/L         90         68.125           N-Propylbenzene         50.0         46.5         ug/L         93         70.125           Styrene         50.0         46.5         ug/L         94         70.122           Styrene         50.0         45.6         ug/L         94         70.121           Itali, 1,2-Tetrachloroethane         50.0         45.6 <td>1,3-Dichloropropane</td> <td>50.0</td> <td>48.8</td> <td>ug/L</td> <td></td> <td>98 62 - 136</td> <td></td>	1,3-Dichloropropane	50.0	48.8	ug/L		98 62 - 136	
Ethylbenzene         50.0         45.2         ug/L         90         70.123           Ethylene Dibromide         50.0         44.6         ug/L         89         70.125           Hexachlorobutadiene         50.0         55.8         ug/L         112         51.150           Isopropylbenzene         50.0         47.7         ug/L         95         70.126           Methyl tert-butyl ether         50.0         45.3         ug/L         91         69.125           Methyl tert-butyl ether         50.0         45.3         ug/L         95         55.123           Maphthalene         50.0         46.3         ug/L         90         68.125           N-Propylbenzene         50.0         46.3         ug/L         93         69.127           P-Isopropyltoluene         50.0         46.5         ug/L         93         70.125           sec-Butylbenzene         50.0         47.0         ug/L         94         70.123           Styrene         50.0         47.1         ug/L         94         70.123           Styrene         50.0         47.1         ug/L         96         62.140           Tetrackloroethane         50.0         43.1	2,2-Dichloropropane	50.0	44.8	ug/L		90 58 - 139	
Ethylene Dibromide         50.0         44.6         ug/L         89         70-125           Hexachlorobutadiene         50.0         55.8         ug/L         112         51.150           Isopropylbenzene         50.0         47.7         ug/L         95         70-126           Methylne Chloride         50.0         47.7         ug/L         91         69-125           Methyl tert-butyl ether         50.0         47.7         ug/L         95         55.123           Naphthalene         50.0         36.4         ug/L         93         53.144           Naphthalene         50.0         46.8         ug/L         90         68.125           N-Propylbenzene         50.0         46.3         ug/L         93         69-127           p-Isopropyltoluene         50.0         46.5         ug/L         93         70.125           sec-Butylbenzene         50.0         47.0         ug/L         94         70.123           Styrene         50.0         47.1         ug/L         94         70.125           sec-Butylbenzene         50.0         45.6         ug/L         94         70.125           tetr-Butylbenzene         50.0         47.1	1,1-Dichloropropene	50.0	49.6	ug/L		99 70 - 121	
Hexachlorobutadiene   50.0   55.8   ug/L   112   51.150     Isopropylbenzene   50.0   47.7   ug/L   95   70.126     Methylene Chloride   50.0   45.3   ug/L   91   69.125     Methyl tert-butyl ether   50.0   47.7   ug/L   95   55.123     Naphthalene   50.0   36.4   ug/L   93   55.123     Naphthalene   50.0   36.4   ug/L   90   68.125     N-Propylbenzene   50.0   44.8   ug/L   93   69.127     P-Isopropyltoluene   50.0   46.5   ug/L   93   70.125     sec-Butylbenzene   50.0   47.0   ug/L   94   70.123     Styrene   50.0   45.6   ug/L   94   70.123     Styrene   50.0   45.6   ug/L   94   70.121     1,1,2-Tetrachloroethane   50.0   47.1   ug/L   94   70.125     1,1,2-Tetrachloroethane   50.0   43.1   ug/L   86   62.140     Tetrachloroethene   50.0   43.1   ug/L   86   62.140     Tetrachloroethene   50.0   43.1   ug/L   86   62.140     Tetrachloroethene   50.0   43.1   ug/L   86   62.128     Tatans-1,2-Dichloroethene   50.0   43.1   ug/L   86   62.128     Tatans-1,2-Dichloroethene   50.0   43.1   ug/L   86   62.128     Tatans-1,3-Dichloroethene   50.0   43.1   ug/L   86   62.128     Tatans-1,3-Dichloroethene   50.0   43.1   ug/L   86   62.128     Tatans-1,2-Dichloroethene   50.0   43.1   ug/L   86   62.128     Tatans-1,2-Dichloroethene   50.0   44.7   ug/L   86   62.128     Tatans-1,2-Dichloroethene   50.0   45.9   ug/L   86   62.128     Tatans-1,2-Dichloroethene   50.0   47.2   ug/L   86   62.128     Tatans-1,2-Dichloroethene   50.0   45.9   ug/L   86   77.137     Titchloroethane   50.0   45.9   ug/L   94   70.125     Titchloroethane   50.0   46.7   ug/L   94   70.125     Titchloroethane   50.0   46.7   ug/L   94   70.125     Titchloroethane   50.0   46.7   ug/L   93   50.133     Tatans-1,2-Titchloroethane   50.0   46.9   ug/L   94   70.125     Titchloroethane   50.0   46.9   ug/L   94   70.125     Titchloroethane   50.0   47.6   ug/L   94   70.125     Titchloroethane   50.0   46.9   ug/L   94   70.125     Titchloroethane   50.0   46.9   ug/L   94   70.125     Titchloroethane   50.0   46.9   ug/L   94   70.123	Ethylbenzene	50.0	45.2	ug/L		90 70 - 123	
Isopropylbenzene         50.0         47.7         ug/L         95         70.126           Methylene Chloride         50.0         45.3         ug/L         91         69.125           Methyl tert-butyl ether         50.0         47.7         ug/L         95         55.123           Naphthalene         50.0         36.4         ug/L         93         69.125           N-Propylbenzene         50.0         46.3         ug/L         93         69.127           p-Isopropyltoluene         50.0         46.5         ug/L         93         70.125           sec-Butylbenzene         50.0         47.0         ug/L         94         70.123           Styrene         50.0         47.0         ug/L         94         70.123           Styrene         50.0         47.1         ug/L         94         70.123           Styrene         50.0         47.1         ug/L         86         70.123           Iter-Butylbenzene         50.0         47.1         ug/L         86         70.125           Iter-Butylbenzene         50.0         47.1         ug/L         86         70.125           Iter-Butylbenzene         50.0         43.1         ug/L <td>Ethylene Dibromide</td> <td>50.0</td> <td>44.6</td> <td>ug/L</td> <td></td> <td>89 70 - 125</td> <td></td>	Ethylene Dibromide	50.0	44.6	ug/L		89 70 - 125	
Methylene Chloride         50.0         45.3         ug/L         91         69.125           Methyl tert-butyl ether         50.0         47.7         ug/L         95         55.123           Naphthalene         50.0         36.4         ug/L         95         55.123           Naphthalene         50.0         44.8         ug/L         90         68.125           N-Propylbenzene         50.0         46.5         ug/L         93         69.127           p-Isopropyltoluene         50.0         46.5         ug/L         93         70.125           sec-Butylbenzene         50.0         47.0         ug/L         94         70.123           Styrene         50.0         45.6         ug/L         94         70.125           tert-Butylbenzene         50.0         45.6         ug/L         94         70.121           1,1,2.7-Tetrachloroethane         50.0         42.9         ug/L         94         70.121           1,1,2.2-Tetrachloroethane         50.0         43.1         ug/L         86         62.140           Tetrachloroethane         50.0         43.3         ug/L         86         62.140           Tetrachloroethene         50.0 <th< td=""><td>Hexachlorobutadiene</td><td>50.0</td><td>55.8</td><td>ug/L</td><td>1</td><td>12 51 - 150</td><td></td></th<>	Hexachlorobutadiene	50.0	55.8	ug/L	1	12 51 - 150	
Methyl tert-butyl ether         50.0         47.7         ug/L         95         55.123           Naphthalene         50.0         36.4         ug/L         73         53.144           n-Butylbenzene         50.0         44.8         ug/L         90         68.125           N-Propylbenzene         50.0         46.3         ug/L         93         69.127           p-Isopropyltoluene         50.0         46.5         ug/L         93         70.125           sec-Butylbenzene         50.0         47.0         ug/L         94         70.123           Styrene         50.0         45.6         ug/L         91         70.120           tert-Butylbenzene         50.0         45.6         ug/L         94         70.121           1,1,1,2-Tetrachloroethane         50.0         42.9         ug/L         86         70.125           1,1,2,2-Tetrachloroethane         50.0         43.1         ug/L         86         62.140           Tetrachloroethane         50.0         43.3         ug/L         87         70.125           Toluene         50.0         43.3         ug/L         87         70.125           Trans-1,2-Dichloroethane         50.0	Isopropylbenzene	50.0	47.7	ug/L		95 70 - 126	
Naphthalene         50.0         36.4         ug/L         73         53.144           n-Butylbenzene         50.0         44.8         ug/L         90         68.125           N-Propylbenzene         50.0         46.3         ug/L         93         69.127           p-Isopropyltoluene         50.0         46.5         ug/L         93         70.125           sec-Butylbenzene         50.0         47.0         ug/L         94         70.123           Styrene         50.0         45.6         ug/L         94         70.120           tert-Butylbenzene         50.0         47.1         ug/L         94         70.121           1,1,2-Tetrachloroethane         50.0         42.9         ug/L         86         70.125           1,1,2-Tetrachloroethane         50.0         43.1         ug/L         86         70.125           1,2,2-Tetrachloroethane         50.0         43.3         ug/L         87         70.125           trans-1,2-Dichloroethene         50.0         43.3         ug/L         87         70.125           trans-1,3-Dichloropropene         50.0         43.1         ug/L         86         62.128           1,2,3-Trichloroebazene         50.	Methylene Chloride	50.0	45.3	ug/L		91 69 - 125	
n-Butylbenzene       50.0       44.8       ug/L       90       68 - 125         N-Propylbenzene       50.0       46.3       ug/L       93       69 - 127         p-Isopropyltoluene       50.0       46.5       ug/L       93       70 - 125         sec-Butylbenzene       50.0       47.0       ug/L       94       70 - 123         Styrene       50.0       45.6       ug/L       91       70 - 120         tert-Butylbenzene       50.0       47.1       ug/L       94       70 - 121         1,1,2-Tetrachloroethane       50.0       42.9       ug/L       86       70 - 125         1,1,2-Tetrachloroethane       50.0       43.1       ug/L       86       62 - 140         Tetrachloroethene       50.0       43.1       ug/L       86       62 - 140         Tetrachloroethene       50.0       43.3       ug/L       87       70 - 125         trans-1,2-Dichloroethene       50.0       46.7       ug/L       93       70 - 125         trans-1,3-Dichloropropene       50.0       43.1       ug/L       86       62 - 128         1,2,3-Trichlorobenzene       50.0       41.2       ug/L       85       57 - 137	Methyl tert-butyl ether	50.0	47.7	ug/L		95 55 - 123	
N-Propylbenzene 50.0 46.3 ug/L 93 69.127 p-Isopropyltoluene 50.0 46.5 ug/L 93 70.125 sec-Butylbenzene 50.0 47.0 ug/L 94 70.123 Styrene 50.0 45.6 ug/L 91 70.120 Itert-Butylbenzene 50.0 47.1 ug/L 94 70.121 1,1,1,2-Tetrachloroethane 50.0 42.9 ug/L 86 70.125 1,1,2,2-Tetrachloroethane 50.0 43.1 ug/L 86 62.140 Itertachloroethene 50.0 43.3 ug/L 87 70.125 Itans-1,2-Dichloroethene 50.0 43.3 ug/L 87 70.125 Itans-1,2-Dichloroethene 50.0 43.3 ug/L 87 70.125 Itans-1,3-Dichloropropene 50.0 43.1 ug/L 86 62.128 1,2,3-Trichlorobenzene 50.0 43.1 ug/L 86 62.128 1,2,3-Trichlorobenzene 50.0 41.2 ug/L 82 51.145 1,1,4-Trichloroethane 50.0 42.6 ug/L 85 57.137 1,1,1-Trichloroethane 50.0 42.9 ug/L 82 51.145 1,2,4-Trichlorobenzene 50.0 42.6 ug/L 85 57.137 1,1,1-Trichloroethane 50.0 42.9 ug/L 86 71.130 Irichloroethene 50.0 45.9 ug/L 94 70.125 Irichloroethane 50.0 45.9 ug/L 93 50.133 1,2,3-Trichloropropane 50.0 46.7 ug/L 93 50.133 1,2,4-Trimethylbenzene 50.0 46.9 ug/L 93 50.133 1,2,4-Trimethylbenzene 50.0 47.6 ug/L 94 70.123 1,3,5-Trimethylbenzene 50.0 47.6 ug/L 95 70.123 Ivinyl chloride 50.0 57.1 ug/L 114 64.126	Naphthalene	50.0	36.4	ug/L		73 53 - 144	
p-Isopropyltoluene 50.0 46.5 ug/L 93 70.125 sec-Butylbenzene 50.0 47.0 ug/L 94 70.123 Styrene 50.0 45.6 ug/L 91 70.120 tert-Butylbenzene 50.0 45.6 ug/L 91 70.120 tert-Butylbenzene 50.0 47.1 ug/L 94 70.121 1,1,1,2-Tetrachloroethane 50.0 42.9 ug/L 86 70.125 1,1,2,2-Tetrachloroethane 50.0 43.1 ug/L 86 62.140 Tetrachloroethene 50.0 50.2 ug/L 100 70.128 Toluene 50.0 43.3 ug/L 87 70.125 trans-1,2-Dichloroethene 50.0 43.3 ug/L 87 70.125 trans-1,3-Dichloropropene 50.0 43.1 ug/L 86 62.128 1,2,3-Trichlorobenzene 50.0 43.1 ug/L 86 62.128 1,2,3-Trichlorobenzene 50.0 43.1 ug/L 86 62.128 1,2,3-Trichlorobenzene 50.0 42.6 ug/L 82 51.145 1,2,4-Trichloroethane 50.0 47.2 ug/L 82 51.145 1,1,1-Trichloroethane 50.0 47.2 ug/L 85 57.137 1,1,1-Trichloroethane 50.0 45.9 ug/L 94 70.125 1,1,2-Trichloroethane 50.0 45.9 ug/L 94 70.125 17ichloroethane 50.0 45.9 ug/L 99 70.125 17ichloroethane 50.0 46.7 ug/L 93 50.133 1,2,4-Trichloropropane 50.0 46.7 ug/L 93 50.133 1,2,4-Trimethylbenzene 50.0 46.9 ug/L 94 70.123 1,3,5-Trimethylbenzene 50.0 47.6 ug/L 94 70.123 1,3,5-Trimethylbenzene 50.0 57.1 ug/L 94 70.123 1,3,5-Trimethylbenzene 50.0 57.1 ug/L 114 64.126	n-Butylbenzene	50.0	44.8	ug/L		90 68 - 125	
sec-Butylbenzene         50.0         47.0         ug/L         94         70 - 123           Styrene         50.0         45.6         ug/L         91         70 - 120           tert-Butylbenzene         50.0         47.1         ug/L         94         70 - 121           1,1,2-Tetrachloroethane         50.0         42.9         ug/L         86         70 - 125           1,1,2-Tetrachloroethane         50.0         43.1         ug/L         86         62 - 140           Tetrachloroethene         50.0         43.1         ug/L         86         62 - 140           Tetrachloroethene         50.0         43.3         ug/L         87         70 - 128           Toluene         50.0         43.3         ug/L         87         70 - 125           trans-1,3-Dichloroethene         50.0         46.7         ug/L         87         70 - 125           trans-1,3-Dichloropropene         50.0         43.1         ug/L         86         62 - 128           1,2,3-Trichlorobenzene         50.0         41.2         ug/L         85         57 - 137           1,1,1-Trichloroethane         50.0         47.2         ug/L         94         70 - 125           1,1,2-Trichlorof	N-Propylbenzene	50.0	46.3	ug/L		93 69 - 127	
Styrene       50.0       45.6       ug/L       91       70-120         tert-Butylbenzene       50.0       47.1       ug/L       94       70-121         1,1,2,2-Tetrachloroethane       50.0       42.9       ug/L       86       70-125         1,1,2,2-Tetrachloroethane       50.0       43.1       ug/L       86       62-140         Tetrachloroethene       50.0       50.2       ug/L       100       70-128         Toluene       50.0       43.3       ug/L       87       70-125         trans-1,2-Dichloroethene       50.0       46.7       ug/L       93       70-125         trans-1,3-Dichloropropene       50.0       43.1       ug/L       86       62-128         1,2,3-Trichlorobenzene       50.0       41.2       ug/L       82       51-145         1,2,4-Trichlorobenzene       50.0       42.6       ug/L       85       57-137         1,1,1-Trichloroethane       50.0       47.2       ug/L       94       70-125         Trichlorofluoromethane       50.0       45.9       ug/L       96       71-130         Trichlorofluoromethane       50.0       46.9       ug/L       93       50-133         1,2	p-Isopropyltoluene	50.0	46.5	ug/L		93 70 - 125	
tert-Butylbenzene       50.0       47.1       ug/L       94       70 - 121         1,1,1,2-Tetrachloroethane       50.0       42.9       ug/L       86       70 - 125         1,1,2,2-Tetrachloroethane       50.0       43.1       ug/L       86       62 - 140         Tetrachloroethene       50.0       50.2       ug/L       100       70 - 128         Toluene       50.0       43.3       ug/L       87       70 - 125         trans-1,2-Dichloroethene       50.0       46.7       ug/L       93       70 - 125         trans-1,3-Dichloropropene       50.0       43.1       ug/L       86       62 - 128         1,2,3-Trichlorobenzene       50.0       41.2       ug/L       85       57 - 137         1,2,4-Trichloroethane       50.0       42.6       ug/L       85       57 - 137         1,1,1-Trichloroethane       50.0       47.2       ug/L       94       70 - 125         Trichloroethane       50.0       45.9       ug/L       96       71 - 130         Trichlorofluoromethane       50.0       45.9       ug/L       92       70 - 125         Trichloropropane       50.0       46.7       ug/L       93       50 - 133     <	sec-Butylbenzene	50.0	47.0	ug/L		94 70 - 123	
1,1,1,2-Tetrachloroethane       50.0       42.9       ug/L       86       70 - 125         1,1,2,2-Tetrachloroethane       50.0       43.1       ug/L       86       62 - 140         Tetrachloroethene       50.0       50.2       ug/L       100       70 - 128         Toluene       50.0       43.3       ug/L       87       70 - 125         trans-1,2-Dichloroethene       50.0       46.7       ug/L       93       70 - 125         trans-1,3-Dichloropropene       50.0       43.1       ug/L       86       62 - 128         1,2,3-Trichlorobenzene       50.0       41.2       ug/L       82       51 - 145         1,2,4-Trichlorobenzene       50.0       42.6       ug/L       85       57 - 137         1,1,1-Trichloroethane       50.0       47.2       ug/L       94       70 - 125         1,1,2-Trichloroethane       50.0       45.9       ug/L       96       71 - 130         Trichlorofluoromethane       50.0       54.2       ug/L       108       55 - 128         1,2,3-Trichloropropane       50.0       46.7       ug/L       93       50 - 133         1,2,4-Trimethylbenzene       50.0       47.6       ug/L       94	Styrene	50.0	45.6	ug/L		91 70 - 120	
1,1,2,2-Tetrachloroethane       50.0       43.1       ug/L       86       62 - 140         Tetrachloroethene       50.0       50.2       ug/L       100       70 - 128         Toluene       50.0       43.3       ug/L       87       70 - 125         trans-1,2-Dichloroethene       50.0       46.7       ug/L       93       70 - 125         trans-1,3-Dichloropropene       50.0       43.1       ug/L       86       62 - 128         1,2,3-Trichlorobenzene       50.0       41.2       ug/L       82       51 - 145         1,2,4-Trichlorobenzene       50.0       42.6       ug/L       85       57 - 137         1,1,1-Trichloroethane       50.0       47.2       ug/L       94       70 - 125         1,1,2-Trichloroethane       50.0       42.9       ug/L       86       71 - 130         Trichloroethene       50.0       45.9       ug/L       92       70 - 125         Trichlorofluoromethane       50.0       54.2       ug/L       108       55 - 128         1,2,3-Trichloropropane       50.0       46.7       ug/L       93       50 - 133         1,2,4-Trimethylbenzene       50.0       47.6       ug/L       94       70 - 123 </td <td>tert-Butylbenzene</td> <td>50.0</td> <td>47.1</td> <td>ug/L</td> <td></td> <td>94 70 - 121</td> <td></td>	tert-Butylbenzene	50.0	47.1	ug/L		94 70 - 121	
Tetrachloroethene         50.0         50.2         ug/L         100         70 - 128           Toluene         50.0         43.3         ug/L         87         70 - 125           trans-1,2-Dichloroethene         50.0         46.7         ug/L         93         70 - 125           trans-1,3-Dichloropropene         50.0         43.1         ug/L         86         62 - 128           1,2,3-Trichlorobenzene         50.0         41.2         ug/L         82         51 - 145           1,2,4-Trichloroethane         50.0         42.6         ug/L         85         57 - 137           1,1,1-Trichloroethane         50.0         47.2         ug/L         94         70 - 125           1,1,2-Trichloroethane         50.0         42.9         ug/L         86         71 - 130           Trichloroethene         50.0         45.9         ug/L         92         70 - 125           Trichlorofluoromethane         50.0         54.2         ug/L         108         55 - 128           1,2,3-Trichloropropane         50.0         46.7         ug/L         93         50 - 133           1,2,4-Trimethylbenzene         50.0         47.6         ug/L         95         70 - 123	1,1,1,2-Tetrachloroethane	50.0	42.9	ug/L		86 70 - 125	
Toluene       50.0       43.3       ug/L       87       70-125         trans-1,2-Dichloroethene       50.0       46.7       ug/L       93       70-125         trans-1,3-Dichloropropene       50.0       43.1       ug/L       86       62-128         1,2,3-Trichlorobenzene       50.0       41.2       ug/L       82       51-145         1,2,4-Trichloroethane       50.0       42.6       ug/L       85       57-137         1,1,1-Trichloroethane       50.0       47.2       ug/L       94       70-125         1,1,2-Trichloroethane       50.0       42.9       ug/L       86       71-130         Trichloroethene       50.0       45.9       ug/L       92       70-125         Trichlorofluoromethane       50.0       54.2       ug/L       108       55-128         1,2,3-Trichloropropane       50.0       46.7       ug/L       93       50-133         1,2,4-Trimethylbenzene       50.0       47.6       ug/L       94       70-123         Vinyl chloride       50.0       57.1       ug/L       114       64-126	1,1,2,2-Tetrachloroethane	50.0	43.1	ug/L		86 62 - 140	
trans-1,2-Dichloroethene 50.0 46.7 ug/L 93 70 - 125 trans-1,3-Dichloropropene 50.0 43.1 ug/L 86 62 - 128 1,2,3-Trichlorobenzene 50.0 41.2 ug/L 82 51 - 145 1,2,4-Trichlorobenzene 50.0 42.6 ug/L 85 57 - 137 1,1,1-Trichloroethane 50.0 47.2 ug/L 94 70 - 125 1,1,2-Trichloroethane 50.0 42.9 ug/L 86 71 - 130 Trichloroethane 50.0 45.9 ug/L 92 70 - 125 Trichlorofluoromethane 50.0 54.2 ug/L 92 70 - 125 1,2,3-Trichloropropane 50.0 46.7 ug/L 93 50 - 133 1,2,4-Trimethylbenzene 50.0 46.9 ug/L 94 70 - 123 1,3,5-Trimethylbenzene 50.0 47.6 ug/L 95 70 - 123 Vinyl chloride 50.0 57.1 ug/L 114 64 - 126	Tetrachloroethene	50.0	50.2	ug/L	1	00 70 - 128	
trans-1,3-Dichloropropene 50.0 43.1 ug/L 86 62 - 128 1,2,3-Trichlorobenzene 50.0 41.2 ug/L 82 51 - 145 1,2,4-Trichlorobenzene 50.0 42.6 ug/L 85 57 - 137 1,1,1-Trichloroethane 50.0 47.2 ug/L 94 70 - 125 1,1,2-Trichloroethane 50.0 42.9 ug/L 86 71 - 130 Trichloroethene 50.0 45.9 ug/L 92 70 - 125 Trichlorofluoromethane 50.0 54.2 ug/L 92 70 - 125 Trichlorofluoromethane 50.0 54.2 ug/L 93 50 - 133 1,2,4-Trimethylbenzene 50.0 46.7 ug/L 93 50 - 133 1,2,4-Trimethylbenzene 50.0 47.6 ug/L 95 70 - 123 Vinyl chloride 50.0 57.1 ug/L 114 64 - 126	Toluene	50.0	43.3	ug/L		87 70 - 125	
1,2,3-Trichlorobenzene       50.0       41.2       ug/L       82       51 - 145         1,2,4-Trichlorobenzene       50.0       42.6       ug/L       85       57 - 137         1,1,1-Trichloroethane       50.0       47.2       ug/L       94       70 - 125         1,1,2-Trichloroethane       50.0       42.9       ug/L       86       71 - 130         Trichloroethene       50.0       45.9       ug/L       92       70 - 125         Trichlorofluoromethane       50.0       54.2       ug/L       108       55 - 128         1,2,3-Trichloropropane       50.0       46.7       ug/L       93       50 - 133         1,2,4-Trimethylbenzene       50.0       46.9       ug/L       94       70 - 123         1,3,5-Trimethylbenzene       50.0       47.6       ug/L       95       70 - 123         Vinyl chloride       50.0       57.1       ug/L       114       64 - 126	trans-1,2-Dichloroethene	50.0	46.7	ug/L		93 70 - 125	
1,2,4-Trichlorobenzene       50.0       42.6       ug/L       85       57 - 137         1,1,1-Trichloroethane       50.0       47.2       ug/L       94       70 - 125         1,1,2-Trichloroethane       50.0       42.9       ug/L       86       71 - 130         Trichloroethene       50.0       45.9       ug/L       92       70 - 125         Trichlorofluoromethane       50.0       54.2       ug/L       108       55 - 128         1,2,3-Trichloropropane       50.0       46.7       ug/L       93       50 - 133         1,2,4-Trimethylbenzene       50.0       46.9       ug/L       94       70 - 123         1,3,5-Trimethylbenzene       50.0       47.6       ug/L       95       70 - 123         Vinyl chloride       50.0       57.1       ug/L       114       64 - 126	trans-1,3-Dichloropropene	50.0	43.1	ug/L		86 62 - 128	
1,1,1-Trichloroethane       50.0       47.2       ug/L       94       70 - 125         1,1,2-Trichloroethane       50.0       42.9       ug/L       86       71 - 130         Trichloroethene       50.0       45.9       ug/L       92       70 - 125         Trichlorofluoromethane       50.0       54.2       ug/L       108       55 - 128         1,2,3-Trichloropropane       50.0       46.7       ug/L       93       50 - 133         1,2,4-Trimethylbenzene       50.0       46.9       ug/L       94       70 - 123         1,3,5-Trimethylbenzene       50.0       47.6       ug/L       95       70 - 123         Vinyl chloride       50.0       57.1       ug/L       114       64 - 126	1,2,3-Trichlorobenzene	50.0	41.2	ug/L		82 51 - 145	
1,1,2-Trichloroethane       50.0       42.9       ug/L       86       71 - 130         Trichloroethene       50.0       45.9       ug/L       92       70 - 125         Trichlorofluoromethane       50.0       54.2       ug/L       108       55 - 128         1,2,3-Trichloropropane       50.0       46.7       ug/L       93       50 - 133         1,2,4-Trimethylbenzene       50.0       46.9       ug/L       94       70 - 123         1,3,5-Trimethylbenzene       50.0       47.6       ug/L       95       70 - 123         Vinyl chloride       50.0       57.1       ug/L       114       64 - 126	1,2,4-Trichlorobenzene	50.0	42.6	ug/L		85 57 <sub>-</sub> 137	
Trichloroethene       50.0       45.9       ug/L       92       70 - 125         Trichlorofluoromethane       50.0       54.2       ug/L       108       55 - 128         1,2,3-Trichloropropane       50.0       46.7       ug/L       93       50 - 133         1,2,4-Trimethylbenzene       50.0       46.9       ug/L       94       70 - 123         1,3,5-Trimethylbenzene       50.0       47.6       ug/L       95       70 - 123         Vinyl chloride       50.0       57.1       ug/L       114       64 - 126	1,1,1-Trichloroethane	50.0	47.2	ug/L		94 70 - 125	
Trichlorofluoromethane       50.0       54.2       ug/L       108       55 - 128         1,2,3-Trichloropropane       50.0       46.7       ug/L       93       50 - 133         1,2,4-Trimethylbenzene       50.0       46.9       ug/L       94       70 - 123         1,3,5-Trimethylbenzene       50.0       47.6       ug/L       95       70 - 123         Vinyl chloride       50.0       57.1       ug/L       114       64 - 126	1,1,2-Trichloroethane	50.0	42.9	ug/L		86 71 - 130	
1,2,3-Trichloropropane       50.0       46.7       ug/L       93       50 - 133         1,2,4-Trimethylbenzene       50.0       46.9       ug/L       94       70 - 123         1,3,5-Trimethylbenzene       50.0       47.6       ug/L       95       70 - 123         Vinyl chloride       50.0       57.1       ug/L       114       64 - 126	Trichloroethene	50.0	45.9	ug/L		92 70 - 125	
1,2,4-Trimethylbenzene       50.0       46.9       ug/L       94       70 - 123         1,3,5-Trimethylbenzene       50.0       47.6       ug/L       95       70 - 123         Vinyl chloride       50.0       57.1       ug/L       114       64 - 126	Trichlorofluoromethane	50.0	54.2	ug/L	1	08 55 - 128	
1,3,5-Trimethylbenzene       50.0       47.6       ug/L       95       70 - 123         Vinyl chloride       50.0       57.1       ug/L       114       64 - 126	1,2,3-Trichloropropane	50.0	46.7	ug/L		93 50 - 133	
1,3,5-Trimethylbenzene       50.0       47.6       ug/L       95       70 - 123         Vinyl chloride       50.0       57.1       ug/L       114       64 - 126	1,2,4-Trimethylbenzene	50.0	46.9	ug/L		94 70 - 123	
		50.0	47.6	ug/L		95 70 - 123	
Xylenes, Total 100 91.9 ug/L 92 70 - 125	Vinyl chloride	50.0	57.1	ug/L	1	14 64 - 126	
	Xylenes, Total	100	91.9	ug/L		92 70 - 125	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		72 - 124
Dibromofluoromethane (Surr)	97		75 - 120
1,2-Dichloroethane-d4 (Surr)	96		75 - 126
Toluene-d8 (Surr)	97		75 - 120

7/13/2023

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

**Client Sample ID: PZ-1** 

Date Collected: 07/06/23 12:10 Date Received: 07/08/23 10:10 Lab Sample ID: 500-236289-1

**Matrix: Water** 

		Batch	Batch		Dilution	Batch			Prepared
	Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
l	Total/NA	Analysis	8260D		1	722819	AJP	EET CHI	07/13/23 02:11

Client Sample ID: MW-1 Lab Sample ID: 500-236289-2

Matrix: Water

Date Collected: 07/06/23 12:15 Date Received: 07/08/23 10:10

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number A	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D		5	722819 A	JP	EET CHI	07/13/23 05:25
Total/NA	Analysis	8260D		50	722819 A	JP	EET CHI	07/13/23 05:49

Client Sample ID: MW-2 Lab Sample ID: 500-236289-3

Date Collected: 07/06/23 08:50 Matrix: Water

Date Received: 07/08/23 10:10

Batch Batch Dilution **Batch** Prepared Method or Analyzed **Prep Type** Type Run Factor Number Analyst Lab 07/13/23 02:35 722819 AJP Total/NA Analysis 8260D EET CHI

Client Sample ID: MW-3 Lab Sample ID: 500-236289-4

Date Collected: 07/06/23 11:00 Matrix: Water

Date Received: 07/08/23 10:10

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D		1	722819	AJP	EET CHI	07/13/23 04:36
Total/NA	Analysis	8260D		10	722819	AJP	EET CHI	07/13/23 05:00

Client Sample ID: MW-4 Lab Sample ID: 500-236289-5

Date Collected: 07/06/23 07:50

Date Received: 07/08/23 10:10

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D			722819	AJP	EET CHI	07/13/23 02:59

Client Sample ID: MW-5 Lab Sample ID: 500-236289-6

Date Collected: 07/06/23 09:25 Matrix: Water

Date Received: 07/08/23 10:10

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D			722819	A.IP	FET CHI	07/13/23 03:24

Client Sample ID: MW-6 Lab Sample ID: 500-236289-7

Date Collected: 07/06/23 09:55 Matrix: Water

Date Received: 07/08/23 10:10

	Batch	Batch		Dilution	Batch		Prepared
Prep Type	Type	Method	Run	Factor	Number Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D			722819 AJP	FFT CHI	07/13/23 03:48

**Eurofins Chicago** 

**Matrix: Water** 

### **Lab Chronicle**

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Lab Sample ID: 500-236289-8

ab Campic 15. 000-200203-0

Matrix: Water

Job ID: 500-236289-1

Date Collected: 07/06/23 10:45 Date Received: 07/08/23 10:10

**Client Sample ID: MW-7** 

ı		Batch	Batch		Dilution	Batch			Prepared
	Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Į	Total/NA	Analysis	8260D		1	722819	AJP	EET CHI	07/13/23 04:12

Client Sample ID: Trip Blank

Lab Sample ID: 500-236289-9

Date Collected: 07/06/23 00:00 Matrix: Water

Date Received: 07/08/23 10:10

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8260D		1	722819	AJP	EET CHI	07/12/23 22:58

**Laboratory References:** 

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

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# **Accreditation/Certification Summary**

Client: Giles Engineering Associates

Project/Site: Smoke Out Cleaners - 1E-1105024

Job ID: 500-236289-1

# **Laboratory: Eurofins Chicago**

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	<b>Expiration Date</b>
Wisconsin	State	999580010	08-31-23

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2417 Bond Street

**Chain of Custody Record** 

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SHIP DATE: 07JUL23 ACTWGT: 59.90 LB CAD: 0269688/CAFE3709

BILL RECIPIENT

IAGIN ID:RRLA (262) 202-IAN EVANS EUROFINS TESTAMERICA 4125 N 124TH ST. SUITE F (REAR) BROOKFIELD, WI 53005 UNITED STATES US SAMPLE RECEIPT **EUROFINS** 2417 BOND ST.

UNIVERSITY PARK IL 60484
(262) 202-5955
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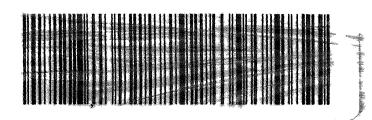


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60484 IL-US ORD



# **Login Sample Receipt Checklist**

Client: Giles Engineering Associates

Job Number: 500-236289-1

Login Number: 236289 List Source: Eurofins Chicago

List Number: 1

Creator: Hernandez, Stephanie

Creator. nemanuez, Stephanie		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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# **APPENDIX E**

# Sub-Slab Vapor Laboratory Report and Chain-of Custody Documentation

# PREPARED FOR

Attn: Michelle Peed Giles Engineering Associates N8 W 22350 Johnson Road Waukesha, Wisconsin 53186

Generated 7/12/2023 10:31:23 PM

# **JOB DESCRIPTION**

Smokeout Cleaners 1E-1105024

# **JOB NUMBER**

140-32577-1

Eurofins Knoxville 5815 Middlebrook Pike Knoxville TN 37921

# **Eurofins Knoxville**

# **Job Notes**

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

# **Authorization**

Generated 7/12/2023 10:31:23 PM

Authorized for release by Jamie McKinney, Senior Project Manager <u>Jamie.McKinney@et.eurofinsus.com</u> (865)291-3000

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# **Definitions/Glossary**

Client: Giles Engineering Associates

Job ID: 140-32577-1 Project/Site: Smokeout Cleaners 1E-1105024

**Glossary** 

Abbreviation These commonly used abbreviations may or may not be present in this report. Listed under the "D" column to designate that the result is reported on a dry weight basis %R Percent Recovery

**CFL** Contains Free Liquid CFU Colony Forming Unit CNF Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac **Dilution Factor** 

Detection Limit (DoD/DOE) DL

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level" MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit MI Minimum Level (Dioxin) MPN Most Probable Number MQL Method Quantitation Limit

NC Not Calculated

Not Detected at the reporting limit (or MDL or EDL if shown) ND

NEG Negative / Absent POS Positive / Present

**PQL Practical Quantitation Limit** 

**PRES** Presumptive **Quality Control** 0C

**RER** Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

**RPD** Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin) **TEQ** Toxicity Equivalent Quotient (Dioxin)

**TNTC** Too Numerous To Count

#### **Case Narrative**

Client: Giles Engineering Associates

Project/Site: Smokeout Cleaners 1E-1105024

Job ID: 140-32577-1

Job ID: 140-32577-1

**Laboratory: Eurofins Knoxville** 

Narrative

Job Narrative 140-32577-1

#### Comments

No additional comments.

#### Receipt

The sample was received on 7/7/2023 9:30 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice.

#### **Receipt Exceptions**

The Field Sampler was not listed on the Chain of Custody.

#### Air - GC/MS VOA

Methods TO 15 LL, TO-15: EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by Eurofins TestAmerica Knoxville.

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

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# **Detection Summary**

Client: Giles Engineering Associates Job ID: 140-32577-1

Project/Site: Smokeout Cleaners 1E-1105024

# Client Sample ID: SS-12 Lab Sample ID: 140-32577-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	390		6.9	1.0	ppb v/v	3.44	_	TO-15	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	2600		47	6.8	ug/m3	3.44	_	TO-15	Total/NA

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# **Client Sample Results**

Client: Giles Engineering Associates Job ID: 140-32577-1

Project/Site: Smokeout Cleaners 1E-1105024

**Client Sample ID: SS-12** 

Date Collected: 07/05/23 15:50 Date Received: 07/07/23 09:30

Sample Container: Summa Canister 6L

Lab Sample ID: 140-32577-1

Matrix: Air

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Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		6.9	0.86	ppb v/v			07/11/23 17:26	3.44
Tetrachloroethene	390		6.9	1.0	ppb v/v			07/11/23 17:26	3.44
trans-1,2-Dichloroethene	ND		6.9	1.1	ppb v/v			07/11/23 17:26	3.44
Trichloroethene	ND		6.9	1.1	ppb v/v			07/11/23 17:26	3.44
Vinyl chloride	ND		14	2.2	ppb v/v			07/11/23 17:26	3.44
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		27	3.4	ug/m3			07/11/23 17:26	3.44
Tetrachloroethene	2600		47	6.8	ug/m3			07/11/23 17:26	3.44
trans-1,2-Dichloroethene	ND		27	4.5	ug/m3			07/11/23 17:26	3.44
Trichloroethene	ND		37	6.1	ug/m3			07/11/23 17:26	3.44
Vinyl chloride	ND		35	5.7	ug/m3			07/11/23 17:26	3.44
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		60 - 140					07/11/23 17:26	3.44

# **Default Detection Limits**

Client: Giles Engineering Associates Job ID: 140-32577-1

Project/Site: Smokeout Cleaners 1E-1105024

# Method: TO-15 - Volatile Organic Compounds in Ambient Air

Analyte	RL	MDL	Units
cis-1,2-Dichloroethene	0.20	0.025	ppb v/v
cis-1,2-Dichloroethene	0.79	0.099	ug/m3
Tetrachloroethene	0.20	0.029	ppb v/v
Tetrachloroethene	1.4	0.20	ug/m3
trans-1,2-Dichloroethene	0.20	0.033	ppb v/v
trans-1,2-Dichloroethene	0.79	0.13	ug/m3
Trichloroethene	0.20	0.033	ppb v/v
Trichloroethene	1.1	0.18	ug/m3
Vinyl chloride	0.40	0.065	ppb v/v
Vinyl chloride	1.0	0.17	ug/m3

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# **Surrogate Summary**

Client: Giles Engineering Associates

Project/Site: Smokeout Cleaners 1E-1105024

Method: TO-15 - Volatile Organic Compounds in Ambient Air

Matrix: Air Prep Type: Total/NA

			Percent Surrogate Recovery (Acceptance Limits)
		BFB	
Lab Sample ID	Client Sample ID	(60-140)	
140-32577-1	SS-12	90	
LCS 140-75166/1002	Lab Control Sample	100	
MB 140-75166/5	Method Blank	91	
Surrogate Legend			

Eurofins Knoxville

Job ID: 140-32577-1

# QC Sample Results

Client: Giles Engineering Associates

Project/Site: Smokeout Cleaners 1E-1105024

Method: TO-15 - Volatile Organic Compounds in Ambient Air

Lab Sample ID: MB 140-75166/5

**Matrix: Air** 

**Analysis Batch: 75166** 

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

Job ID: 140-32577-1

MB MB Result Qualifier RL **MDL** Unit Analyzed Dil Fac Analyte D Prepared cis-1,2-Dichloroethene ND 0.20 0.025 ppb v/v 07/11/23 10:36 Tetrachloroethene ND 0.20 0.029 ppb v/v 07/11/23 10:36 trans-1,2-Dichloroethene ND 0.20 0.033 ppb v/v 07/11/23 10:36 Trichloroethene ND 0.20 0.033 ppb v/v 07/11/23 10:36 ND Vinyl chloride 0.40 0.065 ppb v/v 07/11/23 10:36 MB MB Result RL MDL Unit **Analyte** Qualifier D Prepared Analyzed Dil Fac 0.099 cis-1,2-Dichloroethene ND 0.79 ug/m3 07/11/23 10:36

Tetrachloroethene ND 1.4 0.20 ug/m3 07/11/23 10:36 trans-1,2-Dichloroethene ND 0.79 0.13 ug/m3 07/11/23 10:36 Trichloroethene ND 1.1 0.18 ug/m3 07/11/23 10:36 Vinyl chloride ND 1.0 0.17 ug/m3 07/11/23 10:36 MB MB

Qualifier Limits Dil Fac Surrogate %Recovery Prepared Analyzed 4-Bromofluorobenzene (Surr) 91 60 - 140 07/11/23 10:36

Lab Sample ID: LCS 140-75166/1002

**Matrix: Air** 

**Analysis Batch: 75166** 

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

LCS LCS Spike %Rec Added Result Qualifier %Rec Limits Analyte Unit cis-1,2-Dichloroethene 2.78 3.20 ppb v/v 87 70 - 130 Tetrachloroethene 3.20 2.60 81 70 - 130 ppb v/v trans-1,2-Dichloroethene 3.20 2.79 ppb v/v 87 70 - 130 Trichloroethene 3.20 2.66 ppb v/v 83 70 - 130 Vinyl chloride 3.20 70 - 130 3 12 ppb v/v Spike LCS LCS %Rec Added Result Qualifier D %Rec Limits Analyte Unit cis-1,2-Dichloroethene 13 11.0 ug/m3 87 70 - 130 Tetrachloroethene 22 17.6 ug/m3 81 70 - 130 trans-1,2-Dichloroethene 13 11.0 ug/m3 87 70 - 130 ug/m3 Trichloroethene 17 14.3 83 70 - 130 Vinyl chloride 97 70 - 130 8.2 7.97 ug/m3

LCS LCS

Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 60 - 140 100

# **QC Association Summary**

Client: Giles Engineering Associates

Project/Site: Smokeout Cleaners 1E-1105024

# Air - GC/MS VOA

### **Analysis Batch: 75166**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-32577-1	SS-12	Total/NA	Air	TO-15	
MB 140-75166/5	Method Blank	Total/NA	Air	TO-15	
LCS 140-75166/1002	Lab Control Sample	Total/NA	Air	TO-15	

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Job ID: 140-32577-1

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### **Lab Chronicle**

Client: Giles Engineering Associates

Project/Site: Smokeout Cleaners 1E-1105024

Lab Sample ID: 140-32577-1 **Client Sample ID: SS-12** 

Date Collected: 07/05/23 15:50 Date Received: 07/07/23 09:30

Matrix: Air

Job ID: 140-32577-1

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		3.44	20 mL	500 mL	75166	07/11/23 17:26	S1K	EET KNX
	Instrument	ID: MS								

**Client Sample ID: Method Blank** 

Lab Sample ID: MB 140-75166/5

Matrix: Air

Date Collected: N/A Date Received: N/A

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	200 mL	500 mL	75166	07/11/23 10:36	S1K	EET KNX
	Instrumer	nt ID: MS								

**Client Sample ID: Lab Control Sample** 

Lab Sample ID: LCS 140-75166/1002

Matrix: Air

Date Collected: N/A Date Received: N/A

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	500 mL	500 mL	75166	07/11/23 08:22	S1K	EET KNX
	Instrumer	nt ID: MS								

Laboratory References:

EET KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

**Eurofins Knoxville** 

# **Accreditation/Certification Summary**

Client: Giles Engineering Associates

Project/Site: Smokeout Cleaners 1E-1105024

Job ID: 140-32577-1

# **Laboratory: Eurofins Knoxville**

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

Authority	Program	Identification Number	Expiration Date	
	AFCEE	N/A		
ANAB	Dept. of Defense ELAP	L2311	02-13-25	
ANAB	Dept. of Energy	L2311.01	02-13-25	
ANAB	ISO/IEC 17025	L2311	02-13-25	
Arkansas DEQ	State	88-0688	06-16-24	
Colorado	State	TN00009	02-29-24	
Connecticut	State	PH-0223	09-30-23	
Florida	NELAP	E87177	06-30-24	
Georgia (DW)	State	906	07-27-25	
Hawaii	State	NA	07-27-23	
Kansas	NELAP	E-10349	10-31-23	
Kentucky (DW)	State	90101	12-31-23	
Louisiana (All)	NELAP	83979	06-30-24	
Louisiana (DW)	State	LA019	12-31-23	
Maryland	State	277	03-31-24	
Michigan	State	9933	07-27-25	
Nevada	State	TN00009	07-31-23	
New Hampshire	NELAP	2999	01-17-24	
New Jersey	NELAP	TN001	07-01-24	
New York	NELAP	10781	03-31-24	
North Carolina (DW)	State	21705	07-31-23	
North Carolina (WW/SW)	State	64	12-31-23	
Oklahoma	State	9415	08-31-23	
Oregon	NELAP	TNI0189	01-01-24	
Pennsylvania	NELAP	68-00576	12-01-23	
Tennessee	State	02014	07-27-25	
Texas	NELAP	T104704380-22-17	08-31-23	
US Fish & Wildlife	US Federal Programs	058448	07-31-23	
USDA	US Federal Programs	525-22-279-18762	10-06-25	
Utah	NELAP	TN00009	07-31-23	
Virginia	NELAP	460176	09-14-23	
Washington	State	C593	01-19-24	
West Virginia (DW)	State	9955C	12-31-23	
West Virginia DEP	State	345	04-30-24	
Wisconsin	State	998044300	08-31-23	

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# **Method Summary**

Client: Giles Engineering Associates

Project/Site: Smokeout Cleaners 1E-1105024

MethodMethod DescriptionProtocolLaboratoryTO-15Volatile Organic Compounds in Ambient AirEPAEET KNX

**Protocol References:** 

EPA = US Environmental Protection Agency

Laboratory References:

EET KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Job ID: 140-32577-1

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# **Sample Summary**

Air

Client: Giles Engineering Associates

SS-12

Lab Sample ID

140-32577-1

Project/Site: Smokeout Cleaners 1E-1105024

Client Sample ID

Matrix	Collected	Received	Asset ID

07/05/23 15:50 07/07/23 09:30 Air Canister (6-Liter) #10825

Job ID: 140-32577-1

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💸 eurofins | Environment Testing | TestAmerics

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Canister Samples Chain of Custody Record

Eurofins TestAmerica, Knoxville

5815 Middlebrook Pike

Knoxville, TN 37921-5947 phone 865.291.3000 fax 865.584.4315

festAmerica Laboratories, Inc. assumes no liability with respect to the collection and shipment of these samples

(See below for Add" Items) Sample Specific Notes: cocs For Lab Use Only: TALS Project #: Walk-in Client: Lab Sampling: Job / SDG No. COC No Other (Please specify in notes section) Chain of Custody eae Ilithna. Hil ETAKWK TITES 9:30 oil Vapor Extraction (SVE) sab lios dal2-du 140-32577 ndoor AirlAmbient Air ed\T eldme Ofher (Please specify in notes section) 91/91 A93 8461-0 MT2A SPA 25C 26 AqΞ MIS 31-01 1,2-DCE, Vinyl Chloride O-1(15)(Standard / Low Level) 10835 Canister Samples Received by: Client Project Manager: MXLL(4 PCC & Samples Collected By: ₽ Received by: Received by: Flow Controller ID 09959 Condition: Temperature (Fahrenheit) Pressure (inches of Hg)
Ambient Address: N8 W22350 Johnson Dr. Ste #1 Email: Macch @ giles engricement Phone: 21-544-0118

City/State/Zip Wawjesha, WI 53186 Vacuum in Field, Canister 1645 (Stop) ĘŦ. 5 Standard (Specific): 7 husiness days 6 Canister Vacuum in Field, Analysis Turnaround Time (Start) 73-护. 5 Date / Time: 0-23 Date / Time: 1550 Time Stop Cist trans Date / Time: Opened by: 1-5-33 Sample End Date Interior Interior Rush (Specifiy): Site Contact: 7-5-23 1520 Tel/Fax Time Start Start Start Stop Sample Start Date for: PCE, TCE, Special Instructions/QC Requirements & Comments: BOX FEDEX LYTH ITHE PO Shipper Name: Phone: 262-544-018 Sample Identification Samples Relinquished by: Ampient Seal Intact હ Client Contact Information 55-1 717173 Analy2e Samples Shipped Relinquished by Lab Use Only: Project Name: Site/Location: # O d

Form No. CA-C-WI-003, Rev. 2.23, dated 5/4/2020

Log In Number:

EUROFINS/TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

123	
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Date:	

QA026R32.doc, 062719

Keview Hems	<u>۲</u>	Ŝ.	¥	If No, what was the problem?	Comments/Actions Taken
1. Are the shipping containers intact?	\			□ Containers, Broken	
2. Were ambient air containers received intact?			\	Checked in Jah	10.
3. The coolers/containers custody seal if present, is it	,			□ Yes	
intact?	7			□ NA	
4. Is the cooler temperature within limits? (> freezing				□ Cooler Out of Temp, Client	
temp. of water to 6 °C, VOST: 10°C)			>	Contacted, Proceed/Cancel	
I hermometer ID:			7	☐ Cooler Out of Temp, Same Day	
Correction factor:				Receipt	
5. Were all of the sample containers received intact?	7			☐ Containers, Broken	
6. Were samples received in appropriate containers?		***************************************		□ Containers, Improper; Client	
	•			Contacted; Proceed/Cancel	
/. Do sample container labels match COC?	_			☐ COC & Samples Do Not Match	
(IDs, Dates, 1 IIIes)	7			COC Incorrect/Incomplete	
0 W				☐ COC Not Received	
8. Were all of the samples listed on the COC received?	/			☐ Sample Received, Not on COC	
				☐ Sample on COC, Not Received	
9. Is the date/time of sample collection noted?	/			☐ COC; No Date/Time; Client	
1 × 1 × 1 × 1 × 1 × 1 × 1 × 1 × 1 × 1 ×				Contacted	
10. Was the sampler identified on the COC?		/		☐ Sampler Not Listed on COC	Labeling verified by: Date:
11. Is the client and project name/# identified?	>			☐ COC Incorrect/Incomplete	nH test strin lot number.
12. Are tests/parameters listed for each sample?	/			☐ COC No tests on COC	particular for named .
13. Is the matrix of the samples noted?	~			□ COC Incorrect/Incomplete	
14. Was COC relinquished? (Signed/Dated/Timed)	/			□ COC Incorrect/Incomplete	H Box
15. Were samples received within holding time?					Preservation Chlorine
16 Wars complex monitors with more than 11110:	>			□ Holding Time - Receipt	Preservative:
preservative (excluding Engage)			7	- 🗆 pH Adjusted, pH Included	Lot Number:
preservative (excidential encore):			7	(See box 16A)	Exp Date:
The state of the s				☐ Incorrect Preservative	Analyst:
17. Were voA samples received without headspace?			/	☐ Headspace (VOA only)	Date:
18. Did you check for residual chlorine, if necessary?				☐ Residual Chlorine	Time:
(e.g. 1013b, 1008) Chlorine test strin lof number			7		
19. For 1613B water samples is nH<9?			1	11 11 37 - 31 /4	
20 For rad camples was comple activity in f. Daniel 19			>	11 no, noury lab to adjust	
20.1 of the Samples was sample activity into. Provided?			7	<ul> <li>□ Project missing info</li> </ul>	
Project #:  400 840 PM Instructions:					
Sample Receiving Associate:			Date:	Date: 7/7/23	OA026022 dec 062710

### **Eurofins Knoxville - Air Canister Initial Pressure Check**

Gauge ID: g5
Date/Time: 7/7/23 1515

Amelian	County 15	Pressure @ Receipt (-in Hg or +psig)/initial	A	Classics	Cert		
Analyst	Sample ID	pressurisation (if applicable)	Asset #	Cleaning Job	Туре		Comments
BTB	140-32577-a-1	-5.2	10825	140-31758-a-16	В	6	
		+					
		-					
	]			l	<u> </u>		

### **Summa Canister Dilution Worksheet**

Client: Giles Engineering Associates

Job No.: 140-32577-1

Project/Site: Smokeout Cleaners 1E-1105024

	Canister	Preadjusted	Preadjusted	Preadjusted	Adjusted	Adjusted	Adjusted	Initial		Final	Pressure		
	Volume	Pressure	Pressure	Volume	Pressure	Pressure	Volume	Volume	Dilution	Dilution	Gauge		
Lab Sample ID 140-32577-1	(L)	("Hg) -5.6	(atm) 0.81	(L) 4.88	(psig) 26.4	(atm) 2.80	(L) 16.78	(mL)	Factor 3.44	Factor 3.44		Date 07/10/23 11:58	Analyst Initals AFB

#### Formulae:

Preadjusted Volume (L) = ((Preadjusted Pressure ("Hg) + 29.92 "Hg) \* Vol L ) / 29.92 "Hg Adjusted Volume (L) = (( Adjusted Pressure (psig) + 14.7 psig) \* Vol L ) / 14.7 psig

Dilution Factor = Adjusted Volume (L) / Preadjusted Volume (L)

#### Where:

29.92 "Hg = Standard atmospheric pressure in inches of Mercury ("Hg)

14.7 psig = Standard atmospheric pressure in pounds per square inch gauge (psig)

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# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Michelle Peed Giles Engineering Associates N8 W 22350 Johnson Road Waukesha, Wisconsin 53186

Generated 7/12/2023 10:39:34 PM

# **JOB DESCRIPTION**

Smokeout Cleaners 1E-1105024

# **JOB NUMBER**

140-32578-1

Eurofins Knoxville 5815 Middlebrook Pike Knoxville TN 37921



# **Eurofins Knoxville**

# **Job Notes**

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

# **Authorization**

Generated 7/12/2023 10:39:34 PM

Authorized for release by Jamie McKinney, Senior Project Manager <u>Jamie.McKinney@et.eurofinsus.com</u> (865)291-3000

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# **Definitions/Glossary**

Client: Giles Engineering Associates

Job ID: 140-32578-1 Project/Site: Smokeout Cleaners 1E-1105024

#### **Qualifiers**

#### Air - GC/MS VOA

Qualifier **Qualifier Description** 

Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### **Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery **CFL** Contains Free Liquid CFU Colony Forming Unit CNF Contains No Free Liquid

Duplicate Error Ratio (normalized absolute difference) DER

Dil Fac **Dilution Factor** 

DL Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

Estimated Detection Limit (Dioxin) **EDL** LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level" MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit MLMinimum Level (Dioxin) MPN Most Probable Number Method Quantitation Limit MQL

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present

**PQL Practical Quantitation Limit** 

**PRES** Presumptive QC **Quality Control** 

Relative Error Ratio (Radiochemistry) **RER** 

Reporting Limit or Requested Limit (Radiochemistry) RL

**RPD** Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin) **TEQ** Toxicity Equivalent Quotient (Dioxin)

Too Numerous To Count **TNTC** 

**Eurofins Knoxville** 

Page 4 of 19 7/12/2023

#### **Case Narrative**

Client: Giles Engineering Associates

Project/Site: Smokeout Cleaners 1E-1105024

Job ID: 140-32578-1

Job ID: 140-32578-1

**Laboratory: Eurofins Knoxville** 

Narrative

Job Narrative 140-32578-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 7/7/2023 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice.

#### Air - GC/MS VOA

Methods TO 15 LL, TO-15: EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by Eurofins TestAmerica Knoxville.

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

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# **Detection Summary**

Client: Giles Engineering Associates

Project/Site: Smokeout Cleaners 1E-1105024

Client Sample ID: SS-14

Lab Sample ID: 140-32578-1

Job ID: 140-32578-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	21	J	120	15	ppb v/v	45.83	_	TO-15	Total/NA
Tetrachloroethene	9800		120	18	ppb v/v	45.83		TO-15	Total/NA
Trichloroethene	64	J	120	20	ppb v/v	45.83		TO-15	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	83	J	480	61	ug/m3	45.83	_	TO-15	Total/NA
Tetrachloroethene	67000		830	120	ug/m3	45.83		TO-15	Total/NA
Trichloroethene	340	_	660	440	ug/m3	45.83		TO-15	Total/NA

**Client Sample ID: SS-15** 

Lab Sample ID: 140-32578	3-2
--------------------------	-----

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1400		480	60	ppb v/v	1311.97	_	TO-15	Total/NA
Tetrachloroethene	44000		480	69	ppb v/v	1311.97		TO-15	Total/NA
trans-1,2-Dichloroethene	300	J	480	79	ppb v/v	1311.97		TO-15	Total/NA
Trichloroethene	610		480	79	ppb v/v	1311.97		TO-15	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	5600		1900	240	ug/m3	1311.97	_	TO-15	Total/NA
Tetrachloroethene	300000		3200	470	ug/m3	1311.97		TO-15	Total/NA
trans-1,2-Dichloroethene	1200	J	1900	310	ug/m3	1311.97		TO-15	Total/NA
Trichloroethene	3300		2600	420	ug/m3	1311.97		TO-15	Total/NA

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# **Client Sample Results**

Client: Giles Engineering Associates Job ID: 140-32578-1

Project/Site: Smokeout Cleaners 1E-1105024

Client Sample ID: SS-14

Lab Sample ID: 140-32578-1

Date Collected: 07/05/23 14:40 Matrix: Air Date Received: 07/07/23 09:30

Sample Container: Summa Canister 6L

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	21	J	120	15	ppb v/v			07/11/23 15:52	45.83
Tetrachloroethene	9800		120	18	ppb v/v			07/11/23 15:52	45.83
trans-1,2-Dichloroethene	ND		120	20	ppb v/v			07/11/23 15:52	45.83
Trichloroethene	64	J	120	20	ppb v/v			07/11/23 15:52	45.83
Vinyl chloride	ND		240	40	ppb v/v			07/11/23 15:52	45.83
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	83	J	480	61	ug/m3			07/11/23 15:52	45.83
Tetrachloroethene	67000		830	120	ug/m3			07/11/23 15:52	45.83
trans-1,2-Dichloroethene	ND		480	80	ug/m3			07/11/23 15:52	45.83
Trichloroethene	340	J	660	110	ug/m3			07/11/23 15:52	45.83
Vinyl chloride	ND		620	100	ug/m3			07/11/23 15:52	45.83
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		60 - 140					07/11/23 15:52	45.83

Client Sample ID: SS-15

Date Collected: 07/05/23 14:55

Lab Sample ID: 140-32578-2

Matrix: Air

Date Received: 07/07/23 09:30

Sample Container: Summa Canister 6L

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1400		480	60	ppb v/v			07/11/23 16:38	1311.97
Tetrachloroethene	44000		480	69	ppb v/v			07/11/23 16:38	1311.97
trans-1,2-Dichloroethene	300	J	480	79	ppb v/v			07/11/23 16:38	1311.97
Trichloroethene	610		480	79	ppb v/v			07/11/23 16:38	1311.97
Vinyl chloride	ND		950	160	ppb v/v			07/11/23 16:38	1311.97
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	5600		1900	240	ug/m3			07/11/23 16:38	1311.97
Tetrachloroethene	300000		3200	470	ug/m3			07/11/23 16:38	1311.97
trans-1,2-Dichloroethene	1200	J	1900	310	ug/m3			07/11/23 16:38	1311.97
Trichloroethene	3300		2600	420	ug/m3			07/11/23 16:38	1311.97
Vinyl chloride	ND		2400	400	ug/m3			07/11/23 16:38	1311.97
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		60 - 140					07/11/23 16:38	1311.97

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# **Default Detection Limits**

Client: Giles Engineering Associates Job ID: 140-32578-1

Project/Site: Smokeout Cleaners 1E-1105024

# Method: TO-15 - Volatile Organic Compounds in Ambient Air

Analyte	RL	MDL	Units
cis-1,2-Dichloroethene	0.20	0.025	ppb v/v
cis-1,2-Dichloroethene	0.79	0.099	ug/m3
Tetrachloroethene	0.20	0.029	ppb v/v
Tetrachloroethene	1.4	0.20	ug/m3
trans-1,2-Dichloroethene	0.20	0.033	ppb v/v
trans-1,2-Dichloroethene	0.79	0.13	ug/m3
Trichloroethene	0.20	0.033	ppb v/v
Trichloroethene	1.1	0.18	ug/m3
Vinyl chloride	0.40	0.065	ppb v/v
Vinyl chloride	1.0	0.17	ug/m3

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# **Surrogate Summary**

Client: Giles Engineering Associates

Project/Site: Smokeout Cleaners 1E-1105024

Method: TO-15 - Volatile Organic Compounds in Ambient Air

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

			Percent Surrogate Recovery (Acceptance Limits)
		BFB	
Lab Sample ID	Client Sample ID	(60-140)	
140-32578-1	SS-14	91	
140-32578-2	SS-15	90	
LCS 140-75166/1002	Lab Control Sample	100	
MB 140-75166/5	Method Blank	91	
Surrogate Legend			

Job ID: 140-32578-1

# QC Sample Results

Client: Giles Engineering Associates

Project/Site: Smokeout Cleaners 1E-1105024

Method: TO-15 - Volatile Organic Compounds in Ambient Air

Lab Sample ID: MB 140-75166/5

Matrix: Air

**Analysis Batch: 75166** 

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

Job ID: 140-32578-1

MB MB Result Qualifier RL **MDL** Unit Analyzed Dil Fac Analyte D Prepared cis-1,2-Dichloroethene ND 0.20 0.025 ppb v/v 07/11/23 10:36 Tetrachloroethene ND 0.20 0.029 ppb v/v 07/11/23 10:36 trans-1,2-Dichloroethene ND 0.20 0.033 ppb v/v 07/11/23 10:36 Trichloroethene ND 0.20 0.033 ppb v/v 07/11/23 10:36 ND Vinyl chloride 0.40 0.065 ppb v/v 07/11/23 10:36 MB MB Result RL MDL Unit **Analyte** Qualifier D Prepared Analyzed Dil Fac 0.099 cis-1,2-Dichloroethene ND 0.79 ug/m3 07/11/23 10:36 Tetrachloroethene ND 1.4 0.20 ug/m3 07/11/23 10:36 trans-1,2-Dichloroethene ND 0.79 0.13 ug/m3 07/11/23 10:36

MB MB

ND

ND

1.1

1.0

0.18 ug/m3

0.17 ug/m3

Lab Sample ID: LCS 140-75166/1002

Matrix: Air

Vinyl chloride

Trichloroethene

Vinyl chloride

**Analysis Batch: 75166** 

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

97

70 - 130

07/11/23 10:36

07/11/23 10:36

LCS LCS Spike %Rec Added Result Qualifier %Rec Limits Analyte Unit cis-1,2-Dichloroethene 2.78 3.20 ppb v/v 87 70 - 130 Tetrachloroethene 3.20 2.60 81 ppb v/v

70 - 130 trans-1,2-Dichloroethene 3.20 2.79 ppb v/v 87 70 - 130 Trichloroethene 3.20 2.66 ppb v/v 83 70 - 130 Vinyl chloride 3.20 70 - 130 3 12 ppb v/v Spike LCS LCS %Rec Added Result Qualifier D %Rec Limits Analyte Unit cis-1,2-Dichloroethene 13 11.0 ug/m3 87 70 - 130 Tetrachloroethene 22 17.6 ug/m3 81 70 - 130 trans-1,2-Dichloroethene 13 11.0 ug/m3 87 70 - 130 ug/m3 Trichloroethene 17 14.3 83 70 - 130

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ug/m3

LCS LCS

Surrogate%RecoveryQualifierLimits4-Bromofluorobenzene (Surr)10060 - 140

**Eurofins Knoxville** 

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# **QC Association Summary**

Client: Giles Engineering Associates

Project/Site: Smokeout Cleaners 1E-1105024

# Air - GC/MS VOA

### **Analysis Batch: 75166**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-32578-1	SS-14	Total/NA	Air	TO-15	
140-32578-2	SS-15	Total/NA	Air	TO-15	
MB 140-75166/5	Method Blank	Total/NA	Air	TO-15	
LCS 140-75166/1002	Lab Control Sample	Total/NA	Air	TO-15	

Job ID: 140-32578-1

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### **Lab Chronicle**

Client: Giles Engineering Associates

Project/Site: Smokeout Cleaners 1E-1105024

Client Sample ID: SS-14 Lab Sample ID: 140-32578-1

Date Collected: 07/05/23 14:40 
Matrix: Air

Date Received: 07/07/23 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		45.83	15 mL	500 mL	75166	07/11/23 15:52	S1K	EET KNX
	Instrumer	nt ID: MS								

Client Sample ID: SS-15

Date Collected: 07/05/23 14:55

Lab Sample ID: 140-32578-2

Matrix: Air

Date Collected: 07/05/23 14:55 Date Received: 07/07/23 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1311.97	110 mL	500 mL	75166	07/11/23 16:38	S1K	EET KNX
	Inetrumer	+ ID· MS								

Client Sample ID: Method Blank Lab Sample ID: MB 140-75166/5

Date Collected: N/A

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	200 mL	500 mL	75166	07/11/23 10:36	S1K	EET KNX
	Instrumer	nt ID: MS								

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 140-75166/1002

Date Collected: N/A

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	500 mL	500 mL	75166	07/11/23 08:22	S1K	EET KNX
	Instrumen	+ ID: MC								

**Laboratory References:** 

EET KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

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Job ID: 140-32578-1

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Matrix: Air

Matrix: Air

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**Eurofins Knoxville** 

# **Accreditation/Certification Summary**

Client: Giles Engineering Associates

Project/Site: Smokeout Cleaners 1E-1105024

Job ID: 140-32578-1

# **Laboratory: Eurofins Knoxville**

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

Authority	Program	Identification Number	Expiration Date
-	AFCEE	N/A	
ANAB	Dept. of Defense ELAP	L2311	02-13-25
ANAB	Dept. of Energy	L2311.01	02-13-25
ANAB	ISO/IEC 17025	L2311	02-13-25
Arkansas DEQ	State	88-0688	06-16-24
Colorado	State	TN00009	02-29-24
Connecticut	State	PH-0223	09-30-23
Florida	NELAP	E87177	06-30-24
Georgia (DW)	State	906	07-27-25
Hawaii	State	NA	07-27-23
Kansas	NELAP	E-10349	10-31-23
Kentucky (DW)	State	90101	12-31-23
Louisiana (All)	NELAP	83979	06-30-24
Louisiana (DW)	State	LA019	12-31-23
Maryland	State	277	03-31-24
Michigan	State	9933	07-27-25
Nevada	State	TN00009	07-31-23
New Hampshire	NELAP	2999	01-17-24
New Jersey	NELAP	TN001	07-01-24
New York	NELAP	10781	03-31-24
North Carolina (DW)	State	21705	07-31-23
North Carolina (WW/SW)	State	64	12-31-23
Oklahoma	State	9415	08-31-23
Oregon	NELAP	TNI0189	01-01-24
Pennsylvania	NELAP	68-00576	12-01-23
Tennessee	State	02014	07-27-25
Texas	NELAP	T104704380-22-17	08-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	525-22-279-18762	10-06-25
Utah	NELAP	TN00009	07-31-23
Virginia	NELAP	460176	09-14-23
Washington	State	C593	01-19-24
West Virginia (DW)	State	9955C	12-31-23
West Virginia DEP	State	345	04-30-24
Wisconsin	State	998044300	08-31-23

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# **Method Summary**

Client: Giles Engineering Associates

Project/Site: Smokeout Cleaners 1E-1105024

Method<br/>TO-15Method DescriptionProtocol<br/>EPALaboratory<br/>EET KNX

**Protocol References:** 

EPA = US Environmental Protection Agency

Laboratory References:

EET KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Job ID: 140-32578-1

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# **Sample Summary**

Client: Giles Engineering Associates Project/Site: Smokeout Cleaners 1E-1105024

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
140-32578-1	SS-14	Air	07/05/23 14:40	07/07/23 09:30	Air Canister (6-Liter) #34002040
140-32578-2	SS-15	Air	07/05/23 14:55	07/07/23 09:30	Air Canister (6-Liter) #10106

Job ID: 140-32578-1

Form No. CA-C-Wi-003, Rev. 2.23, dated 5/4/2020

Received by: Received by: Condition:

Date / Time: 7 - (3 - 23

Date / Time: Opened by:

Shipper Name:

Samples Relinquished by:

Relinquished by: Lab Use Only:

# Canister Samples Chain of Custody Record

TestAmerica Laboratories, Inc. assumes no liability with respect to the collection and shipment of these samples.

Environment Testing TestAmerica

🔅 eurofins

Knoxville, TN 37921-5947 phone 865.291.3000 fax 865.584.4315

Eurofins TestAmerica, Knoxville

5815 Middlebrook Pike

Knoxville, TN 37921-5947 phone 865.291.3000 fax 865.584.4315												Tes	tAmeri	ca Lab	oratori	TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica	erica
Client Contact Information	Client P	Client Project Manager: M.Ch	er: M.'2	114	Dee 1 s	Samples Collected By:		Cogy	Ø	名のだら	,					COC No:	
Company Name: Giles Enoingering Assel.	Scc. Phone:	262-544-6	0- 749	871				٠								/_ of/_ cocs	
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FAX:	Tel/Fax						•				90			(3.	98 8	Lab Sampling:	
Project Name:		Analysis	Analysis Turnaround	d Time				wo.			u u	J		vs)	əjoi		
Site/Location:	Standar	Standard (Specific): 7 busine	busin	255 dan	<b>&gt;</b>			1/5			λjic	IA 3		uo	uį /	Job / SDG No.:	
PO#	Rush (Specifiy):	pecifiy):			1			dare			0.000	uəlc		) Joer	oecių	(See below for Add'i Items)	
Sample Identification Sta	Sample Time Start Date Start	Sample End Date	Time Stop	Canister (Vacuum in Field, III)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister (	1-01 (31) Pt-OT MIS 31-OT	EPA 26C	851M D-1946	Other (Please eqyT elqme&	Indoor Air/Ami	Sub-Slab Soil Gas	Soil Vapor Exti Landfill Gas	Other (Please sp	Sample Specific Notes:	
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	Stop	Interior	-	Ambient													
		=	Pres	Pressure (inches of Ha	es of Ha)												
	Start	Interior		Ambient													
	Stop														ĺ		Ī
Special Instructions/QC Requirements & Comments: Analyze for: PCE, TCE, Cis and trans	Cis an	d tran		(ヨフローでリ		Vinyl Chloride	Chlo	ri de							*		
Samples Shipped by: Cody Plit	\	Date / Time: 7-4-	7-6	23	57.9	1645 Samples Received by	Cra par		1/2/	KI	ETAKUX 7/7/25	17/2		8:30			
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7/12/2023

Log In Number:

# EUROFINS/TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Box 18A: Residual Date: Comments/Actions Taken Box 16A: pH Preservation pH test strip lot number: Labeling Verified by: Preservative: Lot Number: Exp Date: Analyst: Date: ☐ Cooler Out of Temp, Same Day ☐ COC & Samples Do Not Match ☐ Sample Received, Not on COC ☐ Sample on COC, Not Received ☐ Containers, Improper; Client ☐ Cooler Out of Temp, Client □ COC; No Date/Time; Client ☐ Sampler Not Listed on COC If No, what was the problem? ☐ COC Incorrect/Incomplete □ COC Incorrect/Incomplete □ COC Incorrect/Incomplete □ COC Incorrect/Incomplete □ pH Adjusted, pH Included Contacted, Proceed/Cancel Contacted; Proceed/Cancel ☐ Holding Time - Receipt ✓ If no, notify lab to adjust □ COC No tests on COC ☐ Incorrect Preservative ☐ Headspace (VOA only) □ Containers, Broken □ Containers, Broken □ COC Not Received □ Project missing info ☐ Residual Chlorine Checked in lab (See box 16A) Contacted Date: 717123 □ Yes □ NA ž å Yes 20. For rad samples was sample activity info. Provided? 8. Were all of the samples listed on the COC received? 4. Is the cooler temperature within limits? (> freezing 3. The coolers/containers custody seal if present, is it 18. Did you check for residual chlorine, if necessary? 5. Were all of the sample containers received intact? 6. Were samples received in appropriate containers? 17. Were VOA samples received without headspace? PM Instructions: 14. Was COC relinquished? (Signed/Dated/Timed) 16. Were samples received with correct chemical 2. Were ambient air containers received intact? 15. Were samples received within holding time? 12. Are tests/parameters listed for each sample? 11. Is the client and project name/# identified? 9. Is the date/time of sample collection noted? 10. Was the sampler identified on the COC? 7. Do sample container labels match COC? 13. Is the matrix of the samples noted? 19. For 1613B water samples is pH<9? 1. Are the shipping containers intact? temp. of water to 6 °C, VOST: 10°C) preservative (excluding Encore)? Chlorine test strip lot number: Sample Receiving Associate: 🖌 Project #: 1400 1840 (IDs, Dates, Times) (e.g. 1613B, 1668) Thermometer ID: Correction factor: Review Items

QA026R32.doc, 062719

### **Eurofins Knoxville - Air Canister Initial Pressure Check**

Gauge ID: g5
Date/Time: 7/7/23 1500

Analyst	Sample ID	Pressure @ Receipt (-in Hg or +psig)/initial pressurisation (if applicable)	Asset #	Cleaning Job	Cert Type		Comments
ВТВ	140-32578-a-1	-7.3/0.6	34002040	140-31747-a-6	В	6	
ВТВ	140-32578-a-2	-5.3	10106	140-31747-a-8	В	6	
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#### **Summa Canister Dilution Worksheet**

Client: Giles Engineering Associates

Job No.: 140-32578-1

Project/Site: Smokeout Cleaners 1E-1105024

Lab Sample ID  140-32578-1  140-32578-1  140-32578-1  140-32578-1	Canister Volume (L) 6 6 6	Preadjusted Pressure ("Hg) -7.3 0 0 0	Preadjusted Pressure (atm) 0.76 1.00 1.00	Volume (L) 4.54 6.00 6.00 6.00	Adjusted Pressure (psig) 0.6 30.9 28.4 39.1	Adjusted Pressure (atm) 1.04 3.10 2.93 3.66	Adjusted Volume (L) 6.24 18.61 17.59 21.96	Initial Volume (mL)	Dilution Factor 1.38 3.10 2.93 3.66	Final Dilution Factor 1.38 4.27 12.52 45.83	ID	Date 07/07/23 15:10 07/10/23 12:01 07/10/23 13:03 07/10/23 14:14	AFB AFB
140-32578-2 140-32578-2	6	-5.6 0	0.81 1.00	4.88 6.00	2.6 7.5	1.18 1.51	7.06 9.06	10	1.45 906.12	1.45 1311.97	g5 G5 09608	07/10/23 12:02 07/10/23 13:04	AFB AFB

#### Formulae:

Preadjusted Volume (L) = ((Preadjusted Pressure ("Hg) + 29.92 "Hg) \* Vol L) / 29.92 "HgAdjusted Volume (L) = ((Adjusted Pressure (psig) + 14.7 psig) \* Vol L) / 14.7 psig

Dilution Factor = Adjusted Volume (L) / Preadjusted Volume (L)

#### Where:

29.92 "Hg = Standard atmospheric pressure in inches of Mercury ("Hg)

14.7 psig = Standard atmospheric pressure in pounds per square inch gauge (psig)

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