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OFF-SITE INVESTIGATION AND REMEDIAL ACTION OPTIONS REPORT

Former Sunbrite Cleaners
1010 Milwaukee Avenue
South Milwaukee, Wisconsin

BRRTS #02-41-552211 FID #241299630

October 31, 2018
File No. 20.0152070.30

PREPARED FOR:
Wisconsin Department of Natural Resources
Milwaukee, Wisconsin

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October 31, 2018
File No. 20.0152070.30

Mr. Issac Ross, Hydrogeologist
Wisconsin Department of Natural Resources
2300 North Dr. Martin Luther King, Jr. Drive
Milwaukee, Wisconsin 53212-3128

Re: Off-Site Investigation and Remedial Action Options Report
Former Sunbrite Cleaners
1010 Milwaukee Avenue
South Milwaukee, Wisconsin
BRRTS #02-41-552211 / FID #241299630

Dear Mr. Ross:

On behalf of Mrs. Dianne and Mr. Henry Ciesinski, GZA GeoEnvironmental, Inc. (GZA) is pleased to provide the Wisconsin Department of Natural Resources (WDNR) this Off-Site Investigation and Remedial Action Options Report for the former Sunbrite Cleaners located at 1010 Milwaukee Avenue in the City of South Milwaukee, Wisconsin ("Site"). In this report, GZA documents field activities conducted from 2016 through 2017, describes the field and analytical testing results, presents and evaluates potential remedial options for the Site, and provides conclusions and recommendation for remedial action and case closure.

Based on soil, groundwater, and vapor investigation and remediation activities conducted at the Site, GZA requests WDNR agreement that sufficient environmental work has been conducted for the Site to warrant submission of a No Further Action request under chapter NR 726, Wisconsin Administrative Code, for the Site.

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

GZA GeoEnvironmental, Inc.

Janeé J.L. Pederson, EIT
Environmental Engineer
Assistant Project Manager

Bernie G. Fenelon, P.G.
Senior Consultant
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John C. Osborne, P.G.
Principal Hydrogeologist

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Attachments

cc: Mrs. Dianne and Mr. Henry Ciesinski

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

On behalf of Mrs. Dianne and Mr. Henry Ciesinski ("Client"), GZA GeoEnvironmental, Inc. (GZA) is pleased to submit this Off-Site Investigation and Remedial Action Options Report ("Report") to the Wisconsin Department of Natural Resources (WDNR). This Report provides an evaluation of subsurface conditions at the former Sunbrite Cleaners located at 1010 Milwaukee Avenue in the City of South Milwaukee, Wisconsin ("Site"). This scope of work was developed based on conversations with the WDNR and was designed to provide a better understanding of current off-Site conditions and move the Site toward completion of the investigation and, ultimately, regulatory closure. GZA submitted a Work Plan describing the scope and costs of the recommended activities associated with the evaluation of off-Site conditions, and the WDNR concurred and approved with the scope of work in a letter dated September 8, 2015. GZA conducted field activities associated with this investigation in September 2015, and conducted supplemental sampling activities in 2016 and 2017. This Report has been prepared in accordance with the Limitations provided in Appendix A.

2.0 BACKGROUND

The Site consists of an approximate 3,600 square-foot footprint, two-story, slab-on-grade building situated on an approximate 13,000 square-foot parcel located at 1010 Milwaukee Avenue in the City of South Milwaukee, Wisconsin. A Site Location Map is provided as Figure 1. Sunbrite Cleaners previously occupied the ground level of the building space from approximately 1985 to 1988. In response to staining noted near the dry-cleaning operations by the Client, limited Site investigations were performed by GZA in 2008 and 2009. Based on the preliminary soil sample results, the Site was enrolled in the WDNR-administered Dry Cleaner Environmental Response Fund (DERF) and was assigned BRRTS #02-41-552211 and FID #241299630.

3.0 SUMMARY OF PREVIOUS SITE INVESTIGATION

The following is a summary of the investigation activities performed at the Site prior to 2016, which are documented in GZA's August 21, 2009, *Initial Site Investigation Data* report and January 15, 2016, *Supplemental Investigation Report*.

GZA completed five soil borings on July 23, 2009, within the interior of the building. Soil samples collected during drilling were logged and field-screened for the presence of volatile organic compounds (VOCs). Select soil samples were submitted to TestAmerica of Watertown, Wisconsin for VOC analyses in accordance with United States Environmental Protection Agency (USEPA) Method 8260B. Five water table small-diameter monitoring wells (GP-1 through GP-5) were also installed inside of the Site building. Groundwater samples from the five monitoring wells were submitted to TestAmerica for VOC analysis in accordance with USEPA Method 8260B. The boring/monitoring well locations are depicted on Figure 2.

Analytical results from the sampling completed in 2009 revealed NR 720 residential direct contact and soil to groundwater pathway Residual Contaminant Level (RCL) exceedances of tetrachloroethene (PCE) and trichloroethylene (TCE) in soil samples and NR 140 groundwater Enforcement Standard (ES) and/or Preventive Action Limit (PAL) exceedances of PCE, TCE, cis-1,2-dichloroethene (cis-DCE), trans-1,2-DCE, and vinyl chloride (VC) in groundwater at the Site. PCE is a common dry-cleaning solvent and TCE, DCE, and VC represent degradation products of PCE under reducing conditions.

Based on the presence of chlorinated VOCs (cVOCs) in the soil and groundwater beneath the Site building, GZA conducted an assessment to evaluate whether vapor intrusion (VI) from the cVOCs were causing exceedances of State vapor action levels (VALs). Three rounds of indoor air sampling, conducted in December 2009 and January 2010, identified exceedances of residential indoor VALs in the Site building for chlorinated compounds. Due to these exceedances, vapor mitigation activities were undertaken by the Client in early 2010, including the sealing of cracks and other access points in the first floor slab, installation and operation of a sub-slab venting system in the first floor retail space, cleaning and sealing of stained concrete in the area where dry cleaning equipment had existed, the sealing of air migration pathways in the west block wall and the sealing of utility penetrations in the floor of the second floor living space. American Radon Removal Company installed the vapor mitigation system on September 15, 2011, and the system has been in continual operation.

In September 2015, GZA conducted an assessment and evaluation of the existing sub-slab vapor mitigation system. The assessment of the system included an evaluation of fan operation; observation of the system for extraction point and piping leaks; exhaust stack damage or obstructions; a pressure field extension test; and measuring system vacuum pressures. The system consists of two extraction areas (each with two suction points) near GP-2 and GP-5 and two exhaust blowers. Manometers near GP-2 and GP-5 indicated the system was operating correctly with 1.7 and 1.8 inches of water column vacuum, respectively. The two exhaust stacks are above the roofline and are in good condition. The pressure field extension test showed a zone of influence at least 10 feet from the two extraction areas with values ranging from -0.001 inches of water column to -0.033 inches of water column. The results of the post-mitigation indoor/outdoor air sampling performed on September 11, 2015, confirmed that cVOC concentrations are below the respective indoor air VALs within the Site building, and the vapor mitigation system appears to be functioning properly. The sub-slab mitigation system is depicted on Figure 3.

GZA also collected groundwater samples from the on-Site monitoring wells in September 2015. The results of the groundwater analytical data indicated that cVOCs underlying the Site, although exceeding the respective NR 140 groundwater quality PALs and/or ESs, are likely undergoing natural attenuation due to the steady decreasing trends of cVOC concentrations at the Site since 2009. VOC concentrations in groundwater vs. time plots for GP-1 through GP-5 are attached as Appendix B.

The Site owner stated that an underground utility inspection was completed by the gas company in December 2017. During the inspection, the locations of underground utilities were confirmed and noted to be in good condition at a shallow depth below the Site building. The Site owner estimated the sewer and water lines to be within 2 feet below the building foundation; however, GZA was not able to independently confirm the utility invert elevations. The approximate locations of the water and sewer lines are depicted on Figure 2 and the gas line does not enter the building underground, but approaches the Site building from the alley and enters near the boiler room area of the Site building. The electrical service is provided to the Site through overhead lines. Based on the groundwater flow direction, measured groundwater elevations near the utility lines, reported shallow depth of the underground utilities, and delineation extent of cVOCs in soil and groundwater beneath the Site building, the on-Site utility corridors do not appear to be a preferential pathway for cVOC migration in groundwater.

Although natural attenuation appears to be occurring, on-Site groundwater impacts in GP-3 and GP-5 in 2015, exceeded NR 140 ESs, and GZA could not determine whether the groundwater plume extended off the Site without additional investigation activities. To evaluate groundwater quality on the property adjoining to the east, GZA recommended that three monitoring wells be installed and sampled on the property to the east. Although indoor air sampling demonstrated that the vapor mitigation system operating at the Site was functioning adequately, the WDNR requested that GZA conduct an off-Site VI assessment of the adjoining property to the west.

4.0 OFF-SITE INVESTIGATION ACTIVITES AND SAMPLING

GZA observed the installation of three off-Site soil borings/groundwater monitoring wells and collected soil and groundwater samples. The soil borings were advanced by GESTRA Engineering, Inc. from Milwaukee, Wisconsin on July 21, 2016, using a truck-mounted drilling rig with hollow-stem augers. The monitoring wells and piezometer were installed in accordance with Chapter NR 141 of the Wisconsin Administrative Code (Wis. Adm. Code). Additionally, GZA performed indoor air sampling in the basement and first floor of the adjoining property west of the Site. Figure 2 depicts the boring/monitoring well locations. Appendix C contains the soil boring logs and monitoring well construction and development forms.

4.1 SOIL SAMPLING

Two soil samples were collected from each of the three off-Site soil borings and were analyzed for select cVOCs. One soil sample collected from the upper 4 feet of the boring and the sample with the highest photoionization detector (PID) reading, and a second sample collected from deeper than 4 feet, were submitted for laboratory analysis. Two of the off-Site soil borings were converted to water table monitoring wells to a depth of approximately 15 feet below grade. The third soil boring was converted to a piezometer to a depth of approximately 25 feet below grade. The soil samples were submitted to Synergy Environmental Lab, Inc. (Synergy) in Appleton, Wisconsin for select cVOCs in accordance with USEPA Method 8260B. Appendix D contains the soil analytical laboratory reports and chain-of-custody forms.

4.2 GROUNDWATER SAMPLING

On July 25 and October 11, 2016 and June 27 and September 7, 2017, GZA collected groundwater samples from the three new wells and five existing small-diameter wells. Low-flow sampling methods using a peristaltic pump and dedicated tubing placed into each monitoring well was attempted during the July 2016 sampling event. Groundwater was purged from the wells at a flow rate of less than 500 milliliters per minute (ml/min). During purging, field parameters (specific conductivity, pH, dissolved oxygen [DO], oxidation-reduction potential [ORP], and temperature) were measured until they were stable or until the well purged dry, at which point the well was allowed to recover prior to sample collection. Monitoring wells MW-2, GP-1, GP-3, GP-4, and GP-5 were purged dry during the July 2016 sampling event. The eight monitoring wells were purged dry and allowed to recover prior to sampling during the subsequent sampling events in 2016 and 2017.

GZA placed the groundwater samples in laboratory-supplied, pre-preserved vials, on ice and submitted the samples to Synergy under chain-of-custody procedures for VOC analyses in accordance with USEPA Method 8260B. A duplicate sample and trip blank were also submitted during the sampling event for quality assurance/quality control (QA/QC) purposes. Appendix D contains the groundwater analytical laboratory reports and chain of custody forms.

4.3 GEOLOGY AND GROUNDWATER FLOW

Based on Site-specific geologic information and a review of WDNR documents for nearby properties, the Site is underlain by up to 8 feet of sandy and clayey fill overlying glacial silty clay till deposits. The unconsolidated deposits underlying the Site extend to a depth of approximately 100 feet below ground surface (bgs) and are underlain by Silurian-age dolomite bedrock. The Site is serviced by municipal sewer, and water sources are derived from Lake Michigan. Based on a review of the WDNR Groundwater Retrieval Network, there are no potable wells located within 1,200 feet of the Site. Figure 4 is a geologic cross-section of the Site based on the information provided in the soil boring logs.

Static water levels for each groundwater sampling round were measured with an electronic water level indicator to the nearest one-hundredth of a foot. Groundwater elevation measuring events are presented on Table 1. The depth to water varied from approximately 6.5 to 12.6 feet bgs. Figure 5 is a groundwater flow map for the Site for the water level measurements collected on September 7, 2017. Based on the groundwater flow map, shallow groundwater flow is generally east/northeast toward Oak Creek located about 1,800 feet east/northeast of the Site. Note that there may be anthropogenic influences on groundwater flow due to the shallow depth of the water table in an urban environment.

4.4 VAPOR SAMPLING

Because of the extent of groundwater impacts and proximity of adjacent structures, the WDNR requested assessment of the VI pathway for the adjacent property located at 1012 Milwaukee Avenue. On October 26, 2016, GZA sent a written notice to the property owner to request permission to collect indoor air samples. GZA was granted access to the off-Site property and, on December 6, 2016, placed indoor air sampling devices in the basement and first floor of the adjacent property to collect indoor air samples over a 24-hour sampling period. The samples were submitted to Eurofins Air Toxics of Folsom, California for laboratory analysis for VOCs in accordance with USEPA Method TO-15 SIM. Appendix D contains the vapor laboratory analytical reports and chain-of-custody forms.

5.0 OFF-SITE SAMPLING RESULTS

5.1 SOIL ANALYTICAL RESULTS

A summary of the soil analytical data is provided on Table 2 and the VOC soil analytical results are provided on Figure 6. No direct contact or soil to groundwater pathway exceedances were found in the soil samples collected from off-Site locations MW-1, MW-2, or PZ-1.

5.2 GROUNDWATER ANALYTICAL RESULTS

A summary of the groundwater analytical data is provided as Table 3, and an isoconcentration map illustrating the latest groundwater analytical results is provided as Figure 7. There were no Chapter NR 140 groundwater quality PAL or ES exceedances reported for the final two rounds of groundwater samples collected from monitoring wells GP-1, GP-4, MW-1, MW-2, or PZ-1. Monitoring well GP-2 had ES exceedances for cis-1,2-DCE, PCE, TCE, and VC. Monitoring well GP-3 had ES exceedances for cis-1,2-DCE and VC. Monitoring well GP-5 had a PAL exceedance for PCE and an ES exceedance for VC.

Comparing the baseline concentrations from July 2009 to the average concentration obtained in 2017, groundwater concentrations in monitoring well GP-2 (near the apparent source area) show reductions in PCE and TCE concentrations of approximately 98%, a reduction in cis-1,2-DCE concentrations of approximately 91% and an approximate doubling of the VC concentration. Groundwater concentrations in downgradient monitoring well GP-3 have been reduced approximately 90% for PCE, TCE, cis-1,2-DCE, and vinyl chloride. These results support the conclusion that cVOC impacts underlying the Site, although exceeding the respective NR 140 groundwater quality PALs and/or ESs, have already been substantially reduced by natural attenuation under favorable anaerobic conditions (e.g. consistently negative ORP) that drive reductive dechlorination. In general, monitoring wells GP-2, GP-3, and GP-5 exhibit substantial downward trends in concentrations of cVOC concentrations. VOC concentrations in groundwater vs. time plots for GP-1 through GP-5 are attached as Appendix B. Water table monitoring wells GP-1, GP-4, MW-1, MW-2, and piezometer PZ-1 revealed no detectable levels of cVOCs. The newly installed off-Site groundwater monitoring wells along with the existing on-Site monitoring wells provide the approximate vertical and horizontal extents of cVOCs in groundwater and demonstrate that groundwater impacts are limited to an area within approximately 20 feet of monitoring well GP-2.

5.3 OFF-SITE VAPOR ANALYTICAL RESULTS

Table 4 presents a summary of the indoor air sampling results. Figure 8 shows the approximate locations for the placement of the sample containers. Analytical results for the basement (B-1-1012) and first floor (F-1-1012) indoor air samples of the adjacent property west of the Site revealed that no contaminants of concern were detected above the respective reporting limits or WDNR screening levels. Based on the results, there is no evidence of vapors relating to the contaminants of concern from the Site entering the adjacent property from beneath the foundation.

6.0 SITE AND OFF-SITE INVESTIGATION CONCLUSIONS

The soil analytical results indicate NR 720 non-industrial direct contact RCL exceedances of PCE and TCE occur within a defined area in the upper 4 feet of soil within approximately 10 feet of monitoring well GP-2. These soils are located beneath a concrete floor in the retail space at the Site.

Groundwater quality data indicates groundwater underlying the Site is impacted with cis-1,2-DCE, PCE, TCE, and VC exceeding the respective NR 140 groundwater quality PALs and/or ESs. However, the extent of groundwater impact has been defined to an area beneath the Site building and natural attenuation has resulted in substantial reduction of the cVOCs in groundwater.

On-Site indoor air sampling results indicate the vapor mitigation system currently operating at the Site appears to be functioning adequately. Off-Site indoor air sampling results demonstrate that there is not a risk of Site contaminants affecting the adjacent property.

In a phone conversation with WDNR project manager Mr. Trevor Nobile on June 22, 2018, Mr. Nobile agreed that the data collected at the Site was adequate to define the degree and extent of groundwater contamination. Additionally, Mr. Nobile stated that based on the analytical data the contaminant plume appears to be stable or receding at the Site. Based on the results of the soil, groundwater, and vapor sampling conducted to date and conversations with the WDNR project manager, GZA does not recommend additional investigation or monitoring activities other than ongoing maintenance and monitoring of the sub-slab ventilation system.

7.0 EVALUATION OF REMEDIAL ALTERNATIVES

GZA's review of remedial options was conducted as a step toward obtaining regulatory closure for the environmental conditions identified. GZA believes that the investigative activities conducted provide the basis for evaluating remedial alternatives that will achieve both short- and long-term protection of human health and the environment.

While several remedial options were considered for the Site, key characteristics that influenced the selection of the appropriate remedy include:

- Chlorinated hydrocarbons are primarily present beneath the Site building slab floor and foundation, which function as engineering controls, thereby limiting accessibility;
- The residual soil impacts beneath the Site building partitioning into the dissolved phase are attenuating at a sufficiently rapid rate to eliminate migration in groundwater beyond the Site building;
- The shallow geologic deposits beneath the Site building with the greatest residual soil impacts are characterized by silt or sand fill material; and

- The subsurface utility corridors near the Site do not intersect the area of impact and should not provide preferential or enhanced migration away from the source area.

Based on the body of information obtained through conductance of the Site and off-Site investigation activities, the Site-specific cleanup objectives include:

1. Eliminating the non-industrial direct contact pathway to residual cVOCs within the upper 4 feet of soil beneath the Site building;
2. Addressing the soil-to-groundwater pathways for cVOCs detected in shallow soil in and near the source area;
3. Addressing the limited area of chlorinated impacts in the groundwater;
4. Address the VI pathway; and
5. Provide a pathway for regulatory case closure.

8.0 REMEDIAL OPTIONS EVALUATION

Considering the Site-specific characteristics and cleanup objectives, GZA has evaluated remedial options that could be implemented at the Site to address residual impacts in the source area and meet the remedial and closure requirements pursuant to NR 724 and NR 726, Wis. Adm. Code. The impacts at the Site include very localized elevated concentrations of cVOCs that exceed the Soil to Groundwater pathway and Non-Industrial Direct Contact RCLs. GZA's evaluation of remedial options is specific to the hydrogeological conditions and contaminant types and concentrations at the Site. The remedial strategy evaluation includes consideration of excavation and disposal of impacted soils, soil vapor extraction methods, and natural attenuation for groundwater impacts and implementation of engineering and institutional controls to eliminate contact with the source contaminant mass. GZA provides the following discussion of each remedial option and the advantages and disadvantages of each remedial option.

8.1 OPTION 1 - EXCAVATE AND LANDFILL DISPOSAL

Under this option, excavation of soil would be employed to a depth of approximately 11.5 feet in the area beneath the Site building to maximize the amount of chlorinated solvent mass reduction while addressing the direct contact and soil to groundwater pathways. Approximately 200 cubic yards (yd^3) of the greatest residual impacts detected in soil would be excavated under this scenario to address direct contact soil-to-groundwater exceedances. The soil would be waste profiled and permitted for shipment off the Site for disposal, and clean fill would be imported to the Site to replace the excavated soil. The overlying concrete floor slab would be replaced to function as an engineered barrier for impacts remaining below the water table.

8.1.1 Advantages

Excavation and disposal is a widely used and relatively expedient method for removing accessibly impacted soil. Excavation of impacted soil can be extremely effective in terms of Site Cleanup Objectives because it can be confirmed by observations, field screening, and laboratory analysis of soil samples as the excavation proceeds. To the extent practicable, excavation and disposal will result in removal of acutely impacted soil from the Site and would address the majority of source-area soil impacts above the water table. Restoration of the Site building's concrete floor slab disturbed as a result of the soil excavation would provide long-term physical cover for remaining residual impacts beneath the Site.

8.1.2 Disadvantages

This option would be difficult to effectively implement due to the existing Site building and its concrete floor slab. Although the footprint of the impacted soil to be removed is small, the building foundations and footings would prohibit complete removal of the chlorinated hydrocarbon mass. In addition, a portion of the adsorbed cVOCs in soils below the water table would remain and still result in the need for registration on the WDNR's BRRTS Database GIS system. Also, this option is not considered a sustainable remedial action due to the need to demolition a portion of the building, production of greenhouse gas emissions and consumption of fossil fuels during the excavation and hauling processes, as well as the required landfill space for the contaminated soil waste.

8.2 OPTION 2 - SOIL VAPOR EXTRACTION

Soil Vapor Extraction (SVE) is an in situ remedial strategy commonly implemented when excavation of contaminated soil is not feasible due to the presence of overlying structures. SVE is used to remove chlorinated hydrocarbons in the vapor phase by stripping VOCs from soil and can also be effective at reducing the risk of indoor VI. A system of vertical or horizontal vapor extraction wells connected to a mechanical blower would be installed above the water table beneath the Site building to create a vacuum, which would pull air through the soil voids, strip VOCs, and then either discharge into the atmosphere or treat the exhaust prior to discharge should cVOC concentrations exceed air quality standards.

8.2.1 Advantages

SVE can provide a moderately effective remedy depending largely on subsurface conditions and remedial objectives. The most ideal geological scenario for a successful SVE system are non-saturated conditions containing uniform, high permeability sand, gravel, that allows high air purge rates.

8.2.2 Disadvantages

The effectiveness of SVE can be dramatically reduced by the presence of low permeability, heterogeneous soils that easily short circuit negative pressure gradients. The clayey and variable composition of the fill materials underlying the Site will affect the usefulness of this method. The vacuum (negative pressure) could also elevate the water table and result in groundwater cVOC concentrations being affected by adsorbed phase cVOCs in the capillary fringe. A soil vapor extraction system would be limited to remediation of soil above the water table. Operation and routine maintenance costs also vary greatly depending on the duration of the remedial action required, which could range from six months to several years.

8.3 OPTION 3 - ENGINEERING AND INSTITUTIONAL CONTROLS WITH NATURAL ATTENUATION

The use of engineering and institutional controls with natural attenuation manages the risk related to residual contaminants by eliminating the pathway of exposure and facilitating attenuation of the impacts through time.

8.3.1 Advantages

The inaccessibility and present lack of a pathway of exposure to the residual cVOCs underlying the Site makes the use of engineering and institutional controls an effective and viable option. The engineered cap is an effective method to prohibit direct contact with contaminated materials and can also be used to protect groundwater from continued leaching of contaminants from the soil. Impermeable caps associated with the Site such as concrete floor surface and areas under roof require little maintenance. Periodic operation and maintenance costs associated with continuing obligations to maintain the cap and the vapor mitigation system are also relatively inexpensive when compared with active remedial options. The vapor mitigation system currently operating at the Site is also an effective method to intercept the vapor

pathway by collecting soil gas vapors that may potentially contain cVOCs that partitioned from the soil and groundwater beneath the Site building and expel the vapors to the ambient outdoor air. Additionally, the groundwater analytical data collected at the Site strongly supports the viability of natural attenuation as a remedial solution for the residual groundwater impacts beneath the Site building. This option is also the most sustainable of the three options presented due to the reduction of air emissions and fuel usage from on-Site construction equipment and from trucking waste materials, additional material consumption, and landfill space for waste materials.

8.3.2 Disadvantages

Capping and natural attenuation do not actively reduce the contaminant mass subsurface impacts, and periodic operation and maintenance inspections are required for the engineered cap and vapor system life. Institutional controls such as registration on the WDNR's BRRTS Database GIS system for soil and groundwater impacts remaining beneath the cap will also be required as part of conditional regulatory closure.

9.0 RECOMMENDED REMEDIAL ACTION AND CLOSURE STRATEGY

9.1 OPTION 3 - ENGINEERING AND INSTITUTIONAL CONTROLS WITH NATURAL ATTENUATION

Option 3 is selected as the recommended remedial action for the Site, based on the implementation feasibility, environmental sustainability, and economic cost effectiveness. Option 3 is the most time- and cost-effective remedial action approach to achieve regulatory closure and, more importantly, will support current use of the Site while protecting human health and the environment.

The current concrete slab and roof of the Site effectively functions as an engineering control that prevents precipitation and surface water from infiltrating the area. The temporal and spatial data trends have demonstrated the effectiveness of the overlying building in containing the residual cVOCs. Therefore, the use of the existing building footprint as a cap appears to be an efficient means by which to provide a constant barrier for direct contact or mobilization of the impacts. Based on the vapor mitigation system testing results previously summarized in this Report, the vapor mitigation system is functional and effective in reducing the risk of human vapor inhalation in the Site building. Also, note that there are no groundwater users within the impacted extent of soil and/or groundwater.

Given the combination of findings of the Site and off-Site investigation activities, additional investigations or remedial actions do not appear to be warranted at the Site. As such, GZA recommends preparation of a Case Closure request for the Site with the following conditions:

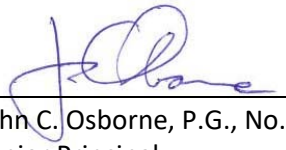
- A GIS Registry listing on the BRRTS database depicting the area of residual chlorinated compounds in soil with non-industrial direct contact and soil-to-groundwater RCL exceedances, and groundwater with PAL and ES exceedances;
- The existing concrete floor surfaces and vapor mitigation system remain in place as engineering controls; and
- A vapor mitigation system and engineered barrier maintenance plan be prepared and implemented at the Site.

The Site is zoned for commercial use and will remain for the foreseeable future. However, in the spring of 2018, the Site and several other properties adjacent to the Site along Milwaukee Avenue were deemed "blighted" by the City of South Milwaukee. According to conversations with the Site owner, it appears that the City of South Milwaukee is planning to redevelop the Site and the immediate area in the future. Should a redevelopment plan be implemented, the developing entity would be required to abide by the continuing obligations of the GIS Registry listing relating to removal of the engineered barrier, assessment and mitigation, as necessary, of the VI pathway under the redevelopment scenario, cap maintenance plan and the residual contamination on the Site.

Based on the results of the subsurface sampling conducted to date and remedial options evaluation, additional active remediation or monitoring activities does not appear necessary. Therefore, in accordance with chapters NR 726 and 746, Wisconsin Administrative Code, GZA requests WDNR grant concurrence that sufficient work has been conducted for GZA to prepare a Case Closure request utilizing natural attenuation with a GIS Registry that includes a cover/barrier/engineered cover and an on-Site vapor mitigation system. The proposed cap/barrier maintenance area and GIS registry location recommended for the Site is depicted on Figure 3.

10.0 CERTIFICATION

"I, John C. Osborne, P.G., certify that I am a geologist 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."



October 31, 2018

John C. Osborne, P.G., No. 676
Senior Principal

Date

TABLES

TABLE 1
GROUNDWATER ELEVATION SUMMARY
Former Sunbrite Cleaners
1010 Milwaukee Avenue
South Milwaukee, Wisconsin

Well ID	Ground Surface Elevation	Top of Casing Elevation	Depth to Water (ft bgs)	Groundwater Elevation	Depth to Water (ft bgs)	Groundwater Elevation	Depth to Water (ft bgs)	Groundwater Elevation	Depth to Water (ft bgs)	Groundwater Elevation	Depth to Water (ft bgs)	Groundwater Elevation	Depth to Water (ft bgs)	Groundwater Elevation
			Aug-09		Sep-15		Jul-16		Oct-16		Jun-17		Sep-17	
GP-1	100.25	100.10	11.94	88.16	11.25	88.85	6.49	93.61	10.25	89.85	10.49	89.61	7.30	92.80
GP-2	100.50	99.78	6.44	93.34	6.38	93.40	6.57	93.21	6.40	93.38	6.46	93.32	6.31	93.47
GP-3	100.75	100.07	7.25	92.82	6.99	93.08	7.02	93.05	7.02	93.05	6.76	93.31	6.62	93.45
GP-4	101.00	100.15	12.51	87.64	11.59	88.56	12.03	88.12	11.73	88.42	11.85	88.30	11.79	88.36
GP-5	101.25	100.34	6.61	93.73	6.71	93.63	6.55	93.79	6.70	93.64	6.62	93.72	6.69	93.65
MW-1	100.37	99.9	-	-	-	-	11.63	88.27	11.53	88.37	11.23	88.67	11.45	88.45
MW-2	100.09	99.45	-	-	-	-	12.59	86.86	12.55	86.90	12.20	87.25	12.68	86.77
PZ-1	100.29	99.81	-	-	-	-	12.58	87.23	12.62	87.19	11.76	88.05	12.38	87.43

Notes:
1. Survey benchmark of 100.00 is water valve bolt in sidewalk in front of building.
2. ft bgs = feet below ground surface.

TABLE 2
SOIL ANALYTICAL RESULTS
Former Sunbrite Cleaners
1010 Milwaukee Avenue
South Milwaukee, Wisconsin

Parameter	Units	*NR 720 Industrial Direct Contact RCL (µg/kg)*	NR 720 Non-Industrial Direct Contact RCL (µg/kg)	NR 720 Groundwater Pathway RCL (µg/kg)	GP-1		GP-2		GP-3		GP-4		GP-5		MW-1		MW-2		PZ-1	
					07/23/09		07/23/09		07/23/09		07/23/09		07/23/09		07/21/16		07/21/16		07/21/16	
					2'-4'	12'-14'	2'-4'	8'-10'	2'-4'	10'-11.25'	2'-4'	10'-12'	0'-2'	6'-8'	0'-2'	10'-12'	2'-4'	10'-12'	2'-4'	8'-10'
PID	IU		-	-	0.0	0.0	81.0	15.0	4.0	5.0	0.0	0.0	6.0	8.0	3.5	3.9	3.4	3.3	2.0	49.6
cis-1,2-Dichloroethene	µg/kg	2,340,000	156,000	41.2	<31	<28	4,300	160	120	900	<29	<29	<29	130	<21	<21	<21	<21	<21	<21
trans-1,2-Dichloroethene	µg/kg	1,850,000	1,560,000	62.6	<31	<28	83	<29	<29	<29	<29	<29	<29	39	<24	<24	<24	<24	<24	<24
Tetrachloroethene (PCE)	µg/kg	145,000	33,000	4.5	48	<28	**64,000**	1,100	1,900	210	32	<29	18,000	80	<54	<54	<54	<54	<54	<54
Trichloroethene (TCE)	µg/kg	8,410	1,300	3.6	<31	<28	**7,100**	200	230	230	<29	<29	380	160	<42	<42	<42	<42	<42	<42
Vinyl Chloride	µg/kg	2,080	67	0.1	<44	<40	<52	<40	<41	47	<40	<40	<40	<42	<10	<10	<10	<10	<10	<10

Notes:

1. Samples were collected by GZA GeoEnvironmental, Inc. (GZA) on July 23, 2009 and analyzed by TestAmerica of Watertown, Wisconsin using United States Environmental Protection Agency (USEPA) Method 8260B for volatile organic compounds (VOCs). Concentrations are provided in micrograms per kilogram (µg/kg).
2. Only compounds detected above the method detection limit are presented.
3. The headspace over the soil samples was field screened using a photoionization detector (PID) equipped with a 10 eV lamp. Results are provided in instrument units (IUs).
4. Residual Contaminant Levels (RCLs) for soil were obtained from the WDNR RCL spreadsheet (updated June 2018) at https://dnr.wi.gov/topic/Brownfields/professionals.html
5. **Bold** font indicates an exceedance of a NR 720 Non-Industrial (Residential) Direct Contact RCL. ***Italicized bold*** font indicates an exceedance of a NR 720 Industrial Direct Contact RCL; however, no reported concentrations exceeded the respective industrial direct contact RCL.
6. Underlined font indicates an exceedance of a NR 720 Soil to Groundwater Pathway RCL.

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
Former Sunbrite Cleaners
1010 Milwaukee Avenue
South Milwaukee, Wisconsin

Sample Location:				**GP-1**						**GP-2**									**GP-3**					
Sample Date:				07/31/09	09/11/15	07/25/16	10/11/16	06/27/17	09/07/17	07/31/09	09/11/15	09/11/15 Duplicate	07/25/16	07/25/16 Duplicate	10/11/16	10/11/16 Duplicate	06/27/17	09/07/17	07/31/09	09/11/15	07/25/16	10/13/16	06/27/17	09/07/17
EPA 8260 - VOCS	units	**ES**	PAL																					
Benzene	µg/L	5	0.5	0.26	<22	-	-	-	-	<32	<4.4	<4.4	-	-	-	-	-	-	<4	<220	-	-	-	-
cis-1,2-Dichloroethene	µg/L	70	7	0.7	<22.5	<4.5	<4.5	<4.1	<4.1	**3,600**	**650**	**740**	**550**	**570**	**350**	**300**	**450**	**192**	**1,300**	**3,500**	**360**	**100**	**146**	**71**
trans-1,2-Dichloroethene	µg/L	100	20	<0.5	<27	<5.4	<5.4	<3.5	<3.5	<80	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<3.5	<17.5	<10	<270	<54	<6.4 J	7.3 J	<17.5
Tetrachloroethene (PCE)	µg/L	5	0.5	<0.5	<24.5	<4.9	<4.9	<4.8	<4.8	**9,300**	**136**	**182**	**232**	**236**	**70**	**61**	**289**	**32**	**76**	<245	<49	<4.9	<4.8	<24
Trichloroethene (TCE)	µg/L	5	0.5	<0.2	<23.5	<4.7	<4.7	<4.5	<4.5	**2,500**	**57**	**71**	**124**	**126**	**45**	**42**	**98**	**23**	**79**	<235	<47	<4.7	<4.5	<22.5
Vinyl Chloride	µg/L	0.2	0.02	<0.2	<8.5	<1.7	<1.7	<1.9	<1.9	**150**	**460**	**530**	**330**	**310**	**520**	**430**	**208**	**410**	**260**	**2,060**	**203**	**153**	**46**	<9.5

Sample Location:				**GP-4**						**GP-5**						**MW-1**				**MW-2**						**PZ-1**			
Sample Date:				07/31/09	09/11/15	07/25/16	10/11/16	06/27/17	09/07/17	07/31/09	09/11/15	07/25/16	10/11/16	06/27/17	09/07/17	07/25/16	10/11/16	06/27/17	09/07/17	07/25/16	10/11/16	06/27/17	06/27/17 Duplicate	09/07/17	09/07/17 Duplicate	07/25/16	10/11/16	06/27/17	09/07/17
EPA 8260 - VOCS	units	**ES**	PAL																										
Benzene	µg/L	5	0.5	<0.2	<0.44	-	-	-	-	<0.4	<0.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	µg/L	70	7	<0.5	<0.45	<4.5	<2.25	<0.41	<4.1	**110**	4.2	2.99	5.1	5.1	<41	<0.45	<0.45	<0.41	<0.41	<0.45	<0.45	<0.41	<0.41	<0.41	<0.41	<0.45	<0.45	<0.41	<0.41
trans-1,2-Dichloroethene	µg/L	100	20	<0.5	<0.54	<5.4	<2.7	<0.35	<3.5	24	<0.54	<0.54	0.59 J	0.61 J	<35	<0.54	<0.54	<0.35	<0.35	<0.54	<0.54	<0.35	<0.35	<0.35	<0.35	<0.54	<0.54	<0.35	<0.35
Tetrachloroethene (PCE)	µg/L	5	0.5	<0.5	<0.49	<4.9	<2.45	<0.48	<4.8	**17**	1.8	0.99 J	0.70 J	1.61	<48	<0.49	<0.49	<0.48	<0.48	<0.49	<0.49	<0.48	<0.48	<0.48	<0.48	<0.49	<0.49	<0.48	<0.48
Trichloroethene (TCE)	µg/L	5	0.5	<0.2	<0.47	<4.7	<2.35	<0.45	<4.5	**24**	1.0 J	0.51 J	1.24 J	0.59 J	<45	<0.47	<0.47	<0.45	<0.45	<0.47	<0.47	<0.45	<0.45	<0.45	<0.45	<0.47	<0.47	<0.45	<0.45
Vinyl Chloride	µg/L	0.2	0.02	<0.2	<0.17	<1.7	<0.85	<0.19	<1.9	**0.58**	**10.2**	**4.8**	**6.6**	**10.7**	<19	<0.17	<0.17	<0.19	<0.19	<0.17	<0.17	<0.19	<0.19	<0.19	<0.19	<0.17	<0.17	<0.19	<0.19

Notes:

1. Samples were collected by GZA GeoEnvironmental, Inc. (GZA) on the dates indicated and submitted under chain-of-custody to Synergy Environmental Lab, Inc. in Appleton, Wisconsin for analysis of the volatile organic compounds (VOCs) in accordance with United States Environmental Protection Agency (USEPA) Method 8260B.
2. Wisconsin Administrative Code Chapter NR 140 Groundwater Enforcement Standards (ESs) and Preventive Action Limits (PALs) provided where established. **Bold** indicates ES exceedance and Underlined indicates PAL exceedance.
3. "J" denotes the result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
4. "-" denotes sample was not analyzed for parameter.

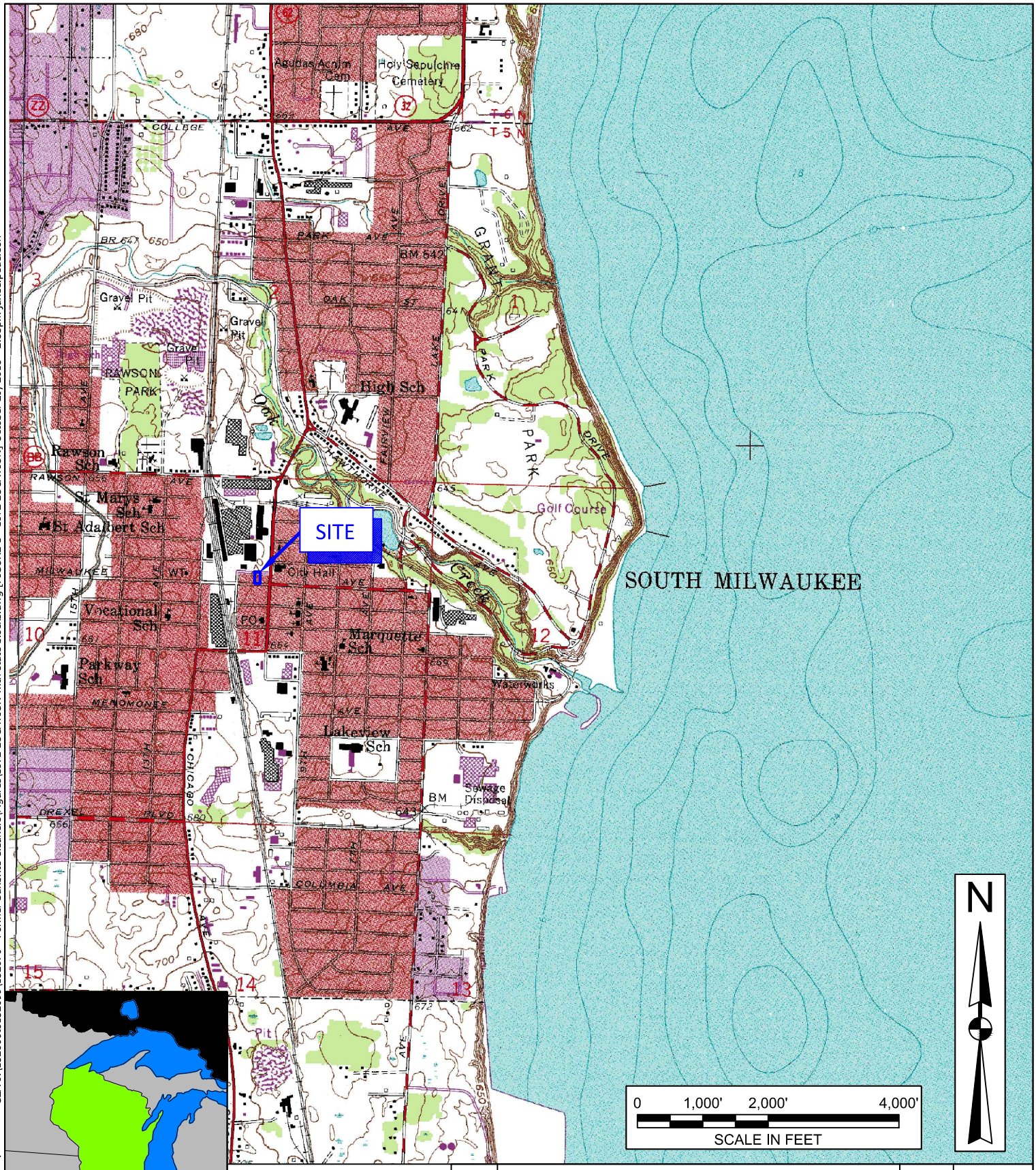
TABLE 4
OFF-SITE INDOOR AIR ANALYTICAL RESULTS
Former Sunbrite Cleaners
1010 Milwaukee Avenue
South Milwaukee, Wisconsin

Samples Collected Off-Site at 1012 Milwaukee Avenue, South Milwaukee

Parameter	Units	WDNR Residential Indoor Air Vapor Action Level	B-1-1012 12/06/16	F-1-1012 12/06/16
cis-1,2-Dichloroethene	µg/m^3	NS	<0.11	<0.13
trans-1,2-Dichloroethene	µg/m^3	NS	<0.54	<0.57
Tetrachloroethene (PCE)	µg/m^3	42	<0.18	<0.23
Trichloroethene (TCE)	µg/m^3	2.1	<0.15	<0.18
Vinyl Chloride	µg/m^3	1.7	<0.035	<0.043
Freon 11 (Trichlorofluoromethane)	µg/m^3	NS	1.2	1.2
Ethanol	µg/m^3	NS	6.7	16
Acetone	µg/m^3	32,000	22	21
2-Propanol (Isopropanol)	µg/m^3	210	1.7	3.5
Hexane	µg/m^3	730	0.61	<0.59
Cyclohexane	µg/m^3	6,300	8.4	8.0
Heptane	µg/m^3	420	0.59	0.85
Freon 12 (Dichlorodifluoromethane)	µg/m^3	100	2.5	2.5
Chloromethane	µg/m^3	94	0.96	1.4
Carbon Tetrachloride	µg/m^3	4.7	0.37	0.34
Benzene	µg/m^3	3.6	0.60	0.64
Toluene	µg/m^3	5,200	2.6	3.2
Ethylbenzene	µg/m^3	11	0.20	0.28
m,p-Xylene	µg/m^3	100	0.50	0.69
o-Xylene	µg/m^3	100	0.20	0.27

Notes:
1. Samples were collected by GZA GeoEnvironmental, Inc. (GZA) and submitted to Eurofins Air Toxics of Folsum, California for EPA Method TO-15.
2. Only detected parameters are listed with the results provided in micrograms per cubic meter (µg/m^3), with the exception of select cVOCs listed.
3. WDNR Indoor Air Vapor Action Levels (VALs) Quick Look-Up Table, based on November 2017 USEPA Regional Screening Levels http://dnr.wi.gov/topic/Brownfields/documents/vapor/vapor-quick.pdf.
4. "NS" denotes no standard established under EPA Regional Screening Levels (updated May 2018) https://semspub.epa.gov/work/HQ/197245.pdf.

FIGURES



SOURCE: U.S.G.S. SOUTH MILWAUKEE, WIS. QUADRANGLE MAP (1958) PHOTOREVISED (1971)

NO.	ISSUE/DESCRIPTION	BY	DATE

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
20900 SWENSON DRIVE, SUITE 150
WAUKESHA, WISCONSIN 53186
(262) 754-2560

PREPARED FOR:

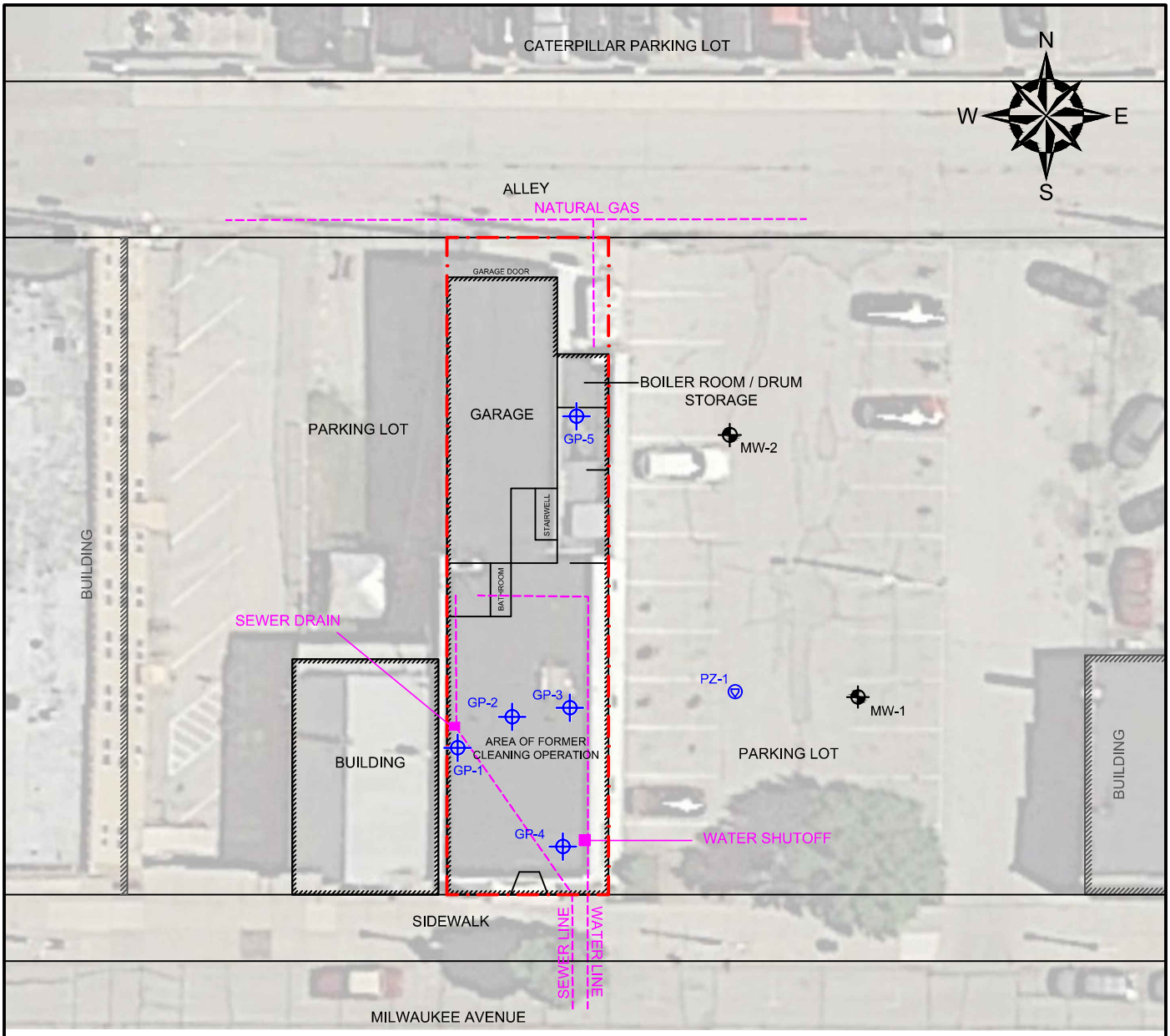
SITE LOCATION MAP

SUNBRITE CLEANERS
1010 MILWAUKEE AVENUE
SOUTH MILWAUKEE, WISCONSIN

PROJ MGR:	JJLP	REVIEWED BY:	JCO	CHECKED BY:	BGF	DATE	PROJECT NO.	REVISION NO.
DESIGNED BY:	JJLP	DRAWN BY:	JJLP	SCALE:	1 : 24000	10/29/18	20.0152070.30	

FIGURE 1

SHEET NO.



LEGEND

- APPROXIMATE BUILDING FOOTPRINT
- APPROXIMATE SITE BOUNDARY
- APPROXIMATE LOCATION OF UNDERGROUND UTILITY LINES
- PZ-1 — APPROXIMATE LOCATION OF PIEZOMETER
- MW-1 — APPROXIMATE LOCATION OF MONITORING WELL
- GP-5 — APPROXIMATE LOCATION OF GEOPROBE MONTIORING WELL

0 15 30 60

SCALE IN FEET 1" = 30'

NOTES

1. BASE MAP DEVELOPED FROM A GOOGLE PROFESSIONAL ELECTRONIC IMAGE FILE. DIGITAL AERIAL ORTHOPHOTOGRAPHY WAS PUBLISHED BY THE U.S.G.S.
2. THE USE OF AERIAL PHOTOGRAPHY CAN OFTEN MAKE BUILDINGS AND OTHER SITE FEATURES APPEAR TO BE OVERLAPPING AND DISTORTED WHEN OVERLAID WITH ACTUAL SITE FEATURES.
3. THE APPROXIMATE LOCATION OF THE SITE BOUNDARY WAS OBTAINED THROUGH USE OF THE LOCAL COUNTY ONLINE GIS MAPPING TOOL. THE PROGRAM NOTES THAT ALL PROPERTY BOUNDARIES ARE NOT SURVEYED AND ARE ONLY APPROXIMATE REPRESENTATIONS OF ACTUAL BOUNDARIES.
4. THE LOCATION OF THE EXPLORATIONS WERE APPROXIMATELY DETERMINED BY LINE OF SIGHT AND/OR TAPE MEASUREMENTS FROM EXISTING TOPOGRAPHIC FEATURES. THESE LOCATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

NO.	ISSUE/DESCRIPTION	BY	DATE

FORMER SUNBRITE CLEANERS
1010 MILWAUKEE AVENUE
SOUTH MILWAUKEE, WISCONSIN

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

PREPARED FOR:

SITE PLAN WITH BORING AND MONITORING WELL LOCATIONS

PROJ MGR: JJLP	REVIEWED BY: JCO	CHECKED BY: JCO	FIGURE 2
DESIGNED BY: JJLP	DRAWN BY: LES	SCALE: see above	
DATE: 10/15/2018	PROJECT NO. 20.0152070.30	REVISION NO.	SHEET NO.

LEGEND

- APPROXIMATE SITE BOUNDARY
- APPROXIMATE BUILDING FOOTPRINT (AND PROPOSED AREA TO BE MAINTAINED AS CAP)
- APPROXIMATE LOCATION OF EXTERIOR EXHAUST
- APPROXIMATE LOCATION OF VAPOR MITIGATION SYSTEM SUCTION POINT
- APPROXIMATE LOCATION OF PIPING RUN

NOTES

1. BASE MAP DEVELOPED FROM A GOOGLE PROFESSIONAL ELECTRONIC IMAGE FILE. DIGITAL AERIAL ORTHOPHOTOGRAPHY WAS PUBLISHED BY THE U.S.G.S.
2. THE USE OF AERIAL PHOTOGRAPHY CAN OFTEN MAKE BUILDINGS AND OTHER SITE FEATURES APPEAR TO BE OVERLAPPING AND DISTORTED WHEN OVERLAID WITH ACTUAL SITE FEATURES.
3. THE APPROXIMATE LOCATION OF THE SITE BOUNDARY WAS OBTAINED THROUGH USE OF THE LOCAL COUNTY ONLINE GIS MAPPING TOOL. THE PROGRAM NOTES THAT ALL PROPERTY BOUNDARIES ARE NOT SURVEYED AND ARE ONLY APPROXIMATE REPRESENTATIONS OF ACTUAL BOUNDARIES.
4. THE LOCATION OF THE EXPLORATIONS WERE APPROXIMATELY DETERMINED BY LINE OF SIGHT AND/OR TAPE MEASUREMENTS FROM EXISTING TOPOGRAPHIC FEATURES. THESE LOCATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

N
W E
S

0 15 30 60

SCALE IN FEET 1" = 30'

NO.	ISSUE/DESCRIPTION	BY	DATE

FORMER SUNBRITE CLEANERS
1010 MILWAUKEE AVENUE
SOUTH MILWAUKEE, WISCONSIN

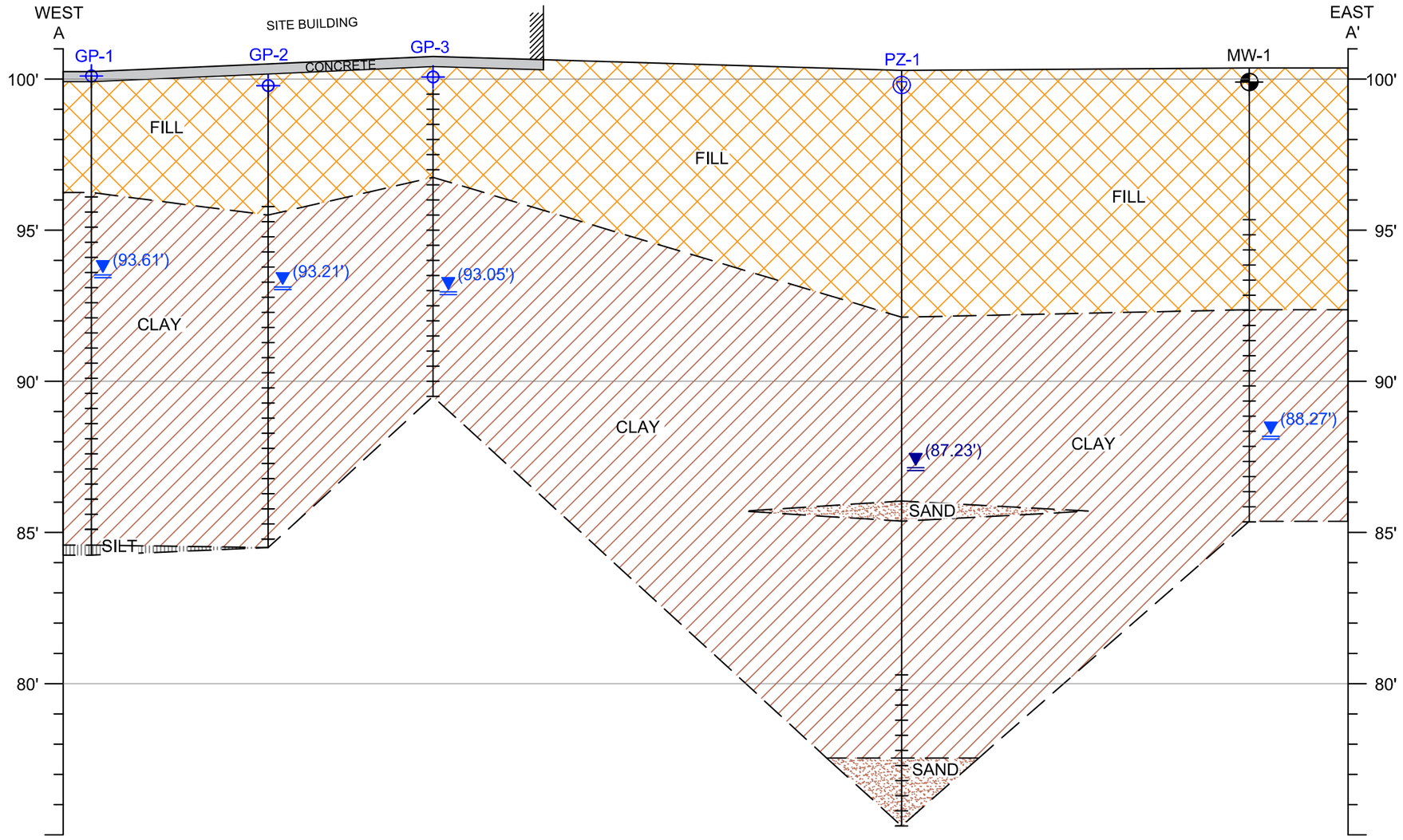
VAPOR MITIGATION SYSTEM LAYOUT AND PROPOSED CAP AREA

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

PREPARED FOR:

PROJ MGR:	JJLP	REVIEWED BY:	JCO	CHECKED BY:	JCO
DESIGNED BY:	JJLP	DRAWN BY:	LES	SCALE:	see above
DATE:	10/8/2018	PROJECT NO.	20.0152070.30	REVISION NO.	

FIG 3
SHEET NO. OF



NOTES

1. ALL ELEVATIONS GIVEN ARE REFERENCED TO A SITE SPECIFIC DATUM. SURVEY BENCHMARK OF 100.0' IS WATER VALVE BOLT IN SIDEWALK IN FRONT OF BUILDING.
2. THE STRATIFICATION LINES ARE BASED ON INTERPOLATIONS BETWEEN WIDELY SPACED BORING LOCATIONS AND THUS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES. ACTUAL TRANSITIONS MAY VARY FROM THOSE SHOWN.
3. MAGNIFICATION OF VERTICAL SCALE FOR PURPOSES OF PRESENTATION CAUSES TRENDS IN SOIL STRATA TO APPEAR MORE PRONOUNCED THAN THAT WHICH ACTUALLY EXISTS.

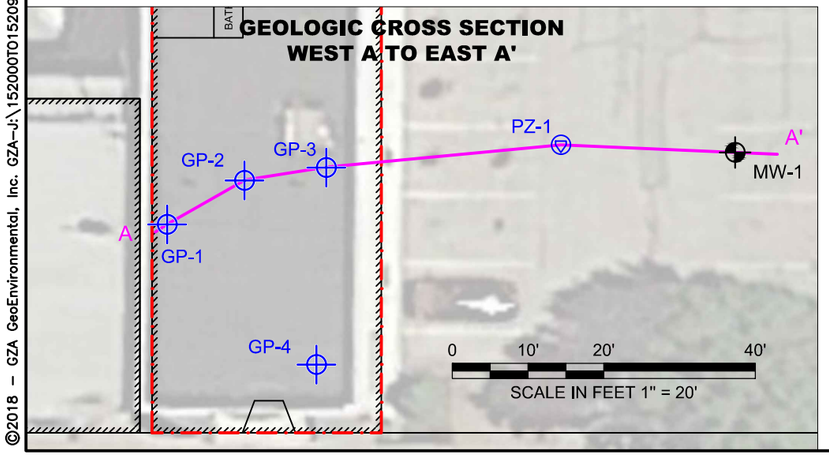
VERTICAL EXAGGERATION = 2.0x

0 2' 4' 8'

VERTICAL SCALE IN FEET

0 4' 8' 16'

HORIZONTAL SCALE IN FEET



LEGEND

- GROUNDWATER ELEVATION
- PIEZOMETER WATER LEVEL ELEVATION
- SCREENED INTERVAL
- PZ-1 — APPROXIMATE LOCATION OF PIEZOMETER
- MW-1 — APPROXIMATE LOCATION OF MONITORING WELL
- GP-5 — APPROXIMATE LOCATION OF GEOPROBE MONITORING WELL
- FILL
- STIFF LEAN CLAY (CL)
- POORLY GRADED SAND (SP)
- SILT (ML)
- INFERRED GEOLOGIC CONTACT

NO.	ISSUE/DESCRIPTION	BY	DATE

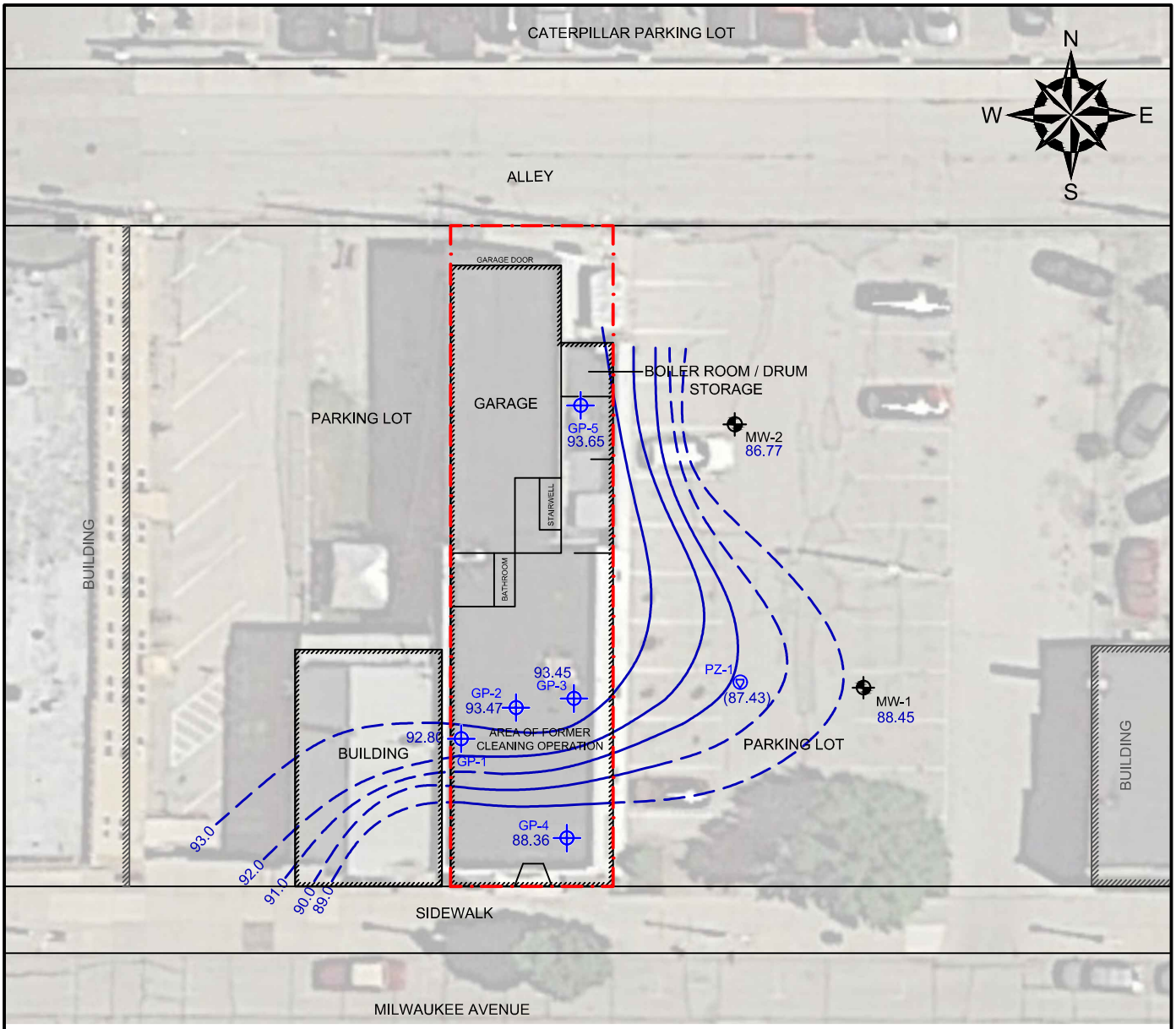
FORMER SUNBRITE CLEANERS BUILDING
1010 MILWAUKEE AVENUE
SOUTH MILWAUKEE, WISCONSIN

GEOLOGIC CROSS SECTION

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

PREPARED FOR:

PROJ MGR: JJLP	REVIEWED BY: JCO	CHECKED BY: JCO	FIG 4
DESIGNED BY: JJLP	DRAWN BY: LES	SCALE: see above	
DATE: 10/23/2018	PROJECT NO. 20.0152070.30	REVISION NO.	SHEET NO. OF



LEGEND

- APPROXIMATE BUILDING FOOTPRINT
- APPROXIMATE SITE BOUNDARY
- PZ-1 — APPROXIMATE LOCATION OF PIEZOMETER
- MW-1 — APPROXIMATE LOCATION OF MONITORING WELL
- GP-5 — APPROXIMATE LOCATION OF GEOPROBE MONITORING WELL
- 93.0 — GROUNDWATER CONTOUR LINES (DASHED WHERE INFERRED)

0 15 30 60

SCALE IN FEET 1" = 30'

NOTES

1. BASE MAP DEVELOPED FROM A GOOGLE PROFESSIONAL ELECTRONIC IMAGE FILE. DIGITAL AERIAL ORTHOPHOTOGRAPHY WAS PUBLISHED BY THE U.S.G.S.
2. THE USE OF AERIAL PHOTOGRAPHY CAN OFTEN MAKE BUILDINGS AND OTHER SITE FEATURES APPEAR TO BE OVERLAPPING AND DISTORTED WHEN OVERLAID WITH ACTUAL SITE FEATURES.
3. THE APPROXIMATE LOCATION OF THE SITE BOUNDARY WAS OBTAINED THROUGH USE OF THE LOCAL COUNTY ONLINE GIS MAPPING TOOL. THE PROGRAM NOTES THAT ALL PROPERTY BOUNDARIES ARE NOT SURVEYED AND ARE ONLY APPROXIMATE REPRESENTATIONS OF ACTUAL BOUNDARIES.
4. THE LOCATION OF THE EXPLORATIONS WERE APPROXIMATELY DETERMINED BY LINE OF SIGHT AND/OR TAPE MEASUREMENTS FROM EXISTING TOPOGRAPHIC FEATURES. THESE LOCATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
5. PROJECT DATUM OF 100' ESTABLISHED AT SIDEWALK OUTSIDE OF FRONT DOOR.

NO.	ISSUE/DESCRIPTION	BY	DATE

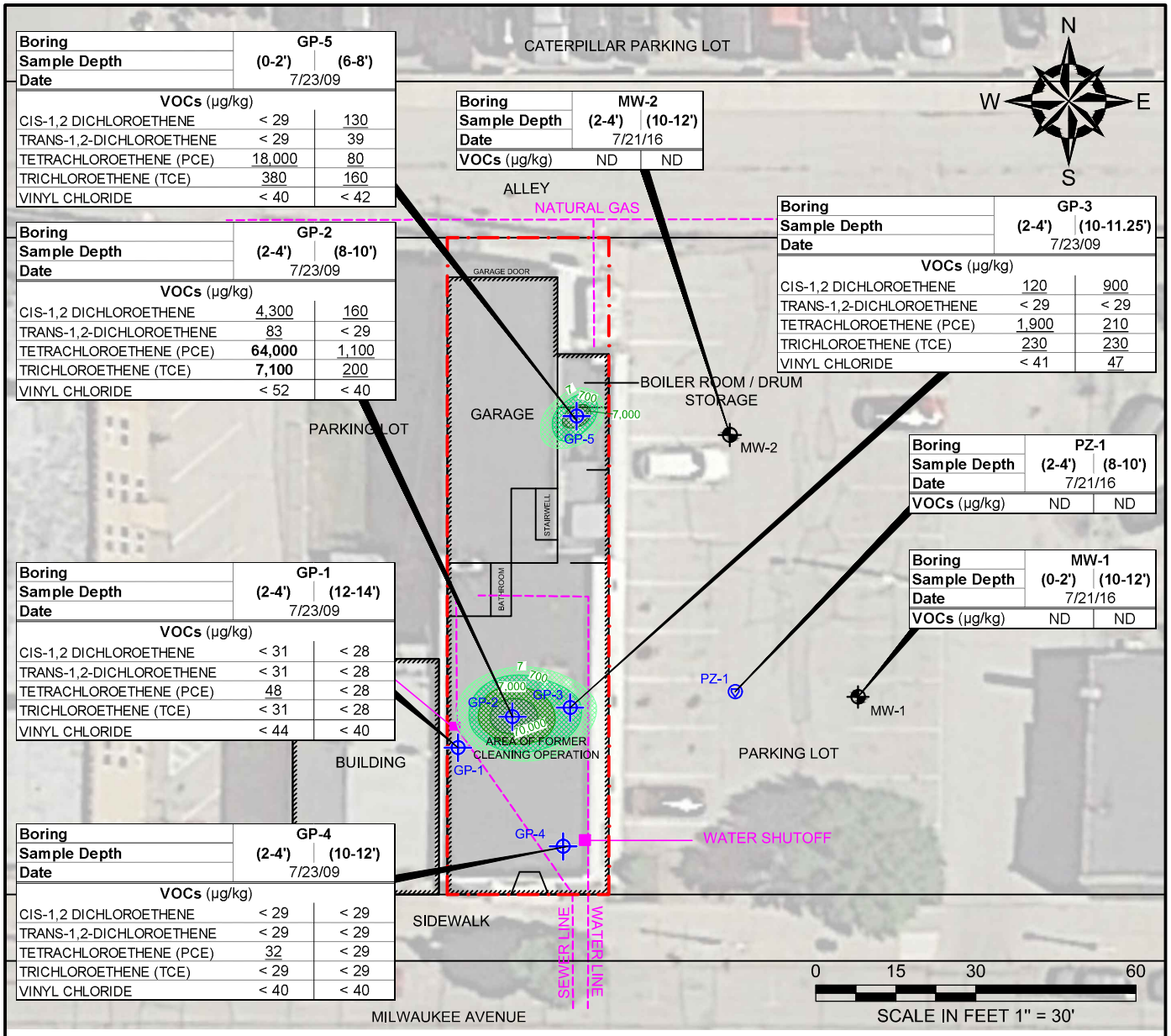
FORMER SUNBRITE CLEANERS
1010 MILWAUKEE AVENUE
SOUTH MILWAUKEE, WISCONSIN

POTENTIOMETRIC SURFACE MAP (SEPTEMBER 2017)

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

PREPARED FOR:

PROJ MGR: JJLP	REVIEWED BY: JCO	CHECKED BY: JCO	FIGURE 5
DESIGNED BY: JJLP	DRAWN BY: LES	SCALE: see above	
DATE: 10/19/2018	PROJECT NO. 20.0152070.30	REVISION NO.	SHEET NO.



Boring	GP-5	
Sample Depth	(0-2')	(6-8')
Date	7/23/09	
VOCs (µg/kg)		
CIS-1,2 DICHLOROETHENE	< 29	130
TRANS-1,2-DICHLOROETHENE	< 29	39
TETRACHLOROETHENE (PCE)	18,000	80
TRICHLOROETHENE (TCE)	380	160
VINYL CHLORIDE	< 40	< 42

Boring	MW-2	
Sample Depth	(2-4')	(10-12')
Date	7/21/16	
VOCs (µg/kg)	ND	ND

Boring	GP-3	
Sample Depth	(2-4')	(10-11.25')
Date	7/23/09	
VOCs (µg/kg)		
CIS-1,2 DICHLOROETHENE	120	900
TRANS-1,2-DICHLOROETHENE	< 29	< 29
TETRACHLOROETHENE (PCE)	1,900	210
TRICHLOROETHENE (TCE)	230	230
VINYL CHLORIDE	< 41	47

Boring	GP-2	
Sample Depth	(2-4')	(8-10')
Date	7/23/09	
VOCs (µg/kg)		
CIS-1,2 DICHLOROETHENE	4,300	160
TRANS-1,2-DICHLOROETHENE	83	< 29
TETRACHLOROETHENE (PCE)	**64,000**	1,100
TRICHLOROETHENE (TCE)	**7,100**	200
VINYL CHLORIDE	< 52	< 40

Boring	PZ-1	
Sample Depth	(2-4')	(8-10')
Date	7/21/16	
VOCs (µg/kg)	ND	ND

Boring	MW-1	
Sample Depth	(0-2')	(10-12')
Date	7/21/16	
VOCs (µg/kg)	ND	ND

Boring	GP-1	
Sample Depth	(2-4')	(12-14')
Date	7/23/09	
VOCs (µg/kg)		
CIS-1,2 DICHLOROETHENE	< 31	< 28
TRANS-1,2-DICHLOROETHENE	< 31	< 28
TETRACHLOROETHENE (PCE)	48	< 28
TRICHLOROETHENE (TCE)	< 31	< 28
VINYL CHLORIDE	< 44	< 40

Boring	GP-4	
Sample Depth	(2-4')	(10-12')
Date	7/23/09	
VOCs (µg/kg)		
CIS-1,2 DICHLOROETHENE	< 29	< 29
TRANS-1,2-DICHLOROETHENE	< 29	< 29
TETRACHLOROETHENE (PCE)	32	< 29
TRICHLOROETHENE (TCE)	< 29	< 29
VINYL CHLORIDE	< 40	< 40

LEGEND

- APPROXIMATE BUILDING FOOTPRINT
- APPROXIMATE SITE BOUNDARY
- APPROXIMATE LOCATION OF UNDERGROUND UTILITIES
- PZ-1 — APPROXIMATE LOCATION OF PIEZOMETER
- MW-1 — APPROXIMATE LOCATION OF MONITORING WELL
- GP-5 — APPROXIMATE LOCATION OF GEOPROBE MONITORING WELL
- 7,000 / 700 / 70 / 7 — SOIL TOTAL VOCs ISOCONCENTRATION CONTOUR (IN UNITS OF µg/kg)

NOTES

1. BASE MAP DEVELOPED FROM A GOOGLE PROFESSIONAL ELECTRONIC IMAGE FILE. DIGITAL AERIAL ORTHOPHOTOGRAPHY WAS PUBLISHED BY THE U.S.G.S.
2. THE USE OF AERIAL PHOTOGRAPHY CAN OFTEN MAKE BUILDINGS AND OTHER SITE FEATURES APPEAR TO BE OVERLAPPING AND DISTORTED WHEN OVERLAID WITH ACTUAL SITE FEATURES.
3. THE APPROXIMATE LOCATION OF THE SITE BOUNDARY WAS OBTAINED THROUGH USE OF THE LOCAL COUNTY ONLINE GIS MAPPING TOOL. THE PROGRAM NOTES THAT ALL PROPERTY BOUNDARIES ARE NOT SURVEYED AND ARE ONLY APPROXIMATE REPRESENTATIONS OF ACTUAL BOUNDARIES.
4. THE LOCATION OF THE EXPLORATIONS WERE APPROXIMATELY DETERMINED BY LINE OF SIGHT AND/OR TAPE MEASUREMENTS FROM EXISTING TOPOGRAPHIC FEATURES. THESE LOCATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
5. ONLY COMPOUNDS DETECTED ABOVE THE METHOD DETECTION LIMIT ARE PRESENTED.
6. **BOLD** FONT INDICATES AN EXCEEDANCE OF A NR 720 NON-INDUSTRIAL (RESIDENTIAL) DIRECT CONTACT RCL AND UNDERLINED FONT INDICATES AN EXCEEDANCE OF A NR 720 SOIL TO GROUNDWATER PATHWAY RCL.

UG/KG = MICROGRAMS PER KILOGRAM
ND = NOT DETECTABLE
VOCs = VOLATILE ORGANIC COMPOUNDS
< = CONCENTRATION BELOW DETECTION LIMIT

NO.	ISSUE/DESCRIPTION	BY	DATE

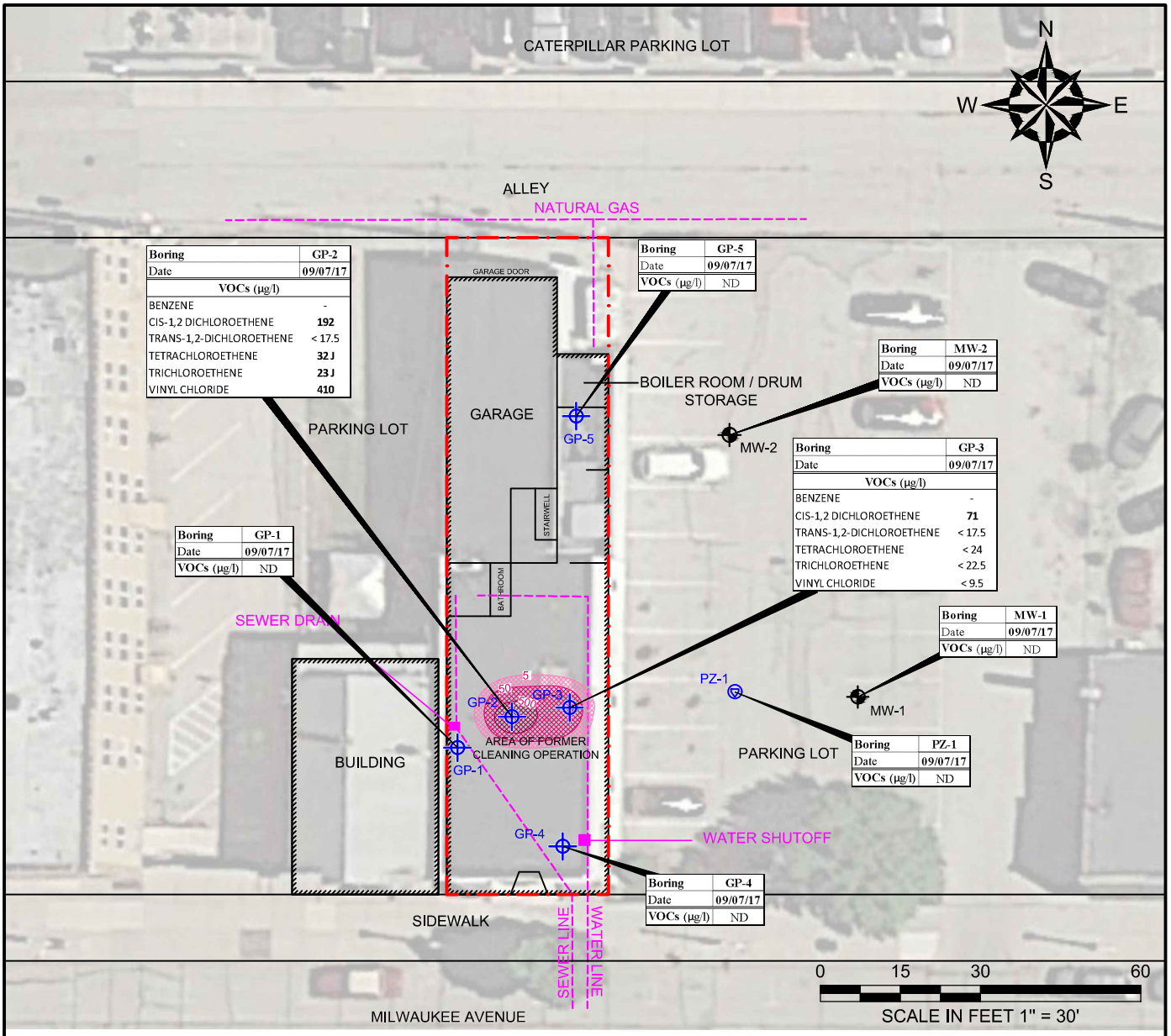
FORMER SUNBRITE CLEANERS
1010 MILWAUKEE AVENUE
SOUTH MILWAUKEE, WISCONSIN

SOIL ANALYTICAL RESULTS AND ISOCONCENTRATION CONTOUR MAP (TOTAL VOCs)

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

PREPARED FOR:

PROJ MGR: JJLP	REVIEWED BY: JCO	CHECKED BY: JCO	FIGURE 6
DESIGNED BY: JJLP	DRAWN BY: LES	SCALE: see above	
DATE: 10/15/2018	PROJECT NO. 20.0152070.30	REVISION NO.	SHEET NO.



Boring	GP-2
Date	09/07/17
VOCs (µg/l)	
BENZENE	-
CIS-1,2 DICHLOROETHENE	192
TRANS-1,2-DICHLOROETHENE	< 17.5
TETRACHLOROETHENE	32 J
TRICHLOROETHENE	23 J
VINYL CHLORIDE	410

Boring	GP-5
Date	09/07/17
VOCs (µg/l)	ND

Boring	MW-2
Date	09/07/17
VOCs (µg/l)	ND

Boring	GP-3
Date	09/07/17
VOCs (µg/l)	
BENZENE	-
CIS-1,2 DICHLOROETHENE	71
TRANS-1,2-DICHLOROETHENE	< 17.5
TETRACHLOROETHENE	< 24
TRICHLOROETHENE	< 22.5
VINYL CHLORIDE	< 9.5

Boring	GP-1
Date	09/07/17
VOCs (µg/l)	ND

Boring	MW-1
Date	09/07/17
VOCs (µg/l)	ND

Boring	PZ-1
Date	09/07/17
VOCs (µg/l)	ND

Boring	GP-4
Date	09/07/17
VOCs (µg/l)	ND

LEGEND

- APPROXIMATE BUILDING FOOTPRINT
- APPROXIMATE SITE BOUNDARY
- APPROXIMATE LOCATION OF UNDERGROUND UTILITIES
- PZ-1 — APPROXIMATE LOCATION OF PIEZOMETER
- MW-1 — APPROXIMATE LOCATION OF MONITORING WELL
- GP-5 — APPROXIMATE LOCATION OF GEOPROBE MONITORING WELL
- 500 / 50 / 5 — GROUNDWATER TOTAL VOCs ISOCONCENTRATION CONTOUR (UNITS IN µg/l)

NOTES

1. BASE MAP DEVELOPED FROM A GOOGLE PROFESSIONAL ELECTRONIC IMAGE FILE. DIGITAL AERIAL ORTHOPHOTOGRAPHY WAS PUBLISHED BY THE U.S.G.S.
2. THE USE OF AERIAL PHOTOGRAPHY CAN OFTEN MAKE BUILDINGS AND OTHER SITE FEATURES APPEAR TO BE OVERLAPPING AND DISTORTED WHEN OVERLAID WITH ACTUAL SITE FEATURES.
3. THE APPROXIMATE LOCATION OF THE SITE BOUNDARY WAS OBTAINED THROUGH USE OF THE LOCAL COUNTY ONLINE GIS MAPPING TOOL. THE PROGRAM NOTES THAT ALL PROPERTY BOUNDARIES ARE NOT SURVEYED AND ARE ONLY APPROXIMATE REPRESENTATIONS OF ACTUAL BOUNDARIES.
4. THE LOCATION OF THE EXPLORATIONS WERE APPROXIMATELY DETERMINED BY LINE OF SIGHT AND/OR TAPE MEASUREMENTS FROM EXISTING TOPOGRAPHIC FEATURES. THESE LOCATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
5. ONLY COMPOUNDS DETECTED ABOVE THE METHOD DETECTION LIMIT ARE PRESENTED. "-" INDICATES THE SAMPLE WAS NOT ANALYZED FOR THE COMPOUND LISTED.
6. **BOLD** FONT INDICATES AN ENFORCEMENT STANDARD (ES) EXCEEDANCE AND UNDERLINED FONT INDICATES A PREVENTATIVE ACTION LIMIT (PAL) EXCEEDANCE IN GROUNDWATER.

UG/L = MICROGRAMS PER LITER
ND = NOT DETECTABLE
J = CONCENTRATION BETWEEN LIMIT OF QUANTIFICATION AND DETECTION LIMIT
VOCs = VOLATILE ORGANIC COMPOUNDS
< = CONCENTRATION BELOW DETECTION LIMIT

NO.	ISSUE/DESCRIPTION	BY	DATE

FORMER SUNBRITE CLEANERS
1010 MILWAUKEE AVENUE
SOUTH MILWAUKEE, WISCONSIN

GROUNDWATER ANALYTICAL RESULTS AND ISOCONCENTRATION CONTOUR MAP (TOTAL VOCs)

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

PREPARED FOR:

PROJ MGR: JJLP	REVIEWED BY: JCO	CHECKED BY: JCO	FIGURE 7
DESIGNED BY: JJLP	DRAWN BY: LES	SCALE: see above	
DATE: 10/15/2018	PROJECT NO. 20.0152070.30	REVISION NO.	SHEET NO.

LEGEND

- APPROXIMATE BUILDING FOOTPRINT
- APPROXIMATE PROPERTY BOUNDARY
- B-1-1012 APPROXIMATE INDOOR AIR SAMPLE LOCATION
  "F" PREFIX INDICATES FIRST FLOOR
  "B" PREFIX INDICATES BASEMENT

NOTES

1. BASE MAP DEVELOPED FROM A GOOGLE PROFESSIONAL ELECTRONIC IMAGE FILE. DIGITAL AERIAL ORTHOPHOTOGRAPHY WAS PUBLISHED BY THE U.S.G.S.
2. THE USE OF AERIAL PHOTOGRAPHY CAN OFTEN MAKE BUILDINGS AND OTHER SITE FEATURES APPEAR TO BE OVERLAPPING AND DISTORTED WHEN OVERLAID WITH ACTUAL SITE FEATURES.
3. THE APPROXIMATE LOCATION OF THE SITE BOUNDARY WAS OBTAINED THROUGH USE OF THE LOCAL COUNTY ONLINE GIS MAPPING TOOL. THE PROGRAM NOTES THAT ALL PROPERTY BOUNDARIES ARE NOT SURVEYED AND ARE ONLY APPROXIMATE REPRESENTATIONS OF ACTUAL BOUNDARIES.
4. THE LOCATION OF THE EXPLORATIONS WERE APPROXIMATELY DETERMINED BY LINE OF SIGHT AND/OR TAPE MEASUREMENTS FROM EXISTING TOPOGRAPHIC FEATURES. THESE LOCATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

N W E S

0 15 30 60

SCALE IN FEET 1" = 30'

NO.	ISSUE/DESCRIPTION	BY	DATE

FORMER SUNBRITE CLEANERS
1010 MILWAUKEE AVENUE
SOUTH MILWAUKEE, WISCONSIN

OFF-SITE INDOOR AIR SAMPLE LOCATIONS
1012 MILWAUKEE AVENUE

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

PREPARED FOR:

PROJ MGR:	JJLP	REVIEWED BY:	JCO	CHECKED BY:	JCO
DESIGNED BY:	JJLP	DRAWN BY:	LES	SCALE:	see above
DATE:	10/8/2018	PROJECT NO.	20.0152070.30	REVISION NO.	

FIG 8
SHEET NO. OF

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.

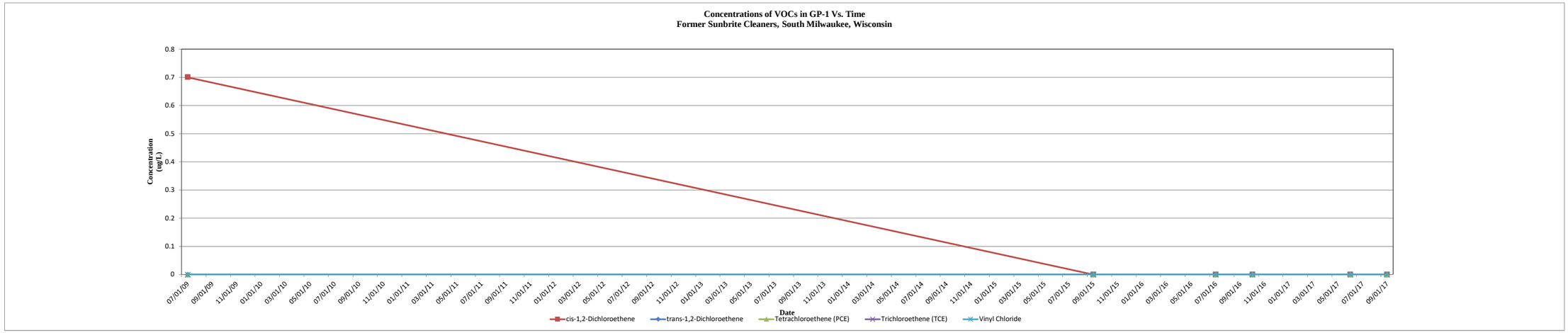
Additional Services

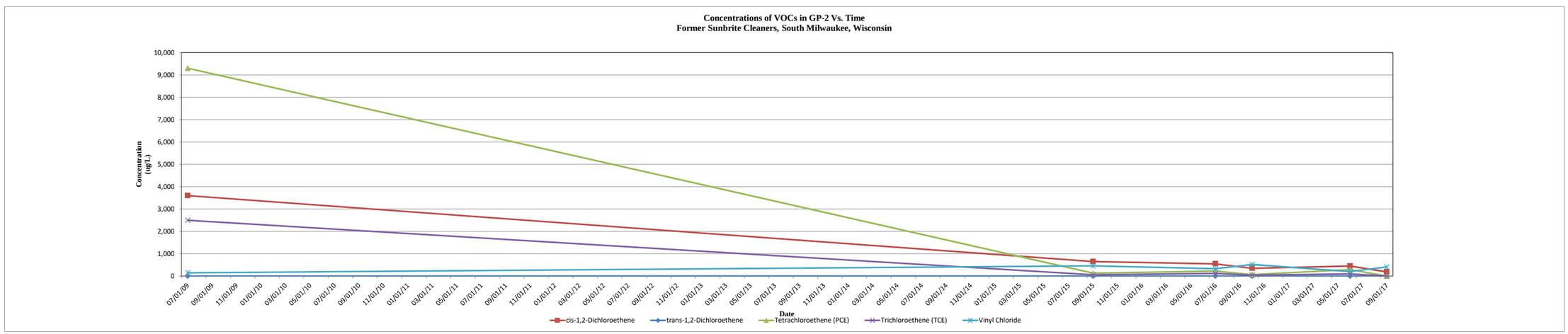
12. GZA recommends that we be retained to provide services during any future investigations, design, implementation activities, construction and/or property development/redevelopment at the site. This will allow us the opportunity to: i) observe conditions and compliance with our design concepts and 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.

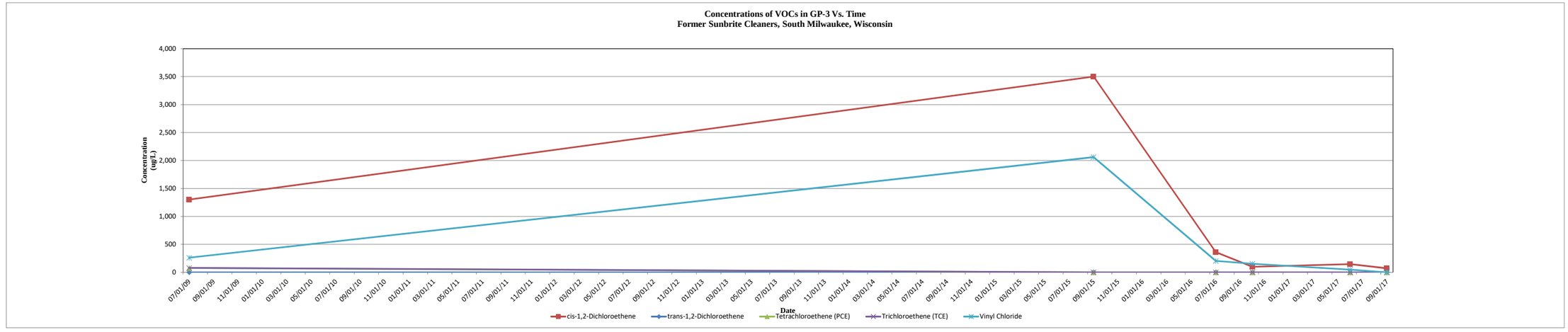
APPENDIX B

GROUNDWATER CONCENTRATION VS. TIME PLOTS

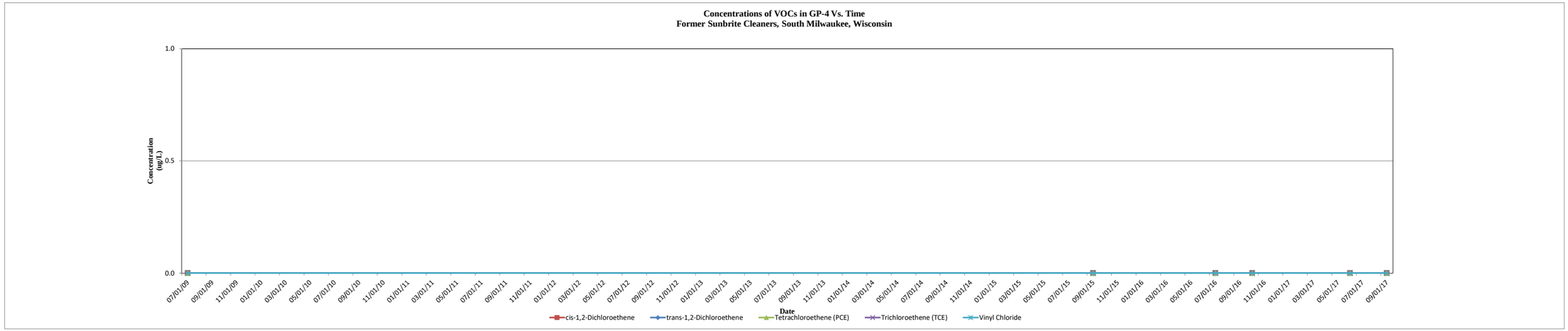
APPENDIX B
GROUNDWATER VOC CONCENTRATIONS VS. TIME PLOTS
Former Sunbrite Cleaners
1010 Milwaukee Avenue
South Milwaukee, Wisconsin

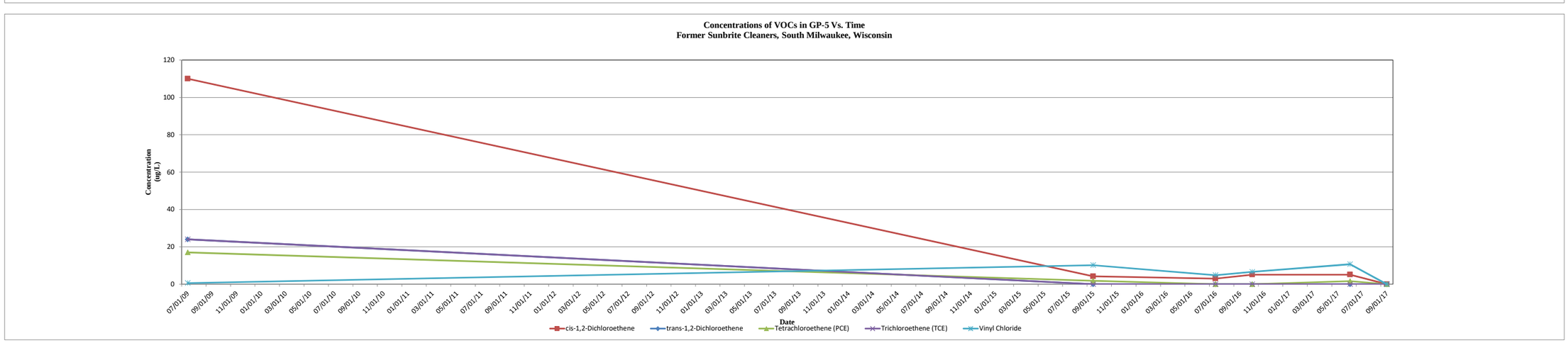






APPENDIX B
GROUNDWATER VOC CONCENTRATIONS VS. TIME PLOTS
Former Sunbrite Cleaners
1010 Milwaukee Avenue
South Milwaukee, Wisconsin





APPENDIX C

SOIL BORING LOGS AND MONITORING WELL
AND DEVELOPMENT FORMS

State of Wisconsin
Department of Natural Resources

Soil Boring Log Information

Form 4400-122 Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐ _____

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Sunbrite Cleaners		**MW-1**

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name **Mitch** Last Name **Panfil** Firm **Gestra**	**7/21/16**	**7/21/16**	**Auger**

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level Feet MSL	Surface Elevation Feet MSL	Borehole Diameter inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E S☐ /C☐ /N☐ Lat _____
_____ 1/4 of _____ 1/4 of Section _____ ,T _____ , R _____ Long _____

Local Grid Location ☐ N ☐ E
_____ Feet ☐ S _____ Feet ☐ W

Facility ID	County	County Code	Civil Town/City/or Village
	Milwaukee	**41**	**South Milwaukee**

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
1	24/14		0	Well-graded SAND (SW), medium to coarse; some Gravel; brown, dry	SW			3.5						
2	24/20			7" Stiff, lean CLAY (CL); some Sand, fine; little Gravel, fine; brown, dry	CL			2.9	1.5					
				13" Poorly-graded SAND (SP), medium; tan and black layers, some pieces of brick and glass (FILL)	SP									
3	24/11		5	7" Poorly-graded SAND (SP), medium; trace Gravel; black, some pieces of brick (FILL)	SP			2.6						
				4" Well-graded SAND (SW), medium to coarse; some Gravel; light brown, dry	SW									
4	24/9			Well-graded SAND (SW), fine to coarse; little Gravel; brown to tan, dry, piece of concrete approx. 1"	SW			2.9						
5	24/24			Stiff, lean CLAY (CL); trace Silt; trace Gravel; golden brown, dry	CL			2.9	1.5					
6	24/24		10	Very stiff, lean CLAY (CL); little Gravel, fine; trace Silt; golden brown dry	CL			3.9	3-3.5					
7	24/22			Medium-stiff, lean CLAY (CL); trace Silt; trace Gravel; grayish-brown, moist	CL			3.9	1.0					
8	12/7			Medium-stiff, lean CLAY (CL); trace Silt; trace Gravel; brown, moist	CL			3.9	1.0					
			15	END OF BORING AT 15'										
			20											
			25											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature (for Elizabeth Stapleton) Firm GZA GeoEnvironmental, Inc.

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

State of Wisconsin
Department of Natural Resources

Soil Boring Log Information

Form 4400-122 Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐ _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Sunbrite Cleaners		MW-2

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name Mitch Last Name Panfil Firm Gestra	7/21/16	7/21/16	Auger

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E S☐ /C☐ /N☐ Lat _____
_____ 1/4 of _____ 1/4 of Section _____ ,T _____ , R _____ Long _____

Local Grid Location
☐ N ☐ E
_____ Feet ☐ S _____ Feet ☐ W

Facility ID	County	County Code	Civil Town/City/or Village
	Milwaukee	41	South Milwaukee

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
1	18/15			Well-graded SAND (SW), fine to medium; trace Gravel, fine; brown, dry	SW			1.2						
2	24/17			Well-graded SAND (SW), fine to coarse; trace Gravel, fine; brown, dry	SW			3.4						
3	24/12		5	5" Well-graded SAND (SW), medium to coarse, brown, dry 7" Medium-stiff, lean CLAY (CL); some Sand, fine; trace Gravel, fine; dark brown to tan, dry to moist	SW CL			3.2	1.0					
4	24/18			6" Well-graded SAND (SW), medium to coarse; trace Gravel, fine; brown, dry 8" Well-graded SAND (SW), fine to medium with Clay; little Silt; little Gravel; sooty-black, moist	SW SP			2.1						
5	24/0			4" Poorly-graded SAND (SP) with Clay; trace Gravel, fine; golden brown, moist No Recovery										
6	24/16		10	Stiff, lean CLAY (CL); trace Silt; brownish-gray, moist	CL SP			3.3	1-1.5					
7	24/21			10" Medium-stiff, lean CLAY (CL); some Sand, fine; little Gravel; brown, moist 11" Poorly-graded SAND (SP), fine; light brown, wet	CL			3.1	1.0					
8	12/12		15	Very stiff, lean CLAY (CL); trace Silt; grayish-brown, moist	CL			1.9	2-3					
				END OF BORING AT 15'										
			20											
			25											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: (for Elizabeth Stapleton) Firm: GZA GeoEnvironmental, Inc.

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

State of Wisconsin
Department of Natural Resources

Soil Boring Log Information

Form 4400-122 Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐ _____

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Sunbrite Cleaners		**PZ-1**

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name **Mitch** Last Name **Panfil** Firm **Gestra**	**7/21/16**	**7/21/16**	**Auger**

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level Feet MSL	Surface Elevation Feet MSL	Borehole Diameter inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E S☐ /C☐ /N☐ Lat _____
_____ 1/4 of _____ 1/4 of Section _____ ,T _____ , R _____ Long _____

Local Grid Location ☐ N ☐ E
_____ Feet ☐ S _____ Feet ☐ W

Facility ID	County	County Code	Civil Town/City/or Village
	Milwaukee	**41**	**South Milwaukee**

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plastic Limit	Soil Properties: P 200	RQD/ Comments
1	24/16		0	Well-graded SAND (SW), medium to coarse; little Gravel, fine; brown, dry	SW			0.8						
2	24/17			Well-graded SAND (SW), medium to coarse; little Gravel; brown, dry	SW			2.0						
3	24/15		5	Well-graded SAND (SW), medium to coarse; little Gravel, brown, dry	SW			2.4						
4	24/18			4" Poorly-graded SAND (SP), coarse; little Gravel; brown, wet 2" Soft, lean CLAY (CL)	SP CL			5.3	0.5					
5	24/24			12" Well-graded SAND (SW), fine to coarse; little Gravel; sooty-black, wet, petroleum odors 2" Well-graded SAND (SW), fine to coarse; little Gravel, brown, wet, little black staining	SW CL			49.6	2-3					
6	24/24		10	22" Very stiff, lean CLAY (CL); little Silt; trace Gravel; petroleum odors 7" Medium-stiff, lean CLAY (CL); little Sand, fine; little Silt; trace Gravel; tan, moist, petroleum odors	CL			23.9	1.0 2-2.5					
7	24/24			17" Very stiff, lean CLAY (CL); little Sand, fine; trace Silt; trace Gravel; golden tan, moist Medium-stiff, lean CLAY (CL); trace Silt; grayish-brown, moist	CL CL			2.4	0.75					
8	24/22		15	3" Soft, lean CLAY (CL); trace Silt; grayish-brown, moist 8" Poorly-graded SAND (SP), fine; tan, wet	SP CL			4.0	0.5 0.75					
9	24/24			11" Medium-stiff, lean CLAY (CL); little Sand, fine; trace Silt; gray-brown, moist Very stiff, lean CLAY (CL); trace Silt; grayish-brown, wet	CL			3.8	2-2.5					
10	24/24			Very stiff, lean clay (CL); trace Silt; grayish-brown, moist	CL			2.4	2.0					
11	24/24		20	Stiff, lean CLAY (CL); trace Silt; trace Gravel, fine; grayish-brown, moist	CL			3.5	1.5					
12	24/24			9" Stiff, lean CLAY (CL); little Sand, fine; trace Gravel, fine; grayish-brown, wet 15" Poorly-graded SAND (SP), fine; tan, wet	CL SP			1.9	2.0					
13	12/12			Poorly-graded SAND (SP), fine; tan, wet	SP			1.1						
			25	END OF BORING AT 25'										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature (for Elizabeth Stapleton) Firm **GZA GeoEnvironmental, Inc.**

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

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Sunbrite Cleaners	Local Grid Location of Well: ____ ft. ☐ N ☐ S. ____ ft. ☐ E. ☐ W.	Well Name: MW-1
Facility License, Permit or Monitoring Number	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ____ Long. ____ or	Wis. Unique Well Number / DNR Well Number
Facility ID	St. Plane ____ ft. N, ____ ft. E	Date Well Installed: 07/21/2016
Type of Well: Monitoring Well; Well Code ____	Section Location of Waste/Source: ____ 1/4 of ____ 1/4 of Sec. ____ T. ____ N,R ____ ☐ E. ☐ W.	Well Installed By: Name (first, last) and Firm: Mitch Panfil, Gestra Engineering
Distance from Waste/Source ____ ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known / Gov. Lot #	

A. Protective pipe, top elevation ____ ft. MSL
B. Well casing, top elevation ____ ft. MSL
C. Land surface elevation ____ ft. MSL
D. Surface seal, bottom ____ ft MSL or ____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☒ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☒ 50; Hollow Stem Auger ☐ 41; ____ Other ☐ __

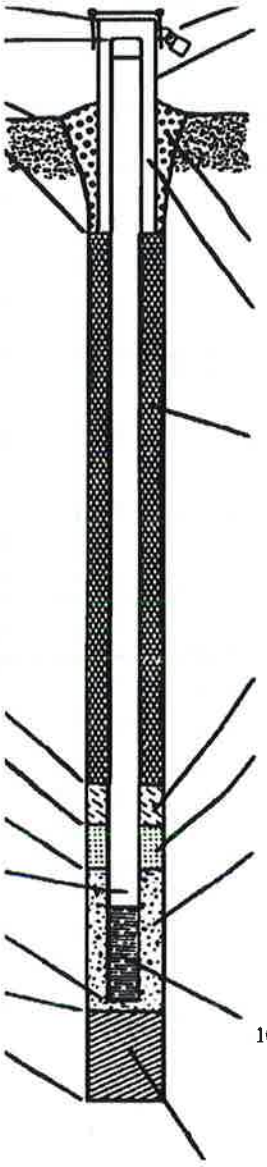
15. Drilling fluid used: Water ☐ 02 Air ☐ 01; Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of Water (attach analysis if required):

E. Bentonite seal, top ____ ft. MSL or 0.5 ft.
F. Fine sand, top ____ ft. MSL or 3 ft.
G. Filter pack, top ____ ft. MSL or 4 ft.
H. Screen joint, top ____ ft. MSL or 5 ft.
I. Well bottom ____ ft. MSL or 15 ft.
J. Filter pack, bottom ____ ft. MSL or 15 ft.
K. Borehole bottom ____ ft. MSL or 15 ft.
L. Borehole diameter 8.5 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.07 in.



1. Cap and lock? ☒ Yes ☒ No
2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1.0 ft.
c. Material: ____ Steel ☒ 04 Other ☐ __
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____

3. Surface seal: ____ Bentonite ☐ 30 Concrete ☒ 01 Other ☐ __

4. Material between well casing and protective pipe: ____ Bentonite ☒ 30 Annular space seal ☐ __ Other ☐ __

5. Annular space seal: a. Granular Bentonite ☐ 33
b. ____ Lbs/gal mud weight... Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight.... Bentonite slurry ☐ 31
d. ____ % Bentonite..... Bentonite-cement grout ☐ 50
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☐ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 32
c. ____ Other ☐ __

7. Fine sand Material: Manufacturer, product name & mesh size
a. ____
b. Volume added 0.5 bag ~~ft^3~~

8. Filter pack material: Manufacturer, product name and mesh size
a. RW Sidley #5
b. Volume added 6 bags ~~ft^3~~

9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 ____ Other ☐ __

10. Screen material: ____
a. Screen type: PVC Sch 40 Factory cut ☒ 11 Continuous slot ☐ 01 ____ Other ☐ __
b. Manufacturer Monoflex
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.

11. Backfill material (below filter pack): ____ None ☒ 14 Other ☐ __

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature (for Elizabeth Stapleton) Firm **GZA GeoEnvironmental, Inc.**

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

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Sunbrite Cleaners	Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	Well Name: MW-2
Facility License, Permit or Monitoring Number	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ____ Long. ____ or	Wis. Unique Well Number / DNR Well Number
Facility ID	St. Plane ____ ft. N, ____ ft. E	Date Well Installed: 07/21/2016
Type of Well: Monitoring Well; Well Code ____	Section Location of Waste/Source: ____ 1/4 of ____ 1/4 of Sec. ____ T. ____ N,R ____ ☐ E. ☐ W.	Well Installed By: Name (first, last) and Firm: Mitch Panfil, Gestra Engineering
Distance from Waste/Source ____ ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known / Gov. Lot #	

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation ____ ft. MSL

D. Surface seal, bottom ____ ft MSL or ____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☒ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☒ 50 / Hollow Stem Auger ☐ 41 / Other ☐ __

15. Drilling fluid used: Water ☐ 02 Air ☐ 01 Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of Water (attach analysis if required):

E. Bentonite seal, top ____ ft. MSL or 0.5 ft.

F. Fine sand, top ____ ft. MSL or 3 ft.

G. Filter pack, top ____ ft. MSL or 4 ft.

H. Screen joint, top ____ ft. MSL or 5 ft.

I. Well bottom ____ ft. MSL or 15 ft.

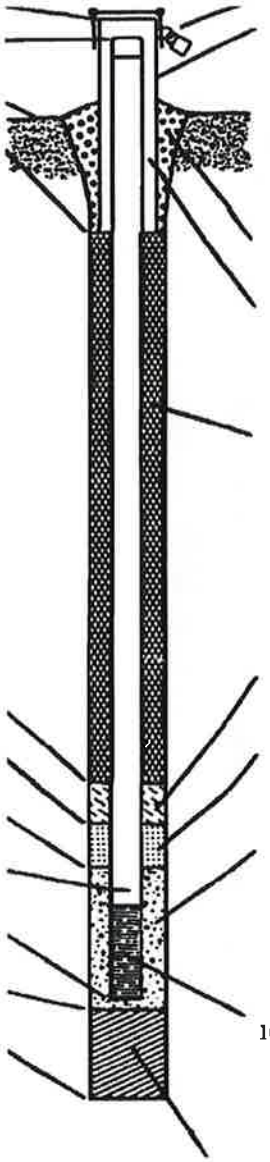
J. Filter pack, bottom ____ ft. MSL or 15 ft.

K. Borehole bottom ____ ft. MSL or 15 ft.

L. Borehole diameter 8.5 in.

M. O.D. well casing 2.38 in.

N. I.D. well casing 2.07 in.



1. Cap and lock? ☒ Yes ☒ No
2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04 / Other ☐ __
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____
3. Surface seal: Bentonite ☐ 30 / Concrete ☒ 01 / Other ☐ __
4. Material between well casing and protective pipe: Bentonite ☒ 30 / Annular space seal ☐ __ / Other ☐ __
5. Annular space seal: a. Granular Bentonite ☐ 33
b. ____ Lbs/gal mud weight... Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight.... Bentonite slurry ☐ 31
d. ____ % Bentonite..... Bentonite-cement grout ☐ 50
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☐ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 32
c. ____ Other ☐ __
7. Fine sand Material: Manufacturer, product name & mesh size
a. ____
b. Volume added 0.5 bag ~~ft^3~~
8. Filter pack material: Manufacturer, product name and mesh size
a. RW Sidley #5
b. Volume added 6 bags ~~ft^3~~
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐ __
10. Screen material: ____
a. Screen type: PVC Sch 40 Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐ __
b. Manufacturer Monoflex
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☒ 14 / Other ☐ __

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature (for Elizabeth Stapleton) Firm GZA GeoEnvironmental, Inc.

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

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Sunbrite Cleaners	Local Grid Location of Well: _____ ft. ☐ N. ☐ S. _____ ft. ☐ E. ☐ W.	Well Name: PZ-1
Facility License, Permit or Monitoring Number	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. _____ Long. _____ or	Wis. Unique Well Number / DNR Well Number
Facility ID	St. Plane _____ ft. N, _____ ft. E	Date Well Installed: 07/21/2016
Type of Well: Monitoring Well; Well Code _____	Section Location of Waste/Source: ___ 1/4 of ___ 1/4 of Sec. ___ T. ___ N,R ___ ☐ E. ☐ W.	Well Installed By: Name (first, last) and Firm: Mitch Panfil, Gestra Engineering
Distance from Waste/Source _____ ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known / Gov. Lot #	

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft MSL or _____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☒ 50; Hollow Stem Auger ☐ 41; _____ Other ☐ __

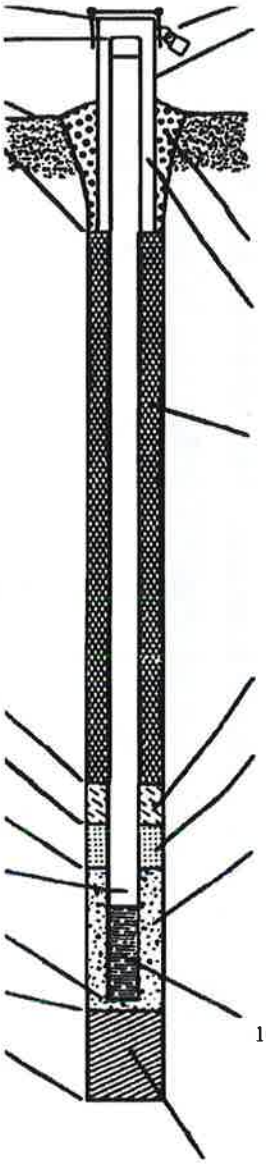
15. Drilling fluid used: Water ☐ 02 Air ☐ 01; Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe _____

17. Source of Water (attach analysis if required):

E. Bentonite seal, top _____ ft. MSL or 0.5 ft.
F. Fine sand, top _____ ft. MSL or 16 ft.
G. Filter pack, top _____ ft. MSL or 18 ft.
H. Screen joint, top _____ ft. MSL or 20 ft.
I. Well bottom _____ ft. MSL or 25 ft.
J. Filter pack, bottom _____ ft. MSL or 25 ft.
K. Borehole bottom _____ ft. MSL or 25 ft.
L. Borehole diameter 8.5 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.07 in.



1. Cap and lock? ☒ Yes ☒ No
2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04; _____ Other ☐ __
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 30; Concrete ☒ 01; _____ Other ☐ __
4. Material between well casing and protective pipe: Bentonite ☒ 30; Annular space seal ☐ __; _____ Other ☐ __
5. Annular space seal: a. Granular Bentonite ☐ 33
b. ____ Lbs/gal mud weight... Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight.... Bentonite slurry ☐ 31
d. ____ % Bentonite..... Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☐ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 32
c. _____ Other ☐ __
7. Fine sand Material: Manufacturer, product name & mesh size
a. _____
b. Volume added 0.5 bag ~~m^3~~
8. Filter pack material: Manufacturer, product name and mesh size
a. RW Sidley #5
b. Volume added 3 bags ~~m^3~~
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; _____ Other ☐ __
10. Screen material: _____
a. Screen type: PVC Sch 40 Factory cut ☒ 11; Continuous slot ☐ 01; _____ Other ☐ __
b. Manufacturer Monoflex
c. Slot size: 0.01 in.
d. Slotted length: 5 ft.
11. Backfill material (below filter pack): None ☒ 14; _____ Other ☐ __

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature _____ (for Elizabeth Stapleton) Firm GZA GeoEnvironmental, Inc.

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

State of Wisconsin
Department of Natural Resources

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

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐ _____

Facility/Project Name	County Name	Well Name
Former Sunbrite Cleaners	Milwauke	MW-1

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	41		

1. Can this well be purged dry? ☒ Yes ☒ No

2. Well development method

surged with bailer and bailed	☒	41
surged with bailer and pumped	☐	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☐	51
pumped slowly	☐	50
Other _____	☐	__

3. Time spent developing well 30 min.

4. Depth of well (from top of well casing) 15 ft.

5. Inside diameter of well 2.07 in.

6. Volume of water in filter pack and well casing _____ gal.

7. Volume of water removed from well _____ gal.

8. Volume of water added (if any) _____ gal.

9. Source of water added N/A

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. _____ ft.	_____ ft.
Date	b. 07/21/16 (mm/dd/yyyy)	07/21/16 (mm/dd/yyyy)
Time	c. _____ ☐ a.m. ☐ p.m.	_____ ☐ a.m. ☐ p.m.
12. Sediment in well bottom	_____ inches	_____ inches
13. Water clarity	Clear ☐ 10 Turbid ☐ 15 (Describe)	Clear ☐ 20 Turbid ☐ 25 (Describe)
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	_____ mg/l	_____ mg/l
15. COD	_____ mg/l	_____ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Elizabeth Last Name: Stapleton
Firm: GZA

17. Additional comments on development:

Well was surged/bailed dry. Slow recovery observed.

Name and Address of Facility Contact/Owner/Responsible Party
First Name: Henry/Diane Last Name: Ciesinski
Facility/Firm: D&H Properties LLC
Street: 711 Tarawitt Drive
City/State/Zip: Longboat Key, FL 34228

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: [signature]
Print Name: Janeé Pederson (for Elizabeth Stapleton)
Firm: GZA GeoEnvironmental, Inc.

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

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

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐ _____

Facility/Project Name	County Name	Well Name
Former Sunbrite Cleaners	Milwauke	MW-2

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	41		

1. Can this well be purged dry? ☒ Yes ☒ No

2. Well development method

surged with bailer and bailed	☒	41
surged with bailer and pumped	☐	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☐	51
pumped slowly	☐	50
Other _____	☐	__

3. Time spent developing well 30 min.

4. Depth of well (from top of well casing) 15 ft.

5. Inside diameter of well 2.07 in.

6. Volume of water in filter pack and well casing _____ gal.

7. Volume of water removed from well _____ gal.

8. Volume of water added (if any) _____ gal.

9. Source of water added N/A

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. _____ ft.	_____ ft.
Date	b. 07/21/16 m m / d d / y y y y	07/21/16 m m / d d / y y y y
Time	c. _____ ☐ a.m. ☐ p.m.	_____ ☐ a.m. ☐ p.m.
12. Sediment in well bottom	_____ inches	_____ inches
13. Water clarity	Clear ☐ 10 Turbid ☐ 15 (Describe)	Clear ☐ 20 Turbid ☐ 25 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	_____ mg/l	_____ mg/l
15. COD	_____ mg/l	_____ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Elizabeth Last Name: Stapleton
Firm: GZA

17. Additional comments on development:

Well was surged/bailed dry. Slow recovery observed.

Name and Address of Facility Contact/Owner/Responsible Party
First Name: Henry/Diane Last Name: Ciesinski
Facility/Firm: D&H Properties LLC
Street: 711 Tarawitt Drive
City/State/Zip: Longboat Key, FL 34228

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: _____
Print Name: Janeé Pederson (for Elizabeth Stapleton)
Firm: GZA GeoEnvironmental, Inc.

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

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

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐ _____

Facility/Project Name	County Name	Well Name
Former Sunbrite Cleaners	Milwauke	PZ-1

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	41		

1. Can this well be purged dry? ☒ Yes ☒ No

2. Well development method

surged with bailer and bailed	☒	41
surged with bailer and pumped	☐	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☐	51
pumped slowly	☐	50
Other _____	☐	--

3. Time spent developing well 30 min.

4. Depth of well (from top of well casing) 25 ft.

5. Inside diameter of well 2.07 in.

6. Volume of water in filter pack and well casing _____ gal.

7. Volume of water removed from well _____ gal.

8. Volume of water added (if any) _____ gal.

9. Source of water added N/A

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. _____ ft.	_____ ft.
Date	b. 07/21/16 m m / d d / y y y y	07/21/16 m m / d d / y y y y
Time	c. _____ ☐ a.m. ☐ p.m.	_____ ☐ a.m. ☐ p.m.
12. Sediment in well bottom	_____ inches	_____ inches
13. Water clarity	Clear ☐ 10 Turbid ☐ 15 (Describe)	Clear ☐ 20 Turbid ☐ 25 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	_____ mg/l	_____ mg/l
15. COD	_____ mg/l	_____ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Elizabeth Last Name: Stapleton
Firm: GZA

17. Additional comments on development:

Well was surged/bailed dry. Slow recovery observed.

Name and Address of Facility Contact/Owner/Responsible Party
First Name: Henry/Diane Last Name: Ciesinski
Facility/Firm: D&H Properties LLC
Street: 711 Tarawitt Drive
City/State/Zip: Longboat Key, FL 34228

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: [signature]
Print Name: Janeé Pederson (for Elizabeth Stapleton)
Firm: GZA GeoEnvironmental, Inc.

NOTE: See instructions for more information including a list of county codes and well type codes.

APPENDIX D

LABORATORY ANALYTICAL REPORTS
AND CHAIN-OF-CUSTODY FORMS

Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

CLAIR RUENGER
GZA GEOENVIRONMENTAL, INC.
20900 SWENSON DRIVE,
WAUKESHA, WI 53186

Report Date *26-Jul-16*

Project Name FMR SUNBRITE CLEANERS **Invoice #** E31417
Project # 20.0152070.20

Lab Code 5031417A
Sample ID MW-2 2-4
Sample Matrix Soil
Sample Date 7/21/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	96.6	%			1	5021		7/25/2016	MJR	1
Organic										
VOC's										
1,2-Dichloroethane	< 0.03	mg/kg	0.03	0.096	1	8260B		7/25/2016	CJR	1
1,1-Dichloroethane	< 0.025	mg/kg	0.025	0.079	1	8260B		7/25/2016	CJR	1
1,1-Dichloroethene	< 0.029	mg/kg	0.029	0.093	1	8260B		7/25/2016	CJR	1
cis-1,2-Dichloroethene	< 0.021	mg/kg	0.021	0.068	1	8260B		7/25/2016	CJR	1
trans-1,2-Dichloroethene	< 0.024	mg/kg	0.024	0.076	1	8260B		7/25/2016	CJR	1
Tetrachloroethene	< 0.054	mg/kg	0.054	0.17	1	8260B		7/25/2016	CJR	1
1,1,1-Trichloroethane	< 0.04	mg/kg	0.04	0.13	1	8260B		7/25/2016	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		7/25/2016	CJR	1
Trichloroethene (TCE)	< 0.042	mg/kg	0.042	0.13	1	8260B		7/25/2016	CJR	1
Vinyl Chloride	< 0.01	mg/kg	0.01	0.031	1	8260B		7/25/2016	CJR	1
SUR - Dibromofluoromethane	99	Rec %			1	8260B		7/25/2016	CJR	1
SUR - Toluene-d8	96	Rec %			1	8260B		7/25/2016	CJR	1
SUR - 4-Bromofluorobenzene	107	Rec %			1	8260B		7/25/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	94	Rec %			1	8260B		7/25/2016	CJR	1

Project Name FMR SUNBRITE CLEANERS **Invoice #** E31417
Project # 20.0152070.20

Lab Code 5031417B
Sample ID MW-2 10-12
Sample Matrix Soil
Sample Date 7/21/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	69.8	%			1	5021		7/25/2016	MJR	1
Organic										
VOC's										
1,2-Dichloroethane	< 0.03	mg/kg	0.03	0.096	1	8260B		7/25/2016	CJR	1
1,1-Dichloroethane	< 0.025	mg/kg	0.025	0.079	1	8260B		7/25/2016	CJR	1
1,1-Dichloroethene	< 0.029	mg/kg	0.029	0.093	1	8260B		7/25/2016	CJR	1
cis-1,2-Dichloroethene	< 0.021	mg/kg	0.021	0.068	1	8260B		7/25/2016	CJR	1
trans-1,2-Dichloroethene	< 0.024	mg/kg	0.024	0.076	1	8260B		7/25/2016	CJR	1
Tetrachloroethene	< 0.054	mg/kg	0.054	0.17	1	8260B		7/25/2016	CJR	1
1,1,1-Trichloroethane	< 0.04	mg/kg	0.04	0.13	1	8260B		7/25/2016	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		7/25/2016	CJR	1
Trichloroethene (TCE)	< 0.042	mg/kg	0.042	0.13	1	8260B		7/25/2016	CJR	1
Vinyl Chloride	< 0.01	mg/kg	0.01	0.031	1	8260B		7/25/2016	CJR	1
SUR - Dibromofluoromethane	101	Rec %			1	8260B		7/25/2016	CJR	1
SUR - Toluene-d8	97	Rec %			1	8260B		7/25/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	90	Rec %			1	8260B		7/25/2016	CJR	1
SUR - 4-Bromofluorobenzene	104	Rec %			1	8260B		7/25/2016	CJR	1

Lab Code 5031417C
Sample ID PZ-1 2-4
Sample Matrix Soil
Sample Date 7/21/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	96.3	%			1	5021		7/25/2016	MJR	1
Organic										
VOC's										
1,2-Dichloroethane	< 0.03	mg/kg	0.03	0.096	1	8260B		7/25/2016	CJR	1
1,1-Dichloroethane	< 0.025	mg/kg	0.025	0.079	1	8260B		7/25/2016	CJR	1
1,1-Dichloroethene	< 0.029	mg/kg	0.029	0.093	1	8260B		7/25/2016	CJR	1
cis-1,2-Dichloroethene	< 0.021	mg/kg	0.021	0.068	1	8260B		7/25/2016	CJR	1
trans-1,2-Dichloroethene	< 0.024	mg/kg	0.024	0.076	1	8260B		7/25/2016	CJR	1
Tetrachloroethene	< 0.054	mg/kg	0.054	0.17	1	8260B		7/25/2016	CJR	1
1,1,1-Trichloroethane	< 0.04	mg/kg	0.04	0.13	1	8260B		7/25/2016	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		7/25/2016	CJR	1
Trichloroethene (TCE)	< 0.042	mg/kg	0.042	0.13	1	8260B		7/25/2016	CJR	1
Vinyl Chloride	< 0.01	mg/kg	0.01	0.031	1	8260B		7/25/2016	CJR	1
SUR - 4-Bromofluorobenzene	99	Rec %			1	8260B		7/25/2016	CJR	1
SUR - Dibromofluoromethane	98	Rec %			1	8260B		7/25/2016	CJR	1
SUR - Toluene-d8	93	Rec %			1	8260B		7/25/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	91	Rec %			1	8260B		7/25/2016	CJR	1

Project Name FMR SUNBRITE CLEANERS **Invoice #** E31417
Project # 20.0152070.20

Lab Code 5031417D
Sample ID PZ-1 8-10
Sample Matrix Soil
Sample Date 7/21/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	88.7	%			1	5021		7/25/2016	MJR	1
Organic										
VOC's										
1,2-Dichloroethane	< 0.03	mg/kg	0.03	0.096	1	8260B		7/25/2016	CJR	1
1,1-Dichloroethane	< 0.025	mg/kg	0.025	0.079	1	8260B		7/25/2016	CJR	1
1,1-Dichloroethene	< 0.029	mg/kg	0.029	0.093	1	8260B		7/25/2016	CJR	1
cis-1,2-Dichloroethene	< 0.021	mg/kg	0.021	0.068	1	8260B		7/25/2016	CJR	1
trans-1,2-Dichloroethene	< 0.024	mg/kg	0.024	0.076	1	8260B		7/25/2016	CJR	1
Tetrachloroethene	< 0.054	mg/kg	0.054	0.17	1	8260B		7/25/2016	CJR	1
1,1,1-Trichloroethane	< 0.04	mg/kg	0.04	0.13	1	8260B		7/25/2016	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		7/25/2016	CJR	1
Trichloroethene (TCE)	< 0.042	mg/kg	0.042	0.13	1	8260B		7/25/2016	CJR	1
Vinyl Chloride	< 0.01	mg/kg	0.01	0.031	1	8260B		7/25/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	90	Rec %			1	8260B		7/25/2016	CJR	1
SUR - 4-Bromofluorobenzene	101	Rec %			1	8260B		7/25/2016	CJR	1
SUR - Dibromofluoromethane	97	Rec %			1	8260B		7/25/2016	CJR	1
SUR - Toluene-d8	96	Rec %			1	8260B		7/25/2016	CJR	1

Lab Code 5031417E
Sample ID MW-1 0-2
Sample Matrix Soil
Sample Date 7/21/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	94.5	%			1	5021		7/25/2016	MJR	1
Organic										
VOC's										
1,2-Dichloroethane	< 0.03	mg/kg	0.03	0.096	1	8260B		7/25/2016	CJR	1
1,1-Dichloroethane	< 0.025	mg/kg	0.025	0.079	1	8260B		7/25/2016	CJR	1
1,1-Dichloroethene	< 0.029	mg/kg	0.029	0.093	1	8260B		7/25/2016	CJR	1
cis-1,2-Dichloroethene	< 0.021	mg/kg	0.021	0.068	1	8260B		7/25/2016	CJR	1
trans-1,2-Dichloroethene	< 0.024	mg/kg	0.024	0.076	1	8260B		7/25/2016	CJR	1
Tetrachloroethene	< 0.054	mg/kg	0.054	0.17	1	8260B		7/25/2016	CJR	1
1,1,1-Trichloroethane	< 0.04	mg/kg	0.04	0.13	1	8260B		7/25/2016	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		7/25/2016	CJR	1
Trichloroethene (TCE)	< 0.042	mg/kg	0.042	0.13	1	8260B		7/25/2016	CJR	1
Vinyl Chloride	< 0.01	mg/kg	0.01	0.031	1	8260B		7/25/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	87	Rec %			1	8260B		7/25/2016	CJR	1
SUR - 4-Bromofluorobenzene	104	Rec %			1	8260B		7/25/2016	CJR	1
SUR - Dibromofluoromethane	96	Rec %			1	8260B		7/25/2016	CJR	1
SUR - Toluene-d8	95	Rec %			1	8260B		7/25/2016	CJR	1

Project Name FMR SUNBRITE CLEANERS **Invoice #** E31417
Project # 20.0152070.20

Lab Code 5031417F
Sample ID MW-1 10-12
Sample Matrix Soil
Sample Date 7/21/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	88.9	%			1	5021		7/25/2016	MJR	1
Organic										
VOC's										
1,2-Dichloroethane	< 0.03	mg/kg	0.03	0.096	1	8260B		7/25/2016	CJR	1
1,1-Dichloroethane	< 0.025	mg/kg	0.025	0.079	1	8260B		7/25/2016	CJR	1
1,1-Dichloroethene	< 0.029	mg/kg	0.029	0.093	1	8260B		7/25/2016	CJR	1
cis-1,2-Dichloroethene	< 0.021	mg/kg	0.021	0.068	1	8260B		7/25/2016	CJR	1
trans-1,2-Dichloroethene	< 0.024	mg/kg	0.024	0.076	1	8260B		7/25/2016	CJR	1
Tetrachloroethene	< 0.054	mg/kg	0.054	0.17	1	8260B		7/25/2016	CJR	1
1,1,1-Trichloroethane	< 0.04	mg/kg	0.04	0.13	1	8260B		7/25/2016	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		7/25/2016	CJR	1
Trichloroethene (TCE)	< 0.042	mg/kg	0.042	0.13	1	8260B		7/25/2016	CJR	1
Vinyl Chloride	< 0.01	mg/kg	0.01	0.031	1	8260B		7/25/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	93	Rec %			1	8260B		7/25/2016	CJR	1
SUR - 4-Bromofluorobenzene	107	Rec %			1	8260B		7/25/2016	CJR	1
SUR - Dibromofluoromethane	98	Rec %			1	8260B		7/25/2016	CJR	1
SUR - Toluene-d8	97	Rec %			1	8260B		7/25/2016	CJR	1

Lab Code 5031417G
Sample ID TRIP BLANK
Sample Matrix Soil
Sample Date 7/21/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 0.03	mg/kg	0.03	0.096	1	8260B		7/25/2016	CJR	1
1,1-Dichloroethane	< 0.025	mg/kg	0.025	0.079	1	8260B		7/25/2016	CJR	1
1,1-Dichloroethene	< 0.029	mg/kg	0.029	0.093	1	8260B		7/25/2016	CJR	1
cis-1,2-Dichloroethene	< 0.021	mg/kg	0.021	0.068	1	8260B		7/25/2016	CJR	1
trans-1,2-Dichloroethene	< 0.024	mg/kg	0.024	0.076	1	8260B		7/25/2016	CJR	1
Tetrachloroethene	< 0.054	mg/kg	0.054	0.17	1	8260B		7/25/2016	CJR	1
1,1,1-Trichloroethane	< 0.04	mg/kg	0.04	0.13	1	8260B		7/25/2016	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		7/25/2016	CJR	1
Trichloroethene (TCE)	< 0.042	mg/kg	0.042	0.13	1	8260B		7/25/2016	CJR	1
Vinyl Chloride	< 0.01	mg/kg	0.01	0.031	1	8260B		7/25/2016	CJR	1
SUR - Toluene-d8	94	Rec %			1	8260B		7/25/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	80	Rec %			1	8260B		7/25/2016	CJR	1
SUR - 4-Bromofluorobenzene	104	Rec %			1	8260B		7/25/2016	CJR	1
SUR - Dibromofluoromethane	97	Rec %			1	8260B		7/25/2016	CJR	1

"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

Code	*Comment*
1	Laboratory QC within limits.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature

CHAIN OF CUSTODY RECORD

Synergy Environmental Lab, Inc.

1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

Chain # № 251

Page 1 of ____

Sample Handling Request
____ Rush Analysis Date Required ____
(Rushes accepted only with prior authorization)
X Normal Turn Around

Lab I.D. #

Account No. : **Quote No.:**

Project #: 20.0152070.20

Sampler: (signature) Elizabeth Stapleton

Project (Name / Location): Former Sunbrite Cleaners South Milwaukee, WI

Reports To: Clair Ruenger	Invoice To: SAME
Company GZA Geoenvironmental Inc	Company
Address 20900 Swenson Dr. Ste 150	Address
City State Zip Waukesha, WI 53186	City State Zip
Phone 262-754-2580	Phone
FAX 262-754-9711	FAX

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation
S031417 A	MW-2 (2-4)	7/21/16	755		X		2	S	MeOH
B	MW-2 (10-12)		840		X		2	S	MeOH
C	PZ-1 (2-4)		1030		X		2	S	MeOH
D	PZ-1 (8-10)		1040		X		2	S	MeOH
E	MW-1 (0-2)		1310		X		2	S	MeOH
F	MW-1 (10-12)		1320		X		2	S	MeOH
G	TRIP BLANK		—		—		1	—	MeOH

Analysis Requested / **Other Analysis**

DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 542.2)	VOC (EPA 8260)	8-RCRA METALS	Dry Weight	PID/FID
											X		X	
											X		X	
											X		X	
											X		X	
											X		X	
											X		X	
											X			

Comments/Special Instructions (*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", Oil, Sludge etc.)

RUN CUSC's only per ELLIE on 7-25-16.
RUSH PZ-1 (8-10) per ELLIE on 7-25-16 BN

Sample Integrity - To be completed by receiving lab.
Method of Shipment: Sm
Temp. of Temp. Blank ____ °C On Ice: X
Cooler seal intact upon receipt: X Yes ____ No

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
Elizabeth Stapleton	800	7/22/16	Courier	800	7/22/16

Received in Laboratory By: [signature] Time: 10:00 Date: 7/23/16

Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

CLAIR RUENGER
GZA GEOENVIRONMENTAL, INC.
20900 SWENSON DRIVE,
WAUKESHA, WI 53186

Report Date *02-Aug-16*

Project Name FMR SUNBRITE CLEANERS **Invoice #** E31435
Project # 20.0152070.30

Lab Code 5031435A
Sample ID MW-1
Sample Matrix Water
Sample Date 7/25/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 0.48	ug/l	0.48	1.5	1	8260B		7/29/2016	CJR	1
1,1-Dichloroethane	< 1.1	ug/l	1.1	3.6	1	8260B		7/29/2016	CJR	1
1,1-Dichloroethene	< 0.65	ug/l	0.65	2.1	1	8260B		7/29/2016	CJR	1
cis-1,2-Dichloroethene	< 0.45	ug/l	0.45	1.4	1	8260B		7/29/2016	CJR	1
trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		7/29/2016	CJR	1
Tetrachloroethene	< 0.49	ug/l	0.49	1.5	1	8260B		7/29/2016	CJR	1
1,1,1-Trichloroethane	< 0.84	ug/l	0.84	2.7	1	8260B		7/29/2016	CJR	1
1,1,2-Trichloroethane	< 0.48	ug/l	0.48	1.52	1	8260B		7/29/2016	CJR	1
Trichloroethene (TCE)	< 0.47	ug/l	0.47	1.5	1	8260B		7/29/2016	CJR	1
Vinyl Chloride	< 0.17	ug/l	0.17	0.54	1	8260B		7/29/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	102	REC %			1	8260B		7/29/2016	CJR	1
SUR - 4-Bromofluorobenzene	106	REC %			1	8260B		7/29/2016	CJR	1
SUR - Dibromofluoromethane	95	REC %			1	8260B		7/29/2016	CJR	1
SUR - Toluene-d8	107	REC %			1	8260B		7/29/2016	CJR	1

Project Name FMR SUNBRITE CLEANERS **Invoice #** E31435
Project # 20.0152070.30

Lab Code 5031435B
Sample ID PZ-1
Sample Matrix Water
Sample Date 7/25/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 0.48	ug/l	0.48	1.5	1	8260B		7/29/2016	CJR	1
1,1-Dichloroethane	< 1.1	ug/l	1.1	3.6	1	8260B		7/29/2016	CJR	1
1,1-Dichloroethene	< 0.65	ug/l	0.65	2.1	1	8260B		7/29/2016	CJR	1
cis-1,2-Dichloroethene	< 0.45	ug/l	0.45	1.4	1	8260B		7/29/2016	CJR	1
trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		7/29/2016	CJR	1
Tetrachloroethene	< 0.49	ug/l	0.49	1.5	1	8260B		7/29/2016	CJR	1
1,1,1-Trichloroethane	< 0.84	ug/l	0.84	2.7	1	8260B		7/29/2016	CJR	1
1,1,2-Trichloroethane	< 0.48	ug/l	0.48	1.52	1	8260B		7/29/2016	CJR	1
Trichloroethene (TCE)	< 0.47	ug/l	0.47	1.5	1	8260B		7/29/2016	CJR	1
Vinyl Chloride	< 0.17	ug/l	0.17	0.54	1	8260B		7/29/2016	CJR	1
SUR - 4-Bromofluorobenzene	108	REC %			1	8260B		7/29/2016	CJR	1
SUR - Dibromofluoromethane	94	REC %			1	8260B		7/29/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	103	REC %			1	8260B		7/29/2016	CJR	1
SUR - Toluene-d8	109	REC %			1	8260B		7/29/2016	CJR	1

Lab Code 5031435C
Sample ID MW-2
Sample Matrix Water
Sample Date 7/25/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 0.48	ug/l	0.48	1.5	1	8260B		7/29/2016	CJR	1
1,1-Dichloroethane	< 1.1	ug/l	1.1	3.6	1	8260B		7/29/2016	CJR	1
1,1-Dichloroethene	< 0.65	ug/l	0.65	2.1	1	8260B		7/29/2016	CJR	1
cis-1,2-Dichloroethene	< 0.45	ug/l	0.45	1.4	1	8260B		7/29/2016	CJR	1
trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		7/29/2016	CJR	1
Tetrachloroethene	< 0.49	ug/l	0.49	1.5	1	8260B		7/29/2016	CJR	1
1,1,1-Trichloroethane	< 0.84	ug/l	0.84	2.7	1	8260B		7/29/2016	CJR	1
1,1,2-Trichloroethane	< 0.48	ug/l	0.48	1.52	1	8260B		7/29/2016	CJR	1
Trichloroethene (TCE)	< 0.47	ug/l	0.47	1.5	1	8260B		7/29/2016	CJR	1
Vinyl Chloride	< 0.17	ug/l	0.17	0.54	1	8260B		7/29/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	100	REC %			1	8260B		7/29/2016	CJR	1
SUR - 4-Bromofluorobenzene	106	REC %			1	8260B		7/29/2016	CJR	1
SUR - Dibromofluoromethane	96	REC %			1	8260B		7/29/2016	CJR	1
SUR - Toluene-d8	108	REC %			1	8260B		7/29/2016	CJR	1

Project Name FMR SUNBRITE CLEANERS **Invoice #** E31435
Project # 20.0152070.30

Lab Code 5031435D
Sample ID GP-5
Sample Matrix Water
Sample Date 7/25/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 0.48	ug/l	0.48	1.5	1	8260B		7/29/2016	CJR	1
1,1-Dichloroethane	< 1.1	ug/l	1.1	3.6	1	8260B		7/29/2016	CJR	1
1,1-Dichloroethene	< 0.65	ug/l	0.65	2.1	1	8260B		7/29/2016	CJR	1
cis-1,2-Dichloroethene	2.99	ug/l	0.45	1.4	1	8260B		7/29/2016	CJR	1
trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		7/29/2016	CJR	1
Tetrachloroethene	0.99 "J"	ug/l	0.49	1.5	1	8260B		7/29/2016	CJR	1
1,1,1-Trichloroethane	< 0.84	ug/l	0.84	2.7	1	8260B		7/29/2016	CJR	1
1,1,2-Trichloroethane	< 0.48	ug/l	0.48	1.52	1	8260B		7/29/2016	CJR	1
Trichloroethene (TCE)	0.51 "J"	ug/l	0.47	1.5	1	8260B		7/29/2016	CJR	1
Vinyl Chloride	4.8	ug/l	0.17	0.54	1	8260B		7/29/2016	CJR	1
SUR - Toluene-d8	106	REC %			1	8260B		7/29/2016	CJR	1
SUR - Dibromofluoromethane	92	REC %			1	8260B		7/29/2016	CJR	1
SUR - 4-Bromofluorobenzene	103	REC %			1	8260B		7/29/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	100	REC %			1	8260B		7/29/2016	CJR	1

Lab Code 5031435E
Sample ID GP-3
Sample Matrix Water
Sample Date 7/25/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 48	ug/l	48	150	100	8260B		7/29/2016	CJR	1
1,1-Dichloroethane	< 110	ug/l	110	360	100	8260B		7/29/2016	CJR	1
1,1-Dichloroethene	< 65	ug/l	65	210	100	8260B		7/29/2016	CJR	1
cis-1,2-Dichloroethene	360	ug/l	45	140	100	8260B		7/29/2016	CJR	1
trans-1,2-Dichloroethene	< 54	ug/l	54	170	100	8260B		7/29/2016	CJR	1
Tetrachloroethene	< 49	ug/l	49	150	100	8260B		7/29/2016	CJR	1
1,1,1-Trichloroethane	< 84	ug/l	84	270	100	8260B		7/29/2016	CJR	1
1,1,2-Trichloroethane	< 48	ug/l	48	152	100	8260B		7/29/2016	CJR	1
Trichloroethene (TCE)	< 47	ug/l	47	150	100	8260B		7/29/2016	CJR	1
Vinyl Chloride	203	ug/l	17	54	100	8260B		7/29/2016	CJR	1
SUR - Dibromofluoromethane	92	REC %			100	8260B		7/29/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	101	REC %			100	8260B		7/29/2016	CJR	1
SUR - 4-Bromofluorobenzene	105	REC %			100	8260B		7/29/2016	CJR	1
SUR - Toluene-d8	106	REC %			100	8260B		7/29/2016	CJR	1

Project Name FMR SUNBRITE CLEANERS **Invoice #** E31435
Project # 20.0152070.30

Lab Code 5031435F
Sample ID GP-2
Sample Matrix Water
Sample Date 7/25/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 4.8	ug/l	4.8	15	10	8260B		7/29/2016	CJR	1
1,1-Dichloroethane	< 11	ug/l	11	36	10	8260B		7/29/2016	CJR	1
1,1-Dichloroethene	9.2 "J"	ug/l	6.5	21	10	8260B		7/29/2016	CJR	1
cis-1,2-Dichloroethene	550	ug/l	4.5	14	10	8260B		7/29/2016	CJR	1
trans-1,2-Dichloroethene	< 5.4	ug/l	5.4	17	10	8260B		7/29/2016	CJR	1
Tetrachloroethene	232	ug/l	4.9	15	10	8260B		7/29/2016	CJR	1
1,1,1-Trichloroethane	< 8.4	ug/l	8.4	27	10	8260B		7/29/2016	CJR	1
1,1,2-Trichloroethane	< 4.8	ug/l	4.8	15.2	10	8260B		7/29/2016	CJR	1
Trichloroethene (TCE)	124	ug/l	4.7	15	10	8260B		7/29/2016	CJR	1
Vinyl Chloride	330	ug/l	1.7	5.4	10	8260B		7/29/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	103	REC %			10	8260B		7/29/2016	CJR	1
SUR - 4-Bromofluorobenzene	107	REC %			10	8260B		7/29/2016	CJR	1
SUR - Dibromofluoromethane	92	REC %			10	8260B		7/29/2016	CJR	1
SUR - Toluene-d8	108	REC %			10	8260B		7/29/2016	CJR	1

Lab Code 5031435G
Sample ID GP-1
Sample Matrix Water
Sample Date 7/25/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 4.8	ug/l	4.8	15	10	8260B		7/29/2016	CJR	1 49
1,1-Dichloroethane	< 11	ug/l	11	36	10	8260B		7/29/2016	CJR	1 49
1,1-Dichloroethene	< 6.5	ug/l	6.5	21	10	8260B		7/29/2016	CJR	1 49
cis-1,2-Dichloroethene	< 4.5	ug/l	4.5	14	10	8260B		7/29/2016	CJR	1 49
trans-1,2-Dichloroethene	< 5.4	ug/l	5.4	17	10	8260B		7/29/2016	CJR	1 49
Tetrachloroethene	< 4.9	ug/l	4.9	15	10	8260B		7/29/2016	CJR	1 49
1,1,1-Trichloroethane	< 8.4	ug/l	8.4	27	10	8260B		7/29/2016	CJR	1 49
1,1,2-Trichloroethane	< 4.8	ug/l	4.8	15.2	10	8260B		7/29/2016	CJR	1 49
Trichloroethene (TCE)	< 4.7	ug/l	4.7	15	10	8260B		7/29/2016	CJR	1 49
Vinyl Chloride	< 1.7	ug/l	1.7	5.4	10	8260B		7/29/2016	CJR	1 49
SUR - 4-Bromofluorobenzene	104	REC %			10	8260B		7/29/2016	CJR	1 49
SUR - Dibromofluoromethane	91	REC %			10	8260B		7/29/2016	CJR	1 49
SUR - 1,2-Dichloroethane-d4	107	REC %			10	8260B		7/29/2016	CJR	1 49
SUR - Toluene-d8	106	REC %			10	8260B		7/29/2016	CJR	1 49

Project Name FMR SUNBRITE CLEANERS **Invoice #** E31435
Project # 20.0152070.30

Lab Code 5031435H
Sample ID GP-4
Sample Matrix Water
Sample Date 7/25/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 4.8	ug/l	4.8	15	10	8260B		7/29/2016	CJR	1 49
1,1-Dichloroethane	< 11	ug/l	11	36	10	8260B		7/29/2016	CJR	1 49
1,1-Dichloroethene	< 6.5	ug/l	6.5	21	10	8260B		7/29/2016	CJR	1 49
cis-1,2-Dichloroethene	< 4.5	ug/l	4.5	14	10	8260B		7/29/2016	CJR	1 49
trans-1,2-Dichloroethene	< 5.4	ug/l	5.4	17	10	8260B		7/29/2016	CJR	1 49
Tetrachloroethene	< 4.9	ug/l	4.9	15	10	8260B		7/29/2016	CJR	1 49
1,1,1-Trichloroethane	< 8.4	ug/l	8.4	27	10	8260B		7/29/2016	CJR	1 49
1,1,2-Trichloroethane	< 4.8	ug/l	4.8	15.2	10	8260B		7/29/2016	CJR	1 49
Trichloroethene (TCE)	< 4.7	ug/l	4.7	15	10	8260B		7/29/2016	CJR	1 49
Vinyl Chloride	< 1.7	ug/l	1.7	5.4	10	8260B		7/29/2016	CJR	1 49
SUR - 1,2-Dichloroethane-d4	106	REC %			10	8260B		7/29/2016	CJR	1 49
SUR - 4-Bromofluorobenzene	109	REC %			10	8260B		7/29/2016	CJR	1 49
SUR - Dibromofluoromethane	95	REC %			10	8260B		7/29/2016	CJR	1 49
SUR - Toluene-d8	109	REC %			10	8260B		7/29/2016	CJR	1 49

Lab Code 5031435I
Sample ID DUPLICATE 1
Sample Matrix Water
Sample Date 7/25/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 4.8	ug/l	4.8	15	10	8260B		7/29/2016	CJR	1
1,1-Dichloroethane	< 11	ug/l	11	36	10	8260B		7/29/2016	CJR	1
1,1-Dichloroethene	9.0 "J"	ug/l	6.5	21	10	8260B		7/29/2016	CJR	1
cis-1,2-Dichloroethene	570	ug/l	4.5	14	10	8260B		7/29/2016	CJR	1
trans-1,2-Dichloroethene	< 5.4	ug/l	5.4	17	10	8260B		7/29/2016	CJR	1
Tetrachloroethene	236	ug/l	4.9	15	10	8260B		7/29/2016	CJR	1
1,1,1-Trichloroethane	< 8.4	ug/l	8.4	27	10	8260B		7/29/2016	CJR	1
1,1,2-Trichloroethane	< 4.8	ug/l	4.8	15.2	10	8260B		7/29/2016	CJR	1
Trichloroethene (TCE)	126	ug/l	4.7	15	10	8260B		7/29/2016	CJR	1
Vinyl Chloride	310	ug/l	1.7	5.4	10	8260B		7/29/2016	CJR	1
SUR - Toluene-d8	106	REC %			10	8260B		7/29/2016	CJR	1
SUR - Dibromofluoromethane	96	REC %			10	8260B		7/29/2016	CJR	1
SUR - 4-Bromofluorobenzene	105	REC %			10	8260B		7/29/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	102	REC %			10	8260B		7/29/2016	CJR	1

Project Name FMR SUNBRITE CLEANERS **Invoice #** E31435
Project # 20.0152070.30

Lab Code 5031435J
Sample ID TRIP BLANK
Sample Matrix Water
Sample Date 7/25/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 0.48	ug/l	0.48	1.5	1	8260B		7/29/2016	CJR	1
1,1-Dichloroethane	< 1.1	ug/l	1.1	3.6	1	8260B		7/29/2016	CJR	1
1,1-Dichloroethene	< 0.65	ug/l	0.65	2.1	1	8260B		7/29/2016	CJR	1
cis-1,2-Dichloroethene	< 0.45	ug/l	0.45	1.4	1	8260B		7/29/2016	CJR	1
trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		7/29/2016	CJR	1
Tetrachloroethene	< 0.49	ug/l	0.49	1.5	1	8260B		7/29/2016	CJR	1
1,1,1-Trichloroethane	< 0.84	ug/l	0.84	2.7	1	8260B		7/29/2016	CJR	1
1,1,2-Trichloroethane	< 0.48	ug/l	0.48	1.52	1	8260B		7/29/2016	CJR	1
Trichloroethene (TCE)	< 0.47	ug/l	0.47	1.5	1	8260B		7/29/2016	CJR	1
Vinyl Chloride	< 0.17	ug/l	0.17	0.54	1	8260B		7/29/2016	CJR	1
SUR - Toluene-d8	106	REC %			1	8260B		7/29/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	101	REC %			1	8260B		7/29/2016	CJR	1
SUR - 4-Bromofluorobenzene	104	REC %			1	8260B		7/29/2016	CJR	1
SUR - Dibromofluoromethane	92	REC %			1	8260B		7/29/2016	CJR	1

"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

Code	*Comment*
1	Laboratory QC within limits.
49	Sample diluted to compensate for matrix interference.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature

CHAIN OF STODY RECORD

Synergy Environmental Lab, Inc.

1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

Chain # № 251
Page 1 of 1

Sample Handling Request
_____ Rush Analysis Date Required _____
(Rushes accepted only with prior authorization)
X Normal Turn Around

Lab I.D. #
Account No. : **Quote No.:**
Project #: 20.0152070.30
Sampler: (signature) Elizabeth Stapleton

Project (Name / Location): Former Sunbrite Cleaners, South Milwaukee, WI

Reports To: Clair Ruenger	Invoice To: SAME
Company GZA Geoenvironmental Inc	Company
Address 20900 Swenson Dr. Suite 150	Address
City State Zip Waukesha WI 53186	City State Zip
Phone 262-754-2560	Phone
FAX 262-754-9711	FAX

Analysis Requested | **Other Analysis**

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 542.2)	VOC (EPA 8260)	8-RCRA METALS	cVOCs (8260)								PID/ FID
503435 A	MW-1	7/25/16	1055		X	N	3	GW	HCl													X	X								
B	PZ-1		1125		X	N	3	GW	HCl													X	X								
C	MW-2		1148		X	N	3	GW	HCl													X	X								
D	GP-5		1228		X	N	3	GW	HCl													X	X								
E	GP-3		1249		X	N	3	GW	HCl													X	X								
F	GP-2		1325		X	N	3	GW	HCl													X	X								
G	GP-1		1350		X	N	3	GW	HCl													X	X								
H	GP-4		1405		X	N	3	GW	HCl													X	X								
I	Duplicate 1		—		X	N	3	GW	HCl													X	X								
J	TRIP BLANK		—		—	—	—	—	HCl														X								

Comments/Special Instructions (*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", Oil, Sludge etc.)

Sample Integrity - To be completed by receiving lab.
Method of Shipment: SM
Temp. of Temp. Blank ____ °C On Ice: X
Cooler seal intact upon receipt: X Yes ____ No

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
Elizabeth Stapleton	900	7/28/16	Courier	900	7/28/16

Received in Laboratory By: _____ Time: 8:00 Date: 7/28/16

Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

CLAIR RUENGER
GZA GEOENVIRONMENTAL, INC.
20900 SWENSON DRIVE,
WAUKESHA, WI 53186

Report Date *06-Jul-17*

Project Name SUNBRITE CLEANERS **Invoice #** E33188
Project # 20.0152070

Lab Code 5033188A
Sample ID MW-1
Sample Matrix Water
Sample Date 6/27/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 0.45	ug/l	0.45	1.43	1	8260B		7/5/2017	CJR	1
1,1-Dichloroethane	< 0.42	ug/l	0.42	1.34	1	8260B		7/5/2017	CJR	1
1,1-Dichloroethene	< 0.46	ug/l	0.46	1.47	1	8260B		7/5/2017	CJR	1
cis-1,2-Dichloroethene	< 0.41	ug/l	0.41	1.29	1	8260B		7/5/2017	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.12	1	8260B		7/5/2017	CJR	1
Tetrachloroethene	< 0.48	ug/l	0.48	1.52	1	8260B		7/5/2017	CJR	1
1,1,1-Trichloroethane	< 0.35	ug/l	0.35	1.11	1	8260B		7/5/2017	CJR	1
1,1,2-Trichloroethane	< 0.65	ug/l	0.65	2.06	1	8260B		7/5/2017	CJR	1
Trichloroethene (TCE)	< 0.45	ug/l	0.45	1.43	1	8260B		7/5/2017	CJR	1
Vinyl Chloride	< 0.19	ug/l	0.19	0.62	1	8260B		7/5/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	103	REC %			1	8260B		7/5/2017	CJR	1
SUR - 4-Bromofluorobenzene	100	REC %			1	8260B		7/5/2017	CJR	1
SUR - Dibromofluoromethane	99	REC %			1	8260B		7/5/2017	CJR	1
SUR - Toluene-d8	95	REC %			1	8260B		7/5/2017	CJR	1

Project Name SUNBRITE CLEANERS **Invoice #** E33188
Project # 20.0152070

Lab Code 5033188B
Sample ID MW-2
Sample Matrix Water
Sample Date 6/27/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 0.45	ug/l	0.45	1.43	1	8260B		7/5/2017	CJR	1
1,1-Dichloroethane	< 0.42	ug/l	0.42	1.34	1	8260B		7/5/2017	CJR	1
1,1-Dichloroethene	< 0.46	ug/l	0.46	1.47	1	8260B		7/5/2017	CJR	1
cis-1,2-Dichloroethene	< 0.41	ug/l	0.41	1.29	1	8260B		7/5/2017	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.12	1	8260B		7/5/2017	CJR	1
Tetrachloroethene	< 0.48	ug/l	0.48	1.52	1	8260B		7/5/2017	CJR	1
1,1,1-Trichloroethane	< 0.35	ug/l	0.35	1.11	1	8260B		7/5/2017	CJR	1
1,1,2-Trichloroethane	< 0.65	ug/l	0.65	2.06	1	8260B		7/5/2017	CJR	1
Trichloroethene (TCE)	< 0.45	ug/l	0.45	1.43	1	8260B		7/5/2017	CJR	1
Vinyl Chloride	< 0.19	ug/l	0.19	0.62	1	8260B		7/5/2017	CJR	1
SUR - 4-Bromofluorobenzene	104	REC %			1	8260B		7/5/2017	CJR	1
SUR - Dibromofluoromethane	98	REC %			1	8260B		7/5/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	102	REC %			1	8260B		7/5/2017	CJR	1
SUR - Toluene-d8	95	REC %			1	8260B		7/5/2017	CJR	1

Lab Code 5033188C
Sample ID PZ-1
Sample Matrix Water
Sample Date 6/27/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 0.45	ug/l	0.45	1.43	1	8260B		7/5/2017	CJR	1
1,1-Dichloroethane	< 0.42	ug/l	0.42	1.34	1	8260B		7/5/2017	CJR	1
1,1-Dichloroethene	< 0.46	ug/l	0.46	1.47	1	8260B		7/5/2017	CJR	1
cis-1,2-Dichloroethene	< 0.41	ug/l	0.41	1.29	1	8260B		7/5/2017	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.12	1	8260B		7/5/2017	CJR	1
Tetrachloroethene	< 0.48	ug/l	0.48	1.52	1	8260B		7/5/2017	CJR	1
1,1,1-Trichloroethane	< 0.35	ug/l	0.35	1.11	1	8260B		7/5/2017	CJR	1
1,1,2-Trichloroethane	< 0.65	ug/l	0.65	2.06	1	8260B		7/5/2017	CJR	1
Trichloroethene (TCE)	< 0.45	ug/l	0.45	1.43	1	8260B		7/5/2017	CJR	1
Vinyl Chloride	< 0.19	ug/l	0.19	0.62	1	8260B		7/5/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	102	REC %			1	8260B		7/5/2017	CJR	1
SUR - 4-Bromofluorobenzene	98	REC %			1	8260B		7/5/2017	CJR	1
SUR - Dibromofluoromethane	101	REC %			1	8260B		7/5/2017	CJR	1
SUR - Toluene-d8	96	REC %			1	8260B		7/5/2017	CJR	1

Project Name SUNBRITE CLEANERS **Invoice #** E33188
Project # 20.0152070

Lab Code 5033188D
Sample ID GP-4
Sample Matrix Water
Sample Date 6/27/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 0.45	ug/l	0.45	1.43	1	8260B		7/5/2017	CJR	1
1,1-Dichloroethane	< 0.42	ug/l	0.42	1.34	1	8260B		7/5/2017	CJR	1
1,1-Dichloroethene	< 0.46	ug/l	0.46	1.47	1	8260B		7/5/2017	CJR	1
cis-1,2-Dichloroethene	< 0.41	ug/l	0.41	1.29	1	8260B		7/5/2017	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.12	1	8260B		7/5/2017	CJR	1
Tetrachloroethene	< 0.48	ug/l	0.48	1.52	1	8260B		7/5/2017	CJR	1
1,1,1-Trichloroethane	< 0.35	ug/l	0.35	1.11	1	8260B		7/5/2017	CJR	1
1,1,2-Trichloroethane	< 0.65	ug/l	0.65	2.06	1	8260B		7/5/2017	CJR	1
Trichloroethene (TCE)	< 0.45	ug/l	0.45	1.43	1	8260B		7/5/2017	CJR	1
Vinyl Chloride	< 0.19	ug/l	0.19	0.62	1	8260B		7/5/2017	CJR	1
SUR - Toluene-d8	98	REC %			1	8260B		7/5/2017	CJR	1
SUR - Dibromofluoromethane	103	REC %			1	8260B		7/5/2017	CJR	1
SUR - 4-Bromofluorobenzene	96	REC %			1	8260B		7/5/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	114	REC %			1	8260B		7/5/2017	CJR	1

Lab Code 5033188E
Sample ID GP-2
Sample Matrix Water
Sample Date 6/27/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 4.5	ug/l	4.5	14.3	10	8260B		7/5/2017	CJR	1
1,1-Dichloroethane	< 4.2	ug/l	4.2	13.4	10	8260B		7/5/2017	CJR	1
1,1-Dichloroethene	< 4.6	ug/l	4.6	14.7	10	8260B		7/5/2017	CJR	1
cis-1,2-Dichloroethene	450	ug/l	4.1	12.9	10	8260B		7/5/2017	CJR	1
trans-1,2-Dichloroethene	< 3.5	ug/l	3.5	11.2	10	8260B		7/5/2017	CJR	1
Tetrachloroethene	289	ug/l	4.8	15.2	10	8260B		7/5/2017	CJR	1
1,1,1-Trichloroethane	< 3.5	ug/l	3.5	11.1	10	8260B		7/5/2017	CJR	1
1,1,2-Trichloroethane	< 6.5	ug/l	6.5	20.6	10	8260B		7/5/2017	CJR	1
Trichloroethene (TCE)	98	ug/l	4.5	14.3	10	8260B		7/5/2017	CJR	1
Vinyl Chloride	208	ug/l	1.9	6.2	10	8260B		7/5/2017	CJR	1
SUR - Dibromofluoromethane	102	REC %			10	8260B		7/5/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	95	REC %			10	8260B		7/5/2017	CJR	1
SUR - 4-Bromofluorobenzene	99	REC %			10	8260B		7/5/2017	CJR	1
SUR - Toluene-d8	98	REC %			10	8260B		7/5/2017	CJR	1

Project Name SUNBRITE CLEANERS **Invoice #** E33188
Project # 20.0152070

Lab Code 5033188F
Sample ID GP-5
Sample Matrix Water
Sample Date 6/27/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 0.45	ug/l	0.45	1.43	1	8260B		7/5/2017	CJR	1
1,1-Dichloroethane	< 0.42	ug/l	0.42	1.34	1	8260B		7/5/2017	CJR	1
1,1-Dichloroethene	< 0.46	ug/l	0.46	1.47	1	8260B		7/5/2017	CJR	1
cis-1,2-Dichloroethene	5.1	ug/l	0.41	1.29	1	8260B		7/5/2017	CJR	1
trans-1,2-Dichloroethene	0.61 "J"	ug/l	0.35	1.12	1	8260B		7/5/2017	CJR	1
Tetrachloroethene	1.61	ug/l	0.48	1.52	1	8260B		7/5/2017	CJR	1
1,1,1-Trichloroethane	< 0.35	ug/l	0.35	1.11	1	8260B		7/5/2017	CJR	1
1,1,2-Trichloroethane	< 0.65	ug/l	0.65	2.06	1	8260B		7/5/2017	CJR	1
Trichloroethene (TCE)	0.59 "J"	ug/l	0.45	1.43	1	8260B		7/5/2017	CJR	1
Vinyl Chloride	10.7	ug/l	0.19	0.62	1	8260B		7/5/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	98	REC %			1	8260B		7/5/2017	CJR	1
SUR - 4-Bromofluorobenzene	98	REC %			1	8260B		7/5/2017	CJR	1
SUR - Dibromofluoromethane	101	REC %			1	8260B		7/5/2017	CJR	1
SUR - Toluene-d8	94	REC %			1	8260B		7/5/2017	CJR	1

Lab Code 5033188G
Sample ID GP-3
Sample Matrix Water
Sample Date 6/27/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 4.5	ug/l	4.5	14.3	10	8260B		7/5/2017	CJR	1
1,1-Dichloroethane	< 4.2	ug/l	4.2	13.4	10	8260B		7/5/2017	CJR	1
1,1-Dichloroethene	< 4.6	ug/l	4.6	14.7	10	8260B		7/5/2017	CJR	1
cis-1,2-Dichloroethene	146	ug/l	4.1	12.9	10	8260B		7/5/2017	CJR	1
trans-1,2-Dichloroethene	7.3 "J"	ug/l	3.5	11.2	10	8260B		7/5/2017	CJR	1
Tetrachloroethene	< 4.8	ug/l	4.8	15.2	10	8260B		7/5/2017	CJR	1
1,1,1-Trichloroethane	< 3.5	ug/l	3.5	11.1	10	8260B		7/5/2017	CJR	1
1,1,2-Trichloroethane	< 6.5	ug/l	6.5	20.6	10	8260B		7/5/2017	CJR	1
Trichloroethene (TCE)	< 4.5	ug/l	4.5	14.3	10	8260B		7/5/2017	CJR	1
Vinyl Chloride	46	ug/l	1.9	6.2	10	8260B		7/5/2017	CJR	1
SUR - 4-Bromofluorobenzene	96	REC %			10	8260B		7/5/2017	CJR	1
SUR - Dibromofluoromethane	100	REC %			10	8260B		7/5/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	96	REC %			10	8260B		7/5/2017	CJR	1
SUR - Toluene-d8	94	REC %			10	8260B		7/5/2017	CJR	1

Project Name SUNBRITE CLEANERS **Invoice #** E33188
Project # 20.0152070

Lab Code 5033188H
Sample ID GP-1
Sample Matrix Water
Sample Date 6/27/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 4.5	ug/l	4.5	14.3	10	8260B		7/5/2017	CJR	1 49
1,1-Dichloroethane	< 4.2	ug/l	4.2	13.4	10	8260B		7/5/2017	CJR	1 49
1,1-Dichloroethene	< 4.6	ug/l	4.6	14.7	10	8260B		7/5/2017	CJR	1 49
cis-1,2-Dichloroethene	< 4.1	ug/l	4.1	12.9	10	8260B		7/5/2017	CJR	1 49
trans-1,2-Dichloroethene	< 3.5	ug/l	3.5	11.2	10	8260B		7/5/2017	CJR	1 49
Tetrachloroethene	< 4.8	ug/l	4.8	15.2	10	8260B		7/5/2017	CJR	1 49
1,1,1-Trichloroethane	< 3.5	ug/l	3.5	11.1	10	8260B		7/5/2017	CJR	1 49
1,1,2-Trichloroethane	< 6.5	ug/l	6.5	20.6	10	8260B		7/5/2017	CJR	1 49
Trichloroethene (TCE)	< 4.5	ug/l	4.5	14.3	10	8260B		7/5/2017	CJR	1 49
Vinyl Chloride	< 1.9	ug/l	1.9	6.2	10	8260B		7/5/2017	CJR	1 49
SUR - 1,2-Dichloroethane-d4	102	REC %			10	8260B		7/5/2017	CJR	1 49
SUR - 4-Bromofluorobenzene	102	REC %			10	8260B		7/5/2017	CJR	1 49
SUR - Dibromofluoromethane	103	REC %			10	8260B		7/5/2017	CJR	1 49
SUR - Toluene-d8	94	REC %			10	8260B		7/5/2017	CJR	1 49

Lab Code 5033188I
Sample ID DUP 1
Sample Matrix Water
Sample Date 6/27/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 0.45	ug/l	0.45	1.43	1	8260B		7/5/2017	CJR	1
1,1-Dichloroethane	< 0.42	ug/l	0.42	1.34	1	8260B		7/5/2017	CJR	1
1,1-Dichloroethene	< 0.46	ug/l	0.46	1.47	1	8260B		7/5/2017	CJR	1
cis-1,2-Dichloroethene	< 0.41	ug/l	0.41	1.29	1	8260B		7/5/2017	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.12	1	8260B		7/5/2017	CJR	1
Tetrachloroethene	< 0.48	ug/l	0.48	1.52	1	8260B		7/5/2017	CJR	1
1,1,1-Trichloroethane	< 0.35	ug/l	0.35	1.11	1	8260B		7/5/2017	CJR	1
1,1,2-Trichloroethane	< 0.65	ug/l	0.65	2.06	1	8260B		7/5/2017	CJR	1
Trichloroethene (TCE)	< 0.45	ug/l	0.45	1.43	1	8260B		7/5/2017	CJR	1
Vinyl Chloride	< 0.19	ug/l	0.19	0.62	1	8260B		7/5/2017	CJR	1
SUR - Toluene-d8	97	REC %			1	8260B		7/5/2017	CJR	1
SUR - Dibromofluoromethane	105	REC %			1	8260B		7/5/2017	CJR	1
SUR - 4-Bromofluorobenzene	97	REC %			1	8260B		7/5/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	103	REC %			1	8260B		7/5/2017	CJR	1

Project Name SUNBRITE CLEANERS **Invoice #** E33188
Project # 20.0152070

Lab Code 5033188J
Sample ID TRIP BLANK
Sample Matrix Water
Sample Date 6/27/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 0.45	ug/l	0.45	1.43	1	8260B		7/5/2017	CJR	1
1,1-Dichloroethane	< 0.42	ug/l	0.42	1.34	1	8260B		7/5/2017	CJR	1
1,1-Dichloroethene	< 0.46	ug/l	0.46	1.47	1	8260B		7/5/2017	CJR	1
cis-1,2-Dichloroethene	< 0.41	ug/l	0.41	1.29	1	8260B		7/5/2017	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.12	1	8260B		7/5/2017	CJR	1
Tetrachloroethene	< 0.48	ug/l	0.48	1.52	1	8260B		7/5/2017	CJR	1
1,1,1-Trichloroethane	< 0.35	ug/l	0.35	1.11	1	8260B		7/5/2017	CJR	1
1,1,2-Trichloroethane	< 0.65	ug/l	0.65	2.06	1	8260B		7/5/2017	CJR	1
Trichloroethene (TCE)	< 0.45	ug/l	0.45	1.43	1	8260B		7/5/2017	CJR	1
Vinyl Chloride	< 0.19	ug/l	0.19	0.62	1	8260B		7/5/2017	CJR	1
SUR - Toluene-d8	93	REC %			1	8260B		7/5/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	102	REC %			1	8260B		7/5/2017	CJR	1
SUR - 4-Bromofluorobenzene	96	REC %			1	8260B		7/5/2017	CJR	1
SUR - Dibromofluoromethane	102	REC %			1	8260B		7/5/2017	CJR	1

"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

Code	*Comment*
1	Laboratory QC within limits.
49	Sample diluted to compensate for matrix interference.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature

CHAIN OF STODY RECORD

Synergy Environmental Lab, Inc.

1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

Chain # Nº 342[illegible]

Page 1 of 1

Sample Handling Request
____ Rush Analysis Date Required ____
(Rushes accepted only with prior authorization)
X Normal Turn Around

Lab I.D. #

Account No. : **Quote No.:**

Project #: 20.01520 TO

Sampler: (signature) Elizabeth Appleton Yu

Project (Name / Location): Sunbrite Cleaners S. Milwaukee, WI

Reports To: Clair Ruenger	Invoice To: SAME
Company G2A Geoenvironmental	Company
Address 20900 Swenson Dr Ste 150	Address
City State Zip Waukesha, WI 53186	City State Zip
Phone 262-754-2560	Phone
FAX 262-754-9711	FAX

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 524.2)	VOC (EPA 8260)	8-RCRA METALS	CVOCs							PID/ FID
503188A	MW-1	6/27/17	1105		X	N	3	GW	HCl															X							
B	MW-2		1038		X	N	3	GW																X							
C	PZ-1		1125		X	N	3	GW																X							
D	GP-4		1140		X	N	3	GW																X							
E	GP-2		1150		X	N	3	GW																X							
F	GP-5		1200		X	N	3	GW																X							
G	GP-3		1215		X	N	2	GW																X							
H	GP-1		1250		X	N	2	GW																X							
I	Dup 1		—		X	N	3	GW																X							
J	TRIP BLANK		—				—																	X							

Comments/Special Instructions (*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", Oil, Sludge etc.)

Sample Integrity - To be completed by receiving lab.

Method of Shipment: GC

Temp. of Temp. Blank ____ °C On Ice: X

Cooler seal intact upon receipt: X Yes ____ No

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
Elizabeth Appleton Yu	900	6/28/17	courier	900	6/28/17

Received in Laboratory By: [signature] Time: 8:00 Date: 6/29/17

Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

CLAIR RUENGER
GZA GEOENVIRONMENTAL, INC.
20900 SWENSON DRIVE,
WAUKESHA, WI 53186

Report Date *15-Sep-17*

Project Name SUNBRITE CLEANERS
Project # 20.0152070
Invoice # E33570

Lab Code 5033570A
Sample ID MW-1
Sample Matrix Water
Sample Date 9/7/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 0.45	ug/l	0.45	1.43	1	8260B		9/12/2017	CJR	1
1,1-Dichloroethane	< 0.42	ug/l	0.42	1.34	1	8260B		9/12/2017	CJR	1
1,1-Dichloroethene	< 0.46	ug/l	0.46	1.47	1	8260B		9/12/2017	CJR	1
cis-1,2-Dichloroethene	< 0.41	ug/l	0.41	1.29	1	8260B		9/12/2017	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.12	1	8260B		9/12/2017	CJR	1
Tetrachloroethene	< 0.48	ug/l	0.48	1.52	1	8260B		9/12/2017	CJR	1
1,1,1-Trichloroethane	< 0.35	ug/l	0.35	1.11	1	8260B		9/12/2017	CJR	1
1,1,2-Trichloroethane	< 0.65	ug/l	0.65	2.06	1	8260B		9/12/2017	CJR	1
Trichloroethene (TCE)	< 0.45	ug/l	0.45	1.43	1	8260B		9/12/2017	CJR	1
Vinyl Chloride	< 0.19	ug/l	0.19	0.62	1	8260B		9/12/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	99	REC %			1	8260B		9/12/2017	CJR	1
SUR - 4-Bromofluorobenzene	101	REC %			1	8260B		9/12/2017	CJR	1
SUR - Dibromofluoromethane	98	REC %			1	8260B		9/12/2017	CJR	1
SUR - Toluene-d8	99	REC %			1	8260B		9/12/2017	CJR	1

Project Name SUNBRITE CLEANERS **Invoice #** E33570
Project # 20.0152070

Lab Code 5033570B
Sample ID PZ-1
Sample Matrix Water
Sample Date 9/7/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 0.45	ug/l	0.45	1.43	1	8260B		9/12/2017	CJR	1
1,1-Dichloroethane	< 0.42	ug/l	0.42	1.34	1	8260B		9/12/2017	CJR	1
1,1-Dichloroethene	< 0.46	ug/l	0.46	1.47	1	8260B		9/12/2017	CJR	1
cis-1,2-Dichloroethene	< 0.41	ug/l	0.41	1.29	1	8260B		9/12/2017	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.12	1	8260B		9/12/2017	CJR	1
Tetrachloroethene	< 0.48	ug/l	0.48	1.52	1	8260B		9/12/2017	CJR	1
1,1,1-Trichloroethane	< 0.35	ug/l	0.35	1.11	1	8260B		9/12/2017	CJR	1
1,1,2-Trichloroethane	< 0.65	ug/l	0.65	2.06	1	8260B		9/12/2017	CJR	1
Trichloroethene (TCE)	< 0.45	ug/l	0.45	1.43	1	8260B		9/12/2017	CJR	1
Vinyl Chloride	< 0.19	ug/l	0.19	0.62	1	8260B		9/12/2017	CJR	1
SUR - 4-Bromofluorobenzene	107	REC %			1	8260B		9/12/2017	CJR	1
SUR - Dibromofluoromethane	98	REC %			1	8260B		9/12/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	96	REC %			1	8260B		9/12/2017	CJR	1
SUR - Toluene-d8	100	REC %			1	8260B		9/12/2017	CJR	1

Lab Code 5033570C
Sample ID MW-2
Sample Matrix Water
Sample Date 9/7/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 0.45	ug/l	0.45	1.43	1	8260B		9/12/2017	CJR	1
1,1-Dichloroethane	< 0.42	ug/l	0.42	1.34	1	8260B		9/12/2017	CJR	1
1,1-Dichloroethene	< 0.46	ug/l	0.46	1.47	1	8260B		9/12/2017	CJR	1
cis-1,2-Dichloroethene	< 0.41	ug/l	0.41	1.29	1	8260B		9/12/2017	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.12	1	8260B		9/12/2017	CJR	1
Tetrachloroethene	< 0.48	ug/l	0.48	1.52	1	8260B		9/12/2017	CJR	1
1,1,1-Trichloroethane	< 0.35	ug/l	0.35	1.11	1	8260B		9/12/2017	CJR	1
1,1,2-Trichloroethane	< 0.65	ug/l	0.65	2.06	1	8260B		9/12/2017	CJR	1
Trichloroethene (TCE)	< 0.45	ug/l	0.45	1.43	1	8260B		9/12/2017	CJR	1
Vinyl Chloride	< 0.19	ug/l	0.19	0.62	1	8260B		9/12/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	94	REC %			1	8260B		9/12/2017	CJR	1
SUR - 4-Bromofluorobenzene	112	REC %			1	8260B		9/12/2017	CJR	1
SUR - Dibromofluoromethane	99	REC %			1	8260B		9/12/2017	CJR	1
SUR - Toluene-d8	100	REC %			1	8260B		9/12/2017	CJR	1

Project Name SUNBRITE CLEANERS **Invoice #** E33570
Project # 20.0152070

Lab Code 5033570D
Sample ID GP-4
Sample Matrix Water
Sample Date 9/7/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 4.5	ug/l	4.5	14.3	10	8260B		9/12/2017	CJR	1 49
1,1-Dichloroethane	< 4.2	ug/l	4.2	13.4	10	8260B		9/12/2017	CJR	1 49
1,1-Dichloroethene	< 4.6	ug/l	4.6	14.7	10	8260B		9/12/2017	CJR	1 49
cis-1,2-Dichloroethene	< 4.1	ug/l	4.1	12.9	10	8260B		9/12/2017	CJR	1 49
trans-1,2-Dichloroethene	< 3.5	ug/l	3.5	11.2	10	8260B		9/12/2017	CJR	1 49
Tetrachloroethene	< 4.8	ug/l	4.8	15.2	10	8260B		9/12/2017	CJR	1 49
1,1,1-Trichloroethane	< 3.5	ug/l	3.5	11.1	10	8260B		9/12/2017	CJR	1 49
1,1,2-Trichloroethane	< 6.5	ug/l	6.5	20.6	10	8260B		9/12/2017	CJR	1 49
Trichloroethene (TCE)	< 4.5	ug/l	4.5	14.3	10	8260B		9/12/2017	CJR	1 49
Vinyl Chloride	< 1.9	ug/l	1.9	6.2	10	8260B		9/12/2017	CJR	1 49
SUR - Toluene-d8	94	REC %			10	8260B		9/12/2017	CJR	1 49
SUR - Dibromofluoromethane	100	REC %			10	8260B		9/12/2017	CJR	1 49
SUR - 4-Bromofluorobenzene	99	REC %			10	8260B		9/12/2017	CJR	1 49
SUR - 1,2-Dichloroethane-d4	98	REC %			10	8260B		9/12/2017	CJR	1 49

Lab Code 5033570E
Sample ID GP-3
Sample Matrix Water
Sample Date 9/7/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 22.5	ug/l	22.5	71.5	50	8260B		9/12/2017	CJR	1 49
1,1-Dichloroethane	< 21	ug/l	21	67	50	8260B		9/12/2017	CJR	1 49
1,1-Dichloroethene	< 23	ug/l	23	73.5	50	8260B		9/12/2017	CJR	1 49
cis-1,2-Dichloroethene	71	ug/l	20.5	64.5	50	8260B		9/12/2017	CJR	1 49
trans-1,2-Dichloroethene	< 17.5	ug/l	17.5	56	50	8260B		9/12/2017	CJR	1 49
Tetrachloroethene	< 24	ug/l	24	76	50	8260B		9/12/2017	CJR	1 49
1,1,1-Trichloroethane	< 17.5	ug/l	17.5	55.5	50	8260B		9/12/2017	CJR	1 49
1,1,2-Trichloroethane	< 32.5	ug/l	32.5	103	50	8260B		9/12/2017	CJR	1 49
Trichloroethene (TCE)	< 22.5	ug/l	22.5	71.5	50	8260B		9/12/2017	CJR	1 49
Vinyl Chloride	< 9.5	ug/l	9.5	31	50	8260B		9/12/2017	CJR	1 49
SUR - Dibromofluoromethane	99	REC %			50	8260B		9/12/2017	CJR	1 49
SUR - 1,2-Dichloroethane-d4	98	REC %			50	8260B		9/12/2017	CJR	1 49
SUR - 4-Bromofluorobenzene	107	REC %			50	8260B		9/12/2017	CJR	1 49
SUR - Toluene-d8	97	REC %			50	8260B		9/12/2017	CJR	1 49

Project Name SUNBRITE CLEANERS **Invoice #** E33570
Project # 20.0152070

Lab Code 5033570F
Sample ID DUPLICATE
Sample Matrix Water
Sample Date 9/7/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 0.45	ug/l	0.45	1.43	1	8260B		9/14/2017	CJR	1
1,1-Dichloroethane	< 0.42	ug/l	0.42	1.34	1	8260B		9/14/2017	CJR	1
1,1-Dichloroethene	< 0.46	ug/l	0.46	1.47	1	8260B		9/14/2017	CJR	1
cis-1,2-Dichloroethene	< 0.41	ug/l	0.41	1.29	1	8260B		9/14/2017	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.12	1	8260B		9/14/2017	CJR	1
Tetrachloroethene	< 0.48	ug/l	0.48	1.52	1	8260B		9/14/2017	CJR	1
1,1,1-Trichloroethane	< 0.35	ug/l	0.35	1.11	1	8260B		9/14/2017	CJR	1
1,1,2-Trichloroethane	< 0.65	ug/l	0.65	2.06	1	8260B		9/14/2017	CJR	1
Trichloroethene (TCE)	< 0.45	ug/l	0.45	1.43	1	8260B		9/14/2017	CJR	1
Vinyl Chloride	< 0.19	ug/l	0.19	0.62	1	8260B		9/14/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	98	REC %			1	8260B		9/14/2017	CJR	1
SUR - 4-Bromofluorobenzene	97	REC %			1	8260B		9/14/2017	CJR	1
SUR - Dibromofluoromethane	98	REC %			1	8260B		9/14/2017	CJR	1
SUR - Toluene-d8	96	REC %			1	8260B		9/14/2017	CJR	1

Lab Code 5033570G
Sample ID GP-5
Sample Matrix Water
Sample Date 9/7/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 45	ug/l	45	143	100	8260B		9/12/2017	CJR	1 49
1,1-Dichloroethane	< 42	ug/l	42	134	100	8260B		9/12/2017	CJR	1 49
1,1-Dichloroethene	< 46	ug/l	46	147	100	8260B		9/12/2017	CJR	1 49
cis-1,2-Dichloroethene	< 41	ug/l	41	129	100	8260B		9/12/2017	CJR	1 49
trans-1,2-Dichloroethene	< 35	ug/l	35	112	100	8260B		9/12/2017	CJR	1 49
Tetrachloroethene	< 48	ug/l	48	152	100	8260B		9/12/2017	CJR	1 49
1,1,1-Trichloroethane	< 35	ug/l	35	111	100	8260B		9/12/2017	CJR	1 49
1,1,2-Trichloroethane	< 65	ug/l	65	206	100	8260B		9/12/2017	CJR	1 49
Trichloroethene (TCE)	< 45	ug/l	45	143	100	8260B		9/12/2017	CJR	1 49
Vinyl Chloride	< 19	ug/l	19	62	100	8260B		9/12/2017	CJR	1 49
SUR - 4-Bromofluorobenzene	98	REC %			100	8260B		9/12/2017	CJR	1 49
SUR - Dibromofluoromethane	103	REC %			100	8260B		9/12/2017	CJR	1 49
SUR - 1,2-Dichloroethane-d4	109	REC %			100	8260B		9/12/2017	CJR	1 49
SUR - Toluene-d8	97	REC %			100	8260B		9/12/2017	CJR	1 49

Project Name SUNBRITE CLEANERS **Invoice #** E33570
Project # 20.0152070

Lab Code 5033570H
Sample ID GP-2
Sample Matrix Water
Sample Date 9/7/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 22.5	ug/l	22.5	71.5	50	8260B		9/14/2017	CJR	1 49
1,1-Dichloroethane	< 21	ug/l	21	67	50	8260B		9/14/2017	CJR	1 49
1,1-Dichloroethene	< 23	ug/l	23	73.5	50	8260B		9/14/2017	CJR	1 49
cis-1,2-Dichloroethene	192	ug/l	20.5	64.5	50	8260B		9/14/2017	CJR	1 49
trans-1,2-Dichloroethene	< 17.5	ug/l	17.5	56	50	8260B		9/14/2017	CJR	1 49
Tetrachloroethene	32 "J"	ug/l	24	76	50	8260B		9/14/2017	CJR	1 49
1,1,1-Trichloroethane	< 17.5	ug/l	17.5	55.5	50	8260B		9/14/2017	CJR	1 49
1,1,2-Trichloroethane	< 32.5	ug/l	32.5	103	50	8260B		9/14/2017	CJR	1 49
Trichloroethene (TCE)	23 "J"	ug/l	22.5	71.5	50	8260B		9/14/2017	CJR	1 49
Vinyl Chloride	410	ug/l	9.5	31	50	8260B		9/14/2017	CJR	1 49
SUR - 1,2-Dichloroethane-d4	102	REC %			50	8260B		9/14/2017	CJR	1 49
SUR - 4-Bromofluorobenzene	96	REC %			50	8260B		9/14/2017	CJR	1 49
SUR - Dibromofluoromethane	99	REC %			50	8260B		9/14/2017	CJR	1 49
SUR - Toluene-d8	97	REC %			50	8260B		9/14/2017	CJR	1 49

Lab Code 5033570I
Sample ID GP-1
Sample Matrix Water
Sample Date 9/7/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 4.5	ug/l	4.5	14.3	10	8260B		9/12/2017	CJR	1 49
1,1-Dichloroethane	< 4.2	ug/l	4.2	13.4	10	8260B		9/12/2017	CJR	1 49
1,1-Dichloroethene	< 4.6	ug/l	4.6	14.7	10	8260B		9/12/2017	CJR	1 49
cis-1,2-Dichloroethene	< 4.1	ug/l	4.1	12.9	10	8260B		9/12/2017	CJR	1 49
trans-1,2-Dichloroethene	< 3.5	ug/l	3.5	11.2	10	8260B		9/12/2017	CJR	1 49
Tetrachloroethene	< 4.8	ug/l	4.8	15.2	10	8260B		9/12/2017	CJR	1 49
1,1,1-Trichloroethane	< 3.5	ug/l	3.5	11.1	10	8260B		9/12/2017	CJR	1 49
1,1,2-Trichloroethane	< 6.5	ug/l	6.5	20.6	10	8260B		9/12/2017	CJR	1 49
Trichloroethene (TCE)	< 4.5	ug/l	4.5	14.3	10	8260B		9/12/2017	CJR	1 49
Vinyl Chloride	< 1.9	ug/l	1.9	6.2	10	8260B		9/12/2017	CJR	1 49
SUR - Toluene-d8	97	REC %			10	8260B		9/12/2017	CJR	1 49
SUR - Dibromofluoromethane	104	REC %			10	8260B		9/12/2017	CJR	1 49
SUR - 4-Bromofluorobenzene	99	REC %			10	8260B		9/12/2017	CJR	1 49
SUR - 1,2-Dichloroethane-d4	104	REC %			10	8260B		9/12/2017	CJR	1 49

Project Name SUNBRITE CLEANERS **Invoice #** E33570
Project # 20.0152070

Lab Code 5033570J
Sample ID TRIP BLANK
Sample Matrix Water
Sample Date 9/7/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
1,2-Dichloroethane	< 0.45	ug/l	0.45	1.43	1	8260B		9/13/2017	CJR	1
1,1-Dichloroethane	< 0.42	ug/l	0.42	1.34	1	8260B		9/13/2017	CJR	1
1,1-Dichloroethene	< 0.46	ug/l	0.46	1.47	1	8260B		9/13/2017	CJR	1
cis-1,2-Dichloroethene	< 0.41	ug/l	0.41	1.29	1	8260B		9/13/2017	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.12	1	8260B		9/13/2017	CJR	1
Tetrachloroethene	< 0.48	ug/l	0.48	1.52	1	8260B		9/13/2017	CJR	1
1,1,1-Trichloroethane	< 0.35	ug/l	0.35	1.11	1	8260B		9/13/2017	CJR	1
1,1,2-Trichloroethane	< 0.65	ug/l	0.65	2.06	1	8260B		9/13/2017	CJR	1
Trichloroethene (TCE)	< 0.45	ug/l	0.45	1.43	1	8260B		9/13/2017	CJR	1
Vinyl Chloride	< 0.19	ug/l	0.19	0.62	1	8260B		9/13/2017	CJR	1
SUR - Toluene-d8	98	REC %			1	8260B		9/13/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	101	REC %			1	8260B		9/13/2017	CJR	1
SUR - 4-Bromofluorobenzene	99	REC %			1	8260B		9/13/2017	CJR	1
SUR - Dibromofluoromethane	99	REC %			1	8260B		9/13/2017	CJR	1

"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

Code	*Comment*
1	Laboratory QC within limits.
49	Sample diluted to compensate for matrix interference.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature

CHAIN OF CUSTODY RECORD

Synergy Environmental Lab, Inc.

1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

Chain # Nº 3407

Page 1 of 1

Sample Handling Request
____ Rush Analysis Date Required ____
(Rushes accepted only with prior authorization)
X Normal Turn Around

Lab I.D. #

Account No. : | **Quote No.:**

Project #: 20.0152970

Sampler: (signature)

Project (Name / Location): SUNBRITE CLEANERS

Reports To: CLAIR RUENGER	Invoice To: SAME
Company GZA GEOENVIRONMENTAL INC.	Company
Address 20900 SWENSON DRIVE STE 150	Address
City State Zip WAUKESHA, WI 53186	City State Zip
Phone 262-754-2560	Phone
FAX 262-754-9711	FAX

Analysis Requested | **Other Analysis**

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 524.2)	VOC (EPA 8260)	8-RCRA METALS	CVOC	PID/FID
5035570 A	MW-1	9/7/17	1045		X	N	3	GW	HCl														X	X	
B	PZ-1		1055				3																X	X	
C	MW-2		1105				3																X	X	
D	GP-4		1115				2																X	X	
E	GP-3		1130				2																X	X	
F	DUPLICATE		—				3																X	X	
G	GP-5		1145				2																X	X	
H	GP-2		1200				2																X	X	
I	GP-1		1215				2																X	X	
J	TRIP BLANK																						X	X	

Comments/Special Instructions (*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", Oil, Sludge etc.)

Sample Integrity - To be completed by receiving lab.

Method of Shipment: GC

Temp. of Temp. Blank ____ °C On Ice: X

Cooler seal intact upon receipt: X Yes ____ No

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
	10:09	9.11.17			

Received in Laboratory By: Time: 8:00 Date: 9/12/17

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12/17/2016
Mr. Clair Ruenger
GZA GeoEnvironmental, Inc.
20900 Swenson Drive
Suite 150
Waukesha WI 53186

Project Name: Sunbuite
Project #: 20.0152070.30
Workorder #: 1612128

Dear Mr. Clair Ruenger

The following report includes the data for the above referenced project for sample(s) received on 12/9/2016 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott

Project Manager

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WORK ORDER #: 1612128

Work Order Summary

CLIENT:	Mr. Clair Ruenger GZA GeoEnvironmental, Inc. 20900 Swenson Drive Suite 150 Waukesha, WI 53186	**BILL TO:**	Accounts Payable-Waukesha GZA GeoEnvironmental, Inc. 20900 Swenson Drive Suite 150 Waukesha, WI 53186
PHONE:	262-754-2597	**P.O. #**	
FAX:	262754-9711	**PROJECT #**	20.0152070.30 Sunbuite
DATE RECEIVED:	12/09/2016	**CONTACT:**	Ausha Scott
DATE COMPLETED:	12/17/2016		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	B-1-1012	Modified TO-15	0.5 "Hg	5 psi
01B	B-1-1012	Modified TO-15	0.5 "Hg	5 psi
02A	F-1-1012	Modified TO-15	6.0 "Hg	5 psi
02B	F-1-1012	Modified TO-15	6.0 "Hg	5 psi
03A	Lab Blank	Modified TO-15	NA	NA
03B	Lab Blank	Modified TO-15	NA	NA
04A	CCV	Modified TO-15	NA	NA
04B	CCV	Modified TO-15	NA	NA
05A	LCS	Modified TO-15	NA	NA
05AA	LCSD	Modified TO-15	NA	NA
05B	LCS	Modified TO-15	NA	NA
05BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 12/17/16

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
GZA GeoEnvironmental, Inc.
Workorder# 1612128

Two 6 Liter Summa Canister (SIM Certified) samples were received on December 09, 2016. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Nine qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

CN - See case narrative explanation

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: B-1-1012

Lab ID#: 1612128-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.14	0.20	0.76	1.2
Ethanol	0.68	3.6	1.3	6.7
Acetone	0.68	9.3	1.6	22
2-Propanol	0.68	0.70	1.7	1.7
Hexane	0.14	0.17	0.48	0.61
Cyclohexane	0.14	2.4	0.47	8.4
Heptane	0.14	0.14	0.56	0.59

Client Sample ID: B-1-1012

Lab ID#: 1612128-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.027	0.50	0.13	2.5
Chloromethane	0.068	0.46	0.14	0.96
Carbon Tetrachloride	0.027	0.059	0.17	0.37
Benzene	0.068	0.19	0.22	0.60
Toluene	0.027	0.70	0.10	2.6
Ethyl Benzene	0.027	0.045	0.12	0.20
m,p-Xylene	0.054	0.12	0.24	0.50
o-Xylene	0.027	0.045	0.12	0.20

Client Sample ID: F-1-1012

Lab ID#: 1612128-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.17	0.22	0.94	1.2
Ethanol	0.84	8.5	1.6	16
Acetone	0.84	9.0	2.0	21
2-Propanol	0.84	1.4	2.1	3.5
Cyclohexane	0.17	2.3	0.58	8.0
Heptane	0.17	0.21	0.69	0.85

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: F-1-1012

Lab ID#: 1612128-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.034	0.50	0.17	2.5
Chloromethane	0.084	0.66	0.17	1.4
Carbon Tetrachloride	0.034	0.054	0.21	0.34
Benzene	0.084	0.20	0.27	0.64
Toluene	0.034	0.85	0.13	3.2
Ethyl Benzene	0.034	0.064	0.14	0.28
m,p-Xylene	0.067	0.16	0.29	0.69
o-Xylene	0.034	0.062	0.14	0.27

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Client Sample ID: B-1-1012

Lab ID#: 1612128-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e121310**	**Date of Collection: 12/6/16 4:00:00 PM**	
Dil. Factor:	**1.36**	**Date of Analysis: 12/13/16 01:45 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.14	Not Detected	0.30	Not Detected
Bromomethane	0.68	Not Detected	2.6	Not Detected
Freon 11	0.14	0.20	0.76	1.2
Ethanol	0.68	3.6	1.3	6.7
Freon 113	0.14	Not Detected	1.0	Not Detected
Acetone	0.68	9.3	1.6	22
2-Propanol	0.68	0.70	1.7	1.7
Carbon Disulfide	0.68	Not Detected	2.1	Not Detected
3-Chloropropene	0.68	Not Detected	2.1	Not Detected
Methylene Chloride	0.27	Not Detected	0.94	Not Detected
Hexane	0.14	0.17	0.48	0.61
2-Butanone (Methyl Ethyl Ketone)	0.68	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.68	Not Detected	2.0	Not Detected
Cyclohexane	0.14	2.4	0.47	8.4
2,2,4-Trimethylpentane	0.68	Not Detected	3.2	Not Detected
Heptane	0.14	0.14	0.56	0.59
1,2-Dichloropropane	0.14	Not Detected	0.63	Not Detected
1,4-Dioxane	0.14	Not Detected	0.49	Not Detected
Bromodichloromethane	0.14	Not Detected	0.91	Not Detected
cis-1,3-Dichloropropene	0.14	Not Detected	0.62	Not Detected
4-Methyl-2-pentanone	0.14	Not Detected	0.56	Not Detected
trans-1,3-Dichloropropene	0.14	Not Detected	0.62	Not Detected
2-Hexanone	0.68	Not Detected	2.8	Not Detected
Dibromochloromethane	0.14	Not Detected	1.2	Not Detected
Chlorobenzene	0.14	Not Detected	0.63	Not Detected
Styrene	0.14	Not Detected	0.58	Not Detected
Bromoform	0.14	Not Detected	1.4	Not Detected
Cumene	0.14	Not Detected	0.67	Not Detected
Propylbenzene	0.14	Not Detected	0.67	Not Detected
4-Ethyltoluene	0.14	Not Detected	0.67	Not Detected
1,3,5-Trimethylbenzene	0.14	Not Detected	0.67	Not Detected
1,2,4-Trimethylbenzene	0.14	Not Detected	0.67	Not Detected
1,3-Dichlorobenzene	0.14	Not Detected	0.82	Not Detected
alpha-Chlorotoluene	0.14	Not Detected	0.70	Not Detected
1,2-Dichlorobenzene	0.14	Not Detected	0.82	Not Detected
1,2,4-Trichlorobenzene	0.68	Not Detected	5.0	Not Detected
Hexachlorobutadiene	0.68	Not Detected	7.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130

eurofins | Air Toxics

Client Sample ID: B-1-1012

Lab ID#: 1612128-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e121310**	**Date of Collection: 12/6/16 4:00:00 PM**	
Dil. Factor:	**1.36**	**Date of Analysis: 12/13/16 01:45 PM**	

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: B-1-1012

Lab ID#: 1612128-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e121310sim**	**Date of Collection: 12/6/16 4:00:00 PM**	
Dil. Factor:	**1.36**	**Date of Analysis: 12/13/16 01:45 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.027	0.50	0.13	2.5
Freon 114	0.027	Not Detected	0.19	Not Detected
Chloromethane	0.068	0.46	0.14	0.96
Vinyl Chloride	0.014	Not Detected	0.035	Not Detected
Chloroethane	0.068	Not Detected	0.18	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.054	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.54	Not Detected
Methyl tert-butyl ether	0.14	Not Detected	0.49	Not Detected
1,1-Dichloroethane	0.027	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
Chloroform	0.027	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.027	Not Detected	0.15	Not Detected
Carbon Tetrachloride	0.027	0.059	0.17	0.37
Benzene	0.068	0.19	0.22	0.60
1,2-Dichloroethane	0.027	Not Detected	0.11	Not Detected
Trichloroethene	0.027	Not Detected	0.15	Not Detected
Toluene	0.027	0.70	0.10	2.6
1,1,2-Trichloroethane	0.027	Not Detected	0.15	Not Detected
Tetrachloroethene	0.027	Not Detected	0.18	Not Detected
1,2-Dibromoethane (EDB)	0.027	Not Detected	0.21	Not Detected
Ethyl Benzene	0.027	0.045	0.12	0.20
m,p-Xylene	0.054	0.12	0.24	0.50
o-Xylene	0.027	0.045	0.12	0.20
1,1,2,2-Tetrachloroethane	0.027	Not Detected	0.19	Not Detected
1,4-Dichlorobenzene	0.027	Not Detected	0.16	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: F-1-1012

Lab ID#: 1612128-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e121309**	**Date of Collection:**	**12/6/16 4:00:00 PM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**12/13/16 12:31 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.17	Not Detected	0.37	Not Detected
Bromomethane	0.84	Not Detected	3.3	Not Detected
Freon 11	0.17	0.22	0.94	1.2
Ethanol	0.84	8.5	1.6	16
Freon 113	0.17	Not Detected	1.3	Not Detected
Acetone	0.84	9.0	2.0	21
2-Propanol	0.84	1.4	2.1	3.5
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
Hexane	0.17	Not Detected	0.59	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	Not Detected	2.5	Not Detected
Tetrahydrofuran	0.84	Not Detected	2.5	Not Detected
Cyclohexane	0.17	2.3	0.58	8.0
2,2,4-Trimethylpentane	0.84	Not Detected	3.9	Not Detected
Heptane	0.17	0.21	0.69	0.85
1,2-Dichloropropane	0.17	Not Detected	0.78	Not Detected
1,4-Dioxane	0.17	Not Detected	0.60	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.76	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.69	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.76	Not Detected
2-Hexanone	0.84	Not Detected	3.4	Not Detected
Dibromochloromethane	0.17	Not Detected	1.4	Not Detected
Chlorobenzene	0.17	Not Detected	0.77	Not Detected
Styrene	0.17	Not Detected	0.72	Not Detected
Bromoform	0.17	Not Detected	1.7	Not Detected
Cumene	0.17	Not Detected	0.82	Not Detected
Propylbenzene	0.17	Not Detected	0.82	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.82	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.82	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.82	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.17	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.84	Not Detected	6.2	Not Detected
Hexachlorobutadiene	0.84	Not Detected	9.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130

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Client Sample ID: F-1-1012

Lab ID#: 1612128-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e121309**	**Date of Collection: 12/6/16 4:00:00 PM**	
Dil. Factor:	**1.68**	**Date of Analysis: 12/13/16 12:31 PM**	

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
4-Bromofluorobenzene	88	70-130

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Client Sample ID: F-1-1012

Lab ID#: 1612128-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e121309sim**	**Date of Collection: 12/6/16 4:00:00 PM**	
Dil. Factor:	**1.68**	**Date of Analysis: 12/13/16 12:31 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.034	0.50	0.17	2.5
Freon 114	0.034	Not Detected	0.23	Not Detected
Chloromethane	0.084	0.66	0.17	1.4
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
Chloroethane	0.084	Not Detected	0.22	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.60	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
Chloroform	0.034	Not Detected	0.16	Not Detected
1,1,1-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Carbon Tetrachloride	0.034	0.054	0.21	0.34
Benzene	0.084	0.20	0.27	0.64
1,2-Dichloroethane	0.034	Not Detected	0.14	Not Detected
Trichloroethene	0.034	Not Detected	0.18	Not Detected
Toluene	0.034	0.85	0.13	3.2
1,1,2-Trichloroethane	0.034	Not Detected	0.18	Not Detected
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected
1,2-Dibromoethane (EDB)	0.034	Not Detected	0.26	Not Detected
Ethyl Benzene	0.034	0.064	0.14	0.28
m,p-Xylene	0.067	0.16	0.29	0.69
o-Xylene	0.034	0.062	0.14	0.27
1,1,2,2-Tetrachloroethane	0.034	Not Detected	0.23	Not Detected
1,4-Dichlorobenzene	0.034	Not Detected	0.20	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1612128-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e121307**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/13/16 10:40 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Ethanol	0.50	Not Detected	0.94	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
Acetone	0.50	Not Detected	1.2	Not Detected
2-Propanol	0.50	Not Detected	1.2	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Hexane	0.10	Not Detected	0.35	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Heptane	0.10	Not Detected	0.41	Not Detected
1,2-Dichloropropane	0.10	Not Detected	0.46	Not Detected
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Bromodichloromethane	0.10	Not Detected	0.67	Not Detected
cis-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
4-Methyl-2-pentanone	0.10	Not Detected	0.41	Not Detected
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
2-Hexanone	0.50	Not Detected	2.0	Not Detected
Dibromochloromethane	0.10	Not Detected	0.85	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Styrene	0.10	Not Detected	0.42	Not Detected
Bromoform	0.10	Not Detected	1.0	Not Detected
Cumene	0.10	Not Detected	0.49	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
4-Ethyltoluene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
alpha-Chlorotoluene	0.10	Not Detected	0.52	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected
Hexachlorobutadiene	0.50	Not Detected	5.3	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1612128-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e121307**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/13/16 10:40 AM**	

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1612128-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e121307sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/13/16 10:40 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.020	Not Detected	0.099	Not Detected
Freon 114	0.020	Not Detected	0.14	Not Detected
Chloromethane	0.050	Not Detected	0.10	Not Detected
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Chloroethane	0.050	Not Detected	0.13	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
Chloroform	0.020	Not Detected	0.098	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Carbon Tetrachloride	0.020	Not Detected	0.12	Not Detected
Benzene	0.050	Not Detected	0.16	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Toluene	0.020	Not Detected	0.075	Not Detected
1,1,2-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
1,2-Dibromoethane (EDB)	0.020	Not Detected	0.15	Not Detected
Ethyl Benzene	0.020	Not Detected	0.087	Not Detected
m,p-Xylene	0.040	Not Detected	0.17	Not Detected
o-Xylene	0.020	Not Detected	0.087	Not Detected
1,1,2,2-Tetrachloroethane	0.020	Not Detected	0.14	Not Detected
1,4-Dichlorobenzene	0.020	Not Detected	0.12	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: CCV

Lab ID#: 1612128-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e121302**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/13/16 06:51 AM**	

Compound	%Recovery
1,3-Butadiene	96
Bromomethane	89
Freon 11	90
Ethanol	88
Freon 113	74
Acetone	95
2-Propanol	99
Carbon Disulfide	85
3-Chloropropene	83
Methylene Chloride	88
Hexane	93
2-Butanone (Methyl Ethyl Ketone)	87
Tetrahydrofuran	109
Cyclohexane	85
2,2,4-Trimethylpentane	93
Heptane	111
1,2-Dichloropropane	108
1,4-Dioxane	98
Bromodichloromethane	106
cis-1,3-Dichloropropene	94
4-Methyl-2-pentanone	124
trans-1,3-Dichloropropene	94
2-Hexanone	99
Dibromochloromethane	98
Chlorobenzene	95
Styrene	98
Bromoform	99
Cumene	99
Propylbenzene	101
4-Ethyltoluene	99
1,3,5-Trimethylbenzene	101
1,2,4-Trimethylbenzene	93
1,3-Dichlorobenzene	96
alpha-Chlorotoluene	105
1,2-Dichlorobenzene	102
1,2,4-Trichlorobenzene	90
Hexachlorobutadiene	98

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130

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Client Sample ID: CCV

Lab ID#: 1612128-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e121302**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/13/16 06:51 AM**	

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: CCV

Lab ID#: 1612128-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e121302sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/13/16 06:51 AM**	

Compound	%Recovery
Freon 12	96
Freon 114	91
Chloromethane	114
Vinyl Chloride	97
Chloroethane	89
1,1-Dichloroethene	76
trans-1,2-Dichloroethene	80
Methyl tert-butyl ether	85
1,1-Dichloroethane	95
cis-1,2-Dichloroethene	89
Chloroform	89
1,1,1-Trichloroethane	90
Carbon Tetrachloride	90
Benzene	94
1,2-Dichloroethane	104
Trichloroethene	88
Toluene	96
1,1,2-Trichloroethane	98
Tetrachloroethene	87
1,2-Dibromoethane (EDB)	92
Ethyl Benzene	96
m,p-Xylene	95
o-Xylene	94
1,1,2,2-Tetrachloroethane	105
1,4-Dichlorobenzene	94

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: LCS

Lab ID#: 1612128-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e121303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/13/16 07:38 AM**	

Compound	%Recovery	Method Limits
1,3-Butadiene	106	70-130
Bromomethane	99	70-130
Freon 11	97	70-130
Ethanol	73	70-130
Freon 113	91	70-130
Acetone	106	70-130
2-Propanol	111	70-130
Carbon Disulfide	93	70-130
3-Chloropropene	92	70-130
Methylene Chloride	96	70-130
Hexane	105	70-130
2-Butanone (Methyl Ethyl Ketone)	96	70-130
Tetrahydrofuran	125	70-130
Cyclohexane	94	70-130
2,2,4-Trimethylpentane	104	70-130
Heptane	121	70-130
1,2-Dichloropropane	113	70-130
1,4-Dioxane	103	70-130
Bromodichloromethane	113	70-130
cis-1,3-Dichloropropene	104	70-130
4-Methyl-2-pentanone	130	70-130
trans-1,3-Dichloropropene	99	70-130
2-Hexanone	100	70-130
Dibromochloromethane	103	70-130
Chlorobenzene	102	70-130
Styrene	100	70-130
Bromoform	102	70-130
Cumene	104	70-130
Propylbenzene	106	70-130
4-Ethyltoluene	105	70-130
1,3,5-Trimethylbenzene	105	70-130
1,2,4-Trimethylbenzene	96	70-130
1,3-Dichlorobenzene	98	70-130
alpha-Chlorotoluene	91	70-130
1,2-Dichlorobenzene	102	70-130
1,2,4-Trichlorobenzene	82	70-130
Hexachlorobutadiene	102	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130

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Client Sample ID: LCS

Lab ID#: 1612128-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e121303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/13/16 07:38 AM**	

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: LCSD

Lab ID#: 1612128-05AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e121304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/13/16 08:27 AM**	

Compound	%Recovery	Method Limits
1,3-Butadiene	109	70-130
Bromomethane	101	70-130
Freon 11	100	70-130
Ethanol	78	70-130
Freon 113	93	70-130
Acetone	106	70-130
2-Propanol	112	70-130
Carbon Disulfide	95	70-130
3-Chloropropene	89	70-130
Methylene Chloride	95	70-130
Hexane	109	70-130
2-Butanone (Methyl Ethyl Ketone)	95	70-130
Tetrahydrofuran	126	70-130
Cyclohexane	99	70-130
2,2,4-Trimethylpentane	104	70-130
Heptane	118	70-130
1,2-Dichloropropane	109	70-130
1,4-Dioxane	98	70-130
Bromodichloromethane	107	70-130
cis-1,3-Dichloropropene	101	70-130
4-Methyl-2-pentanone	127	70-130
trans-1,3-Dichloropropene	96	70-130
2-Hexanone	98	70-130
Dibromochloromethane	101	70-130
Chlorobenzene	98	70-130
Styrene	100	70-130
Bromoform	99	70-130
Cumene	100	70-130
Propylbenzene	102	70-130
4-Ethyltoluene	99	70-130
1,3,5-Trimethylbenzene	98	70-130
1,2,4-Trimethylbenzene	89	70-130
1,3-Dichlorobenzene	93	70-130
alpha-Chlorotoluene	88	70-130
1,2-Dichlorobenzene	99	70-130
1,2,4-Trichlorobenzene	73	70-130
Hexachlorobutadiene	94	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130

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Client Sample ID: LCSD

Lab ID#: 1612128-05AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e121304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/13/16 08:27 AM**	

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: LCS

Lab ID#: 1612128-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e121303sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/13/16 07:38 AM**	

Compound	%Recovery	Method Limits
Freon 12	104	70-130
Freon 114	98	70-130
Chloromethane	128	70-130
Vinyl Chloride	109	70-130
Chloroethane	98	70-130
1,1-Dichloroethene	86	70-130
trans-1,2-Dichloroethene	95	70-130
Methyl tert-butyl ether	92	70-130
1,1-Dichloroethane	101	70-130
cis-1,2-Dichloroethene	89	70-130
Chloroform	95	70-130
1,1,1-Trichloroethane	98	70-130
Carbon Tetrachloride	74	60-140
Benzene	100	70-130
1,2-Dichloroethane	109	70-130
Trichloroethene	96	70-130
Toluene	104	70-130
1,1,2-Trichloroethane	106	70-130
Tetrachloroethene	94	70-130
1,2-Dibromoethane (EDB)	100	70-130
Ethyl Benzene	104	70-130
m,p-Xylene	102	70-130
o-Xylene	101	70-130
1,1,2,2-Tetrachloroethane	110	70-130
1,4-Dichlorobenzene	99	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: LCSD

Lab ID#: 1612128-05BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e121304sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/13/16 08:27 AM**	

Compound	%Recovery	Method Limits
Freon 12	103	70-130
Freon 114	97	70-130
Chloromethane	124	70-130
Vinyl Chloride	107	70-130
Chloroethane	96	70-130
1,1-Dichloroethene	84	70-130
trans-1,2-Dichloroethene	93	70-130
Methyl tert-butyl ether	91	70-130
1,1-Dichloroethane	99	70-130
cis-1,2-Dichloroethene	87	70-130
Chloroform	94	70-130
1,1,1-Trichloroethane	96	70-130
Carbon Tetrachloride	73	60-140
Benzene	98	70-130
1,2-Dichloroethane	106	70-130
Trichloroethene	95	70-130
Toluene	102	70-130
1,1,2-Trichloroethane	108	70-130
Tetrachloroethene	95	70-130
1,2-Dibromoethane (EDB)	101	70-130
Ethyl Benzene	105	70-130
m,p-Xylene	103	70-130
o-Xylene	102	70-130
1,1,2,2-Tetrachloroethane	110	70-130
1,4-Dichlorobenzene	99	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130

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Sample Transportation Notice
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180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Clair Ruenger

Collected by: (Print and Sign) Clair Ruenger

Company GZA Email clair.ruenger@gza.com

Address 20900 Swenson City Waukesha State WI Zip

Phone 262.290.0754 Fax

Project Info:
P.O. # `
Project # 20.0152070.30
Project Name Sunbrite

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by: ✓
Date: 12/14/16
Pressurization Gas: (N2) He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	B-1-1012	6L0012	12.6.16	16:00	TO-15 SIM VOCs	26	0	0.5	5
02A	F-1-1012	00308	12.6.16	16:00	TO-15 SIM VOCs	27	6	6.0	↓

Relinquished by: (signature) Date/Time 12.07.16
Received by: (signature) Date/Time 12/9/16 1030
Andrea Augustin EATL

Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes:

Lab Use Only

Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
Fed Ex		NA	Good	Yes No (None)	1612128

Form 1293 rev.11