Known for excellence.
Built on trust.

REMEDIAL DESIGN REPORT
Clare Central
1003 and 1033 West Atkinson Avenue
Milwaukee, Wisconsin
BRRTS #02-41-549867 / FID #341148720

September 8, 2021
File No. 20.0156038.00

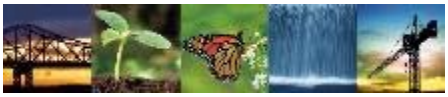
PREPARED FOR:
Telos, Inc.
c/o Axley Brynelson, LLP

and

Wisconsin Department of Natural Resources
Milwaukee, Wisconsin

GZA GeoEnvironmental, Inc.
17975 West Sarah Lane, Suite 100 | Brookfield, WI 53045
262-754-2560

30 Offices Nationwide
www.gza.com



Known for excellence.
Built on trust.

GEOTECHNICAL
ENVIRONMENTAL
ECOLOGICAL
WATER
CONSTRUCTION MANAGEMENT

17975 West Sarah Lane
Suite 100
Brookfield, WI 53045
T: 262.754.2560
F: 262.923.7758
www.gza.com

September 8, 2021
File No. 20.0156038.00

Mr. Adam McIlheran, Advanced Hydrogeologist
Wisconsin Department of Natural Resources
1027 West St. Paul Avenue
Milwaukee, Wisconsin 53233

Subject: Remedial Design Report
Clare Central
1003 and 1033 West Atkinson Avenue
Milwaukee, Wisconsin
BRRTS #02-41-549867 / FID #341148720

Dear Mr. McIlheran:

As a follow-up to our August 13,2021 teleconference with you and Mr. Michael Ellenbecker of the Wisconsin Department of Natural Resources (WDNR) and your telephone conversation with Mr. Donald Gallo, Esq. of Axley Brynelson, LLP, GZA GeoEnvironmental, Inc. (GZA) is pleased to submit this Remedial Design Report on behalf of Telos, Inc. ("Client") for the properties located at 1003 and 1033 West Atkinson Avenue in Milwaukee, Wisconsin (collectively, the "Site"). GZA's Site Investigation Report[1] was submitted to the WDNR on March 29, 2021 and the Remedial Action Options Report[2] was submitted to the WDNR on May 19, 2021. The purpose of this submittal is to provide the details the remedial action activities proposed to address subsurface TCE-affected soil, groundwater, and vapors at the Site.

If you have any questions or comments, or require additional information, please feel free to contact the undersigned at (262) 754-2560.

Very truly yours,

GZA GeoEnvironmental, Inc.

Kevin M. Hedinger
Senior Hydrogeologist

John M. Siwula, P.E., D. GE
Associate Principal

James F. Drought, P.H.
Principal Hydrogeologist

J:\156000to156999\156038 Clare Central Apts\Report\T2 Remedial Design Report 2021\
FINAL 20.0156038.00T2 Remedial Design Rpt_Clare Central 9-8-21.docx

cc: Mr. Donald P. Gallo, Esq., Axley Brynelson, LLP

[1] *Site Investigation Report, Clare Central, 1003 and 1033 West Atkinson Avenue, Milwaukee, Wisconsin, BRRTS #02-41-549867/FID #341148720*, dated March 29, 2021, GZA File No. 20.0156038.01.
[2] *Remedial Action Options Report, Clare Central, 1003 and 1033 West Atkinson Avenue, Milwaukee, Wisconsin, BRRTS #02-41-549867/FID #341148720*, dated May 19, 2021, GZA File No. 20.0156038.02.

FIGURES

APPENDICES

1.0 INTRODUCTION

On behalf of Telos, Inc. ("Client") and Axley Brynelson, LLP, GZA GeoEnvironmental, Inc. (GZA) is providing this Remedial Design Report for the properties located at 1003 and 1033 West Atkinson Avenue in the City of Milwaukee, Wisconsin (collectively, the "Site"). As discussed during our call on August 13, 2021, the proposed remedial activities will include excavating accessible chlorinated hydrocarbon-affected soils within the direct contact interval of 0 to 4 feet below ground surface (bgs) and to a depth of 0 to 8 feet bgs (as noted in Figure 8) for mass removal and the installation of a venting system outside of the existing buildings. The purpose of the soil excavation is to remove potential direct contact exposure soils and to provide a pathway for the elimination of trichloroethene (TCE) in vapors to the atmosphere prior to entering the building. In accordance with the 2002 Wisconsin Department of Natural Resources (WDNR) 'Contained-Out' policy, there are limited TCE-affected soils that exceed the industrial Residual Contaminant Level (RCL) of 8.8 milligrams per kilogram (mg/kg) and will require treatment in a container or tank following excavation and prior to off-Site transportation for disposal at a WDNR-licensed Subtitle D Landfill. This report presents documentation for a hazardous waste determination, provides details about the soil treatment, and documents the criteria that are required to be met for disposal at a Subtitle D landfill. It also provides a proposed schedule and performance monitoring that will be performed to support regulatory closure. This Remedial Design Report is subject to the limitations provided in Appendix A.

2.0 BACKGROUND INFORMATION

The Site is located at 1003 and 1003 West Atkinson Avenue in the City of Milwaukee, Wisconsin in a mixed commercial and residential area on the north side of Milwaukee. The irregularly-shaped, approximately 0.75-acre Site is improved with two multi-family apartment buildings, one on the east half of the Site along North 10th Street and one on the west half of the Site along North 11th Street. A parking lot is located between the buildings with a City of Milwaukee alley along the west and south sides of the property. Access to the Site is from the west and south sides through the alley. The surface water at the Site generally flows from the Site to the curbing along West Atkinson Avenue, North 10th Street, and North 11th Street. One catch basin is located in the alley on the west side along North 11th Street that collects water from the alley and discharges it to the storm sewer in North 11th Street. Figure 1 presents the Site location.

The Site is bordered to the north by West Atkinson Avenue, beyond which are a park and residential properties; to the west by North 11th Street, beyond which are residential and commercial properties; to the south by an alley and residential units; and to the east by North 10th Street, beyond which are residential properties. The Site is currently developed with two slab-on-grade, two-story, eight-unit apartment buildings with paved parking for the buildings located between them. Sheds, utilized for the storage of equipment and tools, are also attached to each building. The apartment buildings are situated in an east-west orientation along West Atkinson Avenue and are approximately 6,136 and 4,640 square feet in area, respectively. The areas surrounding the buildings that are not part of the asphalt parking area are covered by grass, landscaping, and/or concrete sidewalks. Figure 2 presents the Site Plan, which shows the Site layout and features.

A Phase I Environmental Site Assessment (ESA) was conducted by SCI Engineering, Inc. (SCI) in April 2006, in accordance with American Society for Testing and Materials (ASTM) E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, which identified several recognized environmental conditions (RECs) at the Site, including the following:

- A former gasoline filling station was located west of the Site across North 11th Street and a former dry cleaner facility was identified on the property adjacent to the northwest across West Atkinson Avenue. These properties are not

identified in the WDNR Bureau for Remediation and Redevelopment Tracking System (BRRTS) database, indicating that a release notification has not been submitted for these properties.

- The Site was historically operated as an automatic control manufacturing facility, a wire and iron works factory, and an automotive service facility.
- A leaking underground storage tank (LUST) facility (Smith Property, BRRTS #03-41-506431) is located northwest of the Site across West Atkinson Avenue. A release was reported in 2003, for gasoline petroleum hydrocarbons detected in soil, groundwater, and the right-of-way. The tanks were removed in 2003, and soil samples indicated gasoline range organic (GRO) levels exceeding the WDNR regulatory levels, but no groundwater samples were collected. The most recent correspondence available on BRRTS indicates that a Closure Request was submitted and denied for the property, with the WDNR requesting additional groundwater sampling.

Based on the identified RECs, Site investigation activities were conducted at the Site between 2006 and 2020, which identified chlorinated volatile organic compounds (cVOCs), primarily TCE, in the soil and groundwater at concentrations exceeding the respective soil RCLs and groundwater NR 140 Enforcement Standards (ESs). The highest soil and groundwater concentrations are located near the center of the Site beneath the City of Milwaukee-owned alley, the facility's parking lot, and grass area and extend up to and around the apartment buildings.

2.1 SUBSURFACE CONDITIONS

Subsurface conditions at the Site consist of silty clay or clayey silt with layers of sand, silt, and variable amounts of gravel to a depth of 8 feet bgs. The underlying native soils consist of silty clay to the maximum depth investigated of 35 feet bgs. The Site is underlain by Silurian age Niagara Dolomite. Based on water well logs for the area, bedrock is expected at a depth of 100 feet bgs.

Depth to groundwater at the Site ranges from 0.7 feet bgs in MW-1 to 9.7 feet bgs in MW-3. Groundwater appears to have a higher elevation along West Atkinson Avenue and south of the Site with an area of lower groundwater elevation extending from the historic source area near monitoring well MW-4 to the west. The elevations cause groundwater flow on the northwest corner of the Site to flow northwest and the area near the historic source area to flow west and beneath the residential buildings along North 11th Street. Using the average hydraulic gradient of 0.032 feet per foot (ft/ft) from the historic source area (MW-4) to MW-3, a hydraulic conductivity of 10.39 feet per year (ft/yr) or 1 x 10^{-5} centimeters per second (cm/sec), and a total porosity of 0.35, the calculated average linear groundwater velocity is approximately 0.95 ft/yr. Additional details of the Site conditions can be obtained from GZA's June 2021, *Supplemental Information for Site Investigation Report*.[3]

3.0 NATURE AND EXTENT OF CONTAMINATION

3.1 SOIL

The extent of the TCE-affected soil was delineated within the Site boundaries, but the groundwater appears to extend off-Site southwest of the affected soils. Currently, there is no on-Site ongoing source of chlorinated hydrocarbons. GZA collected two toxicity characteristic leaching procedure (TCLP) samples on July 22, 2021, from the 0- to 2-foot range, and two samples from the 2- to 4-foot range adjacent to GZA-GP-7. The analytical results for the TCLP analyses did not exceed

[3] *Supplemental Information for Site Investigation Report, Clare Central, 1003 and 1033 West Atkinson Avenue, Milwaukee, Wisconsin, BRRTS #02-41-549867/FID #341148720*, dated June 11, 2021, GZA File No. 20.0156038.01.

the TCLP regulatory standards and, therefore, the soils in the 0- to 4-foot direct contact interval, which represents the interval for the proposed excavation activities, are not recognized as a characteristic hazardous waste. Table 1 presents the TCE TCLP results, and Appendix B provides the soil analytical report prepared by Pace Analytical® (Pace) of Green Bay, Wisconsin.

The mass of TCE historically released to and currently present within the soil within the upper 8 feet, which is the area of the accessible soils for remedial efforts, is calculated from soil concentrations to be approximately 112 pounds. The soil mass to a depth of approximately 8 feet is in the area between and adjacent to the foundation of the buildings and is causing vapor intrusion into the buildings. A breakdown of the mass indicates that the interval from surface to a depth of 4 feet bgs contains approximately 7.84 pounds of TCE and the interval from 4 to 8 feet bgs contains approximately 104.13 pounds of TCE. The confirmation of the mass of TCE, a requirement of NR 716 and 726 of the Wisconsin Administrative Code (Wis. Adm. Code), represents a potential for future partitioning of TCE from the sorbed to the vapor and dissolved phases. Based on the historical groundwater sample results, however, there is limited partitioning from the soil to groundwater and most of the partitioning is occurring to the vapor phase. Figures 3, 4, and 5 present the TCE soil results for the soil intervals of 0 to 4 feet bgs, 4 to 8 feet bgs, and 8 to 12 feet bgs, respectively.

3.2 GROUNDWATER

The dissolved groundwater TCE plume is located near monitoring well MW-4, which is located near the historic source area, and has migrated a very limited distance. Figure 6 presents the TCE groundwater distribution for samples collected on August 26, 2019. The TCE concentration in MW-10, located approximately 60 feet southwest of MW-4, indicates that the TCE concentration exceeds the NR 140 Preventive Action Limit (PAL), or 0.5 micrograms per liter (µg/L), but does not exceed the NR 140 ES of 5 µg/L. Vinyl chloride also exceeds the ES of 0.2 µg/L in monitoring well MW-2 north of the historic source area. Figure 7 presents the groundwater contour map for August 26, 2019. The TCE plume does not extend to the perimeter wells located west, southwest, southeast, or north. Groundwater flow is variable across the Site, with the northwest corner of the Site flowing northwest and the area near the historic source area flowing west and beneath the residential buildings along North 11th Street.

3.3 VAPOR

TCE vapors partitioning from soil and/or groundwater were identified in the soils beneath the two apartment buildings. Vapor samples collected from sub-slab vapor points within each of the apartment buildings have identified concentrations of TCE in exceedance of the vapor risk screening levels (VRSLs) for residential properties. A sub-slab vapor mitigation system is installed in each apartment building to prevent the partitioning and preferential migration of vapors from the soil into the overlying buildings. The most recent ambient air samples, collected in August 2019, indicate TCE vapor concentrations and its daughter products at concentrations less than the indoor air vapor action levels (VALs). However, concentrations of naphthalene, ethylbenzene, 1,2-dichloroethene (DCE), 1,4-dichlorobenzene, and chloroform were reported in ambient air samples collected from inside of the buildings in August 2019, at concentrations exceeding the VALs. These compounds were not analyzed in previously ambient air samples.

Naphthalene was not reported in the soil or groundwater samples collected from the Site above laboratory detection limits, with the exception of a groundwater sample collected by Terracon from temporary well TC-GP-2. The naphthalene result in this groundwater sample is likely attributed to sediment entrained within the sample. The naphthalene detected in the porch sample (BA-1) from Building 1033 is attributable to the parking lot and alley, which are located directly beneath and south of the porch. Due to the high building occupancy and traffic patterns in the area, automobile exhaust that occurred during the 24-hour sample was likely detected in the air samples. Regarding the indoor air samples with reported naphthalene, the samples collected from Building 1033 had the highest concentrations, which are likely due to

open windows or window unit air conditioners that face the parking area and alley and are also the result of vehicle emissions.

A grab sample was collected on July 22, 2021, from the combined storm sewer within the North 11th Street right-of-way west of Building 1033. The sampling activities were completed in accordance with the WDNR's *Department of Defense Environmental Security Technology Certification Program (ESTCP) Sewers and Utility Tunnels as Preferential Pathways for Volatile Organic Compound Migration into Buildings: Risk Factors and Investigation Protocol*. The analytical results from the vapor sample confirmed that neither TCE nor its daughter products were entering the storm sewer and the utility is not a pathway for vapors to migrate off-Site. The results of the analytical testing performed on the sample collected from the combined sewer is presented in Table 2 and the laboratory report, which was prepared by Pace of Minneapolis, Minnesota, is provided in Appendix B.

4.0 PROPOSED REMEDIAL ACTION DESIGN

Based on the results of the Site investigation, GZA proposes remedial actions consisting of accessible soil excavation, treatment of soils with concentrations exceeding the industrial direct-contact RCL, and off-Site transportation and disposal to address the localized areas of soil contamination between Buildings 1003 and 1033 to remove mass and aid in the effectiveness of the sub-slab depressurization systems beneath each of the buildings. The highest chlorinated hydrocarbon soil concentrations are located in between the buildings, beneath Building 1003, and under the asphalt parking lot and alley. It is recognized that the soils beneath the building are not accessible for removal and, therefore, the proposed remedial plan is to remove soils between the buildings to a depth of 4 feet bgs in the western excavation area and to a depth of 8 feet bgs in the parking lot and in the alley in the eastern excavation area and install a venting system to provide a pathway for venting the vapors from the remaining soils to the atmosphere prior to entering the buildings via sub-slab pathway.

4.1 REMEDIATION CHALLENGES

Currently, Site use is as apartments for occupants with physical disabilities who have access requirements for the buildings that need to be considered in the proposed plan. Some of the challenges associated with performing remedial activities at the Site are discussed below. For the occupants of the buildings, unrestricted access is necessary, and relocation of the residents would be very disruptive. In addition, the options for relocation are dependent on the residents' needs.

It is possible to provide the residents with alternative access during construction, but it would need to be for as short of a duration as possible. The parking lot area is proposed for excavation and, therefore, access will be arranged from West Atkinson Avenue, North 10th Street, or North 11th Street. The remedial action needs to be completed in an expeditious manner without delays to limit the disruption at the Site. The remedial soil excavation will also include soil treatment in accordance with WDNR's 'Contained-Out' policy to reduce the soil concentrations to allow for disposal in a licensed Subtitle D landfill. The depth and limits of the soil excavation were balanced to minimize the volume of soil that required treatment while satisfying the objective of the remediation.

The Site is relatively small with limited area for storage, stockpiling, and staging of equipment. This creates a close working area and, if expanded, may cause delays in completing the remedial activities. Also, the Site is in a residential area, which raises additional safety concerns associated with open excavations and the general public's interest to be close to the excavation. It is in the best interest of all parties that the soil excavation be backfilled in an expeditious manner. The proposed remedial plan presented below is intended to address and balance these factors with the regulatory requirements and the location of the affected soils in relationship to Buildings 1003 and 1033.

It should be noted that soil excavation to a depth of 8 feet bgs was evaluated and it was determined that excavating to this depth between the buildings would remove significantly more TCE mass than excavating to a shallower depth of 4 feet bgs, but would not remove all of the TCE-affected soils at greater depths in this area. An excavation to 8 feet bgs in the west half of the excavation and adjacent to Building 1003 would remove more of the chlorinated hydrocarbon soil mass, with some of the highest soil concentrations detected during the Site investigation. However, some of the risks associated with excavating to 8 feet bgs include excavating beneath the depth and influence zone of the foundation of the apartment building and, as such, water would pool in the backfill materials, which would allow water to potentially be in contact with the foundation. Further, the excavation to 8 feet bgs would require additional time to complete with limited space available for stockpiling soils until the treatment container could be constructed. Excavating below the depth of the foundation of the building will require creating a 5-foot horizontal bench at a depth of approximately 4 feet bgs that extends away from the building foundation and then sloping the sidewall from the edge of the bench from 4 to 8 feet bgs. This excavation will leave TCE-affected soils adjacent to and beneath the building and a greater depth beneath the 8-foot excavation area. As such, GZA is proposing an area of excavation to 8 feet bgs that extends from Building 1003 to the west beyond MW-4. In the other areas, the excavation will be to 4 feet bgs.

The soil removal will not be excavated closer than 5 feet laterally away from the outside edge and at the level of the foundation for Building 1003. The excavation's slope at this starting point will then extend deeper as needed, as discussed above, but the removal will be completed at a 1 (horizontal) to 1 (vertical) slope away from the edge of the 5-foot horizontal bench to avoid comprising the support for the existing foundation. The slope may need to be flatter depending on Site conditions encountered and will be evaluated during excavation activities as conditions are exposed. If very loose soil is encountered, the lateral extent of the removal may need to be changed to prevent structure undermining/damage.

Considering Site cleanup objectives, GZA evaluated cost-effective options that could be implemented at the Site to eliminate and/or minimize the direct contact and soil to groundwater pathways of impacted soil and groundwater in the source area coupled with monitored natural attenuation (MNA) to meet the remedial and closure requirements pursuant to Wis. Adm. Code Chapters NR 724 and NR 726. The remedial action will take place in two areas; the western catch basin located south of the 1033 West Atkinson Avenue building, and the alleyway and asphalt parking lot located between Buildings 1033 and 1003. During the excavation process, a GZA geologist will be on-Site to oversee soil removal activities, field screen the soils, collect soil samples from the sidewalls and excavation bottoms, and document Site activities.

4.2 HAZARDOUS WASTE DETERMINATION

The soil identified for remediation at the Site contains concentrations of chlorinated hydrocarbons that, if excavated, could require treatment to satisfy the Land Disposal Restriction (LDR) and Universal Treatment Standards (UTS). The LDR Program is intended to ensure proper treatment of hazardous waste prior to disposal and the UTS establish concentrations to which the waste must be treated prior to land disposal. According to the January 2014 WDNR publication RR-705, *Guidance for Hazardous Waste Remediation*, soils meeting the following criteria can be managed as a non-hazardous waste:

- Soil as a Listed Hazardous Waste - If soils containing chemical concentrations of a listed hazardous waste below Site-specific RCLs, then a 'contained-out' determination can be made and the soils can be managed in accordance with the provisions of Chapter NR 718, Wis. Adm. Code. If the affected soils do not contain a listed hazardous waste, this provision does not apply.
- Soil as a Characteristic Hazardous Waste - If the soil exhibits any characteristics of a hazardous waste (toxicity, ignitability, corrosivity, or reactivity), then the soil must be treated as a hazardous waste until the hazardous characteristic is removed.

- LDR - The soil concentrations must be below the LDR standards, or a hazardous waste variance must be obtained from the WDNR.

Wis. Adm. Code Chapter NR 661 provides a list of waste streams that are, by definition, recognized as a hazardous waste. It also contains a list of commercial chemical products and manufacturing intermediates that are considered as listed wastes, if discarded. The source of TCE that has affected the soils at the Site could not be identified from review of available documentation about the historic operations. The affected soils identified in the area between Buildings 1003 and 1033 may be associated with the wire manufacturing operations that historically were performed at the Site. These activities occurred in the 1950s, and there is no available documentation regarding chlorinated hydrocarbon use. The actual source of the soil contamination is unknown. The soils, therefore, are not considered to be affected by a listed hazardous waste.

In accordance with WDNR publication RR-705, "Contaminated media that exhibits a hazardous characteristic upon generation also requires management as a hazardous waste." Soil samples were collected by GZA and other consultants during Site investigation activities to determine the horizontal and vertical extent of TCE-affected soils. The hazardous characteristic for toxicity is determined by submitting soil samples for TCLP analyses. Two representative soil samples collected from the area of highest TCE concentrations were analyzed for TCLP volatile organic compounds (VOCs). The results of the TCLP VOC analyses did not indicate concentrations that exceed the maximum concentration of contaminants for the toxicity characteristic specified in NR 661.0024, Wis. Adm. Code. The results indicated total TCE soil concentrations ranging from less than the laboratory detection limit of 0.025 mg/kg to 26.3 mg/kg and TCLP concentrations ranging from less than 3.2 milligrams per liter (mg/L) to 0.11 mg/L in the 2- to 4-foot sample interval of HA-2. The TCLP regulatory level for TCE is 0.5 mg/L. Based on the TCLP soil sample laboratory analysis, the soils at the Site do not exhibit the toxicity characteristic and are not considered to be a characteristic hazardous waste.

According to the aforementioned WDNR Guidance document, the United States Environmental Protection Agency (USEPA) promulgated the Phase IV LDR rule in 1998, which established treatment standards for contaminated soils where the proposed remedy is land disposal. Soils must be treated to a 90% reduction in contaminant levels or to concentrations that are below 10 times the UTS. According to Chapter 668.48, Wis. Adm. Code, the UTS for TCE is 6 mg/kg and 10 times the UTS is equal to 60 mg/kg. The maximum concentration of TCE detected in soil samples at the Site is approximately 350 mg/kg. A 90% treatment reduction would result in a concentration of 35 mg/kg and, therefore, the applicable treatment standard for the soils at the Site is 10 times the UTS or 60 mg/kg. The TCE concentration in a small portion of the soils exhibit TCE concentrations that exceed the UTS; the remaining soils at the Site with concentrations less than 60 mg/kg do not exceed this concentration. Practically, since the treatment requires that soils have a concentration less than the industrial direct contact standard of 8.8 mg/kg, the soils transported off-Site will satisfy the requirement to have a concentration less than 60 mg/kg.

4.3 CATCH BASIN AREA EXCAVATION

The results of the Site investigation identified an area of soil contamination at depth beneath the storm sewer catch basin located on the western portion of the Site, as shown on Figure 8. The affected soils were encountered at a depth of approximately 10 to 12 feet bgs and appear to be in a very limited area, as delineated by other soil samples surrounding this area. These soils could represent a source of vapor intrusion for Building 1033 and the adjacent residential property and, therefore, this area is proposed to be excavated. This area will be excavated to a depth of approximately 12 feet bgs, in an area that is up to approximately 15 feet wide by 15 feet long. The depth of the sewer line is unknown and excavation to depth beneath the sewer line may limit the depth of the excavation. This excavation is limited in extent to the south by the adjacent residence. Based on the distance to the residential dwelling, the sidewall will need to be sloped, as

recommended above, which limits the amount of soil that can be excavated. Building 1033 is located north of the catch basin. A total of approximately 100 cubic yards of impacted soil are estimated to be removed by this excavation.

The soil excavated from the 0- to 8-foot depth does not contain concentrations that require treatment and will be directly loaded and transported off-Site to a WDNR-licensed Subtitle D landfill. The soil volume in the interval from 0 to 8 feet bgs is estimated to be approximately 75 cubic yards.

The 8- to 12-foot depth interval contains concentrations that exceed the UTS of 60 mg/kg and the 'contained out' industrial direct contact standard of 8.8 mg/kg, therefore, these soils will require treatment prior to disposal in a Subtitle D landfill. The volume of soil estimated to be excavated from the 8- to 12-foot depth interval is approximately 25 cubic yards. Figure 9 shows the cross-sectional view of the excavation area.

Following the excavation of the 8- to 12-foot depth interval, the soil will be stockpiled on-Site and covered until it can be placed in a container or tank that is proposed to be constructed on-Site to perform soil treatment. At a minimum, the soils will be placed on plastic sheeting in the proposed excavation area east of the catch basin, covered with plastic sheeting to prevent erosion, and surrounded by straw rolls/bales to prevent runoff. In addition, stormwater that flows along the alley to the catch basin will be diverted around the excavation to keep stormwater from filling the excavation and/or flowing into the storm sewer pipe and discharging to the storm sewer system.

Upon completion of the excavation activities, the excavation will be backfilled from the base of the excavation to a depth of 4 feet bgs with open-graded aggregate material that does not require detailed compaction or compaction testing. The open-graded aggregate is recommended to be compacted in 1½-foot-thick lifts using a vibratory plate. For an excavation greater than 4 feet deep, the United States Department of Labor, Occupational Safety and Health Administration (OSHA) requires the sidewalls to be sloped or shored and equipment be used for ingress and egress from the excavation. The catch basin will be replaced by a pre-cast concrete structure constructed to meet Milwaukee County Department of Public Works specifications and the drainpipes will be extended into the catch basin. The backfill surrounding the catch basin will be replaced with Wisconsin Department of Transportation (WisDOT) road gravel to a depth of approximately 6 inches below grade in 1-foot lifts that are compacted to 95% of the standard proctor value (ASTM D698, *Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort*).

During excavation activities, the alley will be barricaded to restrict traffic from entering the alley from the west and south and the excavation will be secured by surrounding it with fencing. In addition, signage will be placed around the excavation to inform the general public to stay out of the area.

4.4 ALLEY AND PARKING LOT AREA EXCAVATION

The Site investigation identified an area between Buildings 1003 and 1033 that contains concentrations that exceed the TCE direct contact standards. These soils are in contact with the foundation of the buildings and vapor sampling has indicated that vapor intrusion was occurring in the buildings. To address the immediate threat of vapor intrusion, sub-slab depressurization systems (SSDSs) were installed in each building to mitigate the vapors prior to entering the buildings. The soil excavation between the buildings will remove soils and provide a pathway for emitting the vapors from these soils to the atmosphere prior to entering the building.

As previously indicated, the excavation in the alley and parking area is proposed to be at a maximum depth of 8 feet bgs. The proposed extent of the excavation is shown on Figure 8. The excavation in this area will occur in two phases based on the concentration of TCE in the soils as measured during the Site investigation sampling and analysis and as described below.

The first phase will consist of excavating TCE-affected soils with concentrations exceeding the Non-Industrial Contact Pathway RCL in the 0- to 4-foot depth interval that do not require treatment and soils with concentrations in the 0- to 4-foot depth interval that require treatment because the concentration exceeds 8.8 mg/kg, which is the industrial direct contact standard required for land disposal. The extent of the soils proposed for both direct loading and off-Site transportation, and excavation and on-Site treatment, are shown on Figure 8. The soils not requiring treatment, as confirmed from existing analytical results, will be transported directly to a WDNR-licensed Subtitle D landfill for disposal and the soils requiring treatment will be stockpiled for placement in an on-Site treatment cell. Figure 10 shows the cross-section view of the excavation. The volume of soils excavated in this phase is approximately 720 cubic yards for direct loading and 60 cubic yards for on-Site treatment. The TCE soils that will be direct loaded have concentrations that range from 0.462 mg/kg to 6 mg/kg, with an average concentration of approximately 3.04 mg/kg from 10 soil samples previously analyzed. Proper sloping, benching, and common excavation practices, as recommended earlier, will need to take place to ensure the footings of Buildings 1033 and 1003 will not be undermined or compromised.

Following the excavation of the soils in the 0- to 4-foot depth interval, the second phase will include excavation of the soils in the 4- to 8-foot depth interval that require treatment prior to disposal. In the 4- to 8-foot excavation, a 5-foot horizontal bench will be maintained along the eastern wall of the excavation from the building foundation to maintain stable soils adjacent to the foundation. The sloping will be maintained from the edge of the bench to the bottom of the excavation at a 1:1 slope, as previously described. These soils have TCE concentrations that exceed 8.8 mg/kg and are shown on Figure 8. These soils are located in the eastern portion of the excavation in the alley and parking lot area. The volume of soils to be excavated during this phase is approximately 350 cubic yards. The soils excavated in Phase 2 require treatment and will be stockpiled in the western portion of the excavation, where the direct load soils were excavated, along with the soils from the catch basin excavation from 8 to 12 feet bgs in a container constructed within the 4-foot-deep excavation. Following excavation in the eastern excavation area, the excavation will be backfilled from 4 to 8 feet bgs to allow for expansion of the treatment cell into the eastern excavation area. The details regarding the container are provided in Section 4.5. The proposed excavation activities will remove a total of approximately 1,130 cubic yards of TCE-affected which will be transported off-Site and disposed at a WDNR-licensed Subtitle D Landfill.

Upon completion of the excavation activities and following removal of the soil treatment container from the excavation, as discussed below, a venting system will be placed approximately 6 inches from the base of the excavation to passively vent vapors to the atmosphere. The horizontal venting system will be constructed using CETCO Geovent®, which is 12 inches wide and 1 inch thick, and is covered by a non-woven fabric. The Geovent® is constructed to be structurally sound under direct burial applications and is designed to be installed directly on the subgrade. Geovent® provides greater opening area per lineal foot than perforated pipe and provides for higher ventilation efficiency. The Geovent® can be manifolded using standard piping manifolds to connect multiple Geovent® runs to one vertical riser. The Geovent® is proposed to be installed beginning at Buildings 1003 and 1033, respectively, and extending to approximately the middle of the excavation with three separate runs of Geovent® from each end. The Geovent® runs will be approximately 12 feet apart. At each end, adjacent to the buildings, the Geovent® will be manifolded together and connected to a vertical PVC riser pipe that extends above the breathing zone to vent the vapors to the atmosphere. The Geovent® will be covered by approximately 6 inches of clear aggregate to allow for vapor migration to the venting system. A non-woven geosynthetic fabric will be placed over the clear stone to reduce the potential for fine-grained materials to migrate into the clear stone and reduce the porosity.

The upper 3 feet of the excavation will be backfilled with Wisconsin Department of Transportation (WisDOT) road gravel. The gravel will be placed in the excavation and spread in 1-foot lifts to be compacted to 95% of the standard proctor. Each 1-foot lift will be tested using a nuclear density gauge to confirm that the backfill material meets the compaction standard. The compacted backfill material will be placed to a depth that allows for the replacement of the surface concrete, asphalt, or soil in the area, depending on the appropriate material.

MW-4 is located in the planned excavation and, therefore, this well will be properly abandoned in accordance with NR 141 requirements prior to the excavation activities to allow for treatment activities in this area and will be replaced once Site restoration is complete. The replacement well will be located north of the current location, outside of the 8-foot depth excavation area, in the 4-foot depth excavation area. During installation of monitoring well MW-4R, the top of the well screen and top of the sand filter pack will be at a depth that is approximately 2 feet below the bottom of the excavation, estimated to be approximately 6 feet bgs to allow for an adequate seal around the monitoring well riser pipe within the native clay soils to prevent vertical migration of water that accumulates within the backfill materials in the excavation and entering the well. Monitoring well MW-4R will allow for performance monitoring following excavation activities to monitor the effects of the remedial excavation and observe the natural attenuation process.

Following excavation of the soils in the 0- to 8-foot depth interval in the excavation, sidewall and floor samples will be collected to verify the concentration of the residual contamination left in place after the excavation. The sidewall samples will be collected every 50 feet along the sidewall, or approximately eight to ten samples, and the floor samples will be collected at a rate of one sample per 2,000 square feet, or a minimum of three floor samples. The floor and sidewall samples will be submitted for laboratory analysis of VOCs by USEPA Method 8260.

4.5 ON-SITE TREATMENT OF SOILS

Soils from the catch basin excavation and the excavation between Buildings 1003 and 1033 require treatment to reduce the TCE concentration to less than 8.8 mg/kg, as required by the 'Contained-Out' policy for soils disposed in a WDNR-licensed Subtitle D landfill. Chapter NR 670.001 provides an exemption from licensing for generators that treat hazardous waste in accumulation tanks. A tank, as defined in Chapter NR 660.10, Wis. Adm. Code, is defined as "…a stationary device, designed to contain an accumulation of hazardous waste which is constructed primarily of non-earthen materials (e.g, wood, concrete, steel, plastic)."

The treatment container or tank at the Site is proposed to be constructed in the 4-foot excavation between Buildings 1003 and 1033. The container or tank will be constructed by placing 3-foot-tall concrete barriers along the sides and ends of the area. Three-quarter-inch traffic bond gravel will be placed and compacted across the bottom inside the barriers and a geosynthetic membrane will be placed over the gravel and concrete barriers. A perforated pipe will be placed on top of the membrane and will be connected to a positive pressure blower to allow for aeration of the soils. Figure 11 shows a cross-section view of the container or tank proposed to be used for treatment.

Soils will be placed in the container or tank in 1-foot lifts to a depth of approximately 2.5 to 3 feet. The soils will be tilled with a box tiller to break up the soils so that the aeration from the blower has more contact surface area to remove TCE from the soil. The container or tank will be constructed in sections as the soils in the eastern portion of the excavation between Buildings 1003 and 1033 are completed. As the container or tank is extended, the concrete barriers, geomembrane, and aeration pile will also be extended. The treatment container will be covered to reduce the potential for precipitation, but will be uncovered daily, as weather permits, to allow for vapors to be emitted to the atmosphere.

The remediation of soil and groundwater requires consideration of air emissions from the remedial activities. Chapter NR 419.07 indicates that the remediation activities should meet the emissions limits, as specified in the regulation, that emissions should not be of a quantity, concentration, or duration that is injurious to human health, and remediation will not cause exceedance of ambient air quality. The emission limits that pertain to this project are presented in NR 419.07(4)(b). Emissions from soil and groundwater remediation projects in Milwaukee County may not exceed 137 pounds of VOCs per day. The total mass of TCE at the Site was calculated to be approximately 114 pounds. This mass includes the soils included in the 0- to 8-foot excavation area and soils beneath the buildings that are not available for excavation. TCE is the primary VOC detected in soil at the Site however, there are minor sporadic concentrations of TCE daughter products, but these concentrations are not widespread at the Site. Assuming that the soils containing the 114

pounds could be excavated and treated at one time, the total TCE mass only represents 83% of the emission limit, indicating that if all of the TCE mass were emitted in one day the emission limit still will not be exceeded. In addition, due to the clay nature of the soils, the soil aeration treatment is anticipated to require five to seven days of treatment to reduce the TCE concentration to less than 8.8 mg/kg in the soils. The treatment is not intended to remove all TCE mass from the soil, which reduces the amount of total VOCs (114 pounds) that could potentially be emitted. Based on a comparison of the total VOCs present in the soils, the duration of treatment, and the anticipated residual concentrations in the soils after treatment is complete, the daily emissions from the soil treatment at the Site will not likely meet or exceed the emission limit.

The soil treatment activities will continue until the soil TCE concentrations are reduced to a concentration that is less than the 'contained-out' concentration of 8.8 mg/kg, and the UTS concentration of 60 mg/kg. The soil concentrations will be determined based on laboratory analytical data of representative grab samples collected from the soils after treatment. The grab samples will be collected from the treated soils at a rate of one sample for every 50 cubic yards or a minimum of one soil sample if the volume is less than 100 cubic yards. Once the treatment samples demonstrate that the soil sample concentrations meet the requirements, the soils will be loaded and transported off-Site under manifest to a WDNR-licensed Subtitle D Landfill for disposal.

4.6 PROPOSED SCHEDULE OF REMEDIAL ACTIVITIES

The schedule for completion of the remedial soil excavation activities is estimated as shown below. The schedule will be affected by response and approval of the Remedial Design Report by the WDNR and/or weather conditions. During soil excavation and off-Site transportation, special attention will be required for soil being tracked onto the roads during precipitation events, therefore, the weather could affect the proposed schedule.

- Submittal of Remedial Design Report - September 2021;
- Approval of Remedial Design Report - November 22, 2021;
- Approval for soil disposal at Subtitle D Landfill - March 2022;
- Commence soil excavation activities - May 15, 2022;
- Begin soil treatment - June 1, 2022;
- Soil sampling of treated soils - June 10, 2022;
- Complete off-Site transportation of treated soils and removal of treatment container - June 25, 2022;
- Installation of venting system and backfilling - July 5, 2022; and
- Backfilling and replacement of asphalt and concrete - July 7, 2022.

5.0 REMEDIAL ACTION OBJECTIVES

5.1 REMEDIAL ACTION OBJECTIVES FOR GROUNDWATER

Chlorinated hydrocarbons were identified in groundwater at the Site at concentrations exceeding the respective NR 140 ESs. The highest TCE concentrations are detected in monitoring well MW-4 at concentrations ranging from 16,000 µg/L in March 2011 to 38,200 µg/L in August 2019. Daughter products of the degradation of TCE, cis-1,2-DCE and vinyl chloride,

are present in MW-4 at concentrations exceeding the respective ESs and vinyl chloride is present in MW-2 at concentrations exceeding the ES. The other NR 141-compliant monitoring wells at the Site and off-Site do not have TCE or daughter product concentrations exceeding the respective ESs or PALs. Groundwater flow is west from MW-4 toward MW-3, but samples from MW-3 have not detected chlorinated hydrocarbons, indicating that the migration of chlorinated hydrocarbons have not reached this area. The soil concentrations across much of the Site exceed the soil-to-groundwater RCLs; however, the lack of chlorinated hydrocarbon concentrations in groundwater indicate it is not partitioning from soil to groundwater. The chlorinated hydrocarbons in groundwater are limited in extent and the soils at the Site are predominantly clay in nature with a low hydraulic conductivity causing active groundwater remediation to be difficult regardless of the remedial option. The mass of TCE in groundwater was calculated to be approximately 10% of the soil mass. Based on this information, active groundwater remediation is not warranted.

Following the excavation of the impacted soils from 0 to 4 feet bgs, select monitoring wells at the Site will be monitored on a quarterly basis to evaluate the influence of the soil excavation on groundwater concentrations. The wells to be monitored will include MW-1, MW-2, MW-3, MW-4R, and MW-10. The groundwater samples will be submitted for laboratory analysis of VOCs by USEPA Method 8260.

5.2 REMEDIAL ACTION OBJECTIVES FOR SOIL

The results of the Site investigation soil sampling identified soil concentrations that exceed the non-industrial direct contact RCL in the 0- to 4-foot depth interval and concentrations that exceed the groundwater pathway RCL for chlorinated hydrocarbons. The soil concentrations exceeding the non-industrial direct contact RCL are primarily located between Buildings 1003 and 1033 and the soil concentrations exceeding the groundwater pathway were identified across a similar area, but also at a depth of 4 to 12 feet bgs. The results of groundwater sampling indicated that the soil concentrations are not partitioning to groundwater in all wells, except monitoring well MW-4.

The proposed soil excavation activities will remove the soils that exceed the non-industrial direct contact RCL, but are not intended to address the groundwater pathway since the contaminants are not partitioning to groundwater. The direct contact pathway will also be addressed by the asphalt and concrete surfaces that are present over most of the excavation area. These surfaces will also promote surface water runoff, which will limit the potential for infiltration of water through the affected soil areas, thus reducing the potential for partitioning from soil to groundwater of chlorinated hydrocarbon contaminants. The proposed soil excavation activities are not anticipated to cause a reduction in groundwater concentrations following the excavation because there is limited evidence of chlorinated hydrocarbon breakdown over the 10 years of groundwater monitoring data previously collected.

5.3 REMEDIAL ACTION OBJECTIVES FOR AIR

Soils will remain in place beneath Buildings 1003 and 1033, which are expected to continue to volatilize. This volatilization will potentially cause vapor intrusion of TCE and daughter compounds into the buildings. The SSDSs installed in the buildings have demonstrated effectiveness in breaking the vapor intrusion pathway and the possible migration of vapors entering the buildings. The existing SSDSs within each building will need to be inspected semi-annually and will be maintained in working condition to continue the effective mitigation of vapors into the buildings. The SSDSs will need to be continuously operated until the soil and groundwater have been sufficiently remediated to remove the potential for vapor intrusion into the surrounding buildings. As part of the excavation of affected soils, and as described above, the venting system installed in the base of the excavation between Buildings 1003 and 1033 will provide a pathway for vapor emitted from the soils outside of the buildings to be vented to the atmosphere, which will make the SSDSs more effective. Additional vapor sampling and monitoring of the venting system in the excavation are not proposed.

Vapor samples will be collected from the SSDSs annually for a period of five years to demonstrate the effectiveness of the systems in each building. The samples will be collected using WDNR-approved sampling procedures. The vapor samples will be submitted for laboratory analyses of VOCs by Method TO-15.

6.0 CERTIFICATIONS

"I, James F. Drought, P.H., hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

James Drought

Signature

September 8, 2021

Date

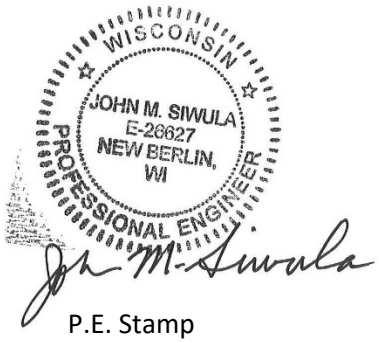
Principal Hydrogeologist

Title

"I, John M. Siwula, P.E., D. GE, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

John M. Siwula, P.E., D. GE; Associate Principal; P.E. No. E-26627

Signature, Title, and P.E. Number



P.E. Stamp

TABLES

TABLE 1
SOIL TCE AND TCLP RESULTS
Clare Central
1003 and 1033 West Atkinson Avenue
Milwaukee, Wisconsin

	Units[2]	Soil to Groundwater Pathway RCL[6]	Non-Industrial Direct Contact Pathway RCL[6]	Industrial Direct Contact Pathway RCL[6]	TCLP TCE	SGP-5		GZA-GP-3	GZA-GP7	GZA-GP-8	HA-1		HA-2	
Sample Date						5/14/2015		6/15/2020			**7/22/2021**			
Sample Depth (Feet)						1-3	4-5	2-3	3-4	3-4	0-2	2-4	0-2	2-4
Collected By						SIGMA		GZA						
PID	IU	NS	NS	NS	NS	0.1	17.4	26.8	4.1	4	7.8	48.7	2	59.1
Saturated/Unsaturated	S/U	NS	NS	NS	NS	U	U	U	U	U	U	U	U	U
TCE	mg/kg	0.0036	1.3	8.41	NS	0.34	12.8	<10.4	***26.3***	***1.07***	NA	NA	NA	NA
TCLP TCE	ug/L	NS	NS	NS	500	NA	NA	NA	NA	NA	<3.2	44	3.6 J	110

Notes:

1. Soil samples were collected by Terracon Consultants, Inc. and are indicated by 'Terracon.' Soil samples collected by The Sigma Group are indicated by 'Sigma.' Soil samples were analyzed by Pace Analytical of Green Bay, Wisconsin, Synergy Environmental Lab, Inc. of Appleton, Wisconsin, and TestAmerica of Watertown, Wisconsin. The sample collection depths are recorded as feet below ground surface (bgs).
2. Results are provided in instrument units (IU) or milligrams per kilogram (mg/kg).
3. Residual Contaminant Levels (RCLs) were obtained from the RCL spreadsheet (updated December 2018) available on the following Wisconsin Department of Natural Resources (WDNR) website: https://dnr.wi.gov/topic/Brownfields/soil.html. The spreadsheet was prepared by WDNR staff using the United States Environmental Protection Agency's (USEPA's) Regional Screening Level (RSL) Web-Calculator.
4. NS = No RCL was provided in the WDNR RCL spreadsheet for the parameter.
5. NA = Sample not analyzed for that parameter.
6. NR = Analyte not reported for the sample or information was not provided by consulting firm.
7. Only compounds detected in at least one soil sample during analyses are presented.
8. ***Bold italicized*** concentrations indicate an exceedance of the Soil to Groundwater Pathway RCL. Concentrations in ***red font*** indicate an exceedance of the Non-Industrial Direct Contact RCL. The direct contact RCLs are applicable to samples collected at depths 0 to 4 feet below ground surface.
9. "<" or "ND" indicates the parameter was detected in the sample at a concentration below the method detection limit (MDL).
10. J flagged results indicate that the analyte was detected between the MDL and the limit of detection/quantification. These results are considered an estimate.
11. PID = Photoionization Detector.
12. VOCs = Volatile Organic Compounds.
13. PCBs = Polychlorinated Biphenyls.

TABLE 2
1003 and 1033 WEST ATKINSON AVENUE INDOOR AIR AND SUB-SLAB VAPOR RESULTS
Clare Central
1003 and 1033 West Atkinson Avenue
Milwaukee, Wisconsin

Location				SS-1 (1003 West Atkinson)		SS-2 (1033 West Atkinson)		Ambient 1003			Ambient 1033			IA1 (1003) Unit #1 Kitchen Counter -1st Floor	Unit #1 Kitchen - 1st floor (1003)	Unit #1 Kitchen - 1st floor (1003)
				Sub-slab	Sub-slab	Sub-slab	Sub-slab	Ambient air	Ambient air	Ambient air	Ambient Air	Ambient Air	Ambient Air	Ambient Air	Ambient Air	Ambient Air
Parameter	Units	Residential Indoor Air Vapor Limits	Residential Sub Slab VRSL	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	6-Liter Summa Cannister	6-Liter Summa Cannister	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample
				2/11/2011	3/17/2011	2/11/2011	3/17/2011	3/17/2011	1/30/2012	3/28/2013	3/17/2011	1/30/2012	3/28/2013	Ambient Air Samples: July 2013	Ambient Air Samples: September 2016	Ambient Air Samples: January 2018
1,1,1-Trichloroethane	ug/m3	5200	170000	20.2	62	42.7	<13	2.1	29	841	0.82	<1.1	<1.1	--	--	--
1,1,2,2-Tetrachloroethane	ug/m3	0.048	16	ND	ND	ND	ND	ND	**0.5**	<10.4	ND	**1.9**	3.3	--	--	--
1,1,2-Trichloroethane	ug/m3	0.18	7	ND	ND	ND	ND	ND	**7**	<11.8	ND	**14**	**7**	--	--	--
1,1,2-Trichlorotrifluoroethane	ug/m3	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
1,1-Dichloroethane	ug/m3	18	600	4.9	7.2	<29.5	<8.1	<0.42	<0.81	<8.5	<0.42	<0.81	<1.6	--	--	--
1,1-Dichloroethene	ug/m3	210	7000	8.8	5.2	<29.2	<9.8	<0.51	<0.79	<8.4	<0.51	<0.79	<1.6	--	--	--
1,2,4-Trichlorobenzene	ug/m3	2.1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
1,2,4-Trimethylbenzene	ug/m3	63	2100	8.0	<5.6	78.6	<24	5.1	0.9	<18.3	5.5	3.5	4.2	--	--	--
1,2-Dibromoethane (EDB)	ug/m3	0.0047	2	**3.3**	<6.1	<57.6	<26	<1.4	<1.5	<16.2	<1.4	<1.5	<3.1	--	--	--
1,2-Dichlorobenzene	ug/m3	210	6967	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
1,2-Dichloroethane	ug/m3	1.1	37	2.1	<3.5	<29.5	<15	**1.2**	0.5	<4.3	**2.7**	0.8	<0.82	--	--	--
1,2-Dichloropropane	ug/m3	4.17	139	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
1,3,5-Trimethylbenzene	ug/m3	63	2100	3.9	<5.8	49.3	<25	<1.3	0.5	<9.1	1.3	1.0	<1.8	--	--	--
1,3-Butadiene	ug/m3	0.094	31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
1,3-Dichlorobenzene	ug/m3	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
1,4-Dichlorobenzene	ug/m3	2.6	85	5.4	<7.0	<43.2	<30	**4.1**	**89.0**	<12.7	<1.5	**6.8**	**5**	--	--	--
2-Butanone (MEK)	ug/m3	5200	173667	4.7	<11	<21.6	<45	8.2	1.9	<6.2	2.5	2.9	5.2	--	--	--
2-Hexanone	ug/m3	31	1043	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
2-Propanol	ug/m3	NS	NS	45.2	40	<90.0	93.0	83	0.33	<9.0	130	1.3	<1.7	--	--	--
4-Ethyltoluene	ug/m3	NS	NS	ND	ND	ND	ND	ND	0.4	<10.4	ND	0.6	<2.0	--	--	--
4-Methyl-2-Pentanone (MIBK)	ug/m3	3300	104300	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
Acetone	ug/m3	32000	1073333	65.8	<60	482	360	32	37	23	44.0	130.0	64.9	--	--	--
Benzene	ug/m3	3.6	120	2.3	<3.3	<23.4	<14	3.4	1.6	<3.4	2.7	**5.7**	2.8	--	--	--
Benzyl chloride	ug/m3	0.57	19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
Bromodichloromethane	ug/m3	0.76	25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
Bromoform	ug/m3	26	850	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
Bromomethane	ug/m3	5.2	174	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
Carbon Disulfide	ug/m3	730	24333	5.5	<1.8	32.8	<7.4	<0.39	0.2	<6.5	<0.39	0.12	<1.3	--	--	--
Carbon Tetrachloride	ug/m3	4.7	160	ND	ND	ND	ND	ND	0.66	<6.6	ND	0.46	<1.3	--	--	--
Chlorobenzene	ug/m3	52	1737	<1.6	<4.1	109	20	<0.90	<0.049	<9.8	<0.00	<0.92	<1.9	--	--	--
Chloroethane	ug/m3	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
Chloroform	ug/m3	1.2	40	ND	ND	ND	ND	ND	**2.3**	<10.3	ND	**3**	**2.6**	--	--	--
Chloromethane	ug/m3	94	3100	ND	ND	ND	ND	ND	2.2	<4.4	ND	6.8	<0.84	--	--	--
Cyclohexane	ug/m3	6300	208667	3.2	<2.5	<24.5	<11	1.8	3.5	<7.3	<0.55	0.32	<1.4	--	--	--
Dibromochloromethane	ug/m3	NS	NS	3.9	<6.5	<61.2	<28	<1.4	<1.7	<18.0	<1.4	<1.7	<3.5	--	--	--
Dichlorodifluoromethane	ug/m3	100	3300	270	570	**762,000**	**25,000E**	46	14	44	37	7.2	3.9	--	--	--
Dichlorotetrafluoroethane	ug/m3	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
Ethanol	ug/m3	NS	NS	778	540	279	360	890	1500 E	1010	1,100	2,700	1,560	--	--	--
Ethyl Acetate	ug/m3	73	2433	ND	ND	ND	ND	ND	3.3	<7.6	ND	ND	ND	--	--	--
Ethylbenzene	ug/m3	11	370	3.6	<5.4	331	**52**	1.8	0.5	<9.1	2.0	1.2	<1.8	--	--	--
Hexachloro-1,3-butadiene	ug/m3	NS	NS	ND	ND	ND	ND	ND	34.0	<8.6	ND	0.70	<1.7	--	--	--
Methyl-Tert-Butyl Ether	ug/m3	110	3700	ND	ND	ND	ND	ND	<2.9	<6.2	ND	<2.9	<1.2	--	--	--
Methylene Chloride	ug/m3	630	21000	4.5	15	<25.6	53	32	ND	ND	2.5	ND	ND	--	--	--
Naphthalene	ug/m3	0.83	28	ND	ND	ND	ND	ND	ND	ND	ND	**19**	<0.70	--	--	--
Propylene	ug/m3	3130	104333	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
Styrene	ug/m3	1040	34667	<1.4	<4.5	398	74	<0.99	1.2	<7.2	<0.99	<1.4	4.7	--	--	--
Tetrachloroethene (PCE)	ug/m3	42	1400	3.1	<4.9	<50.4	<21	2.3	3.5	<8.0	<1.1	8.70	6.8	<2.35	<0.43	<0.44
Tetrahydrofuran	ug/m3	2090	69667	6.6	<3.4	<21.6	<14	<0.74	ND	ND	<0.74	ND	ND	--	--	--
Toluene	ug/m3	5200	170000	38.2	6.6	82.8	28	36	0.5	12.0	57	0.73	<2.2	--	--	--
Trichloroethene (TCE)	ug/m3	2.1	70	**5,130**	**2,500**	**89.8**	44	**80**	0.63	<16.6	**3.1**	0.47	<3.2	<2.35	<0.43	<0.42
Trichlorofluoromethane	ug/m3	NS	NS	84.4	86	<39.6	240	43	ND	ND	130	ND	ND	--	--	--
Vinyl Acetate	ug/m3	210	6967	ND	ND	ND	ND	ND	ND	ND	ND	4.3	19.4	--	--	--
Vinyl Chloride	ug/m3	1.7	57	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.35	<0.30	<0.20
cis-1,2-Dichloroethene	ug/m3	NS	NS	47.7	56	<29.2	<18	3.6	1.6	37.9	<0.95	<0.79	<1.6	<2.35	<0.38	<0.53
cis-1,3-Dichloropropene	ug/m3	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
m&p-Xylene	ug/m3	100	3300	9.0	<9.5	<63.4	<40	5.0	ND	ND	5.1	ND	ND	--	--	--
n-Heptane	ug/m3	420	13900	4.7	<3.5	<29.9	<15	2.3	1.7	18.3	0.85	1.4	2.2	--	--	--
n-Hexane	ug/m3	730	24333	4.9	<2.1	<25.9	<8.7	4.8	24	116	1.1	3.4	21.0	--	--	--
o-Xylene	ug/m3	100	3300	4.1	<4.8	42.1	<20	1.6	ND	ND	1.1	ND	ND	--	--	--
trans-1,2-Dichloroethene	ug/m3	NS	NS	2.8	<3.6	<29.2	<15	<0.79	<0.79	<8.4	<0.79	<0.79	<1.6	<2.35	<0.60	<0.46
trans-1,3-Dichloropropene	ug/m3	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--

TABLE 2
1003 and 1033 WEST ATKINSON AVENUE INDOOR AIR AND SUB-SLAB VAPOR RESULTS
Clare Central
1003 and 1033 West Atkinson Avenue
Milwaukee, Wisconsin

Location				1003 W. ATKINSON APT 1	IA2 (1003) Sump Closet - 1st Floor	Sump Closet - 1st floor (1003)	Sump Closet - 1st floor (1003)	IA3 (1003) Mechanical Closet - 2nd floor	Mechanical Closet - 2nd Floor (1003)	Mechanical Closet - 2nd Floor (1003)	1003 W. ATKINSON 2ND FLOOR MECHANICAL ROOM	IA4 (1003) Storage Room - Second Floor	Storage Room - 2nd Floor (1003)	Storage Room - 2nd Floor (1003)	1003 W. ATKINSON 2ND FLOOR TENANT STORAGE	1A5 (1033) Unit #2 Kitchen Counter - 1st Floor
				IA-6	Ambient Air	Ambient Air	Ambient Air	Ambient Air	Ambient Air	Ambient Air	IA-8	Ambient Air	Ambient Air	Ambient Air	IA-9	Ambient Air
Parameter	Units	Residential Indoor Air Vapor Limits	Residential Sub Slab VRSL	6-Liter Summa Canister	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	6-Liter Summa Canister	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	6-Liter Summa Canister	1-Liter Summa Canister with 24-hour grab sample
				8/27/2019 - 8/28/2019	Ambient Air Samples: July 2013	Ambient Air Samples: September 2016	Ambient Air Samples: January 2018	Ambient Air Samples: July 2013	Ambient Air Samples: September 2016	Ambient Air Samples: January 2018	8/27/2019 - 8/28/2019	Ambient Air Samples: July 2013	Ambient Air Samples: September 2016	Ambient Air Samples: January 2018	8/27/2019 - 8/28/2019	Ambient Air Samples: July 2013
1,1,1-Trichloroethane	ug/m3	5200	170000	<0.41	--	--	--	--	--	--	<0.48	--	--	--	<0.47	--
1,1,2,2-Tetrachloroethane	ug/m3	0.048	16	<0.39	--	--	--	--	--	--	<0.45	--	--	--	<0.44	--
1,1,2-Trichloroethane	ug/m3	0.18	7	<0.34	--	--	--	--	--	--	<0.39	--	--	--	<0.38	--
1,1,2-Trichlorotrifluoroethane	ug/m3	NS	NS	<0.76	--	--	--	--	--	--	<0.87	--	--	--	<0.86	--
1,1-Dichloroethane	ug/m3	18	600	<0.30	--	--	--	--	--	--	<0.35	--	--	--	<0.34	--
1,1-Dichloroethene	ug/m3	210	7000	<0.37	--	--	--	--	--	--	<0.42	--	--	--	<0.42	--
1,2,4-Trichlorobenzene	ug/m3	2.1	70	<5.0	--	--	--	--	--	--	<5.8	--	--	--	<5.7	--
1,2,4-Trimethylbenzene	ug/m3	63	2100	8.0	--	--	--	--	--	--	0.93 J	--	--	--	<0.69	--
1,2-Dibromoethane (EDB)	ug/m3	0.0047	2	<0.49	--	--	--	--	--	--	<0.57	--	--	--	<0.56	--
1,2-Dichlorobenzene	ug/m3	210	6967	<0.67	--	--	--	--	--	--	<0.77	--	--	--	<0.76	--
1,2-Dichloroethane	ug/m3	1.1	37	**1.6**	--	--	--	--	--	--	<0.23	--	--	--	1.0	--
1,2-Dichloropropane	ug/m3	4.17	139	<0.31	--	--	--	--	--	--	<0.36	--	--	--	<0.35	--
1,3,5-Trimethylbenzene	ug/m3	63	2100	3.0	--	--	--	--	--	--	<0.62	--	--	--	<0.61	--
1,3-Butadiene	ug/m3	0.094	31	<0.17	--	--	--	--	--	--	<0.20	--	--	--	<0.19	--
1,3-Dichlorobenzene	ug/m3	NS	NS	<0.78	--	--	--	--	--	--	<0.90	--	--	--	<0.88	--
1,4-Dichlorobenzene	ug/m3	2.6	85	<1.3	--	--	--	--	--	--	<1.6	--	--	--	<1.5	--
2-Butanone (MEK)	ug/m3	5200	173667	81.2	--	--	--	--	--	--	1.2 J	--	--	--	2.0 J	--
2-Hexanone	ug/m3	31	1043	<1.0	--	--	--	--	--	--	<1.2	--	--	--	<1.1	--
2-Propanol	ug/m3	NS	NS	111	--	--	--	--	--	--	29.3	--	--	--	25.3	--
4-Ethyltoluene	ug/m3	NS	NS	3.5	--	--	--	--	--	--	<0.88	--	--	--	<0.87	--
4-Methyl-2-Pentanone (MIBK)	ug/m3	3300	104300	10.5	--	--	--	--	--	--	<0.80	--	--	--	1.1 J	--
Acetone	ug/m3	32000	1073333	88.2	--	--	--	--	--	--	19.7	--	--	--	44.6	--
Benzene	ug/m3	3.6	120	1.1	--	--	--	--	--	--	0.99	--	--	--	1.1	--
Benzyl chloride	ug/m3	0.57	19	<1.6	--	--	--	--	--	--	<1.9	--	--	--	<1.8	--
Bromodichloromethane	ug/m3	0.76	25	<0.49	--	--	--	--	--	--	<0.57	--	--	--	<0.56	--
Bromoform	ug/m3	26	850	<1.9	--	--	--	--	--	--	<2.2	--	--	--	<2.2	--
Bromomethane	ug/m3	5.2	174	<0.30	--	--	--	--	--	--	<0.35	--	--	--	<0.35	--
Carbon Disulfide	ug/m3	730	24333	1.6	--	--	--	--	--	--	<0.34	--	--	--	2.4	--
Carbon Tetrachloride	ug/m3	4.7	160	<0.57	--	--	--	--	--	--	<0.66	--	--	--	<0.65	--
Chlorobenzene	ug/m3	52	1737	<0.37	--	--	--	--	--	--	<0.43	--	--	--	<0.42	--
Chloroethane	ug/m3	NS	NS	<0.35	--	--	--	--	--	--	<0.40	--	--	--	<0.40	--
Chloroform	ug/m3	1.2	40	<0.26	--	--	--	--	--	--	<0.30	--	--	--	<0.30	--
Chloromethane	ug/m3	94	3100	1.2	--	--	--	--	--	--	1.4	--	--	--	1.2	--
Cyclohexane	ug/m3	6300	208667	3.5	--	--	--	--	--	--	<0.55	--	--	--	<0.54	--
Dibromochloromethane	ug/m3	NS	NS	<0.96	--	--	--	--	--	--	<1.1	--	--	--	<1.1	--
Dichlorodifluoromethane	ug/m3	100	3300	6.8	--	--	--	--	--	--	3.2	--	--	--	3.0	--
Dichlorotetrafluoroethane	ug/m3	NS	NS	<0.59	--	--	--	--	--	--	<0.68	--	--	--	<0.66	--
Ethanol	ug/m3	NS	NS	148	--	--	--	--	--	--	77.0	--	--	--	119	--
Ethyl Acetate	ug/m3	73	2433	55.1	--	--	--	--	--	--	<0.29	--	--	--	<0.29	--
Ethylbenzene	ug/m3	11	370	**11.5**	--	--	--	--	--	--	<0.47	--	--	--	<0.46	--
Hexachloro-1,3-butadiene	ug/m3	NS	NS	<2.6	--	--	--	--	--	--	<3.1	--	--	--	<3.0	--
Methyl-Tert-Butyl Ether	ug/m3	110	3700	<0.89	--	--	--	--	--	--	<1.0	--	--	--	<1.0	--
Methylene Chloride	ug/m3	630	21000	13.2	--	--	--	--	--	--	7.8	--	--	--	10.1	--
Naphthalene	ug/m3	0.83	28	**3.6 J**	--	--	--	--	--	--	**2.1 J**	--	--	--	**5.0**	--
Propylene	ug/m3	3130	104333	<0.19	--	--	--	--	--	--	<0.22	--	--	--	<0.22	--
Styrene	ug/m3	1040	34667	26.9	--	--	--	--	--	--	<0.53	--	--	--	<0.52	--
Tetrachloroethene (PCE)	ug/m3	42	1400	1.0	<2.35	<0.41	0.74	<2.35	<0.45	<0.43	<0.49	<2.35	<0.45	<0.41	0.53 J	<2.35
Tetrahydrofuran	ug/m3	2090	69667	12.7	--	--	--	--	--	--	<0.40	--	--	--	<0.40	--
Toluene	ug/m3	5200	170000	223	--	--	--	--	--	--	2.5	--	--	--	3.0	--
Trichloroethene (TCE)	ug/m3	2.1	70	2.0	**4.86**	<0.41	<0.40	<2.35	2.0	<0.40	<0.40	<2.35	<0.44	0.68	<0.39	<2.35
Trichlorofluoromethane	ug/m3	NS	NS	1.8	--	--	--	--	--	--	6.0	--	--	--	4.4	--
Vinyl Acetate	ug/m3	210	6967	<0.36	--	--	--	--	--	--	<0.42	--	--	--	<0.41	--
Vinyl Chloride	ug/m3	1.7	57	<0.17	<2.35	<0.29	<0.19	<2.35	<0.31	<0.19	<0.20	<2.35	<0.31	<0.18	<0.19	<2.35
cis-1,2-Dichloroethene	ug/m3	NS	NS	<0.29	<2.35	<0.37	<0.51	<2.35	<0.40	<0.51	<0.34	<2.35	<0.40	<0.49	<0.33	<2.35
cis-1,3-Dichloropropene	ug/m3	NS	NS	<0.41	--	--	--	--	--	--	<0.47	--	--	--	<0.46	--
m&p-Xylene	ug/m3	100	3300	31.8	--	--	--	--	--	--	1.3 J	--	--	--	1.5 J	--
n-Heptane	ug/m3	420	13900	6.6	--	--	--	--	--	--	<0.59	--	--	--	1.8	--
n-Hexane	ug/m3	730	24333	4.1	--	--	--	--	--	--	2.0	--	--	--	2.1	--
o-Xylene	ug/m3	100	3300	11.3	--	--	--	--	--	--	<0.53	--	--	--	<0.52	--
trans-1,2-Dichloroethene	ug/m3	NS	NS	<0.38	<2.35	<0.57	<0.44	<2.35	<0.62	<0.44	<0.44	<2.35	<0.62	<0.42	<0.43	<2.35
trans-1,3-Dichloropropene	ug/m3	NS	NS	<0.59	--	--	--	--	--	--	<0.68	--	--	--	<0.67	--

TABLE 2
1003 and 1033 WEST ATKINSON AVENUE INDOOR AIR AND SUB-SLAB VAPOR RESULTS
Clare Central
1003 and 1033 West Atkinson Avenue
Milwaukee, Wisconsin

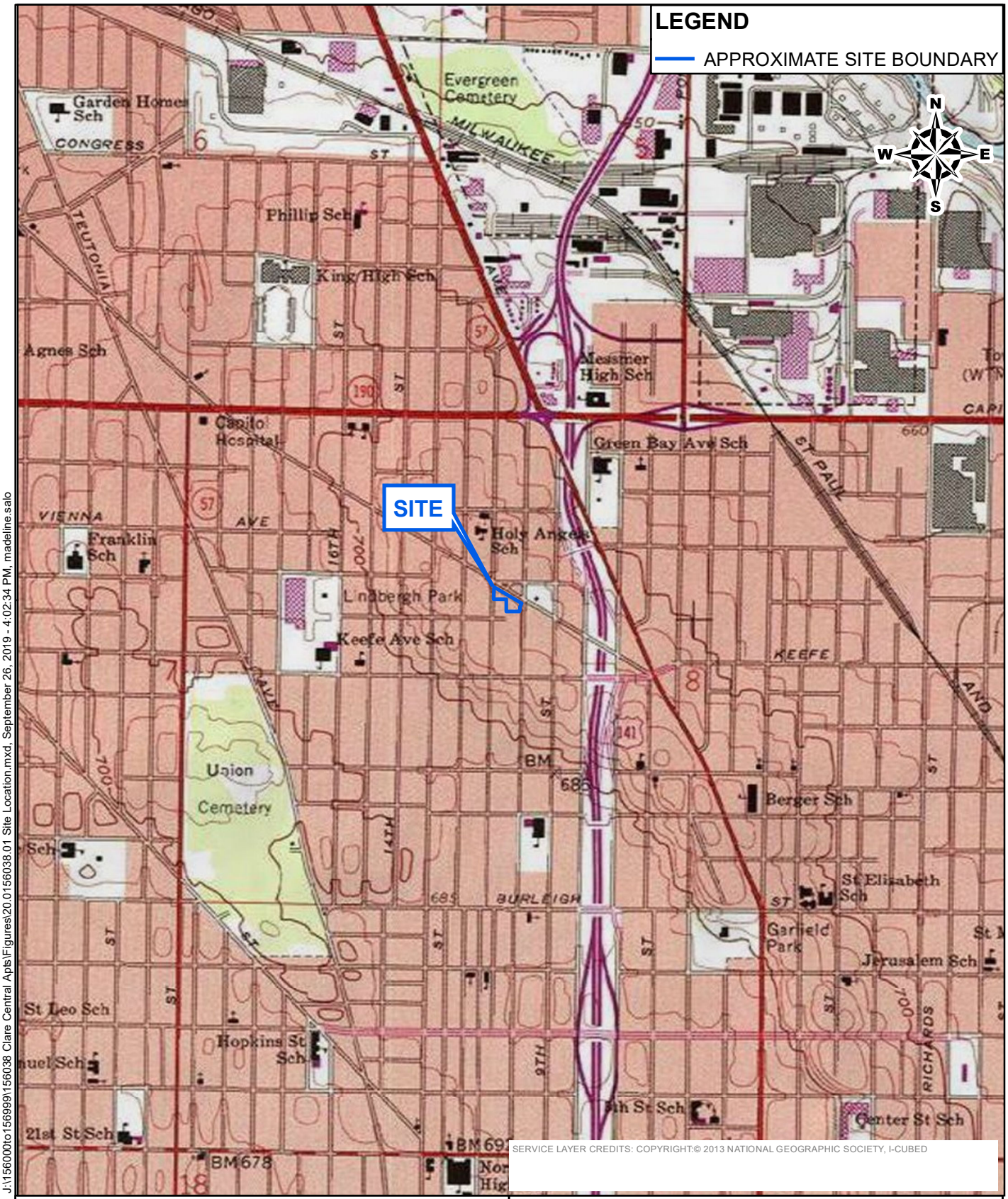
Location				Unit #2 Kitchen - 1st Floor (1033)	Unit #2 Kitchen - 1st Floor (1033)	1033 W. Atkinson APT 2	IA6 (1033) Unit #5 Kitchen Counter - 2nd Floor	Unit #5 - 2nd Floor (1033)	1033 W. Atkinson APT 5	OA (1033) Unit #5 Porch - 2nd Floor	Unit #5 - Outdoor Air (1033)	Unit #3 Kitchen - 1st Floor (1033)	1033 W. Atkinson APT 3	Unit #6 Kitchen - 1st Floor (1033)/Unit 8	1033 W. Atkinson APT 8	Unit #7 Kitchen - 1st Floor (1033)
				Ambient Air	Ambient Air	IA-4	Ambient Air	Ambient Air	IA-3	Ambient Air	Ambient Air	Ambient Air	IA-5	Ambient Air	IA-1	Ambient Air
Parameter	Units	Residential Indoor Air Vapor Limits	Residential Sub Slab VRSL	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	6-Liter Summa Cannister	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	6-Liter Summa Cannister	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	1-Liter Summa Canister with 24-hour grab sample	6-Liter Summa Cannister	1-Liter Summa Canister with 24-hour grab sample	6-Liter Summa Cannister	1-Liter Summa Canister with 24-hour grab sample
				Ambient Air Samples: September 2016	Ambient Air Samples: January 2018	8/27/2019 - 8/28/2019	Ambient Air Samples: July 2013	Ambient Air Samples: September 2016	8/27/2019 - 8/28/2019	Ambient Air Samples: July 2013	Ambient Air Samples: September 2016	Ambient Air Samples: January 2018	8/27/2019 - 8/28/2019	Ambient Air Samples: January 2018	8/27/2019 - 8/28/2019	Ambient Air Samples: January 2018
1,1,1-Trichloroethane	ug/m3	5200	170000	--	--	<0.48	--	--	<0.47	--	--	--	<0.47	--	<0.44	--
1,1,2,2-Tetrachloroethane	ug/m3	0.048	16	--	--	<0.45	--	--	<0.44	--	--	--	<0.44	--	<0.42	--
1,1,2-Trichloroethane	ug/m3	0.18	7	--	--	<0.39	--	--	<0.38	--	--	--	<0.38	--	<0.36	--
1,1,2-Trichlorotrifluoroethane	ug/m3	NS	NS	--	--	<0.87	--	--	<0.86	--	--	--	<0.86	--	<0.81	--
1,1-Dichloroethane	ug/m3	18	600	--	--	<0.35	--	--	<0.34	--	--	--	<0.34	--	<0.32	--
1,1-Dichloroethene	ug/m3	210	7000	--	--	<0.42	--	--	<0.42	--	--	--	<0.42	--	<0.39	--
1,2,4-Trichlorobenzene	ug/m3	2.1	70	--	--	<5.8	--	--	<5.7	--	--	--	<5.7	--	<5.4	--
1,2,4-Trimethylbenzene	ug/m3	63	2100	--	--	1.1 J	--	--	2.1	--	--	--	1.1 J	--	2.0	--
1,2-Dibromoethane (EDB)	ug/m3	0.0047	2	--	--	<0.57	--	--	<0.56	--	--	--	<0.56	--	<0.53	--
1,2-Dichlorobenzene	ug/m3	210	6967	--	--	<0.77	--	--	<0.76	--	--	--	<0.76	--	<0.72	--
1,2-Dichloroethane	ug/m3	1.1	37	--	--	<0.23	--	--	**5.3**	--	--	--	<0.23	--	**9.6**	--
1,2-Dichloropropane	ug/m3	4.17	139	--	--	<0.36	--	--	<0.35	--	--	--	<0.35	--	<0.33	--
1,3,5-Trimethylbenzene	ug/m3	63	2100	--	--	<0.62	--	--	<0.61	--	--	--	<0.61	--	<0.57	--
1,3-Butadiene	ug/m3	0.094	31	--	--	<0.20	--	--	<0.19	--	--	--	<0.19	--	<0.18	--
1,3-Dichlorobenzene	ug/m3	NS	NS	--	--	<0.90	--	--	<0.88	--	--	--	<0.88	--	<0.84	--
1,4-Dichlorobenzene	ug/m3	2.6	85	--	--	**70.5**	--	--	**3.1 J**	--	--	--	<1.5	--	1.8 J	--
2-Butanone (MEK)	ug/m3	5200	173667	--	--	3.1 J	--	--	5.7	--	--	--	1.2 J	--	9.7	--
2-Hexanone	ug/m3	31	1043	--	--	<1.2	--	--	<1.1	--	--	--	<1.1	--	<1.1	--
2-Propanol	ug/m3	NS	NS	--	--	330	--	--	191	--	--	--	11.0	--	135	--
4-Ethyltoluene	ug/m3	NS	NS	--	--	<0.88	--	--	<0.87	--	--	--	<0.87	--	<0.82	--
4-Methyl-2-Pentanone (MIBK)	ug/m3	3300	104300	--	--	<0.80	--	--	<0.79	--	--	--	<0.79	--	0.94 J	--
Acetone	ug/m3	32000	1073333	--	--	64.2	--	--	173	--	--	--	442	--	160	--
Benzene	ug/m3	3.6	120	--	--	1.1	--	--	2.3	--	--	--	1.5	--	**9.7**	--
Benzyl chloride	ug/m3	0.57	19	--	--	<1.9	--	--	<1.8	--	--	--	<1.8	--	<1.7	--
Bromodichloromethane	ug/m3	0.76	25	--	--	<0.57	--	--	<0.56	--	--	--	<0.56	--	<0.53	--
Bromoform	ug/m3	26	850	--	--	<2.2	--	--	<2.2	--	--	--	<2.2	--	<2.0	--
Bromomethane	ug/m3	5.2	174	--	--	<0.35	--	--	<0.35	--	--	--	<0.35	--	<0.33	--
Carbon Disulfide	ug/m3	730	24333	--	--	0.39 J	--	--	0.85 J	--	--	--	1.4	--	0.72 J	--
Carbon Tetrachloride	ug/m3	4.7	160	--	--	<0.66	--	--	<0.65	--	--	--	<0.65	--	0.98 J	--
Chlorobenzene	ug/m3	52	1737	--	--	<0.43	--	--	<0.42	--	--	--	<0.42	--	<0.40	--
Chloroethane	ug/m3	NS	NS	--	--	<0.40	--	--	<0.40	--	--	--	<0.40	--	<0.37	--
Chloroform	ug/m3	1.2	40	--	--	<0.30	--	--	<0.30	--	--	--	<0.30	--	**60.4**	--
Chloromethane	ug/m3	94	3100	--	--	<0.24	--	--	<0.24	--	--	--	2.0	--	<0.22	--
Cyclohexane	ug/m3	6300	208667	--	--	<0.55	--	--	<0.54	--	--	--	<0.54	--	1.3 J	--
Dibromochloromethane	ug/m3	NS	NS	--	--	<1.1	--	--	<1.1	--	--	--	<1.1	--	<1.0	--
Dichlorodifluoromethane	ug/m3	100	3300	--	--	4.1	--	--	3.4	--	--	--	2.8	--	3.3	--
Dichlorotetrafluoroethane	ug/m3	NS	NS	--	--	<0.68	--	--	<0.66	--	--	--	<0.66	--	<0.63	--
Ethanol	ug/m3	NS	NS	--	--	1300	--	--	7470	--	--	--	1130	--	2560	--
Ethyl Acetate	ug/m3	73	2433	--	--	4.6	--	--	15.2	--	--	--	1.6	--	28.6	--
Ethylbenzene	ug/m3	11	370	--	--	0.50 J	--	--	1.3 J	--	--	--	0.56 J	--	1.9	--
Hexachloro-1,3-butadiene	ug/m3	NS	NS	--	--	<3.1	--	--	<3.0	--	--	--	<3.0	--	<2.8	--
Methyl-Tert-Butyl Ether	ug/m3	110	3700	--	--	<1.0	--	--	<1.0	--	--	--	<1.0	--	<0.95	--
Methylene Chloride	ug/m3	630	21000	--	--	5.9	--	--	9.2	--	--	--	7.9	--	18.8	--
Naphthalene	ug/m3	0.83	28	--	--	**16.5**	--	--	**13.7**	--	--	--	**2.3 J**	--	**3.9**	--
Propylene	ug/m3	3130	104333	--	--	<0.22	--	--	<0.22	--	--	--	<0.22	--	<0.21	--
Styrene	ug/m3	1040	34667	--	--	1.3 J	--	--	10.4	--	--	--	<0.52	--	9.1	--
Tetrachloroethene (PCE)	ug/m3	42	1400	<0.45	<0.44	<0.49	<2.35	<0.45	<0.48	--	<0.45	<0.44	<0.48	<0.45	<0.45	<0.43
Tetrahydrofuran	ug/m3	2090	69667	--	--	<0.40	--	--	<0.40	--	--	--	<0.40	--	<0.38	--
Toluene	ug/m3	5200	170000	--	--	3.5	--	--	6.7	--	--	--	2.9	--	17.4	--
Trichloroethene (TCE)	ug/m3	2.1	70	<0.44	<0.41	<0.40	<2.35	<0.44	<0.39	<2.35	<0.44	<0.42	<0.39	<0.42	<0.37	2
Trichlorofluoromethane	ug/m3	NS	NS	--	--	3.9	--	--	25.6	--	--	--	1.7 J	--	16.7	--
Vinyl Acetate	ug/m3	210	6967	--	--	<0.42	--	--	<0.41	--	--	--	<0.41	--	<0.39	--
Vinyl Chloride	ug/m3	1.7	57	<0.31	<0.19	<0.20	<2.35	<0.31	<0.19	--	<0.31	<0.20	<0.19	<0.20	<0.18	<0.19
cis-1,2-Dichloroethene	ug/m3	NS	NS	<0.40	<0.52	<0.34	<2.35	<0.40	<0.33	--	<0.40	<0.53	<0.33	<0.54	<0.32	<0.51
cis-1,3-Dichloropropene	ug/m3	NS	NS	--	--	<0.47	--	--	<0.46	--	--	--	<0.46	--	<0.44	--
m&p-Xylene	ug/m3	100	3300	--	--	1.5 J	--	--	5.9	--	--	--	1.8 J	--	5.5	--
n-Heptane	ug/m3	420	13900	--	--	1.5	--	--	6.7	--	--	--	0.67 J	--	2.3	--
n-Hexane	ug/m3	730	24333	--	--	2.2	--	--	2.0	--	--	--	2.1	--	4.3	--
o-Xylene	ug/m3	100	3300	--	--	0.57 J	--	--	2.5	--	--	--	0.62 J	--	1.7	--
trans-1,2-Dichloroethene	ug/m3	NS	NS	<0.62	<0.45	<0.44	<2.35	<0.62	<0.43	--	<0.62	<0.46	<0.43	<0.47	<0.41	<0.44
trans-1,3-Dichloropropene	ug/m3	NS	NS	--	--	<0.68	--	--	<0.67	--	--	--	<0.67	--	<0.63	--

TABLE 2
1003 and 1033 WEST ATKINSON AVENUE INDOOR AIR AND SUB-SLAB VAPOR RESULTS
Clare Central
1003 and 1033 West Atkinson Avenue
Milwaukee, Wisconsin

Location				1033 W. Atkinson APT 7	Unit #7 Porch - Outdoor Air (1033)	1033 W. Atkinson APT 8 Porch	1003 W. ATKINSON APT 3	11th Street Manhole
				IA-2	Ambient Air	BA-1	IA-7	MH-1
Parameter	Units	Residential Indoor Air Vapor Limits	Residential Sub Slab VRSL	6-Liter Summa Cannister	1-Liter Summa Canister with 24-hour grab sample	6-Liter Summa Cannister	6-Liter Summa Cannister	6-Liter Summa Cannister
				8/27/2019 - 8/28/2019	Ambient Air Samples: January 2018	8/27/2019 - 8/28/2019	8/27/2019 - 8/28/2019	7/22/2021
1,1,1-Trichloroethane	ug/m3	5200	170000	<1.3	--	<0.46	<0.69	<0.47
1,1,2,2-Tetrachloroethane	ug/m3	0.048	16	<1.2	--	<0.44	<0.65	<0.94
1,1,2-Trichloroethane	ug/m3	0.18	7	<1.1	--	<0.37	<0.56	<0.50
1,1,2-Trichlorotrifluoroethane	ug/m3	NS	NS	<2.4	--	<0.84	<1.3	<0.73
1,1-Dichloroethane	ug/m3	18	600	<0.96	--	<0.34	<0.50	<0.42
1,1-Dichloroethene	ug/m3	210	7000	<1.2	--	<0.41	<0.61	<0.35
1,2,4-Trichlorobenzene	ug/m3	2.1	70	<15.8	--	<5.5	<8.3	<12.3
1,2,4-Trimethylbenzene	ug/m3	63	2100	<1.9	--	0.97 J	<1.0	2.4 J
1,2-Dibromoethane (EDB)	ug/m3	0.0047	2	<1.6	--	<0.55	<0.82	<0.76
1,2-Dichlorobenzene	ug/m3	210	6967	<2.1	--	<0.74	<1.1	<1.0
1,2-Dichloroethane	ug/m3	1.1	37	<0.64	--	<0.22	<0.34	<0.49
1,2-Dichloropropane	ug/m3	4.17	139	<0.98	--	<0.34	<0.52	<0.68
1,3,5-Trimethylbenzene	ug/m3	63	2100	<1.7	--	<0.59	<0.89	1.5 J
1,3-Butadiene	ug/m3	0.094	31	<0.54	--	<0.19	<0.29	<0.30
1,3-Dichlorobenzene	ug/m3	NS	NS	<2.5	--	<0.87	<1.3	2.8 J
1,4-Dichlorobenzene	ug/m3	2.6	85	<4.2	--	<1.5	<2.2	<2.2
2-Butanone (MEK)	ug/m3	5200	173667	<1.6	--	1.6 J	<0.83	3.0 J
2-Hexanone	ug/m3	31	1043	<3.2	--	<1.1	<1.7	<1.1
2-Propanol	ug/m3	NS	NS	16.8	--	13.3	22.0	6.4
4-Ethyltoluene	ug/m3	NS	NS	<2.4	--	<0.85	<1.3	1.9 J
4-Methyl-2-Pentanone (MIBK)	ug/m3	3300	104300	<2.2	--	<0.77	<1.2	1.3 J
Acetone	ug/m3	32000	1073333	40.4	--	13.2	166	16.4
Benzene	ug/m3	3.6	120	**3.9**	--	0.89	0.64 J	2.9
Benzyl chloride	ug/m3	0.57	19	<5.1	--	<1.8	<2.7	<2.3
Bromodichloromethane	ug/m3	0.76	25	<1.6	--	<0.55	<0.82	<0.60
Bromoform	ug/m3	26	850	<6.0	--	<2.1	<3.2	<4.1
Bromomethane	ug/m3	5.2	174	<0.96	--	<0.34	<0.51	<0.38
Carbon Disulfide	ug/m3	730	24333	<0.93	--	0.80 J	<0.49	<0.33
Carbon Tetrachloride	ug/m3	4.7	160	<1.8	--	<0.64	<0.96	<0.71
Chlorobenzene	ug/m3	52	1737	<1.2	--	<0.41	<0.62	<0.39
Chloroethane	ug/m3	NS	NS	<1.1	--	<0.39	<0.58	<0.57
Chloroform	ug/m3	1.2	40	<0.83	--	<0.29	<0.44	<0.46
Chloromethane	ug/m3	94	3100	3.1	--	1.2	1.2	2.0
Cyclohexane	ug/m3	6300	208667	<1.5	--	<0.53	<0.79	<0.56
Dibromochloromethane	ug/m3	NS	NS	<3.1	--	<1.1	<1.6	<1.3
Dichlorodifluoromethane	ug/m3	100	3300	3.0 J	--	2.9	3.5	3.6
Dichlorotetrafluoroethane	ug/m3	NS	NS	<1.9	--	<0.65	<0.98	<0.51
Ethanol	ug/m3	NS	NS	3080	--	32.2	4810	30.5
Ethyl Acetate	ug/m3	73	2433	5.6	--	<0.28	11.9	21.2
Ethylbenzene	ug/m3	11	370	<1.3	--	<0.45	<0.68	2.0 J
Hexachloro-1,3-butadiene	ug/m3	NS	NS	<8.4	--	<2.9	<4.4	<3.1
Methyl-Tert-Butyl Ether	ug/m3	110	3700	<2.8	--	<0.99	<1.5	<0.32
Methylene Chloride	ug/m3	630	21000	46.9	--	8.8	10.1	<1.5
Naphthalene	ug/m3	0.83	28	<5.6	--	**2.7 J**	<3.0	<5.5
Propylene	ug/m3	3130	104333	11.5	--	2.3	<0.32	<0.33
Styrene	ug/m3	1040	34667	<1.5	--	<0.51	<0.77	<0.97
Tetrachloroethene (PCE)	ug/m3	42	1400	<1.3	<0.40	<0.47	<0.70	<0.74
Tetrahydrofuran	ug/m3	2090	69667	<1.1	--	<0.39	<0.58	<0.46
Toluene	ug/m3	5200	170000	5.0	--	1.9	2.3	6.1
Trichloroethene (TCE)	ug/m3	2.1	70	<1.1	<0.37	<0.38	<0.58	<0.50
Trichlorofluoromethane	ug/m3	NS	NS	1.6 J	--	2.3	1.8 J	2.0 J
Vinyl Acetate	ug/m3	210	6967	<1.1	--	<0.40	<0.60	<0.53
Vinyl Chloride	ug/m3	1.7	57	<0.54	<0.18	<0.19	<0.28	<0.22
cis-1,2-Dichloroethene	ug/m3	NS	NS	<0.93	<0.47	<0.33	<0.49	<0.49
cis-1,3-Dichloropropene	ug/m3	NS	NS	<1.3	--	<0.45	<0.68	<0.65
m&p-Xylene	ug/m3	100	3300	<3.0	--	1.2 J	<1.6	4.5
n-Heptane	ug/m3	420	13900	<1.6	--	<0.57	<0.85	1.9 J
n-Hexane	ug/m3	730	24333	6.9	--	2.0	1.8	7.3
o-Xylene	ug/m3	100	3300	<1.5	--	<0.51	<0.77	1.7 J
trans-1,2-Dichloroethene	ug/m3	NS	NS	<1.2	<0.41	<0.42	<0.64	<0.43
trans-1,3-Dichloropropene	ug/m3	NS	NS	<1.9	--	<0.66	<0.99	<1.4

Notes:
1. Indoor air samples (dated 2011 through 2018) were collected by Terracon. GZA collected samples date 8/27/2019 at times ranging from 0821 and 0847 at waist level inside the buildings. Samples were analyzed by Pace Analytical of Minneapolis, MN for volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method TO-15.
2. The results above are provided in micrograms per cubic meter (µg/m^3). Concentrations were converted from parts per billion (ppb) to µg/m^3 using the formula provided on the WDNR Quick Look-Up Table at https://dnr.wi.gov/topic/Brownfields/documents/vapor/vapor-quick.pdf
3. The Vapor Action Levels (VALs) were obtained from the "WI Vapor Quick Look Up Table for Indoor Air VALs and VRSLs" (based on November 2017 USEPA Regional Screening Levels (RSLs). The USEPA RSL tables (updated May 2019) were referenced if a compound was not listed on the Quick Look Up Table. The smaller of the two values listed was selected as the VAL and a hazard index (HI) of 1x10-6 was applied for carcinogenic RSLs, which were compared to non-carcinogenic RSLs.
4. "NS" denotes that no standard (USEPA RSL) has been established for the analyte.
5. "ND" denotes that the analyte was not detected.
6. **Red bold** font indicates an exceedance of the residential/small commercial VRSL. **Underlined bold** font indicates an exceedance of the residential/small commercial VAL.
7. "J" and "E" denotes an estimated value because the analyte was detected between the laboratory's Limit of Detection and the Limit of Quantitation.
8. Only detected VOCs are shown.

FIGURES



0 1,000 2,000 4,000

SCALE IN FEET

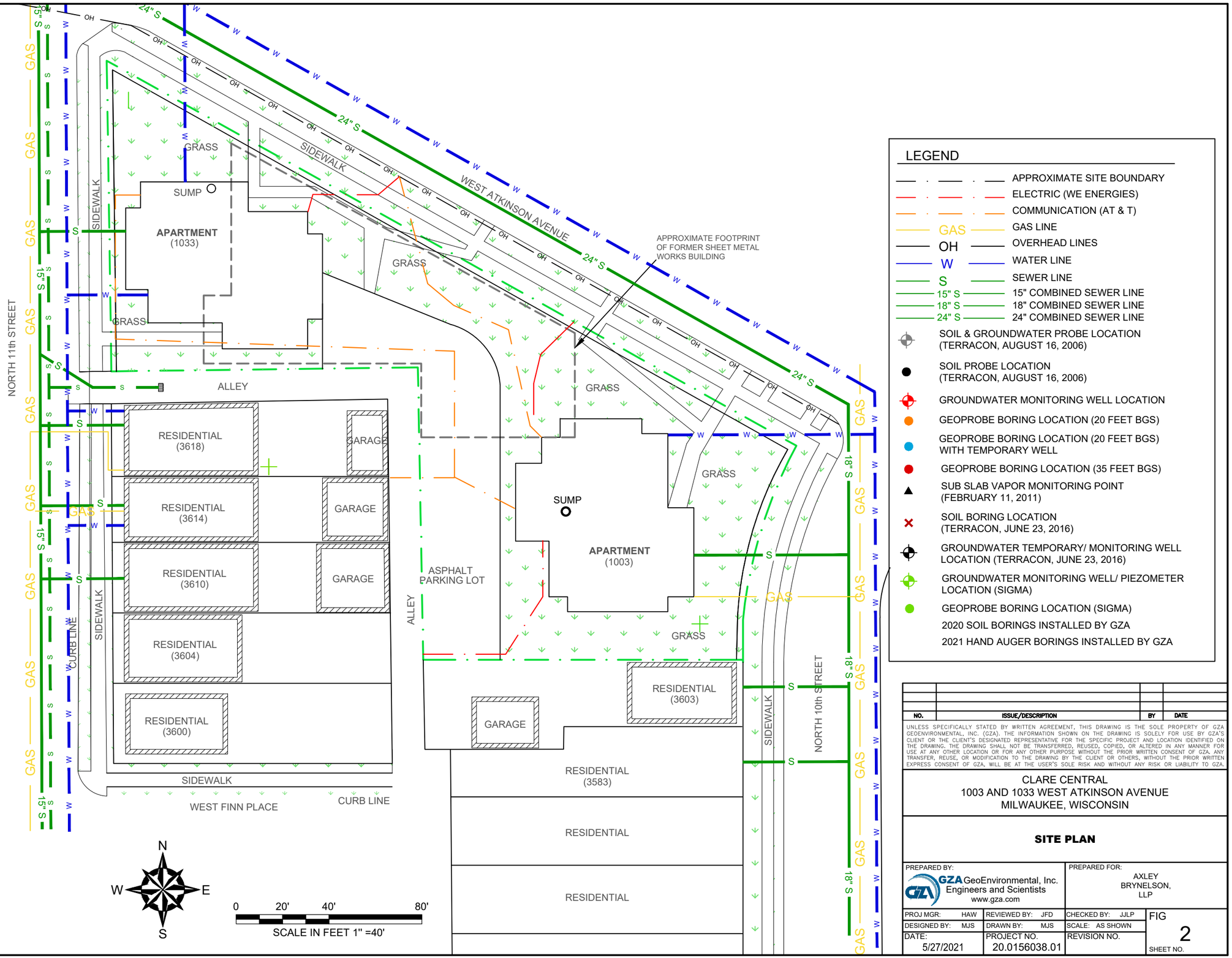
CLARE CENTRAL
1003 AND 1033 WEST ATKINSON AVENUE
MILWAUKEE, WISCONSIN

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
AXLEY BRYNELSON, LLP

SITE LOCATION

PROJ MGR: HAW	REVIEWED BY: JFD	CHECKED BY: JJLP	FIG 1
DESIGNED BY: MJS	DRAWN BY: MJS	SCALE: 1 in = 2,000 ft	
DATE: 09/26/2019	PROJECT NO: 20.0156038.01	REVISION NO:	SHEET NO: 1 OF 12



LEGEND

- APPROXIMATE SITE BOUNDARY
- ELECTRIC (WE ENERGIES)
- COMMUNICATION (AT & T)
- GAS LINE
- OVERHEAD LINES
- WATER LINE
- SEWER LINE
- 15" COMBINED SEWER LINE
- 18" COMBINED SEWER LINE
- 24" COMBINED SEWER LINE
- SOIL & GROUNDWATER PROBE LOCATION (TERRACON, AUGUST 16, 2006)
- SOIL PROBE LOCATION (TERRACON, AUGUST 16, 2006)
- GROUNDWATER MONITORING WELL LOCATION
- GEOPROBE BORING LOCATION (20 FEET BGS)
- GEOPROBE BORING LOCATION (20 FEET BGS) WITH TEMPORARY WELL
- GEOPROBE BORING LOCATION (35 FEET BGS)
- SUB SLAB VAPOR MONITORING POINT (FEBRUARY 11, 2011)
- SOIL BORING LOCATION (TERRACON, JUNE 23, 2016)
- GROUNDWATER TEMPORARY/ MONITORING WELL LOCATION (TERRACON, JUNE 23, 2016)
- GROUNDWATER MONITORING WELL/ PIEZOMETER LOCATION (SIGMA)
- GEOPROBE BORING LOCATION (SIGMA)
- 2020 SOIL BORINGS INSTALLED BY GZA
- 2021 HAND AUGER BORINGS INSTALLED BY GZA

NOTES

1. BASE MAP DEVELOPED BY TERRACON CONSULTANTS, INC. (TERRACON).
2. TERRACON MAP SOURCE: MILWAUKEE COUNTY LAND INFORMATION OFFICE INTERACTIVE MAPPING SERVICE WEBSITE (2010 AERIAL).
3. 'BGS' = BELOW GROUND SURFACE.

NO.	ISSUE/DESCRIPTION	BY	DATE

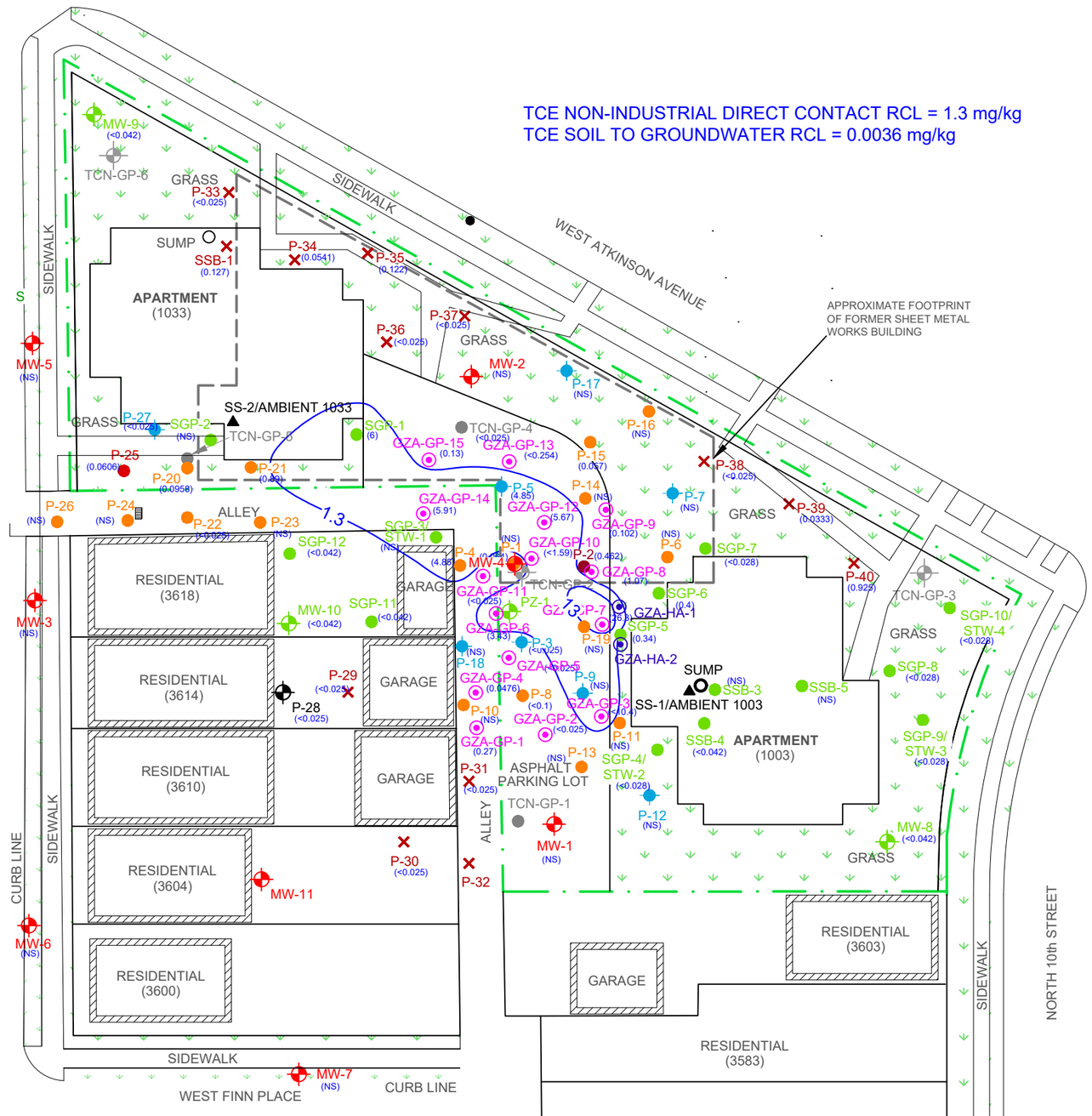
CLARE CENTRAL
1003 AND 1033 WEST ATKINSON AVENUE
MILWAUKEE, WISCONSIN

SITE PLAN

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
AXLEY
BRYNELSON,
LLP

PROJ MGR: HAW	REVIEWED BY: JFD	CHECKED BY: JJLP	FIG
DESIGNED BY: MJS	DRAWN BY: MJS	SCALE: AS SHOWN	2
DATE: 5/27/2021	PROJECT NO. 20.0156038.01	REVISION NO.	SHEET NO.



ISOCONCENTRATION LEGEND

0.5 — TRICHLOROETHYLENE (TCE) ISOCONCENTRATION CONTOUR, mg/kg

NOTE: PZ-1 WAS NOT USED FOR ISOCONCENTRATION CONTOURS.

LEGEND

- APPROXIMATE SITE BOUNDARY
- ELECTRIC (WE ENERGIES)
- COMMUNICATION (AT & T)
- GAS LINE
- OVERHEAD LINES
- WATER LINE
- SEWER LINE
- 15" COMBINED SEWER LINE
- 18" COMBINED SEWER LINE
- 24" COMBINED SEWER LINE
- SOIL & GROUNDWATER PROBE LOCATION (TERRACON, AUGUST 16, 2006)
- SOIL PROBE LOCATION (TERRACON, AUGUST 16, 2006)
- GROUNDWATER MONITORING WELL LOCATION
- GEOPROBE BORING LOCATION (20 FEET BGS)
- GEOPROBE BORING LOCATION (20 FEET BGS) WITH TEMPORARY WELL
- GEOPROBE BORING LOCATION (35 FEET BGS)
- SUB SLAB VAPOR MONITORING POINT (FEBRUARY 11, 2011)
- SOIL BORING LOCATION (TERRACON, JUNE 23, 2016)
- GROUNDWATER TEMPORARY/ MONITORING WELL LOCATION (TERRACON, JUNE 23, 2016)
- GROUNDWATER MONITORING WELL/ PIEZOMETER LOCATION (SIGMA)
- GEOPROBE BORING LOCATION (SIGMA)
- 2020 SOIL BORINGS INSTALLED BY GZA
- 2021 HAND AUGER BORINGS INSTALLED BY GZA

NOTES

1. BASE MAP DEVELOPED BY TERRACON CONSULTANTS, INC. (TERRACON).
2. TERRACON MAP SOURCE: MILWAUKEE COUNTY LAND INFORMATION OFFICE INTERACTIVE MAPPING SERVICE WEBSITE (2010 AERIAL).
3. 'BGS' = BELOW GROUND SURFACE.

NO.	ISSUE/DESCRIPTION	BY	DATE

CLARE CENTRAL
1003 AND 1033 WEST ATKINSON AVENUE
MILWAUKEE, WISCONSIN

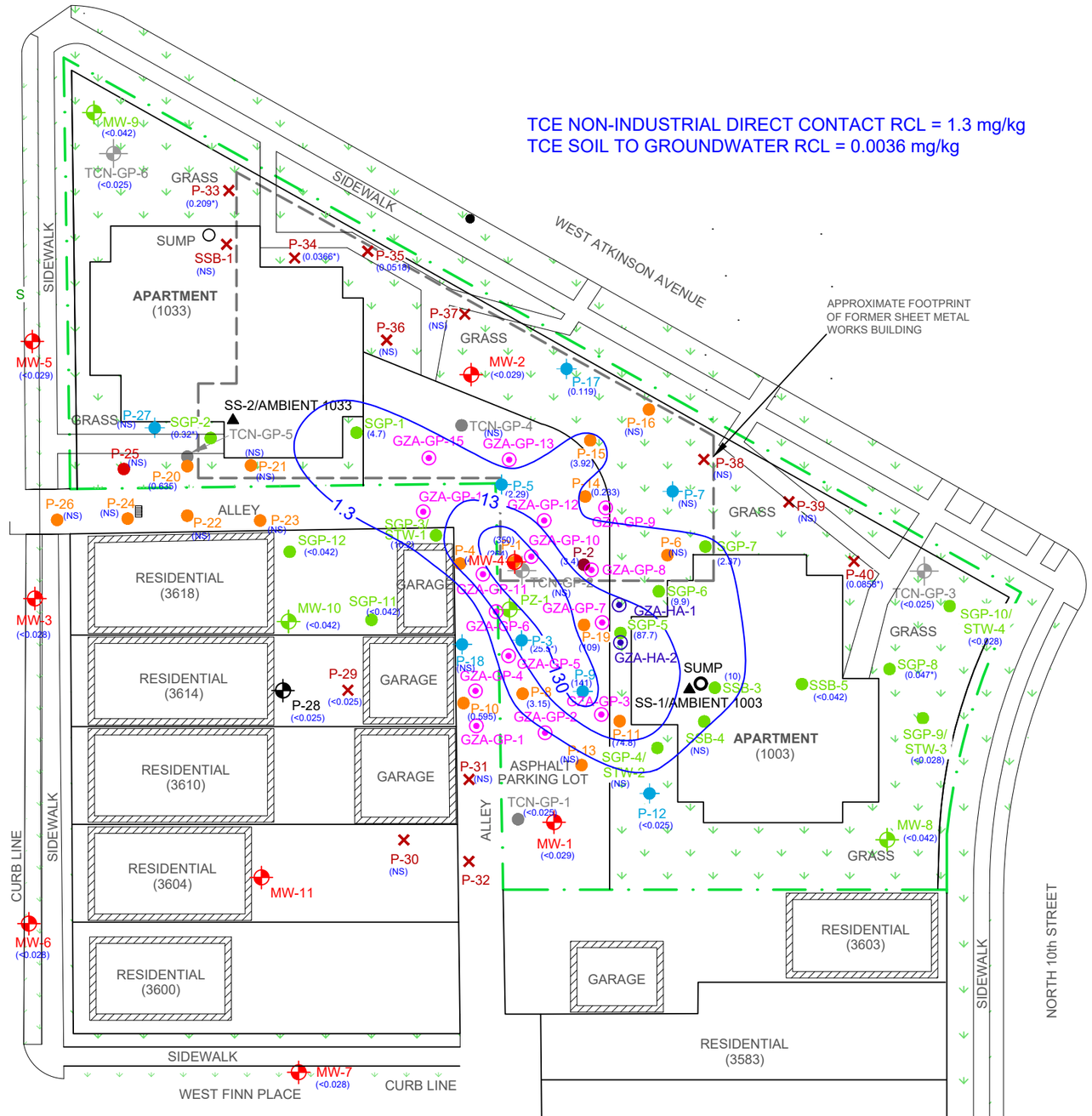
TCE SOIL DISTRIBUTION 0 TO 4 FEET

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com

PREPARED FOR: AXLEY BRYNELSON, LLP

PROJ MGR: HAW	REVIEWED BY: JFD	CHECKED BY: JJLP	FIG 3
DESIGNED BY: MJS	DRAWN BY: MJS	SCALE: AS SHOWN	SHEET NO.
DATE: 7/8/2021	PROJECT NO. 20.0156038.01	REVISION NO.	

TCE NON-INDUSTRIAL DIRECT CONTACT RCL = 1.3 mg/kg
TCE SOIL TO GROUNDWATER RCL = 0.0036 mg/kg



ISOCONCENTRATION LEGEND

0.5 TRICHLOROETHYLENE (TCE) ISOCONCENTRATION CONTOUR, mg/kg

NOTE: PZ-1 WAS NOT USED FOR ISOCONCENTRATION CONTOURS.

LEGEND

- APPROXIMATE SITE BOUNDARY
- ELECTRIC (WE ENERGIES)
- COMMUNICATION (AT & T)
- GAS LINE
- OVERHEAD LINES
- WATER LINE
- SEWER LINE
- 15" S — 15" COMBINED SEWER LINE
- 18" S — 18" COMBINED SEWER LINE
- 24" S — 24" COMBINED SEWER LINE
- SOIL & GROUNDWATER PROBE LOCATION (TERRACON, AUGUST 16, 2006)
- SOIL PROBE LOCATION (TERRACON, AUGUST 16, 2006)
- GROUNDWATER MONITORING WELL LOCATION
- GEOPROBE BORING LOCATION (20 FEET BGS)
- GEOPROBE BORING LOCATION (20 FEET BGS) WITH TEMPORARY WELL
- GEOPROBE BORING LOCATION (35 FEET BGS)
- SUB SLAB VAPOR MONITORING POINT (FEBRUARY 11, 2011)
- SOIL BORING LOCATION (TERRACON, JUNE 23, 2016)
- GROUNDWATER TEMPORARY/ MONITORING WELL LOCATION (TERRACON, JUNE 23, 2016)
- GROUNDWATER MONITORING WELL/ PIEZOMETER LOCATION (SIGMA)
- GEOPROBE BORING LOCATION (SIGMA)
- 2020 SOIL BORINGS INSTALLED BY GZA
- 2021 HAND AUGER BORINGS INSTALLED BY GZA

NOTES

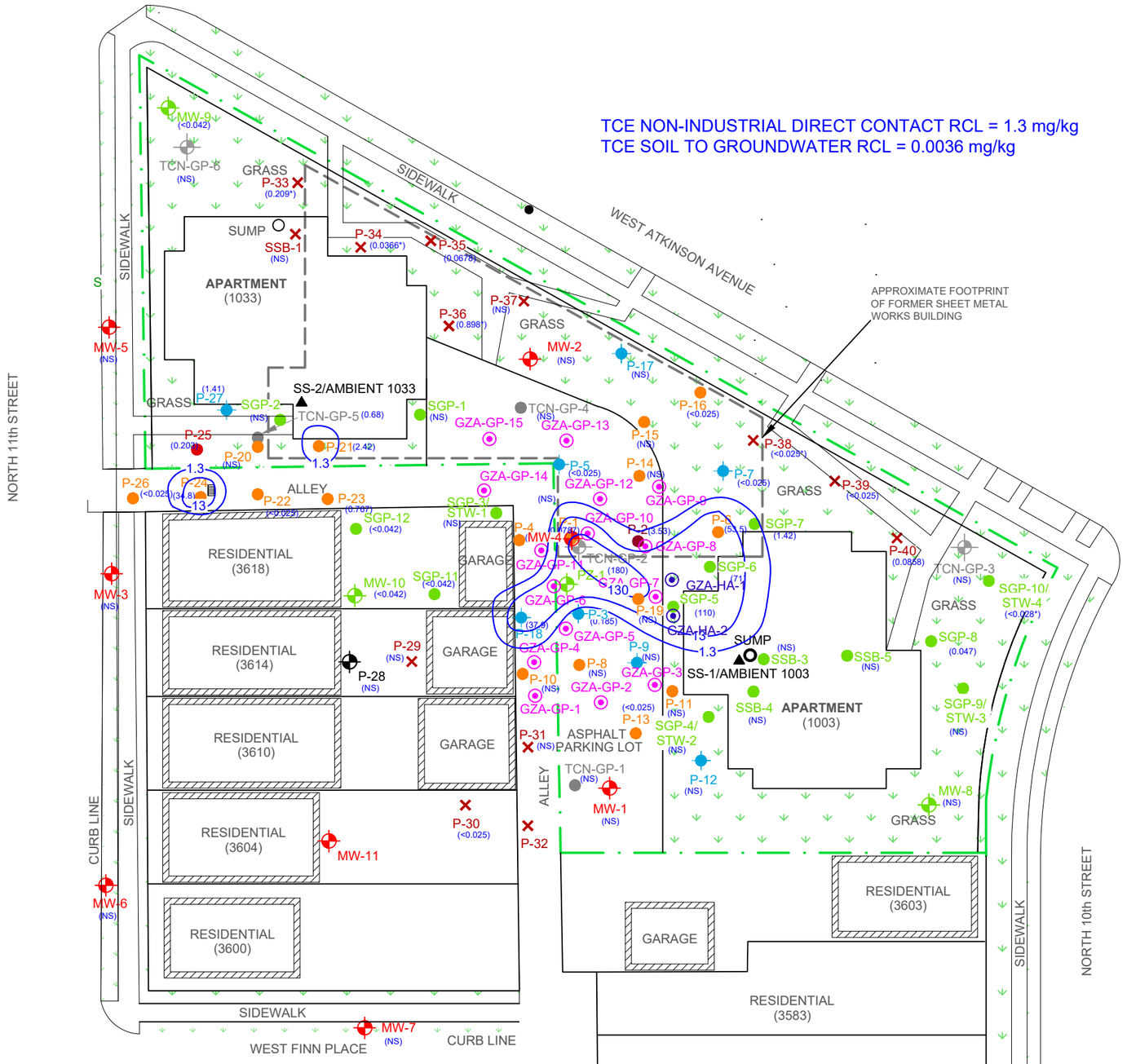
1. BASE MAP DEVELOPED BY TERRACON CONSULTANTS, INC. (TERRACON).
2. TERRACON MAP SOURCE: MILWAUKEE COUNTY LAND INFORMATION OFFICE INTERACTIVE MAPPING SERVICE WEBSITE (2010 AERIAL).
3. 'BGS' = BELOW GROUND SURFACE.

NO.	ISSUE/DESCRIPTION	BY	DATE

CLARE CENTRAL
1003 AND 1033 WEST ATKINSON AVENUE
MILWAUKEE, WISCONSIN

TCE SOIL DISTRIBUTION 4 TO 8 FEET

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: AXLEY BRYNELSON, LLP	
PROJ MGR: HAW	REVIEWED BY: JFD	CHECKED BY: JJLP	FIG 4
DESIGNED BY: MJS	DRAWN BY: MJS	SCALE: AS SHOWN	
DATE: 7/8/2021	PROJECT NO. 20.0156038.01	REVISION NO.	SHEET NO.



ISOCONCENTRATION LEGEND

0.5 — TRICHLOROETHYLENE (TCE) ISOCONCENTRATION CONTOUR, mg/kg

NOTE: PZ-1 WAS NOT USED FOR ISOCONCENTRATION CONTOURS.

LEGEND

- APPROXIMATE SITE BOUNDARY
- ELECTRIC (WE ENERGIES)
- COMMUNICATION (AT & T)
- GAS LINE
- OVERHEAD LINES
- WATER LINE
- SEWER LINE
- 15" COMBINED SEWER LINE
- 18" COMBINED SEWER LINE
- 24" COMBINED SEWER LINE
- SOIL & GROUNDWATER PROBE LOCATION (TERRACON, AUGUST 16, 2006)
- SOIL PROBE LOCATION (TERRACON, AUGUST 16, 2006)
- GROUNDWATER MONITORING WELL LOCATION
- GEOPROBE BORING LOCATION (20 FEET BGS)
- GEOPROBE BORING LOCATION (20 FEET BGS) WITH TEMPORARY WELL
- GEOPROBE BORING LOCATION (35 FEET BGS)
- SUB SLAB VAPOR MONITORING POINT (FEBRUARY 11, 2011)
- SOIL BORING LOCATION (TERRACON, JUNE 23, 2016)
- GROUNDWATER TEMPORARY/ MONITORING WELL LOCATION (TERRACON, JUNE 23, 2016)
- GROUNDWATER MONITORING WELL/ PIEZOMETER LOCATION (SIGMA)
- GEOPROBE BORING LOCATION (SIGMA)
- 2020 SOIL BORINGS INSTALLED BY GZA
- 2021 HAND AUGER BORINGS INSTALLED BY GZA

NOTES

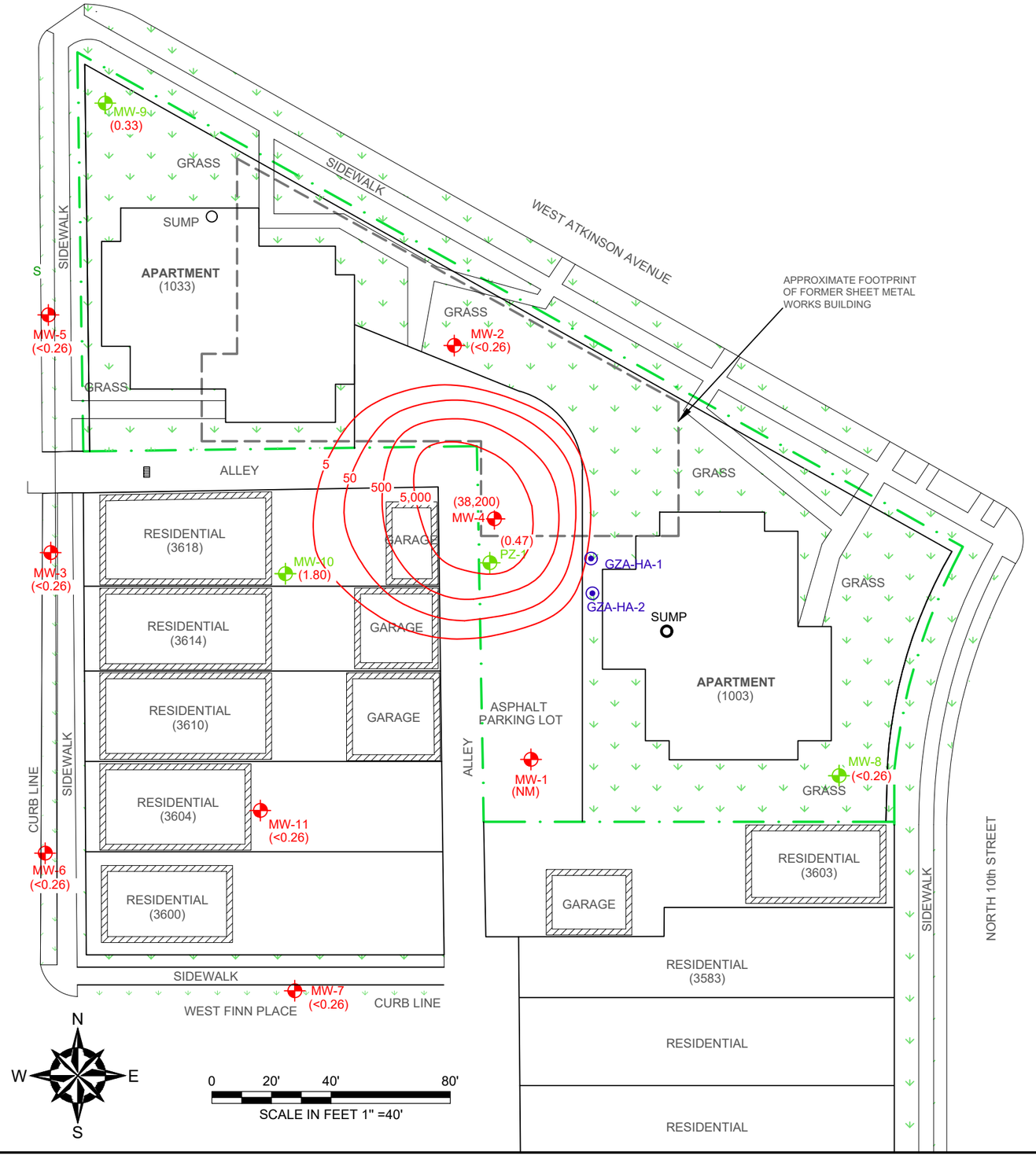
1. BASE MAP DEVELOPED BY TERRACON CONSULTANTS, INC. (TERRACON).
2. TERRACON MAP SOURCE: MILWAUKEE COUNTY LAND INFORMATION OFFICE INTERACTIVE MAPPING SERVICE WEBSITE (2010 AERIAL).
3. 'BGS' = BELOW GROUND SURFACE.

NO.	ISSUE/DESCRIPTION	BY	DATE

CLARE CENTRAL
1003 AND 1033 WEST ATKINSON AVENUE
MILWAUKEE, WISCONSIN

TCE SOIL DISTRIBUTION
8 TO 12 FEET

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: AXLEY BRYNELSON, LLP	
PROJ MGR: HAW	REVIEWED BY: JFD	CHECKED BY: JJLP	FIG 5
DESIGNED BY: MJS	DRAWN BY: MJS	SCALE: AS SHOWN	SHEET NO.
DATE: 7/8/2021	PROJECT NO. 20.0156038.01	REVISION NO.	



ISOCONCENTRATION LEGEND

- 0.5 — TRICHLOROETHYLENE (TCE) ISOCONCENTRATION CONTOUR, UG/L
  NOTE: PZ-1 WAS NOT USED FOR ISOCONCENTRATION CONTOURS.
- 0.5 — VINYL CHLORIDE (VC) ISOCONCENTRATION CONTOUR, UG/L

LEGEND

- APPROXIMATE SITE BOUNDARY
- ELECTRIC (WE ENERGIES)
- COMMUNICATION (AT & T)
- GAS — GAS LINE
- OH — OVERHEAD LINES
- W — WATER LINE
- S — SEWER LINE
- 15" S — 15" COMBINED SEWER LINE
- 18" S — 18" COMBINED SEWER LINE
- 24" S — 24" COMBINED SEWER LINE
- SOIL & GROUNDWATER PROBE LOCATION (TERRACON, AUGUST 16, 2006)
- SOIL PROBE LOCATION (TERRACON, AUGUST 16, 2006)
- GROUNDWATER MONITORING WELL LOCATION
- GEOPROBE BORING LOCATION (20 FEET BGS)
- GEOPROBE BORING LOCATION (20 FEET BGS) WITH TEMPORARY WELL
- GEOPROBE BORING LOCATION (35 FEET BGS)
- SUB SLAB VAPOR MONITORING POINT (FEBRUARY 11, 2011)
- SOIL BORING LOCATION (TERRACON, JUNE 23, 2016)
- GROUNDWATER TEMPORARY/ MONITORING WELL LOCATION (TERRACON, JUNE 23, 2016)
- GROUNDWATER MONITORING WELL/ PIEZOMETER LOCATION (SIGMA)
- GEOPROBE BORING LOCATION (SIGMA)
- 2020 SOIL BORINGS INSTALLED BY GZA
- 2021 HAND AUGER BORINGS INSTALLED BY GZA

NOTES

1. BASE MAP DEVELOPED BY TERRACON CONSULTANTS, INC. (TERRACON).
2. TERRACON MAP SOURCE: MILWAUKEE COUNTY LAND INFORMATION OFFICE INTERACTIVE MAPPING SERVICE WEBSITE (2010 AERIAL).
3. 'TCE' = TRICHLOROETHYLENE
4. 'BGS' = BELOW GROUND SURFACE.

NO.	ISSUE/DESCRIPTION	BY	DATE

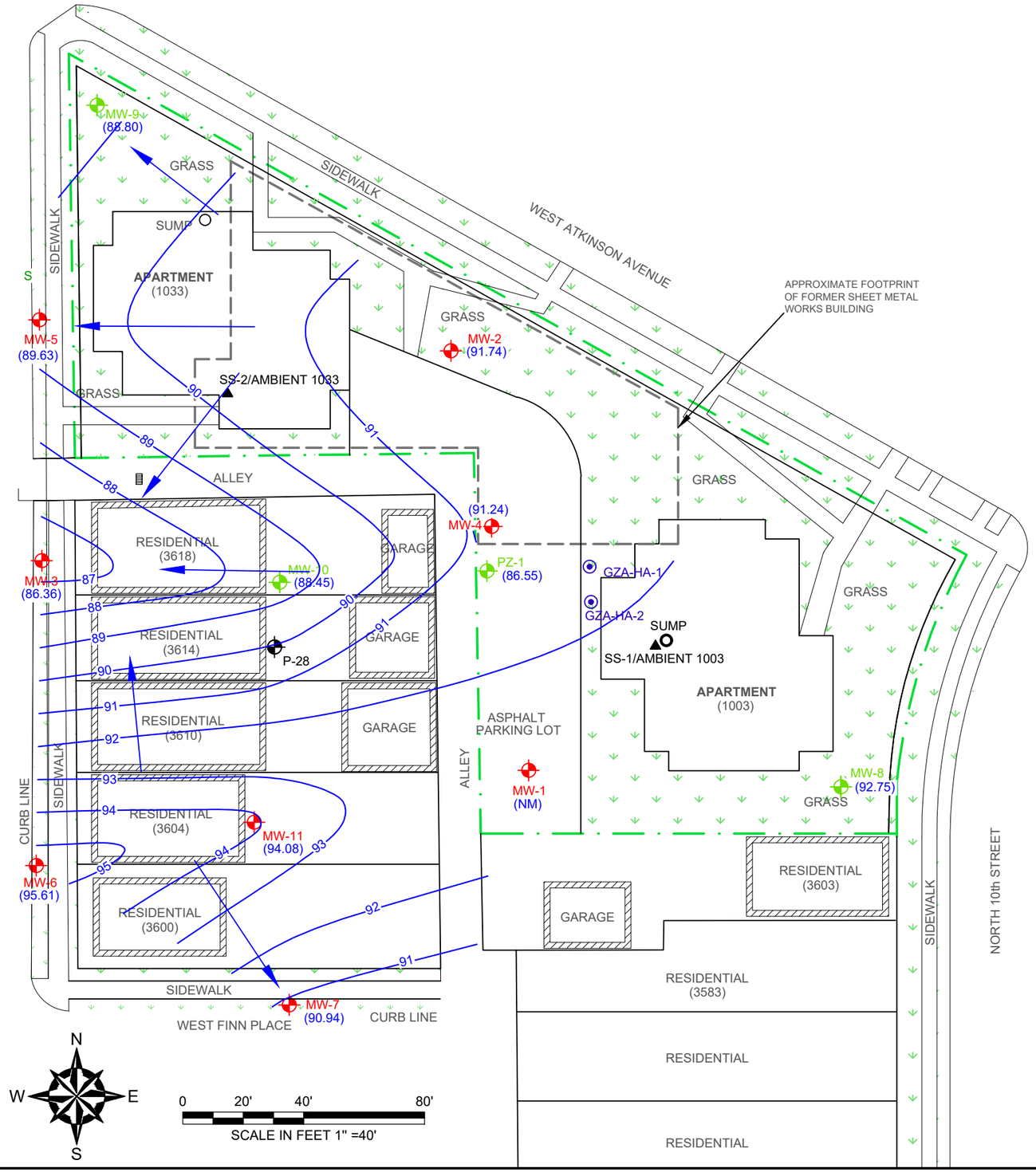
CLARE CENTRAL
1003 AND 1033 WEST ATKINSON AVENUE
MILWAUKEE, WISCONSIN

TCE GROUNDWATER ISOCONCENTRATION MAP (AUGUST 26, 2019)

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
AXLEY BRYNELSON, LLP

PROJ MGR: HAW	REVIEWED BY: JFD	CHECKED BY: JJLP	FIG
DESIGNED BY: MJS	DRAWN BY: MJS	SCALE: AS SHOWN	6
DATE: 7/8/2021	PROJECT NO. 20.0156038.01	REVISION NO.	SHEET NO.



GROUNDWATER FLOW LEGEND

- 91 — GROUNDWATER ELEVEATION CONTOUR, FEET
- GROUNDWATER FLOW DIRECTION

LEGEND

- APPROXIMATE SITE BOUNDARY
- ELECTRIC (WE ENERGIES)
- COMMUNICATION (AT & T)
- GAS — GAS LINE
- OH — OVERHEAD LINES
- W — WATER LINE
- S — SEWER LINE
- 15" S — 15" COMBINED SEWER LINE
- 18" S — 18" COMBINED SEWER LINE
- 24" S — 24" COMBINED SEWER LINE
- SOIL & GROUNDWATER PROBE LOCATION (TERRACON, AUGUST 16, 2006)
- SOIL PROBE LOCATION (TERRACON, AUGUST 16, 2006)
- GROUNDWATER MONITORING WELL LOCATION
- GEOPROBE BORING LOCATION (20 FEET BGS)
- GEOPROBE BORING LOCATION (20 FEET BGS) WITH TEMPORARY WELL
- GEOPROBE BORING LOCATION (35 FEET BGS)
- SUB SLAB VAPOR MONITORING POINT (FEBRUARY 11, 2011)
- SOIL BORING LOCATION (TERRACON, JUNE 23, 2016)
- GROUNDWATER TEMPORARY/ MONITORING WELL LOCATION (TERRACON, JUNE 23, 2016)
- GROUNDWATER MONITORING WELL/ PIEZOMETER LOCATION (SIGMA)
- GEOPROBE BORING LOCATION (SIGMA)
- 2020 SOIL BORINGS INSTALLED BY GZA
- 2021 HAND AUGER BORINGS INSTALLED BY GZA

NOTES

1. BASE MAP DEVELOPED BY TERRACON CONSULTANTS, INC. (TERRACON).
2. TERRACON MAP SOURCE: MILWAUKEE COUNTY LAND INFORMATION OFFICE INTERACTIVE MAPPING SERVICE WEBSITE (2010 AERIAL).
3. 'BGS' = BELOW GROUND SURFACE.

NO.	ISSUE/DESCRIPTION	BY	DATE

CLARE CENTRAL
1003 AND 1033 WEST ATKINSON AVENUE
MILWAUKEE, WISCONSIN

GROUNDWATER FLOW DIRECTION (AUGUST 26, 2019)

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: AXLEY BRYNELSON, LLP	
PROJ MGR: HAW	REVIEWED BY: JFD	CHECKED BY: JJLP	FIG
DESIGNED BY: MJS	DRAWN BY: MJS	SCALE: AS SHOWN	7
DATE: 9/23/2019	PROJECT NO. 20.0156038.01	REVISION NO.	SHEET NO.

APARTMENT
(1033)

MW-5

GRASS

CATCH BASIN SOIL EXCAVATION- 12 FEET

ALLEY

RESIDENTIAL
(3618)

MW-3

MW-10

GARAGE

RESIDENTIAL
(3614)

RESIDENTIAL
(3610)

GARAGE

LINE

SIDEWALK

1.3

MW-4

PZ-1

PHASE 1 SOIL TREATMENT- 0 TO 4 FEET

GRASS

MW-2

PHASE 1 DIRECT LOAD- 0 TO 4 FEET

PHASE 2 SOIL TREATMENT- 4 TO 8 FEET

APPROXIMATE FOOTPRINT OF FORMER SHEET METAL WORKS BUILDING

GRASS

SUMP

APARTMENT
(1003)

ASPHALT PARKING LOT

ALLEY

MW-1

NOTES

1. BASE MAP DEVELOPED BY TERRACON CONSULTANTS, INC. (TERRACON).
2. TERRACON MAP SOURCE: MILWAUKEE COUNTY LAND INFORMATION OFFICE INTERACTIVE MAPPING SERVICE WEBSITE (2010 AERIAL).
3. 'BGS' = BELOW GROUND SURFACE.

N W E S

0 10' 20' 40'

SCALE IN FEET 1" = 20'

ISOCONCENTRATION LEGEND

1.3 TRICHLOROETHYLENE (TCE) ISOCONCENTRATION CONTOUR, mg/kg

NO.	ISSUE/DESCRIPTION	BY	DATE

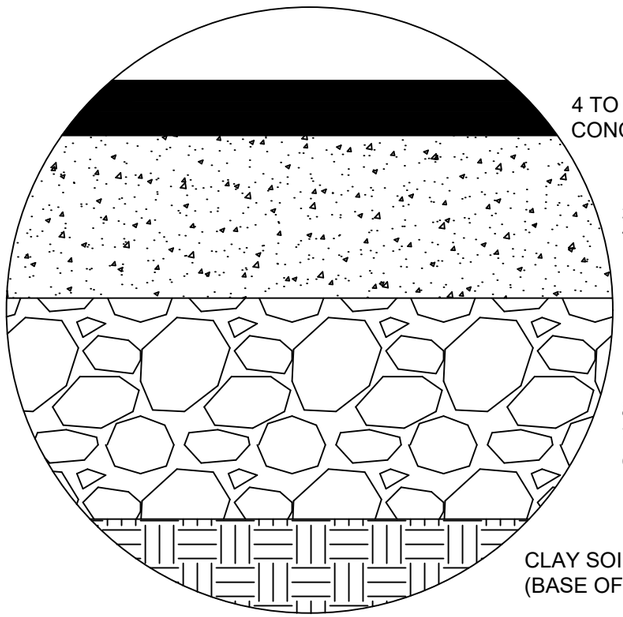
CLARE CENTRAL
1003 AND 1033 WEST ATKINSON AVENUE
MILWAUKEE, WISCONSIN

PROPOSED SOIL EXCAVATION LIMITS
0 TO 4 FEET

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: AXLEY BRYNELSON, LLP	
PROJ MGR: HAW	REVIEWED BY: JFD	CHECKED BY: JJLP	FIG
DESIGNED BY: MJS	DRAWN BY: MJS	SCALE: AS SHOWN	
DATE: 7/8/2021	PROJECT NO. 20.0156038.01	REVISION NO.	8 SHEET NO.

NOTES:
1. THE CATCH BASIN EXCAVATION WILL BE APPROXIMATELY 15 FEET LONG AND WIDE AND 12 FEET DEEP
2. THE SIDEWALLS OF THE EXCAVATION WILL BE SLOPED AND MAY REDUCE THE VOLUME OF SOIL THAT CAN BE EXCAVATED AT A DEPTH OF 12 FEET BGS.
3. THE REPLACEMENT OF THE CATCH BASIN TO BE CONFIRMED WITH THE CITY OF MILWAUKEE.
4. IF REPLACEMENT IS NECESSARY, CATCH BASIN WILL BE INSTALLED IN ACCORDANCE WITH CITY OF MILWAUKEE SPECIFICATIONS.
5. THE DEPTH OF THE BASEMENT FOR THE 3618 RESIDENCE IS ASSUMED TO BE APPROXIMATELY 5 FEET BELOW GROUND AND 3 FEET ABOVE GROUND. THIS MAY VARY BASED ON FIELD CONFIRMATION.

BACKFILL SCHEMATIC

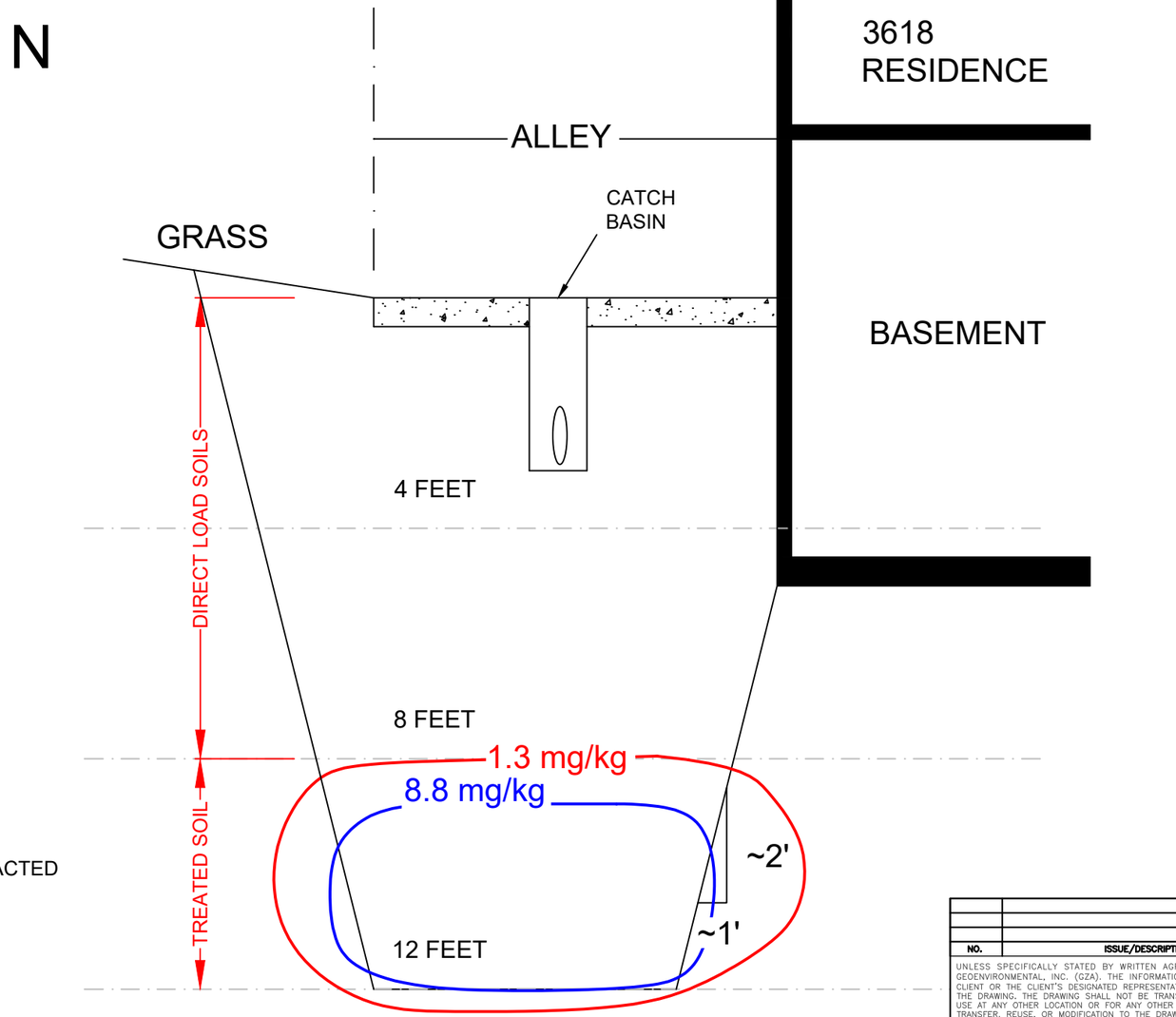


4 TO 6-INCHES ASPHALT/ CONCRETE

3.5 TO 4-FEET COMPACTED TRAFFIC BOND

8-FEET CLEAR AGGREGATE WITH NON-WOVEN FABRIC ON TOP

CLAY SOILS (BASE OF EXCAVATION)



0 2.5' 5' 10'

SCALE IN FEET 1" = 5'

VERTICAL EXAGERATION = 2X

NO.	ISSUE/DESCRIPTION	BY	DATE

CLARE CENTRAL
1003 AND 1033 WEST ATKINSON AVENUE
MILWAUKEE, WISCONSIN

CATCH BASIN EXCAVATION CROSS-SECTION

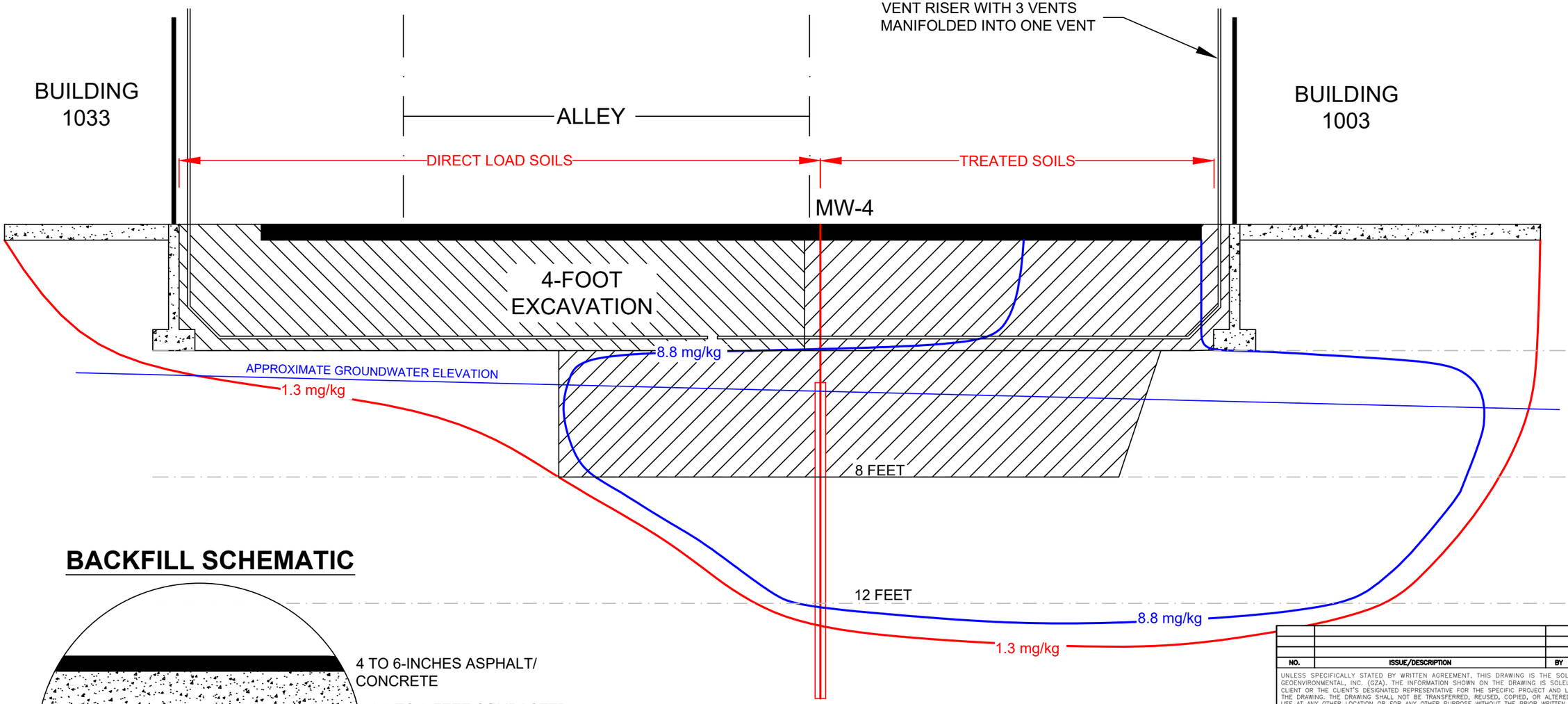
PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
TELOS, INC.
MILWAUKEE,
WISCONSIN

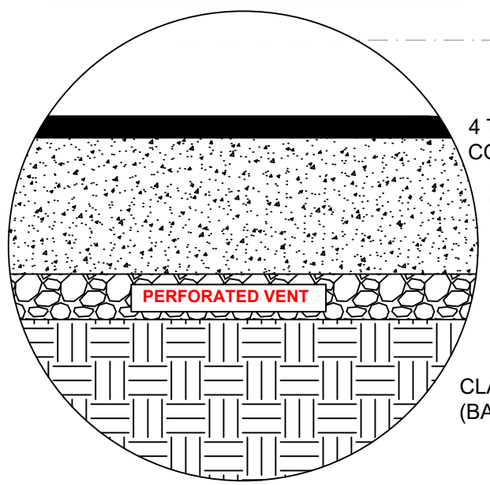
PROJ MGR: HAW	REVIEWED BY: JFD	CHECKED BY: JJLP	FIG
DESIGNED BY: MJS	DRAWN BY: MJS	SCALE: AS SHOWN	9
DATE: 7/8/2021	PROJECT NO. 20.0156038.01	REVISION NO.	SHEET NO.

NW

SE



BACKFILL SCHEMATIC



4 TO 6-INCHES ASPHALT/
CONCRETE

2.5 TO 3-FEET COMPACTED
TRAFFIC BOND

1-FOOT CLEAR AGGREGATE WITH
NON-WOVEN FABRIC ON TOP

CLAY SOILS
(BASE OF EXCAVATION)

NOTES:

1. THE EXTENT OF THE EXCAVATION IS BASED ON PREVIOUS SOIL SAMPLE RESULTS.
2. MONITORING WELL MW-4 WILL BE REPLACED IN APPROXIMATELY THE SAME LOCATION.
3. THE VENTNG SYSTEM RISER WILL BE PLACED IN A LOCATION ADJACENT TO THE BUILDING BASED ON FIELD CONDITIONS.

0 5' 10' 20'

SCALE IN FEET 1" = 10'

VERTICAL EXAGERATION = 3X

NO.	ISSUE/DESCRIPTION	BY	DATE

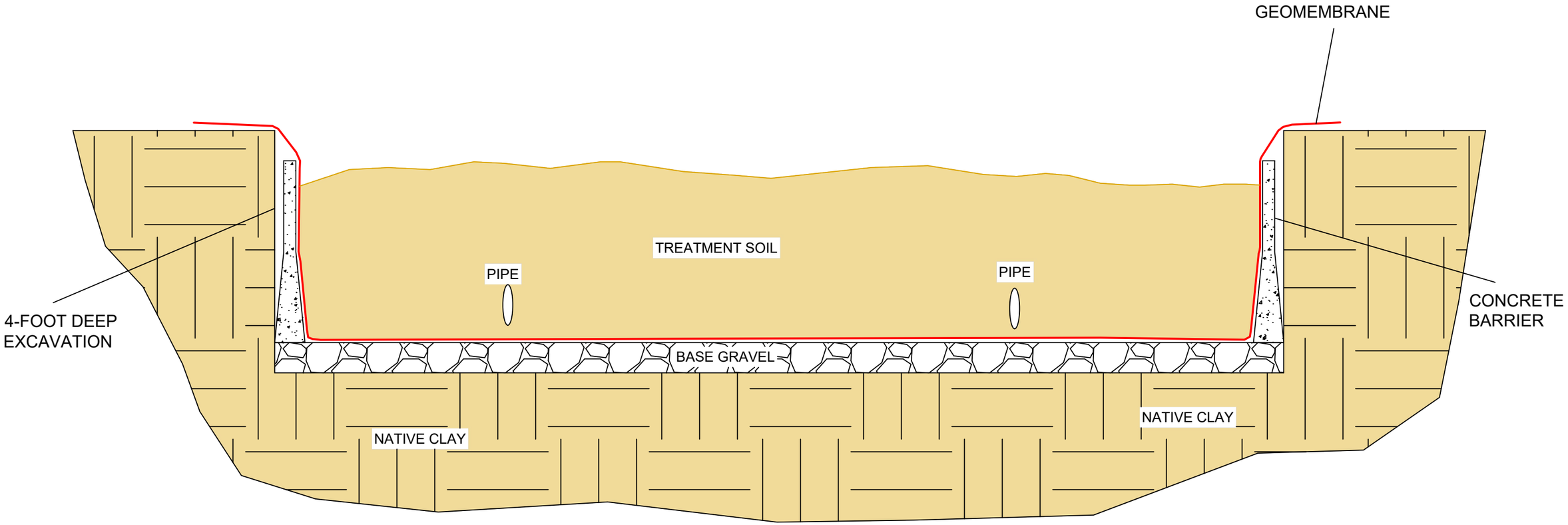
CLARE CENTRAL
1003 AND 1033 WEST ATKINSON AVENUE
MILWAUKEE, WISCONSIN

BUILDING 1003 & 1033 EXCAVATION CROSS-SECTION

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
TELOS, INC.
MILWAUKEE,
WISCONSIN

PROJ MGR: HAW	REVIEWED BY: JFD	CHECKED BY: JJLP	FIG 10
DESIGNED BY: MJS	DRAWN BY: MJS	SCALE: AS SHOWN	
DATE: 7/8/2021	PROJECT NO. 20.0156038.01	REVISION NO.	SHEET NO.



NOTES

1. THE TREATMENT CONTAINER/TANK WILL BE CONNSTRUCTED IN THE EXCAVATION BETWEEN BUILDINGS 1003 & 1033.
2. THE SIZE OF THE CONTAINER/TANK WILL BE DETEMRINED BASED ON THE VOLUME OF SOIL THAT REQUIRES TREATMENT.
3. THE GEOMEMBRANE WILL BE 10 TO 20 MIL IN THICKNESS
4. THE SOILS WILL BE TILLED TO BREAK UP THE SOILS AND THE SOILS WILL BE AERATED USING THE PIPE AT THE BASE OF THE SOILS.
5. THE CONCRETE BARRIER AND GEOMEMBRANE WILL BE REMOVED PRIOR TO PLACEMENT OF THE VENTILATION SYSTEM AND BACKFILLING THE EXCAVATION.

0 2.5' 5' 10'

SCALE IN FEET 1" = 5'

VERTICAL EXAGERATION = 3X

NO.	ISSUE/DESCRIPTION	BY	DATE

CLARE CENTRAL
1003 AND 1033 WEST ATKINSON AVENUE
MILWAUKEE, WISCONSIN

CONCEPTUAL TREATMENT CONTAINER/TANK SCHEMATIC

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
TELOS, INC.
MILWAUKEE,
WISCONSIN

PROJ MGR: HAW	REVIEWED BY: JFD	CHECKED BY: JJLP	FIG 11
DESIGNED BY: MJS	DRAWN BY: MJS	SCALE: AS SHOWN	
DATE: 7/8/2021	PROJECT NO. 20.0156038.01	REVISION NO.	SHEET NO.

APPENDIX A

LIMITATIONS

LIMITATIONS

Standard of Care

1. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the proposal and/or report and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. Conditions other than described in this report may be found at the subject location(s).
2. 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. Specifically, GZA does not and cannot represent that the site contains no hazardous material, oil, or other latent condition beyond that observed by GZA during its study. Additionally, GZA makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by a local, state, or federal agency.
3. In conducting our work, GZA relied upon certain information made available by public agencies, Client and/or others. GZA did not attempt to independently verify the accuracy or completeness of that information. Inconsistencies in this information which we have noted, if any, are discussed in the report.

Subsurface Conditions

4. The generalized soil profile(s) provided in our report are based on widely-spaced subsurface explorations and are intended only to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and were based on our assessment of subsurface conditions. The composition of strata and the transitions between strata may be more variable and more complex than indicated. For more specific information on soil conditions at a specific location, refer to the exploration logs.
5. Water level readings have been made in test holes (as described in the report) and monitoring wells at the specified times and under the stated conditions. These data have been reviewed and interpretations have been made in this report. Fluctuations in the level of the groundwater, however, occur due to temporal or spatial variations in areal recharge rates, soil heterogeneities, the presence of subsurface utilities and/or natural or artificially induced perturbations. The observed water table may be other than indicated in the report.

Compliance with Codes and Regulations

6. GZA used reasonable care in identifying and interpreting applicable codes and regulations necessary to execute our scope of work. These codes and regulations are subject to various and possibly contradictory interpretations. Interpretations and compliance with codes and regulations by other parties are beyond our control.

Screening and Analytical Testing

7. GZA collected environmental samples at the locations identified in the report. These samples were analyzed for the specific parameters identified in the report. Additional constituents, for which analyses were not conducted, may be present in soil, groundwater, surface water, sediment and/or air. Future site activities and uses may result in a requirement for additional testing.
8. Our interpretation of field screening and laboratory data is presented in the report. Unless otherwise noted, GZA relied on the laboratory's quality assurance (QA)/quality control (QC) program to validate these data.
9. Variations in the types and concentrations of contaminants observed at a given location or time may occur due to release mechanisms, disposal practices, changes in flow paths, and/or the influence of various physical, chemical, biological or radiological processes. Subsequently observed concentrations may be other than indicated in the report.

Interpretation of Data

10. Our opinions are based on available information, as described in the report, and on our professional judgment. Additional observations made over time and/or space may not support the opinions provided in the report.

Additional Information

11. In the event that Client or others authorized to use this report obtain information on environmental or hazardous waste 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 evaluation, may modify the conclusions stated in this report.

Additional Services

12. GZA recommends that we be retained to provide services during any future investigations, design, implementation activities, construction and/or property development/ redevelopment at the site. This will allow us the opportunity to: i) observe conditions and compliance with our design concepts and opinions; ii) allow for changes in the event that conditions are other than anticipated; iii) provide modifications to our design; and iv) assess the consequences of changes in technologies and/or regulations.

APPENDIX B

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY FORMS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

July 30, 2021

Heidi Woelfel
GZA
17975 West Sarah Lane
Suite 100
Brookfield, WI 53045

RE: Project: 20.015038.01 CLARE CENTRAL
Pace Project No.: 40230520

Dear Heidi Woelfel:

Enclosed are the analytical results for sample(s) received by the laboratory on July 23, 2021. 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 - Green Bay

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

Sincerely,

Christopher Hyska

Christopher Hyska
christopher.hyska@pacelabs.com
(920)469-2436
Project Manager

Enclosures

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 20.015038.01 CLARE CENTRAL
Pace Project No.: 40230520

Pace Analytical Services Green Bay
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 20.015038.01 CLARE CENTRAL
Pace Project No.: 40230520

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40230520001	**HA-1 (0-2)**	Solid	07/22/21 08:45	07/23/21 08:20
40230520002	**HA-1 (2-4)**	Solid	07/22/21 08:55	07/23/21 08:20
40230520003	**HA-2 (0-2)**	Solid	07/22/21 09:00	07/23/21 08:20
40230520004	**HA-2 (2-4)**	Solid	07/22/21 09:20	07/23/21 08:20

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: 20.015038.01 CLARE CENTRAL
Pace Project No.: 40230520

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40230520001	**HA-1 (0-2)**	EPA 8260	MDS	4	PASI-G
40230520002	**HA-1 (2-4)**	EPA 8260	MDS	4	PASI-G
40230520003	**HA-2 (0-2)**	EPA 8260	MDS	4	PASI-G
40230520004	**HA-2 (2-4)**	EPA 8260	MDS	4	PASI-G

PASI-G = Pace Analytical Services - Green Bay

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: 20.015038.01 CLARE CENTRAL
Pace Project No.: 40230520

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40230520002	**HA-1 (2-4)**					
EPA 8260	Trichloroethene	0.044	mg/L	0.010	07/29/21 18:12	
40230520003	**HA-2 (0-2)**					
EPA 8260	Trichloroethene	0.0036J	mg/L	0.010	07/29/21 18:33	
40230520004	**HA-2 (2-4)**					
EPA 8260	Trichloroethene	0.11	mg/L	0.010	07/29/21 18:54	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 20.015038.01 CLARE CENTRAL
Pace Project No.: 40230520

Sample: HA-1 (0-2) **Lab ID: 40230520001** Collected: 07/22/21 08:45 Received: 07/23/21 08:20 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 07/28/21 13:31 Pace Analytical Services - Green Bay								
Trichloroethene	**<0.0032**	mg/L	0.010	0.0032	10		07/29/21 17:52	79-01-6	
Surrogates									
Toluene-d8 (S)	102	%	70-130		10		07/29/21 17:52	2037-26-5	
4-Bromofluorobenzene (S)	118	%	70-130		10		07/29/21 17:52	460-00-4	
1,2-Dichlorobenzene-d4 (S)	111	%	70-130		10		07/29/21 17:52	2199-69-1	

Sample: HA-1 (2-4) **Lab ID: 40230520002** Collected: 07/22/21 08:55 Received: 07/23/21 08:20 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 07/28/21 13:31 Pace Analytical Services - Green Bay								
Trichloroethene	**0.044**	mg/L	0.010	0.0032	10		07/29/21 18:12	79-01-6	
Surrogates									
Toluene-d8 (S)	102	%	70-130		10		07/29/21 18:12	2037-26-5	
4-Bromofluorobenzene (S)	116	%	70-130		10		07/29/21 18:12	460-00-4	
1,2-Dichlorobenzene-d4 (S)	109	%	70-130		10		07/29/21 18:12	2199-69-1	

Sample: HA-2 (0-2) **Lab ID: 40230520003** Collected: 07/22/21 09:00 Received: 07/23/21 08:20 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 07/28/21 13:31 Pace Analytical Services - Green Bay								
Trichloroethene	**0.0036J**	mg/L	0.010	0.0032	10		07/29/21 18:33	79-01-6	
Surrogates									
Toluene-d8 (S)	102	%	70-130		10		07/29/21 18:33	2037-26-5	
4-Bromofluorobenzene (S)	117	%	70-130		10		07/29/21 18:33	460-00-4	
1,2-Dichlorobenzene-d4 (S)	109	%	70-130		10		07/29/21 18:33	2199-69-1	

Sample: HA-2 (2-4) **Lab ID: 40230520004** Collected: 07/22/21 09:20 Received: 07/23/21 08:20 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 07/28/21 13:31 Pace Analytical Services - Green Bay								
Trichloroethene	**0.11**	mg/L	0.010	0.0032	10		07/29/21 18:54	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 20.015038.01 CLARE CENTRAL
Pace Project No.: 40230520

Sample: HA-2 (2-4) **Lab ID: 40230520004** Collected: 07/22/21 09:20 Received: 07/23/21 08:20 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 07/28/21 13:31 Pace Analytical Services - Green Bay								
Surrogates									
Toluene-d8 (S)	104	%	70-130		10		07/29/21 18:54	2037-26-5	
4-Bromofluorobenzene (S)	116	%	70-130		10		07/29/21 18:54	460-00-4	
1,2-Dichlorobenzene-d4 (S)	110	%	70-130		10		07/29/21 18:54	2199-69-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 20.015038.01 CLARE CENTRAL
Pace Project No.: 40230520

QC Batch: 391621
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV TCLP
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40230520001, 40230520002, 40230520003, 40230520004

METHOD BLANK: 2259101 Matrix: Water
Associated Lab Samples: 40230520001, 40230520002, 40230520003, 40230520004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Trichloroethene	mg/L	<0.00032	0.0010	07/29/21 10:31	
1,2-Dichlorobenzene-d4 (S)	%	108	70-130	07/29/21 10:31	
4-Bromofluorobenzene (S)	%	117	70-130	07/29/21 10:31	
Toluene-d8 (S)	%	105	70-130	07/29/21 10:31	

METHOD BLANK: 2258428 Matrix: Solid
Associated Lab Samples: 40230520001, 40230520002, 40230520003, 40230520004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Trichloroethene	mg/L	<0.0032	0.010	07/29/21 10:52	
1,2-Dichlorobenzene-d4 (S)	%	111	70-130	07/29/21 10:52	
4-Bromofluorobenzene (S)	%	117	70-130	07/29/21 10:52	
Toluene-d8 (S)	%	105	70-130	07/29/21 10:52	

LABORATORY CONTROL SAMPLE: 2259102

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichloroethene	mg/L	0.05	0.048	96	70-130	
1,2-Dichlorobenzene-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			110	70-130	
Toluene-d8 (S)	%			104	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2259275 2259276

Parameter	Units	40230322001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Trichloroethene	mg/L	<0.0032	0.5	0.5	0.50	0.50	100	100	70-130	0	20	
1,2-Dichlorobenzene-d4 (S)	%						102	102	70-130			
4-Bromofluorobenzene (S)	%						108	108	70-130			
Toluene-d8 (S)	%						103	103	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 20.015038.01 CLARE CENTRAL
Pace Project No.: 40230520

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.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20.015038.01 CLARE CENTRAL
Pace Project No.: 40230520

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40230520001	**HA-1 (0-2)**	EPA 8260	391621		
40230520002	**HA-1 (2-4)**	EPA 8260	391621		
40230520003	**HA-2 (0-2)**	EPA 8260	391621		
40230520004	**HA-2 (2-4)**	EPA 8260	391621		

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

4023052O

Pace Analytical®
www.pacelabs.com

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	GZA GeoEnvironmental
Branch/Location:	Brookfield
Project Contact:	Heidi Woelfel
Phone:	414-687-3313
Project Number:	20.0156038.01
Project Name:	Clare Central
Project State:	WI
Sampled By (Print):	Alex Amundson
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	AMA@gza.com
Mail To Company:	GZA
Mail To Address:	17975 W. Sarah Lane Ste 180 Brookfield, WI
Invoice To Contact:	AMA@gza.com
Invoice To Company:	Same
Invoice To Address:	SAME
Invoice To Phone:	—

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes

A = Air	W = Water
B = Biota	DW = Drinking Water
C = Charcoal	GW = Ground Water
O = Oil	SW = Surface Water
S = Soil	WW = Waste Water
SI = Sludge	WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: TCLP TCE	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	HA-1 (0-2)	7/22/21	0845	S	N	A	X			
002	HA-1 (2-4)	7/22/21	0855	S			X			
003	HA-2 (0-2)	7/22/21	0900	S			X			
004	HA-2 (2-4)	7/22/21	0920	S			X			

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
	7/23/21 1020	CS Logistics	7/23/21 1020
CS Logistics	7/23/21 0820		7/23/21 0820

PACE Project No. 4023052O

Receipt Temp = 5 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / ~~Not Present~~ Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Sample Preservation Receipt Form

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Client Name: GZA GeoEnv. Project # 402305220

All containers needing preservation have been checked and noted below: ☐Yes ☐No ☒N/A

Initial when completed: Date/ Time:

Lab Lot# of pH paper: Lab Std #ID of preservation (if pH adjusted):

Pace Lab #	Glass: AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	Plastic: BP1U	BP3U	BP3B	BP3N	BP3S	Vials: VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	Jars: JGFU	JG9U	WGFU	WPFU	General: SP5T	ZPLC	GN	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
001																				1												2.5 / 5 / 10
002																				1												**2.5 / 5 / 10**
003																				1												2.5 / 5 / 10
004																				1												**2.5 / 5 / 10**
005																																2.5 / 5 / 10
006																																**2.5 / 5 / 10**
007																																2.5 / 5 / 10
008																																**2.5 / 5 / 10**
009																																2.5 / 5 / 10
010																																**2.5 / 5 / 10**
011																																2.5 / 5 / 10
012																																**2.5 / 5 / 10**
013																																2.5 / 5 / 10
014																																**2.5 / 5 / 10**
015																																2.5 / 5 / 10
016																																**2.5 / 5 / 10**
017																																2.5 / 5 / 10
018																																**2.5 / 5 / 10**
019																																2.5 / 5 / 10
020																																**2.5 / 5 / 10**

7/23/21 AJC

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:_____ Headspace in VOA Vials (>6mm) : ☐Yes ☐No ☒N/A ***If yes look in headspace column**

AG1U	1 liter amber glass
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG4U	120 mL amber glass unpres
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4

VG9A	40 mL clear ascorbic
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN	

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40230520

40230520

Client Name: GZA GeoEnv.

Courier: [X] CS Logistics [ ] Fed Ex [ ] Speedee [ ] UPS [ ] Waltco
[ ] Client [ ] Pace Other:

Tracking #: 2075,012221

Custody Seal on Cooler/Box Present: [ ] yes [X] no Seals intact: [ ] yes [ ] no

Custody Seal on Samples Present: [ ] yes [X] no Seals intact: [ ] yes [ ] no

Packing Material: [X] Bubble Wrap [X] Bubble Bags [ ] None [ ] Other

Thermometer Used SR - 107 **Type of Ice:** (Wet) Blue Dry None [X] Samples on ice, cooling process has begun

Cooler Temperature Uncorr: .5 /Corr: .5

Temp Blank Present: [ ] yes [X] no **Biological Tissue is Frozen:** [ ] yes [ ] no

Person examining contents:
Date: 7/23/21 /Initials: AZV

Labeled By Initials: SRK

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Chain of Custody Present:	[X] Yes [ ] No [ ] N/A	1.
Chain of Custody Filled Out:	[X] Yes [ ] No [ ] N/A	2.
Chain of Custody Relinquished:	[X] Yes [ ] No [ ] N/A	3.
Sampler Name & Signature on COC:	[X] Yes [ ] No [ ] N/A	4.
Samples Arrived within Hold Time:	[X] Yes [ ] No	5.
- VOA Samples frozen upon receipt	[ ] Yes [ ] No	Date/Time:
Short Hold Time Analysis (<72hr):	[ ] Yes [X] No	6.
Rush Turn Around Time Requested:	[ ] Yes [X] No	7.
Sufficient Volume: For Analysis: [X] Yes [ ] No MS/MSD: [ ] Yes [X] No [ ] N/A		8.
Correct Containers Used:	[X] Yes [ ] No	9.
-Pace Containers Used:	[X] Yes [ ] No [ ] N/A	
-Pace IR Containers Used:	[ ] Yes [ ] No [X] N/A	
Containers Intact:	[X] Yes [ ] No	10.
Filtered volume received for Dissolved tests	[ ] Yes [ ] No [X] N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: S	[X] Yes [ ] No [ ] N/A	12.
Trip Blank Present:	[ ] Yes [ ] No [X] N/A	13.
Trip Blank Custody Seals Present	[ ] Yes [ ] No [X] N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments [ ]

Person Contacted: Date/Time:

Comments/ Resolution:

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logi

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

July 29, 2021

Heidi Woelfel
GZA GeoEnvironmental
17975 West Sarah Lane
Suite 100
Brookfield, WI 53045

RE: Project: 20.0156038.01 Clare Central
Pace Project No.: 10571519

Dear Heidi Woelfel:

Enclosed are the analytical results for sample(s) received by the laboratory on July 23, 2021. 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: Alex Amundson, GZA GeoEnvironmental

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 20.0156038.01 Clare Central
Pace Project No.: 10571519

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 #: 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 (*).

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 20.0156038.01 Clare Central
Pace Project No.: 10571519

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10571519001	**MH-1**	Air	07/22/21 09:49	07/23/21 12:50

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 20.0156038.01 Clare Central
Pace Project No.: 10571519

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10571519001	**MH-1**	TO-15	AJA	61

PASI-M = Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SUMMARY OF DETECTION

Project: 20.0156038.01 Clare Central
Pace Project No.: 10571519

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10571519001	**MH-1**					
TO-15	Acetone	16.4	ug/m3	15.3	07/29/21 00:38	
TO-15	Benzene	2.9	ug/m3	0.82	07/29/21 00:38	
TO-15	2-Butanone (MEK)	3.0J	ug/m3	7.6	07/29/21 00:38	
TO-15	Chloromethane	2.0	ug/m3	1.1	07/29/21 00:38	
TO-15	1,3-Dichlorobenzene	2.8J	ug/m3	7.7	07/29/21 00:38	
TO-15	Dichlorodifluoromethane	3.6	ug/m3	2.6	07/29/21 00:38	
TO-15	Ethanol	30.5	ug/m3	4.9	07/29/21 00:38	
TO-15	Ethyl acetate	21.2	ug/m3	1.9	07/29/21 00:38	
TO-15	Ethylbenzene	2.0J	ug/m3	2.2	07/29/21 00:38	
TO-15	4-Ethyltoluene	1.9J	ug/m3	6.3	07/29/21 00:38	
TO-15	n-Heptane	1.9J	ug/m3	2.1	07/29/21 00:38	
TO-15	n-Hexane	7.3	ug/m3	1.8	07/29/21 00:38	
TO-15	4-Methyl-2-pentanone (MIBK)	1.3J	ug/m3	10.5	07/29/21 00:38	
TO-15	2-Propanol	6.4	ug/m3	6.3	07/29/21 00:38	
TO-15	Toluene	6.1	ug/m3	1.9	07/29/21 00:38	
TO-15	Trichlorofluoromethane	2.0J	ug/m3	2.9	07/29/21 00:38	
TO-15	1,2,4-Trimethylbenzene	2.4J	ug/m3	2.5	07/29/21 00:38	
TO-15	1,3,5-Trimethylbenzene	1.5J	ug/m3	2.5	07/29/21 00:38	
TO-15	m&p-Xylene	4.5	ug/m3	4.5	07/29/21 00:38	
TO-15	o-Xylene	1.7J	ug/m3	2.2	07/29/21 00:38	

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

PROJECT NARRATIVE

Project: 20.0156038.01 Clare Central
Pace Project No.: 10571519

Method: **TO-15**
Description: TO15 MSV AIR
Client: GZA GeoEnvironmental
Date: July 29, 2021

General Information:
1 sample was analyzed for TO-15 by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

QC Batch: 759453

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 4049998)
  - 1,2-Dibromoethane (EDB)
  - Dibromochloromethane

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 20.0156038.01 Clare Central
Pace Project No.: 10571519

Sample: MH-1 **Lab ID: 10571519001** Collected: 07/22/21 09:49 Received: 07/23/21 12:50 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis								
Acetone	**16.4**	ug/m3	15.3	4.6	2.53		07/29/21 00:38	67-64-1	
Benzene	**2.9**	ug/m3	0.82	0.29	2.53		07/29/21 00:38	71-43-2	
Benzyl chloride	**<2.3**	ug/m3	6.7	2.3	2.53		07/29/21 00:38	100-44-7	
Bromodichloromethane	**<0.60**	ug/m3	3.4	0.60	2.53		07/29/21 00:38	75-27-4	
Bromoform	**<4.1**	ug/m3	13.3	4.1	2.53		07/29/21 00:38	75-25-2	
Bromomethane	**<0.38**	ug/m3	2.0	0.38	2.53		07/29/21 00:38	74-83-9	
1,3-Butadiene	**<0.30**	ug/m3	1.1	0.30	2.53		07/29/21 00:38	106-99-0	
2-Butanone (MEK)	**3.0J**	ug/m3	7.6	1.2	2.53		07/29/21 00:38	78-93-3	
Carbon disulfide	**<0.33**	ug/m3	1.6	0.33	2.53		07/29/21 00:38	75-15-0	
Carbon tetrachloride	**<0.71**	ug/m3	3.2	0.71	2.53		07/29/21 00:38	56-23-5	
Chlorobenzene	**<0.39**	ug/m3	2.4	0.39	2.53		07/29/21 00:38	108-90-7	
Chloroethane	**<0.57**	ug/m3	1.4	0.57	2.53		07/29/21 00:38	75-00-3	
Chloroform	**<0.46**	ug/m3	1.3	0.46	2.53		07/29/21 00:38	67-66-3	
Chloromethane	**2.0**	ug/m3	1.1	0.22	2.53		07/29/21 00:38	74-87-3	
Cyclohexane	**<0.56**	ug/m3	4.4	0.56	2.53		07/29/21 00:38	110-82-7	
Dibromochloromethane	**<1.3**	ug/m3	4.4	1.3	2.53		07/29/21 00:38	124-48-1	
1,2-Dibromoethane (EDB)	**<0.76**	ug/m3	2.0	0.76	2.53		07/29/21 00:38	106-93-4	
1,2-Dichlorobenzene	**<1.0**	ug/m3	7.7	1.0	2.53		07/29/21 00:38	95-50-1	
1,3-Dichlorobenzene	**2.8J**	ug/m3	7.7	1.3	2.53		07/29/21 00:38	541-73-1	
1,4-Dichlorobenzene	**<2.2**	ug/m3	7.7	2.2	2.53		07/29/21 00:38	106-46-7	
Dichlorodifluoromethane	**3.6**	ug/m3	2.6	0.48	2.53		07/29/21 00:38	75-71-8	
1,1-Dichloroethane	**<0.42**	ug/m3	2.1	0.42	2.53		07/29/21 00:38	75-34-3	
1,2-Dichloroethane	**<0.49**	ug/m3	2.1	0.49	2.53		07/29/21 00:38	107-06-2	
1,1-Dichloroethene	**<0.35**	ug/m3	2.0	0.35	2.53		07/29/21 00:38	75-35-4	
cis-1,2-Dichloroethene	**<0.49**	ug/m3	2.0	0.49	2.53		07/29/21 00:38	156-59-2	
trans-1,2-Dichloroethene	**<0.43**	ug/m3	2.0	0.43	2.53		07/29/21 00:38	156-60-5	
1,2-Dichloropropane	**<0.68**	ug/m3	2.4	0.68	2.53		07/29/21 00:38	78-87-5	
cis-1,3-Dichloropropene	**<0.65**	ug/m3	5.8	0.65	2.53		07/29/21 00:38	10061-01-5	
trans-1,3-Dichloropropene	**<1.4**	ug/m3	5.8	1.4	2.53		07/29/21 00:38	10061-02-6	
Dichlorotetrafluoroethane	**<0.51**	ug/m3	3.6	0.51	2.53		07/29/21 00:38	76-14-2	
Ethanol	**30.5**	ug/m3	4.9	1.5	2.53		07/29/21 00:38	64-17-5	
Ethyl acetate	**21.2**	ug/m3	1.9	0.33	2.53		07/29/21 00:38	141-78-6	
Ethylbenzene	**2.0J**	ug/m3	2.2	0.78	2.53		07/29/21 00:38	100-41-4	
4-Ethyltoluene	**1.9J**	ug/m3	6.3	1.2	2.53		07/29/21 00:38	622-96-8	
n-Heptane	**1.9J**	ug/m3	2.1	0.46	2.53		07/29/21 00:38	142-82-5	
Hexachloro-1,3-butadiene	**<3.1**	ug/m3	13.7	3.1	2.53		07/29/21 00:38	87-68-3	
n-Hexane	**7.3**	ug/m3	1.8	0.48	2.53		07/29/21 00:38	110-54-3	
2-Hexanone	**<1.1**	ug/m3	10.5	1.1	2.53		07/29/21 00:38	591-78-6	
Methylene Chloride	**<1.5**	ug/m3	8.9	1.5	2.53		07/29/21 00:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	**1.3J**	ug/m3	10.5	0.81	2.53		07/29/21 00:38	108-10-1	
Methyl-tert-butyl ether	**<0.32**	ug/m3	9.3	0.32	2.53		07/29/21 00:38	1634-04-4	
Naphthalene	**<5.5**	ug/m3	6.7	5.5	2.53		07/29/21 00:38	91-20-3	
2-Propanol	**6.4**	ug/m3	6.3	1.3	2.53		07/29/21 00:38	67-63-0	
Propylene	**<0.33**	ug/m3	2.2	0.33	2.53		07/29/21 00:38	115-07-1	
Styrene	**<0.97**	ug/m3	2.2	0.97	2.53		07/29/21 00:38	100-42-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 20.0156038.01 Clare Central
Pace Project No.: 10571519

Sample: MH-1 **Lab ID: 10571519001** Collected: 07/22/21 09:49 Received: 07/23/21 12:50 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis								
1,1,2,2-Tetrachloroethane	**<0.94**	ug/m3	3.5	0.94	2.53		07/29/21 00:38	79-34-5	
Tetrachloroethene	**<0.74**	ug/m3	1.7	0.74	2.53		07/29/21 00:38	127-18-4	
Tetrahydrofuran	**<0.46**	ug/m3	1.5	0.46	2.53		07/29/21 00:38	109-99-9	
Toluene	**6.1**	ug/m3	1.9	0.62	2.53		07/29/21 00:38	108-88-3	
1,2,4-Trichlorobenzene	**<12.3**	ug/m3	19.1	12.3	2.53		07/29/21 00:38	120-82-1	
1,1,1-Trichloroethane	**<0.47**	ug/m3	2.8	0.47	2.53		07/29/21 00:38	71-55-6	
1,1,2-Trichloroethane	**<0.50**	ug/m3	1.4	0.50	2.53		07/29/21 00:38	79-00-5	
Trichloroethene	**<0.50**	ug/m3	1.4	0.50	2.53		07/29/21 00:38	79-01-6	
Trichlorofluoromethane	**2.0J**	ug/m3	2.9	0.59	2.53		07/29/21 00:38	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<0.73**	ug/m3	3.9	0.73	2.53		07/29/21 00:38	76-13-1	
1,2,4-Trimethylbenzene	**2.4J**	ug/m3	2.5	0.90	2.53		07/29/21 00:38	95-63-6	
1,3,5-Trimethylbenzene	**1.5J**	ug/m3	2.5	0.73	2.53		07/29/21 00:38	108-67-8	
Vinyl acetate	**<0.53**	ug/m3	4.5	0.53	2.53		07/29/21 00:38	108-05-4	
Vinyl chloride	**<0.22**	ug/m3	0.66	0.22	2.53		07/29/21 00:38	75-01-4	
m&p-Xylene	**4.5**	ug/m3	4.5	1.6	2.53		07/29/21 00:38	179601-23-1	
o-Xylene	**1.7J**	ug/m3	2.2	0.69	2.53		07/29/21 00:38	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 20.0156038.01 Clare Central
Pace Project No.: 10571519

QC Batch: 759453
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10571519001

METHOD BLANK: 4049997 Matrix: Air
Associated Lab Samples: 10571519001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.19	1.1	07/28/21 09:05	
1,1,2,2-Tetrachloroethane	ug/m3	<0.37	1.4	07/28/21 09:05	
1,1,2-Trichloroethane	ug/m3	<0.20	0.56	07/28/21 09:05	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.29	1.6	07/28/21 09:05	
1,1-Dichloroethane	ug/m3	<0.16	0.82	07/28/21 09:05	
1,1-Dichloroethene	ug/m3	<0.14	0.81	07/28/21 09:05	
1,2,4-Trichlorobenzene	ug/m3	<4.9	7.5	07/28/21 09:05	
1,2,4-Trimethylbenzene	ug/m3	<0.35	1.0	07/28/21 09:05	
1,2-Dibromoethane (EDB)	ug/m3	<0.30	0.78	07/28/21 09:05	
1,2-Dichlorobenzene	ug/m3	<0.40	3.1	07/28/21 09:05	
1,2-Dichloroethane	ug/m3	<0.19	0.82	07/28/21 09:05	
1,2-Dichloropropane	ug/m3	<0.27	0.94	07/28/21 09:05	
1,3,5-Trimethylbenzene	ug/m3	<0.29	1.0	07/28/21 09:05	
1,3-Butadiene	ug/m3	<0.12	0.45	07/28/21 09:05	
1,3-Dichlorobenzene	ug/m3	<0.51	3.1	07/28/21 09:05	
1,4-Dichlorobenzene	ug/m3	<0.88	3.1	07/28/21 09:05	
2-Butanone (MEK)	ug/m3	<0.46	3.0	07/28/21 09:05	
2-Hexanone	ug/m3	<0.44	4.2	07/28/21 09:05	
2-Propanol	ug/m3	<0.51	2.5	07/28/21 09:05	
4-Ethyltoluene	ug/m3	<0.47	2.5	07/28/21 09:05	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.32	4.2	07/28/21 09:05	
Acetone	ug/m3	<1.8	6.0	07/28/21 09:05	
Benzene	ug/m3	<0.11	0.32	07/28/21 09:05	
Benzyl chloride	ug/m3	<0.89	2.6	07/28/21 09:05	
Bromodichloromethane	ug/m3	<0.24	1.4	07/28/21 09:05	
Bromoform	ug/m3	<1.6	5.2	07/28/21 09:05	
Bromomethane	ug/m3	<0.15	0.79	07/28/21 09:05	
Carbon disulfide	ug/m3	<0.13	0.63	07/28/21 09:05	
Carbon tetrachloride	ug/m3	<0.28	1.3	07/28/21 09:05	
Chlorobenzene	ug/m3	<0.16	0.94	07/28/21 09:05	
Chloroethane	ug/m3	<0.22	0.54	07/28/21 09:05	
Chloroform	ug/m3	<0.18	0.50	07/28/21 09:05	
Chloromethane	ug/m3	<0.085	0.42	07/28/21 09:05	
cis-1,2-Dichloroethene	ug/m3	<0.20	0.81	07/28/21 09:05	
cis-1,3-Dichloropropene	ug/m3	<0.26	2.3	07/28/21 09:05	
Cyclohexane	ug/m3	0.61J	1.8	07/28/21 09:05	
Dibromochloromethane	ug/m3	<0.52	1.7	07/28/21 09:05	
Dichlorodifluoromethane	ug/m3	<0.19	1.0	07/28/21 09:05	
Dichlorotetrafluoroethane	ug/m3	<0.20	1.4	07/28/21 09:05	
Ethanol	ug/m3	<0.59	1.9	07/28/21 09:05	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 20.0156038.01 Clare Central
Pace Project No.: 10571519

METHOD BLANK: 4049997 Matrix: Air
Associated Lab Samples: 10571519001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.13	0.73	07/28/21 09:05	
Ethylbenzene	ug/m3	<0.31	0.88	07/28/21 09:05	
Hexachloro-1,3-butadiene	ug/m3	<1.2	5.4	07/28/21 09:05	
m&p-Xylene	ug/m3	<0.64	1.8	07/28/21 09:05	
Methyl-tert-butyl ether	ug/m3	<0.13	3.7	07/28/21 09:05	
Methylene Chloride	ug/m3	<0.59	3.5	07/28/21 09:05	
n-Heptane	ug/m3	<0.18	0.83	07/28/21 09:05	
n-Hexane	ug/m3	0.56J	0.72	07/28/21 09:05	
Naphthalene	ug/m3	<2.2	2.7	07/28/21 09:05	
o-Xylene	ug/m3	<0.27	0.88	07/28/21 09:05	
Propylene	ug/m3	<0.13	0.88	07/28/21 09:05	
Styrene	ug/m3	<0.38	0.87	07/28/21 09:05	
Tetrachloroethene	ug/m3	<0.29	0.69	07/28/21 09:05	
Tetrahydrofuran	ug/m3	<0.18	0.60	07/28/21 09:05	
Toluene	ug/m3	<0.24	0.77	07/28/21 09:05	
trans-1,2-Dichloroethene	ug/m3	<0.17	0.81	07/28/21 09:05	
trans-1,3-Dichloropropene	ug/m3	<0.54	2.3	07/28/21 09:05	
Trichloroethene	ug/m3	<0.20	0.55	07/28/21 09:05	
Trichlorofluoromethane	ug/m3	<0.23	1.1	07/28/21 09:05	
Vinyl acetate	ug/m3	<0.21	1.8	07/28/21 09:05	MN
Vinyl chloride	ug/m3	<0.087	0.26	07/28/21 09:05	

LABORATORY CONTROL SAMPLE: 4049998

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	59.3	70.4	119	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	75.4	83.4	111	70-132	
1,1,2-Trichloroethane	ug/m3	59.6	75.2	126	70-134	
1,1,2-Trichlorotrifluoroethane	ug/m3	83.6	94.9	113	70-130	
1,1-Dichloroethane	ug/m3	43.9	51.6	117	70-133	
1,1-Dichloroethene	ug/m3	43.5	49.3	113	70-130	
1,2,4-Trichlorobenzene	ug/m3	177	197	111	69-132	
1,2,4-Trimethylbenzene	ug/m3	54	60.3	112	70-142	
1,2-Dibromoethane (EDB)	ug/m3	82.5	109	132	70-138	CH
1,2-Dichlorobenzene	ug/m3	66.2	74.1	112	70-146	
1,2-Dichloroethane	ug/m3	44.4	52.8	119	70-132	
1,2-Dichloropropane	ug/m3	50.6	58.9	116	70-134	
1,3,5-Trimethylbenzene	ug/m3	53.7	60.2	112	70-143	
1,3-Butadiene	ug/m3	24.2	29.1	121	70-136	
1,3-Dichlorobenzene	ug/m3	66.3	73.7	111	70-145	
1,4-Dichlorobenzene	ug/m3	66.3	73.7	111	70-140	
2-Butanone (MEK)	ug/m3	32.3	38.5	119	50-139	
2-Hexanone	ug/m3	44.8	48.7	109	70-148	
2-Propanol	ug/m3	149	164	110	67-135	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 20.0156038.01 Clare Central
Pace Project No.: 10571519

LABORATORY CONTROL SAMPLE: 4049998

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	53.7	59.9	112	70-145	
4-Methyl-2-pentanone (MIBK)	ug/m3	44.9	58.1	129	70-139	
Acetone	ug/m3	128	140	109	64-130	
Benzene	ug/m3	34.8	41.5	119	70-131	
Benzyl chloride	ug/m3	57.6	63.5	110	70-130	
Bromodichloromethane	ug/m3	73.1	88.4	121	70-133	
Bromoform	ug/m3	114	128	112	70-137	
Bromomethane	ug/m3	42.5	48.8	115	64-134	
Carbon disulfide	ug/m3	34.4	41.5	121	70-131	
Carbon tetrachloride	ug/m3	69.4	82.3	119	70-131	
Chlorobenzene	ug/m3	50.2	62.3	124	70-130	
Chloroethane	ug/m3	28.8	34.7	120	69-141	
Chloroform	ug/m3	52.4	61.8	118	70-130	
Chloromethane	ug/m3	22.6	25.4	113	70-130	
cis-1,2-Dichloroethene	ug/m3	43.4	54.4	125	70-137	
cis-1,3-Dichloropropene	ug/m3	49.4	54.8	111	70-144	
Cyclohexane	ug/m3	37.4	41.8	112	70-137	
Dibromochloromethane	ug/m3	93.2	121	130	70-132	CH
Dichlorodifluoromethane	ug/m3	54.6	63.0	115	70-130	
Dichlorotetrafluoroethane	ug/m3	71.2	82.5	116	70-130	
Ethanol	ug/m3	124	134	108	63-133	
Ethyl acetate	ug/m3	38.9	47.2	121	70-136	
Ethylbenzene	ug/m3	47.8	53.1	111	70-142	
Hexachloro-1,3-butadiene	ug/m3	133	157	118	70-135	
m&p-Xylene	ug/m3	95.4	106	111	70-141	
Methyl-tert-butyl ether	ug/m3	39.6	49.5	125	70-143	
Methylene Chloride	ug/m3	190	214	112	70-130	
n-Heptane	ug/m3	44.6	52.9	119	70-137	
n-Hexane	ug/m3	38	45.9	121	70-135	
Naphthalene	ug/m3	65.2	72.0	110	67-132	
o-Xylene	ug/m3	47.6	53.4	112	70-141	
Propylene	ug/m3	18.9	21.3	113	70-130	
Styrene	ug/m3	47	52.5	112	70-142	
Tetrachloroethene	ug/m3	73.4	90.3	123	70-130	
Tetrahydrofuran	ug/m3	32.1	41.4	129	70-136	
Toluene	ug/m3	41.6	52.6	126	70-138	
trans-1,2-Dichloroethene	ug/m3	43.6	53.5	123	70-130	
trans-1,3-Dichloropropene	ug/m3	50.5	55.2	109	70-145	
Trichloroethene	ug/m3	58.4	71.4	122	70-130	
Trichlorofluoromethane	ug/m3	62	70.6	114	69-135	
Vinyl acetate	ug/m3	46.4	51.2	110	70-146	
Vinyl chloride	ug/m3	28	31.8	113	70-137	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 20.0156038.01 Clare Central
Pace Project No.: 10571519

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

CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
MN	The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20.0156038.01 Clare Central
Pace Project No.: 10571519

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10571519001	**MH-1**	TO-15	759453		

Pace Analytical®
www.pacelabs.com

AIR: CHAIN-OF-CUSTODY

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

WO# : 10571519

10571519

51001

Page: 1 of 1

Section A
Required Client Information:

Company: GZA GeoEnvironmental
Address: 17975 W. Sarah Lane #100 Brookfield, WI
Email To: Heidi.Woelfel@gza.com
Phone: 414-687-3313 Fax:
Requested Due Date/TAT: Standard

Section B
Required Project Information:

Report To: Heidi.Woelfel@gza.com
Copy To: alexander.amundson@gza.com
Purchase Order No.: —
Project Name: Clare Central
Project Number: 20.0156038.01

Section C
Invoice Information:

Attention: AP@gza.com
Company Name: GZA
Address: Same
Pace Quote Reference: —
Pace Project Manager/Sales Rep. —
Pace Profile #: —

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

Location of Sampling by State: WI

Reporting Units
ug/m³ X mg/m³ ___
PPBV ___ PPMV ___
Other ___

Report Level II.___ III.___ IV.___ Other___

'Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	'Section D Required Client Information AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE - END/GRAB DATE	COLLECTED COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	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
1	MH-1	6LC	-	7/22/21	0948	7/22/21	0949	-28	-26	0010	- - - -					X					001
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Comments :
No Flow Control number

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
A. Amundson / GZA	7/22/21	1145	FedEx	7/22/21	1145
			Pace	7/23/21	1250

SAMPLE CONDITIONS

	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Alex Amundson
SIGNATURE of SAMPLER: A. Amundson DATE Signed (MM / DD / YY): 7/22/21

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

Pace Analytical®	Document Name: Sample Condition Upon Receipt (SCUR) - Air	Document Revised: 24Mar2020 Page 1 of 1
	Document No.: ENV-FRM-MIN4-0113 Rev.00	Pace Analytical Services -

WO# : 10571519
PM: MR2 Due Date: 07/30/21
CLIENT: GZA GEOENV

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

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Pace [ ] SpeeDee [ ] Commercial **See Exception** [ ]

Tracking Number: 9753 8444 2755

Custody Seal on Cooler/Box Present? [ ] Yes [X] No **Seals Intact?** [ ] Yes [X] No

Packing Material: [ ] Bubble Wrap [ ] Bubble Bags [X] Foam [ ] None [ ] Tin Can [ ] Other: _____ **Temp Blank rec:** [ ] Yes [X] No

Temp. (TO17 and TO13 samples only) (°C): — **Corrected Temp (°C):** —

Thermometer Used: [ ] G87A9170600254 [ ] G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** — **Date & Initials of Person Examining Contents:** RG 7/23/21

Type of ice Received [ ] Blue [ ] Wet [X] None

		Comments:
Chain of Custody Present?	[X] Yes [ ] No	1.
Chain of Custody Filled Out?	[X] Yes [ ] No	2.
Chain of Custody Relinquished?	[X] Yes [ ] No	3.
Sampler Name and/or Signature on COC?	[X] Yes [ ] No [ ] N/A	4.
Samples Arrived within Hold Time?	[X] Yes [ ] No	5.
Short Hold Time Analysis (<72 hr)?	[ ] Yes [X] No	6.
Rush Turn Around Time Requested?	[ ] Yes [X] No	7.
Sufficient Volume?	[X] Yes [ ] No	8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	[X] Yes [ ] No [X] Yes [ ] No	9.
Containers Intact? **(visual inspection/no leaks when pressurized)**	[X] Yes [ ] No	10.
Media: (Air Can) Airbag Filter TDT Passive		11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	[X] Yes [ ] No	12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	[X] Yes [ ] No	13. Sampling gauge

Gauge # [ ] 10AIR26 [X] 10AIR34 [ ] 10AIR35 [ ] 4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
MH-1	10	—	-22	-5					

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

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Matt Ray **Date:** 07/26/21

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)