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July 6, 2022  
File No. 20.0157661.01

Ms. Linda Michalets, Advanced Hydrogeologist  
Wisconsin Department of Natural Resources  
1027 West St. Paul Avenue  
Milwaukee, Wisconsin 53233

Re: Supplemental Soil Vapor and Outdoor Air Evaluation Report  
Milwaukee Plating Company  
1434 Vel R. Phillips Avenue  
Milwaukee, Wisconsin  
BRRS No. 02-41-000826

Dear Ms. Michalets:

As a follow-up to our virtual meeting on June 13, 2022 and our telephone conversation on July 5, 2022, GZA GeoEnvironmental, Inc. (GZA), on behalf of Milwaukee Plating Company (Milwaukee Plating), is pleased to submit this Supplemental Soil Vapor and Outdoor Air Evaluation Report for the Milwaukee Plating facility located at 1434 Vel R. Phillips Avenue in Milwaukee, Wisconsin. In a letter dated November 5, 2021, the Wisconsin Department of Natural Resources (WDNR) requested a status update of the investigation and remediation of chlorinated hydrocarbons for which Milwaukee Plating was identified as the responsible party (RP). Attached to the November 2021 WDNR letter was a table of indoor and outdoor air analytical results of samples collected from the building at 1422 Vel R. Phillips Avenue ("1422 building") by another environmental consultant as part of a Phase I Environmental Site Assessment (ESA).

GZA participated in a meeting with you on January 7, 2022, to discuss observations of the Milwaukee Plating site and our analysis of the previously collected indoor and outdoor air sample results. During this meeting, GZA indicated that there are potential routes of entry for vapors in the alley between Milwaukee Plating and the 1422 building that could result in fugitive trichloroethene (TCE) entering the 1422 building. The potential routes of entry included a series of vent pipes in the north wall of the 1422 building, a vent in the north side of the 1422 building, exhaust and cold air return pipes for a furnace near the northeast corner of the 1422 building, and potential air intakes on the roof of the 1422 building. During the meeting on January 7, 2022, you acknowledged and confirmed these potential routes of entry from prior personal observations of the property.

GZA provided a review of the indoor and outdoor air samples and concluded that there are likely site-specific sources of air emissions inside of the 1422 building that were influencing the air sample results. At the time of the sampling, the 1422 building was occupied by Wisconsin Art Lab and some of the constituents that were detected only in the indoor air sample were emanating from paints and cleaners/solvents that were used or stored in the 1422 building.

GZA also reviewed the file for Vogue Cleaners, which is located immediately adjacent to the south of, and shares a common wall with, the 1422 building. Sub-slab vapor samples were collected on April 6, 2018, from the basement of the 1422 building by EnviroForensics to determine if the sub-slab sample concentrations exceeded the Vapor Risk Screening Levels (VRSLs). The results of the sub-slab vapor sampling indicated that the chlorinated hydrocarbon concentrations detected were



significantly less than the respective VRSLs for tetrachloroethene (PCE) and TCE and, importantly, that the sample results confirmed that vapor intrusion was not a concern.

Based on a review of the publicly available information and the discussions during the January 7, 2022 meeting, GZA identified several data gaps to further evaluate the Milwaukee Plating operations and also confirm the outdoor air results collected by the consultant during the Phase I ESA. On April 6, 2022, GZA received authorization to proceed with additional investigation activities to collect data that could address the data gaps. The scope of work included the following activities:

1. Installation of two soil gas probes on the Milwaukee Plating property near the southeast corner of the building and in the alley between Milwaukee Plating and the 1422 building.
2. Contacting Digger's Hotline to locate the public utilities in the alley and along Vel R. Phillips Avenue adjacent to Milwaukee Plating and the 1422 building so that the utilities could be evaluated as potential vapor migration pathways.
3. Collection of soil gas samples from the soil gas probes for laboratory analyses of volatile organic compounds (VOCs) and also the collection of two outdoor ambient air samples for laboratory analyses of VOCs. One of the ambient outdoor air samples was proposed in the alley between the Milwaukee Plating building and the 1422 building and one was proposed as a background near the corner of the Vel R. Phillips Avenue and Cherry Street.

The scope of work and sampling results were discussed with the WDNR by telephone on June 7, 2022. On June 10, 2022, the WDNR forwarded a letter to Milwaukee Plating requesting immediate action to address the chlorinated hydrocarbons in the 1422 building because, as stated in the letter, the concentrations posed an imminent threat to public health, safety, and welfare of the occupants of the building. The letter also stated that the Wisconsin Department of Health Services (DHS) had recently collected indoor and outdoor air sample results from the alley and inside of the 1422 building with concentrations that exceeded the indoor air vapor action level (VAL). The WDNR indicated in the letter that Milwaukee Plating represented the likely source of the chlorinated hydrocarbons because Milwaukee Plating uses TCE in its degreasing operations, there are multiple doors and vents on the south side of the building in the alley that are open to the alley, and the TCE concentrations measured in the outdoor air samples in the alley are higher than the concentrations inside of the 1422 building.

On June 13, 2022, GZA participated in a virtual meeting with the WDNR to present and discuss the results of the vapor evaluation performed by GZA, the results of the DHS sampling, and the actions under consideration to evaluate a solution for the chlorinated hydrocarbons detected in the alley. The WDNR indicated that the results of the vapor evaluation and the evaluation of potential solutions should be documented in a report and submitted to the WDNR.

The following summarizes the air vapor sampling and utility locating activities performed by GZA, presents an interpretation of the results and potential migration pathways, and provides activities being considered as potential solutions. This report is intended to satisfy the request of the WDNR and provides the information in accordance with Chapter NR 708 of the Wisconsin Administrative Code (Wis. Adm. Code). Also, this report is subject to the Limitations provided in Attachment 1.

## **GZA SOIL VAPOR SAMPLING AND OUTDOOR AIR SAMPLING ACTIVITIES**

### Soil Gas Probe Installation

On April 13, 2022, GZA installed two soil gas probes (SVP-1 and SVP-2) near the southeast corner of the Milwaukee Plating building. The locations of the soil gas probes are shown on Figure 1. For installation of the probes, a soil boring was advanced to a depth of 5 feet below ground surface (bgs) using Geoprobe® drilling techniques. The soils encountered during borehole advancement consisted of an asphalt layer at the surface underlain by brown clay with some sand and gravel. Fill materials encountered within the brown, silty clay included crushed brick fragments and black foundry sand.



The soils encountered were not saturated at a depth of 5 feet bgs. The boring logs from the soil gas probe borings are provided in Attachment 2.

Following soil boring completion, a 6-inch-long, steel screen was placed in the borehole at a depth of approximately 5 feet. A polyethylene tube was attached to the top of the 6-inch screen and extended to the surface. The annular space around the screen was filled with filter pack sand to a depth of approximately 4 feet bgs and the annular space from the top of the sand filter pack to the surface was filled with bentonite chips. The bentonite chips were hydrated to seal the borehole around the polyethylene tubing and around the edge of the borehole. An 8-inch manway was placed over the tubing at the surface and was sealed-in-place by a concrete apron. The soil gas probes were allowed to equilibrate prior to vapor sample collection.

#### Soil Vapor Sample Collection

On April 21, 2022, GZA collected soil gas and outdoor air samples from the Milwaukee Plating site. The soil gas samples were collected using 1-liter SUMMA<sup>®</sup> canisters equipped with a 30-minute flow-limiting valve attached to the canister. The SUMMA<sup>®</sup> canister was connected to the soil gas probe tubing and the connections of the sampling equipment were checked by performing a shut-in test. During the shut-in test, a vacuum was drawn on the sample tubing and the vacuum was monitored to ensure that it was maintained. In addition, a water dam was filled with water around the tubing and boring to test for potential leakage. The water level in the water dam was maintained throughout the sampling, confirming that there was no leakage around the tubing or borehole.

The outdoor air samples were collected using 6-liter SUMMA<sup>®</sup> canisters equipped with an 8-hour flow-limiting valve to the SUMMA<sup>®</sup> canister and placing the canister in the desired sample location. There was no need for testing the equipment since the purpose of the samples was to collect ambient air samples. One of the outdoor air samples was collected from within the alley between the Milwaukee Plating building and the 1422 building, approximately 50 feet west of the northeast corner of the 1422 building. The other outdoor air sample was collected as a background sample from the southeast corner of the intersection of Vel R. Phillips Avenue and Cherry Street.

Once the vacuum in the canister indicated that the sample collection was completed (<-5 in HG vacuum), the canister valve was closed to seal in the sample and the samples were shipped under chain-of-custody control to Pace Analytical in Minneapolis, Minnesota for laboratory analyses of VOCs by United States Environmental Protection Agency (USEPA) Method TO-15.

#### Soil Gas and Outdoor Air Sample Results

The soil gas and outdoor air laboratory analytical report for the samples collected by GZA is provided in Attachment 3. The results of the soil gas samples indicated that the concentrations were less than the VRSLs for small commercial buildings, confirming that the potential for vapor intrusion into the 1422 building is low and is likely not the primary source of TCE in the 1422 building. The outdoor air sample result from the alley indicated that there were elevated concentrations of TCE detected in the alley during the 8-hour sampling period on April 21, 2022. The outdoor air sample in the alley was collected adjacent to the 1422 building, specifically near the slotted vent in the north wall. The background outdoor air sample collected from the intersection of Vel R. Phillips Avenue and Cherry Street had fewer detected compounds than the sample from the alley. The TCE vapors appeared to be accumulating in the alley between the buildings from a source close to this area. TCE vapors have a density that is greater than that of air which causes the vapors to accumulate near the ground surface. This accumulation in this situation is likely close to the source, given the somewhat restricted area between the buildings.

The results indicated that the ambient background air in the area was not being significantly affected by other sources and was not the likely source of vapors inside of the 1422 building. The sample results for the soil gas and outdoor air samples are summarized on Table 1 and the sample locations are shown on Figure 1.



Based on the results of the supplemental sampling in the alley between the Milwaukee Plating building and the 1422 building, the outdoor air may be the source of the vapors inside of the 1422 building. This conclusion is consistent with the sample results from the DHS sampling and both the sub-slab sampling conducted by EnviroForensics and the soil gas sampling conducted by GZA (discussed below).

#### **GZA UTILITY EVALUATION**

Prior to soil gas probe installation, GZA contacted Digger's Hotline to locate the public utilities around the Milwaukee Plating and 1422 buildings. The utilities in this area included municipal water, natural gas, combined sewer, electric, cable, and telephone. The utilities located are shown on Figure 2, except for the combined sewer. The combined sewer is shown on the City of Milwaukee sewer map, included as Figure 3.

The overhead utilities in the area included cable, telephone, and electric. These overhead utilities do not represent a migration pathway for vapors. The underground utilities in the area included municipal water, natural gas, and combined sewer. The water and natural gas utilities are located in Vel R. Phillips Avenue to the west of Milwaukee Plating and the 1422 building, with connections to each of these buildings. The gas meter for the 1422 building is located approximately 10 feet from the northwest corner of the building in the alley. The gas meter for the Milwaukee Plating building was not visible on the outside of the building, but the connection was marked approximately 40 feet north of the southwest corner of the building along Vel R. Phillips Avenue.

The water connection for the 1422 building was marked approximately 15 feet south of the northwest corner of the building along Vel R. Phillips Avenue. Multiple municipal water line connections exist to the Milwaukee Plating building, which are located along the west side of the building within 50 feet of the southwest corner of the building. The water and gas utility lines do not represent potential vapor migration pathways at the Site.

A combined sewer system exists in this portion of the City of Milwaukee that conveys both sanitary and storm water. A combined sewer line exists within Vel R. Phillips Avenue on the west side of the buildings and a combined sewer line also exists within the alley east of the buildings.

The sewer line in Vel R. Phillips Avenue is a 21-inch line that extends for some distance north of Cherry Street and terminates at Vliet Street to the south. Milwaukee Plating does not have connections to this combined sewer line, but the 1422 building does have one possible connection to this combined sewer line near the northwest corner of the building. This connection was installed in 1947. This line is constructed of reinforced concrete and slopes to the south (from Cherry Street to Vliet Street) where it connects to a 60-inch line along Vliet Street.

The combined sewer line in the alley east of the buildings is a 15-inch line that begins approximately 30 feet south of Cherry Street, adjacent to Milwaukee Plating, and terminates at Vliet Street. Four possible connections to this combined sewer line are shown for the Milwaukee Plating property and one possible connection to this line for the 1422 building. The Milwaukee Plating connections to this line were installed in 1905, 1914, and 1985. The closest possible sewer connection locations are located approximately 25 feet from the vapor degreasing area and results of soil samples previously collected in the area of the connections were low. The 1422 building connection to this line was installed in 1905. This line is constructed of concrete and slopes to the south (from Cherry Street to Vliet Street) where it connects to a 60-inch sewer line. Based on the slope of this line, the vapor migration would be from south to north. As such, the potential for vapor migration from Milwaukee Plating toward the 1422 building along the combined sewer line was considered low.

The 1422 building has one possible combined sewer connection on the east side of the building and one possible combined sewer connection on the west side of the building. It could not be determined from this evaluation if both of these connections were active or which of the connections actually were servicing the building. In order to determine the active sewer connection for the 1422 building, additional information is necessary. However, based on the above-referenced



evaluation, the utilities appear to represent a low potential for influencing vapor migration at the Milwaukee Plating site. As such, no further utility evaluation is considered warranted.

### **DHS INDOOR AND OUTDOOR AIR SAMPLING RESULTS**

The WDNR provided Milwaukee Plating with a table of air sample results from samples collected by DHS from inside and outside of the 1422 building. These samples were collected in April 2022, using a AT-525 passive monitor. No specific date appears on the table for when these samples were collected, and the only analytes listed on the table are benzene and TCE. The DHS table of air sample results is provided in Attachment 4.

The samples were apparently collected over a period of 7 or 14 days, as indicated in the sample labels. The information provided did not contain a map showing the sample locations, therefore, GZA made some general assumptions about the sample locations when reviewing the data in comparison to GZA's sample results. In addition, the DHS information provided by the WDNR did not include an inventory of products inside of the 1422 building. As previously indicated, the activities and products inside of the 1422 building may influence concentrations of TCE detected inside of the building. This is a critical step in identifying the source of the vapors and should be completed to understand the source of the TCE that is affecting the indoor air quality in the 1422 building.

There were two outdoor air sample locations, one in the alley between the Milwaukee Plating building and the 1422 building and one in back of the 1422 building on the east side. The sample collected from the alley contained the highest concentration of TCE detected in the DHS samples. The sample collected from the back of the 1422 building contained the lowest concentration of TCE detected in the DHS samples. Due to the vapor density of TCE being greater than that of air, these results also suggest that the source of the TCE in the alley is close to this area. On the table these samples are compared to the indoor air VAL, which does not represent an appropriate comparison since these samples were not collected from indoor air sampling locations. A comparison of the outdoor air samples to the indoor air samples can be used to evaluate the potential for vapor intrusion into a building.

Six indoor air samples were collected from inside of the 1422 building. These samples were collected from the basement, from the first floor, and from the second floor. The samples collected from the basement are indicated to be collected "by slot vents" and "further back." The samples indicated as "by slot vents" represent the indoor air sample nearest to the location of the outdoor air sample in the alley. A comparison of the results of the outdoor and indoor air samples indicates that the outdoor air sample contained higher concentrations than the indoor air sample and the indoor air sample concentrations exceeded the basement sample identified as "further back." This decrease in concentrations from outdoor air to inside air may be an indication that the slotted vents are a route of entry for vapors into the building.

The samples identified as from the first floor, second floor, and basement "further back" all have TCE concentrations that are in the range of 15 to 17 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), which are less than the TCE concentration of the indoor air sample labeled as "by slot vents." The consistent concentration of the indoor samples from the first and second floors suggests that the heating, ventilation, and air-conditioning (HVAC) system in the building may be distributing vapors throughout the building. TCE has a vapor density that is greater than that of air, therefore, the vapors settle at the lowest elevation in the building unless there is airflow disturbance or movement. The HVAC system air circulation is the likely source of air movement within the 1422 building.

### **TRC FUGITIVE EMISSIONS EVALUATION**

Milwaukee Plating contracted TRC to provide air regulatory support for the facility. On May 5, 2022, TRC and a WDNR representative, Ms. Emma Wright, visited the facility and reviewed the operations. The results of this site visit did not identify issues with the operations at Milwaukee Plating.

Based on the results of the DHS samples and the request of the WDNR, understanding that Milwaukee Plating has yet to be conclusively identified as, or significant contributor to the subject TCE emissions, TRC recommended a thorough review



of the vapor degreaser to evaluate design performance and functionality, in part, relative to associated emission mitigation measures (e.g., condenser, freeboard ratio, working mode cover, dwell, reduced room draft) that are employed in accordance with applicable air regulations. Once this evaluation is completed, corrective actions can be implemented, if necessary, to establish appropriate baseline operating conditions.

During the May 5, 2022, WDNR air inspection, TRC identified personnel cooling fans in the polishing area along the east wall near the windows that were directed toward the area of the vapor degreaser. These fans may have the potential to disturb the airflow over the vapor degreaser and cause operational issues with the design of the vapor degreaser. TRC recommended that the personnel cooling fans be redirected so that the airflow does not exacerbate airflow across the vapor degreaser. To further assess whether fugitive indoor TCE emissions are present within the Milwaukee Plating building in the immediate vicinity of the vapor degreaser, TRC recommended that strategically located indoor air sampling within the building be considered (e.g., possibly along the east and south walls of the room in which the degreaser is situated). Further recommendations include determining if the airflow direction through the windows, doors, and vents along the east and south exterior walls of the room in which the vapor degreaser is situated, noting that if the building is under negative pressurization, then the direction of airflow through such openings may be into rather than out of the Milwaukee Plating building. On a related note, it would similarly be of interest to understand the direction of airflow for the vents/building openings on the 1422 building to assess whether the air is flowing into or out of this building via such vents.

Though yet to be conclusively identified as a contributing source of the subject TCE emissions, Milwaukee Plating is installing a local exhaust ventilation system on the vapor degreaser to assist with the capture of fugitive emissions from the degreaser, if any. The intake of this ventilation system will be situated at the top of the degreaser along one edge. The ventilation system will be equipped with a blower connected to a vertical stack that extends from the degreaser upward through the roof and terminates approximately 10 feet above the roof or approximately 30 to 35 feet above the ground surface. The airflow rate of this system will be set considering the operation of the degreaser so that the induced airflow at the top of the degreaser does not disrupt the cooling system and vapors in the degreaser to reduce the fugitive emissions. Upon completion of the internal air emission evaluation and design change considerations, an addendum report will be issued to the WDNR.

## CONCLUSIONS

Based on the investigative activities performed at the Milwaukee Plating building and the 1422 building, GZA provides the following conclusions related to the soil gas and outdoor air samples:

1. The soil gas samples collected from the alley adjacent to the Milwaukee Plating building indicate that sub-grade vapor intrusion does not appear to be the source of the vapors in the 1422 building.
2. The outdoor air samples collected by GZA and DHS in the alley between the Milwaukee Plating building and the 1422 building confirmed that elevated concentrations of TCE existed in the alley on the days the samples were collected. Milwaukee Plating uses TCE as a cleaning agent in its operation and may be a source of the TCE in the alley, therefore, Milwaukee Plating performed the evaluations described herein.
3. The utility evaluation performed by GZA indicates that the underground utilities in the vicinity of the Milwaukee Plating and 1422 buildings include municipal water, natural gas, and sanitary sewer. The water and natural gas lines are located west of the site in Vel R. Phillips Avenue and are not considered to be a conduit for the migration of vapors. A combined sanitary sewer is located on the west side of the building in Vel R. Phillips Avenue; Milwaukee Plating is not connected to this sewer line, but the 1422 building is connected to this sewer line; however, this line is not a potential for vapor migration between Milwaukee Plating and the 1422 building. Another combined sewer line in the alley on the east side of the buildings with connections to both the Milwaukee Plating building and the 1422 building. The closest possible connection to Milwaukee Plating is approximately 25 feet from the vapor degreaser and the soil



samples in this area indicate low concentrations of TCE. The sewer lines in this area slope to the south (from Cherry Street to Vliet Street), with Milwaukee Plating upslope from the 1422 building, which limits the potential for vapor migration along or within the sewer line. The 1422 building contains two possible combined sewer connections, one on the west side of the building and one on the east side of the building. It is not known which of these connections are connected to the 1422 building. Additional information is necessary. Based on the available information, this utility evaluation indicates that the potential for vapor migration along the utilities between the buildings is low.

4. A comparison of the samples collected by DHS and labeled as “Basement by slot vents” and the “Outside - Alley” indicated that the TCE concentrations in the alley are greater than the TCE concentrations in the basement indoor air sample. The difference in these reported concentrations suggests that the outdoor air may be the source of migration into the 1422 building and that the slotted vent in the north wall of the 1422 building may be the route of entry into the building.
5. The indoor air samples throughout the 1422 building have similar concentrations, indicating that the HVAC system may be distributing the vapors throughout the building. TCE vapors have a vapor density greater than that of air, which causes the vapors to settle at the ground surface or lowest elevation within a building without circulation or air movement.
6. The information from DHS only included a summary table of data. It does not appear that a room-by-room inventory of products and activities in the 1422 building was completed to assess the potential for vapor sources inside of the building. This inventory needs to be completed to determine if there are potential sources within the building. Although the source of vapors in the 1422 building may be the outdoor air in the alley, mitigation of these vapors may not remedy the situation if there are sources within the 1422 building. The direction of airflow through the 1422 building openings (e.g., slot vents) should also be investigated to determine if airflow is entering or exiting the building via these openings.

This report provides the documentation and interpretation of the soil gas and air sampling performed at the Milwaukee Plating building and 1422 building. If you have any questions regarding this information, please feel free to contact James Drought at (414) 831-2540 or Kevin Hedinger at (262) 424-1761.

Sincerely,

**GZA GeoEnvironmental, Inc.**

Kevin M. Hedinger  
Senior Project Manager

James F. Drought, P.H.  
Principal Hydrogeologist

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- Attachments:
- Table 1
  - Figures 1, 2, and 3
  - Limitations
  - Boring Logs
  - Laboratory Analytical Report
  - DHS Sample Results Table



## TABLES



**TABLE 1**  
**Summary of Soil Gas Outdoor Air Sample Results**  
**Milwaukee Plating Company**  
**1434 Vel R. Phillips Avenue**  
**Milwaukee, Wisconsin**  
**BRRTS No. 04-21-000826**



Analyte	OUTDOOR AIR		SOIL GAS		Small Commercial VAL      VRSL	
	BA-1	AA-1	SVP-1	SVP-2		
	Background	Alley	Soil Gas	Soil Gas		
	4/21/2022	4/21/2022	4/21/2022	4/21/2022		
1,1,1-Trichloroethane	<1.8	<1.8	<1.8	2.6	22,000	730,000
1,1,2,2-Tetrachloroethane	<2.3	<2.2	<2.3	<2.2		
1,2,4-TMB	<4.0	<3.9	<1.6	10		
2-Butanone (MEK)	<4.8	<4.7	<4.8	<4.6		
Acetone	<9.7	12.4	<9.7	42.8		
Carbon Disulfide	<1.0	<1.0	9.1	10.5		
Chloromethane	0.75	0.8	<0.68	<0.65	390	13,000
Dichlorodifluoromethane	2.1	2.4	2.5	2.6	440	15000
Ethyl Acetate	<1.2	<1.2	<1.2	<1.1		
n-Heptane	<1.3	<1.3	<1.3	<1.3		
Isopropyl Alcohol	22.6	12.2	<4.0	5.6		
m&p-xylenes	<2.8	<2.8	<2.8	15.1	440	15,000
Methylene Chloride	<5.7	<5.6	<5.7	<5.5	2,600	88,000
Naphthalene	<4.3	<4.2	<4.3	<4.1	3.6	120
o-xylene	<1.4	<1.4	<1.4	6	440	15,000
PCE	<1.1	<1.1	20.3	75.2	180	5,800
Toluene	<1.2	<1.2	1.8	16.5		
TCE	<0.88	225	157	235	8.8	290
Xylenes	<4.2	<4.2	20.3	90.3	440	15,000
Benzene		0.65		2.2		
Ethanol		6	7.4	4.9		
Ethylbenzene				4.5		
1,3,5-TMB				3.3		
Trichlorofluoromethane				2		
Styrene				2.5		
1,4-dichlorobenzene				7.2		



Only detected in 1422 Indoor Air Samples



Only detected in MKE Plating Soil Gas Samples

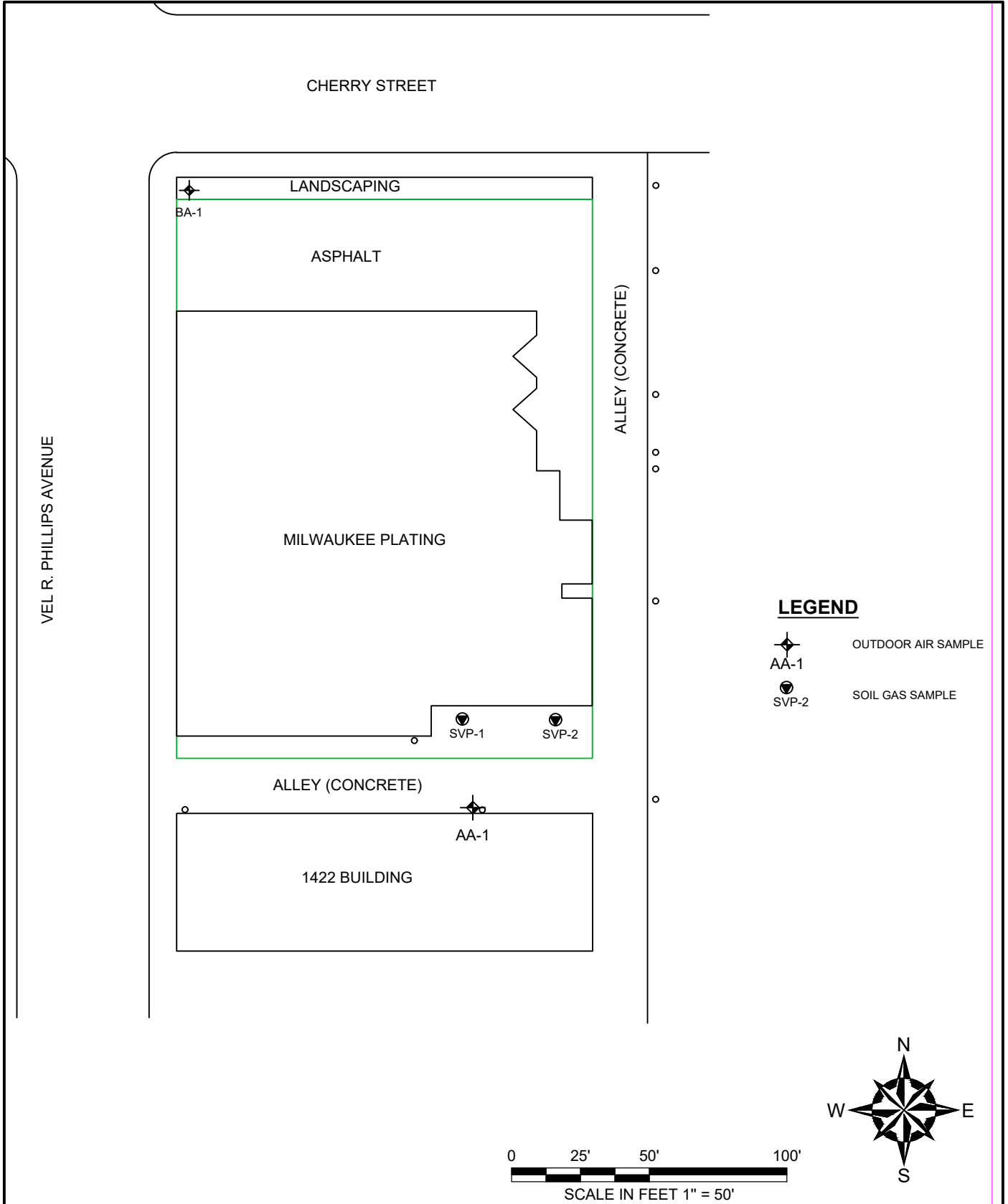


Detected in 1422 Building Indoor Air Samples and MKE Plating Soil Gas Samples



## FIGURES

© 2022 - GZA GeoEnvironmental, Inc. GZA-C:\USERS\KEVIN.HEDINGER\DESKTOP\MILWAUKEE PLATING\VAPOR SAMPLING INVESTIGATION\SITE PLAN.DWG F1 - SITE PLAN JUNE 28, 2022 KEVIN HEDINGER




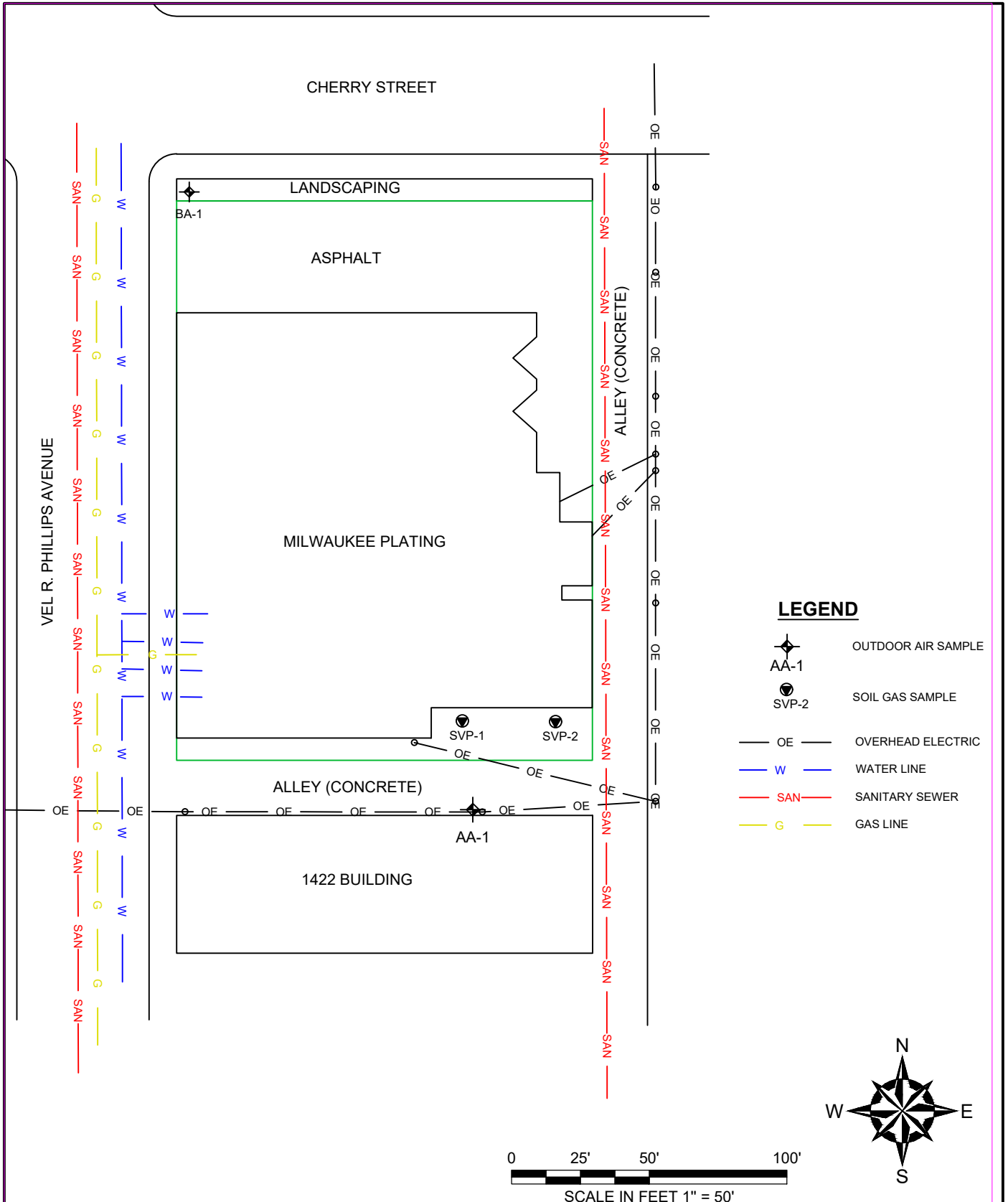
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**MILWAUKEE PLATING COMPANY**  
 1434 VEL R. PHILLIPS AVENUE  
 MILWAUKEE, WISCONSIN

**SITE PLAN**

NO.	ISSUE/DESCRIPTION	BY	DATE

PREPARED BY:  <b>GZA</b> GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	PREPARED FOR: MILWAUKEE PLATING COMPANY MILWAUKEE, WISCONSIN
PROJ MGR: KMH DESIGNED BY: KMH DATE: 06/28/2022	REVIEWED BY: JFD DRAWN BY: KMH PROJECT NO. 20.0157661.01
CHECKED BY: JFD SCALE: AS SHOWN REVISION NO.	FIGURE <b>1</b> SHEET NO.



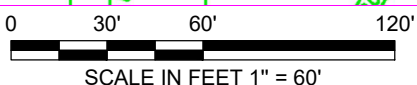
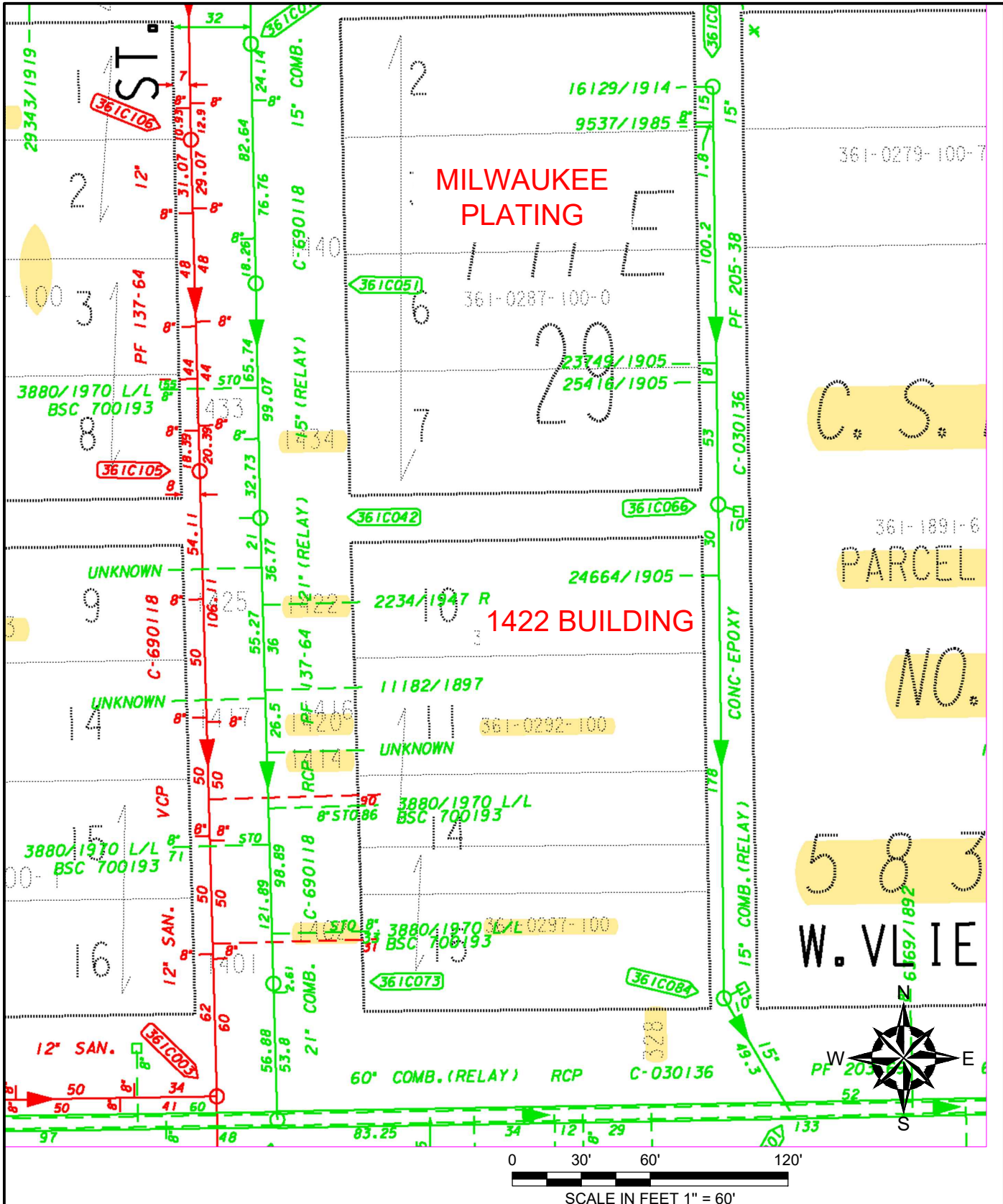
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**MILWAUKEE PLATING COMPANY**  
 1434 VEL R. PHILLIPS AVENUE  
 MILWAUKEE, WISCONSIN

**SITE UTILITY MAP**

NO.	ISSUE/DESCRIPTION	BY	DATE

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	PREPARED FOR: MILWAUKEE PLATING COMPANY MILWAUKEE, WISCONSIN
PROJ MGR: KMH DESIGNED BY: KMH DATE: 06/28/2022	REVIEWED BY: JFD DRAWN BY: KMH PROJECT NO. 20.0157661.01
CHECKED BY: JFD SCALE: AS SHOWN REVISION NO.	FIGURE <b>2</b> SHEET NO.



UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

**MILWAUKEE PLATING COMPANY**  
 1434 VEL R. PHILLIPS AVENUE  
 MILWAUKEE, WISCONSIN

**CITY OF MILWAUKEE SEWER MAP**

NO.	ISSUE/DESCRIPTION	BY	DATE

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	PREPARED FOR: MILWAUKEE PLATING COMPANY MILWAUKEE, WISCONSIN
PROJ MGR: KMH DESIGNED BY: KMH DATE: 06/28/2022	REVIEWED BY: JFD DRAWN BY: KMH PROJECT NO.: 20.0157661.01
CHECKED BY: JFD SCALE: AS SHOWN REVISION NO.	FIGURE <b>3</b> SHEET NO.



## **ATTACHMENT 1**

### **Limitations**



## LIMITATIONS

### Standard of Care

1. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made.
2. The observations, findings, conclusions, and recommendations in this report were made under the conditions observed or discovered at the site during our visit(s) and described herein. The conclusions presented in this report were based solely upon the services described in this report and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by Client. Where and when applicable, the conclusions and recommendations provided in this report are based in part upon observations made on-site and the data obtained from a limited number of indoor and/or outdoor biological, chemical, or physical samples collected from different locations during various times of day and are contingent upon their validity. The nature and extent of variations between these sample results may not become evident until further investigation has been conducted. If variations or other latent or hidden conditions then appear evident after further investigation, it may be necessary to reevaluate the recommendations of this report. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their distribution may occur due to the life cycle or decomposition of these contaminants and ambient conditions. Should additional data become available in the future, these data should be reviewed by GZA, and the conclusions and recommendations presented therein modified accordingly.
3. Where quantitative laboratory analyses have been conducted by an outside laboratory, GZA has exclusively relied upon the data provided and has not conducted an independent evaluation of the reliability of these data, including, but not limited to, the analytical methods, equipment, or analyst(s). GZA utilizes laboratories which maintain accreditation by the American Industrial Hygiene Association or other appropriate accreditation(s), certification(s), or licensure.
4. Chemical, physical, or biological analyses, or a combination thereof, may have been performed for specific parameters during the course of this study, as detailed in the report. Additional constituents for which searches were not conducted during the current study may be present at the site.

### Compliance with Codes and Regulations

5. The regulatory compliance status described in this report, where and when applicable, has been evaluated based on our interpretation of industry guidelines and regulations, and where appropriate, the interpretations provided by the applicable regulatory authority personnel at the time of this work. In some cases, these interpretations require subjective judgment and GZA cannot guarantee or warrant that all applicable regulatory authority personnel will interpret the regulations in the same manner as GZA and the agency personnel with whom we have spoken have interpreted them. Applicable regulatory authorities' interpretations, requirements and enforcement policies vary from district office to district office, from state to state and between federal and state agencies. In addition, statutes, rules, standards, regulations and interagency and intra-agency policies may be changed from time to time.

### Interpretation of Data

6. The purpose of our work was to evaluate airborne concentrations of specific contaminants for comparison to current available industry recommended and/or regulatory guidelines or exposure limits if and where applicable. No attempt was made to evaluate potential health effects among any exposed person or group of people.
7. GZA's findings and conclusions must not be considered as scientific certainties, but rather as our professional opinions concerning the significance of the limited data gathered during the course of the work and the visual observations made on-site. No warranty, express or implied, is made. Specifically, GZA does not and cannot represent that the site contains no hazardous material, oil, or other latent or hidden conditions beyond that observed by GZA during its work.



Additionally, GZA makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this work will be upheld by an applicable regulatory authority.

8. The conclusions and recommendations contained in this report are based on limited environmental sampling and were arrived at in accordance with generally accepted standards of industrial hygiene and toxicology practices. The sampling results can be considered representative of the conditions present at the site only during the sampling period and only to the extent the sampling results are considered accurate, as indicated in the report. Sampling results are not necessarily representative of conditions at the site at times other than during the sampling period, or at locations at the site other than where sampling is performed.

#### **New Information**

9. In the event that the Client or others authorized to use this report obtain information on environmental regulatory compliance issues at the site not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this work, may modify the conclusions stated in this report.

#### **Additional Services**

10. GZA recommends that we be retained to provide further investigation or abatement, if necessary, which would allow GZA to (1) observe compliance with the concepts and recommendations contained herein; (2) evaluate whether the manner of implementation creates a potential new finding; and (3) evaluate whether the manner of implementation affects or changes the conditions on which our opinions were made.





## **ATTACHMENT 2**

### **Boring Logs**



GZA  
GeoEnvironmental, Inc.  
Engineers and Scientists

Client Name: MKE Plating  
Location: 1434 Val R. Phillips Ave  
Location: Milwaukee, WI

Boring No.: SVP-1  
Page: 1 of 1  
File No.: 20.0157661.02  
Checked By: \_\_\_\_\_

Contractor: On-Site Env.  
Foreman: Tony Kopuzi  
Rig: 7822 DT  
Logged By: Alex Amundson  
Date Start/Finish: 4-13-22  
Boring Location: \_\_\_\_\_  
GS Elevation: \_\_\_\_\_ Datum: \_\_\_\_\_

Auger / Casing Sampler  
Type: Direct Push  
O.D. / I.D.: 2"  
Hammer Type: Donut / Safety / Other:  
Hammer Wt/Fall: 1  
Release System: Rope/Auto

GROUNDWATER READINGS				
Date	Time	Depth	Casing	Stab

Surveyed By: \_\_\_\_\_  
Survey Date: \_\_\_\_\_

DEPTH (feet)	No.	Type	Pen/ Rec (inch)	Blows (/6")	Field Test Data (ppm)	Pocket Pen Readings (tsf)	SAMPLE DESCRIPTION AND CLASSIFICATION
							Relative Density/Consistency, Group Name (USCS Symbol), Group Descriptors; Constituents, Constituent Descriptors; Color, Other Comments, Moisture (ex: Dense, well graded SAND (SW), fine to medium, trace Gravel, fine, brown, concrete fragments, 1" Silt layer at 12' wet)
0-0.5	1	DP	60/48		0-2	6.8	Asphalt
0.5-1					2-4	4.4	Gravel Base and fill
1-3					4-5	4.8	Brown, clay w/ coarse sand and gravel, loose, moist
3-3.5							Brown, clay w/ fine sand, soft, moist
3.5-4							Brick layer, crushed cream city brick
4-5							Black foundry sand, w/ clay and gravel, loose, moist

FOR @ 5'

GRANULAR SOILS Blows / Ft-Density	COHESIVE SOILS P.P.(tsf)-Consistency	TYPE OF SAMPLE	MINOR COMPONENTS	MOISTURE	UNIFIED SOIL CLASSIFICATION SYMBOL AND DESCRIPTION
0 - 4 Very Loose 5 - 10 Loose 11 - 30 Medium Dense 31 - 50 Dense >50 Very Dense	<0.25 - V. Soft 0.25 - 0.5 - Soft 0.5 - 1 - M. Stiff 1 - 2 Stiff 2 - 4 V. Stiff >4 Hard	SS - Split Spoon SSL - SS with Liner ST - Shelby Tube B - Bag BL - Block P - Geoprobe HYP - Hydropunch HA - Hand Auger O - Other/Expl	1 - 5% TRACE 5 - 15% LITTLE 15 - 30% SOME 30 - 50% WITH (Or Use Adjective > 25%)	DRY = No Free MOIST = Wet Hand WET = Free	CL - Lean Clay ML - Silt OL - Organic Clay/Silt-Low Plast CH - Fat Clay MH - Elastic Silt OH - Organic Clay/Silt-High Plast PT - Peat GW - Well Graded Gravel GP - Poorly Graded Gravel GM - Silty Gravel GC - Clayey Gravel SW - Well Graded Sand SP - Poorly Graded Sand SM - Silty Sand SC - Clayey Sand

NOTES:



GZA  
GeoEnvironmental, Inc.  
Engineers and Scientists

Client Name: MIKE Platins  
Location: 1434 Vel R. Phillips Ave  
Location: Milwaukee, WI

Boring No.: SVP-2  
Page: 1 of 1  
File No.: 70.057661.00  
Checked By: \_\_\_\_\_

Contractor: Onsite Env.  
Foreman: Tony Kozak  
Rig: 7822 DT  
Logged By: Alex Amundson  
Date Start/Finish: 4-13-22  
Boring Location: \_\_\_\_\_  
GS Elevation: \_\_\_\_\_ Datum: \_\_\_\_\_

Auger / Casing Sampler  
Type: Direct Push  
O.D. / I.D.: 2"  
Hammer Type: Donut / Safety / Other  
Hammer Wt./Fall: 1  
Release System: Rope/Auto

GROUNDWATER READINGS				
Date	Time	Depth	Casing	Stab

Surveyed By: \_\_\_\_\_

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

Survey Date: \_\_\_\_\_

DEPTH (feet)	No.	Type	Pen./ Rec (Inch)	Blows (6")	Field Test Data (ppm)	Pocket Pen Readings (tsf)	SAMPLE DESCRIPTION AND CLASSIFICATION
							Relative Density/Consistency, Group Name (USCS Symbol), Group Descriptors; Constituents, Constituent Descriptors; Color, Other Comments, Moisture (ex: Dense, well graded SAND (SW), fine to medium; trace Gravel, fine; brown, concrete fragments, 1" Silt layer at 12' wet)
0-0.5	1	DP	60/48		0-2	4.1	Asphalt
0.5-1					2-4	3.3	Gravel Base and fill
1-5					4-5	2.5	Brown/tan, fill (clay w/ fine to coarse sand and gravel) dry, loose

FOB @ 5'

GRANULAR SOILS Blows / Ft-Density	COHESIVE SOILS P.P.(tsf)-Consistency	TYPE OF SAMPLE	MINOR COMPONENTS	MOISTURE	UNIFIED SOIL CLASSIFICATION SYMBOL AND DESCRIPTION
0 - 4 Very Loose 5 - 10 Loose 11 - 30 Medium Dense 31 - 50 Dense >60 Very Dense	<0.25 - V. Soft 0.25 - 0.5 - Soft 0.5 - 1 - M. Stiff 1 - 2 - Stiff 2 - 4 - V. Stiff >4 - Hard	SS - Split Spoon SSL - SS with Liner ST - Shelby Tube B - Bag BL - Block P - Geoprobe HYP - Hydropunch HA - Hand Auger O - Other/Expl	1 - 5% TRACE 5 - 15% LITTLE 15 - 30% SOME 30 - 50% WITH (Or Use Adjective >25%)	DRY = No Free MOIST = Wet Hand WET = Free	CL - Lean Clay ML - Silt OL - Organic Clay/Silt-Low Plast CH - Fat Clay MH - Elastic Silt OH - Organic Clay/Silt-High Plast PT - Peat GW - Well Graded Gravel GP - Poorly Graded Gravel GM - Silty Gravel GC - Clayey Gravel SW - Well Graded Sand SP - Poorly Graded Sand SM - Silty Sand SC - Clayey Sand

NOTES:



**ATTACHMENT 3**

**Laboratory Analytical Report**

May 09, 2022

Alex Amundson  
GZA GeoEnvironmental  
17975 West Sarah Lane  
Suite 100  
Brookfield, WI 53045

RE: Project: 20.0157661.00 MKE Plating  
Pace Project No.: 10605821

Dear Alex Amundson:

Enclosed are the analytical results for sample(s) received by the laboratory on April 25, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Matt Ray  
matt.ray@pacelabs.com  
(612)607-1700  
Project Manager

Enclosures

cc: Kevin Hedinger, GZA GeoEnvironmental



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

---

### **Pace Analytical Services, LLC - Minneapolis MN**

1700 Elm Street SE, Minneapolis, MN 55414

A2LA Certification #: 2926.01\*

1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009\*

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014\*

Arkansas DW Certification #: MN00064

Arkansas WW Certification #: 88-0680

California Certification #: 2929

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137

Florida Certification #: E87605\*

Georgia Certification #: 959

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: AI-03086\*

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064\*

Maryland Certification #: 322

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137\*

Minnesota Dept of Ag Approval: via MN 027-053-137

Minnesota Petrofund Registration #: 1240\*

Mississippi Certification #: MN00064

Missouri Certification #: 10100

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081\*

New Jersey Certification #: MN002

New York Certification #: 11647\*

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification (A2LA) #: R-036

North Dakota Certification (MN) #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification (1700) #: CL101

Ohio VAP Certification (1800) #: CL110\*

Oklahoma Certification #: 9507\*

Oregon Primary Certification #: MN300001

Oregon Secondary Certification #: MN200001\*

Pennsylvania Certification #: 68-00563\*

Puerto Rico Certification #: MN00064

South Carolina Certification #: 74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192\*

Utah Certification #: MN00064\*

Vermont Certification #: VT-027053137

Virginia Certification #: 460163\*

Washington Certification #: C486\*

West Virginia DEP Certification #: 382

West Virginia DW Certification #: 9952 C

Wisconsin Certification #: 999407970

Wyoming UST Certification #: via A2LA 2926.01

USDA Permit #: P330-19-00208

\*Please Note: Applicable air certifications are denoted with an asterisk (\*).

---

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10605821001	BA-1	Air	04/21/22 15:35	04/25/22 10:45
10605821002	AA-1	Air	04/21/22 16:00	04/25/22 10:45
10605821003	SVP-1	Air	04/21/22 10:23	04/25/22 10:45
10605821004	SVP-2	Air	04/21/22 10:08	04/25/22 10:45

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: 20.0157661.00 MKE Plating  
Pace Project No.: 10605821

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10605821001	BA-1	TO-15	SW	61	PASI-M
10605821002	AA-1	TO-15	SW	61	PASI-M
10605821003	SVP-1	TO-15	MJL	61	PASI-M
10605821004	SVP-2	TO-15	MJL	61	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

**Sample: BA-1**      **Lab ID: 10605821001**      Collected: 04/21/22 15:35      Received: 04/25/22 10:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>									
Analytical Method: TO-15 Pace Analytical Services - Minneapolis									
Acetone	ND	ug/m3	9.7	2.9	1.61		05/06/22 16:13	67-64-1	
Benzene	ND	ug/m3	0.52	0.18	1.61		05/06/22 16:13	71-43-2	
Benzyl chloride	ND	ug/m3	4.2	1.4	1.61		05/06/22 16:13	100-44-7	
Bromodichloromethane	ND	ug/m3	2.2	0.38	1.61		05/06/22 16:13	75-27-4	
Bromoform	ND	ug/m3	8.5	2.6	1.61		05/06/22 16:13	75-25-2	
Bromomethane	ND	ug/m3	1.3	0.24	1.61		05/06/22 16:13	74-83-9	
1,3-Butadiene	ND	ug/m3	0.72	0.19	1.61		05/06/22 16:13	106-99-0	
2-Butanone (MEK)	ND	ug/m3	4.8	0.75	1.61		05/06/22 16:13	78-93-3	
Carbon disulfide	ND	ug/m3	1.0	0.21	1.61		05/06/22 16:13	75-15-0	
Carbon tetrachloride	ND	ug/m3	2.1	0.45	1.61		05/06/22 16:13	56-23-5	
Chlorobenzene	ND	ug/m3	1.5	0.25	1.61		05/06/22 16:13	108-90-7	
Chloroethane	ND	ug/m3	0.86	0.36	1.61		05/06/22 16:13	75-00-3	
Chloroform	ND	ug/m3	0.80	0.29	1.61		05/06/22 16:13	67-66-3	
Chloromethane	<b>0.75</b>	ug/m3	0.68	0.14	1.61		05/06/22 16:13	74-87-3	
Cyclohexane	ND	ug/m3	2.8	0.36	1.61		05/06/22 16:13	110-82-7	
Dibromochloromethane	ND	ug/m3	2.8	0.83	1.61		05/06/22 16:13	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	1.3	0.48	1.61		05/06/22 16:13	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	4.9	0.65	1.61		05/06/22 16:13	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	4.9	0.82	1.61		05/06/22 16:13	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	4.9	1.4	1.61		05/06/22 16:13	106-46-7	
Dichlorodifluoromethane	<b>2.1</b>	ug/m3	1.6	0.30	1.61		05/06/22 16:13	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.3	0.27	1.61		05/06/22 16:13	75-34-3	
1,2-Dichloroethane	ND	ug/m3	1.3	0.31	1.61		05/06/22 16:13	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	0.22	1.61		05/06/22 16:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.3	0.31	1.61		05/06/22 16:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	0.27	1.61		05/06/22 16:13	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.5	0.43	1.61		05/06/22 16:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	3.7	0.41	1.61		05/06/22 16:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	3.7	0.88	1.61		05/06/22 16:13	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.3	0.33	1.61		05/06/22 16:13	76-14-2	
Ethanol	<b>5.2</b>	ug/m3	3.1	0.95	1.61		05/06/22 16:13	64-17-5	
Ethyl acetate	ND	ug/m3	1.2	0.21	1.61		05/06/22 16:13	141-78-6	
Ethylbenzene	ND	ug/m3	1.4	0.50	1.61		05/06/22 16:13	100-41-4	
4-Ethyltoluene	ND	ug/m3	4.0	0.76	1.61		05/06/22 16:13	622-96-8	
n-Heptane	ND	ug/m3	1.3	0.29	1.61		05/06/22 16:13	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	8.7	2.0	1.61		05/06/22 16:13	87-68-3	
n-Hexane	ND	ug/m3	1.2	0.31	1.61		05/06/22 16:13	110-54-3	
2-Hexanone	ND	ug/m3	6.7	0.71	1.61		05/06/22 16:13	591-78-6	
Methylene Chloride	ND	ug/m3	5.7	0.95	1.61		05/06/22 16:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	6.7	0.52	1.61		05/06/22 16:13	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	5.9	0.20	1.61		05/06/22 16:13	1634-04-4	
Naphthalene	ND	ug/m3	4.3	3.5	1.61		05/06/22 16:13	91-20-3	
2-Propanol	<b>22.6</b>	ug/m3	4.0	0.82	1.61		05/06/22 16:13	67-63-0	
Propylene	ND	ug/m3	1.4	0.21	1.61		05/06/22 16:13	115-07-1	
Styrene	ND	ug/m3	1.4	0.62	1.61		05/06/22 16:13	100-42-5	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

**Sample: BA-1**      **Lab ID: 10605821001**      Collected: 04/21/22 15:35      Received: 04/25/22 10:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>									
Analytical Method: TO-15									
Pace Analytical Services - Minneapolis									
1,1,2,2-Tetrachloroethane	ND	ug/m3	2.3	0.60	1.61		05/06/22 16:13	79-34-5	
Tetrachloroethene	ND	ug/m3	1.1	0.47	1.61		05/06/22 16:13	127-18-4	
Tetrahydrofuran	ND	ug/m3	0.97	0.29	1.61		05/06/22 16:13	109-99-9	
Toluene	ND	ug/m3	1.2	0.39	1.61		05/06/22 16:13	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	12.1	7.9	1.61		05/06/22 16:13	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.8	0.30	1.61		05/06/22 16:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.89	0.32	1.61		05/06/22 16:13	79-00-5	
Trichloroethene	ND	ug/m3	0.88	0.32	1.61		05/06/22 16:13	79-01-6	
Trichlorofluoromethane	ND	ug/m3	1.8	0.38	1.61		05/06/22 16:13	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.5	0.47	1.61		05/06/22 16:13	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/m3	4.0	0.57	1.61		05/06/22 16:13	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.6	0.47	1.61		05/06/22 16:13	108-67-8	
Vinyl acetate	ND	ug/m3	1.2	0.33	1.61		05/06/22 16:13	108-05-4	
Vinyl chloride	ND	ug/m3	0.42	0.14	1.61		05/06/22 16:13	75-01-4	
m&p-Xylene	ND	ug/m3	2.8	1.0	1.61		05/06/22 16:13	179601-23-1	
o-Xylene	ND	ug/m3	1.4	0.44	1.61		05/06/22 16:13	95-47-6	

**Sample: AA-1**      **Lab ID: 10605821002**      Collected: 04/21/22 16:00      Received: 04/25/22 10:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>									
Analytical Method: TO-15									
Pace Analytical Services - Minneapolis									
Acetone	<b>12.4</b>	ug/m3	9.5	2.9	1.58		05/06/22 17:20	67-64-1	
Benzene	<b>0.65</b>	ug/m3	0.51	0.18	1.58		05/06/22 17:20	71-43-2	
Benzyl chloride	ND	ug/m3	4.2	1.4	1.58		05/06/22 17:20	100-44-7	
Bromodichloromethane	ND	ug/m3	2.1	0.37	1.58		05/06/22 17:20	75-27-4	
Bromoform	ND	ug/m3	8.3	2.6	1.58		05/06/22 17:20	75-25-2	
Bromomethane	ND	ug/m3	1.2	0.24	1.58		05/06/22 17:20	74-83-9	
1,3-Butadiene	ND	ug/m3	0.71	0.19	1.58		05/06/22 17:20	106-99-0	
2-Butanone (MEK)	ND	ug/m3	4.7	0.73	1.58		05/06/22 17:20	78-93-3	
Carbon disulfide	ND	ug/m3	1.0	0.20	1.58		05/06/22 17:20	75-15-0	
Carbon tetrachloride	ND	ug/m3	2.0	0.44	1.58		05/06/22 17:20	56-23-5	
Chlorobenzene	ND	ug/m3	1.5	0.24	1.58		05/06/22 17:20	108-90-7	
Chloroethane	ND	ug/m3	0.85	0.35	1.58		05/06/22 17:20	75-00-3	
Chloroform	ND	ug/m3	0.78	0.29	1.58		05/06/22 17:20	67-66-3	
Chloromethane	<b>0.80</b>	ug/m3	0.66	0.13	1.58		05/06/22 17:20	74-87-3	
Cyclohexane	ND	ug/m3	2.8	0.35	1.58		05/06/22 17:20	110-82-7	
Dibromochloromethane	ND	ug/m3	2.7	0.81	1.58		05/06/22 17:20	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	1.2	0.47	1.58		05/06/22 17:20	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	4.8	0.64	1.58		05/06/22 17:20	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	4.8	0.80	1.58		05/06/22 17:20	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	4.8	1.4	1.58		05/06/22 17:20	106-46-7	

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## ANALYTICAL RESULTS

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

**Sample: AA-1**      **Lab ID: 10605821002**      Collected: 04/21/22 16:00      Received: 04/25/22 10:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>									
Analytical Method: TO-15 Pace Analytical Services - Minneapolis									
Dichlorodifluoromethane	2.4	ug/m3	1.6	0.30	1.58		05/06/22 17:20	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.3	0.26	1.58		05/06/22 17:20	75-34-3	
1,2-Dichloroethane	ND	ug/m3	1.3	0.31	1.58		05/06/22 17:20	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	0.22	1.58		05/06/22 17:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.3	0.31	1.58		05/06/22 17:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	0.27	1.58		05/06/22 17:20	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.5	0.43	1.58		05/06/22 17:20	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	3.6	0.40	1.58		05/06/22 17:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	3.6	0.86	1.58		05/06/22 17:20	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.2	0.32	1.58		05/06/22 17:20	76-14-2	
Ethanol	6.0	ug/m3	3.0	0.94	1.58		05/06/22 17:20	64-17-5	
Ethyl acetate	ND	ug/m3	1.2	0.21	1.58		05/06/22 17:20	141-78-6	
Ethylbenzene	ND	ug/m3	1.4	0.49	1.58		05/06/22 17:20	100-41-4	
4-Ethyltoluene	ND	ug/m3	4.0	0.75	1.58		05/06/22 17:20	622-96-8	
n-Heptane	ND	ug/m3	1.3	0.29	1.58		05/06/22 17:20	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	8.6	1.9	1.58		05/06/22 17:20	87-68-3	
n-Hexane	ND	ug/m3	1.1	0.30	1.58		05/06/22 17:20	110-54-3	
2-Hexanone	ND	ug/m3	6.6	0.70	1.58		05/06/22 17:20	591-78-6	
Methylene Chloride	ND	ug/m3	5.6	0.94	1.58		05/06/22 17:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	6.6	0.51	1.58		05/06/22 17:20	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	5.8	0.20	1.58		05/06/22 17:20	1634-04-4	
Naphthalene	ND	ug/m3	4.2	3.4	1.58		05/06/22 17:20	91-20-3	
2-Propanol	12.2	ug/m3	4.0	0.80	1.58		05/06/22 17:20	67-63-0	
Propylene	ND	ug/m3	1.4	0.21	1.58		05/06/22 17:20	115-07-1	
Styrene	ND	ug/m3	1.4	0.61	1.58		05/06/22 17:20	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	2.2	0.59	1.58		05/06/22 17:20	79-34-5	
Tetrachloroethene	ND	ug/m3	1.1	0.46	1.58		05/06/22 17:20	127-18-4	
Tetrahydrofuran	ND	ug/m3	0.95	0.28	1.58		05/06/22 17:20	109-99-9	
Toluene	ND	ug/m3	1.2	0.39	1.58		05/06/22 17:20	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	11.9	7.7	1.58		05/06/22 17:20	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.8	0.29	1.58		05/06/22 17:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.88	0.31	1.58		05/06/22 17:20	79-00-5	
Trichloroethene	225	ug/m3	0.86	0.31	1.58		05/06/22 17:20	79-01-6	
Trichlorofluoromethane	ND	ug/m3	1.8	0.37	1.58		05/06/22 17:20	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.5	0.46	1.58		05/06/22 17:20	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/m3	3.9	0.56	1.58		05/06/22 17:20	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.6	0.46	1.58		05/06/22 17:20	108-67-8	
Vinyl acetate	ND	ug/m3	1.1	0.33	1.58		05/06/22 17:20	108-05-4	
Vinyl chloride	ND	ug/m3	0.41	0.14	1.58		05/06/22 17:20	75-01-4	
m&p-Xylene	ND	ug/m3	2.8	1.0	1.58		05/06/22 17:20	179601-23-1	
o-Xylene	ND	ug/m3	1.4	0.43	1.58		05/06/22 17:20	95-47-6	

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## ANALYTICAL RESULTS

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

**Sample: SVP-1**      **Lab ID: 10605821003**      Collected: 04/21/22 10:23      Received: 04/25/22 10:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>									
Analytical Method: TO-15 Pace Analytical Services - Minneapolis									
Dichlorodifluoromethane	2.5	ug/m3	1.6	0.30	1.61		05/06/22 17:33	75-71-8	
Chloromethane	ND	ug/m3	0.68	0.14	1.61		05/06/22 17:33	74-87-3	
Dichlorotetrafluoroethane	ND	ug/m3	2.3	0.33	1.61		05/06/22 17:33	76-14-2	
Vinyl chloride	ND	ug/m3	0.42	0.14	1.61		05/06/22 17:33	75-01-4	
Bromomethane	ND	ug/m3	1.3	0.24	1.61		05/06/22 17:33	74-83-9	
Chloroethane	ND	ug/m3	0.86	0.36	1.61		05/06/22 17:33	75-00-3	
Trichlorofluoromethane	ND	ug/m3	1.8	0.38	1.61		05/06/22 17:33	75-69-4	
1,1-Dichloroethene	ND	ug/m3	1.3	0.22	1.61		05/06/22 17:33	75-35-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.5	0.47	1.61		05/06/22 17:33	76-13-1	
Methylene Chloride	ND	ug/m3	5.7	0.95	1.61		05/06/22 17:33	75-09-2	
1,1-Dichloroethane	ND	ug/m3	1.3	0.27	1.61		05/06/22 17:33	75-34-3	
cis-1,2-Dichloroethene	ND	ug/m3	1.3	0.31	1.61		05/06/22 17:33	156-59-2	
Chloroform	ND	ug/m3	0.80	0.29	1.61		05/06/22 17:33	67-66-3	
1,1,1-Trichloroethane	ND	ug/m3	1.8	0.30	1.61		05/06/22 17:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.89	0.32	1.61		05/06/22 17:33	79-00-5	
1,2-Dichloroethane	ND	ug/m3	1.3	0.31	1.61		05/06/22 17:33	107-06-2	
Benzene	ND	ug/m3	1.0	0.18	1.61		05/06/22 17:33	71-43-2	
Carbon tetrachloride	ND	ug/m3	2.1	0.45	1.61		05/06/22 17:33	56-23-5	
1,2-Dichloropropane	ND	ug/m3	1.5	0.43	1.61		05/06/22 17:33	78-87-5	
Trichloroethene	157	ug/m3	0.88	0.32	1.61		05/06/22 17:33	79-01-6	
cis-1,3-Dichloropropene	ND	ug/m3	3.7	0.41	1.61		05/06/22 17:33	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	3.7	0.88	1.61		05/06/22 17:33	10061-02-6	
Toluene	1.8	ug/m3	1.2	0.39	1.61		05/06/22 17:33	108-88-3	
1,2-Dibromoethane (EDB)	ND	ug/m3	1.3	0.48	1.61		05/06/22 17:33	106-93-4	
Tetrachloroethene	20.3	ug/m3	1.1	0.47	1.61		05/06/22 17:33	127-18-4	
Chlorobenzene	ND	ug/m3	1.5	0.25	1.61		05/06/22 17:33	108-90-7	
Ethylbenzene	ND	ug/m3	1.4	0.50	1.61		05/06/22 17:33	100-41-4	
m&p-Xylene	ND	ug/m3	2.8	1.0	1.61		05/06/22 17:33	179601-23-1	
o-Xylene	ND	ug/m3	1.4	0.44	1.61		05/06/22 17:33	95-47-6	
Styrene	ND	ug/m3	1.4	0.62	1.61		05/06/22 17:33	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	2.3	0.60	1.61		05/06/22 17:33	79-34-5	
1,3,5-Trimethylbenzene	ND	ug/m3	1.6	0.47	1.61		05/06/22 17:33	108-67-8	
1,2,4-Trimethylbenzene	ND	ug/m3	1.6	0.57	1.61		05/06/22 17:33	95-63-6	
1,3-Dichlorobenzene	ND	ug/m3	4.9	0.82	1.61		05/06/22 17:33	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	4.9	1.4	1.61		05/06/22 17:33	106-46-7	
1,2-Dichlorobenzene	ND	ug/m3	4.9	0.65	1.61		05/06/22 17:33	95-50-1	
1,2,4-Trichlorobenzene	ND	ug/m3	12.1	7.9	1.61		05/06/22 17:33	120-82-1	
Hexachloro-1,3-butadiene	ND	ug/m3	8.7	2.0	1.61		05/06/22 17:33	87-68-3	
Tetrahydrofuran	ND	ug/m3	0.97	0.29	1.61		05/06/22 17:33	109-99-9	
Acetone	ND	ug/m3	9.7	2.9	1.61		05/06/22 17:33	67-64-1	
2-Butanone (MEK)	ND	ug/m3	4.8	0.75	1.61		05/06/22 17:33	78-93-3	
n-Hexane	ND	ug/m3	1.2	0.31	1.61		05/06/22 17:33	110-54-3	
Methyl-tert-butyl ether	ND	ug/m3	5.9	0.20	1.61		05/06/22 17:33	1634-04-4	
Dibromochloromethane	ND	ug/m3	2.8	0.83	1.61		05/06/22 17:33	124-48-1	
1,3-Butadiene	ND	ug/m3	0.72	0.19	1.61		05/06/22 17:33	106-99-0	

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### ANALYTICAL RESULTS

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

**Sample: SVP-1**      **Lab ID: 10605821003**      Collected: 04/21/22 10:23      Received: 04/25/22 10:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>									
Analytical Method: TO-15									
Pace Analytical Services - Minneapolis									
Carbon disulfide	9.1	ug/m3	1.0	0.21	1.61		05/06/22 17:33	75-15-0	
Vinyl acetate	ND	ug/m3	1.2	0.33	1.61		05/06/22 17:33	108-05-4	
Cyclohexane	ND	ug/m3	2.8	0.36	1.61		05/06/22 17:33	110-82-7	
Ethyl acetate	ND	ug/m3	1.2	0.21	1.61		05/06/22 17:33	141-78-6	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	6.7	0.52	1.61		05/06/22 17:33	108-10-1	
2-Hexanone	ND	ug/m3	6.7	0.71	1.61		05/06/22 17:33	591-78-6	
Bromoform	ND	ug/m3	8.5	2.6	1.61		05/06/22 17:33	75-25-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	0.27	1.61		05/06/22 17:33	156-60-5	
Bromodichloromethane	ND	ug/m3	2.2	0.38	1.61		05/06/22 17:33	75-27-4	
n-Heptane	ND	ug/m3	1.3	0.29	1.61		05/06/22 17:33	142-82-5	
Propylene	ND	ug/m3	1.4	0.21	1.61		05/06/22 17:33	115-07-1	
4-Ethyltoluene	ND	ug/m3	4.0	0.76	1.61		05/06/22 17:33	622-96-8	
Naphthalene	ND	ug/m3	4.3	3.5	1.61		05/06/22 17:33	91-20-3	
Ethanol	7.4	ug/m3	3.1	0.95	1.61		05/06/22 17:33	64-17-5	
2-Propanol	ND	ug/m3	4.0	0.82	1.61		05/06/22 17:33	67-63-0	
Benzyl chloride	ND	ug/m3	4.2	1.4	1.61		05/06/22 17:33	100-44-7	

**Sample: SVP-2**      **Lab ID: 10605821004**      Collected: 04/21/22 10:08      Received: 04/25/22 10:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>									
Analytical Method: TO-15									
Pace Analytical Services - Minneapolis									
Acetone	42.8	ug/m3	9.4	2.8	1.55		05/06/22 18:42	67-64-1	
Benzene	2.2	ug/m3	1.0	0.18	1.55		05/06/22 18:42	71-43-2	
Benzyl chloride	ND	ug/m3	4.1	1.4	1.55		05/06/22 18:42	100-44-7	
Bromodichloromethane	ND	ug/m3	2.1	0.37	1.55		05/06/22 18:42	75-27-4	
Bromoform	ND	ug/m3	8.1	2.5	1.55		05/06/22 18:42	75-25-2	
Bromomethane	ND	ug/m3	1.2	0.23	1.55		05/06/22 18:42	74-83-9	
1,3-Butadiene	ND	ug/m3	0.70	0.19	1.55		05/06/22 18:42	106-99-0	
2-Butanone (MEK)	ND	ug/m3	4.6	0.72	1.55		05/06/22 18:42	78-93-3	
Carbon disulfide	10.5	ug/m3	0.98	0.20	1.55		05/06/22 18:42	75-15-0	
Carbon tetrachloride	ND	ug/m3	2.0	0.43	1.55		05/06/22 18:42	56-23-5	
Chlorobenzene	ND	ug/m3	1.5	0.24	1.55		05/06/22 18:42	108-90-7	
Chloroethane	ND	ug/m3	0.83	0.35	1.55		05/06/22 18:42	75-00-3	
Chloroform	ND	ug/m3	0.77	0.28	1.55		05/06/22 18:42	67-66-3	
Chloromethane	ND	ug/m3	0.65	0.13	1.55		05/06/22 18:42	74-87-3	
Cyclohexane	ND	ug/m3	2.7	0.34	1.55		05/06/22 18:42	110-82-7	
Dibromochloromethane	ND	ug/m3	2.7	0.80	1.55		05/06/22 18:42	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	1.2	0.46	1.55		05/06/22 18:42	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	4.7	0.63	1.55		05/06/22 18:42	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	4.7	0.79	1.55		05/06/22 18:42	541-73-1	
1,4-Dichlorobenzene	7.2	ug/m3	4.7	1.4	1.55		05/06/22 18:42	106-46-7	

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## ANALYTICAL RESULTS

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

**Sample: SVP-2**      **Lab ID: 10605821004**      Collected: 04/21/22 10:08      Received: 04/25/22 10:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>									
Analytical Method: TO-15 Pace Analytical Services - Minneapolis									
Dichlorodifluoromethane	2.6	ug/m3	1.6	0.29	1.55		05/06/22 18:42	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.3	0.26	1.55		05/06/22 18:42	75-34-3	
1,2-Dichloroethane	ND	ug/m3	1.3	0.30	1.55		05/06/22 18:42	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	0.21	1.55		05/06/22 18:42	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	0.30	1.55		05/06/22 18:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	0.26	1.55		05/06/22 18:42	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.5	0.42	1.55		05/06/22 18:42	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	3.6	0.40	1.55		05/06/22 18:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	3.6	0.84	1.55		05/06/22 18:42	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.2	0.31	1.55		05/06/22 18:42	76-14-2	
Ethanol	4.9	ug/m3	3.0	0.92	1.55		05/06/22 18:42	64-17-5	
Ethyl acetate	ND	ug/m3	1.1	0.20	1.55		05/06/22 18:42	141-78-6	
Ethylbenzene	4.5	ug/m3	1.4	0.48	1.55		05/06/22 18:42	100-41-4	
4-Ethyltoluene	ND	ug/m3	3.9	0.73	1.55		05/06/22 18:42	622-96-8	
n-Heptane	ND	ug/m3	1.3	0.28	1.55		05/06/22 18:42	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	8.4	1.9	1.55		05/06/22 18:42	87-68-3	
n-Hexane	ND	ug/m3	1.1	0.30	1.55		05/06/22 18:42	110-54-3	
2-Hexanone	ND	ug/m3	6.4	0.69	1.55		05/06/22 18:42	591-78-6	
Methylene Chloride	ND	ug/m3	5.5	0.92	1.55		05/06/22 18:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	6.4	0.50	1.55		05/06/22 18:42	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	5.7	0.20	1.55		05/06/22 18:42	1634-04-4	
Naphthalene	ND	ug/m3	4.1	3.4	1.55		05/06/22 18:42	91-20-3	
2-Propanol	5.6	ug/m3	3.9	0.79	1.55		05/06/22 18:42	67-63-0	
Propylene	ND	ug/m3	1.4	0.20	1.55		05/06/22 18:42	115-07-1	
Styrene	2.5	ug/m3	1.3	0.60	1.55		05/06/22 18:42	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	2.2	0.58	1.55		05/06/22 18:42	79-34-5	
Tetrachloroethene	75.2	ug/m3	1.1	0.45	1.55		05/06/22 18:42	127-18-4	
Tetrahydrofuran	ND	ug/m3	0.93	0.28	1.55		05/06/22 18:42	109-99-9	
Toluene	16.5	ug/m3	1.2	0.38	1.55		05/06/22 18:42	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	11.7	7.6	1.55		05/06/22 18:42	120-82-1	
1,1,1-Trichloroethane	2.6	ug/m3	1.7	0.29	1.55		05/06/22 18:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.86	0.31	1.55		05/06/22 18:42	79-00-5	
Trichloroethene	235	ug/m3	0.85	0.30	1.55		05/06/22 18:42	79-01-6	
Trichlorofluoromethane	2.0	ug/m3	1.8	0.36	1.55		05/06/22 18:42	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.4	0.45	1.55		05/06/22 18:42	76-13-1	
1,2,4-Trimethylbenzene	10	ug/m3	1.5	0.55	1.55		05/06/22 18:42	95-63-6	
1,3,5-Trimethylbenzene	3.3	ug/m3	1.5	0.45	1.55		05/06/22 18:42	108-67-8	
Vinyl acetate	ND	ug/m3	1.1	0.32	1.55		05/06/22 18:42	108-05-4	
Vinyl chloride	ND	ug/m3	0.40	0.13	1.55		05/06/22 18:42	75-01-4	
m&p-Xylene	15.1	ug/m3	2.7	1.0	1.55		05/06/22 18:42	179601-23-1	
o-Xylene	6.0	ug/m3	1.4	0.42	1.55		05/06/22 18:42	95-47-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

QC Batch: 813636

Analysis Method: TO-15

QC Batch Method: TO-15

Analysis Description: TO15 MSV AIR Low Level

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10605821001, 10605821002

METHOD BLANK: 4313765

Matrix: Air

Associated Lab Samples: 10605821001, 10605821002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	05/06/22 12:09	
1,1,2,2-Tetrachloroethane	ug/m3	ND	1.4	05/06/22 12:09	
1,1,2-Trichloroethane	ug/m3	ND	0.56	05/06/22 12:09	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	1.6	05/06/22 12:09	
1,1-Dichloroethane	ug/m3	ND	0.82	05/06/22 12:09	
1,1-Dichloroethene	ug/m3	ND	0.81	05/06/22 12:09	
1,2,4-Trichlorobenzene	ug/m3	ND	7.5	05/06/22 12:09	
1,2,4-Trimethylbenzene	ug/m3	ND	2.5	05/06/22 12:09	MN
1,2-Dibromoethane (EDB)	ug/m3	ND	0.78	05/06/22 12:09	
1,2-Dichlorobenzene	ug/m3	ND	3.1	05/06/22 12:09	
1,2-Dichloroethane	ug/m3	ND	0.82	05/06/22 12:09	
1,2-Dichloropropane	ug/m3	ND	0.94	05/06/22 12:09	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	05/06/22 12:09	
1,3-Butadiene	ug/m3	ND	0.45	05/06/22 12:09	
1,3-Dichlorobenzene	ug/m3	ND	3.1	05/06/22 12:09	
1,4-Dichlorobenzene	ug/m3	ND	3.1	05/06/22 12:09	
2-Butanone (MEK)	ug/m3	ND	3.0	05/06/22 12:09	
2-Hexanone	ug/m3	ND	4.2	05/06/22 12:09	
2-Propanol	ug/m3	ND	2.5	05/06/22 12:09	
4-Ethyltoluene	ug/m3	ND	2.5	05/06/22 12:09	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	4.2	05/06/22 12:09	
Acetone	ug/m3	ND	6.0	05/06/22 12:09	
Benzene	ug/m3	ND	0.32	05/06/22 12:09	
Benzyl chloride	ug/m3	ND	2.6	05/06/22 12:09	
Bromodichloromethane	ug/m3	ND	1.4	05/06/22 12:09	
Bromoform	ug/m3	ND	5.2	05/06/22 12:09	
Bromomethane	ug/m3	ND	0.79	05/06/22 12:09	
Carbon disulfide	ug/m3	ND	0.63	05/06/22 12:09	
Carbon tetrachloride	ug/m3	ND	1.3	05/06/22 12:09	
Chlorobenzene	ug/m3	ND	0.94	05/06/22 12:09	
Chloroethane	ug/m3	ND	0.54	05/06/22 12:09	
Chloroform	ug/m3	ND	0.50	05/06/22 12:09	
Chloromethane	ug/m3	ND	0.42	05/06/22 12:09	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	05/06/22 12:09	
cis-1,3-Dichloropropene	ug/m3	ND	2.3	05/06/22 12:09	
Cyclohexane	ug/m3	ND	1.8	05/06/22 12:09	
Dibromochloromethane	ug/m3	ND	1.7	05/06/22 12:09	
Dichlorodifluoromethane	ug/m3	ND	1.0	05/06/22 12:09	
Dichlorotetrafluoroethane	ug/m3	ND	1.4	05/06/22 12:09	
Ethanol	ug/m3	ND	1.9	05/06/22 12:09	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 20.0157661.00 MKE Plating  
Pace Project No.: 10605821

METHOD BLANK: 4313765 Matrix: Air  
Associated Lab Samples: 10605821001, 10605821002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	ND	0.73	05/06/22 12:09	
Ethylbenzene	ug/m3	ND	0.88	05/06/22 12:09	
Hexachloro-1,3-butadiene	ug/m3	ND	5.4	05/06/22 12:09	
m&p-Xylene	ug/m3	ND	1.8	05/06/22 12:09	
Methyl-tert-butyl ether	ug/m3	ND	3.7	05/06/22 12:09	
Methylene Chloride	ug/m3	ND	3.5	05/06/22 12:09	
n-Heptane	ug/m3	ND	0.83	05/06/22 12:09	
n-Hexane	ug/m3	ND	0.72	05/06/22 12:09	
Naphthalene	ug/m3	ND	2.7	05/06/22 12:09	
o-Xylene	ug/m3	ND	0.88	05/06/22 12:09	
Propylene	ug/m3	ND	0.88	05/06/22 12:09	
Styrene	ug/m3	ND	0.87	05/06/22 12:09	
Tetrachloroethene	ug/m3	ND	0.69	05/06/22 12:09	
Tetrahydrofuran	ug/m3	ND	0.60	05/06/22 12:09	
Toluene	ug/m3	ND	0.77	05/06/22 12:09	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	05/06/22 12:09	
trans-1,3-Dichloropropene	ug/m3	ND	2.3	05/06/22 12:09	
Trichloroethene	ug/m3	ND	0.55	05/06/22 12:09	
Trichlorofluoromethane	ug/m3	ND	1.1	05/06/22 12:09	
Vinyl acetate	ug/m3	ND	0.72	05/06/22 12:09	
Vinyl chloride	ug/m3	ND	0.26	05/06/22 12:09	

LABORATORY CONTROL SAMPLE: 4313766

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	59.3	55.4	93	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	75.4	76.6	102	70-132	
1,1,2-Trichloroethane	ug/m3	59.6	60.7	102	70-131	
1,1,2-Trichlorotrifluoroethane	ug/m3	83.6	82.6	99	70-130	
1,1-Dichloroethane	ug/m3	43.9	44.1	100	70-130	
1,1-Dichloroethene	ug/m3	43.5	42.2	97	70-130	
1,2,4-Trichlorobenzene	ug/m3	177	147	83	70-130	
1,2,4-Trimethylbenzene	ug/m3	54	51.1	95	70-137	
1,2-Dibromoethane (EDB)	ug/m3	82.5	85.8	104	70-137	
1,2-Dichlorobenzene	ug/m3	66.2	57.6	87	70-131	
1,2-Dichloroethane	ug/m3	44.4	41.8	94	70-134	
1,2-Dichloropropane	ug/m3	50.6	53.6	106	70-130	
1,3,5-Trimethylbenzene	ug/m3	53.7	60.1	112	70-131	
1,3-Butadiene	ug/m3	24.2	25.1	104	70-139	
1,3-Dichlorobenzene	ug/m3	66.3	59.7	90	70-134	
1,4-Dichlorobenzene	ug/m3	66.3	58.6	88	70-131	
2-Butanone (MEK)	ug/m3	32.3	38.5	119	70-133	
2-Hexanone	ug/m3	44.8	49.5	111	70-136	
2-Propanol	ug/m3	149	134	90	65-133	

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### QUALITY CONTROL DATA

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

LABORATORY CONTROL SAMPLE: 4313766

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	53.7	64.2	120	70-130	
4-Methyl-2-pentanone (MIBK)	ug/m3	44.9	51.3	114	70-130	
Acetone	ug/m3	128	106	83	60-134	
Benzene	ug/m3	34.8	36.4	105	70-130	
Benzyl chloride	ug/m3	57.6	49.9	87	70-130	
Bromodichloromethane	ug/m3	73.1	66.6	91	70-130	
Bromoform	ug/m3	114	106	93	70-138	
Bromomethane	ug/m3	42.5	40.8	96	68-131	
Carbon disulfide	ug/m3	34.4	33.4	97	70-130	
Carbon tetrachloride	ug/m3	69.4	57.5	83	70-132	
Chlorobenzene	ug/m3	50.2	51.3	102	70-130	
Chloroethane	ug/m3	28.8	28.3	98	70-134	
Chloroform	ug/m3	52.4	49.4	94	70-130	
Chloromethane	ug/m3	22.6	20.9	93	68-131	
cis-1,2-Dichloroethene	ug/m3	43.4	44.4	102	70-136	
cis-1,3-Dichloropropene	ug/m3	49.4	54.9	111	70-130	
Cyclohexane	ug/m3	37.4	44.6	119	70-131	
Dibromochloromethane	ug/m3	93.2	83.9	90	70-134	
Dichlorodifluoromethane	ug/m3	54.6	50.4	92	70-130	
Dichlorotetrafluoroethane	ug/m3	71.2	66.0	93	70-130	
Ethanol	ug/m3	124	123	99	55-145	
Ethyl acetate	ug/m3	38.9	43.9	113	70-135	
Ethylbenzene	ug/m3	47.8	53.8	112	70-133	
Hexachloro-1,3-butadiene	ug/m3	133	108	81	70-132	
m&p-Xylene	ug/m3	95.4	112	117	70-134	
Methyl-tert-butyl ether	ug/m3	39.6	43.1	109	70-131	
Methylene Chloride	ug/m3	190	159	84	65-132	
n-Heptane	ug/m3	44.6	49.9	112	70-130	
n-Hexane	ug/m3	38	39.9	105	70-132	
Naphthalene	ug/m3	65.2	54.9	84	70-130	
o-Xylene	ug/m3	47.6	53.9	113	70-134	
Propylene	ug/m3	18.9	19.9	106	69-133	
Styrene	ug/m3	47	49.3	105	70-135	
Tetrachloroethene	ug/m3	73.4	70.6	96	70-134	
Tetrahydrofuran	ug/m3	32.1	36.6	114	70-140	
Toluene	ug/m3	41.6	47.7	115	70-136	
trans-1,2-Dichloroethene	ug/m3	43.6	44.9	103	70-134	
trans-1,3-Dichloropropene	ug/m3	50.5	57.7	114	70-131	
Trichloroethene	ug/m3	58.4	61.2	105	70-134	
Trichlorofluoromethane	ug/m3	62	52.4	84	63-130	
Vinyl acetate	ug/m3	46.4	51.4	111	70-139	
Vinyl chloride	ug/m3	28	28.9	103	70-132	

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**QUALITY CONTROL DATA**

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

SAMPLE DUPLICATE: 4315631

Parameter	Units	10605821001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1,2,2-Tetrachloroethane	ug/m3	ND	ND		25	
1,1,2-Trichloroethane	ug/m3	ND	ND		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	.7J		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trichlorobenzene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	1.9J		25	
1,2-Dibromoethane (EDB)	ug/m3	ND	ND		25	
1,2-Dichlorobenzene	ug/m3	ND	ND		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
1,2-Dichloropropane	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
1,3-Butadiene	ug/m3	ND	ND		25	
1,3-Dichlorobenzene	ug/m3	ND	ND		25	
1,4-Dichlorobenzene	ug/m3	ND	ND		25	
2-Butanone (MEK)	ug/m3	ND	ND		25	
2-Hexanone	ug/m3	ND	ND		25	
2-Propanol	ug/m3	22.6	17.8	24	25	
4-Ethyltoluene	ug/m3	ND	ND		25	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	ND		25	
Acetone	ug/m3	ND	6J		25	
Benzene	ug/m3	ND	.3J		25	
Benzyl chloride	ug/m3	ND	ND		25	
Bromodichloromethane	ug/m3	ND	ND		25	
Bromoform	ug/m3	ND	ND		25	
Bromomethane	ug/m3	ND	ND		25	
Carbon disulfide	ug/m3	ND	ND		25	
Carbon tetrachloride	ug/m3	ND	ND		25	
Chlorobenzene	ug/m3	ND	ND		25	
Chloroethane	ug/m3	ND	ND		25	
Chloroform	ug/m3	ND	ND		25	
Chloromethane	ug/m3	0.75	0.86	13	25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
cis-1,3-Dichloropropene	ug/m3	ND	ND		25	
Cyclohexane	ug/m3	ND	ND		25	
Dibromochloromethane	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.1	2.4	16	25	
Dichlorotetrafluoroethane	ug/m3	ND	ND		25	
Ethanol	ug/m3	5.2	4.9	6	25	
Ethyl acetate	ug/m3	ND	ND		25	
Ethylbenzene	ug/m3	ND	ND		25	
Hexachloro-1,3-butadiene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	ND		25	
Methyl-tert-butyl ether	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	ND	ND		25	
n-Heptane	ug/m3	ND	ND		25	

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### QUALITY CONTROL DATA

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

SAMPLE DUPLICATE: 4315631

Parameter	Units	10605821001 Result	Dup Result	RPD	Max RPD	Qualifiers
n-Hexane	ug/m3	ND	.33J		25	
Naphthalene	ug/m3	ND	4.6		25	
o-Xylene	ug/m3	ND	ND		25	
Propylene	ug/m3	ND	ND		25	
Styrene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	ND	ND		25	
Tetrahydrofuran	ug/m3	ND	ND		25	
Toluene	ug/m3	ND	.49J		25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
trans-1,3-Dichloropropene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Trichlorofluoromethane	ug/m3	ND	1.3J		25	
Vinyl acetate	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

SAMPLE DUPLICATE: 4315632

Parameter	Units	10605821002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1,2,2-Tetrachloroethane	ug/m3	ND	ND		25	
1,1,2-Trichloroethane	ug/m3	ND	ND		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	.6J		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trichlorobenzene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	1.5J		25	
1,2-Dibromoethane (EDB)	ug/m3	ND	ND		25	
1,2-Dichlorobenzene	ug/m3	ND	ND		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
1,2-Dichloropropane	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
1,3-Butadiene	ug/m3	ND	ND		25	
1,3-Dichlorobenzene	ug/m3	ND	ND		25	
1,4-Dichlorobenzene	ug/m3	ND	ND		25	
2-Butanone (MEK)	ug/m3	ND	2.7J		25	
2-Hexanone	ug/m3	ND	ND		25	
2-Propanol	ug/m3	12.2	11.5	6	25	
4-Ethyltoluene	ug/m3	ND	ND		25	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	ND		25	
Acetone	ug/m3	12.4	12.0	4	25	
Benzene	ug/m3	0.65	0.58	11	25	
Benzyl chloride	ug/m3	ND	ND		25	
Bromodichloromethane	ug/m3	ND	ND		25	
Bromoform	ug/m3	ND	ND		25	
Bromomethane	ug/m3	ND	ND		25	

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### QUALITY CONTROL DATA

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

SAMPLE DUPLICATE: 4315632

Parameter	Units	10605821002 Result	Dup Result	RPD	Max RPD	Qualifiers
Carbon disulfide	ug/m3	ND	ND		25	
Carbon tetrachloride	ug/m3	ND	.46J		25	
Chlorobenzene	ug/m3	ND	ND		25	
Chloroethane	ug/m3	ND	ND		25	
Chloroform	ug/m3	ND	ND		25	
Chloromethane	ug/m3	0.80	0.84	4	25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
cis-1,3-Dichloropropene	ug/m3	ND	ND		25	
Cyclohexane	ug/m3	ND	ND		25	
Dibromochloromethane	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.4	2.5	2	25	
Dichlorotetrafluoroethane	ug/m3	ND	ND		25	
Ethanol	ug/m3	6.0	6.0	1	25	
Ethyl acetate	ug/m3	ND	ND		25	
Ethylbenzene	ug/m3	ND	ND		25	
Hexachloro-1,3-butadiene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	ND		25	
Methyl-tert-butyl ether	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	ND	ND		25	
n-Heptane	ug/m3	ND	ND		25	
n-Hexane	ug/m3	ND	.44J		25	
Naphthalene	ug/m3	ND	3.9J		25	
o-Xylene	ug/m3	ND	ND		25	
Propylene	ug/m3	ND	ND		25	
Styrene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	ND	ND		25	
Tetrahydrofuran	ug/m3	ND	ND		25	
Toluene	ug/m3	ND	.86J		25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
trans-1,3-Dichloropropene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	225	225	0	25	
Trichlorofluoromethane	ug/m3	ND	1.3J		25	
Vinyl acetate	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

QC Batch: 813690

Analysis Method: TO-15

QC Batch Method: TO-15

Analysis Description: TO15 MSV AIR Low Level

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10605821003, 10605821004

METHOD BLANK: 4314132

Matrix: Air

Associated Lab Samples: 10605821003, 10605821004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	05/06/22 11:38	
1,1,2,2-Tetrachloroethane	ug/m3	ND	1.4	05/06/22 11:38	
1,1,2-Trichloroethane	ug/m3	ND	0.56	05/06/22 11:38	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	1.6	05/06/22 11:38	
1,1-Dichloroethane	ug/m3	ND	0.82	05/06/22 11:38	
1,1-Dichloroethene	ug/m3	ND	0.81	05/06/22 11:38	
1,2,4-Trichlorobenzene	ug/m3	ND	7.5	05/06/22 11:38	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	05/06/22 11:38	
1,2-Dibromoethane (EDB)	ug/m3	ND	0.78	05/06/22 11:38	
1,2-Dichlorobenzene	ug/m3	ND	3.1	05/06/22 11:38	
1,2-Dichloroethane	ug/m3	ND	0.82	05/06/22 11:38	
1,2-Dichloropropane	ug/m3	ND	0.94	05/06/22 11:38	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	05/06/22 11:38	
1,3-Butadiene	ug/m3	ND	0.45	05/06/22 11:38	
1,3-Dichlorobenzene	ug/m3	ND	3.1	05/06/22 11:38	
1,4-Dichlorobenzene	ug/m3	ND	3.1	05/06/22 11:38	
2-Butanone (MEK)	ug/m3	ND	3.0	05/06/22 11:38	
2-Hexanone	ug/m3	ND	4.2	05/06/22 11:38	
2-Propanol	ug/m3	ND	2.5	05/06/22 11:38	
4-Ethyltoluene	ug/m3	ND	2.5	05/06/22 11:38	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	4.2	05/06/22 11:38	
Acetone	ug/m3	ND	6.0	05/06/22 11:38	
Benzene	ug/m3	ND	0.65	05/06/22 11:38	MN
Benzyl chloride	ug/m3	ND	2.6	05/06/22 11:38	
Bromodichloromethane	ug/m3	ND	1.4	05/06/22 11:38	
Bromoform	ug/m3	ND	5.2	05/06/22 11:38	
Bromomethane	ug/m3	ND	0.79	05/06/22 11:38	
Carbon disulfide	ug/m3	ND	0.63	05/06/22 11:38	
Carbon tetrachloride	ug/m3	ND	1.3	05/06/22 11:38	
Chlorobenzene	ug/m3	ND	0.94	05/06/22 11:38	
Chloroethane	ug/m3	ND	0.54	05/06/22 11:38	
Chloroform	ug/m3	ND	0.50	05/06/22 11:38	
Chloromethane	ug/m3	ND	0.42	05/06/22 11:38	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	05/06/22 11:38	
cis-1,3-Dichloropropene	ug/m3	ND	2.3	05/06/22 11:38	
Cyclohexane	ug/m3	ND	1.8	05/06/22 11:38	
Dibromochloromethane	ug/m3	ND	1.7	05/06/22 11:38	
Dichlorodifluoromethane	ug/m3	ND	1.0	05/06/22 11:38	
Dichlorotetrafluoroethane	ug/m3	ND	1.4	05/06/22 11:38	
Ethanol	ug/m3	ND	1.9	05/06/22 11:38	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 20.0157661.00 MKE Plating  
Pace Project No.: 10605821

METHOD BLANK: 4314132 Matrix: Air  
Associated Lab Samples: 10605821003, 10605821004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	ND	0.73	05/06/22 11:38	
Ethylbenzene	ug/m3	ND	0.88	05/06/22 11:38	
Hexachloro-1,3-butadiene	ug/m3	ND	5.4	05/06/22 11:38	
m&p-Xylene	ug/m3	ND	1.8	05/06/22 11:38	
Methyl-tert-butyl ether	ug/m3	ND	3.7	05/06/22 11:38	
Methylene Chloride	ug/m3	ND	3.5	05/06/22 11:38	
n-Heptane	ug/m3	ND	0.83	05/06/22 11:38	
n-Hexane	ug/m3	ND	0.72	05/06/22 11:38	
Naphthalene	ug/m3	ND	2.7	05/06/22 11:38	
o-Xylene	ug/m3	ND	0.88	05/06/22 11:38	
Propylene	ug/m3	ND	0.88	05/06/22 11:38	
Styrene	ug/m3	ND	0.87	05/06/22 11:38	
Tetrachloroethene	ug/m3	ND	0.69	05/06/22 11:38	
Tetrahydrofuran	ug/m3	ND	0.60	05/06/22 11:38	
Toluene	ug/m3	ND	0.77	05/06/22 11:38	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	05/06/22 11:38	
trans-1,3-Dichloropropene	ug/m3	ND	2.3	05/06/22 11:38	
Trichloroethene	ug/m3	ND	0.55	05/06/22 11:38	
Trichlorofluoromethane	ug/m3	ND	1.1	05/06/22 11:38	
Vinyl acetate	ug/m3	ND	0.72	05/06/22 11:38	
Vinyl chloride	ug/m3	ND	0.26	05/06/22 11:38	

LABORATORY CONTROL SAMPLE: 4314133

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	59.3	65.3	110	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	75.4	79.7	106	70-132	
1,1,2-Trichloroethane	ug/m3	59.6	69.5	117	70-131	
1,1,2-Trichlorotrifluoroethane	ug/m3	83.6	87.7	105	70-130	
1,1-Dichloroethane	ug/m3	43.9	43.9	100	70-130	
1,1-Dichloroethene	ug/m3	43.5	48.7	112	70-130	
1,2,4-Trichlorobenzene	ug/m3	177	189	107	70-130	
1,2,4-Trimethylbenzene	ug/m3	54	58.5	108	70-137	
1,2-Dibromoethane (EDB)	ug/m3	82.5	96.1	117	70-137	
1,2-Dichlorobenzene	ug/m3	66.2	68.1	103	70-131	
1,2-Dichloroethane	ug/m3	44.4	49.7	112	70-134	
1,2-Dichloropropane	ug/m3	50.6	51.8	102	70-130	
1,3,5-Trimethylbenzene	ug/m3	53.7	59.1	110	70-131	
1,3-Butadiene	ug/m3	24.2	28.3	117	70-139	
1,3-Dichlorobenzene	ug/m3	66.3	68.4	103	70-134	
1,4-Dichlorobenzene	ug/m3	66.3	69.5	105	70-131	
2-Butanone (MEK)	ug/m3	32.3	32.3	100	70-133	
2-Hexanone	ug/m3	44.8	41.7	93	70-136	
2-Propanol	ug/m3	149	152	102	65-133	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

LABORATORY CONTROL SAMPLE: 4314133

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	53.7	60.4	113	70-130	
4-Methyl-2-pentanone (MIBK)	ug/m3	44.9	47.1	105	70-130	
Acetone	ug/m3	128	130	102	60-134	
Benzene	ug/m3	34.8	33.5	96	70-130	
Benzyl chloride	ug/m3	57.6	58.4	101	70-130	
Bromodichloromethane	ug/m3	73.1	81.7	112	70-130	
Bromoform	ug/m3	114	118	104	70-138	
Bromomethane	ug/m3	42.5	49.6	117	68-131	
Carbon disulfide	ug/m3	34.4	39.1	114	70-130	
Carbon tetrachloride	ug/m3	69.4	77.5	112	70-132	
Chlorobenzene	ug/m3	50.2	56.6	113	70-130	
Chloroethane	ug/m3	28.8	31.3	108	70-134	
Chloroform	ug/m3	52.4	55.3	105	70-130	
Chloromethane	ug/m3	22.6	21.6	96	68-131	
cis-1,2-Dichloroethene	ug/m3	43.4	48.0	110	70-136	
cis-1,3-Dichloropropene	ug/m3	49.4	57.5	116	70-130	
Cyclohexane	ug/m3	37.4	33.7	90	70-131	
Dibromochloromethane	ug/m3	93.2	110	118	70-134	
Dichlorodifluoromethane	ug/m3	54.6	58.4	107	70-130	
Dichlorotetrafluoroethane	ug/m3	71.2	84.4	118	70-130	
Ethanol	ug/m3	124	129	104	55-145	
Ethyl acetate	ug/m3	38.9	38.5	99	70-135	
Ethylbenzene	ug/m3	47.8	46.4	97	70-133	
Hexachloro-1,3-butadiene	ug/m3	133	146	110	70-132	
m&p-Xylene	ug/m3	95.4	93.9	98	70-134	
Methyl-tert-butyl ether	ug/m3	39.6	42.2	107	70-131	
Methylene Chloride	ug/m3	190	189	99	65-132	
n-Heptane	ug/m3	44.6	39.9	89	70-130	
n-Hexane	ug/m3	38	31.0	81	70-132	
Naphthalene	ug/m3	65.2	65.4	100	70-130	
o-Xylene	ug/m3	47.6	44.2	93	70-134	
Propylene	ug/m3	18.9	14.9	79	69-133	
Styrene	ug/m3	47	45.8	98	70-135	
Tetrachloroethene	ug/m3	73.4	83.0	113	70-134	
Tetrahydrofuran	ug/m3	32.1	28.9	90	70-140	
Toluene	ug/m3	41.6	37.0	89	70-136	
trans-1,2-Dichloroethene	ug/m3	43.6	49.1	113	70-134	
trans-1,3-Dichloropropene	ug/m3	50.5	50.7	100	70-131	
Trichloroethene	ug/m3	58.4	59.5	102	70-134	
Trichlorofluoromethane	ug/m3	62	78.7	127	63-130	
Vinyl acetate	ug/m3	46.4	48.1	104	70-139	
Vinyl chloride	ug/m3	28	29.1	104	70-132	

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### QUALITY CONTROL DATA

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

SAMPLE DUPLICATE: 4315165

Parameter	Units	10605821003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1,2,2-Tetrachloroethane	ug/m3	ND	ND		25	
1,1,2-Trichloroethane	ug/m3	ND	ND		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	.61J		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trichlorobenzene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	1.2J		25	
1,2-Dibromoethane (EDB)	ug/m3	ND	ND		25	
1,2-Dichlorobenzene	ug/m3	ND	ND		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
1,2-Dichloropropane	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
1,3-Butadiene	ug/m3	ND	ND		25	
1,3-Dichlorobenzene	ug/m3	ND	ND		25	
1,4-Dichlorobenzene	ug/m3	ND	ND		25	
2-Butanone (MEK)	ug/m3	ND	1.4J		25	
2-Hexanone	ug/m3	ND	ND		25	
2-Propanol	ug/m3	ND	2.5J		25	
4-Ethyltoluene	ug/m3	ND	ND		25	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	ND		25	
Acetone	ug/m3	ND	ND		25	
Benzene	ug/m3	ND	.54J		25	
Benzyl chloride	ug/m3	ND	ND		25	
Bromodichloromethane	ug/m3	ND	ND		25	
Bromoform	ug/m3	ND	ND		25	
Bromomethane	ug/m3	ND	ND		25	
Carbon disulfide	ug/m3	9.1	9.7	7	25	
Carbon tetrachloride	ug/m3	ND	.68J		25	
Chlorobenzene	ug/m3	ND	ND		25	
Chloroethane	ug/m3	ND	ND		25	
Chloroform	ug/m3	ND	.79J		25	
Chloromethane	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
cis-1,3-Dichloropropene	ug/m3	ND	ND		25	
Cyclohexane	ug/m3	ND	ND		25	
Dibromochloromethane	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.5	2.4	2	25	
Dichlorotetrafluoroethane	ug/m3	ND	ND		25	
Ethanol	ug/m3	7.4	5.0	38	25	R1
Ethyl acetate	ug/m3	ND	ND		25	
Ethylbenzene	ug/m3	ND	ND		25	
Hexachloro-1,3-butadiene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	ND		25	
Methyl-tert-butyl ether	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	ND	ND		25	
n-Heptane	ug/m3	ND	ND		25	

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### QUALITY CONTROL DATA

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

SAMPLE DUPLICATE: 4315165

Parameter	Units	10605821003 Result	Dup Result	RPD	Max RPD	Qualifiers
n-Hexane	ug/m3	ND	ND		25	
Naphthalene	ug/m3	ND	ND		25	
o-Xylene	ug/m3	ND	1.2J		25	
Propylene	ug/m3	ND	ND		25	
Styrene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	20.3	19.3	5	25	
Tetrahydrofuran	ug/m3	ND	ND		25	
Toluene	ug/m3	1.8	1.8	2	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
trans-1,3-Dichloropropene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	157	158	0	25	
Trichlorofluoromethane	ug/m3	ND	ND		25	
Vinyl acetate	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

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## QUALIFIERS

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

R1 RPD value was outside control limits.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20.0157661.00 MKE Plating

Pace Project No.: 10605821

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10605821001	BA-1	TO-15	813636		
10605821002	AA-1	TO-15	813636		
10605821003	SVP-1	TO-15	813690		
10605821004	SVP-2	TO-15	813690		

### REPORT OF LABORATORY ANALYSIS

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WO#: 10605821

**AIR: CHAIN-OF-CUSTODY / AIR**

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fie



**Section A** Required Client Information:  
 Company: GZA Geo Environmental  
 Address: 1775 W. Smith Lane 100  
 Brookfield, WI 53045  
 Email To: alexander.amundson@gza.com  
 Phone: 262-589-0984 Fax:  
 Requested Due Date/TAT:

**Section B** Required Project Information:  
 Report To: Alex Amundson  
 Copy To: Kevin.Hedinger@gza.com  
 Address:  
 Purchase Order No.:  
 Project Name: MKE Planting  
 Project Number: 20.0157661.00

**Section C** Invoice Information:  
 Attention: AP@ gza.com  
 Company Name:  
 Address:  
 Pace Quote Reference:  
 Pace Project Manager/Sales Rep:  
 Pace Profile #:

54566 Page: 1 of 1

Program  
 UST  Superfund  Emissions  Clean Air Act  
 Voluntary Clean Up  Dry Clean  RCRA  Other

Reporting Units  
 mg/m<sup>3</sup>    
 ppbv    
 ppmv    
 Other

Location of Sampling by State WI

Report Level II. III. IV. Other

Method:  
 PM10  
 3C - Fixed Gas (%)  
 TO-3 BTEX  
 TO-3M (Methane)  
 TO-14  
 TO-15 Full List VOCs  
 TO-15 Short List BTEX  
 TO-15 Short List Chlorinated  
 TO-15 Short List (Other)  
 Pace Lab ID

ITEM #	AIR SAMPLE ID Sample IDs MUST BE UNIQUE	Valid Media Codes MEDIA TB Tedlar Bag 1 Liter Summa Can 6 Liter Summa Can LVP High Volume Puff HVP PM10 Other	COLLECTED		Canister Pressure (Initial Field - In Hg)	Canister Pressure (Final Field - In Hg)	Summa Can Number	Flow Control Number	ACCEPTED BY / AFFILIATION	DATE	TIME	RELINQUISHED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS				
			DATE	TIME								DATE	TIME			Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact	
1	BA-1		4/21/22	0830	-30	-3	3280	1276	Ted E	4/21/22	1615	NA	NA	NA	NA	Y/N	Y/N	Y/N	Y/N	
2	AA-1		4/21/22	0848	-30	-4	2349	1252	Paul Mena	4/25/22	1045					Y/N	Y/N	Y/N	Y/N	
3	SUP-1		4/21/22	0947	-30	-4	1862	840												
4	SUP-2		4/21/22	0930	-30	-4	3502	1146												

Comments:

ORIGINAL

SAMPLER NAME AND SIGNATURE  
 PRINT Name of SAMPLER: Alex Amundson  
 SIGNATURE of SAMPLER: [Signature]  
 DATE Signed (MM/DD/YYYY) 4/21/22

**WO# : 10605821**  
**PM: MR2** Due Date: 05/02/22  
**CLIENT: GZA GEOENV**

**Air Sample Condition Upon Receipt** Client Name: GZA Project #: \_\_\_\_\_

Courier:  FedEx  UPS  USPS  Client  
 Pace  Speedee  Commercial

Tracking Number: 9753 8450 8053  See Exception

Custody Seal on Cooler/Box Present?  Yes  No

Seals Intact?  Yes  No

Packing Material:  Bubble Wrap  Bubble Bags  Foam  
 None  Tin Can  Other: \_\_\_\_\_

Date & Initials of Person Examining Contents: RC 4/26/22

				Comments:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		8.
Correct Containers Used? (Tedlar bags not acceptable container for TO-15 or APH)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		9. <u>2 cans</u>
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Containers Intact? (visual inspection/no leaks when pressurized)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		10.
Media: <u>Air Can</u>   Airbag				11. Individually Certified Cans? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> (list which samples)
Is sufficient information available to reconcile samples to the COC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		12. <u>BAF can# 15 3650 110 + 3280</u>
Do cans need to be pressurized? (DO NOT PRESSURIZE 3C or ASTM 1946!!!)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		13. <u>AA-1 end time on tag 16:00</u>

Gauge #: <input type="checkbox"/> 10AIR26 <input type="checkbox"/> 10AIR34 <input type="checkbox"/> 10AIR35 <input checked="" type="checkbox"/> 10AIR17 <input type="checkbox"/> 10AIR47 <input type="checkbox"/> 10AIR48									
<u>DR 4/26/22</u> Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
<u>BA</u>	<u>3280</u>	<u>1276</u>	<u>-5</u>	<u>+5</u>					
<u>AA</u>	<u>2349</u>	<u>1252</u>	<u>-4.5</u>	<u>↓</u>					
<u>SVP-1</u>	<u>186</u>	<u>2840</u>	<u>-5</u>						
<u>SVP-2</u>	<u>3502</u>	<u>1146</u>	<u>-4</u>	<u>+5</u>					

**CLIENT NOTIFICATION/RESOLUTION** Field Data Required?  Yes  No

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/Resolution: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Project Manager Review: Matt Ray Date: 04/27/22

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).



**ATTACHMENT 4**

**DHS Sample Results Table**

Table of results for Wisconsin Department of Health Services vapor sampling  
 AT-525 passive monitor data collected in April 2022 at 1422 N. Vel R. Phillips Avenue, Milwaukee.

Field #	Description	Benzene Result μg/m <sup>3</sup> Val = 16	TCE Result μg/m <sup>3</sup> Val = 8.8
PQ02561 OB5	Outside - Back 7 day	0.98	0.75
PQ05654 OB14	Outside - Back 14 day	0.83	2.0
PQ02817 OS5	Outside - Alley 7 day	0.95	<b>41</b>
PQ02574 OS14	Outside - Alley 14 day	0.95	<b>67</b>
PQ05017 100 A5	Basement by slot vents - 7 day	0.80	<b>29</b>
PQ02679 100 A14	Basement by slot vents - 14 day	0.60	<b>27</b>
PQ02593 100 B5	Basement further back - 7 day	0.80	<b>17</b>
PQ04904 100 B14	Basement further back - 14 day	0.64	<b>17</b>
PQ04784 101 A5	1st floor near entrance - 7 day	0.78	<b>16</b>
PQ05592 101 A14	1st floor near entrance - 14 day	0.59	<b>15</b>
PQ05606 101 B5	1st floor near keyboard - 7 day	0.77	<b>17</b>
PQ04917 101 B14	1st floor near keyboard - 14 day	0.57	<b>16</b>
PQ05775 102 A5	2nd floor near stairs - 7 day	0.81	<b>16</b>
PQ04469 102 A14	2nd floor near stairs - 14 day	0.64	<b>15</b>
PQ02578 102 B5	2nd floor further back - 7 day	0.82	<b>15</b>
PQ02507 102 B14	2nd floor further back - 14 day	0.61	<b>15</b>

Assume to be in the alley east of the building

Assume alley north of building

Assume slot vents are near utility pole in 1422

Assume "Further Back" is away from vents

Assume entrance at front of building

This location has no context in 1422 building

Not sure of stair location

Assume "Further Back" is away from north wall or center of building

Note: results listed in bold are above the WI DNR Vapor Action Level (VAL).

Vapor samples were analyzed at the Wisconsin Occupational Health Laboratory, Madison, Wisconsin. Laboratory data sheets available upon request.