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Supplemental Site Investigation and Remedial Action Options Report
C&L Industrial Cleaners
8927 Sheridan Road
Kenosha, WI

WDNR BRRTS # 02-30-379474

City of Kenosha
Department of City Development

STS Project No. 200603327
Volume 1: Text and Appendices A-D

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May 11, 2007

Ms. Sharon Krewson
City of Kenosha - Department of City Development
625 - 52nd Street, Room 308
Kenosha, WI 53140

Re: Supplemental Site Investigation Report and Remedial Action Options Plan for the C&L Industrial Cleaners Property at 8927 Sheridan Road, in Kenosha, Wisconsin, WDNR BRRTS# 02-30-379474 -- STS Project No. 200603327

Dear Ms. Krewson:

STS Consultants, Ltd. (STS) is pleased to provide the results of the supplemental site investigation conducted at the above-referenced site and the remedial actions option evaluation report. The site investigation was conducted under a Site Investigation Grant (SAG-398) awarded to the City of Kenosha for the C&L Industrial Cleaners site. The attached supplemental site investigation report provides the results of the additional site investigation work conducted to evaluate the extent of the subsurface solvent-related impacts at the site. The evaluation of the extent of subsurface impacts was limited to the subject property and the areas to west and immediately adjacent southern residence. Other adjacent property owners refused access to their property.

We have evaluated remedial options for the subject property to permit the City of Kenosha to continue to comply with our opinion of the minimum requirements to comply with the Local Governmental Liability Exemption (exemption from the "Spill Law" S. 292.11 Wis. Stats.) and to move the site in the direction of site closure. Our understanding is the liability exemption applies as long as the City of Kenosha "does not cause or exacerbate a discharge of a hazardous substance"; however, we recommend you consult with your legal counsel in regards to satisfying the exemption requirements.

We look forward to working with you on this project. If you have any questions with regard to the information contained in this report, or if we can be of any further service to you, please feel free to contact us at (414) 359-3030.

Sincerely,

414-944-6050

STS CONSULTANTS LTD.

Lanette L. Altenbach, PG, C.P.G.
Senior Project Scientist - Hydrogeologist

Kevin L. Brehm, P.E.
Associate Engineer

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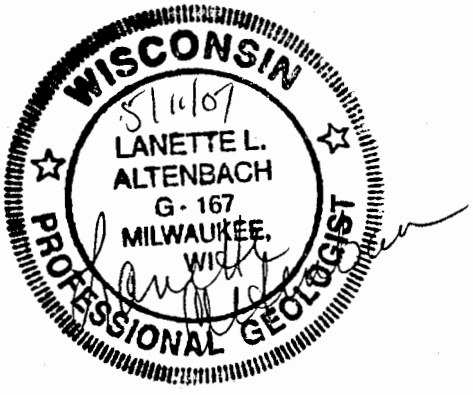
"I, Lanette Altenbach, certify that I am a hydrogeologist as that term is defined in s.NR712.03(1), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR700 to 726, Wis. Adm. Code."

Lanette Altenbach 5-11-07

Lanette L. Altenbach
Senior Project Scientist-Hydrogeologist

Date



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EXECUTIVE SUMMARY

The subject property is a three-acre parcel of land which was formerly developed with a small building and storage shed. The subject property is located at 8927 Sheridan Road in Kenosha, Wisconsin. Operations conducted historically at the facility included barrel manufacturing as well as industrial cleaning operations. The former building at the subject property had trenches in the concrete floor which were interconnected and fed to one larger and deeper trench which was plumbed for discharge to the sanitary sewer. These trenches were consistent with a large scale commercial washing (water-based) operation. While direct evidence of solvent-based cleaning was not identified at the subject property; it is likely that the commercial operation included the washing of solvent-laden rags.

The City of Kenosha acquired the subject property from the owner's estate in lieu of back taxes. The City of Kenosha has used state and federal grants to evaluate environmental conditions on the subject property. Four phases of investigation have been conducted at the former C & L Industrial Cleaners. These investigations have resulted in the advancement of 64 soil probes, seven soil borings, five test pits and the installation of 17 groundwater monitoring wells and one piezometer. Prior work conducted at the subject property included:

- A Phase I ESA conducted by STS Consultants under a U.S. EPA Brownfields Pilot Grant in 2001;
- A Phase II ESA conducted by STS Consultants under a U.S. EPA Brownfields Pilot Grant in 2002;
- A removal action conducted by the U.S. EPA under their Superfund Technical Assessment and Response Team (START) program in 2003;
- Demolition of the subject property building under SAG Grant # SAG-079 in 2003;
- A Targeted Brownfield Assessment conducted by the U.S. EPA's START contractor TN & Associates (TN&A) under START Contract No. 68-W-00-129 in 2004; and
- An NR 716 Site Investigation conducted by STS Consultants for the City of Kenosha, Department of City Development under a SAG Grant # SAG-197 in 2005.

This Supplemental Site Investigation and Remedial Action Options Report, was conducted by STS Consultants for the City of Kenosha, Department of City Development under a SAG Grant # SAG-398.

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The subject property is underlain by up to eight feet of silty sand fill materials. Below the fill, layers of organic silt, silty fine sand, silty fine to coarse sand, silt and silty clay were observed. Groundwater is encountered at eight to ten feet below ground surface (bgs) and migrates in an east-southeast direction across the subject property on the approximately eastern two-thirds of the subject property. The groundwater flow direction on the approximately western one-third of the subject property is west-southwest toward Sheridan Road and Barnes Creek. The saturated-zone soils near the water table (7 to 15 feet below ground surface [bgs]) have a hydraulic conductivity on the order of 1×10^{-3} centimeters per second (cm/s). The hydraulic conductivity in the deeper soil (25 to 30 feet bgs) is on the order of 3×10^{-5} cm/s. Horizontal hydraulic gradients range from 0.0014 feet per foot to 0.0022 feet per foot or 9.6 feet per year to 12.3 feet per year. The vertical gradient calculated at the nested well pair, MW-5 and MW-5P was calculated to be 0.051 feet per foot downward based on August 2006 groundwater levels.

STS identified four potential source areas that required further assessment to define the extent of impacts in order to evaluate remedial options. These four areas are:

- Investigation Area 1, on the northwest portion of the subject property and along the sanitary sewer line for the former building.
- Investigation Area 3, near STS soil boring B-2 near the northern property line.
- Investigation Area 4, in the vicinity of monitoring well B-6 and adjacent to a former loading dock. This area was east of the former building.
- Investigation Area 6, near STS soil boring B-11 and the area to the east and southeast of B-11.

Investigation Areas 2 and 5 were identified as having reasonably defined the extent of subsurface impacts. Thus, further investigation was not conducted in these two areas.

Surface and subsurface impacts by chlorinated volatile organic compounds (VOCs) and polynuclear aromatic hydrocarbons (PAHs) have been identified at the subject property. The concentrations of PAHs have been calculated to be lower than the level which would constitute a risk to human health. Groundwater analyses indicate that PAHs are not adversely affecting groundwater. Metals were also detected in the soil, but at concentrations within normal limits for soil. Thus, the main impacts at the subject property requiring further action are the chlorinated VOCs.

The primary VOC impact to the soil is tetrachloroethene (PCE). Potential source areas were identified in three of the four areas evaluated by this supplemental site investigation. These source areas and the soil sample location where the highest concentrations were detected are:

Area 1

- GP-101 – Located on the north side of the building, this area is thought to be the result of a surface spill outside of the building because the highest concentrations (330,000 micrograms per kilogram [ug/kg]) were observed in the 1 to 2 foot bgs sample.
- G-1 – Inside the former building footprint, G-1 was near the sanitary sewer lateral serving the toilets. High concentrations of PCE are detected in two samples collected from 4-6 feet bgs (132,000 ug/kg) and 6-8 feet bgs (322,000 ug/kg). These samples which are the depths at which the sanitary lateral would be encountered.

Area 3

- GP-301, GP-23 and GP-303 – On the north side of the subject property, near the property line and north of the former loading dock area, PCE has been detected at concentrations of 43,000 ug/kg, 14,000 ug/kg, and 20,000 ug/kg respectively in near surface sample, indicating a likely area for a surface release.

Area 4

- GP-22 and GP-404 – East of the building area, PCE was detected at 16,000 ug/kg at GP-22 and is bounded to the east at GP-404 with a concentration of 1,000 ug/kg. This area is likely representative of another smaller surface spill.

PCE was detected in one soil sample in the upper four feet bgs soil exceeding the industrial direct contact residual contaminant level (RCL). Twenty soil samples in the upper four feet bgs exceeded the non-industrial direct contact pathway RCL. All of the samples (89) in which PCE was detected exceeded the soil to groundwater pathway RCL for PCE.

PCE concentrations in soil samples collected between Areas 1, 3 and 4 were either not detected or of much lower concentrations. However, all of the detected soil impacts on the eastern one-half of the subject property are much lower in concentration and somewhat widespread and diffuse, perhaps the result of physical particle transport by foot and vehicle traffic.

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Petroleum VOCs were identified in one soil boring (B-9), ten soil probes (G-1, GP-24, GP-29, GP-31, GP-35, GP-38, GP-47, GP-401, GP-402, and GP-403) and in four monitoring well soil borings (B-5, B-6, MW-21 and MW-24). All of the concentrations were below SSRCLs except for benzene detected in the surface soil samples from GP-31, GP-401 and MW-21.

PCE, TCE, cisDCE, vinyl chloride and nickel were detected in groundwater samples above either the PAL or ES. PCE detected in groundwater appears to be primarily related to the two sources in Area 1 (G-1, and GP-23 to GP-101) on the western portion of the subject property. Some of the detected concentrations in groundwater in this area are 2,000 to 4,000 times the ES. The PCE concentrations in groundwater appear to have an increasing trend based on three sampling events. Groundwater impacts east of the former building are primarily degradation compounds associated with PCE. The concentration of these lesser chlorinated VOCs (e.g. cisDCE and vinyl chloride) are showing a decreasing trend. This decreasing trend implies that as the PCE migrates from the unsaturated soil to the groundwater natural attenuation processes break down the PCE and that further degradation continues within the groundwater.

We believe that further remedial action to address the areas of impacted soil and to limit migration of PCE to the groundwater may be necessary to manage the subject property under the local government liability exemption which requires the local government to "not cause or exacerbate a discharge of hazardous substances". We recommend you seek the advice of your legal counsel regarding satisfying the exemption requirements.

Remedial Action Options

The PCE concentrations present in near-surface soil in Areas 1 and 3 comprise more than 1,600 cubic yards of soils with PCE greater than 1,000 micrograms per kilogram. The PCE concentrations represent a direct contact exposure threat and a continued source of impact to groundwater. Based on the data available at this time, these areas warrant remedial action to mitigate risks. Vadose-zone soils present on the remaining portions of the subject property likely do not require specific action unless the property is to be used for non-industrial purposes.

The concentration of PCE in the vadose zone soils (0 to 8 feet bgs) was summed and contoured. The contours were based on order of magnitude. Soil excavation and disposal is recommended for the soil areas with PCE concentrations greater than 100,000 ug/kg because these soils are

more than twice the industrial direct contact RCL and four orders of magnitude greater than the soil to groundwater path RCL. Excavation of these source soils is necessary to prevent exacerbation of the groundwater impacts identified on the western portion of the subject property.

Similarly, groundwater remediation on the western portion of the subject property is recommended to immediately address the highest area of groundwater contamination to prevent off-site migration, which at this time is not occurring, but is likely to occur in the future given the high concentrations observed in some of the subject property's groundwater monitoring wells.

Finally, placement of a direct contact and infiltration barrier on the remaining areas with soil PCE concentrations greater than 1,000 ug/kg will limit both direct contact and lower infiltration through the contaminant mass. Long term monitoring will be required following the placement of a barrier.

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1.0 INTRODUCTION

The City of Kenosha acquired the former C&L Industrial Cleaners at 8927 Sheridan Road from the owner's estate in lieu of back taxes. Using a U.S. Environmental Protection Agency (EPA) Brownfields Pilot Assessment Grant and three Wisconsin Site Assessment Grants, the City has conducted investigation and demolition activities at this property. Chlorinated volatile organic compounds (VOCs) were identified as the primary soil and groundwater contaminant associated with past site uses.

The subject property is located in the Northwest ¼ of the Southeast ¼ of Section 18, Township 1 North, Range 23 East, in the City of Kenosha, Kenosha County Wisconsin. The location of the subject property is depicted in Figure 1. The site boundaries are depicted in Figure 2. The subject property is approximately three acres and is zoned M-1, Light Manufacturing District.

1.1 Purpose and Scope

The purpose of this report is to present the results of the site investigation activities conducted at the subject property and to provide an evaluation of remedial action options. The supplemental site investigation activities were conducted to further evaluate extent of soil and groundwater impacts on- and off-site for the subject property before evaluating remedial action options.

The supplemental site investigation scope of work included:

- the advancement of 20 additional soil probes on-site;
- the installation of three water table monitoring wells on-site and two water table monitoring wells off-site;
- the collection of soil samples from the soil probes and monitoring well soil borings; and
- the collection of two rounds of groundwater samples from the NR 141 monitoring wells.

The collected data was used to evaluate the magnitude and extent of on-site impacts and to evaluate remedial action options.

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2.0 SUMMARY OF PRIOR WORK

Prior work conducted at the subject property included in chronological order:

- A Phase I ESA conducted by STS Consultants under a U.S. EPA Brownfields Pilot Grant in 2001;
- A Phase II ESA conducted by STS Consultants under a U.S. EPA Brownfields Pilot Grant in 2002;
- A removal action conducted by the U.S. EPA under their Superfund Technical Assessment and Response Team (START) program in 2003;
- Demolition of the subject property building under SAG Grant # SAG-079 in 2003;
- A Targeted Brownfield Assessment conducted by the U.S. EPA's START contractor TN & Associates (TN&A) in 2004; and
- An NR 716 Site Investigation conducted by STS Consultants for the City of Kenosha, Department of City Development under a SAG Grant # SAG-197 in 2005.

The STS Phase II ESA identified soil and groundwater subsurface impacts at the subject property consistent with historic site uses. The data collected for the Phase II ESA are included on tables presented in this report. The sample locations are depicted on the Monitoring Well and Probe Locations diagram (Figure 2) in this report. These data were used in the development of the conclusions regarding subsurface conditions at the subject property and the assessment of remedial action options.

The 2003 removal action conducted by the US EPA's START program contractor addressed wastes which remained at the subject property. Sludges were removed from the commercial washing machine discharge pits located inside the building. The pits were emptied, cleaned and the waste materials were disposed as hazardous wastes due to elevated concentrations of metals and chlorinated volatile organic compounds (VOCs). At the same time, drums of non-hazardous solid waste and investigative waste soil from the Phase II ESA were also removed and disposed. Written documentation of the removal action is unavailable from US EPA.

The subject property buildings were demolished later in 2003 under a Wisconsin Department of Natural Resources (WDNR) SAG awarded to the City of Kenosha.

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A Targeted Brownfield Assessment (TBA) was conducted under the US EPA's START program by TN&A in late 2003 after building demolition. The additional assessment included advancing 14 soil probes and installing three groundwater monitoring wells for the collection of soil and groundwater samples. This work was documented in a report prepared by TN&A dated August 2004. The data from this report are provided on the results tables included with this report and depicted on figures. These data were used in the development of the conclusions regarding subsurface conditions at the subject property and the assessment of remedial action options.

The 2005 NR 716 site investigation scope of work included:

- the advancement of 29 soil probes, of which 8 were completed as temporary wells;
- the installation of three water table monitoring wells;
- the installation of one piezometer;
- the collection of soil samples from the soil probes and monitoring well soil borings; and
- the collection of two rounds of groundwater samples from both temporary and NR 141 monitoring wells.

The NR 716 Site Investigation concluded the following;

- Surface and subsurface impacts by PAHs have been identified at the subject property. The concentrations of PAHs have been calculated to be lower than the level which would constitute a risk to human health. Groundwater analysis indicated that PAHs were not a threat to groundwater. No further assessment of PAHs was proposed nor conducted in the supplemental investigation.
- Metals were also detected in the soil, but at concentrations within normal limits for soil. No further assessment of metals was proposed nor conducted in the supplemental site investigation.
- Near surface and subsurface impacts by chlorinated VOCs are generally diffuse and widespread, although four areas were identified as potential soil source areas where much higher concentrations of chlorinated VOCs are present. The evaluation and selection of remedial options for this subject property require that the extent of soil impacts and the volume of the most-impacted soil be established. Additional investigation was recommended to obtain this information.
- Groundwater impacts across the subject property do not appear to be related to a single source. The groundwater plume on the west side of the former building appears to

extend westward, possibly along a sanitary sewer lateral. Groundwater impacts east of the former building location are tetrachloroethene and degradation compounds derived from tetrachloroethene and the plume extends east-southeastward.

- On-site impacts have been somewhat defined, but require further definition of the extent of soil impacts is necessary before comparing the cost of various remedial options.
- Off-site impacts to soil and groundwater need to be evaluated before evaluating remedial options. A potential for vapor impacts by vinyl chloride to the adjacent residence must also be evaluated.

Recommendations made in the site investigation report included the collection of additional soil samples on-site and the installation of on- and off-site groundwater monitoring wells for additional groundwater sampling and analysis. This recommendation formed the basis for the scope of work conducted during the supplemental site investigation. The results of the data collected in both 2005 and 2006 are presented in Sections 5.0 and 6.0.

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3.0 SUPPLEMENTAL SITE INVESTIGATION FIELD ACTIVITIES

STS identified four potential source areas that required further assessment to define the extent of impacts in order to evaluate remedial options. These four areas are:

- Investigation Area 1, on the northwest portion of the subject property and along the sanitary sewer line for the former building.
- Investigation Area 3, near STS soil boring B-2 and the northern property line.
- Investigation Area 4, in the vicinity of monitoring well B-6 and adjacent to a former loading dock. This area was east of the former building.
- Investigation Area 6, near STS soil boring B-11 and the area to the east and southeast of B-11.

Investigation Areas 2 and 5 were identified as having defined the extent of subsurface impacts. Thus, further investigation was not conducted in these two areas.

The proposed sample locations were selected to fill data gaps identified by the site investigation in the four areas identified above because the magnitude of the PCE impacts to the soil are likely contributing to the groundwater impacts. Investigation was also conducted in two additional areas to evaluate potential off-site receptors. These additional two areas were 1) south of the subject property, adjacent to the residence and 2) west of the subject property, in the median for Sheridan Road.

The investigation areas, prior sample locations, soil probes and monitoring wells are depicted on Figure 2. A description of the prior investigation results and the supplemental site investigation sample locations are provided below on a per area basis.

3.1 Prior Results Summary and Sample Location Rationale

Area 1

Area 1 is located on the western most portion of the subject property. Tetrachloroethene (PCE) concentrations in this area are the highest observed at the subject property. Soil concentration in this area commonly exceeded 1,000 mg/kg in surface (0 to 4 feet bgs), vadose zone (4 to 8 feet bgs) and saturated zone (greater than 8 feet bgs) samples. Concentrations of PCE exceeded 100,000 mg/kg in surface and vadose zone samples from probes G-1 and GP-23.

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Groundwater PCE impacts were observed primarily in Area 1 in the vicinity of the PCE soil impacts. The highest PCE concentration detected in groundwater was 27,200 mg/L at G-1 (a temporary well), which was also the location with the highest soil PCE concentration. With the exception of B-3, PCE and in some cases trichloroethene (TCE) were the only chlorinated contaminants observed in groundwater. At B-3, vinyl chloride (VC) and cis-1,2-dichcloroethene (cisDCE) was also present in the groundwater.

Eleven additional soil probes (GP-101 to GP-111) were conducted in this area to further evaluate the horizontal and/or vertical extent of the PCE impacts in the soil. Four monitoring wells (MW-20 and MW-24) were advanced in Area 1 and off-site (MW-21 and MW-23) to the west and south of Area 1. MW-20 was installed in the far northwest corner of the subject property. MW-21 was installed off-site, to the west in the median for Sheridan Road. Monitoring well MW-23 was installed off-site, adjacent to the residence to the south of the subject property to evaluate the potential migration of impacts from Area 1 and Area 2. MW-24 was installed to evaluate the down gradient extent immediately east of Area 1.

Area 3

Area 3 is located near the northern property line east of the former buildings and is defined by borings B-2; probes GP-9, GP-10, GP-32, GP-30 and MW-1. Concentrations of PCE at GP-33 were greater than 10,000 mg/kg in surface soils (0 to 4 feet bgs) but were not detected in vadose zone (4 to 8 feet bgs) soil. The internal extent of the high surface soil PCE concentrations is defined by GP-32 to the west and MW-1 to the east. The extent to the south and to the north across the property line is not defined. Minimal groundwater impacts were identified at MW-1 and consisted mostly of PCE degradation compounds.

Three soil probe borings (GP-301, GP-302, and GP-303) were advanced to evaluate the extent of soil impacts to the south. The monitoring well (MW-25) planned to evaluate both soil and groundwater impacts off-site to the north of Area 3 was not installed because the property owner to the north did not provide access to his property.

Area 4

Area 4 is located northeast of well B-6 in the former loading dock area. GP-34, located at the loading dock, has surface soil (zero to four feet bgs) PCE concentrations of 7,800 mg/kg. At 4 to

6 feet the concentration dropped to 650 mg/kg. Groundwater impacts in this area were primarily PCE degradation compounds (cisDCE and VC); however the concentrations of VC exceed the state's Enforcement Standard concentration. Further evaluation of the extent of source soils was needed to evaluate remedial options.

Four soil probes (GP-401 through GP-404) were advanced to further define the magnitude and volume of impacted soils in Area 4.

Area 6

Area 6 is located along the southern property line approximately 500 feet east of the former buildings. PCE was detected in surface soils (zero to four feet bgs) at B-11 at a concentration of 737 mg/kg. The eastern and western lateral extents are defined by GP-47 and GP-45, respectively. GP-46, located north of B-11, had a surface soil PCE concentration of 1,200 mg/kg. The lateral extent of surface PCE impacts in this area is not defined to the north or south and south across the property line.

Groundwater impacts in this area generally consist of VC and cisDCE, although PCE and TCE were observed at GP-48. The source of the groundwater impacts is not apparent at that time because chlorinated solvent impacts were observed only at GP-48 in the area, and not below a depth of two feet bgs. Further definition of groundwater impacts is required in all directions in this area.

Two soil probes (GP-601 and GP-602) were advanced to define the extent of soil impacts to the north and south. One monitoring well (MW-27) was planned to evaluate the off-site extent of soil and/or groundwater impacts to the south, but the property owner refused access to his property.

Non-Source Area Wells

Monitoring well MW-26 was installed approximately 600 feet east of the former subject property buildings and 28 feet south of the north property line as depicted on Figure 2. Due south of MW-26 and south of the property line, MW-28 was planned to evaluate potential off-site impacts in the downgradient direction of groundwater flow, but the access was denied by the property owner.

3.2 Soil Probe Sampling Methods

Twenty soil probe locations were advanced to collect soil samples to further define the extent of on-site soil impacts as depicted on Figure 2. The probes advanced in each investigation area include:

- Investigation Area 1, probe locations labeled GP-101 through GP-111
- Investigation Area 3, probe locations GP-301, GP-302 and GP-303
- Investigation Area 4, probe locations GP-401, GP-402, GP-403, and GP-404
- Investigation Area 6, probe locations GP-601 and GP-602

At each probe location, the soil probe unit hydraulically advanced a 2-inch diameter drive rod to collect soil samples. Soil samples were collected inside of a 4-foot polyethylene sheath inserted into the end of the drive rod. When the selected sample depth was reached, a spring release allowed the soil sample to be collected inside of the sheath. A new sheath was used to collect each sample at the specified depth. To extract the soil sample, the sheath was cut open using a razor blade. Upon opening the sheath, each soil sample to be submitted for analytical testing was placed in containers provided by the project laboratory. The soil samples were described in the field with respect to the soil types, grain size distribution, and color (or discoloration), odor, and moisture content. The observations were recorded on soil boring logs which are included as Appendix A.

A portion of the soil samples was field screened using a photoionization detector (PID). The PID yields a semi-quantitative headspace analysis of the concentration of the VOCs in the samples that have ionization potentials equal to or less than 11.7 electron volts (eV). The PID was calibrated in the field according to manufacturer's instructions, using 100 parts per million (ppm) isobutylene span gas and air (zero gas), and checked between each screening event for proper response. The peak instrument readings were recorded on the soil boring logs. The PID does not allow for a differentiation of individual VOCs, and has a useful detection limit of approximately 1 ppm for select VOCs.

Two soil samples per soil probe were collected to evaluate prior near surface impacts. Three soil samples per soil probe or monitoring well were collected where deeper impacts had been identified previously. The sampling intervals were:

- Within the top four feet below the ground surface, generally from one to two feet bgs;

- In the middle of the borehole, typically at approximately six to eight feet bgs; and
- From the base of the borehole.

The soil samples submitted to Pace Analytical were accompanied by a chain-of-custody form. When transferring samples, the individuals relinquishing and receiving the samples signed and dated the forms. The original chain-of-custody form accompanied the shipment. A copy was retained by the field sampler and filed immediately upon return to the office. The forms include the following information: sample identification, date collected, source of sample (including type of sample and site identification), and name of sampler. The forms were completed in a legible manner using waterproof ink and signed by the sampler. Similar information was provided on the sample labels, which were securely attached to the sample containers. The soil probe soil samples submitted to Pace Analytical were analyzed for volatile organic compounds (VOCs).

Each probe hole advanced for the supplemental investigation at the subject property was abandoned in accordance with the procedures outlined in WAC NR 141. The abandoned probe holes were backfilled with bentonite chips from the bottom of the boring to the surface. A copy of WDNR Form 3300-5B was prepared for each location; these forms are provided in Appendix A.

3.3 Groundwater Monitoring Well Installation Methods

Five groundwater monitoring wells were installed for this supplemental site investigation as depicted on Figure 2. The additional water table monitoring wells were advanced in the following locations:

- One well installed in the northwest corner of the subject property. (MW-20)
- One well installed in the median of Sheridan Road, west of the subject property. (MW-21)
- One well installed to the south of the subject property near the adjacent residence. (MW-23)
- One well installed just east of the source area identified in Area 1. (MW-24)
- One well installed near the north property line, north of GP-48. (MW-26)

The monitoring wells were installed in general accordance with WAC Chapter NR 141. Hollow stem augers (4¼-inch inner diameter) were utilized (ASTM Method D1586) to advance boreholes during auger drilling. The augers were advanced using a truck-mounted auger drilling rig.

Soil samples were collected at two-foot intervals from the monitoring well installation borings. The soil samples were collected using a two-inch diameter split-spoon sampler (ASTM Method D1587) and visually classified in the field by an STS geologist. Soil boring logs for the monitoring wells and piezometer are also provided in Appendix A.

The soil sampler was decontaminated prior to each soil-sampling event using laboratory-grade detergent and tap water rinse. Upon retrieval of the sampler, visual observations of the recovered material were documented in accordance with ASTM Method D-2488-93 (as indicated in Section 3.2). A portion of the soil sample collected from each sampling interval was subjected to in-field screening using a PID and samples were collected at the intervals described in Section 3.2. Three soil samples per well boring were submitted to EnChem and were transported using the chain-of-custody procedures identified in Section 3.2. The soil samples were analyzed for VOCs.

The monitoring wells were constructed of 2-inch diameter, flush-thread, schedule 40 polyvinyl chloride (PVC) riser pipe with 10-slot screens. Monitoring well screen lengths were 10 feet. Coarse silica filter sand packs were placed to depths of approximately 2 feet above the top of each well screen. Following placement of the coarse sand pack, an approximate two foot fine sand pack was placed, followed by bentonite chips to one foot bgs. A concrete surface seal was placed above the bentonite to the ground surface. The monitoring wells were completed with locking protective casings.

Prior to groundwater sampling, the new monitoring wells were developed in general accordance with WAC Chapter NR 141. Monitoring well construction details and monitoring well development forms are provided in Appendix A. Monitoring well purge water and soil cuttings generated as part of this investigation were stored on-site in 55-gallon drums. The monitoring well elevations were documented by differential leveling relative to local datum tied to mean sea level.

3.4 Groundwater Sampling Methods

Groundwater sampling procedures were in substantial conformance with the WDNR "Groundwater Sampling Field Manual" (PUBL-DG-03896). Prior to sampling, depth to groundwater measurements were obtained from the monitoring wells to an accuracy of 0.01-feet using an electronic water level indicator. These measurements were referenced to the top of the

PVC casing at each well. The depth to groundwater measurements and calculated water table elevations are shown on Table 1. Pre-sampling well purging consisted of the removal of a minimum of three volumes of water from each well. Groundwater sampling was then conducted using low-flow sampling techniques. Volatile organic analysis (VOA) vials were securely capped with a Teflon-lined lid and observed to verify that no headspace existed within the laboratory-supplied sample container. The groundwater samples submitted to EnChem were transported using the chain-of-custody procedures identified in Section 3.2. The groundwater samples were analyzed for VOCs. Selected groundwater samples were also analyzed for nickel.

3.5 Investigative Waste

Soil cuttings from the monitoring well soil borings were containerized in 55-gallon drums. A composite soil sample was collected and analyzed to characterize the waste. The soil cuttings were managed as solid waste and the groundwater was managed as a hazardous waste. Badger Disposal conducted waste disposal for the City of Kenosha. A copy of the waste disposal manifests/bills of lading are included as Appendix B.

4.0 PHYSICAL SITE CHARACTERISTICS

Published geologic and hydrogeologic information was reviewed to assess soil and bedrock types in the area, regional groundwater flow direction, and groundwater sources. The United States Geological Survey 7.5-minute quadrangle map was used to determine general land features in the area of the subject property, to evaluate the local topography and to estimate water table groundwater flow direction. The sources reviewed for geologic and hydrogeologic information are referenced in the text and are listed in Section 8.0 (References).

4.1 Topographic Setting

The 7.5-Minute topographic map of the Kenosha, Wisconsin Quadrangle (dated 1958, photo revised 1971) shows the parcel and vicinity features including the area topography and surface water features. Lake Michigan is located approximately 0.5 miles east of the subject property. The closest river to the subject property is Barnes Creek. Barnes Creek is located approximately 0.5 miles southwest of the subject property.

4.2 Geologic Setting

The native surface soils in the vicinity of the subject property consist of the Boyer-Granby Association. The Boyer-Granby Association consists of well drained to very poorly drained soils that have a loam to sand subsoil. The Boyer-Granby Association is underlain by sandy glacial outwash on ridges and knobs and in drainageways and depressions (USDA Soil Conservation Service, 1970). Specifically, the western portion of the subject property is mapped as loamy sand and the eastern portion of the subject property is mapped as fine sandy loam.

Glacial till deposits found below the surface soils in the subject vicinity are mapped as the Pleistocene Age Oak Creek Formation (Mickelson, 1984). The glacial ice of the Lake Michigan lobe deposited the till of the Oak Creek Formation. The Oak Creek Formation consists of fine-grained glacial till, lacustrine clay, silt, sand, and some glaciofluvial sand and gravel. The underlying bedrock is the Silurian Niagara Dolomite. Bedrock is anticipated to be between 50 and 100 feet below ground surface (Trotta and Cotter, 1973).

Based on the soil samples collected from the test pits, soil probes and soil borings conducted previously as well as the additional soil probes and borings as part of this investigation, the subject property is underlain by up to eight feet of silty sand fill materials. Surface soils (zero to

four feet bgs) were generally silty sand and fine sand. Vadose zone (four to eight feet bgs) fill materials were primarily silt and silty sand but some thin (one foot or less) layers of silty clay were occasionally encountered. The native soil observed below the fill (greater than eight feet bgs) was generally silt or silty fine sand which were denser and siltier with depth. Geologic cross sections have been prepared for the subject property as shown on Figures 3, 4, 5, and 6.

4.3 Hydrogeologic Setting

Groundwater is encountered at eight to ten feet bgs and migrates in an east-southeast direction across the subject property on the approximately eastern two-thirds of the subject property. This is the expected regional direction for groundwater flow (toward Lake Michigan). The groundwater flow direction on approximately the western one-third of the subject property is west-southwest toward Sheridan Road. Approximately 2000 feet southeast of the subject property is Barnes Creek. Barnes Creek is a local feature, topographically lower than the subject site which may explain the apparent groundwater flow direction to the southeast. The saturated zone soils near the water table (seven to 15 feet bgs) have a hydraulic conductivity on the order of 1×10^{-3} centimeters per second (cm/s). The hydraulic conductivity in the deeper soil (25 to 30 feet bgs) is on the order of 3×10^{-5} cm/s. A summary of groundwater elevations is provided on Table 1. Contoured groundwater elevations for two different years are shown on Figures 7 and 8.

Horizontal hydraulic gradients range from 0.0014 feet per foot to 0.0022 feet per foot or 9.6 feet per year to 12.3 feet per year. The vertical gradient calculated at the nested well pair, MW-5 and MW-5P was calculated to be 0.051 feet per foot downward based on August 2006 groundwater levels. A copy of the calculations is included in Appendix C.

4.4 Conceptual Site Model

The subject property is serviced by the City of Kenosha municipal water supply and sanitary sewer. The City of Kenosha uses Lake Michigan for its potable water supply.

Land use in the vicinity of the subject property is primarily commercial or light industrial to the north and along Sheridan Road to the south except for the immediately adjacent residential duplex on the south side of the subject property. An active railroad line is present to the east. The area west of the subject property is primarily residential.

A wetland is present along the southern border of the subject property immediately east of the residential property. One part of the wetland is open water, approximately one-half acre in size.

- Receptors to subsurface impacts identified at the subject property include:
- Humans - potential VOC vapor intrusion into the adjacent duplex;
- Human - potential direct contact to VOCs, PAHs and lead above non-industrial site specific RCLS;
- Humans, ecological and the environment - potential impacts by VOCs to the subsurface and surface water in the wetland.

4.4.1 Utility Corridor Potential Migration Pathway

Subsurface utilities are present under both the northbound and southbound lanes of Sheridan Road (State Highway 32). The road was reconstructed and widened in the early 2000's using state and federal funds. Because of the newness of the roadway, investigation through the new pavement was not permitted. STS has conducted an evaluation of the subsurface utilities in the vicinity of the subject property and obtained the following information.

Under the northbound lanes (east side of Sheridan Road-immediately adjacent to the subject property)

- An eight-inch water line lies parallel to the eastern Sheridan Road curb line in a north-south direction. The bottom of the water pipe is approximately seven feet bgs.
- A natural gas line lies parallel to the eastern Sheridan Road curb line in a north-south direction. The depth of the pipe is unknown, but is typically buried at three feet bgs.
- A 15-inch sanitary sewer runs parallel to the eastern Sheridan Road curb line in a north-south direction. The bottom of the sewer pipe is approximately 15 feet bgs and the pipe has a gradient to the north of 0.1%.

Under the median of Sheridan Road

- A 12-inch water line and a telephone line run parallel and under the Sheridan Road median.

Under the southbound lanes (west side of Sheridan Road)

- A 36-inch storm sewer lies parallel to the western Sheridan Road curb line in a north-south direction. The bottom of the pipe is approximately 10 feet bgs and the pipe has a gradient to the north of 0.2%.

A wetland is present along the southern border of the subject property immediately east of the residential property. One part of the wetland is open water, approximately one-half acre in size.

- Receptors to subsurface impacts identified at the subject property include:
- Humans - potential VOC vapor intrusion into the adjacent duplex;
- Human - potential direct contact to VOCs, PAHs and lead above non-industrial site specific RCLS;
- Humans, ecological and the environment - potential impacts by VOCs to the subsurface and surface water in the wetland.

4.4.1 Utility Corridor Potential Migration Pathway

Subsurface utilities are present under both the northbound and southbound lanes of Sheridan Road (State Highway 32). The road was reconstructed and widened in the early 2000's using state and federal funds. Because of the newness of the roadway, investigation through the new pavement was not permitted. STS has conducted an evaluation of the subsurface utilities in the vicinity of the subject property and obtained the following information.

Under the northbound lanes (east side of Sheridan Road-immediately adjacent to the subject property)

- An eight-inch water line lies parallel to the eastern Sheridan Road curb line in a north-south direction. The bottom of the water pipe is approximately seven feet bgs.
- A natural gas line lies parallel to the eastern Sheridan Road curb line in a north-south direction. The depth of the pipe is unknown, but is typically buried at three feet bgs.
- A 15-inch sanitary sewer runs parallel to the eastern Sheridan Road curb line in a north-south direction. The bottom of the sewer pipe is approximately 15 feet bgs and the pipe has a gradient to the north of 0.1%.

Under the median of Sheridan Road

- A 12-inch water line and a telephone line run parallel and under the Sheridan Road median.

Under the southbound lanes (west side of Sheridan Road)

- A 36-inch storm sewer lies parallel to the western Sheridan Road curb line in a north-south direction. The bottom of the pipe is approximately 10 feet bgs and the pipe has a gradient to the north of 0.2%.

The bottom of the eight-inch water line is near or above the water table. Thus, the likelihood for contaminated groundwater transport in the backfill of the water line is low. The sanitary sewer is completely located within the saturated zone and its gradient for flow transport is very low because the pipeline gradient is 0.1% or 0.001 feet per foot. Therefore, the likelihood of contaminant transport in the backfill is low.

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5.0 CHEMICAL CHARACTERISTICS OF SOIL

Soil samples were collected from all soil probes and monitoring well soil borings for this supplemental investigation and select soil samples were analyzed for VOCs. Site-specific residual contaminant levels (SSRCLs) were calculated using the US Environmental Protection Agency web page soil screening level calculator with standard default Wisconsin input parameters (WDNR 2002) and a site-specific total organic carbon (TOC) value obtained from chemical analyses during the NR 716 Site Investigation, 2004. The site-specific values were recalculated because the EPA web page was updated in 2006. The revised values are included on the soil result tables and a copy of the 2006 calculations is included as Appendix D. The soil VOC results are provided in Table 2 and a copy of the laboratory analytical reports are included as Appendix E.

A total of 181 soil samples were collected and analyzed for VOCs from five test pits, seven soil borings, 18 monitoring well soil borings and 64 soil probe locations during all of the phases of assessment of the subject property. The results discussed below include all of the soil samples collected at the subject property to date that were analyzed for VOCs, including results from prior investigations in order to provide a more complete picture of the VOC impacts identified at the subject property. Early investigation soil samples were previously analyzed for polynuclear aromatic hydrocarbons (PAH) and metals. These analytes were discussed in detail in the Site Investigation Results Report (May 2005, STS Consultants, Ltd.). Further testing during this Supplemental Investigation for these compounds was not considered necessary and remedial actions to address PAHs and metals are not necessary.

5.1 Volatile Organic Compounds in Soil

Three chlorinated VOCs, tetrachloroethene (PCE), trichloroethene (TCE) and cis-1,2-dichloroethene (cisDCE) were the primary VOC constituents identified in soil samples. PCE was identified in 89 of the 181 soil samples collected at the subject property. PCE was detected in one soil sample in the upper four feet bgs soil exceeding the industrial direct contact residual contaminant level (RCL). Twenty soil samples in the upper four feet bgs exceeded the non-industrial direct contact pathway RCL. All of the samples (89) in which PCE was detected exceeded the soil to groundwater pathway RCL for PCE.

Vinyl chloride was detected in one soil sample from monitoring well soil boring B-6 above the non-industrial direct contact RCL and soil to groundwater pathway RCL.

Petroleum VOCs were identified in one soil boring (B-9), ten soil probes (G-1, GP-24, GP-29, GP-31, GP-35, GP-38, GP-47, GP-401, GP-402, and GP-403) and in four monitoring well soil borings (B-5, B-6, MW-21 and MW-24). All of the concentrations were below SSRCLs except for benzene detected above the soil to groundwater pathway RCL in surface soil samples from GP-31, GP-401 and MW-21.

Figures 9, 10, and 11 depict the concentrations of PCE from all the site investigations at three different depth intervals; zero to four feet below ground surface (bgs); four to eight feet bgs; and greater than eight feet bgs, respectively. Figure 12 depicts all of the detected PCE concentrations. To further evaluate the detected PCE concentrations, the sum of the PCE concentrations from each sample location detected in the vadose zone samples were plotted on the subject property at their respective locations as shown on Figure 13. The concentrations of PCE detected in the surface and vadose zone (zero to eight feet bgs), where the majority of the detected concentrations exists, was summed and the resultant number contoured on Figure 13 to aid in identifying source areas. The contour intervals were chosen to represent order of magnitude of PCE impact.

Potential source areas in Area 1 are depicted by the red contours that indicate PCE concentrations are greater than 100,000 micrograms per kilograms (ug/kg). The other potential source areas in Areas 3 and 4 are outlined by the blue contour which depicts the extent of soil concentrations greater than 10,000 ug/kg. PCE concentrations that are greater than 1,000 ug/kg are enclosed within the green contour.

PCE concentrations in soil outside the contours are much lower to non-detected than the area enclosed within the contours.

Area 1

Area 1 is located on the northwestern quarter of the developed portion of the subject property. PCE concentrations in this area are the highest and most pervasive observed at the subject property. Two apparent source areas are located within Area 1. The first source area is located

from GP-101 to GP-23 where the highest single sample concentration of PCE at 330,000 µg/kg was measured in a surface soil sample (GP-101, one to two feet bgs). The second source area is located in a soil sample (four to eight feet bgs) directly below the sanitary sewer that served the former building's toilets (G-1). Concentrations of PCE measured at a depth of six to eight feet below ground surface were 322,000 µg/kg. Concentrations greater than 10,000 µg/kg were detected in the vadose zone across the western fourth of the subject property. Within the saturated zone (below eight feet bgs), two areas of higher PCE concentrations were detected near GP-1 and GP-106. The impacts appear to be contained on-site although testing was not conducted in Sheridan Road near the western property boundary. Sheridan Road is also State Highway 32, which was recently reconstructed (2000-2001) and because of the newness of the road breaching of the pavement was not permitted by the City of Kenosha.

Off-site and further west, at MW-21 in the median for Sheridan Road, soil impacts were not identified.

Area 2

Area 2 is located on the southwestern quarter of the developed portion of the subject property. Area 2 was identified as a potential source area because the industrial sanitary sewer lateral from the former cleaning area within the building to Sheridan Road ran parallel to the southern property boundary. Relatively lower concentrations of PCE were identified in this area and it has been ruled out as a source area for PCE impact.

Off-site and further south, at MW-23, adjacent to the residence, soil impacts were not identified.

Area 3

Area 3 is located near the northern property line east of the former building and north of the loading dock and is generally defined by borings B-2; soil probes GP-9, GP-10, GP-32, GP-30 and monitoring well MW-1. Three additional borings (GP-301, GP-302 and GP-303) were advanced on the southern portion of this area to define the extent of impact observed at GP-33. Concentrations of PCE at GP-33 were greater than 10,000 mg/kg in surface soil (zero to four feet bgs), but not detected in the vadose zone (four to eight feet bgs). The internal extent of the elevated surface soil PCE concentrations is defined by GP-32 to the west and MW-1 to the east. The extent to the south was defined by GP-302, but other, higher, surface impacts were identified

at GP-301 and GP-303. However, these impacts were limited to surface soil and PCE was not detected in the vadose zone.

Off-site and to the north, potential impacts were not evaluated because the property owner refused access.

Area 4

Area 4 is located north and east of monitoring well B-6 in the former loading dock area. GP-34, located at the loading dock, has surface soil PCE concentrations of 7,800 ug/kg. Concentrations of PCE to the west at GP-401 were approximately half of the concentration at GP-34 and to the east at GP-402 was less than 1,000 µg/kg. PCE concentrations at GP-22 were 16,000 µg/kg and further east at GP-404 were 1,000 µg/kg. Thus, the extent of impact is reasonably defined in Area 4.

Area 5

Area 5 is located along the southern property line approximately 200 feet east of the buildings. TP-5 had PCE and breakdown products present at 4-6 feet below ground surface. The east and west extent was defined by GP-42 and GP-43, where PCE was not detected in soil samples at either location. GP-43, located between TP-5 and GP-44, had a PCE concentration of 140 ug/kg in the surface soil sample (zero to four feet bgs). The southern extent across the property line was not defined and the property owner to the south refused access to their property. However, the extent of impact is defined on-site to the north.

Area 6

Area 6 is located along the southern property line approximately 500 feet east of the former buildings. PCE was detected in surface soils (zero to four feet bgs) at B-11 at a concentration of 737 ug/kg. The eastern and western lateral extent of impact is generally defined by GP-47 and GP-45, respectively. GP-46, located north of B-11, had a surface soil PCE concentration of 1,200 ug/kg. The lateral extent of surface soil PCE impacts in this area was further defined to the north by GP-601 and to the south by GP-602. A PCE concentration of 110 µg/kg was measured in the surface (zero to four feet bgs) soil sample from GP-601, but PCE was not detected in the surface or vadose zone soil samples from either GP-601 or GP-602.

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Soil Results Summary

In summary, the information obtained from the investigations completed to date suggests the following conclusions.

- The extent of unsaturated zone impacts is sufficiently defined to evaluate remedial options.
- One area has a near surface soil PCE concentration which exceeds the industrial direct contact RCL.
- Unsaturated zone impacts exceed the soil to groundwater risk pathway RCLs in the formerly developed portion of the subject property (Areas 1, 2, 3, and 4) and thus, may represent a continued source for groundwater impact.
- Shallow saturated zone soil impact in Area 1 represents a continued source for groundwater impact.

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6.0 CHEMICAL CHARACTERISTICS OF GROUNDWATER

Groundwater analytical results are compared to NR 140.10 WAC, Table 1, Groundwater Quality Public Heath Enforcement Standards (ESs) and Preventive Action Limits (PALs). Copies of the laboratory analytical data for groundwater are included as Appendix F.

Wisconsin has two levels of groundwater quality standards. The first level, the PAL, is a concentration that is 10% (for carcinogenic, mutagenic or teratogenic compounds) to 20% of the enforcement standard. Remedial action is not always required if a PAL is exceeded. The ES is a health-risk based concentration and exceedances of ESs require further subsurface investigation, remedial action and/or natural attenuation monitoring.

Summary tables of the groundwater laboratory analytical results for groundwater samples collected at the subject property from the NR 141 monitoring wells are provided in Table 3 for detected VOCs, Table 4 for nickel and Table 5 for field parameters. VOCs and nickel detected in the groundwater samples above groundwater quality standards are depicted on Figure 14.

6.1 Volatile Organic Compounds in Groundwater

Tetrachloroethene (PCE) and its lesser chlorinated breakdown products, trichloroethene (TCE), cis-1,2-dichloroethene (cisDCE), and vinyl chloride were the VOCs detected above regulatory standards in the monitoring wells. PCE was detected in six of the 18 groundwater monitoring wells, B-3, B-6, MW-4, MW-5, MW-5P and MW-20. The highest detected PCE concentration occurred in the far northwest corner of the subject property at MW-20. This location is down gradient of one of the areas of highest soil impact.

The PCE concentrations versus time were graphed for three wells B-3, MW-4 and MW-5 for which there were at least three data points at each location. Data from other monitoring wells was not graphed because either the PCE concentrations were below the detection limit or less than three sample events had been conducted. At each location the groundwater concentrations exhibit apparent increasing PCE concentration trends. MW-5 is located within a source area. B-3 and MW-4 are both in the downgradient direction from MW-5.

Further east, on the eastern half of the subject property, the detected VOCs were cisDCE and VC. The concentrations of cisDCE and VC have been graphed versus time for those wells with

four or more rounds with detected cisDCE and VC concentrations. The cisDCE trends for two of the wells (B-6 and B-12) were analyzed using a linear regression curve. The concentrations in the groundwater at B-6 were stable and the concentrations in the groundwater at B-12 are decreasing. Similarly, the VC groundwater concentrations were analyzed by linear regression. The three wells evaluated, B-6, B-12 and MW-3 all exhibited decreasing concentrations.

The concentration graphs are included as Appendix G.

VOCs were not detected in off-site monitoring wells MW-21 and MW-23. MW-21 is located in the median for Sheridan Road and is downgradient from both MW-5 and MW-4. MW-23 is located adjacent to the residence to the south. Based on two sampling events, the residential receptor is currently not at risk to VOCs either by direct contact or vapor intrusion, because VOCs are not present in the groundwater. Thus, groundwater impacts appear to be contained on-site.

A discussion of groundwater impacts by soil investigation areas is provided below.

Groundwater Results in Area 1

The highest soil concentrations were detected in Area 1 in two sub-source areas. The first source is at GP-101 a soil probe located north of the building in a former parking lot. MW-20 is directly down gradient (west) from GP-101 and the detected PCE concentrations in the groundwater are likely directly associated with this source.

Similarly, MW-5 is located near G-1, a soil probe with high subsurface soil concentrations associated with a former source within the building (likely the sanitary sewer serving the toilets). Concentrations of PCE at MW-5 and MW-4 (located further west adjacent to the sanitary sewer lateral) although not as high at the concentration at MW-20 are likely associated with this second source area. PCE concentrations in piezometer MW-5P, the piezometer associated with MW-5 to evaluate vertical migration, are just above the method detection limit. Thus, vertical migration within the aquifer appears to be limited.

Little to no degradation of the PCE has been detected in the groundwater at wells located in Area 1 as may be expected since natural attenuation processes are less effective at these

concentrations. Additionally, the groundwater impacts associated with the two source areas appear to be contained on-site at this time.

Groundwater Results in Area 2

Area 2 is located immediately south of Area 1 and was identified separately to evaluate the industrial sanitary discharge lateral associated with the former water washing operations in the former facility. Lower concentrations of PCE were detected in both the soil and groundwater samples collected in this area. PCE and lesser chlorinated VOCs (TCE cisDCE and VC) have been detected in the groundwater samples from monitoring well B-3. The PCE concentration is stable and the other VOC concentrations are decreasing in this area.

Groundwater Results in Area 3

Area 3 is an area north of the loading dock where PCE concentrations in the soil were detected as high as 14,000-20,000 µg/kg. PCE has not been detected in the groundwater samples from MW-1, but lesser chlorinated VOCs such as cisDCE and VC are detected in the groundwater. The concentration trend for these compounds is decreasing.

Groundwater Results in Area 4

Area 4 is south-southeast of Area 3 and a secondary area identified as a drum storage area. PCE has been detected in soil samples in this area, but groundwater concentrations are low, near the method detection limit.

Groundwater Results in Areas 5 and 6

PCE concentrations in soil samples were limited to the upper two feet. PCE was not detected in deeper soil samples and previous groundwater testing in temporary wells had not detected PCE. Therefore, permanent monitoring wells were not installed in these areas.

6.2 Nickel in Groundwater

Nickel was the only metal detected in the initial investigations which exceeded the PAL. Nickel was detected above the PAL in the groundwater from monitoring wells B-5, B-6, MW-1, MW-4, MW-5P and MW-6. Nickel was not detected in the water table well (MW-5) adjacent to the deep well (MW-5P).

Nickel was detected above the ES in monitoring well MW-24, installed in the eastern down gradient direction of Area 1. Nickel was also detected above the ES in MW-2 but in subsequent samples the concentration has dropped below the ES, but still exceeds the PAL. The significance of the nickel in the groundwater is undetermined at this time. The source of the nickel is likely associated with the industrial cleaning operations. The groundwater concentrations are stable or decreasing in the groundwater as depicted on the concentration versus time graph included in Appendix G.

6.3 Field-Measured Groundwater Parameters

Field measured groundwater parameters included pH, dissolved oxygen (DO), oxidation-reduction potential (ORP), conductivity and temperature. The pH was generally neutral ranging from 6.51 to 7.7. Temperature was ranged form 15 to 16 degrees celcius in summer to 12 to 14 degrees celcius in the winter. Dissolved oxygen was low, generally less than 1 mg/l except for monitoring wells B-3, MW-4, MW-20, MW-21 and MW-23 whose DO values were generally less than 3 mg/l. In general, the DO values indicate a reducing condition in the groundwater at the subject property. ORP readings were consistent with the DO readings. ORP ranged from -143 to 114 millivolts. Conductivities ranged from 0.65 to 2.14 michoohms/cm.

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7.0 SITE INVESTIGATION CONCLUSIONS

The former C&L Industrial Cleaners is a three-acre parcel of land which was formerly developed with a small building and storage shed. Operations conducted historically at the facility included barrel manufacturing as well as industrial cleaning operations. The former building at the subject property had trenches in the concrete floor which were interconnected and fed to one larger and deeper trench which was plumbed for discharge to the sanitary sewer. These trenches were consistent with a large scale commercial washing (water-based) operation. While direct evidence of solvent-based cleaning was not identified at the subject property; it is likely that the commercial operation included the washing of solvent-laden rags.

Four phases of investigation have been conducted at the former C & L Industrial Cleaners. These investigations have resulted in the advancement of 64 soil probes, seven soil borings, five test pits and the installation of 17 groundwater monitoring wells and one piezometer.

The subject property is underlain by up to eight feet of silty sand fill materials. Below the fill, layers of organic silt, silty fine sand, silty fine to coarse sand, silt and silty clay were observed. Groundwater is encountered at eight to ten feet bgs and migrates in an east-southeast direction across the subject property on the eastern approximately two-thirds of the subject property. The groundwater flow direction on the western approximately one-third of the subject property is west-southwest toward Sheridan Road. The saturated zone soils near the water table have a hydraulic conductivity on the order of 1×10^{-3} cm/s. The hydraulic conductivity in the deeper soil is on the order of 3×10^{-5} cm/s. Horizontal hydraulic gradients range from 0.0014 feet per foot to 0.0022 feet per foot which equals a groundwater travel velocity of 9.6 feet per year to 12.3 feet per year. The vertical gradient calculated at the nested well pair, MW-5 and MW-5P was calculated to be 0.051 feet per foot downward based on August 2006 groundwater levels.

Vadose zone impacts by chlorinated VOCs and PAHs have been identified at the subject property. The concentrations of PAHs have been calculated to be lower than the level which would constitute a risk to human health. Groundwater analysis indicated that PAHs were not a threat to groundwater. Metals were also detected in the soil, but at concentrations within normal limits for soil. Thus, the main impact at the subject property requiring remediation is the chlorinated VOCs.

The primary VOC impact to the soil is PCE. These impacts have been identified in the direct contact zone (zero to four feet bgs) in Areas 1, 3 and 4. Vadose and saturated zone impacts in soil occur in Area 1. Deeper vadose zone and saturated zone impacts were generally not identified in Areas 3 and 4.

PCE was detected in one soil sample in the upper four feet bgs soil exceeding the industrial direct contact residual contaminant level (RCL). Twenty soil samples in the upper four feet bgs exceeded the non-industrial direct contact pathway RCL. All of the samples (89) in which PCE was detected exceeded the soil to groundwater pathway RCL for PCE.

PCE concentrations in soil samples collected outside of Areas 1, 3 and 4 were either not detected or of much lower concentrations. All of the detected soil impacts on the eastern one-half of the subject property (east of the former building location) are much lower in concentration and somewhat widespread and diffuse, perhaps the result of physical transport by foot and vehicle traffic.

Where detected in the unsaturated soil, TCE and PCE generally exceed their respective groundwater pathway SS RCL. However, empirical data suggests that concentrations less than 1000 ug/kg are not impacting groundwater above the ES as evidenced by groundwater results for B-5, B-6, and MW-6. Thus, in the eastern portion of the subject property, active remediation does not appear warranted to address the sporadic TCE and PCE concentrations detected in soil.

PCE, TCE, cisDCE, vinyl chloride and nickel were detected in groundwater samples above either the PAL or ES. PCE detected in groundwater appears to be primarily related to the two sources in Area 1 on the western portion of the subject property where some of the detected concentrations in groundwater are 2,000 to 4,000 times the ES. The PCE concentrations in groundwater appear to have an increasing trend based on three sampling events. Groundwater impacts east of the former building are primarily degradation compounds associated with PCE. The concentration of these lesser chlorinated VOCs (cisDCE and vinyl chloride) are showing a decreasing trend. This decreasing trend implies that as the PCE migrates from the unsaturated soil to the groundwater natural attenuation processes break down the PCE and that further degradation continues within the groundwater.

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The highly-elevated PCE concentrations present in near-surface soil in Areas 1, 3 and 4, comprising more than 2,600 cubic yards of soils with PCE greater than 1,000 micrograms per kilogram, represent a direct contact exposure threat and a continued source of impact to groundwater. Remedial actions may be necessary for the City of Kenosha to comply with the Local Governmental Liability Exemption (exemption from the "Spill Law" S. 292.11 Wis. Stats.). Our understanding is the liability exemption applies as long as the City of Kenosha "does not cause or exacerbate a discharge of a hazardous substance"; however, we recommend you consult with your legal counsel in regards to satisfying the exemption requirements.

Based on the data presented in this report, Areas 1, 3 and 4 warrant remedial action to mitigate the following risks.

- Soil exceeding the industrial direct contact pathway in Area 1;
- Soil exceeding the soil to groundwater pathway RCL in the vadose zone;
- Soil exceeding the soil to groundwater pathway RCL in the satuated zone; and
- A dissolved groundwater contaminant plume with potential for expansion or migration off-site.

Vadose-zone soils with lesser impacts outside Areas 1, 3 and 4 of the subject property likely do not require specific action unless the property is redeveloped and/or to be used for non-industrial purposes.

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8.0 REMEDIAL ACTION OPTIONS EVALUATION

Remedial Action Options (RAO) are evaluated for the subject property based on the findings described above in Section 7.0. Remedial action technologies for soil and groundwater are identified and screened based on their effectiveness, implementability and cost, in accordance with NR 722 WAC for applicability to the subject property's conditions and the needs of the City of Kenosha for maintaining the property and to comply with the Local Governmental Liability Exemption (exemption from the "Spill Law" S. 292.11 Wis. Stats.). Our understanding is the liability exemption applies as long as the City of Kenosha "does not cause or exacerbate a discharge of a hazardous substance"; however, we recommend you consult with your legal counsel in regards to satisfying the exemption requirements. Remedial technologies were identified and evaluated using information available from literature sources, applicable vendors, and professional experience.

8.1 Constituents of Interest and Remedial Objectives

Identification of constituents of interest is a necessary prerequisite to screening of applicable remedial action technologies. The following sections identify the constituents of interest in subject property soil and groundwater, and their respective remedial objectives.

8.1.1 Soil

Based on a comparison of constituent concentrations detected in soil samples collected as part of the NR 716 WAC Site Investigation with NR 720 WAC site-specific residual contaminant levels (SS RCLs), the following constituents of interest in soil and their associated SS RCLs are identified:

Soil Constituent	Groundwater Pathway SS RCL	Industrial Direct Contact SS RCL
PCE	12 µg/kg	55,000 µg/kg
TCE	12 µg/kg	7,150 µg/kg
cis-DCE	100 µg/kg	$1.02X10^7$ µg/kg

Where detected in the unsaturated soil, TCE and PCE generally exceed their respective groundwater pathway SS RCL. However, empirical data suggests that concentrations less than 1000 ug/kg are not impacting groundwater above the ES. Thus, in the eastern portion of the

subject property, active remediation does not appear warranted to address the sporadic TCE and PCE concentrations detected in soil.

On the western portion of the subject property, in the area of the former building and loading dock, the industrial direct contact SSRCLs is exceeded in two areas (totaling approximately 400 square feet) as shown on Figure 13. Soil impacts exceeding 1000 mg/kg that are an apparent threat to groundwater quality are present in Areas 1, 2, and 4.

8.1.2 Groundwater

Based on a comparison of constituent concentrations detected in groundwater samples collected as part of the NR 716 WAC Site Investigation with NR 140 ES values, the following constituents of interest in groundwater and their associated ES and PAL are identified:

Groundwater Constituent	NR140 ES	NR140 PAL
PCE	5 µg/L	0.5 µg/L
TCE	5 µg/L	0.5 µg/L
cis-1,2-DCE	70 µg/L	7 µg/L
Vinyl chloride	0.2 µg/L	0.02 µg/L

Groundwater impacts above the ES for PCE are primarily observed on the western portion of the subject property. Groundwater impacts above the ES for cis-1,2-DCE and vinyl chloride, both PCE degradation products, are observed on the eastern approximately two-thirds of the subject property, where active reductive dechlorination appears to occur naturally.

8.2 Identification and Evaluation of Remedial Action Technologies

Remedial action technologies that are potentially applicable to source control and contaminant plume management to address the four risk pathways requiring remedial action at the subject property are identified below. The no action and institutional control alternatives apply to each of the four risk pathways to be addressed.

- Area 1 Direct Contact Pathway - Mitigate soil exceeding the industrial direct contact pathway at (G-1 and GP-23 to GP-101)
    - No action
    - Institutional control
    - Engineering Controls
    - Excavation/Off-Site Landfill Disposal
    - Natural Attenuation
    - Ex-situ Thermal Treatment

- Areas 1, 3 and 4 Unsaturated Zone Soil to Groundwater Pathway - Mitigate soil exceeding the groundwater pathway RCL in the vadose zone (within the 1,000 ug/kg contour line)
    - No action
    - Institutional control
    - Engineering Controls – Infiltration control
    - Excavation/Off-Site Landfill Disposal
    - Natural Attenuation
    - Soil Vapor Extraction
    - Ex-situ Thermal Treatment

- Area 1 Saturated Zone Soil to Groundwater Pathway - Mitigate soil exceeding the soil to groundwater pathway in the saturated zone
    - No action
    - Institutional control
    - Natural Attenuation
    - Excavation/Off-Site Landfill Disposal
    - In-situ Bioremediation
    - In-situ Chemical Oxidation
    - Ex-situ Thermal Treatment

- Area 1 Dissolved Groundwater Contamination - Mitigate the dissolved groundwater contaminant plume
    - No action
    - Institutional control

- Natural Attenuation
- Groundwater Extraction and Treatment
- Air Sparging
- In-situ Bioremediation
- In-situ Chemical Oxidation
- In-situ Thermal Treatment

Brief descriptions of identified remedial action technologies for soil and groundwater at the subject property are presented in the sections that follow below.

After remedial action technologies are identified, they are screened against the criteria of effectiveness, implementability, restoration time frame and cost. The purpose for this preliminary screening is to eliminate technologies from further consideration if they are unable to satisfy the criteria, in accordance with NR 722 WAC. The definition of the screening criteria is as follows:

Effectiveness

- Long term effectiveness evaluating the degree to which the toxicity, mobility and volume of contaminants are reduced and if implemented will protect the public health, safety and welfare and the environment over time; and
- Short term effectiveness evaluating the potential for adverse impacts on public health, safety and welfare and the environment that may occur during the construction and implementation through case closure.

Implementability

- The technical feasibility with which the remedial option can be constructed, operated, and maintained.
- The potential constraints associated with the remedial option.
- The difficulties associated with monitoring the effectiveness of the remedial option.
- The ability to obtain needed permits.
- The availability of materials, equipment and technology to conduct the remedial option.

It should be noted that limited information as to the effectiveness of innovative technologies is not recognized by the USEPA as sufficient reason to eliminate them from consideration if they are

judged to be implementable. Therefore, if available information indicated that a technology was able to provide better treatment, with few or less adverse affects, or lower cost than other options, it was retained for evaluation (USEPA, 1988b).

Restoration Time Frame

- The expected time frame needed to achieve the necessary restoration and including the following qualitative criteria:
    - Proximity of receptors;
    - Presence of sensitive receptors;
    - Presence of threatened, endangered species or habitats;
    - Current and potential use of the aquifer;
    - Magnitude, mobility and toxicity of the contamination;
    - Geologic and hydrogeologic conditions; and
    - Effectiveness, reliability and enforceability of institutional controls.

Cost

- Capital costs;
- Annual operation and maintenance (O&M) costs;
- Total present worth; and
- Cost of potential future liability.

A screening of the identified remedial action technology type and process options was conducted based on the criteria described above, to eliminate from further consideration technologies that may fall short, as compared with other options, in achieving remedial objectives. The result is a select, manageable number of technologies from which the preferred remedial alternatives can be chosen.

The following subsections, 8.2.1 to 8.2.12 present a description of various remedial technologies that may be applicable to one or more of the risk pathways identified at the beginning of Section 8.2. A brief summary of these technologies relative to the evaluation criteria of short term effectiveness, long term effectiveness, implementability and cost is presented on Table 6. The rationale for retaining or rejecting certain technology types and process options are also provided in the sections below.

8.2.1 No Action

The no action response involves no treatment or monitoring of contaminated soil and groundwater at the subject property. This response typically serves as a baseline against which the other technologies and process options and/or alternatives can be compared. If prevailing site conditions lead to the determination that the subject property poses no significant risk to human health or the environment, the no action response can be used as the sole remedial action. In that event, implementation of other types of action becomes unnecessary.

The no action alternative is retained to serve as a baseline against which the effectiveness of other response actions is measured.

8.2.2 Institutional Controls

Institutional controls are responsible party or agency-mandated controls that are legally binding. Such controls include access restriction and groundwater use restriction until remedial objectives are met. In instances where the contaminant plume is threatening water supply sources, institutional controls can limit the use of, or access to, contaminated groundwater.

Institutional controls may include actions such as deed restrictions, deed notifications, or restricting the use of groundwater by law. Institutional controls for soil prohibit direct contact with residual soil impacts, and often include cap maintenance plans to verify integrity of caps designed to restrict direct contact or groundwater protection from infiltration. Institutional controls for groundwater are usually for a given set of conditions and groundwater monitoring is usually recommended to verify that prevailing conditions do not change to the extent that revisions to the controls are required. Beginning in November 2001, all such affected properties in Wisconsin have been shown on a Geographical Information System (GIS) Registry of Closed Remediation Sites.

The institutional control alternative is retained as it may represent a necessary component of case closure.

8.2.3 Excavation/Off-Site Landfill Disposal

As a remedial alternative, impacted soils are excavated and transported off-site for landfill disposal. The disposition of the excavated soils would be based on regulatory waste characterization under the Resource Conservation and Recovery Act (RCRA). Soil with concentrations of PCE less than 55,000 ug/kg can be managed as a solid waste for landfilling with the Wisconsin Department of Natural Resources (WNDR) approval. Soil that has a concentration of PCE greater than 60,000 ug/kg is land-banned by federal rule. Thus, some pre-treatment may be required if landfill disposal is used.

The excavation/off-site disposal alternative may be cost-effectively implemented in whole or part and is therefore retained for further evaluation

8.2.4 Engineering Controls

Engineering controls include on-site and off-site containment methods, such as an impermeable cover for soils and groundwater containment for contaminant plume management. The individual option for both soil and groundwater are describe below.

8.2.4.1 Barrier

The placement of a barrier as a remedial alternative uses low permeability soils and/or a low-permeable membrane placed over the contaminated areas at the subject property to prevent direct contact and to reduce infiltration of precipitation through the contaminant mass.

The barrier alternative may be cost-effectively implemented in whole or part and is therefore retained for further evaluation.

8.2.4.2 Containment

The containment response minimizes the spread of the groundwater contaminants through active or passive hydraulic gradient controls. The direct consequence of the application of a containment response is the prevention of contaminants from migrating beyond an acceptable and well-defined boundary. Active gradient control can be accomplished with vertical or horizontal pumping wells or interceptor trenches, while passive gradient control can be achieved using slurry cut-off walls, sheet pile walls, or grout curtains. According to the guidance document

for conducting Remedial Investigation/Feasibility Study (RI/FS) for Superfund sites (EPA, 1988), conditions that favor the use of containment include the following:

- Low mobility contaminants;
- Low aquifer transmissivity;
- Low contaminant concentrations;
- Low potential for exposure; and,
- Low projected demand for future use of the groundwater.

The containment response minimizes the spread of the groundwater contaminants through active or passive hydraulic gradient controls. Maximum concentrations of PCE (13,000 µg/L) in groundwater samples exceed their ES values by approximately three orders-of-magnitude. These high contaminant concentrations violate the assumption of the technology for low contaminant concentrations and as such, the containment remedial action option is not retained for further evaluation.

8.2.5 Soil Vapor Extraction

Soil vapor extraction (SVE) is a remediation technology in which a vacuum is applied to induce a controlled subsurface air flow to remove VOCs from the unsaturated zone. The SVE system is constructed using vertical wells, horizontal (or directionally drilled) wells, or pipes enclosed in trenches and the pipes are then connected to a blower to withdraw air from the soil pores, and with this air, vaporized contamination. The performance of an SVE system depends on the properties of both the contaminants and the soil.

The number, location and type of wells are dependent upon the size of the impacted area, the thickness of the unsaturated zone and the air permeability of the unsaturated soil. This technique is most successful in areas where the soil permeabilities are generally 10^{-3} cm/sec or greater, however, it has been used in lower and mixed permeability soils. Heterogeneities or soil zones with differing permeabilities can lead to preferential air flow pathways that can bypass contaminated areas resulting in less contaminant mass removal. This technique can also be combined with groundwater treatment technologies for combined treatment of the unsaturated and saturated soils as well as groundwater.

SVE is effective, readily implementable, and can have a short to moderate restoration time frame depending upon initial soil concentrations and can be cost effective. This remedial technology is retained for further evaluation.

8.2.5.1 Dual Phase Vacuum Extraction

A common method for removing VOCs from both the unsaturated and saturated soil contamination zones is known as dual phase vacuum extraction. This alternative involves a dual phase (vapor and groundwater) vacuum extraction technique to effectively extract both soil vapor and groundwater from the impacted aquifer using vertical dual phase extraction wells. The flow of air through impacted soils results in adsorbed VOCs to be removed by volatilization. Dissolved VOC concentrations are reduced by extraction of sufficient volumes of water. In addition, extraction of water exposes the saturated zone to air flow, thereby allowing for removal of VOCs by vapor extraction. The resulting vapor and contaminated groundwater is separated aboveground and treated prior to discharge.

Dual phase vacuum extraction remedial action option has been cost-effectively implemented at similar sites with similar contaminants and soil conditions, and is therefore retained for further evaluation.

8.2.6 Natural Attenuation

Natural attenuation processes, especially intrinsic bioremediation, can account for significant improvements in groundwater quality and can prevent the contaminant plume from spreading. Intrinsic bioremediation is the use of a scientific approach to demonstrate the occurrence of degradation of contaminants by monitoring the geochemical and biological properties of the groundwater, including pH, temperature, conductivity, oxidation/reduction potential, electron acceptors (e.g., dissolved oxygen, nitrate, nitrite, sulfate, etc.), carbonate, bicarbonate, carbon dioxide, methane, alkalinity, cations, TDS, chloride, sulfide, etc.

Natural attenuation in the subsurface occurs due to a combination of processes including the following: biodegradation, adsorption, dilution, and dispersion. Depending on the properties of the chemicals in the groundwater, and physical or biological processes controlling attenuation, the contaminant plume will eventually shrink or narrow over time, as the edges of the plume will degrade to insignificant concentrations. Natural attenuation is not appropriate for addressing

highly-affected areas of groundwater impacts, rather natural attenuation is appropriate where low concentrations occur, or as a supplementary method post-remediation.

Soluble hydrocarbon plumes containing petroleum hydrocarbons and chlorinated solvents are amenable to natural attenuation processes. Natural attenuation has limited effectiveness for contaminant plumes that have migrated to receptors or are present in an area where future groundwater extraction/use is likely. The ideal goal of intrinsic bioremediation is to demonstrate that active remediation is unnecessary because groundwater plumes will not reach potential receptors or other points of compliance before being remediated by organisms that occur naturally in groundwater.

The soil concentrations at the subject property have already impacted groundwater, thus natural attenuation of the soil in the four areas of interest is not a viable option for managing the risks posed by the soil impacts. Similarly, the groundwater impacts are above the ES at the subject property's boundary and the concentrations are unlikely to naturally attenuate before migrating off-site. However, reductive dechlorination appears to be occurring on some portions of the subject property. As indicated in NR 726.05 WAC, natural attenuation alternative is retained as it may represent a necessary component of case closure.

8.2.7 Groundwater Extraction and Treatment

Collection of groundwater is conducted as part of pump-and-treat systems. Groundwater is extracted from the subsurface for the purpose of aboveground treatment prior to reinjection, reuse or discharge. Collection techniques include use of vertical or horizontal extraction wells or interceptor trenches, as described in the previous section. Unlike containment, where the goal is to isolate contaminated groundwater in the subsurface, the goal of collection is to remove the contaminants from the aquifer.

It is widely established that contaminated aquifers cannot be restored through simple groundwater extraction and treatment (Keely, 1990; Travis and Doty, 1990; and McKay and Cherry, 1989). The limitations associated with pump-and-treat methodology include the following:

- Organic contaminants generally have low solubility in groundwater. Therefore, only a small fraction of the total contaminant mass is accessible to the pump-and-treat process;

- Contaminants sorb onto sediments, further restricting their removal by the pump-and-treat process;
- The geology of most sites is complex, consisting of soils with both high and low hydraulic conductivities. Although removal of contaminants from high-hydraulic conductivity zones can be enhanced by increasing groundwater extraction rates, the rate of mass removal of contaminants from low hydraulic conductivity zones is often limited by desorption rates; and
- Many pumping systems create stagnation zones or lead to contamination of previously uncontaminated areas.

At sites where contaminant removal is desorption controlled, intermittent (pulsed) groundwater pumping can be used to increase the concentrations of contaminants in the extracted groundwater. Intermittent pumping may be necessary or more cost-effective in cases where extraction wells cannot sustain yields, where desorption and/or dissolution of contaminants in the subsurface is relatively slow, or where heterogeneity is high. Because intermittent pumping systems treat smaller quantities of groundwater, capital and operation/maintenance costs can be reduced.

The groundwater collection alternative using conventional groundwater extraction and treatment is effective for removing contaminants at sites where the aquifer hydraulic conductivity exceeds 10^{-5} centimeters per second (cm/s). The hydraulic conductivity of water table (7 to 15 feet bgs) saturated zone silts is approximately 1 X 10^{-3} cm/s and the hydraulic conductivity of the deep (25 to 30 feet bgs) saturated zone silts is approximately 3 X 10^{-5} cm/s at the subject property. Based on this information, the conventional groundwater extraction remedial action option is not retained for further evaluation because it is likely that preferential flow zones will develop that will not address deeper impacts in the lower permeability silts.

8.2.7.1 Air and Groundwater Treatment

Extracted air may require treatment prior to discharge to meet Wisconsin air discharge standards. Groundwater will also require treatment prior to discharge. Treatment technologies can either be physical or chemical treatment methods. A brief discussion of treatment technologies is provided below.

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Air stripping

Air stripping is a proven, effective means to remove VOCs from groundwater. The air stripping process commonly used to remove VOCs from groundwater consists of a randomly packed tower through which contaminated water flows in a downward direction while ambient air is blown counter currently to the direction of water flow. The VOCs are transferred from the water phase to the air phase, typically with 99% removal efficiency. The exhaust air then exits the air stripper near the top of the unit.

Steam Stripping

Steam stripping is very similar to traditional air stripping with the exception that steam is used to enhance the volatilization of the VOCs instead of ambient air. This technology is very energy intensive. Therefore, steam stripping is typically used for treatment of water with high levels of organic contamination (greater than 10 ppm strippable organics) or regeneration of spent granular activated carbon.

Reverse Osmosis

In the reverse osmosis (RO) process, contaminated groundwater is pumped under pressure along a membrane module where the permeate (or clean water) will pass through the membrane and the concentrated waste solutions will be rejected and disposed.

Activated Carbon Adsorption

Activated carbon can be used to adsorb organic contaminants from impacted groundwater onto the carbon surface. Extremely low contaminant concentrations in the discharged effluent may be achieved in this manner. A typical carbon adsorption system consists of a large vessel partially filled with activated carbon adsorbent, with an inlet for impacted water and an outlet for treated water. Inflow enters the vessel and is in contact with the activated carbon for a specified period of time; it is then discharged through the outlet where it is available for collection, discharge, or further treatment. Once the carbon is saturated with contaminants, it must be replaced or regenerated. This is an effective and reliable method for removing low-solubility contaminants from water.

Limitations of this technology include the need for pre-treatment of groundwater, the resistance of certain contaminants to removal by carbon, the relatively high cost of carbon, and disposal or

regeneration of the spent carbon. Pre-treatment may sometimes be necessary to remove suspended solids, oils, and heavy metals, and to adjust the pH. Other remediation techniques may also be used as pre-treatments to reduce the organic load on the carbon.

UV/Oxidation

The UV/oxidation process employs ultraviolet (UV) radiation in combination with oxidants such as hydrogen peroxide. The UV light cleaves the oxidants to form hydroxyl radicals, which have a very strong oxidation potential. These radicals then oxidize the dissolved organic pollutants in groundwater and initiate free radical chain reactions, yielding carbon dioxide, chloride, and water as end products.

Chemical oxidation

Chemical oxidation typically uses ozonation/peroxidation to degrade chemicals into relatively innocuous compounds. Most chemical oxidation technologies are fairly well developed and have been successfully applied to industrial wastewater, and in laboratories on numerous organic chemicals. Applications have generally been on dilute (less than 1 percent oxidizable) waste streams. Ozone, hydrogen peroxide, and chlorine are the major oxidation agents used to treat these systems.

Ozone is generated on-site to treat contaminated groundwater, as there is no practical method to store or ship it. Electricity is the only input to the process and no chemicals are used. The main process applications for this process are as follows:

- Treatment of groundwater as a stand-alone system or in a treatment train;
- Pre-treatment of wastewater prior to disposal to a POTW; and
- Final polishing prior to discharge.

Ozone and hydrogen peroxide are sometimes used in conjunction with biological and/or carbon adsorption processes to treat a diverse range of organic chemicals in groundwater. The ozonation process may include chemical coagulation for metals removal and sedimentation or filtration of suspended solids or precipitate removal. Ozone is not selective and will oxidize cyanide and organics present in wastewater. The degree of oxidation determines post-treatment requirements.

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Biological Treatment Systems (Bioreactors)

Contaminants in extracted groundwater are put into contact with microorganisms through attached growth or suspended growth bioreactors. In suspended growth systems, such as activated sludge, contaminated groundwater is circulated in an aeration basin where a microbial population aerobically degrades organic matter and produces new cells. The new cells form a sludge, which is settled out in a clarifier, and the sludge biomass is recycled to the aeration basin. In attached growth systems, such as fixed-film or rotating biological contactors, microorganisms are established on an inert support matrix to aerobically degrade groundwater contaminants. The microbial population may either be derived from the contaminant source or from an inoculum of organisms specific for a contaminant. Attached and suspended systems are often used together.

The following factors may limit the applicability and effectiveness of the process:

- Solid residuals from sludge processes may require treatment or disposal;
- Microbiologists are required to start and maintain the biological systems;
- Metals may need to be removed prior to treatment in the bioreactors;
- The precipitation of iron may clog treatment systems;
- Treatability studies should be conducted to determine if contaminants are biodegradable and to estimate the rate of biodegradation;
- Air pollution controls may need to be applied if there is volatilization from activated sludge processes; and
- Low temperatures significantly decrease biodegradation rates, resulting in longer cleanup times or increased costs for heating.

Bioreactors are used primarily to treat non-halogenated volatile and semi-volatile organics and fuel hydrocarbons. Halogenated volatiles and semi-volatiles, and pesticides can also be treated; however, the process may be less effective and may be applicable only to some compounds within these groups. Successful pilot-scale field studies have been conducted on some halogenated compounds, such as chlorobenzene and dichlorobenzene isomers.

Selection of a treatment method can vary the cost of remediation. These various treatment options with the exception of bioreactors are retained for consideration with the dual-phase vapor

extraction option. Biorreactors are not retained because other treatment options are more readily available and easily implementable.

8.2.8 Air Sparging

Air sparging is a process during which air is injected into the saturated zone below or within the areas of contamination. Air injection can be performed through vertical wells, horizontal (directionally-drilled) wells or sparging probes. As the injected air rises through the saturated soil and groundwater, it may volatilize and remove adsorbed VOCs from saturated soils as well as strip dissolved contamination from the groundwater. Air sparging is most effective in higher permeability soils, but has been used successfully in moderately permeable soil. Air sparging also oxygenates the groundwater and soils, thereby enhancing the potential for aerobic biodegradation.

Air sparging is often used in conjunction with and SVE system to collect stripped VOCs as well as treat the unsaturated soils. This technology is effective, readily implementable and has a reasonable restoration time frame when applied in the appropriate situations. Therefore, this technology is retained for further evaluation.

8.2.9 Enhanced Bioremediation

Enhanced bioremediation is also known as enhanced anaerobic dechlorination and has been shown to be potentially effective at degrading or transforming a large number of organic compounds to environmentally acceptable or less mobile compounds. Classes of compounds considered amenable to biodegradation include chlorinated and aromatic VOCs. Enhanced bioremediation uses injection techniques to deliver an edible vegetable oil substrate combined with surfactants, buffers and other amendments (such as macro and micronutrients, and vitamins) to stimulate the natural microorganisms to dechlorinate contaminants. In some cases, active cultures may be added to speed the dechlorination after the anaerobic status of the aquifer has been achieved.

Injection treatments generally start at the bottom of the contaminated area and proceeds with occasional lifts of the rod to ensure complete treatment coverage through the saturated contaminant zone. Once injected, the vegetable oil droplets stick to the sediment surfaces providing a residual oil film. The residual oil film then serves as a carbon source for cell growth

and an electron donor for energy generation, supporting long-term anaerobic biodegradation of the target contaminants.

The following factors limit the applicability of this remedial alternative:

- Remedial objectives may not be met if the soil matrix prohibits contaminant-microorganism contact;
- Preferential colonization by microbes may occur in low permeability formations, causing clogging of nutrient and water injection wells;
- Preferential flow paths may severely decrease contact between injected fluids and contaminants through the contaminated zones. This remedial alternative should not be used in clay or heterogeneous subsurface environments because of electron acceptor or donor transfer limitations; and
- High concentrations of chlorinated VOCs are likely to be toxic to the microorganisms.

Based on current uses of this technology, particularly at dry cleaning sites where it has been effective, this remedial action option is retained for further evaluation.

8.2.10 In-Situ Chemical Oxidation

As indicated in preceding sections, chemical oxidation processes have been widely used for treatment of organic contaminants in wastewaters. In-situ chemical oxidation is achieved by delivering chemical oxidants to contaminated subsurface media so that the contaminants are either completely oxidized to carbon dioxide or converted to innocuous compounds commonly found in nature. The chemical oxidants that have been frequently used in such applications are Fenton's reagent, sodium persulfate, and permanganate.

Hydrogen peroxide (H_2O_2) is typically used together with ferrous (reduced) iron to form Fenton's reagent. In Fenton's reagent, hydrogen peroxide is decomposed by reduced iron to produce highly reactive hydroxyl radicals that can non-selectively attack the carbon-hydrogen bonds of organic molecules, thereby degrading many solvents to inert substances such as carbon dioxide, chloride and water.

Sodium persulfate is a stable, highly soluble, crystalline material, which upon activation generates the sulfate radical, a very strong oxidant, capable of oxidizing a broad range of recalcitrant

compounds. Laboratory studies in water have shown favorable destruction of PCE, TCE, and cis/trans- 1,2-dichloroethene using catalyzed persulfate. The formation of the sulfate radical is critical for the destruction of volatile organic compounds. One way to activate persulfate to the sulfate radical is by adding a catalyst such as ferrous iron (Fe^{+2}).

Potassium permanganate has been used for treatment of wastewater for decades because it can effectively oxidize many impurities, including phenol, ferrous iron, sulfide, and taste and odor producing compounds (Weber, 1972). Injection of permanganate is effective in remediation of groundwater affected with relatively low concentrations (on the order of 1,000 µg/L) of certain VOCs, where substantial masses of VOCs are not adsorbed onto the soil matrix (such as within low organic carbon content soils). Reaction of potassium permanganate with organic compounds produces manganese dioxide and either carbon dioxide or intermediate organic compounds. The compounds that can be oxidized by permanganate include alkenes, aromatics, PAHs, phenols, pesticides, and organic acids. The optimum pH range is 7 to 8, but is effective over a wide range (Siegrist, 1998).

Recent studies have shown that encrustation of magnesium oxides can and do form around the injection site and on the soil matrix. This reduces the effectiveness of the oxidation techniques. Therefore, chemical oxidation is not retained for further evaluation.

8.2.11 In-Situ Thermal Treatment

Steam injection or electrical resistance heating is used to increase the volatilization rate of VOCs in in-situ soils to facilitate extraction.

The steam injection technology uses steam injected below the contaminated zone to heat up contaminated soil. The heating enhances the release of contaminants from the soil matrix. Some VOCs and SVOCs are stripped from the contaminated zone and brought to the surface through soil vapor extraction, followed by vapor phase treatment. This technology is generally not effective at site where hydraulic conductivities are less than 10^{-5} centimeters per second (cm/s).

Electrical resistance heating uses an electrical current to heat less permeable soils such as clays and fine-grained sediments, creating an in-situ source of steam to volatilize contaminants from the subsurface followed by removal of the contaminants using soil vapor extraction (SVE).

Electrodes are placed directly into the less permeable soil matrix and activated so that electrical current passes through the soil, creating a resistance which then heats the soil to the boiling point of water. As the temperature increases, dissolved contaminants partition to the vapor phase. Steam, created from boiling groundwater, acts as a carrier gas for stripping the VOCs from the soil and saturated zone.

As indicated above, steam injection or electrical resistance heating is used to increase the volatilization rate of VOCs in in-situ soils to facilitate extraction. Because steam injection is generally only effective at sites with aquifer hydraulic conductivities that are greater than 10^{-5} cm/s and the subject property has a heterogeneous hydraulic conductivity, the steam injection remedial action option is not retained for further evaluation. As indicated above, electrical resistance heating uses an electrical current to heat less permeable and mixed permeable soils such as silts and clays, such that this remedial alternative is retained for further evaluation.

8.2.12 Ex-Situ Thermal Treatment

Under this remedial alternative, impacted soils are excavated, treated at the excavation site, and re-deposited into the excavation. An example of this approach is known as "Indirect Heat Volatilization Steam Injection™" (IHV), which is a portable, self-contained, "closed loop" emission free cleaning/stripping/ flushing/ thermal extraction system. The IHV system uses pressurized steam to remove VOCs from the excavated soils. Since steam is the heat source, there is no direct flame in contact with the contaminants, such that the possibility for combustion or incineration does not exist as it does with conventional direct fired technologies. This feature facilitates permitting of this remedial alternative.

This remedial action option has been cost-effectively implemented at similar sites with similar contaminants, and is therefore retained for further evaluation.

Refer to Table 6 for the Summary of Retained Remedial Technologies. The technologies are compared relative to the identified criteria.

8.3 Evaluation of Remedial Action Alternatives

The remedial action options identified by the initial screening are evaluated based on the requirements specified in NR 722 WAC listed below.

The technical feasibility of appropriate remedial action options are evaluated using the following criteria:

1. Long-term effectiveness. The long-term effectiveness of appropriate remedial action options, taking into account the following:
   - The degree to which the toxicity, mobility and volume of the contamination is expected to be reduced.
   - The degree to which a remedial action option, if implemented, will protect public health, safety and welfare and the environment over time.
2. Short-term effectiveness. The short-term effectiveness of appropriate remedial action options, taking into account any adverse impacts on public health, safety and welfare and the environment that may be posed during the construction and implementation period until case closure under ch. NR 726.
3. Implementability. The implementability of appropriate remedial action options, taking into account the technical and administrative feasibility of construction and implementation of the remedial action options.
4. Restoration time frame. The expected time frame needed to achieve the necessary restoration.

The economic feasibility of each appropriate remedial action option is evaluated, using the following criteria: capital costs, initial costs, annual operation and maintenance costs, total present worth of the costs, and costs associated with potential future liability. The economic feasibility of a remedial action option is determined by comparing the costs to what is expected to be technically achieved by that option, taking into account long-term effectiveness, short-term effectiveness, implementability, and the time until restoration is achieved for each option.

8.4 Recommended Remedial Action Option

Based on the results of the evaluation of applicable remedial action options conducted herein, STS recommends a combination of the remedial options to achieve the objectives of source control and eventual groundwater standard achievement. The justification for this recommendation is discussed in the following paragraphs. A summary of the recommended remedial strategy is presented in Table 7.

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Area 1 Direct Contact Pathway

Off-site landfill disposal of the soils within Area 1 at G-1 and GP-23 to GP-101 where soil exceeds 100,000 ug/kg is recommended for direct contact protection and contaminant mass source control, amounting to 2,700 cubic yards (cyd). This would immediately remove the bulk of the source of PCE contamination in the vadose zone. Coupled with groundwater action, the threat of direct contact exposure and off-site migration would be greatly reduced. The areas for hot spot removal are depicted on Figure 15.

Some of the former building foundation (concrete slab) will need to be removed to gain access to one of the areas of highest impacts under the former building floor. The sanitary lateral existing in this area should be removed or capped.

Areas 1, 3 and 4 Unsaturated Zone Soil to Groundwater Pathway

The remainder of the areas within Areas 1, 3 and 4, with PCE concentrations above 1000 ug/kg would be addressed with an Engineering Control – Infiltration Control Barrier. An infiltration control barrier addresses infiltration through the contaminant mass, thereby offering increased groundwater protection. The area proposed for the infiltration barrier is depicted on Figure 15.

The barrier would be constructed of a low permeable soil approximately two feet thick at the property boundaries with a 20% slope to the top of the cap. Drainage swales would be constructed along the north and south property lines to direct surface water run off toward the east side of the property. Prior to placement of the infiltration barrier, the remnants of the former building floor slab would be removed and disposed and the existing vegetation stripped.

Area 1 Impacted Saturated Zone Soil to Groundwater Pathway and Dissolved Groundwater Contamination

Groundwater that has impacts more than 2000 times the ES should be treated, at a minimum, to reduce the contaminant load the groundwater which will limit the potential for off-site migration. At the current time, off-site migration does not appear to be occurring, but in all likelihood will occur as the contaminants are released from the soil and migrate downward through the groundwater. Enhanced Bioremediation would provide a cost effective method to treat the bulk of the contaminant mass in the groundwater in Area 1. Additional groundwater monitoring prior to implementation of the remedial action may be necessary to evaluate the groundwater for electron

donors and the current concentrations of contaminants to establish the correct formulation for effective treatment. The area to be treated would be limited to the area from MW-20 on the north side to B-3 on the south side to MW-5 on the east side and Sheridan Road on the west side.

The area to be treated is shown on Figure 16.

8.4.1 Remedial Costs Estimate

The following presents our estimate of probable costs for completing the selected remedial scenario. Costs for preparing a Remedial Design Report to comply with the requirements of NR 724 WAC and for groundwater natural attenuation monitoring after treatment and capping are included in the cost estimate below. The following identified the expected cost for the scenario described for contaminant management at C&L Industrial Cleaners.

Activity	Estimated Consulting Fees	Estimated Subcontractor Costs
Remedial Design Report	$10,000-$12,000	N/A
Bid Documents and Bidding	$12,000-$15,000	N/A
Source Removal (150 cyd)	$8,000	$20,000-$30,000
Direct Contact Barrier (Cap) (2,700 cyd)	$8,000-$10,000	$75,000-$125,000
In-situ Enhanced Bioremediation (includes pre-implementation groundwater monitoring)	$15,000-$20,000	$40,000-$70.000
Remediation Totals	$53,000-$65,000	$135,000-$225,000
Post-Remedial Activity		
Groundwater Natural Monitoring (3 years-quarterly)	$15,000	$35,000

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9.0 GENERAL QUALIFICATIONS

The purpose of this environmental assessment is to investigate possible soil and/or groundwater impacts, and related liabilities, associated with past and current property uses. The extent of the investigation is limited to the area and location described in this report.

The scope of the investigation described in this report was selected based upon available information regarding site operations, conditions, and test data. This information was obtained, in part, from the client, outside agents and third parties, including utility locations and record drawings. STS has assumed this information to be correct and complete. This report reflects the conditions, operations, and practices as observed on the date of the site investigation. Changes or modifications to these conditions, operations, and practices made after the site investigation have the potential to affect the conclusions of this report, and should therefore be brought to the attention of STS when they become known by the client.

STS has prepared this report at the request of its client. STS assumes responsibility for the accuracy of the report's content, subject to what is stated elsewhere in this section. STS recommends the report be used only for the purpose intended by the client and STS, as stated in the report. STS disclaims responsibility for the application or interpretation of the results by anyone other than the client. Reliance on the contents of this report by anyone other than the client, without the prior expressed written consent of STS, is done at the sole risk of the user

The results, conclusions, and recommendations presented in this report are based on the data obtained from a limited number of soil boring locations and at the soil sample and groundwater sample locations as indicated in this report. Variations in conditions can occur between these boring, soil sample, and groundwater sample locations. In addition, seasonal and annual fluctuations of the groundwater table, which may influence the distribution of contaminants, can occur. Actual groundwater flow rates may vary from those estimated in this report based on soil conditions.

All opinions of cost are based on estimates from our experience with similar projects, subject to the limitations and accuracy identified in this report. Actual costs may vary depending on site conditions, weather, monitoring requirements, and changes in regulatory standards.

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This report has been prepared in conformance with the care and skill ordinarily exercised by reputable members of the professional engineering community practicing under similar conditions at the same time in the same or similar locality. No other warranty of any kind, expressed or implied, at common law or created by statute, is extended, made, or intended.

Compliance with the recommendations and/or suggestions contained in this report in no way assures the elimination of hazards or the fulfillment of a property owner's obligation under local, state, or federal laws or any modifications or changes thereto. It is the responsibility of the property owner to notify authorities of any conditions that are in violation of current regulatory standards, laws or regulations. Your decision regarding the regulatory agency you notify and the selection of the cleanup program you enter, if appropriate, may affect your ability to seek cost recovery from responsible parties or to benefit from the proceeds of insurance policies. We recommend you contact legal counsel to obtain professional legal advice related to reporting.

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ATTACHMENTS

Tables

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Appendices

TABLES

Table 1
Groundwater Measurements and Elevations
STS Project No. 200603327

Well Number	B-3		B-5		B-6		B-7		B-12		B-16	
Ground Elevation (ft)	608.26		608.36		608.79		605.40		604.37		602.43	
Top of PVC Casing (TOC) Elevation (ft)	610.82		611.25		611.90		608.13		607.18		605.18	
Screen Length (ft)	10		10		10		10		10		10	
TOC to Bottom of Well (ft)[A]	17.65		17.77		17.45		18.00		17.05		18.11	
Date	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)
5/14/2001	7.97	602.85	7.78	603.47	8.38	603.52	4.89	603.24	5.94	601.24	7.69	599.49
12/11/2003	7.25	603.57	10.64	600.61	11.74	600.16	5.59	602.54	6.33	600.85	7.69	599.49
9/16/2004	10.75	600.07	11.27	599.98	11.90	600.00	7.85	600.28	9.82	597.36	11.75	595.43
11/8/2004	11.27	599.55	11.26	599.99	11.89	600.01	7.21	600.92	7.79	599.39	10.09	597.09
11/30/2004	11.17	599.65	11.07	600.18	11.66	600.24	6.70	601.43	7.47	599.71	9.69	597.49
8/14/2006	11.31	599.51	12.06	599.19	12.60	599.30	9.50	598.63	10.71	596.47	13.04	594.14
11/13-14/2006	9.52	601.30	8.93	602.32	9.51	602.39	5.25	602.88	5.86	601.32	7.57	599.61

Well Number	MW-1		MW-2		MW-3		MW-4		MW-5		MW-5P		MW-6	
Ground Elevation (ft)	607.34		608.45		602.80		608.35		608.47		608.47		607.52	
Top of PVC Casing (TOC) Elevation (ft)	609.91		611.00		605.33		610.17		610.44		610.47		609.50	
Screen Length (ft)	10		10		10		10		10		5		10	
TOC to Bottom of Well (ft)[A]	17.65		17.90		17.66		17.05		18.06		33.10		17.17	
Date	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)
5/14/2001	NI	--	NI	--	NI	--	NI	--	NI	--	NI	--	NI	--
12/11/2003	9.71	600.20	10.76	600.24	7.06	598.27	NI	--	NI	--	NI	--	NI	--
9/16/2004	9.83	600.08	10.97	600.03	9.28	596.05	NI	--	NI	--	NI	--	NI	--
11/8/2004	9.72	600.19	11.11	599.89	7.96	597.37	10.65	599.52	11.30	599.14	11.73	598.74	9.97	599.53
11/30/2004	9.50	600.41	10.96	600.04	7.57	597.76	10.52	599.65	10.70	599.74	11.55	598.92	9.08	600.42
8/14/2006	10.40	599.51	11.59	599.41	9.90	595.43	10.43	599.74	10.65	599.79	11.96	598.51	10.28	599.22
11/13-14/2006	7.60	602.31	8.79	602.21	5.12	600.21	9.00	601.17	9.18	601.26	10.24	600.23	6.80	602.70

Table 1
Groundwater Measurements and Elevations
STS Project No. 200603327

Well Number	MW-20		MW-21		MW-23		MW-24		MW-26	
Ground Elevation (ft)	607.95		607.39		608.03		608.43		603.61	
Top of PVC Casing (TOC) Elevation (ft)	607.57		606.93		607.54		611.31		606.53	
Screen Length (ft)	10		10		10		10		10	
TOC to Bottom of Well (ft)[A]	14.53		17.71		14.25		18.14		18.31	
Date	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)
6/14/2006	7.69	599.88	8.71	598.22	8.16	599.38	11.68	599.63	10.62	595.91
11/13-14/2006	6.48	601.09	7.51	599.42	6.49	601.05	9.55	601.76	5.49	601.04

Notes:

ft = feet

[A] = as measured inside well

NI = Not Installed

-- no elevation

All groundwater montioring well elevations were re-surveyed on 11/8/2004.

All water table elevations were calculated using the survey data from 11/8/2004.

Table 2
Soil Analytical Results - Detected VOCs (2001-2004)
Kenosha Brownfield Investigation - C&L Industrial Cleaners
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Sample Location/ Sample Number	Depth (feet bgs)	Benzene (µg/kg)	n-Butyl benzene (µg/kg)	sec-Butyl benzene (µg/kg)	cis-1,2-Dichloro ethylene (µg/kg)	Ethyl benzene (µg/kg)	Isopropyl Ether (µg/kg)	Naphthalene (µg/kg)	n-Propyl benzene (µg/kg)	p-Isopropyl toluene (µg/kg)	Tetrachloro ethylene (µg/kg)	Toluene (µg/kg)	trans-1,2-Dichloro ethylene (µg/kg)	Trichloro ethylene (µg/kg)	1,2,4-Trimethyl benzene (µg/kg)	1,3,5-Trimethyl benzene (µg/kg)	o-Xylene (µg/kg)	m- & p-Xylene (µg/kg)	Vinyl Chloride (µg/kg)
STS April 2001 Soil Probes																			
G-1 (CL-G1-SO3)	4-6'	<1000	<1000	<1000	<1000	<1000	<1220	<1000	<1000	<1000	**132,000**[A,C]	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
G-1 (CL-G1-SO4)	6-8'	<2000	<2000	<2000	<2000	<2000	<2410	<2000	<2000	<2000	**322,000**[A,C]	<2000	<2000	<2000	<2000	<2000	<2000	<2000	<2000
G-2 (CL-G2-SO3)	4-6'	<25	<25	<25	<25	<25	<25	<25	<25	<25	**94.4**[C]	<25	<25	<25	<25	<25	<25	<25	<25
G-2 (CL-G2-SO4)	6-8'	<25	<25	<25	<25	<25	<24	<25	<25	<25	**48.1**[C]	<25	<25	<25	<25	<25	<25	<25	<25
G-3 (CL-G3-SO3)	4-6'	<25	<25	<25	<25	<25	<23	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
G-3 (CL-G3-SO4)	6-8'	<25	<25	<25	<25	<25	<22	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
G-4 (CL-G4-SO3)	4-6'	<25	<25	<25	<25	<25	<24	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
G-4 (CL-G4-SO4)	6-8'	<25	<25	<25	<25	<25	<24	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
G-5 (CL-G5-SO1)	0-2'	<25	<25	<25	<25	<25	<22	334	<25	<25	**420**[C]	<25	<25	<25	<25	<25	<25	<25	<25
G-5 (CL-G5-SO3)	4-6'	<25	<25	70.1	<25	<25	<24	<25	<25	<25	**112**[C]	<25	<25	<25	<25	<25	<25	<25	<25
STS April 2001 Soil Borings																			
B-1 (CL-B01-SO2)	2.5-4.5'	<25	<25	<25	<25	<25	<23	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
B-1 (CL-B01-SO3)	5-7'	<25	<25	<25	<25	<25	<24	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
B-2 (CL-B02-SO1)	0-2'	<25	<25	<25	<25	<25	<24	<25	<25	<25	**4,130**[A,C]	<25	<25	**52.1**[C]	<25	<25	<25	<25	<25
B-2 (CL-B02-SO2)	2-4'	<25	<25	<25	**485**[C]	<25	<25	<25	<25	<25	<25	<25	32	<25	<25	<25	<25	<25	<25
GP-44	2-4'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
B-3 (CL-B03-SO3)	5-7'	<25	<25	<25	<25	<25	<24	<25	<25	<25	**59.4**[C]	<25	<25	<25	<25	<25	<25	<25	<25
B-4 (CL-B04-SO2)	2.5-4.5'	<25	<25	<25	<25	<25	<24	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
B-4 (CL-B04-SO4)	7.5-9.5'	<25	<25	<25	<25	<25	<24	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
B-5 (CL-B05-SO1)	0-2'	<25	174	121	<25	<25	<22	<25	<25	<25	**327**[C]	<25	<25	<25	45.2	<25	<25	34.1	<25
B-5 (CL-B05-SO2)	2.5-4.5'	<25	319	166	<25	<25	<23	828	<25	<25	<25	<25	<25	<25	64	<25	<25	<25	<25
B-6 (CL-B06-S01)	0-2'	<25	<25	<25	**361**[C]	<25	255	<25	<25	<25	**595**[C]	<25	31	**271**[A,C]	<25	<25	<25	<25	<25
B-6 (CL-B06-S02)	2.5-4.5'	<25	<25	<25	**10,800**[C]	65	<23	<25	<25	<25	**138**[C]	683	**399**[C]	**36.4**[C]	<25	<25	34.1	41.5	**221**[A,C]
B-7 (CL-B07-S02)	2.5-4.5'	<25	<25	<25	<25	<25	<23	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
B-9 (CL-B09-S03)	5-7'	<25	<25	<25	<25	<25	<24	<25	<25	<25	<25	<25	<25	<25	34.2	<25	<25	<25	<25
B-11 (CL-B11-S01)	0-2'	<25	<25	<25	<25	<25	<22	<25	<25	<25	**737**[C]	<25	<25	<25	<25	<25	<25	<25	<25
B-12 (CL-B12-SO3)	5-7'	<25	<25	<25	<25	<25	<24	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
B-15 (CL-B15-S03)	5-7'	<25	<25	<25	<25	<25	<27	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
B-16 (CL-B16-S03)	5-7'	<25	<25	<25	<25	<25	<27	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
B-17 (CL-B17-S02)	2.5-4.5'	<25	<25	<25	<25	<25	<27	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
B-17 (CL-B17-S03)	5-7'	<25	<25	<25	<25	<25	<27	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
STS April 2001 Test Pit Samples																			
CL-TP1-S03	5-6'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
CL-TP2-S03	5-6'	<25	<25	<25	<25	<25	<24	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
CL-TP3-S02	8-10'	<25	<25	<25	<25	<25	<24	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
CL-TP4-S04	5-7'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
CL-TP5-S04	4-6'	<25	<25	<25	<25	<25	<23	<25	<25	<25	**810.5**[C]	<25	<25	**84**[C]	<25	<25	<25	<25	<25
Non-Industrial RCL[A]		1,160	NE	NE	156,000	$1.56x10^6$	NE	313,000	NE	NE	1,230	$1.25x10^6$	313,000	160	782,000	782,000	$3.13x10^6$	$3.13x10^6$	42.6
Industrial RCL[B]		52,000	NE	NE	$1.02X10^7$	$1.02x10^8$	NE	$2.04x10^7$	NE	NE	55,000	$8.18x10^7$	$2.04x10^7$	7,150	$5.11x10^7$	$5.11x10^7$	$2.04x10^8$	$2.04x10^8$	1,910
Groundwater Pathway RCL[C]		5.8	NE	NE	110	6,600	NE	1,951	NE	NE	12	5,100	200	12	43,733	19,200	94,000	100,000	0.17

Table 2
Soil Analytical Results - Detected VOCs (2001-2004)
Kenosha Brownfield Investigation - C&L Industrial Cleaners
STS Project No. 200603327

Sample Location/ Sample Number	Depth (feet bgs)	Benzene (µg/kg)	n-Butyl benzene (µg/kg)	sec-Butyl benzene (µg/kg)	cis-1,2-Dichloro ethylene (µg/kg)	Ethyl benzene (µg/kg)	Isopropyl Ether (µg/kg)	Naphthalene (µg/kg)	n-Propyl benzene (µg/kg)	p-Isopropyl toluene (µg/kg)	Tetrachloro ethylene (µg/kg)	Toluene (µg/kg)	trans-1,2-Dichloro ethylene (µg/kg)	Trichloro ethylene (µg/kg)	1,2,4-Trimethyl benzene (µg/kg)	1,3,5-Trimethyl benzene (µg/kg)	o-Xylene (µg/kg)	m- & p-Xylene (µg/kg)	Vinyl Chloride (µg/kg)
TNA December 2003 Soil Probes																			
GP-1 (2003TN01S13)	11-12'	<25	<25	<25	<25	<25	<24	<25	<25	<25	**50,000[A,C]**	<25	<24	<25	<25	<25	<25	<25	<25
GP-5 (2003TN01S08)	11-12'	<25	<25	<25	<25	<25	<24	<25	<25	<25	<25	<25	<24	<25	<25	<25	<25	<25	<25
GP-6 (2003TN01S06)	9'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
GP-7 (2003TN01S10)	10-12'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
GP-8 (2003TN01S07)	10-12'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
GP-9 (2003TN01S04)	8-9'	<25	<25	<25	**448[C]**	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
GP-10 (2003TN01S03)	8-9'	<25	<25	<25	**768[C]**	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
GP-11 (2003TN01S02)	9-10'	<25	<25	<25	**1,071.8[C]**	<25	<25	<25	<25	<25	<25	<25	<25	**504[A,C]**	<25	<25	<25	<25	<25
GP-12 (2003TN01S01)	9-10'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
GP-13 (2003TN01S05)	11-12'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
TNA December 2003 Monitoring Wells		<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
MW-1 (2003TN01S16)	4-6	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
MW-1 (2003 TN01S17)	12-14	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
MW-2 (2003TN01S18)	6-8	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
MW-2 (2003TN01S19)	12-14	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
MW-3 92003TN01S14)	6-8	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
MW-3 (2003TN01S15)	12-14	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
STS September 2004 Soil Probes																			
GP-20	0-2.5'	<25	<25	<25	<25	<25	<25	<25	<25	<25	**1,700[AC]**	<25	<25	<25	<25	<25	<25	<50	<25
GP-20	4-6'	<25	<25	<25	<25	<25	<25	<25	<25	<25	**1,800[AC]**	<25	<25	<25	<25	<25	<25	<50	<25
GP-21	0.5-1.5'	<50	<50	<50	**1,800[C]**	<50	<50	<50	<50	<50	**12,000[AC]**	<50	**680[C]**	**2,880[AC]**	<50	<50	<50	<100	<50
GP-21	4-6'	<.25	<25	<25	<25	<25	<25	<25	<25	<25	**490[C]**	<25	<25	<25	<25	<25	<25	<50	<25
GP-22	0.5-2'	<100	<100	<100	**230 [QC]**	<100	<100	<100	<100	<100	**16,000[AC]**	<100	<100	**2,100[AC]**	<100	<100	<100	<200	<100
GP-22	4-6'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	**350[C]**	<25	<25	<25	<25	<25	<25	<50	<25
GP-23	0.5-2'	<25	<25	<25	<25	<25	<25	<25	<25	<25	**8,900[AC]**	<25	<25	<25	<25	<25	<25	<50	<25
GP-23	4-6'	<1,000	<25	<25	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	**320,000[ABC]**	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<2,000	<1,000
GP-24	0.5-2'	<25	<25	<25	<25	<25	<.25	320	<25	<25	**2,400[AC]**	40[Q]	<25	<25	34[Q]	<25	<25	<50	<25
GP-24	4-5'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	**79[C]**	<25	<25	<25	<25	<25	<25	<50	<25
GP-25	0.5-2'	<25	<25	<25	<25	<25	<25	<25	<25	<25	**1,900[AC]**	<25	<25	<25	<25	<25	<25	<50	<25
GP-25	4-5.3'	<62	<25	<25	<62	<62	<62	<62	<62	<62	**11,000[AC]**	<62	<62	<62	<62	<62	<62	<120	<62
GP-26	4-6'	<25	<25	<25	<25	<25	<25	<25	<25	<25	**1,500[AC]**	<25	<25	<25	<25	<25	<25	<50	<25
GP-27	0.5-2'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	**690[C]**	<25	<25	<25	<25	<25	<25	<50	<25
GP-27	4-6'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	**200[C]**	<25	<25	<25	<25	<25	<25	<50	<25
GP-28	0.5-2'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	**71[C]**	<25	<25	<25	<25	<25	<25	<50	<25
GP-28	4-5.3'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	**55[QC]**	<25	<25	<25	<25	<25	<25	<50	<25
GP-29	0-5.2'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	**350[C]**	<25	<25	<25	31[Q]	55[Q]	39[Q]	94[Q]	<25
GP-29	4-6'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-30	0.5-2'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	**400[C]**	<25	<25	<25	<25	<25	<25	<50	<25
GP-30	4-6'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	**200[C]**	<25	<25	<25	<25	<25	<25	<50	<25
Non-Industrial RCL[A]		1,160	NE	NE	156,000	$1.56x10^6$	NE	313,000	NE	NE	1,230	$1.25x10^6$	313,000	160	782,000	782,000	$3.13x10^6$	$3.13x10^6$	42.6
Industrial RCL[B]		52,000	NE	NE	$1.02X10^7$	$1.02x10^8$	NE	$2.04x10^7$	NE	NE	55,000	$8.18x10^7$	$2.04x10^7$	7,150	$5.11x10^7$	$5.11x10^7$	$2.04x10^8$	$2.04x10^8$	1,910
Groundwater Pathway RCL[C]		5.8	NE	NE	110	6,600	NE	1,951	NE	NE	12	5,100	200	12	43,733	19,200	94,000	100,000	0.17

Table 2
Soil Analytical Results - Detected VOCs (2001-2004)
Kenosha Brownfield Investigation - C&L Industrial Cleaners
STS Project No. 200603327

Sample Location/ Sample Number	Depth (feet bgs)	Benzene (µg/kg)	n-Butyl benzene (µg/kg)	sec-Butyl benzene (µg/kg)	cis-1,2-Dichloro ethylene (µg/kg)	Ethyl benzene (µg/kg)	Isopropyl Ether (µg/kg)	Naphthalene (µg/kg)	n-Propyl benzene (µg/kg)	p-Isopropyl toluene (µg/kg)	Tetrachloro ethylene (µg/kg)	Toluene (µg/kg)	trans-1,2-Dichloro ethylene (µg/kg)	Trichloro ethylene (µg/kg)	1,2,4-Trimethyl benzene (µg/kg)	1,3,5-Trimethyl benzene (µg/kg)	o-Xylene (µg/kg)	m- & p-Xylene (µg/kg)	Vinyl Chloride (µg/kg)
GP-31	0.5-2'	**96**^{C}	<25	<25	<25	**57**^{Q}	<.25	**280**	**28**^{Q}	**66**^{Q}	**170**^{C}	830	<25	<25	550	490	430	760	<25
GP-31	4-5'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-32	0.5-1.7'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-32	4-6'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-33	0.5-2'	<62	<62	<62	<62	<62	<62	<62	<62	<62	**14,000**^{AC}	<62	<62	**280**^{AC}	<62	<62	<62	<120	<62
GP-33	4-5'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-34	0.5-2'	<50	<25	<25	<50	<50	<50	<50	<50	<50	**7,800**^{AC}	<50	<50	<50	<50	<50	<50	<100	<50
GP-34	4-6'	<25	<25	<25	<25	<25	<25	<25	<25	<25	**650**^{C}	<25	<25	**190**^{AC}	<25	<25	<25	<50	<25
GP-35	0.5-2'	<25	<25	<25	<25	<25	<.25	**59**^{Q}	<25	<25	**280**^{C}	**52**^{Q}	<25	<25	**38**^{Q}	<25	**28**^{Q}	<50	<25
GP-35	4-6'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-36	0.5-2'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<50	<25
GP-36	4-6'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	**34**^{QAC}	<25	<25	<25	<50	<25
GP-37	0.5-2'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	**300**^{C}	<25	<25	<25	<25	<25	<25	<50	<25
GP-37	4-6'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-38	0.5-2'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	**640**^{C}	**38**^{Q}	<25	<25	<25	<25	<25	<50	<25
GP-38	4.5-6'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-39	0.5-2'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	**170**^{C}	<25	<25	<25	<25	<25	<25	<50	<25
GP-39	4-6'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-40	0.5-2'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-40	4-6'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-41	0.5-2'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-41	4-5'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-42	0.5-2'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-42	4-6'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-43	0.5-2'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	**140**^{C}	<25	<25	<25	<25	<25	<25	<50	<25
GP-43	4-6'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-44	0.5-2'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
B-3 (CL-B03-SO2)	2-4'	<25	<25	<25	<25	<25	<23	<25	<25	<25	**120**^{A,C}	<25	<25	<25	<25	<25	<25	<25	<25
GP-45	0.5-2'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-45	2.5-4'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-46	0.5-2'	<25	<25	<25	**52**^{Q}	<25	<25	<25	<25	<25	**1,200**^{AC}	<25	<25	**120**^{C}	<25	<25	<25	<50	<25
GP-47	0.5-2'	<25	<25	<25	<25	<25	<25	130	<25	<25	<25	150	<25	<25	140	**52**^{Q}	92	220	<25
GP-47	4-6'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-48	0.5-2'	<25	<25	<25	**570**^{C}	<25	<.25	<25	<25	<25	**580**^{C}	<25	<25	**210**^{AC}	<25	<25	<25	<50	<25
GP-48	2.5-4'	<25	<25	<25	<25	<25	<.25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
STS November 2004 Monitoring Wells																			
MW-4	4-5.5'	<25	<25	<25	<25	<25	<25	<25	<25	<25	**11,000**^{AC}	<25	<25	<25	<25	<25	<25	<50	<25
	14-15'	<25	<25	<25	<25	<25	<25	<25	<25	<25	**930**^{C}	<25	<25	<25	<25	<25	<25	<50	<25
MW-5	4-5.5'	<250	<250	<250	<250	<250	<250	<250	<250	<250	**69,000**^{ABC}	<250	<250	<250	<250	<250	<250	<500	<250
	14-15'	<25	<25	<25	<25	<25	<25	<25	<25	<25	**49**^{C}	<25	<25	<25	<25	<25	<25	<50	<25
MW-5P	18-20'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
	28-30'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
MW-6	4-6'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
	14-15'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
Non-Industrial RCL^{A}		1,160	NE	NE	156,000	1.56x10^{6}	NE	313,000	NE	NE	1,230	1.25x10^{6}	313,000	160	782,000	782,000	3.13x10^{6}	3.13x10^{6}	42.6
Industrial RCL^{B}		52,000	NE	NE	1.02X10^{7}	1.02x10^{8}	NE	2.04x10^{7}	NE	NE	55,000	8.18x10^{7}	2.04x10^{7}	7,150	5.11x10^{7}	5.11x10^{7}	2.04x10^{8}	2.04x10^{8}	1,910
Groundwater Pathway RCL^{C}		5.8	NE	NE	110	6,600	NE	1,951	NE	NE	12	5,100	200	12	43,733	19,200	94,000	100,000	0.17

Table 2 (continued)
Soil Analytical Results - Detected VOCs (2006)
Kenosha Brownfield Investigation - C&L Industrial Cleaners
STS Project No. 200603327

Sample Location/ Sample Number	Depth (feet bgs)	Benzene (ug/kg)	n-Butyl benzene (ug/kg)	sec-Butyl benzene (ug/kg)	cis-1,2-Dichloro ethylene (ug/kg)	1,4-Dichloro-benzene (ug/kg)	Ethyl benzene (ug/kg)	Isopropyl benzene (ug/kg)	Naphthalene (ug/kg)	n-propyl benzene (ug/kg)	p-isopropyl toluene (ug/kg)	Tetrachlor o ethlene (ug/kg)	Toluene (ug/kg)	trans-1,2-Dichloro ethene (ug/kg)	Trichloro ethlene (ug/kg)	1,2,4-Trimethyl benzene (ug/kg)	1,3,5-Trimethyl benzene (ug/kg)	o-Xylene (ug/kg)	m- & p-Xylene (ug/kg)	Vinyl Chloride (ug/kg)
STS 2006 Soil Probe and Monitoring Wells																				
GP-101	1-2'	<2,100	<2,100	<2,100	<2,100	<2100	<2,100	<2,100	<2,100	<2,100	<2,100	**330,000** ABC	<2,100	<2,100	**3,200** ACC	<2,100	<2,100	<2,100	<4,100	<2100
GP-101	6-7'	<110	<110	<110	<110	<110	<110	<110	<110	<110	<110	**19,000** AC	<110	<110	<110	<110	<110	<110	<210	<110
GP-101	16-14'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	**32Q**	<25	<25	<50	<25
GP-102	1-2'	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	**35,000** AC	<200	<200	**450** AC	<200	<200	<200	<400	<200
GP-102	6-7'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	**3,600** AC	<25	<25	<25	<25	<25	<25	<50	<25
GP-102	16-17'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-103	1-2'	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	**280** C	<27	<27	<27	<27	<27	<27	<54	<27
GP-103	6-7'	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	**22,000** AC	<120	<120	<120	<120	<120	<120	<250	<120
GP-103	16-17'	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	**29,000** AC	<200	<200	**430** ACC	<200	<200	<200	<400	<200
GP-104	1-2'	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**20,000** AC	<100	<100	<100	<100	<100	<100	<200	<100
GP-104	6-7'	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	**27,000** AC	<200	<200	<200	<200	<200	<200	<400	<200
GP-104	16-17'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	**3,000** AC	<25	<25	<25	<25	<25	<25	<50	<25
GP-105	1-2'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	**4,700** AC	<25	<25	<25	<25	<25	<25	<50	<25
GP-105	6-7'	<310	<310	<310	<310	<310	<310	<310	<310	<310	<310	**52,000** AC	<310	<310	<310	<310	<310	<310	<620	<310
GP-105	16-17'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	**210** C	<25	<25	<25	<25	<25	<25	<50	<25
GP-106	1-2'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	**3,400** AC	<25	<25	<25	<25	<25	<25	<50	<25
GP-106	6-7'	<28	<28	<28	<28	<28	<28	<28	<28	<28	<28	**2,400** AC	<28	<28	<28	<28	<28	<28	<57	<28
GP-106	16-17'	<510	<510	<510	<510	<510	<510	<510	<510	<510	<510	**96,000** AC	<510	<510	**1,300** ACC	<510	<510	<510	<1,000	<510
GP-107	1-2'	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	**69** QC	<30	<30	<30	<30	<30	<30	<60	<30
GP-107	6-7'	<110	<110	<110	<110	<110	<110	<110	<110	<110	<110	**16,000** AC	<110	<110	<110	<110	<110	<110	<220	<110
GP-107	16-17'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	**1,100** C	<25	<25	**110** C	<25	<25	<25	<50	<25
GP-108	1-2'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	**310** C	<25	<25	<25	<25	<25	<25	<50	<25
GP-108	6-7'	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	**31,000** AC	<200	<200	<200	<200	<200	<200	<400	<200
GP-108	16-17'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-109	1-2'	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	**150** C	<26	<26	<26	<26	<26	<26	<52	<26
GP-109	6-7'	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**18,000** AC	<100	<100	<100	<100	<100	<100	<200	<100
GP-109	16-17'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-110	1-2'	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<52	<26
GP-110	6-7'	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	**1,300** AC	<26	<26	<26	<26	<26	<26	<52	<26
GP-110	16-17'	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<52	<26
GP-111	1-2'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	**130** C	<25	<25	<25	<25	<25	<25	<50	<25
GP-111	6-7'	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	**5,500** AC	<26	<26	<26	<26	<26	<26	<53	<26
GP-111	16-17'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-301	1-2'	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	**43,000** AC	<120	<120	**780** AC	<120	<120	<120	<250	<120
GP-301	7-8'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP302	1-2'	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<52	<26
GP-302	7-8'	<25	<25	<25	48	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP303	1-2'	<130	<130	<130	<130	<130	<130	<130	<130	<130	<130	**20,000** AC	<130	<130	**170** AC	<130	<130	<130	<260	<130
GP-303	7-8'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-401	1-2'	**26** C	<25	<25	**1,700** C	<25	<25	<25	79	<25	<25	**3,500** AC	150	39	**380** AC	<25	<25	69	110	<25
GP-401	7-8'	<25	<25	<25	**130** C	<25	<25	<25	<25	<25	<25	**890** C	<25	<25	**230** AC	<25	<25	<25	<50	<25
GP-402	1-2'	<27	<27	32	53	<27	1,100	32	<27	42	56	**890** C	<27	<27	**250** AC	160	160	170	1,700	<27
GP-402	8-9'	<25	<25	<25	68 Q	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-403	1-2'	<25	<25	<25	42 Q	<25	<25	<25	35 Q	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-403	7-8'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-404	1-2'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	**1,000** C	<25	<25	**47** C	<25	<25	<25	<50	<25
GP-404	7-8'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
Non-Industrial RCL[A]		1,160	–	–	156,000	2,660	$1.56x10^6$	–	313,000	–	–	1,230	$1.25x10^6$	313,000	160	782,000	782,000	$3.13x10^6$	$3.13x10^6$	42.6
Industrial RCL[B]		52,000	–	–	$1.02x10^7$	119,000	$1.02x10^8$	–	$2.04x10^7$	–	–	55,000	$8.18x10^7$	$2.04x10^7$	7,150	$5.11x10^7$	$5.11x10^7$	$2.04x10^8$	$2.04x10^8$	1,910
Groundwater Pathway RCL[C]		5.2	–	–	100	580	6,600	–	1,951	–	–	12	5,100	200	12	43,733	19,200	94,000	100,000	0.17

Table 2 (continued)
Soil Analytical Results - Detected VOCs (2006)
Kenosha Brownfield Investigation - C&L Industrial Cleaners
STS Project No. 200603327

Sample Location/ Sample Number	Depth (feet bgs)	Benzene (ug/kg)	n-Butyl benzene (ug/kg)	sec-Butyl benzene (ug/kg)	cis-1,2-Dichloro ethylene (ug/kg)	1,4-Dichloro-benzene (ug/kg)	Ethyl benzene (ug/kg)	Isopropyl benzene (ug/kg)	Naphthalene (ug/kg)	n-propyl benzene (ug/kg)	p-isopropyl toluene (ug/kg)	Tetrachlor o ethlene (ug/kg)	Toluene (ug/kg)	trans-1,2-Dichloro ethene (ug/kg)	Trichloro ethlene (ug/kg)	1,2,4-Trimethyl benzene (ug/kg)	1,3,5-Trimethyl benzene (ug/kg)	o-Xylene (ug/kg)	m- & p-Xylene (ug/kg)	Vinyl Chloride (ug/kg)
STS 2006 Soil Probe and Monitoring Wells																				
GP-601	1-2'	<28	<28	<28	<28	<28	<28	<28	<28	<28	<28	**110** C	<28	<28	<28	<28	<28	<28	<56	<28
GP-601	7-8'	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
GP-602	1-2'	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<52	<26
GP-602	7-8'	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<52	<26
MW-20	1-2'	<25	<40	<25	<25	<25	<25	<25	<25	<25	<25	**1800** AC	<25	<25	<25	<25	<25	<25	<50	<25
MW-20	6-7'	<200	<320	<200	<200	<200	<200	<200	<200	<200	<200	**89000** ABC	<200	<200	<200	<200	<200	<200	<400	<200
MW-20	14-15'	<25	<40	<25	<25	<25	<25	<25	<25	<25	<25	**770** C	<25	<25	<25	<25	<25	<25	<50	<25
MW-21	2-3'	**40** QC	<40	<25	<25	77	<25	<25	44 Q	<25	<25	<25	<25	<25	<25	41 C	<25	<25	<50	<25
MW-21	6-7'	<25	<40	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
MW-21	17-18'	<25	<40	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
MW-23	1-2'	<25	<40	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
MW-23	6-7'	<26	<42	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<52	<26
MW-23	14-15'	<25	<40	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
MW-24	1-2'	<25	<40	<25	<25	<25	83 C	<25	140	66 Q	31 Q	**770** C	76	<25	<25	440	160	100	320	<25
MW-24	6-7'	<25	<40	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
MW-24	14-15'	<27	<43	<27	<27	<27	<27	<27	<27	<27	<27	**140** C	<27	<27	<27	<27	<27	<27	<53	<27
MW-26	1-2'	<27	<43	<27	<27	<27	<27	<27	<27	<27	<27	**52** CQ	<27	<27	<27	<27	<27	<27	<54	<27
MW-26	6-7'	<25	<40	<25	**360** C	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
MW-26	14-15'	<25	<40	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25
Non-Industrial RCL A		1,160	–	–	156,000	2,660	$1.56x10^6$	–	313,000	–	–	1,230	$1.25x10^6$	313,000	160	782,000	782,000	$3.13x10^6$	$3.13x10^6$	42.6
Industrial RCL B		52,000	–	–	$1.02x10^7$	119,000	$1.02x10^8$	–	$2.04x10^7$	–	–	55,000	$8.18x10^7$	$2.04x10^7$	7,150	$5.11x10^7$	$5.11x10^7$	$2.04x10^8$	$2.04x10^8$	1,910
Groundwater Pathway RCL C		5.2	–	–	100	580	6,600	–	1,951	–	–	12	5,100	200	**12**	43,733	19,200	94,000	100,000	0.17

Notes: VOCs = Volatile Organic Compounds. Standard font = Detected, no exceedances. – = Not Established, human health criteria not available on USEPA web page.
RCL = Residual Contaminant Level. <25 = Not detected at the detection limit shown.
A = Generic direct contact RCL for non industrial site calculated from USEPA web page using WDNR default values and site specific TOC on 9-19-06. Exceedances are **bold**.
B = Generic direct contact RCL for industrial site calculated from USEPA web page using WDNR default values and site specific TOC on 9-18-06. Exceedances are **bold**.
C = Generic RCL for soil to groundwater risk path calculated from USEPA web page using WDNR default values and site specific TOC on 9-18-06. Exceedances are **bold**.
Note: Sample depth for TN & A probe samples were taken from the bore logs-not the TN & A produced tables.

TABLE 3
Summary Groundwater Analytical Results - Detected VOCs
Former C&L Industrial Cleaners - Kenosha, Wisconsin
STS Project No. 200603327

Sample Location	Sample Date	Benzene µg/L	Dichloro-difluoro-methane µg/L	cis-1,2-Dichloro-ethene µg/L	trans-1,2-Dichloro-ethene µg/L	1,1-Dichloro-ethylene µg/L	1,1-Dichloro propene µg/L	Tetrachloro-ethene µg/L	Trichloro-ethene µg/L	1,2,4-Trimethyl benzene µg/L	1,3,5-Trimethyl benzene µg/L	Vinyl Chloride µg/L	Groundwater Elevation (feet msl)
		Top of Well Screen In Feet MSL: 603.07					**Length of Well Screen: 10 ft.**						
B-3	5-14-01	<0.15	<0.15	0.524	<0.15	<0.15	<0.25	*3.41* A	0.486	<0.1	<0.15	<0.12	602.85
	12-12-03	<0.1	<0.1	*19.4* A	<0.1	<0.1	<0.2	**56.5** B	*1.39* A	<0.15	<0.15	<0.1	603.57
	9-16-04	<0.15	<0.27	*28* A	<0.21	<0.27	<0.19	**62** B	*3.3* A	<0.21	<0.11	**0.71** B	600.07
	12-1-04	<0.41	<0.99	*28* A	<0.89	<0.57	<0.75	**57** B	*2.1* A	<0.97	<0.83	**1.7** B	599.65
	8-30-06	<0.41	<0.99	*29* A	<0.89	<0.57	<0.75	**37** B	*2.2* A	<0.9	<0.83	**0.32** QB	599.51
	11/13/2006	<0.41	<0.99	*14* A	<0.89	<0.57	<0.75	**17** B	**7.5** B	<0.97	<0.83	**0.21** QB	601.30
B-3 Dup	9-16-04	<0.15	<0.27	*29* A	<0.21	<0.27	<0.19	**64** B	*3.4* A	<0.24	<0.11	**0.73** B	
	12-1-04	<0.41	<0.99	*27* A	<0.89	<0.57	<0.75	**57** B	*2.0* A	<0.97	<0.83	**1.6** B	
	8-30-2006	<0.41	<0.99	*28* A	<0.89	<0.57	<0.75	**38** B	*2.2* A	<0.97	<0.83	**0.26** QB	
	11/13/2006	<0.41	<0.99	*13* A	<0.89	<0.57	<0.75	**16** B	**11** B	<0.97	<0.83	<0.18	
		Top of Well Screen In Feet MSL: 603.48					**Length of Well Screen: 10 ft.**						
B-5	5-14-01	<0.15	<0.15	1.28	<0.15	<0.15	<0.25	<0.15	<0.1	<0.1	<0.15	**1.16** B	603.47
	12-12-03	<0.1	<0.1	0.252 Q	<0.1	<0.1	<0.2	<0.1	<0.2	<0.15	<0.15	**0.272** QZB	600.61
	9-16-04	<0.15	<0.27	<0.23	<0.21	<0.27	<0.19	<0.33	<0.18	<0.24	<0.11	**0.23** B	599.98
	12-1-04	<0.41	<0.99	<0.83	<0.89	<0.57	<0.75	<0.45	<0.48	<0.97	<0.83	**0.37** QB	600.18
	8/30/06	<0.41	<0.99	<0.83	<0.89	<0.57	<0.75	<0.45	<0.48	<0.97	<0.83	**0.48** QB	599.19
	11/13/06	<0.41	<0.99	<0.83	<0.89	<0.57	<0.75	<0.45	<0.48	<0.97	<0.83	**0.68** B	602.32
		Top of Well Screen In Feet MSL: 604.45					**Length of Well Screen: 10 ft.**						
B-6	5-14-01	0.375 Q	<0.15	6.65	0.415 Q	<0.15	<0.25	<0.15	<0.1	<0.4	<0.15	**4.51** B	603.52
	12-12-03	0.319 QZ	<0.15	*14.2* ZA	0.751	<0.1	<0.2	<0.1	<0.2	<0.15	<0.15	**2.45** B	600.13
	9-16-04	0.45 Q	<0.27	*19* A	0.95	<0.27	<0.19	<0.33	<0.18	<0.24	<0.11	**2.3** B	600.00
	12-1-04	<0.41	<0.99	*20* A	1.1 Q	<0.57	<0.75	<0.45	<0.48	<0.97	<0.83	**2.3** B	600.24
	8-30-2006	<0.41	<0.99	*9.5* A	<0.89	<0.57	<0.75	<0.45	<0.48	<0.97	<0.83	**2.5** B	599.30
	11-13-06	<0.41	<0.99	6.7	<0.89	<0.57	<0.75	<0.45	*0.77* QA	<0.97	<0.83	**1.8** B	602.39
		Top of Well Screen In Feet MSL: 600.03					**Length of Well Screen: 10 ft.**						
B-7	5-14-01	0.216 Q	<0.15	<0.15	<0.15	<0.15	<0.25	<0.15	<0.1	<0.4	<0.15	<0.12	603.24
	12-11-03	<0.1	0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<0.15	<0.15	<0.1	602.54
	9-16-04	<0.15	<0.27	<0.23	<0.21	<0.27	<0.19	<0.33	<0.18	<0.24	<0.11	<0.18	600.28
	12-1-04	<0.41	<0.99	<0.83	<0.89	<0.57	<0.75	<0.45	0.48	<0.97	<0.83	0.18	601.43
	8-31-06	<0.41	<0.99	<0.83	<0.89	<0.57	<0.75	<0.45	<0.48	<0.97	<0.83	<0.18	598.63
PAL		*0.5*	200	*7*	*20*	*0.7*	NE	*0.5*	*0.5*	96	96	*0.02*	
ES		**5**	1000	**70**	**100**	**7**	NE	**5**	**5**	480	480	**0.2**	

TABLE 3
Summary Groundwater Analytical Results - Detected VOCs
Former C&L Industrial Cleaners - Kenosha, Wisconsin
STS Project No. 200603327

Sample Location	Sample Date	Benzene µg/L	Dichloro-difluoro-methane µg/L	cis-1,2-Dichloro-ethene µg/L	trans-1,2-Dichloro-ethene µg/L	1,1-Dichloro-ethylene µg/L	1,1-Dichloro propene µg/L	Tetrachloro-ethene µg/L	Trichloro-ethene µg/L	1,2,4-Trimethyl benzene µg/L	1,3,5-Trimethyl benzene µg/L	Vinyl Chloride µg/L	Groundwater Elevation (feet msl)
		Top of Well Screen in Feet MSL: 600.13					Length of Well Screen: 10 ft.						
B-12	5-14-01	<0.15	<0.15	**138** B	6.10	<0.15	<0.25	<0.15	<0.1	<0.1	<0.15	**10.3** B	601.24
	12-11-03	<0.1	<0.1	**152** ZB	7.43	<0.1	<0.2	<0.1	<0.2	<0.15	<0.15	**8.03** B	600.85
	9-16-04	<0.15	<0.25	**170** B	10	<0.25	<0.19	<0.13	<0.18	<0.11	<0.11	**7.7** B	597.36
	11-30-04	<0.11	<0.09	**160** B	11	<0.1	<0.25	<0.15	<0.18	<0.09	<0.09	**7.9** B	597.49
	8-31-06	<0.11	<0.09	**170** B	9.8	<0.25	<0.25	<0.15	<0.18	<0.09	<0.09	**11** B	596.47
	11-14-06	<0.11	<0.09	**83** B	5.9	<0.25	<0.25	<0.15	<0.18	<0.09	<0.09	**2.9** B	601.32
		Top of Well Screen in Feet MSL: 597.07					Length of Well Screen: 10 ft.						
B-16	5-14-01	<0.15	<0.15	<0.15	<0.15	<0.15	<0.25	<0.15	<0.1	<0.1	<0.15	<0.15	599.49
	12-11-03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<0.15	<0.15	<0.1	599.49
	9-16-04	<0.15	<0.25	<0.13	<0.13	<0.25	<0.19	<0.13	<0.18	<0.11	<0.11	<0.18	595.43
	11-30-04	<0.11	<0.09	<0.09	<0.09	<0.25	<0.25	<0.15	<0.18	<0.09	<0.09	<0.18	597.49
	8-31-06	<0.11	<0.09	<0.09	<0.09	<0.25	<0.25	<0.15	<0.18	<0.09	<0.09	<0.18	594.14
		Top of Well Screen in Feet MSL: 602.26					Length of Well Screen: 10 ft.						
MW-1	12-11-03	<0.1	0.186	**188** B	26.4 ZA	<0.1	0.413 Q	<0.1	<0.2	0.203 Q	<0.15	**3.33** B	600.20
Dup	12-11-03	<0.1	0.178 Q	**186** B	26.2 ZA	<0.1	0.326 Q	<0.1	<0.2	0.166 Q	<0.15	**3.11** B	
	9-16-04	<0.15	<0.25	**200** B	19	<0.25	<0.19	<0.13	<0.18	<0.11	<0.11	**3.3** B	600.08
	12-1-04	<0.11	<0.09	**180** B	18	<0.25	<0.25	<0.15	<0.18	<0.09	<0.09	**2.1** B	600.41
	8-30-06	<0.11	<0.09	**190** B	16	<0.25	<0.25	<0.15	<0.18	<0.09	<0.09	**1.8** B	599.51
	11-13-06	<0.09	<0.3	**150** B	13	<0.1	<1.5	<0.09	<0.18	<0.09	<0.17	**1.1** QB	602.31
		Top of Well Screen in Feet MSL: 603.10					Length of Well Screen: 10 ft.						
MW-2	12-12-03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<0.15	<0.15	<0.1	600.24
	9-16-04	<0.15	<0.25	<0.13	<0.13	<0.25	<0.19	<0.13	<0.18	<0.11	<0.11	<0.18	600.03
	12-1-04	<0.11	<0.09	<0.09	<0.09	<0.25	<0.25	<0.15	<0.18	<0.09	<0.09	<0.18	600.04
	8-30-06	<0.11	<0.09	<0.09	<0.09	<0.25	<0.25	<0.15	<0.18	<0.09	<0.09	<0.18	599.41
		Top of Well Screen in Feet MSL: 597.67					Length of Well Screen: 10 ft.						
MW-3	12-11-03	<0.1	0.132 Q	**224** ZB	1.76	0.213 Q	<0.2	<0.1	<0.2	0.579	0.154 Q	**28.0** B	598.27
	9-16-04	<0.15	<0.25	**220** B	1.8	<0.25	<0.19	<0.13	<0.18	<0.11	<0.11	**38** B	596.05
	12-1-04	<0.11	<0.09	**100** B	1.0 Q	<0.25	<0.25	<0.15	<0.18	<0.09	<0.09	**7.5** B	597.76
	8-31-06	<0.11	<0.09	**120** B	1.5 Q	<0.25	<0.25	<0.15	<0.18	<0.09	<0.09	**10** B	595.43
	11-14-06	<0.11	<0.09	*42* A	<0.09	<0.25	<0.25	<0.15	0.55 Q	<0.09	<0.09	**8.3** B	600.21
PAL		*0.5*	*200*	*7*	*20*	*0.7*	*NE*	*0.5*	*0.5*	*96*	*96*	*0.02*	
ES		**5**	**1000**	**70**	**100**	**7**	**NE**	**5**	**5**	**480**	**480**	**0.2**	

TABLE 3
Summary Groundwater Analytical Results - Detected VOCs
Former C&L Industrial Cleaners - Kenosha, Wisconsin
STS Project No. 200603327

Sample Location	Sample Date	Benzene µg/L	Dichloro-difluoro-methane µg/L	cis-1,2-Dichloro-ethene µg/L	trans-1,2-Dichloro-ethene µg/L	1,1-Dichloro-ethylene µg/L	1,1-Dichloro propene µg/L	Tetrachloro-ethene µg/L	Trichloro-ethene µg/L	1,2,4-Trimethyl benzene µg/L	1,3,5-Trimethyl benzene µg/L	Vinyl Chloride µg/L	Groundwater Elevation (feet msl)
		Top of Well Screen In Feet MSL: 603.12					Length of Well Screen: 10 ft.						
MW-4	12-1-04	<10	<25	<21	<22	<14	<19	4300 B	30 QB	<24	<21	<4.5	599.65
	8-31-06	<51	<120	<100	<110	<71	<94	12000 B	<60	<120	<100	<22	599.74
	11-13-06	<41	<99	<83	<89	<57	<75	6700 B	<48	<97	<83	<18	601.17
		Top of Well Screen In Feet MSL: 602.38					Length of Well Screen: 10 ft.						
MW-5	12-1-04	<4.1	<9.9	<8.3	<8.9	<5.7	<7.5	970 B	13 QB	<9.7	<8.3	<1.8	599.74
	8-31-06	<8.2	<20	<17	<18	<11	<15	1400 B	<9.6	<19	<17	<3.6	599.79
	11-13-06	<10	<25	<21	<22	<14	<19	2200 B	<12	<24	<21	<4.5	601.26
		Top of Well Screen In Feet MSL: 582.37					Length of Well Screen: 5 ft.						
MW-5P	12-1-04	<0.41	<0.99	<0.83	<0.89	<0.57	<0.75	6.3 B	<0.48	<0.97	<0.83	<0.18	598.74
	8-31-06	<0.41	<0.99	<0.83	<0.89	<0.57	<0.75	*0.99* Q	<0.48	<0.97	<0.83	<0.18	598.51
	11-13-06	<0.41	<0.99	<0.83	<0.89	<0.57	<0.75	*0.74* Q	<0.48	<0.97	<0.83	<0.18	600.23
		Top of Well Screen In Feet MSL: 602.33					Length of Well Screen: 10 ft.						
MW-6	12-1-04	<0.41	<0.99	5.0	<0.89	<0.57	<0.75	<0.45	<0.48	<0.97	<0.83	1.0 B	600.42
	11-13-06	<0.41	<0.99	0.86 Q	<0.89	<0.57	<0.75	<0.45	*1.4* QA	<0.97	<0.83	<0.18	602.70
		Top of Well Screen In Feet MSL: 607.57					Length of Well Screen: 10 ft.						
MW-20	8-31-06	<82	<200	<170	<180	<110	<150	20000 B	<96	<190	<170	<36	599.88
	11-14-06	<51	<120	<100	<110	<71	<94	13000 B	60 QB	<120	<100	<22	601.09
		Top of Well Screen In Feet MSL: 607.57					Length of Well Screen: 10 ft.						
MW-20 Duplicate	8-31-06	<82	<200	<170	<180	<110	<150	18000 B	<96	<190	<170	<36	599.88
	11-14-06	<51	<120	<100	<110	<71	<94	13000 B	<60	<120	<100	<22	601.09
PAL		*0.5*	*200*	*7*	*20*	*0.7*	*NE*	*0.5*	*0.5*	*96* *	*96* *	*0.02*	
ES		**5**	**1000**	**70**	**100**	**7**	**NE**	**5**	**5**	**480***	**480***	**0.2**	

TABLE 3
Summary Groundwater Analytical Results - Detected VOCs
Former C&L Industrial Cleaners - Kenosha, Wisconsin
STS Project No. 200603327

Sample Location	Sample Date	Benzene µg/L	Dichloro-difluoro-methane µg/L	cis-1,2-Dichloro-ethene µg/L	trans-1,2-Dichloro-ethene µg/L	1,1-Dichloro-ethylene µg/L	1,1-Dichloro propene µg/L	Tetrachloro-ethene µg/L	Trichloro-ethene µg/L	1,2,4-Trimethyl benzene µg/L	1,3,5-Trimethyl benzene µg/L	Vinyl Chloride µg/L	Groundwater Elevation (feet msl)
MW-21		Top of Well Screen In Feet MSL: 606.93					Length of Well Screen: 10 ft.						
	8-30-06							*2.0* [A]					598.22
	11-13-06												599.42
MW-23		Top of Well Screen In Feet MSL: 607.54					Length of Well Screen: 10 ft.						
	8-30-06												599.38
	11-13-06												601.05
MW-24		Top of Well Screen In Feet MSL: 611.31					Length of Well Screen: 10 ft.						
	8-30-06												599.63
	11-14-06								*0.96* [QA]				601.76
MW-26		Top of Well Screen In Feet MSL: 606.53					Length of Well Screen: 10 ft.						
	8-31-06			**120** [B]	4.9							**13** [B]	595.91
	11-14-06			**170** [B]	6.4							**23** [B]	601.04
PAL		*0.5*	*200*	*7*	*20*	*0.7*	*NE*	*0.5*	*0.5*	*96**	*96**	*0.02*	
ES		**5**	**1000**	**70**	**100**	**7**	**NE**	**5**	**5**	**480***	**480***	**0.2**	

[Z] Analytical method SW-846 8021B results were reported because analyte was not detected by the 8260 method or was detected at a higher concentration in the 8021B method.

* PAL and ES values are for total trimethylebenzenes (both 1,2,4- and 1,3,5-)

Dup = Duplicate sample

[A] PAL = Preventive action limit established under Wisconsin Administrative Code NR140.10 Table 1, November 2006, Exceedances are *Italic*.

[B] ES = Enforcement standard established under Wisconsin Administrative Code NR140.10 Table 1, November 2006, Exceedances are **Bold**.

[Q] = Estimated concentration below the laboratory practical quantitation limit, but above the method detection limit.

µg/L = Micrograms per Liter.

TABLE 4
Groundwater Analytical Results - Metals
Kenosha Brownfield Investigation - C&L Industrial Cleaners
STS Project No. 200603327

Sample Location	Sample Date	Nickel ug/L	Groundwater Elevation (feet msl)
B-3	5-14-01	<3	612.87
B-5	5-14-01	8 Q	613.42
	9-16-04	*31*	599.98
	12-1-04	*21*	600.18
	8-30-06	16	599.19
	11-13-06	19	602.32
B-6	5-14-01	*23* A	613.44
	12-12-03	6.2 Q	610.08
	8-30-06	*61* A	599.30
	11-13-06	*25* A	602.39
B-6 Dup	12-12-03	9.6 Q	610.08
	9-16-04	*28* A	600.28
	12-1-04	*43* A	601.43
	8-30-06	*60* A	599.30
	11-13-06	*25* A	602.39
B-7	5-14-01	4 Q	613.13
	5-14-01	4 Q	613.13
	8-31-06	1.7 Q	598.63
B-12	5-14-01	<3	611.17
B-16	5-14-01	4 Q	609.42
	12-12-03	*20.1* A	609.42
	9-16-04	1.7	595.43
	11-30-04	2.3	597.49
	8-31-06	1.7 Q	594.14
MW-1	12-11-03	*48.10* A	600.20
	12-11-03	*48.10* A	600.20
	9-16-04	*62* A	600.08
	12-1-04	*42* A	600.41
	8-30-06	*30* A	599.51
	11-13-06	9.8 Q	602.31
MW-1D	12-1-04	*44* A	600.41
PAL		*20*	
ES		**100**	

Sample Location	Sample Date	Nickel ug/L	Groundwater Elevation (feet msl)
MW-2	9-16-04	*34* A	600.03
	12-1-04	**200** B	600.04
	8-30-06	*44* A	599.41
MW-3	12-11-03	12.9	598.27
	9-16-04	5.4	596.05
	12-1-04	7.3	597.76
	8-31-06	6.6	595.43
MW-4	12-1-04	*28* A	599.65
	8-31-06	*22* A	599.74
	11-13-06	12 Q	601.17
MW-5	12-1-04	19	599.74
	8-31-06	*27* A	599.79
	11-13-06	*31* A	601.26
MW-5P	12-1-04	*22* A	598.92
	8-31-06	*20* A	598.61
	11-13-06	*21* A	
MW-6	12-1-04	*30* A	600.42
MW-20	8-31-06	*23* A	599.88
	11-14-06	16	601.09
MW-20 Duplicate	8-31-06	*22* A	598.88
	11-14-06	17	601.09
MW-21	8-30-06	17	598.22
	11-13-06	6.8 Q	599.42
MW-23	8-30-06	11	599.38
MW-24	8-30-06	**150** B	599.63
	11-14-06	**110** B	601.76
MW-26	8-31-06	17	595.91
PAL		*20*	
ES		**100**	

Notes: D or Dup = Duplicate sample
NT = Not Tested

A PAL = Preventive action limit established under Wisconsin Administrative Code NR140.10 Table 1, November 2006, Exceedances are *italic*.

B ES = Enforcement standard established under Wisconsin Administrative Code NR140.10 Table 1, November 2006, Exceedances are **bold**.

Q = Estimate concentration below the laboratory practical quantitation limit, but above the method detection limit.

Table 5
Field-Measured Groundwater Parameters
C & L Industrial Cleaners Kenosha, WI
STS Project No, 200603327

	Sample Date	pH Units	Dissolved Oxygen (mg/l)	ORP (Milivolts)	Conductivity (Microohm/cm)	Temperature (° Celcius)	Groundwater Elevation (ft)
B-3	Top of Well Screen in Feet MSL: 603.07			Length of Well Screen: 10 ft.			
	8/30 & 31/06	7.62	0.86	-29	1.05	15.3	599.19
	11/13/2006	6.79	2.56	-103	1.10	13.3	601.30
B-5	Top of Well Screen in Feet MSL: 603.48			Length of Well Screen: 10 ft.			
	8/30 & 31/06	7.48	0.50	62	0.79	16.5	599.19
	11/13/2006	6.51	0.46	-22	1.10	12.6	602.32
B-6	Top of Well Screen in Feet MSL:604.45			Length of Well Screen: 10 ft.			
	8/30 & 31/06	7.21	0.40	-78	1.68	15.8	599.30
	11/13/2006	6.57	0.25	-114	1.41	13.1	602.39
B-7	Top of Well Screen in Feet MSL: 600.03			Length of Well Screen: 10 ft.			
	8/30 & 31/06	7.40	0.69	66	1.02	14.6	598.63
B-12	Top of Well Screen in Feet MSL: 600.13			Length of Well Screen: 10 ft.			
	8/30 & 31/06	7.31	0.85	-113	1.16	15.5	596.47
	11/14/2006	6.71	0.28	-178	2.14	12.9	601.32
B-16	Top of Well Screen in Feet MSL: 597.07			Length of Well Screen: 5 ft.			
	8/30 & 31/06	7.33	0.67	-63	1.20	13.9	594.14
MW-1	Top of Well Screen in Feet MSL: 602.26			Length of Well Screen: 10 ft.			
	8/30 & 31/06	7.38	0.42	26	1.17	15.8	599.51
	11/13/2006	6.76	0.90	-55	1.36	12.8	602.31
MW-2	Top of Well Screen in Feet MSL: 603.10			Length of Well Screen: 10 ft.			
	8/30 & 31/06	7.42	0.93	56	1.54	15.8	599.41
MW-3	Top of Well Screen in Feet MSL: 597.67			Length of Well Screen: 10 ft.			
	8/30 & 31/06	7.12	0.56	-91	1.43	14.8	595.43
	11/14/2006	6.57	0.49	-111	1.35	11.6	600.21
MW-4	Top of Well Screen in Feet MSL: 603.12			Length of Well Screen: 10 ft.			
	8/30 & 31/06	7.65	1.05	52	0.91	16.0	599.74
	11/13/2006	6.79	2.94	51	0.63	13.5	601.17
MW-5	Top of Well Screen in Feet MSL: 602.38			Length of Well Screen: 10 ft.			
	8/30 & 31/06	7.35	0.50	-67	1.71	17.3	599.79
	11/13/2006	6.73	0.49	-80	1.92	13.8	601.26
MW-5P	Top of Well Screen in Feet MSL: 582.37			Length of Well Screen: 10 ft.			
	8/30 & 31/06	7.89	0.40	-132	0.97	14.2	598.51
	11/13/2006	7.18	0.35	-198	0.97	12.3	600.23
MW-6	Top of Well Screen in Feet MSL: 602.33			Length of Well Screen: 10 ft.			
	8/30 & 31/06	7.21	0.40	-78	1.68	15.8	599.22
	11/13/2006	6.97	0.55	-138	1.68	12.5	602.70
MW-20	Top of Well Screen in Feet MSL: 607.57			Length of Well Screen: 10 ft.			
	8/30 & 31/06	7.33	0.62	-59	1.41	16.8	599.88
	11/14/2006	6.75	1.78	-81	1.85	13.8	601.99
MW-21	Top of Well Screen in Feet MSL: 606.93			Length of Well Screen: 10 ft.			
	8/30 & 31/06	7.70	1.22	-95	3.18	14.9	598.22
	11/13/2006	6.79	1.04	50	1.97	13.8	599.42
MW-23	Top of Well Screen in Feet MSL: 607.54			Length of Well Screen: 10 ft.			
	8/30 & 31/06	7.74	1.09	38	0.59	16.1	599.38
	11/13/2006	6.99	2.43	114	0.65	12.3	601.05
MW-24	Top of Well Screen in Feet MSL: 611.31			Length of Well Screen: 10 ft.			
	8/30 & 31/06	7.31	0.52	-7	2.13	17.2	599.63
	11/14/2006	6.74	0.78	-54	2.49	14.4	601.76
MW-26	Top of Well Screen in Feet MSL: 606.53			Length of Well Screen: 10 ft.			
	8/30 & 31/06	7.37	0.62	-30	1.16	15.7	595.91
	11/14/2006	6.89	0.64	-143	1.23	12.4	601.04

Notes:
mg/l = milligrams per liter.
NM = Not Measured
ft = feet
msl = mean sea level

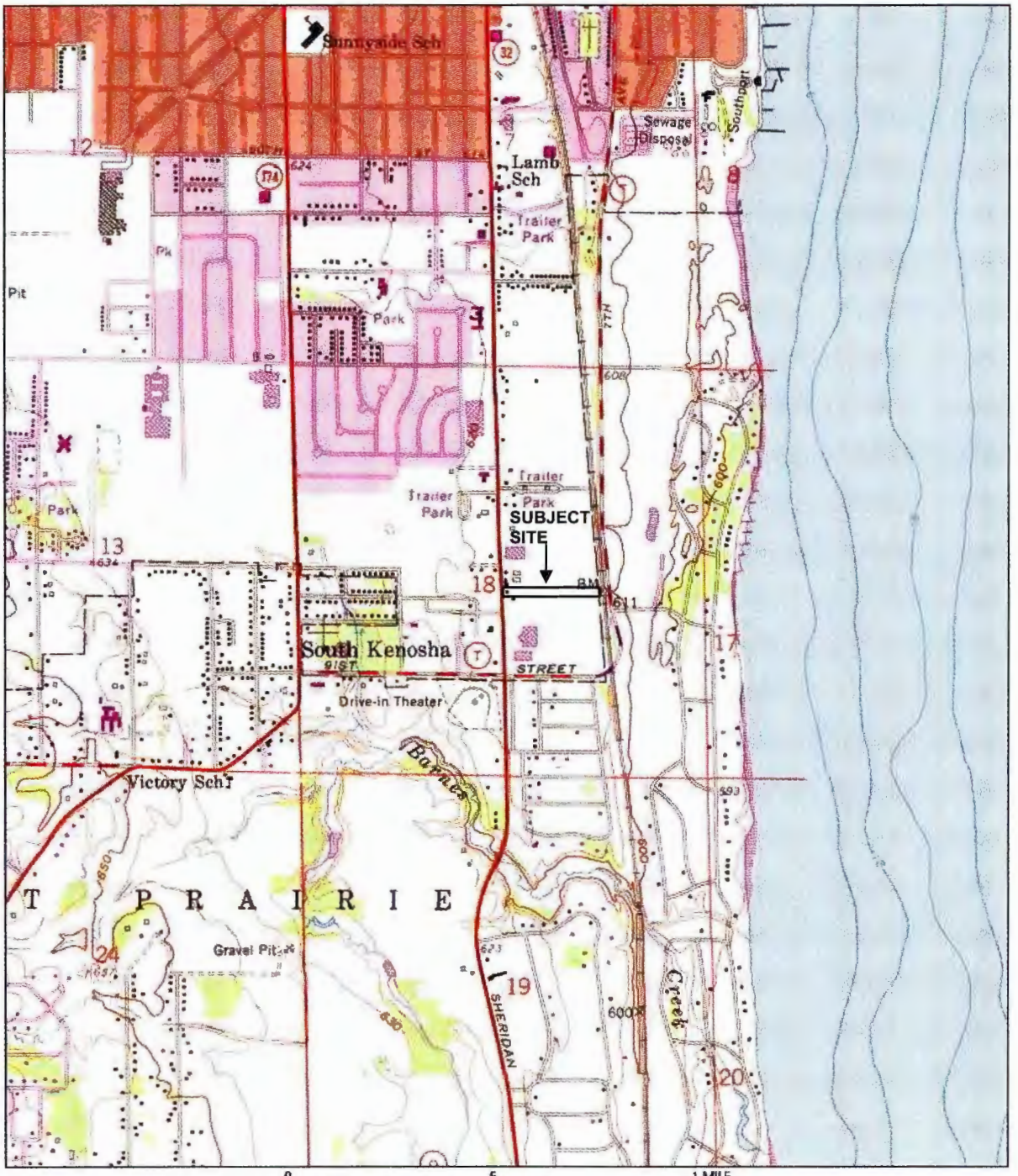
Table 6
Summary of Retained Remedial Technologies
Former C & L Industrial Cleaners - Kenosha, Wisconsin
STS Project No. 200603327

Evaluation Criteria Alternatives	Short Term Effectiveness	Long Term Effectiveness	Implementability	Cost
No Action	No short-term impact due to no remedial action.	Long-term effectiveness is limited to natural attenuation.	Technically implementable; however, if the plume is expanding, the City could lose its limited liability protection. No major permitting involved; therefore, administrative feasibility is fair.	No capital and O&M cost required.
Institutional Controls	No short-term impact due to no remedial action.	Long-term effectiveness is limited to natural attenuation.	Technically implementable; administratively simple to implement.	Low capital costs; no O&M costs.
Excavation/Off-Site Landfill Disposal	Short-term impacts due to construction.	Long-term effectiveness is good.	Technical implementability is good. Administrative implementability may require more lead time due to site concentrations.	High to very high capital costs; low O&M costs.
Engineering Control - Infiltration Control Barrier	Short-term impacts due to construction.	Long-term effectiveness is good.	Technically implementable; administratively simple to implement.	Moderate capital costs; moderate O&M costs.
Soil Vapor Extraction	Short-term impacts due to construction.	Long-term effectiveness is good.	Technical implementability is adversely impacted by low permeability subsurface soils or shallow depth to groundwater.	Moderate capital costs; moderate to high O&M costs.
Dual Phase Extraction	Short-term impacts due to construction.	Long-term effectiveness is good.	Technical implementability is adversely impacted by low permeability subsurface soils.	Moderate capital costs; high O&M costs.
Natural Attenutation	Minor short-term impact due to data collection from impacted media.	Long-term effectiveness could be good.	Technically implementable; no major permitting involved; therefore, administrative feasibility is fair.	Low capital costs; moderate O&M costs.
Air Sparging	Short-term impacts due to construction.	Long-term effectiveness is good.	Technical implementability is adversely impacted by low permeability subsurface soils.	Moderate capital costs; high O&M costs.
Enhanced Bioremediation	Short-term impacts due to injection of substrate oil and odors created by	Long-term effectiveness is good.	Technical implementability may be slowed by low permeability subsurface soils.	Moderate to high capital costs; low O&M costs.
In-Situ Thermal Treatment	Short-term impacts due to construction.	Long-term effectiveness is good.	Technical implementability is good. Administrative implementation may be difficult due to site constraints.	High capital costs; low O&M costs.
Ex-Situ Thermal Treatment	Short-term impacts due to construction.	Long-term effectiveness is good.	Technical implementability is good. Administrative implementability may be difficult due to site constraints.	High to very high capital costs; low O&M costs.

Table 7
Recommended Remedial Strategy Summary and Estimated Costs
Former C & L Industrial Cleaners - Kenosha, Wisconsin
STS Project No. 200603327

Selected Remedial Alternative	Alternative Implementation	Capital Cost	Annual Operations and Maintenance Cost	Annual Groundwater Monitoring Cost
Area 1 - Direct Contact Zone - Soil Exceeding the Industrial RCL				
Off-site landfill disposal of the soils within Area 1 at G-1 and GP-23 to GP-101 where soil exceeds 100,000 ug/kg is recommended for source control. This would immediately remove the bulk of the source of PCE contamination in the vadose zone.	Excavate approximately 150 cubic yards of soil. The soil would be placed into roll-off boxes and a composite sample would be prepared from the excavated soil for laboratory analysis of VOCs to evaluate by Toxicity Characteristic Leaching Procedure (TCLP) testing to determine if the soil is non-hazardous waste.	Excavation costs would be $21 per yard.	None	None
	If the soil is non-hazardous, then the roll-off boxes would be transported to a sanitary landfill for disposal.	$50/ton disposal. Assumed 10 roll-off boxes	None	None
	If the soil is hazardous (PCE concentration greater than 60 mg/kg), then the soil would be treated by SVE (inside each box) until the concentrations are less than 60 mg/kg. Assuming 45 days of treatment.	Cost for treatment and disposal (assume 8 roll-off boxes) includes transportation to landfill is $29,000 plus about $10,000 in engineering and lab fees.	None	None, included with long term monitoring for cap
Areas 1, 3 and 4 Unsaturated Zone Soil Exceeding the Soil to Groundwater Pathway				
Areas 1, 3 and 4 would have an infiltration barrier placed over the areas with PCE concentrations above 1000 ug/kg to address the soil to groundwater pathway risk.	A clay cap approximately 2 foot thick with six-inches top soil would be placed over the western portion of the subject property. The area to be capped is approximately 24,000 square feet.	Construction costs $75,000 to $125,000, plus engineering costs of $8,000 to $10,000	Approximately $10,000	One-half of the total annual cost $25,000
Area 1 - Saturated Zone Soil Exceeding the Soil to Groundwater Pathway and Dissolved Groundwater Contamination				
Enhanced bioremediation would be used to treat both the saturated zone soils and the dissolved phase groundwater contamination within this source area.	Additional groundwater monitoring for electron donors and receptors may be necessary to evaluate the proper ratio of injectant. A remedial design report and underground injection permit (UIC) application may be required for WDNR review and approval prior to implementation of this alternative.	Pre-design groundwater monitoring = $20,000. Engineering costs for remedial design report and UIC Permit = $10,000. Full scqle treatement for the 10,500 square foot area is anticipated to be $ 50,000	None	One-half of the total annual cost $25,000

FIGURES



Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)

APPROXIMATE SCALE 1"= 2000'

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414--359--3030
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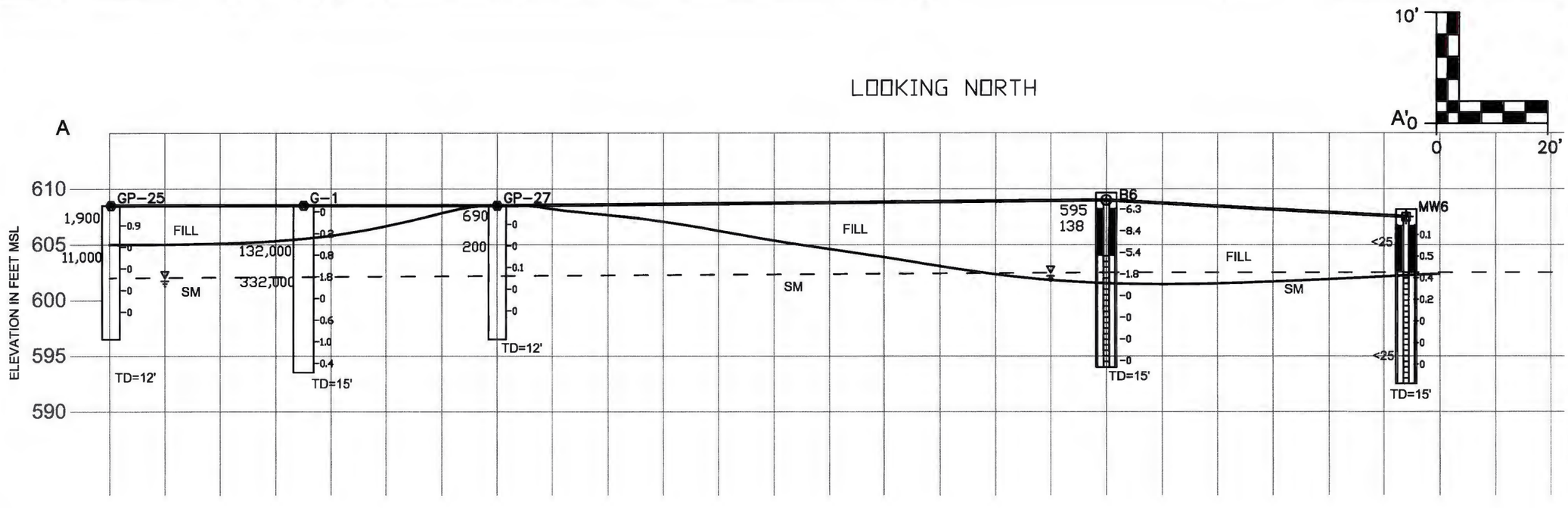
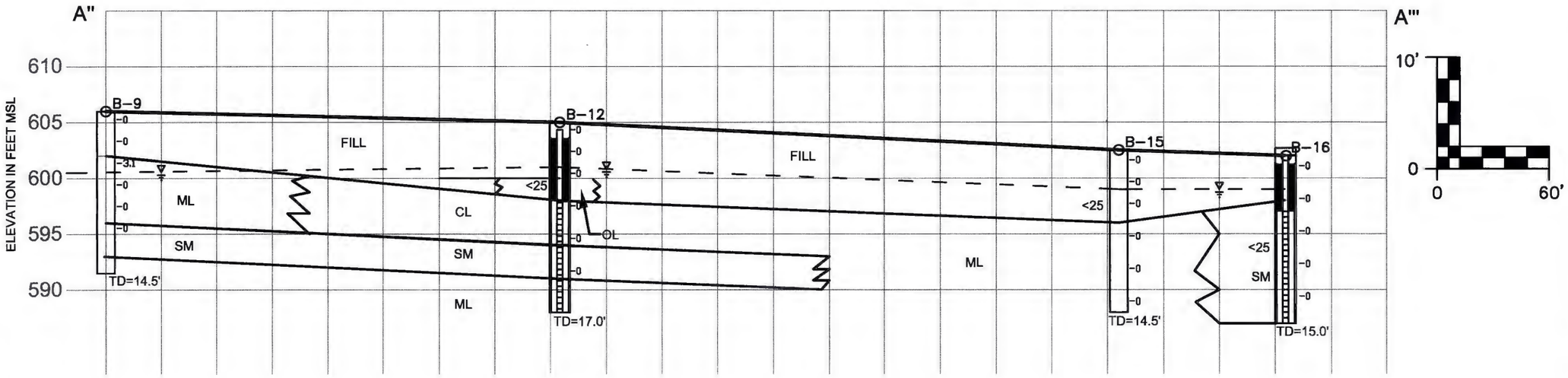
TOPOGRAPHIC MAP
C & L INDUSTRIAL CLEANERS
8927 SHERIDAN ROAD
KENOSHA, WISCONSIN

Drawn:	LLA	05/13/2005
Checked:	LLA	5/13/2005
Approved:	TWK	5/13/2005
PROJECT NUMBER	200603327	
FIGURE NUMBER	1	

LOOKING NORTH





LEGEND

FILL: SAND, SILT, CLAY WITH TRACE TO SOME GRAVEL
MAY INCLUDE BROKEN CONCRETE, BRICK OR ASPHALT.
INCLUDES SOILS THAT HAVE BEEN MOVED OR DISTURBED
ONSITE WHETHER NATIVE OR IMPORTED MATERIAL.
OL: ORGANIC SILT - LIKELY BURIED FORMER SURFACE SOIL
SM= SILTY SAND
ML= SILT

<25= NOT DETECTED AT VALUE SHOWN
---= GROUNDWATER ELEVATION 11/14/2006
- 1= PID READING IN INSTRUMENT UNITS (RIGHT SIDE OF BORING)
595= TETRACHLOETHENE CONCENTRATION IN MICROGRAMS PER KILOGRAM (LEFT SIDE OF BORING)
MSL= MEAN SEA LEVEL

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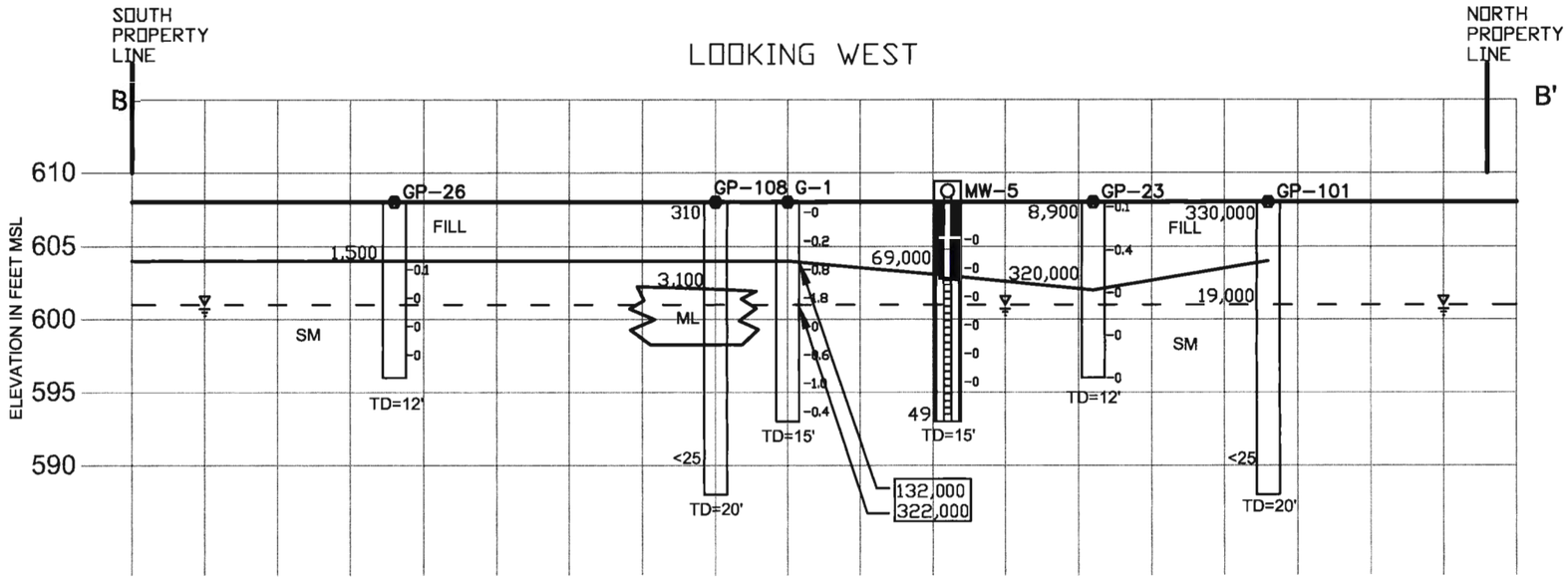
PROFILE A-A'
PROFILE A"-A'"
C+L INDUSTRIAL CLEANERS
8927 SHERIDAN RD.
KENOSHA, WI

Drawn:	PDD	11/25/2006
Checked:	LLA	11/27/2006
Approved:	LLA	11/27/2006
PROJECT NUMBER	200603327	
FIGURE NUMBER	4	



LEGEND

FILL: SAND, SILT, CLAY WITH TRACE TO SOME GRAVEL MAY INCLUDE BROKEN CONCRETE, BRICK OR ASPHALT. INCLUDES SOILS THAT HAVE BEEN MOVED OR DISTURBED ONSITE WHETHER NATIVE OR IMPORTED MATERIAL.

SM= SILTY SAND

ML= SILT

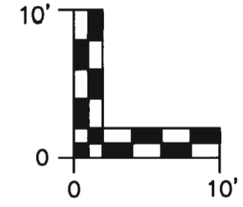
<25= NOT DETECTED AT VALUE SHOWN

---= GROUNDWATER ELEVATION 11/14/2006

▽ 1= PID READING IN INSTRUMENT UNITS (RIGHT SIDE OF BORING)

120,000 = TETRACHLOETHENE CONCENTRATION IN MICROGRAM PER KILOGRAM (LEFT SIDE OF BORING)

MSL= MEAN SEA LEVEL



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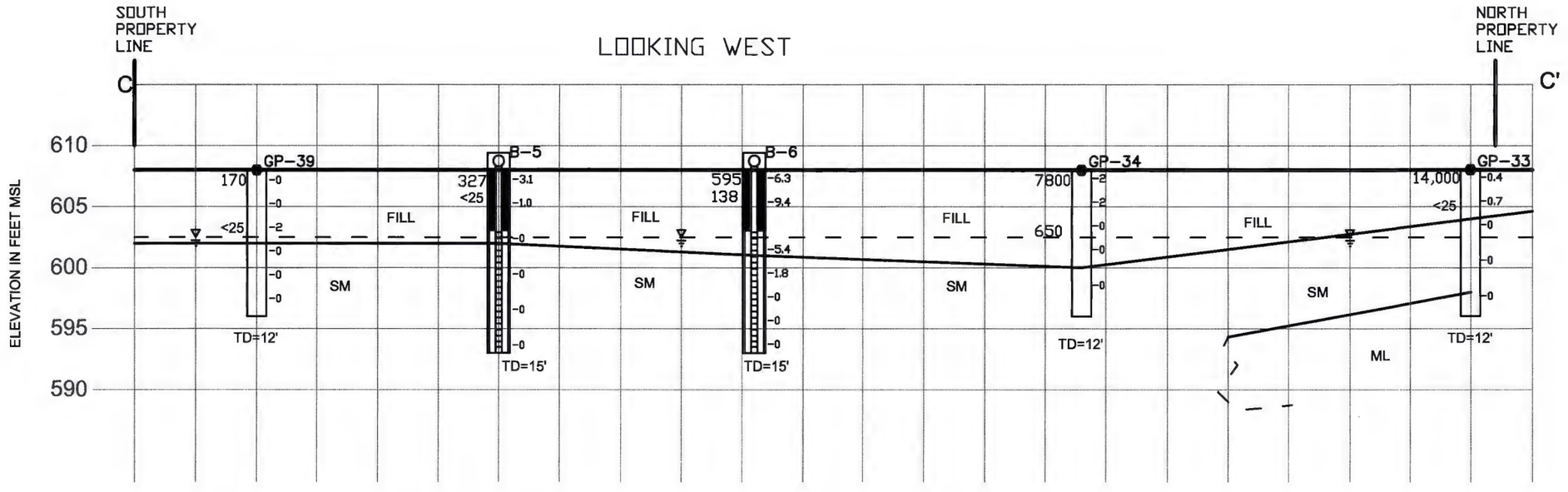
PROFILE B-B'
C+L INDUSTRIAL CLEANERS
8927 SHERIDAN RD
KENOSHA, WI

Drawn :	PDD	11/25/2006
Checked:	LLA	11/27/2006
Approved:	LLA	11/27/2006
PROJECT NUMBER	200603327	
FIGURE NUMBER	5	



LEGEND

FILL: SAND, SILT, CLAY WITH TRACE TO SOME GRAVEL MAY INCLUDE BROKEN CONCRETE, BRICK OR ASPHALT. INCLUDES SOILS THAT HAVE BEEN MOVED OR DISTURBED ONSITE WHETHER NATIVE OR IMPORTED MATERIAL.

SM= SILTY SAN

ML= SILT

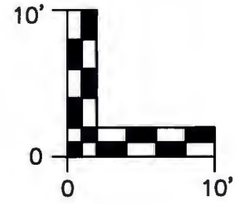
<25= NOT DETECTED AT VALUE SHOWN

---= GROUNDWATER ELEVATION 11/14/2006

▽ 1= PID READING IN INSTRUMENT UNITS (RIGHT SIDE OF BORING)

14,000 = TETRACHLOETHENE CONCENTRATION IN MICROGRAM PER KILOGRAM (LEFT SIDE OF BORING)

MSL= MEAN SEA LEVEL



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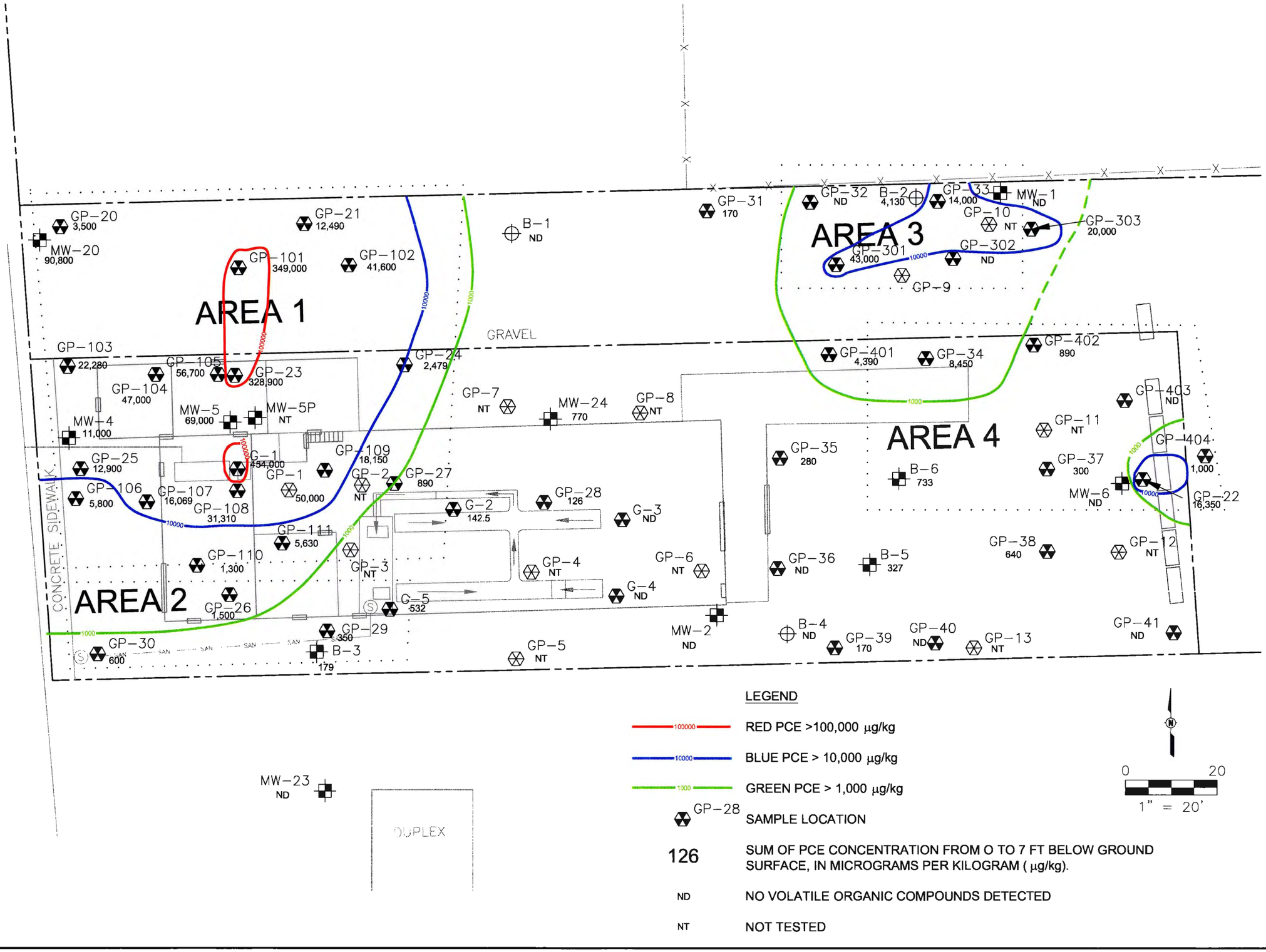
PROFILE C-C'
C+L INDUSTRIAL CLEANERS
8927 SHERIDAN RD.
KENOSHA, WI

Drawn :	PDD	11/25/2006
Checked:	LAL	11/25/2006
Approved:	LAL	11/27/2006
PROJECT NUMBER	200603327	
FIGURE NUMBER	6	



LEGEND

100000	RED PCE >100,000 µg/kg
10000	BLUE PCE > 10,000 µg/kg
1000	GREEN PCE > 1,000 µg/kg
GP-28	SAMPLE LOCATION
126	SUM OF PCE CONCENTRATION FROM O TO 7 FT BELOW GROUND SURFACE, IN MICROGRAMS PER KILOGRAM (µg/kg).
ND	NO VOLATILE ORGANIC COMPOUNDS DETECTED
NT	NOT TESTED

0 20

1" = 20'

SUM OF TETRACHLOROETHENE CONCENTRATIONS IN UNSATURATED SOIL C+L INDUSTRIAL CLEANERS 8927 SHERIDAN RD KENOSHA, WI

STS CONSULTANTS
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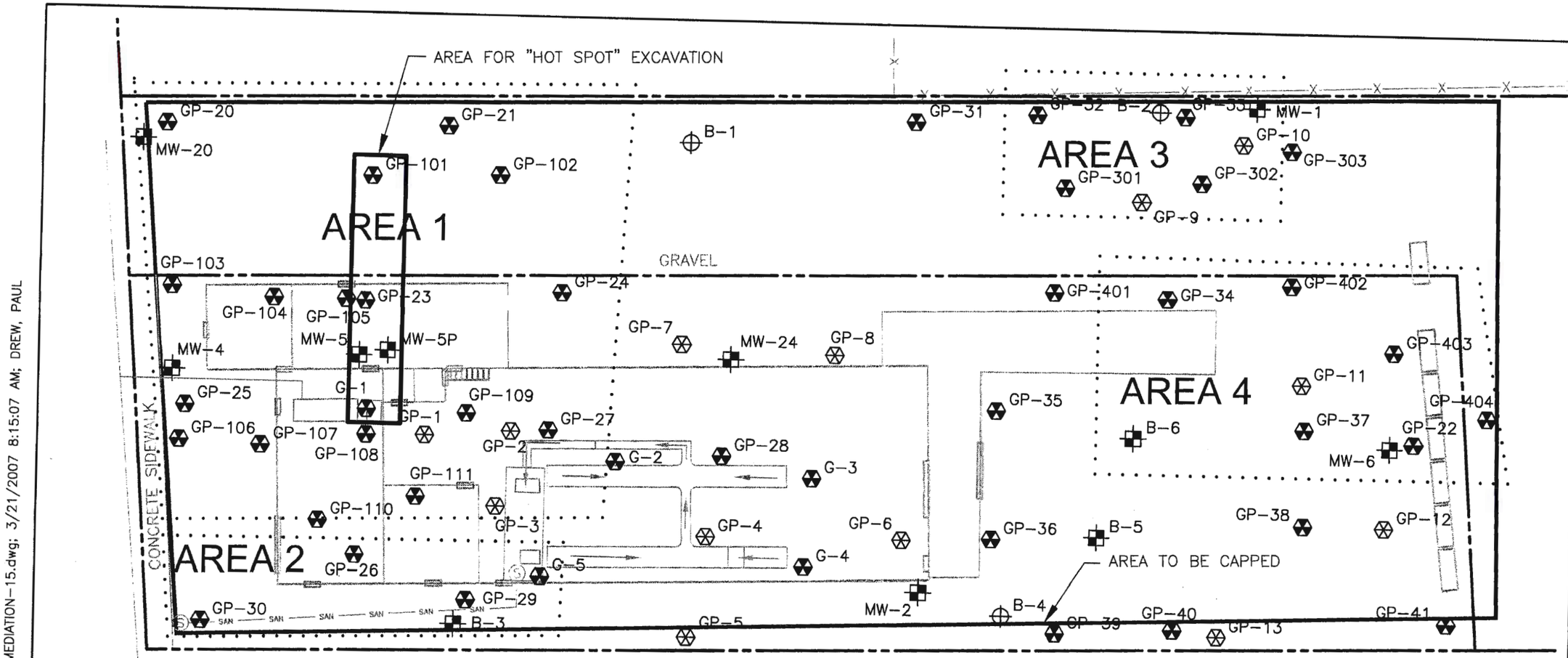
Drawn :	PDD	12/12/2006
Checked:	LLA	12/14/2006
Approved:	LLA	12/14/2006

PROJECT NUMBER 200603327

FIGURE NUMBER 13



LEGEND

- STS GEOPROBE/ TEMPORARY WELL LOCATIONS G1 TO G-6, GP-20 TO GP-48, GP-101 TO GP-111, GP301 TO GP-303, GP-401 TO GP-404 AND GP-601 TO GP-602
- TNA GEOPROBE BORING LOCATIONS GP-1 TO GP-13
- GROUNDWATER MONITORING WELL LOCATIONS
- SOIL BORING LOCATIONS
- TEST PIT FROM PHASE II ENVIRONMENTAL SITE ASSESSMENT
- FENCE
- SANITARY SEWER
- SUMP TO SANITARY SEWER(INSIDE BUILDING) OR SANITARY SEWER MANHOLE(OUTSIDE BUILDING)
- DIRECTION OF WATER FLOW IN FORMER FLOOR DRAINAGE TRENCHES
- CONCRETE BARRIER BLOCK
- APPROXIMATE PROPERTY BOUNDARY
- INVESTIGATION AREAS

0 20

1" = 20'

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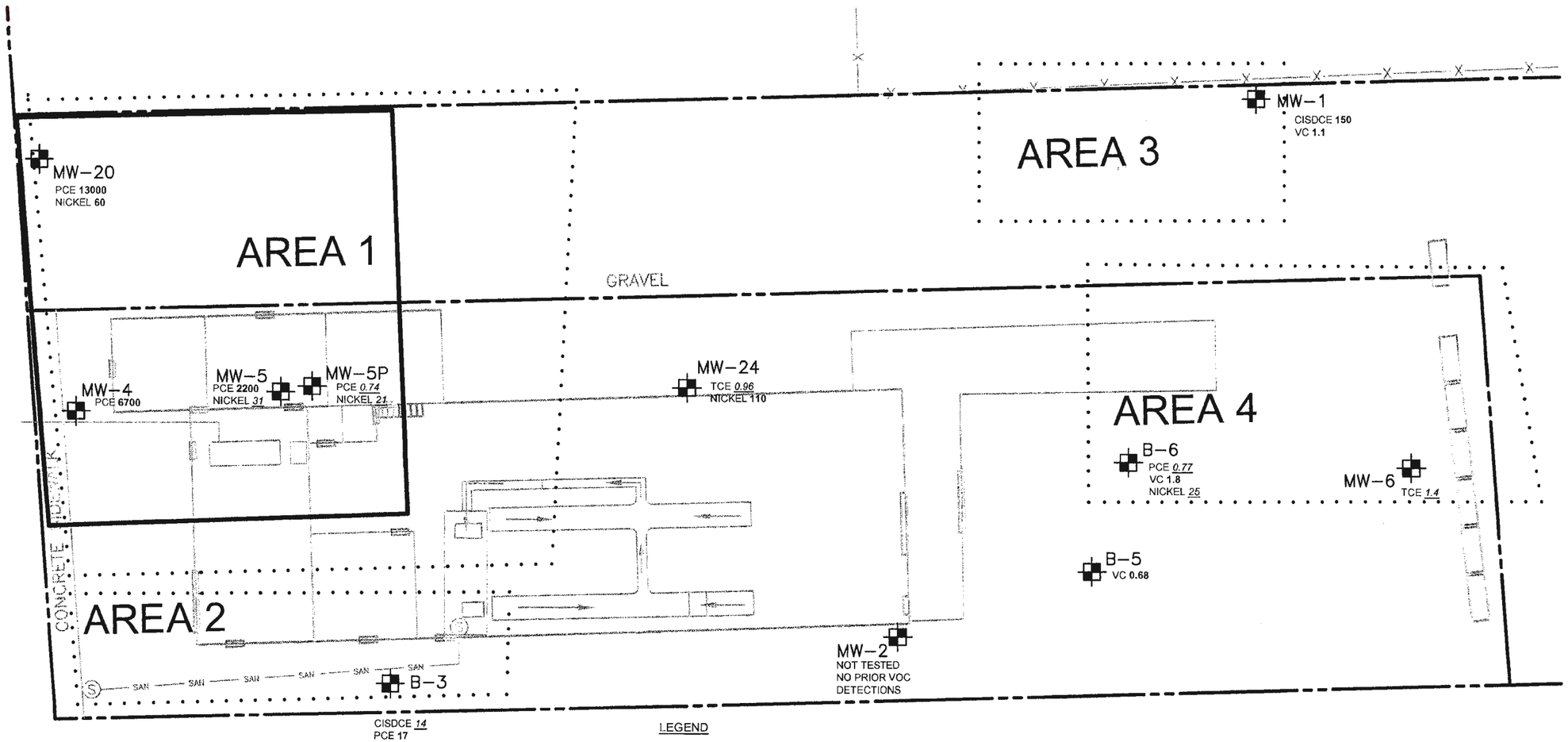
PROPOSED AREAS FOR SOIL REMEDIATION
C & L INDUSTRIAL CLEANERS
8927 SHERIDAN ROAD
KENOSHA, WISCONSIN

Drawn :	PDD	3/21/2007
Checked:	LLA	3/21/2007
Approved:	KLB	3/21/2007
PROJECT NUMBER	200603327	
FIGURE NUMBER	15	

X:\Projects\200603327\Dwg\12-01-2006-PD\G200603327-REMEDIATION-15.dwg; 3/21/2007 8:15:07 AM; DREW, PAUL



LEGEND

- STS GEOPROBE/ TEMPORARY WELL LOCATIONS G1 TO G-6, GP-20 TO GP-48, GP-101 TO GP-111, GP301 TO GP-303, GP-401 TO GP-404 AND GP-601 TO GP-602
- TNA GEOPROBE BORING LOCATIONS GP-1 TO GP-13
- GROUNDWATER MONITORING WELL LOCATIONS
- SOIL BORING LOCATIONS
- TEST PIT FROM PHASE II ENVIRONMENTAL SITE ASSESSMENT
- FENCE
- SANITARY SEWER
- SUMP TO SANITARY SEWER(INSIDE BUILDING) OR SANITARY SEWER MANHOLE(OUTSIDE BUILDING)
- DIRECTION OF WATER FLOW IN FORMER FLOOR DRAINAGE TRENCHES
- CONCRETE BARRIER BLOCK
- APPROXIMATE PROPERTY BOUNDARY
- INVESTIGATION AREAS

LABORATORY ANALYTICAL RESULTS 11-14-2006
TCE = TRICHLOROETHENE CONCENTRATION IN MICROGRAMS PER LITER (µg/l)
PCE = TETRACHLOROETHENE CONCENTRATION IN MICROGRAMS PER LITER (µg/l)
VC = VINYLCHLORIDE CONCENTRATION IN MICROGRAMS PER LITER (µg/l)
NICKEL CONCENTRATION IN MILLIGRAMS PER LITER (mg/l)

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PROPOSED AREA FOR GROUNDWATER TREATEMENT
C & L INDUSTRIAL CLEANERS
8927 SHERIDAN ROAD
KENOSHA, WISCONSIN

Drawn :	PDD	3/21/2007
Checked:	LLA	3/21/2007
Approved:	KLB	3/21/2007
PROJECT NUMBER	200603327	
FIGURE NUMBER	16	

APPENDIX A

Soil Probe and Monitoring Well Boring Logs, Soil Probe Abandonment Forms, Monitoring Well Construction 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 ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
C & L Industrial Clearners STS No. 200603327		GP-101

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/8/2006	6/8/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-101	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		0-2	Fill: Clayey Silt with Fine to Coarse Sand and Trace Gravel - brown and black	Fill			0.0						
			2-4	Fill: Sand, fine to medium - reddish brown - moist	Fill									
2 GP	48 36		4-6	Silty Sand, fine to medium - brown to gray at 8.0', wet at 5.0'	SM			0.0						
			6-8											
3 GP	48 48		8-10					0.0						
			10-12	Clayey Silt with Fine Sand - gray - wet	ML									
4 GP	48 48		12-14					0.0						
			14-16											
5 GP	48 48		16-18					0.0						
			18-20											
				End of Boring. Boring advanced to 20.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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

Signature Daniel C. Arbuckle Firm STS Consultants Ltd. Tel: Fax:

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

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
C & L Industrial Cleaners STS No. 200603327		GP-102

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/8/2006	6/8/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-102	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

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	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		0-2	Fill: Clayey Silt with Fine to Coarse Sand Grading to Sand at 3.1' - brown to black to reddish brown - moist	Fill			0.0						
2 GP	48 48		4-6	Silty Sand, fine to medium - brown to gray, wet at 5.0'	SM			0.0						
3 GP	48 48		8-10					0.0						
4 GP	48 48		12-14	Clayey Silt with Fine Sand - gray - wet	ML			0.0						
5 GP	48 48		16-18					0.0						
			20	End of Boring. Boring advanced to 20.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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

Signature: Janette Ahlenbach Firm: STS Consultants Ltd. Tel: Fax:

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State of Wisconsin
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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
C & L Industrial Clearners STS No. 200603327		GP-103

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/12/2006	6/12/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-103	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		2	Fill: Sand, fine to medium - brown to dark brown - moist	Fill			0.0						
2 GP	48 48		4 6	Silty Clay with some Fine to Medium Sand and Little Coarse Sand - brown to gray - moist to wet at 7.0'	CL			0.0						
3 GP	48 48		8 10	Silt, clayey with fine sand - gray - wet	ML			0.0						
4 GP	48 48		12 14					0.0						
5 GP	48 48		16 18 20					0.0						
				End of Boring. Boring advanced to 20.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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

Signature Danette Altenbaul Firm STS Consultants Ltd. Tel: Fax:

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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
C & L Industrial Clearners STS No. 200603327		GP-104

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/12/2006	6/12/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-104	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		0	Fill: Sand, fine to medium - brown - moist	Fill			0.0						
2 GP	48 36		4	Sand, fine to medium - brown to gray - wet	SP			0.0						
3 GP	48 48		8					0.0						
4 GP	48 48		12	Silt, clayey with fine sand, little medium sand - gray - wet	ML			0.0						
5 GP	48 42		16					0.0						
			20	End of Boring. Boring advanced to 20.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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

Signature Randall Altenbach Firm STS Consultants Ltd. Tel: Fax:

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

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
C & L Industrial Clearners STS No. 200603327		GP-105

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/12/2006	6/12/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-105	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 43		0-2	Fill: Sand, fine to medium, trace foundry sand - brown - moist	Fill			0.0						
2 GP	48 30		2-4	Silty Clay with Fine to Medium Sand, some coarse sand - brown to gray - moist	Fill			0.0						
			4-6	Silty Sand, fine to medium - brown to gray at 8.0' - wet	SM									
3 GP	48 43		6-8					0.0						
			8-10											
			10-12	Silt, clayey with fine sand, little medium sand - gray - wet	ML									
4 GP	48 48		12-14					0.0						
			14-16											
5 GP	48 48		16-18					0.0						
			18-20											
				End of Boring. Boring advanced to 20.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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

Signature Jeanette Ostenbaal | Firm STS Consultants Ltd. | Tel: Fax:

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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
C & L Industrial Cleaners STS No. 200603327		GP-106

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/12/2006	6/12/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-106	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

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	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		2	Fill: Sand, fine to coarse, trace gravel, trace organic matter - brown	Fill			0.0						
2 GP	48 48		4 6	Fill: SIlty Clay with Fine to Medium Sand, little coarse sand - brown to gray - moist	Fill			0.0						
3 GP	48 48		8 10	Silty Sand, fine to medium - brown to gray - wet	SM			0.0						
4 GP	48 42		12 14	Silt, clayey, with fine sand, little medium sand - gray - wet	ML			0.0						
5 GP	48 36		16 18					0.0						
			20	End of Boring. Boring advanced to 20.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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Signature Randy Ackenbach Firm STS Consultants Ltd. Tel: Fax:

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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
C & L Industrial Clearners STS No. 200603327		GP-107

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/12/2006	6/12/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-107	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		2	Concrete Fill: Sand, fine to medium - brown to dark brown - moist	Concrete Fill			0.0						
2 GP	48 48		4 6	Fill: Silty Clay with Fine to Medium Sand, trace coarse sand - brown to gray - moist	Fill			0.0						
3 GP	48 48		8	SIlty Sand, fine to medium - gray - wet	SM			0.0						
4 GP	48 48		10 12 14	Clayey Silt, with fine sand, little medium sand - gray - wet	ML			0.0						
5 GP	48 36		16 18 20					0.0						
				End of Boring. Boring advanced to 20.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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Signature [redacted] Firm STS Consultants Ltd. Tel:
Fax:

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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
C & L Industrial Clearners STS No. 200603327		GP-108

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/12/2006	6/12/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-108	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

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	Plasticity Index	P 200	RQD/ Comments
1 GP	48 36		2	Concrete Fill: Sand, fine to medium - brown - moist	Concrete Fill			0.0						
2 GP	48 48		4 6	Clayey Silt with Fine to Medium Sand, little coarse sand - grayish brown - moist	ML			0.0						
3 GP	48 42		8 10	Silt, clayey with fine sand and little medium sand - gray - wet	SM			0.0						
4 GP	48 36		12 14	Clayey Silt with Flne Sand, little medium sand - gray - wet	ML			0.0						
5 GP	48 30		16 18					0.0						
			20	End of Boring. Boring advanced to 20.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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Signature [redacted] Firm STS Consultants Ltd. Tel:
Fax:

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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
C & L Industrial Cleaners STS No. 200603327		GP-109

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/12/2006	6/12/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-109	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

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	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		0	Concrete	Concrete			0.0						
			2	Fill: Sand, fine to medium - brown - moist	Fill									
2 GP	48 48		4	Silt, clayey, fine to medium sand, little coarse sand - gray - moist	ML			0.0						
			6											
3 GP	48 48		8	Silty Sand, fine to medium - gray - wet	SM			0.0						
			10	Silt, clayey with fine sand - gray - wet										
4 GP	48 48		12					0.0						
			14		ML									
5 GP	48 48		16					0.0						
			18											
			20	End of Boring. Boring advanced to 20.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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Signature [signature] Firm STS Consultants Ltd. Tel: Fax:

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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
C & L Industrial Cleaners STS No. 200603327		GP-110

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/12/2006	6/12/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-110	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		0	Concrete	Concrete			0.0						
			2	Fill: Sand, fine to medium - brown - moist	Fill									
2 GP	48 48		4	Clayey SIlt with Fine to Medium Sand, little coarse sand - brown - moist	ML			0.0						
			6											
3 GP	48 36		8	Silty Sand, fine to medium - gray - wet	SM			0.0						
			10											
4 GP	48 48		12	Clayey Silt, with fine sand, little medium sand - gray - wet	ML			0.0						
			14											
5 GP	48 42		16					0.0						
			18											
			20	End of Boring. Boring advanced to 20.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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Signature: Daniel M. Abraham Firm: STS Consultants Ltd. Tel: Fax:

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
C & L Industrial Clearners STS No. 200603327		GP-111

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/12/2006	6/12/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-111	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

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	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		0	Concrete	Concrete			0.0						
			2	Fill: Sand, fine to medium - brown - moist	Fill									
2 GP	48 48		4	Clayey Silt with Flne to Medium Sand and Some Coarse Sand - brown to gray - moist	ML			0.0						
			6											
3 GP	48 48		8	Silty Sand, fine to medium - gray - wet	SM			0.0						
			10											
4 GP	48 48		12	Silt, clayey with fine dand - gray - wet	ML			0.0						
			14											
5 GP	48 42		16					0.0						
			18											
			20	End of Boring. Boring advanced to 20.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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Signature Paulette Altenbach Firm STS Consultants Ltd. Tel: Fax:

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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
C & L Industrial Cleaners STS No. 200603327		GP-301

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/8/2006	6/8/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-301	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

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	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		1.5	Fill: Clayey Silt with Fine to Medium Sand, trace coarse sand - brown	Fill			0.0						
			3.0	Fill: Sand, fine to medium, some coarse sand, trace foundry sand and slag - brown and black	Fill									
2 GP	48 48		4.5					0.0						
			6.0	Sand, silty, fine to medium - brown to gray at 8.0' - wet										
			7.5											
3 GP	48 48		9.0		SM			0.0						
			10.5											
			12.0	Silty, clayey with fine sand - gray - wet										
4 GP	36 36		13.5		ML			0.0						
			15.0											
				End of Boring. Boring advanced to 15.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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Signature Danielle Ardenbaul Firm STS Consultants Ltd. Tel: Fax:

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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
C & L Industrial Clearners STS No. 200603327		GP-302

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/8/2006	6/8/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-302	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		1.5	Fill: Clayey Silt with Fine to Medium Sand, trace coarse sand , foundry sand 3.3' to 3.4' - brown - moist	Fill			0.0						
2 GP	48 48		4.5					0.0						
			6.0	Silty Sand, fine to medium - brown to gray - wet	SM									
3 GP	48 48		9.0					0.0						
			10.5	Clayey Silt with Fine to medium Sand - gray - wet	ML									
4 GP	36 36		12.0					0.0						
			13.5											
			15.0	End of Boring. Boring advanced to 15.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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Signature [signature] Firm STS Consultants Ltd. Tel: Fax:

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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
C & L Industrial Cleaners STS No. 200603327		GP-303

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/8/2006	6/8/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-303	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

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	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		1.5 3.0	Fill: Clayey Silt with Fine to Medium Sand - brown to gray - moist	Fill			0.0						
2 GP	48 36		4.5 6.0 7.5	Silty Sand, fine to medium - brown to gray at 8.0' - wet at 5.0'	SM			0.0						
3 GP	48 48		9.0 10.5					0.0						
4 GP	36 36		12.0 13.5	Silty Clay with Fine Sand, little medium sand - gray - wet	CL			0.0						
			15.0	End of Boring. Boring advanced to 15.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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

Signature [signature] Firm STS Consultants Ltd. Tel: Fax:

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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
C & L Industrial Clearners STS No. 200603327		GP-401

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/8/2006	6/8/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-401	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 36		1.5	Fill: Sand, fine to coarse, little fine gravel, trace foundry sand - brown and black	.Fill			0.0						
			3.0											
2 GP	48 48		4.5	Silty Clay with Fine to Medium Sand - gray - moist	CL			0.0						
			6.0	Silty Sand, fine to medium - brown to gray at 8.0' - wet at 5.0'										
			7.5		SM									
3 GP	48 48		9.0					0.0						
			10.5											
4 GP	36 36		12.0	Silt, clayey with fine sand - gray - wet	ML			0.0						
			13.5											
			15.0	End of Boring. Boring advanced to 15.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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Signature: Danette Mestenbach Firm: STS Consultants Ltd. Tel: Fax:

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Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
C & L Industrial Clearners STS No. 200603327		GP-402

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/8/2006	6/8/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-402	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		1.5 3.0	Fill: Clayey Silt with FIne to Coarse Sand and Trace Gravel - brown to black	Fill			0.0						
2 GP	48		4.5 6.0 7.5	No Recovery				0.0						
3 GP	48 48		9.0 10.5	Silty Sand, fine to medium - gray - wet	SM			0.0						
4 GP	36 36		12.0 13.5 15.0	Clayey Silt and Fine to Medium Sand - gray - wet	ML			0.0						
				End of Boring. Boring advanced to 15.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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

Signature [signature] Firm STS Consultants Ltd. Tel: Fax:

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

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
C & L Industrial Clearners STS No. 200603327		GP-403

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/8/2006	6/8/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-403	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

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	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		1.5	Fill: Silty Clay with Fine to Medium Sand, some coarse sand and fine gravel, little foundry sand - brown and black	Fill			0.0						
2 GP	48 39		4.5	Silty Sand, fine to medium - brown to gray at 8.0' - wet at 6.0'	SM			0.0						
3 GP	48 48		9.0					0.0						
4 GP	36 36		12.0	Clayey Silt, with fine to medium sand - gray - wet	ML			0.0						
			15.0	End of Boring. Boring advanced to 15.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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

Signature Danette Ackenbach Firm STS Consultants Ltd. Tel: Fax:

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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
C & L Industrial Clearners STS No. 200603327		GP-404

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/8/2006	6/8/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-404	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

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	Plasticity Index	P 200	RQD/ Comments
1 GP	48 / 43		1.5	Fill: Clayey Silt with Flne to Coarse Sand and Trace Gravel - brown	Fill			0.0						
			3.0											
2 GP	48 / 48		4.5	Silty Sand, fine to medium - brown to gray at 6.0' - wet at 6.0'	SM			0.0						
			6.0											
			7.5											
3 GP	48 / 48		9.0					0.0						
			10.5	Clayey Silt and Fine Sand - gray - wet	ML									
4 GP	36 / 36		12.0					0.0						
			13.5											
			15.0	End of Boring. Boring advanced to 15.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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

Signature Danielle M Leubael Firm STS Consultants Ltd. Tel: Fax:

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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
C & L Industrial Clearners STS No. 200603327		GP-601

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/8/2006	6/8/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-601	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

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	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		1.5	Fill: Clayey Silt with Fine to medium Sand - brown	Fill			0.0						
			3.0	Fill: Sand, fine to coarse, trace fine gravel, trace foundry sand and slag - black	Fill									
2 GP	48 48		4.5	Silty Clay with Fine to medium Sand, some coarse sand - brown - moist				0.0						
			6.0		CL									
			7.5											
3 GP	48 48			Silty Sand, fine to medium - gray - wet	SM			0.0						
			9.0	Clayey Silt and Flne Sand - gray - wet										
			10.5											
4 GP	36 36		12.0		ML			0.0						
			13.5											
			15.0	End of Boring. Boring advanced to 15.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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

Signature: Danette Altenbach | Firm: STS Consultants Ltd. | Tel: Fax:

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
C & L Industrial Clearners STS No. 200603327		GP-602

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Bendorf Probe Technologies	6/8/2006	6/8/2006	soil probe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-602	Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

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	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		1.5	Fill: Clayey Silt and Fine to Coarse Sand, trace fine gravel - brown	Fill			0.0						
			3.0	Fill: Sand, fine to coarse, some foundry sand - brown and black	Fill									
2 GP	48 48		4.5	Clayey Silt and Flne to Medium Sand, little coarse sand - brown to gray - moist	ML			0.0						
			6.0											
			7.5											
3 GP	48 48		9.0	Silty Sand, fine to medium - gray - wet	SM			0.0						
			10.5	Clayey Silt and Flne Sand, trace medium sand - gray - wet	ML									
4 GP	36 36		12.0					0.0						
			13.5											
			15.0	End of Boring. Boring advanced to 15.0' feet by GeoProbe. Boring backfilled with chipped bentonite.										

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

Signature Lauette Bakendorf Firm STS Consultants Ltd. Tel: Fax:

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State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000 Page 1 of 2

Notice: Please complete Form 3300-5 and return it to the appropriate DNR office and bureau. Completion of this report 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 this form 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 this form is not intended to be used for any other purpose. NOTE: See the instructions for more information.

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

(1) GENERAL INFORMATION

WI Unique Well No. | DNR Well ID No. | County: Kenosha

Common Well Name: GP-101 Gov't Lot (if applicable): _____

Grid Location: NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ° ' " Long ° ' " or

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Site investigation | WI Unique Well No. of Replacement Well:

(2) FACILITY /OWNER INFORMATION

Facility Name: C & L Industrial Cleaners STS No. 200603327

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 8927 Sheridan Road

City, Village, or Town: Kenosha

Present Well Owner | Original Owner: C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 6/8/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 20.0 (From ground surface) Casing Diameter (in.) _____

Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Chipped bentonite	Surface	20.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Probe Technologies | Date of Abandonment: 6/8/06

Signature of Person Doing Work: [signature] | Date Signed: 4-11-2007

Street or Route | Telephone Number

City, State, Zip Code

FOR DNR OR COUNTY USE ONLY

Date Received | Noted By

Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000

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

(1) GENERAL INFORMATION

WI Unique Well No. | DNR Well ID No. | County: Kenosha

Common Well Name: GP-102 _____ Gov't Lot (if applicable)

Grid Location: NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ° ' " Long ° ' " or

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Site investigation | WI Unique Well No. of Replacement Well

(2) FACILITY /OWNER INFORMATION

Facility Name: C & L Industrial Cleaners STS No. 200603327

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 8927 Sheridan Road

City, Village, or Town: Kenosha

Present Well Owner | Original Owner: C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 6/8/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 20.0 (From ground surface) Casing Diameter (in.) _____
Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown
If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Chipped bentonite	Surface	20.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Probe Technologies | Date of Abandonment: 6/8/06

Signature of Person Doing Work | Date Signed: 4-11-2007

Street or Route | Telephone Number

City, State, Zip Code

FOR DNR OR COUNTY USE ONLY

Date Received | Noted By

Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000 Page 1 of 2

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

(1) GENERAL INFORMATION

WI Unique Well No. | DNR Well ID No. | County: Kenosha

Common Well Name: GP-103 _____ Gov't Lot (if applicable)

Grid Location: NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ° ' " Long ° ' " or

State Plane _____ ft. N. _____ ft. E. ☐S ☐C ☐N Zone

Reason For Abandonment: Site investigation | WI Unique Well No. of Replacement Well:

(2) FACILITY /OWNER INFORMATION

Facility Name: C & L Industrial Cleaners STS No. 200603327

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 8927 Sheridan Road

City, Village, or Town: Kenosha

Present Well Owner | Original Owner: C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 6/12/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 20.0 (From ground surface) Casing Diameter (in.) _____
Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Chipped bentonite	Surface	20.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Probe Technologies | Date of Abandonment: 6/12/06

Signature of Person Doing Work | Date Signed: 4-11-07

Street or Route | Telephone Number

City, State, Zip Code

FOR DNR OR COUNTY USE ONLY

Date Received | Noted By

Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000

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

(1) GENERAL INFORMATION

WI Unique Well No. | DNR Well ID No. | County: Kenosha

Common Well Name: GP-104 Gov't Lot (if applicable): _____

Grid Location: NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ° ' " Long ° ' " or

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Site investigation | WI Unique Well No. of Replacement Well:

(2) FACILITY /OWNER INFORMATION

Facility Name: C & L Industrial Cleaners STS No. 200603327

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 8927 Sheridan Road

City, Village, or Town: Kenosha

Present Well Owner | Original Owner: C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 6/12/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 20.0 (From ground surface) Casing Diameter (in.) _____

Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Chipped bentonite	Surface	20.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Probe Technologies | Date of Abandonment: 6/12/06

Signature of Person Doing Work | Date Signed: 4-11-07

Street or Route | Telephone Number

City, State, Zip Code

FOR DNR OR COUNTY USE ONLY

Date Received | Noted By

Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000 Page 1 of 2

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

(1) GENERAL INFORMATION

WI Unique Well No. | DNR Well ID No. | County: Kenosha

Common Well Name: GP-105 Gov't Lot (if applicable): _____

Grid Location: NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ° ' " Long ° ' " or

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Site investigation | WI Unique Well No. of Replacement Well:

(2) FACILITY /OWNER INFORMATION

Facility Name: C & L Industrial Cleaners STS No. 200603327

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 8927 Sheridan Road

City, Village, or Town: Kenosha

Present Well Owner | Original Owner: C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 6/12/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) (From ground surface): 20.0 Casing Diameter (in.): _____
Casing Depth (ft.): _____

Lower Drillhole Diameter (in.): _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet): _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured ☐ Other (Explain)
(Bentonite Chips)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Chipped bentonite	Surface	20.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Probe Technologies | Date of Abandonment: 6/12/06

Signature of Person Doing Work: [signature] | Date Signed: 7-11-07

Street or Route | Telephone Number

City, State, Zip Code

FOR DNR OR COUNTY USE ONLY

Date Received | Noted By

Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000 Page 1 of 2

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

(1) GENERAL INFORMATION

WI Unique Well No. | DNR Well ID No. | County: Kenosha

Common Well Name: GP-106 _____ Gov't Lot (if applicable)

Grid Location: NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ___ ° ___ ' ___ " Long ___ ° ___ ' ___ "

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Site investigation | WI Unique Well No. of Replacement Well:

(2) FACILITY /OWNER INFORMATION

Facility Name: C & L Industrial Cleaners STS No. 200603327

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 8927 Sheridan Road

City, Village, or Town: Kenosha

Present Well Owner | Original Owner: C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 6/12/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 20.0 (From ground surface) Casing Diameter (in.) _____
Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Chipped bentonite	Surface	20.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Probe Technologies | Date of Abandonment: 6/12/06

Signature of Person Doing Work | Date Signed: 9-11-07

Street or Route | Telephone Number

City, State, Zip Code

FOR DNR OR COUNTY USE ONLY

Date Received | Noted By

Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000

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

(1) GENERAL INFORMATION

WI Unique Well No.	DNR Well ID No.	County
		Kenosha

Common Well Name GP-107 _____ Gov't Lot (if applicable)

NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W
Grid Location

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ° ' " Long ° ' " or

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment	WI Unique Well No. of Replacement Well
Site investigation	

(2) FACILITY /OWNER INFORMATION

Facility Name
C & L Industrial Clearners STS No. 200603327

Facility ID	License/Permit/Monitoring No.

Street Address of Well
8927 Sheridan Road

City, Village, or Town
Kenosha

Present Well Owner	Original Owner
	C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date 6/12/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 20.0 (From ground surface) Casing Diameter (in.) _____
Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Concrete	Surface	0.5		
Chipped bentonite	0.5	20.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work	Date of Abandonment
Probe Technologies	6/12/06

Signature of Person Doing Work	Date Signed
[signature]	4-1-07

Street or Route	Telephone Number

City, State, Zip Code

FOR DNR OR COUNTY USE ONLY

Date Received	Noted By

Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000 Page 1 of 2

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

(1) GENERAL INFORMATION

WI Unique Well No. | DNR Well ID No. | County: Kenosha

Common Well Name: GP-108 Gov't Lot (if applicable): _____

Grid Location: NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ° ' " Long ° ' " or

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Site investigation

WI Unique Well No. of Replacement Well:

(2) FACILITY /OWNER INFORMATION

Facility Name: C & L Industrial Cleaners STS No. 200603327

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 8927 Sheridan Road

City, Village, or Town: Kenosha

Present Well Owner | Original Owner: C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 6/12/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 20.0 (From ground surface) Casing Diameter (in.) _____

Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Concrete	Surface	0.5		
Chipped bentonite	0.5	20.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Probe Technologies | Date of Abandonment: 6/12/06

Signature of Person Doing Work: [signature] | Date Signed: 4-11-07

Street or Route | Telephone Number

City, State, Zip Code

FOR DNR OR COUNTY USE ONLY

Date Received | Noted By

Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000 Page 1 of 2

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

(1) GENERAL INFORMATION

WI Unique Well No. | DNR Well ID No. | County: Kenosha

Common Well Name: GP-109 Gov't Lot (if applicable): _____

Grid Location: NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ° ' " Long ° ' " or

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Site investigation | WI Unique Well No. of Replacement Well:

(2) FACILITY /OWNER INFORMATION

Facility Name: C & L Industrial Cleaners STS No. 200603327

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 8927 Sheridan Road

City, Village, or Town: Kenosha

Present Well Owner | Original Owner: C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 6/12/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 20.0 (From ground surface) Casing Diameter (in.) _____

Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Concrete	Surface	0.5		
Chipped bentonite	0.5	20.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Probe Technologies | Date of Abandonment: 6/12/06

Signature of Person Doing Work | Date Signed: 4-11-07

Street or Route | Telephone Number

City, State, Zip Code

FOR DNR OR COUNTY USE ONLY

Date Received | Noted By

Comments

State of Wisconsin
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WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000 Page 1 of 2

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

(1) GENERAL INFORMATION

WI Unique Well No.	DNR Well ID No.	County
		Kenosha

Common Well Name GP-110 _____ Gov't Lot (if applicable)

NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W
Grid Location

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ____ ° ____ ' ____ " Long ____ ° ____ ' ____ "

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment	WI Unique Well No. of Replacement Well
Site investigation	

(2) FACILITY /OWNER INFORMATION

Facility Name
C & L Industrial Clearners STS No. 200603327

Facility ID	License/Permit/Monitoring No.

Street Address of Well
8927 Sheridan Road

City, Village, or Town
Kenosha

Present Well Owner	Original Owner
	C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date 6/12/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 20.0 (From ground surface) Casing Diameter (in.) _____
Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Concrete	Surface	0.5		
Chipped bentonite	0.5	20.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Probe Technologies
Date of Abandonment: 6/12/06

Signature of Person Doing Work: [signature]
Date Signed: 4-4-07

Street or Route
Telephone Number
City, State, Zip Code

FOR DNR OR COUNTY USE ONLY

Date Received	Noted By

Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000 Page 1 of 2

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

(1) GENERAL INFORMATION

WI Unique Well No. | DNR Well ID No. | County: Kenosha

Common Well Name: GP-111 Gov't Lot (if applicable)

Grid Location: NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ° ' " Long ° ' " or

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Site investigation | WI Unique Well No. of Replacement Well

(2) FACILITY /OWNER INFORMATION

Facility Name: C & L Industrial Cleaners STS No. 200603327

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 8927 Sheridan Road

City, Village, or Town: Kenosha

Present Well Owner | Original Owner: C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 6/12/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 20.0 (From ground surface) Casing Diameter (in.) _____
Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Concrete	Surface	0.5		
Chipped bentonite	0.5	20.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Probe Technologies | Date of Abandonment: 6/12/06

Signature of Person Doing Work | Date Signed: 4-1-07

Street or Route | Telephone Number

City, State, Zip Code

FOR DNR OR COUNTY USE ONLY

Date Received | Noted By

Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000 Page 1 of 2

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

(1) GENERAL INFORMATION

WI Unique Well No. | DNR Well ID No. | County: Kenosha

Common Well Name: GP-301 Gov't Lot (if applicable): _____

Grid Location: NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ° ' " Long ° ' " or

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Site investigation | WI Unique Well No. of Replacement Well:

(2) FACILITY /OWNER INFORMATION

Facility Name: C & L Industrial Clearners STS No. 200603327

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 8927 Sheridan Road

City, Village, or Town: Kenosha

Present Well Owner | Original Owner: C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 6/8/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) (From ground surface): 15.0 Casing Diameter (in.): _____
Casing Depth (ft.): _____

Lower Drillhole Diameter (in.): _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet): _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Chipped bentonite	Surface	15.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Probe Technologies | Date of Abandonment: 6/8/06

Signature of Person Doing Work: [signature] | Date Signed: 4-11-07

Street or Route | Telephone Number

City, State, Zip Code

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Comments

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Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000

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

(1) GENERAL INFORMATION

WI Unique Well No. | DNR Well ID No. | County: Kenosha

Common Well Name: GP-302 Gov't Lot (if applicable): _____

Grid Location: NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ° ' " Long ° ' " or

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Site investigation | WI Unique Well No. of Replacement Well:

(2) FACILITY /OWNER INFORMATION

Facility Name: C & L Industrial Cleaners STS No. 200603327

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 8927 Sheridan Road

City, Village, or Town: Kenosha

Present Well Owner | Original Owner: C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 6/8/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 15.0 (From ground surface) Casing Diameter (in.) _____
Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured ☐ Other (Explain)
(Bentonite Chips)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Chipped bentonite	Surface	15.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Probe Technologies | Date of Abandonment: 6/8/06

Signature of Person Doing Work | Date Signed: 4-11-07

Street or Route | Telephone Number

City, State, Zip Code

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Date Received | Noted By

Comments

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Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000 Page 1 of 2

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

(1) GENERAL INFORMATION

WI Unique Well No. | DNR Well ID No. | County: Kenosha

Common Well Name: GP-303 Gov't Lot (if applicable): _____

Grid Location: NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ° ' " Long ° ' " or

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Site investigation

WI Unique Well No. of Replacement Well:

(2) FACILITY /OWNER INFORMATION

Facility Name: C & L Industrial Cleaners STS No. 200603327

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 8927 Sheridan Road

City, Village, or Town: Kenosha

Present Well Owner | Original Owner: C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 6/8/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:

☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:

☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 15.0 (From ground surface) Casing Diameter (in.) _____

Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material

☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured ☐ Other (Explain)
(Bentonite Chips)

Sealing Materials

☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only

☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Chipped bentonite	Surface	15.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Probe Technologies | Date of Abandonment: 6/8/06

Signature of Person Doing Work: [signature] | Date Signed: 4-11-07

Street or Route | Telephone Number

City, State, Zip Code

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Date Received | Noted By

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Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000 Page 1 of 2

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

(1) GENERAL INFORMATION

WI Unique Well No.	DNR Well ID No.	County
		Kenosha

Common Well Name GP-401 _____ Gov't Lot (if applicable)

Grid Location NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ____ ° ____ ' ____ " Long ____ ° ____ ' ____ " or

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment	WI Unique Well No. of Replacement Well
Site investigation	

(2) FACILITY /OWNER INFORMATION

Facility Name: C & L Industrial Cleaners STS No. 200603327

Facility ID	License/Permit/Monitoring No.

Street Address of Well: 8927 Sheridan Road

City, Village, or Town: Kenosha

Present Well Owner	Original Owner
	C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date 6/8/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 15.0 (From ground surface) Casing Diameter (in.) _____
Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Chipped bentonite	Surface	15.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work	Date of Abandonment
Probe Technologies	6/8/06
Signature of Person Doing Work	Date Signed
[signature]	4-11-07
Street or Route	Telephone Number
City, State, Zip Code	

FOR DNR OR COUNTY USE ONLY

Date Received	Noted By

Comments

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WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 · 2/2000 Page 1 of 2

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

(1) GENERAL INFORMATION

WI Unique Well No. | DNR Well ID No. | County: Kenosha

Common Well Name: GP-402 _____ Gov't Lot (if applicable)

Grid Location: NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ° ' " Long ° ' " or

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Site investigation

WI Unique Well No. of Replacement Well:

(2) FACILITY /OWNER INFORMATION

Facility Name: C & L Industrial Cleaners STS No. 200603327

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 8927 Sheridan Road

City, Village, or Town: Kenosha

Present Well Owner | Original Owner: C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 6/8/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) (From ground surface): 15.0
Casing Diameter (in.): _____
Casing Depth (ft.): _____
Lower Drillhole Diameter (in.): _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown
If Yes, To What Depth? _____ Feet
Depth to Water (Feet): _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Chipped bentonite	Surface	15.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Probe Technologies | Date of Abandonment: 6/8/06

Signature of Person Doing Work: [signature] | Date Signed: 4-1-07

Street or Route | Telephone Number

City, State, Zip Code

FOR DNR OR COUNTY USE ONLY

Date Received | Noted By

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WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000 Page 1 of 2

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

(1) GENERAL INFORMATION

WI Unique Well No. | DNR Well ID No. | County: Kenosha

Common Well Name: GP-403 Gov't Lot (if applicable)

Grid Location: NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ° ' " Long ° ' " or

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Site investigation

WI Unique Well No. of Replacement Well:

(2) FACILITY /OWNER INFORMATION

Facility Name: C & L Industrial Clearners STS No. 200603327

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 8927 Sheridan Road

City, Village, or Town: Kenosha

Present Well Owner | Original Owner: C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 6/8/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 15.0 (From ground surface)
Casing Diameter (in.) _____
Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Chipped bentonite	Surface	15.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Probe Technologies | Date of Abandonment: 6/8/06

Signature of Person Doing Work: [signature] | Date Signed: 9-11-07

Street or Route | Telephone Number

City, State, Zip Code

FOR DNR OR COUNTY USE ONLY

Date Received | Noted By

Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000

Notice: Please complete Form 3300-5 and return it to the appropriate DNR office and bureau. Completion of this report 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 this form 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 this form is not intended to be used for any other purpose. NOTE: See the instructions for more information.

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

(1) GENERAL INFORMATION

WI Unique Well No. | DNR Well ID No. | County: Kenosha

Common Well Name: GP-404 Gov't Lot (if applicable)

Grid Location: NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ° ' " Long ° ' " or

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Site investigation | WI Unique Well No. of Replacement Well

(2) FACILITY /OWNER INFORMATION

Facility Name: C & L Industrial Cleaners STS No. 200603327

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 8927 Sheridan Road

City, Village, or Town: Kenosha

Present Well Owner | Original Owner: C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 6/8/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 15.0 (From ground surface) Casing Diameter (in.) _____
Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Chipped bentonite	Surface	15.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Probe Technologies | Date of Abandonment: 6/8/06

Signature of Person Doing Work: [signature] | Date Signed: 4-11-07

Street or Route | Telephone Number

City, State, Zip Code

FOR DNR OR COUNTY USE ONLY

Date Received | Noted By

Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000 Page 1 of 2

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

(1) GENERAL INFORMATION

WI Unique Well No. | DNR Well ID No. | County: Kenosha

Common Well Name: GP-601 Gov't Lot (if applicable): _____

Grid Location: NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ° ' " Long ° ' " or

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Site investigation | WI Unique Well No. of Replacement Well:

(2) FACILITY /OWNER INFORMATION

Facility Name: C & L Industrial Cleaners STS No. 200603327

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 8927 Sheridan Road

City, Village, or Town: Kenosha

Present Well Owner | Original Owner: C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 6/8/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 15.0 (From ground surface) Casing Diameter (in.) _____

Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Chipped bentonite	Surface	15.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Probe Technologies | Date of Abandonment: 6/8/06

Signature of Person Doing Work: [signature] | Date Signed: 7-11-07

Street or Route | Telephone Number

City, State, Zip Code

FOR DNR OR COUNTY USE ONLY

Date Received | Noted By

Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5 2/2000 Page 1 of 2

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

(1) GENERAL INFORMATION

WI Unique Well No.	DNR Well ID No.	County
		Kenosha

Common Well Name GP-602 _____ Gov't Lot (if applicable)

Grid Location NE 1/4 of SE 1/4 of Sec. 18 ; T. 1 N; R. 23 ☒ E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat ° ' " Long ° ' " or

State Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment	WI Unique Well No. of Replacement Well
Site investigation	

(2) FACILITY /OWNER INFORMATION

Facility Name: C & L Industrial Cleaners STS No. 200603327

Facility ID	License/Permit/Monitoring No.

Street Address of Well: 8927 Sheridan Road

City, Village, or Town: Kenosha

Present Well Owner	Original Owner
	C & L Industrial Cleaners

Street Address or Route of Owner

City, State, Zip Code

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date 6/8/2006

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☒ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 15.0 (From ground surface) Casing Diameter (in.) _____
Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☒ Conductor Pipe - Gravity ☐ Conductor Pipe - Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite-Cement Grout
☐ Bentonite - Sand Slurry

(5) Sealing Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
Chipped bentonite	Surface	15.0		

(6) Comments _____

(7) Name of Person or Firm Doing Sealing Work: Probe Technologies

Date of Abandonment: 6/8/06

Signature of Person Doing Work: [signature] Date Signed: 4-11-07

Street or Route _____ Telephone Number _____

City, State, Zip Code _____

FOR DNR OR COUNTY USE ONLY

Date Received	Noted By

Comments

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
C & L Industrial Clearners STS No. 200603327		MW-20

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Ray STS Exploration	8/10/2006	8/10/2006	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PM097		MW-20	Feet MSL	Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 / 21.6	8 6 7 9	1.5	Fill: Fine to Medium Sand	Fill			0.3						
2 SS	24 / 24	6 4 4 4	3.0	Fine to Medium Sand - brown and light brown - moist	SP			0.2						
3 SS	24 / 18	3 2 2 4	4.5	Clayey Silt, Trace Fine to Medium Sand, Trace Fine Gravel - brown and gray - moist	ML			0.2						
4 SS	24 / 24	2 1 1 1	6.0	Silty Fine to Medium Sand - brown and gray - wet	SM			.85						
5 SS	24 / 24	2 4 6 9	7.5 / 9.0					35.7						
6 SS	24 / 20.4	8 9 10 12	10.5	Clayey Silt, Trace Fine to Medium Sand - gray - wet	ML			23.9						
7 SS	36 / 24	6 7 8 10	12.0 / 13.5	Fine Sand, Trace Silt - gray - wet	SP			113						
			15.0	End of Boring. Boring advanced to 15.5 feet by hollow stem auger. Groundwater monitoring well installed to 15.0 feet.										

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

Signature [signature] Firm STS Consultants Ltd. Tel: Fax:

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

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: C & L Industrial Cleaners STS No. 200603327	Local Grid Location of Well: ____ ft. ☐N. ☐S. ____ ft. ☐E. ☐W.	Well Name: MW-20
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: PM097 / DNR Well Number:
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 08/10/2006
Type of Well: Well Code 11/mw	Section Location of Waste/Source: NE 1/4 of SE 1/4 of Sec. 18, T. 1 N, R. 23 ☒E ☐W	Well Installed By: (Person's Name and Firm): Ray G & Chris D; STS Consultants, Ltd.
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 Number

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation 607.57 ft. MSL

C. Land surface elevation 608.0 ft. MSL

D. Surface seal, bottom 607.0 ft. MSL or 1.0 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 ☐ 5 0 / Hollow Stem Auger ☒ 4 1 / ____ Other ☐ __

15. Drilling fluid used: Water ☐ 0 2 / Air ☐ 0 1 / Drilling Mud ☐ 0 3 / None ☒ 9 9

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of water (attach analysis, if required):

E. Bentonite seal, top 607.0 ft. MSL or 1.0 ft.

F. Fine sand, top 605.0 ft. MSL or 3.0 ft.

G. Filter pack, top 605.0 ft. MSL or 3.0 ft.

H. Screen joint, top 603.0 ft. MSL or 5.0 ft.

I. Well bottom 593.0 ft. MSL or 15.0 ft.

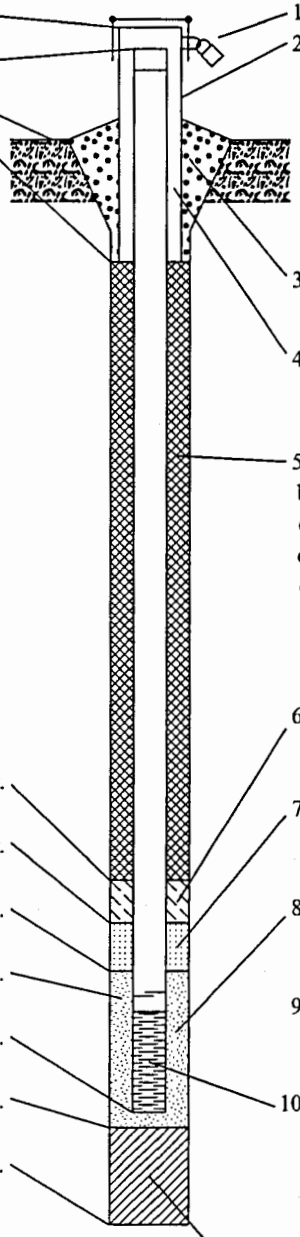
J. Filter pack, bottom 592.5 ft. MSL or 15.5 ft.

K. Borehole, bottom 592.5 ft. MSL or 15.5 ft.

L. Borehole, diameter 8.0 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: 9.0 ir
b. Length: 1.0 f
c. Material: Steel ☒ 0 4 / ____ Other ☐ __
d. Additional protection? ☒ Yes ☐ No
If yes, describe: no

3. Surface seal: Bentonite ☐ 3 0 / Concrete ☒ 0 1 / ____ Other ☐ __

4. Material between well casing and protective pipe:
Bentonite ☒ 3 0 / sand Other ☐ __

5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____ % Bentonite . . . Bentonite-cement grout ☐ 5 0
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1 / Tremie pumped ☐ 0 2 / Gravity ☒ 0 8

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

7. Fine sand material: Manufacturer, product name & mesh size
a. Badger #45-55
b. Volume added ____ ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Badger #45-55
b. Volume added ____ ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 2 3 / Flush threaded PVC schedule 80 ☐ 2 4 / ____ Other ☐ __

10. Screen material: PVC sch.40
a. Screen Type: Factory cut ☒ 1 1 / Continuous slot ☐ 0 1 / ____ Other ☐ __
b. Manufacturer Buffalo
c. Slot size: 0.010 ir
d. Slotted length: 10.0 f

11. Backfill material (below filter pack): None ☒ 1 4 / ____ Other ☐ __

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

Signature: Danielle Mehlenbacher Firm: STS Consultants Ltd. Tel Fax

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	Well Name
C & L Industrial Cleaners STS No. 200603327	Kenosha	MW-20

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	30	PM097	

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 surged & purged with pump	☒	

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 14.6 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 5.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added ____

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.	7.69 ft.	7.68 ft.
Date	b.	8/14/2006	8/14/2006
Time	c.	12:00 ☒ a.m. ☐ p.m.	12:00 ☒ a.m. ☐ p.m.
12. Sediment in well bottom		0.2 inches	0.0 inches
13. Water clarity		Clear ☐ 10 Turbid ☒ 15 (Describe) dark gray	Clear ☒ 20 Turbid ☐ 25 (Describe)
14. Total suspended solids		mg/l	mg/l
15. COD		mg/l	mg/l

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

16. Well developed by: Person's Name and Firm
Adam Florin
STS Consultants, Ltd.

17. Additional comments on development:
Surged & purged well dry 6 times

Facility Address or Owner/Responsible Party Address

Name: Adam Florin
Firm: STS Consultants, Ltd.
Street: 11425 W. Lake Park Drive
City/State/Zip: Milwaukee, Wisconsin 53224

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

Signature: Adam Florin
Print Name: Adam Florin
Firm: STS Consultants Ltd.

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

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
C & L Industrial Cleaners STS No. 200603327		MW-21

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Ray STS Exploration	8/11/2006	8/11/2006	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PM099		MW-21	Feet MSL	607.4 Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 13.2	4 5 6	1.5	Fill: Clayey Silt and Fine to Medium Sand, Trace Coarse Sand and Fine Gravel - black, green, dark brown, and tan - moist - organic oder	Fill			8.5						
2 SS	24 16.8	6 3 3 4	3.0					22.7						
3 SS	24 21.6	6 3 4 5	4.5	Clayey Silt and Fine to Medium Sand, Trace Fine Gravel - gray and light brown - moist	ML			10.6						
4 SS	24 18	5 4 5	6.0	Silty Fine to Medium Sand - brown and gray - moist	SM			20.7						
5 SS	24 20.4	7 6 7	7.5	Silt and Fine Sand, Trace Clay - gray - moist to wet at 12.0'				3.1						
6 SS	24 22.8	13 15 12	9.0					5.0						
7 SS	24 22.8	5 11 15	10.5					0						
8 SS	24 24	16 10 7	12.0		SM			1.3						
9 SS	24 24	6 6 2	13.5					0						
		3 4 4	15.0											
		woh 1 2	16.5											
		2	18.0	End of Boring. Boring advanced to 18.5 feet by hollow stem auger. Groundwater monitoring well installed to 18.0 feet.										

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

Signature Danielle Ackerbauer Firm STS Consultants Ltd. Te Fax

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

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: C & L Industrial Cleaners STS No. 200603327	Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	Well Name: MW-21
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: PM099 / DNR Well Number:
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 08/11/2006
Type of Well: Well Code 11/mw	Section Location of Waste/Source: NE 1/4 of SE 1/4 of Sec. 18, T. 1 N, R. 23 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Ray G & Chris D
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 Number: ____
		STS Consultants, Ltd.

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation 606.93 ft. MSL

C. Land surface elevation 607.4 ft. MSL

D. Surface seal, bottom 606.4 ft. MSL or 1.0 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 ☐ 5 0 / Hollow Stem Auger ☒ 4 1 / ____ Other ☐ __

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1 Drilling Mud ☐ 0 3 None ☒ 9 9

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of water (attach analysis, if required):

E. Bentonite seal, top 606.4 ft. MSL or 1.0 ft.

F. Fine sand, top 603.4 ft. MSL or 4.0 ft.

G. Filter pack, top 603.4 ft. MSL or 4.0 ft.

H. Screen joint, top 599.4 ft. MSL or 8.0 ft.

I. Well bottom 589.4 ft. MSL or 18.0 ft.

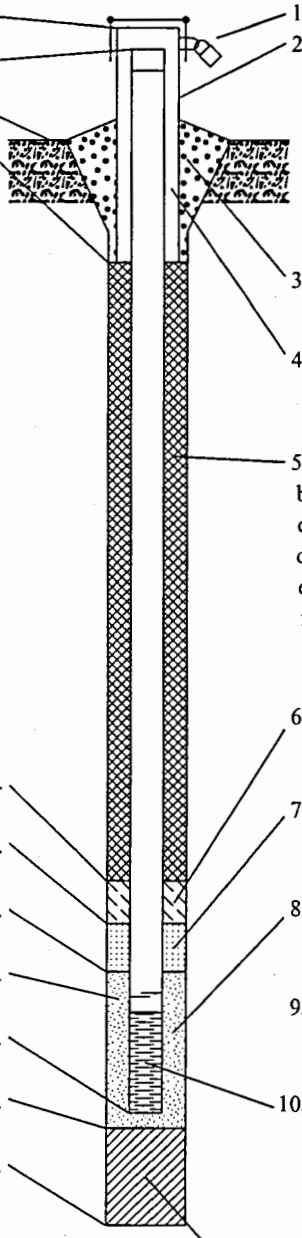
J. Filter pack, bottom 588.9 ft. MSL or 18.5 ft.

K. Borehole, bottom 588.9 ft. MSL or 18.5 ft.

L. Borehole, diameter 8.0 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: 9.0 ir
b. Length: 1.0 f
c. Material: Steel ☒ 0 4 / ____ Other ☐ __
d. Additional protection? ☒ Yes ☐ No
If yes, describe: no

3. Surface seal: Bentonite ☐ 3 0 / Concrete ☒ 0 1 / ____ Other ☐ __

4. Material between well casing and protective pipe: Bentonite ☒ 3 0 / sand Other ☐ __

5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____ % Bentonite . . . Bentonite-cement grout ☐ 5 0
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1 / Tremie pumped ☐ 0 2 / Gravity ☒ 0 8

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

7. Fine sand material: Manufacturer, product name & mesh size
a. Badger #45-55 __
b. Volume added ____ ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Badger #45-55 __
b. Volume added ____ ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 2 3 / Flush threaded PVC schedule 80 ☐ 2 4 / ____ Other ☐ __

10. Screen material: PVC sch.40 __
a. Screen Type: Factory cut ☒ 1 1 / Continuous slot ☐ 0 1 / ____ Other ☐ __
b. Manufacturer Buffalo
c. Slot size: 0.010 ir
d. Slotted length: 10.0 f

11. Backfill material (below filter pack): None ☒ 1 4 / ____ Other ☐ __

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

Signature: Lavette Ackenbach | Firm: STS Consultants Ltd. | Tel / Fax

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	Well Name
C & L Industrial Clearners STS No. 200603327	Kenosha	MW-21

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	30	PM099	

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 surged & purged with pump	☒	

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 17.7 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 6.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added ____

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.	8.71 ft.	8.71 ft.
Date	b.	8/14/2006	8/14/2006
Time	c.	12:00 ☒ a.m. ☐ p.m.	12:00 ☒ a.m. ☐ p.m.
12. Sediment in well bottom		0.4 inches	0.0 inches
13. Water clarity		Clear ☐ 10 Turbid ☒ 15 (Describe) dark gray	Clear ☒ 20 Turbid ☐ 25 (Describe)
14. Total suspended solids		mg/l	mg/l
15. COD		mg/l	mg/l

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

16. Well developed by: Person's Name and Firm
Adam Florin
STS Consultants, Ltd.

17. Additional comments on development:
Surged & purged well dry 6 times

Facility Address or Owner/Responsible Party Address

Name: Adam Florin
Firm: STS Consultants, Ltd.
Street: 11425 W. Lake Park Drive
City/State/Zip: Milwaukee, Wisconsin 53224

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

Signature: Adam Florin (dbl)
Print Name: Adam Florin
Firm: STS Consultants Ltd.

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

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
C & L Industrial Cleaners STS No. 200603327		MW-23

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Ray STS Exploration	8/11/2006	8/11/2006	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PM100		MW-23	Feet MSL	608.0 Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	18 18	1 1 1	1.5	Fill: Gravel	Fill									
				Fill: Silty Fine to Medium Sand - brown - moist	Fill			0						
2 SS	24 20.4	- 2 2	3.0	Fine to Medium Sand, Trace Silty Clay From 6.0' to 8.0' - tan and light brown - moist				0						
3 SS	24 24	3 4 3	4.5		SP			0						
4 SS	24 24	3 3 3	6.0					0						
		3 2 2	7.5											
5 SS	24 24	3 7 7	9.0	Silty Fine to Medium Sand - gray - moist to wet at 9.0'	SM			0						
		11 13 15												
6 SS	24 21.6	6 7 10	10.5	Silty Fine Sand - gray - wet				0						
		11	12.0		SM									
7 SS	36 19.2	13 13 11	13.5					0						
		11	15.0											
				End of Boring. Boring advanced to 15.5 feet by hollow stem auger. Groundwater monitoring well installed to 15.0 feet.										

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

Signature [signature] Firm STS Consultants Ltd. Te Fax

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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: C & L Industrial Cleaners STS No. 200603327	Local Grid Location of Well: ____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	Well Name: MW-23
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: PM100 / DNR Well Number:
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 08/11/2006
Type of Well: Well Code 11/mw	Section Location of Waste/Source: NE 1/4 of SE 1/4 of Sec. 18, T. 1 N, R. 23 ☒E ☐W	Well Installed By: (Person's Name and Firm): Ray G & Chris D; STS Consultants, Ltd.
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 Number

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation 607.54 ft. MSL

C. Land surface elevation 608.0 ft. MSL

D. Surface seal, bottom 607.0 ft. MSL or 1.0 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 607.0 ft. MSL or 1.0 ft.

F. Fine sand, top 605.0 ft. MSL or 3.0 ft.

G. Filter pack, top 605.0 ft. MSL or 3.0 ft.

H. Screen joint, top 603.0 ft. MSL or 5.0 ft.

I. Well bottom 593.0 ft. MSL or 15.0 ft.

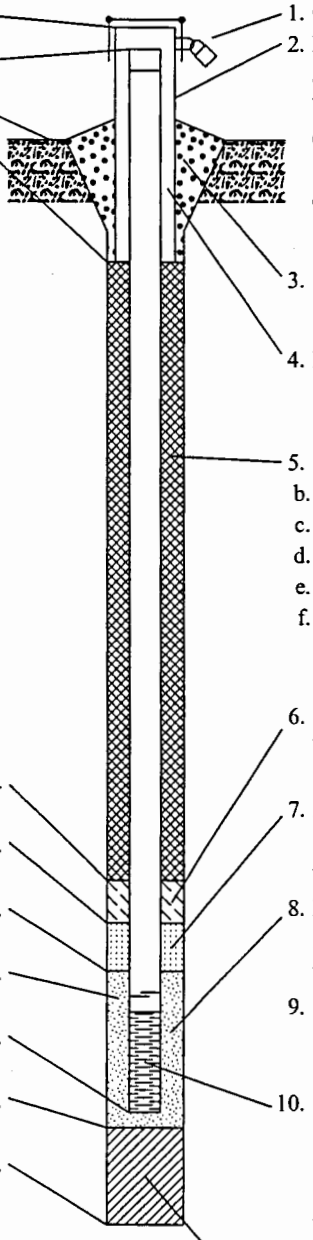
J. Filter pack, bottom 592.5 ft. MSL or 15.5 ft.

K. Borehole, bottom 592.5 ft. MSL or 15.5 ft.

L. Borehole, diameter 8.0 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: 9.0 ir
b. Length: 1.0 f
c. Material: Steel ☒ 04 / ____ Other ☐
d. Additional protection? ☒ Yes ☐ No
If yes, describe: no

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

4. Material between well casing and protective pipe: Bentonite ☒ 30 / sand Other ☐

5. Annular space seal: a. Granular/Chipped 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 chips ☒ 32
c. ____ Other ☐

7. Fine sand material: Manufacturer, product name & mesh size
a. Badger #45-55
b. Volume added ____ ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Badger #45-55
b. Volume added ____ ft^3

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

10. Screen material: PVC sch.40
a. Screen Type: Factory cut ☒ 11 / Continuous slot ☐ 01 / ____ Other ☐
b. Manufacturer Buffalo
c. Slot size: 0.010 ir
d. Slotted length: 10.0 f

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: Danette Ackenbach | Firm: STS Consultants Ltd. | Tel / Fax

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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	Well Name
C & L Industrial Clearners STS No. 200603327	Kenosha	MW-23

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	30	PM100	

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 surged & purged with pump	☒	

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 14.3 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 4.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added ____

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.	8.16 ft.	8.16 ft.
Date	b.	8/14/2006	8/14/2006
Time	c.	12:00 ☒ a.m. ☐ p.m.	12:00 ☒ a.m. ☐ p.m.
12. Sediment in well bottom		0.0 inches	0.0 inches
13. Water clarity		Clear ☐ 10 Turbid ☒ 15 (Describe) gray	Clear ☒ 20 Turbid ☐ 25 (Describe)
14. Total suspended solids		mg/l	mg/l
15. COD		mg/l	mg/l

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

16. Well developed by: Person's Name and Firm
Adam Florin
STS Consultants, Ltd.

17. Additional comments on development:
Surged & purged well dry 5 times

Facility Address or Owner/Responsible Party Address

Name: Adam Florin
Firm: STS Consultants, Ltd.
Street: 11425 W. Lake Park Drive
City/State/Zip: Milwaukee, Wisconsin 53224

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

Signature: Adam Florin (dh)
Print Name: Adam Florin
Firm: STS Consultants Ltd.

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

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
C & L Industrial Clearners STS No. 200603327		MW-24

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Ray STS Exploration	8/10/2006	8/10/2006	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PM098		MW-24	Feet MSL	Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				Concrete	Concrete									
1 SS	18 18	16 10 8	1.5	Fill: Fine to Coarse Sand, Some Concrete, Trace Cinders/Slag, Trace Fine to Medium Gravel - white, green, and black - moist - odor	Fill			136						
2 SS	24 20.4	- 3 1 2	3.0	Fill: Fine to Medium Sand, Trace Clay, Trace Organic Matter - dark brown and black - moist	Fill			101						
3 SS	24 18	4 2 2 2	4.5	Clay and Fine to Medium Sand, Some Coarse Sand, Trace Fine Gravel - brown - moist	CL			35.3						
4 SS	24 14.4	1 woh 6 8	6.0 7.5	Clayey Silt and Fine to Medium Sand, Little Fine Gravel, Trace Broken Rock - brown and gray - wet	ML			47.3						
5 SS	24 24	10 6 9 11	9.0	Silty Fine to Medium Sand - gray - wet	SM			23.1						
6 SS	24 12	12 6 8 10 11	10.5 12.0					12						
7 SS	36 24	6 10 11 10	13.5 15.0	Clayey Silt, Some Fine Sand - light brown - wet	ML			17.3						
				End of Boring. Boring advanced to 15.5 feet by hollow stem auger. Groundwater monitoring well installed to 15.0 feet.										

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

Signature Lauette Arbenbau Firm STS Consultants Ltd. Tel: Fax:

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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: C & L Industrial Cleaners STS No. 200603327	Local Grid Location of Well: ____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	Well Name: MW-24
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: PM098 / DNR Well Number:
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 08/10/2006
Type of Well: Well Code 11/mw	Section Location of Waste/Source: NE 1/4 of SE 1/4 of Sec. 18, T. 1 N, R. 23 ☒E ☐W	Well Installed By: (Person's Name and Firm): Ray G & Chris D
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 Number: / STS Consultants, Ltd.

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation 611.31 ft. MSL

C. Land surface elevation 608.4 ft. MSL

D. Surface seal, bottom 607.9 ft. MSL or 0.5 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 607.9 ft. MSL or 0.5 ft.

F. Fine sand, top 605.4 ft. MSL or 3.0 ft.

G. Filter pack, top 605.4 ft. MSL or 3.0 ft.

H. Screen joint, top 603.4 ft. MSL or 5.0 ft.

I. Well bottom 593.4 ft. MSL or 15.0 ft.

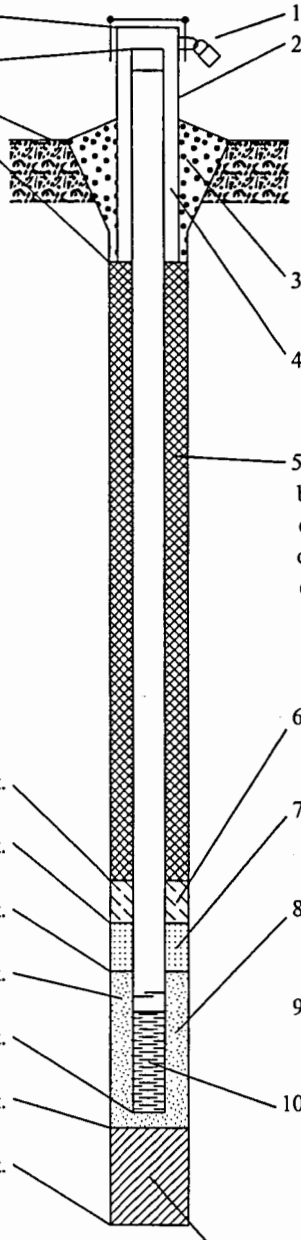
J. Filter pack, bottom 592.9 ft. MSL or 15.5 ft.

K. Borehole, bottom 592.9 ft. MSL or 15.5 ft.

L. Borehole, diameter 8.0 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: 4.0 ir
b. Length: 7.0 f
c. Material: Steel ☒ 04 ____ Other ☐ __
d. Additional protection? ☒ Yes ☐ No
If yes, describe: no

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

4. Material between well casing and protective pipe: Bentonite ☒ 30 sand Other ☐ __

5. Annular space seal: a. Granular/Chipped 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 chips ☒ 32
c. ____ Other ☐ __

7. Fine sand material: Manufacturer, product name & mesh size
a. Badger #45-55
b. Volume added ____ ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Badger #45-55
b. Volume added ____ ft^3

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

10. Screen material: PVC sch.40
a. Screen Type: Factory cut ☒ 11 Continuous slot ☐ 01 ____ Other ☐ __
b. Manufacturer Buffalo
c. Slot size: 0.010 ir
d. Slotted length: 10.0 f

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: Daniel A. Abelbeck Firm: STS Consultants Ltd. Tel Fax

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	Well Name
C & L Industrial Clearners STS No. 200603327	Kenosha	MW-24

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	30	PM098	

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 surged & purged with pump	☒	

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 18.2 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 5.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added ____

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.	11.68 ft.	11.68 ft.
Date	b.	8/14/2006	8/14/2006
Time	c.	12:00 ☒ a.m. ☐ p.m.	12:00 ☒ a.m. ☐ p.m.
12. Sediment in well bottom		0.1 inches	0.0 inches
13. Water clarity		Clear ☐ 10 Turbid ☒ 15 (Describe) dark gray	Clear ☒ 20 Turbid ☐ 25 (Describe)
14. Total suspended solids		mg/l	mg/l
15. COD		mg/l	mg/l

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

16. Well developed by: Person's Name and Firm
Adam Florin
STS Consultants, Ltd.

17. Additional comments on development:
Surged & purged well dry 6 times

Facility Address or Owner/Responsible Party Address

Name: Adam Florin
Firm: STS Consultants, Ltd.
Street: 11425 W. Lake Park Drive
City/State/Zip: Milwaukee, Wisconsin 53224

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

Signature: Adam F Florin (dlw)
Print Name: Adam Florin
Firm: STS Consultants Ltd.

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

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
C & L Industrial Clearners STS No. 200603327		MW-26

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Ray STS Exploration	8/11/2006	8/11/2006	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PM101		MW-26	Feet MSL	Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
NE 1/4 of SE 1/4 of Section 18, T 1 N, R 23 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Kenosha	30	Kenosha

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	Plasticity Index	P 200	RQD/ Comments
1 SS	24 / 20.4	10 13 15 14	1.5	Fill: Fine to Medium Sand, Some Coarse Sand, Little Fine Gravel - brown - moist - odor	Fill			0						
2 SS	24 / -	- - - -	3.0	Split Spoon Refusal				-						
3 SS	24 / 24	2 1 1 1	4.5	Clayey Silt and Fine to Medium Sand - brown, gray and tan - moist	ML			0						
4 SS	24 / 21.6	2 3 4 5	6.0	Silty Fine to Medium Sand - gray - moist with wetness at 7.0'	SM			0						
5 SS	24 / 18	5 7 7 7	7.5 / 9.0					0						
6 SS	24 / 14.4	3 4 3 3	10.5 / 12.0	Silty Clay and Fine Sand - gray - wet	ML			0						
7 SS	36 / 18	4 3 4 4	13.5 / 15.0					0						
				End of Boring. Boring advanced to 15.5 feet by hollow stem auger. Groundwater monitoring well installed to 15.0 feet.										

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

Signature Janette Ackenbach Firm STS Consultants Ltd. Tel: Fax:

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

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: C & L Industrial Cleaners STS No. 200603327	Local Grid Location of Well: ____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	Well Name: MW-26
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: PM101 / DNR Well Number:
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 08/11/2006
Type of Well: Well Code 11/mw	Section Location of Waste/Source: NE 1/4 of SE 1/4 of Sec. 18, T. 1 N, R. 23 ☒E ☐W	Well Installed By: (Person's Name and Firm): Ray G & Chris D
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 Number: / STS Consultants, Ltd.

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation 606.53 ft. MSL

C. Land surface elevation 603.6 ft. MSL

D. Surface seal, bottom 603.1 ft. MSL or 0.5 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 ☐ 5 0 / Hollow Stem Auger ☒ 4 1 / ____ Other ☐ __

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1 Drilling Mud ☐ 0 3 None ☒ 9 9

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of water (attach analysis, if required):

E. Bentonite seal, top 603.1 ft. MSL or 0.5 ft.

F. Fine sand, top 600.6 ft. MSL or 3.0 ft.

G. Filter pack, top 600.6 ft. MSL or 3.0 ft.

H. Screen joint, top 598.6 ft. MSL or 5.0 ft.

I. Well bottom 588.6 ft. MSL or 15.0 ft.

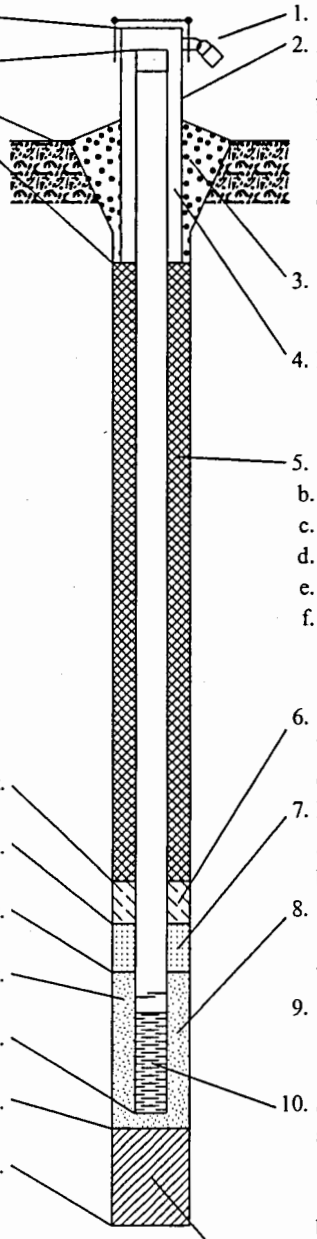
J. Filter pack, bottom 588.1 ft. MSL or 15.5 ft.

K. Borehole, bottom 588.1 ft. MSL or 15.5 ft.

L. Borehole, diameter 8.0 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: 4.0 ir
b. Length: 7.0 f
c. Material: Steel ☒ 0 4 / ____ Other ☐ __
d. Additional protection? ☒ Yes ☐ No
If yes, describe: no

3. Surface seal: Bentonite ☐ 3 0 / Concrete ☒ 0 1 / ____ Other ☐ __

4. Material between well casing and protective pipe: Bentonite ☒ 3 0 / sand Other ☐ __

5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____% Bentonite . . . Bentonite-cement grout ☐ 5 0
e. ____Ft³ volume added for any of the above
f. How installed: Tremie ☐ 0 1 / Tremie pumped ☐ 0 2 / Gravity ☒ 0 8

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

7. Fine sand material: Manufacturer, product name & mesh size
a. Badger #45-55
b. Volume added ____ ft³

8. Filter pack material: Manufacturer, product name & mesh size
a. Badger #45-55
b. Volume added ____ ft³

9. Well casing: Flush threaded PVC schedule 40 ☒ 2 3 / Flush threaded PVC schedule 80 ☐ 2 4 / ____ Other ☐ __

10. Screen material: PVC sch.40
a. Screen Type: Factory cut ☒ 1 1 / Continuous slot ☐ 0 1 / ____ Other ☐ __
b. Manufacturer Buffalo
c. Slot size: 0.010 ir
d. Slotted length: 10.0 f

11. Backfill material (below filter pack): None ☒ 1 4 / ____ Other ☐ __

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

Signature: Danielle Ackenbach Firm: STS Consultants Ltd. Tel Fax

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	Well Name
C & L Industrial Clearners STS No. 200603327	Kenosha	MW-26

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	30	PM101	

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 surged & purged with pump	☒	

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 18.4 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 4.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added ____

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.	10.63 ft.	10.62 ft.
Date	b.	8/14/2006	8/14/2006
Time	c.	12:00 ☒ a.m. ☐ p.m.	12:00 ☒ a.m. ☐ p.m.
12. Sediment in well bottom		0.2 inches	0.0 inches
13. Water clarity		Clear ☐ 10 Turbid ☒ 15 (Describe) light gray	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: Person's Name and Firm
Adam Florin
STS Consultants, Ltd.

17. Additional comments on development:
Surged & purged well dry 5 times

Facility Address or Owner/Responsible Party Address

Name: Adam Florin
Firm: STS Consultants, Ltd.
Street: 11425 W. Lake Park Drive
City/State/Zip: Milwaukee, Wisconsin 53224

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

Signature: Adam Florin (ldw)
Print Name: Adam Florin
Firm: STS Consultants Ltd.

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

APPENDIX B

Investigative Waste Disposal Documentation

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number

2. Page 1 of

3. Emergency Response Phone

4. Manifest Tracking Number: 002123165 JJK

GENERATOR

5. Generator's Name and Mailing Address

Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

U.S. EPA ID Number

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1.	01		55				
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name | Signature | Month 11 | Day 11 | Year 06

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: DAVID Wilmer | Signature | Month 12 | Day 11 | Year 06

Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) | U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) | Month | Day | Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name | Signature | Month | Day | Year

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1
W I R 0 0 0 1 3 0 6 7 8	2110	

GENERATOR

3. Generator's Name and Mailing Address
City of Kenosha
8927 Sheridan Road
Kenosha WI 53143
4. Generator's Phone (4 1 4) 5 7 7 - 3 1 6 3

5. Transporter 1 Company Nome	6. US EPA ID Number	A. Transporter's Phone
Badger Disposal of WI, Inc	W I D 9 8 8 5 4 6 1 6 5 8	414 760-9175
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone

9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Badger Disposal of WI, Inc 5611 West Hamlock Street Milwaukee WI 53223	W I D 9 8 8 5 4 6 1 6 5 8	414 760 9175 222

11. Waste Shipping Name and Description	12. Contoiners No.	12. Contoiners Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-regulated material	005	DM	00275	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above	E. Handling Codes for Wastes Listed Above
a) WS010173, Soil	

15. Special Handling Instructions and Additional Information
1)Emergency Contact: Badger Disposal 414-236-1080

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
[illegible]		12	11	06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
[illegible]		12	12	06

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of woste materials covered by this monifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR'S COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
[illegible]	1	[illegible]	002123400 JJK

5. Generator's Name and Mailing Address: [illegible] — Generator's Site Address (if different than mailing address)

Generator's Phone: [illegible]

6. Transporter 1 Company Name: [illegible] — U.S. EPA ID Number: [illegible]

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: [illegible] — U.S. EPA ID Number: [illegible]

Facility's Phone: [illegible]

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. [illegible] Tetrachloroethylene [illegible] UN1897 [illegible] (RQ D039 F002)	[illegible]	DM	[illegible]	[illegible]	[illegible]	[illegible]	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information

1) [illegible] purge water with TCE [illegible] 85 gal overpack, ERG#160

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name — Signature — Month Day Year

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [illegible] — Signature: [illegible] — Month Day Year
Transporter 2 Printed/Typed Name — Signature — Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H141			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name — Signature — Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Terralink Land Disposal Restriction Notification Form

Facility Site Addres

Badger Disposal of WI, Inc.
5611 West Hemlock Street
Milwaukee WI 53223
EPA Id: WID988580056

State Manifest Number: 002123400JJK
Federal Manifest Number:

Generator Mail Addres

City of Kenosha
8927 Sheridan Road
Kenosha WI 53143
EPA Id: WIR000110676

Generator Site Address

City of Kenosha
8927 Sheridan Road
Kenosha WI 53143

Manifest Line Item: 1 a

Certification: General Certificate

Profile Name: purge water with TCE
Profile Number: WS008899 **Aproval Code:** WS008899 **Aproval Status:** Approved

Treatability Group	
WW	NWW
	X

A. F001 - F005 Solvent Restrictions

This restricted waste category is banned from land disposal under 40 CFR 268.30 and is subject to one or more treatment standards under 40 CFR Subpart D.

EPA Code	Hazardous Constituent	CAS	WW Standard	NWW Standard
F002	Tetrachloroethylene	127-18-4	0.056	6.0

F001, F002, F003, F004 and/or F005 solvent wastes that contain any combination of one or more of the following spent solvents: acetone, benzene, n-butyl alcohol, carbon disulfide, carbon tetrachloride, chlorinated fluorocarbons, chlorobenzene, o-cresol, m-cresol, p-cresol, cyclohexanone, o-dichlorobenzene, 2-ethoxyethanol, ethyl acetate, ethyl benzene, ethyl ether, isobutyl alcohol, methanol, methylene chloride, methyl ethyl ketone, methyl isobutyl ketone, nitrobenzene, 2-nitropropane, pyridine, tetrachloroethylene, toluene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethylene, trichloromonofluoromethane, and/or xylenes [except as specifically noted in other subcategories]. See further details of these listings in §261.31.

B. Other Regulated Waste Notification

This section includes all wastes restricted from land disposal not included in other sections. If any treatment standards reference 40 CFR 268.48, then all underlying hazardous constituents are listed in Section D.

EPA Code	Hazardous Constituent	Waste Description and Treatment/ Regulatory Subcategory	CAS	WW Standard	NWW Standard

C. D001 - D043

If any treatment standards reference 40 CFR 268.48, then all underlying hazardous constituents are listed in Section D.

EPA Code	Hazardous Constituent	Waste Description and Treatment/ Regulatory Subcategory	CAS	WW Standard	NWW Standard
D039	Tetrachloroethylene	Wastes that are TC for Tetrachloroethylene based on the TCLP in SW846 Method 1311.	127-18-4	0.056 and meet §268.48 standards	6.0 and meet §268.48 standards

D. Underlying Hazardous Constituents

This section contains the list of all constituents listed in 40 CFR 268.48, Table UTS - Universal Treatment Standards, except vanadium and zinc, which can reasonably be expected to be present at the point of generation of the hazardous waste, at a concentration above the constituent-specific UTS treatment standard.

Hazardous Constituent	WW Standard	NWW Standard

E. Non-Hazardous / Non-Restricted Waste

There are no EPA waste codes that are not subject to land disposal restrictions as specified in 40 CFR Subpart D or applicable prohibitions in 40 CFR 268.32 or RCRA.

Terralink Land Disposal Restriction Notification Form

Facility Site Addres

Badger Disposal of WI, Inc.
5611 West Hemlock Street
Milwaukee WI 53223
EPA Id: WID988580056

State Manifest Number: 002123400JJK
Federal Manifest Number:

Generator Mail Addres

City of Kenosha
8927 Sheridan Road
Kenosha WI 53143
EPA Id: WIR000110676

Generator Site Address

City of Kenosha
8927 Sheridan Road
Kenosha WI 53143

I hereby notify that this shipment contains waste restricted under 40 CFR 268, Land Disposal Restrictions. I hereby certify that all information submitted in this and all attached documents is complete, contains true and accurate descriptions and is representative of the waste material, and that all relevant information regarding known or suspected hazards in the possession of the generator has been disclosed.

Signature _____ Date _____

Terralink Land Disposal Restriction Notification Form

Facility Site Addres

Badger Disposal of WI, Inc.
5611 West Hemlock Street
Milwaukee WI 53223
EPA Id: WID988580056

State Manifest Number: 002123165JJK
Federal Manifest Number:

Generator Mail Addres

City of Kenosha
8927 Sheridan Road
Kenosha WI 53143
EPA Id: WIR000110676

Generator Site Address

City of Kenosha
8927 Sheridan Road
Kenosha WI 53143

Manifest Line Item: 1 a **Certification:** General Certificate

Treatability Group: WW — NWW: X

Profile Name: purge water with TCE
Profile Number: WS008899 **Aproval Code:** WS008899 **Aproval Status:** Approved

A. F001 - F005 Solvent Restrictions

This restricted waste category is banned from land disposal under 40 CFR 268.30 and is subject to one or more treatment standards under 40 CFR Subpart D.

EPA Code	Hazardous Constituent	CAS	WW Standard	NWW Standard
F002	Tetrachloroethylene	127-18-4	0.056	6.0

F001, F002, F003, F004 and/or F005 solvent wastes that contain any combination of one or more of the following spent solvents: acetone, benzene, n-butyl alcohol, carbon disulfide, carbon tetrachloride, chlorinated fluorocarbons, chlorobenzene, o-cresol, m-cresol, p-cresol, cyclohexanone, o-dichlorobenzene, 2-ethoxyethanol, ethyl acetate, ethyl benzene, ethyl ether, isobutyl alcohol, methanol, methylene chloride, methyl ethyl ketone, methyl isobutyl ketone, nitrobenzene, 2-nitropropane, pyridine, tetrachloroethylene, toluene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethylene, trichloromonofluoromethane, and/or xylenes [except as specifically noted in other subcategories]. See further details of these listings in §261.31.

B. Other Regulated Waste Notification

This section includes all wastes restricted from land disposal not included in other sections. If any treatment standards reference 40 CFR 268.48, then all underlying hazardous constituents are listed in Section D.

EPA Code	Hazardous Constituent	Waste Description and Treatment/ Regulatory Subcategory	CAS	WW Standard	NWW Standard

C. D001 - D043

If any treatment standards reference 40 CFR 268.48, then all underlying hazardous constituents are listed in Section D.

EPA Code	Hazardous Constituent	Waste Description and Treatment/ Regulatory Subcategory	CAS	WW Standard	NWW Standard
D039	Tetrachloroethylene	Wastes that are TC for Tetrachloroethylene based on the TCLP in SW846 Method 1311.	127-18-4	0.056 and meet §268.48 standards	6.0 and meet §268.48 standards

D. Underlying Hazardous Constituents

This section contains the list of all constituents listed in 40 CFR 268.48, Table UTS - Universal Treatment Standards, except vanadium and zinc, which can reasonably be expected to be present at the point of generation of the hazardous waste, at a concentration above the constituent-specific UTS treatment standard.

Hazardous Constituent	WW Standard	NWW Standard

E. Non-Hazardous / Non-Restricted Waste

There are no EPA waste codes that are not subject to land disposal restrictions as specified in 40 CFR Subpart D or applicable prohibitions in 40 CFR 268.32 or RCRA.

Terralink Land Disposal Restriction Notification Form

Facility Site Addres

Badger Disposal of WI, Inc.
5611 West Hemlock Street
Milwaukee WI 53223
EPA Id: WID988580056

State Manifest Number: 002123165JJK
Federal Manifest Number:

Generator Mail Addres

City of Kenosha
8927 Sheridan Road
Kenosha WI 53143
EPA Id: WIR000110676

Generator Site Address

City of Kenosha
8927 Sheridan Road
Kenosha WI 53143

hereby notify that this shipment contains waste restricted under 40 CFR 268, Land Disposal Restrictions. I hereby certify that all information submitted in this and all attached documents is complete, contains true and accurate descriptions and is representative of the waste material, and that all relevant information regarding known or suspected hazards in the possession of the generator has been disclosed.

Signature _____ Date _____

BADGER DISPOSAL
Badger Disposal of WI, Inc.

September 22, 2006

City of Kenosha
8927 Sheridan Road
Kenosha, WI 53143

Badger Disposal of WI., Inc. is pleased to notify you that we have the requisite permits to accept your waste material listed below for management at our recycling facility.

The proposed method of management for this waste stream is:

Landfill

Material Description: **Soil**

Approval Number (WS#): **WS010173**

This acceptance is based upon the information provided by the waste profile sheet you provided for the waste stream.

Badger Disposal of WI., Inc. is looking forward to assisting you with your recycling needs.

Sincerely,

Badger Disposal of WI, Inc.

Sarah L. Wetsten

Sarah L. Wetsten
Approvals Coordinator

PLEASE MAINTAIN THIS COPY FOR YOUR FILE.

5611 W. Hemlock St. Milwaukee, WI 53223
866-271-0961 • 414-760-9175 • Fax: 414-760-9189 • www.badgerdisposal.com

BADGER DISPOSAL
Badger Disposal of WI, Inc.

September 20, 2006

City of Kenosha
8927 Sheridan Road
Kenosha, WI 53143

Badger Disposal of WI., Inc. is pleased to notify you that we have the requisite permits to accept your waste material listed below for management at our recycling facility.

The proposed method of management for this waste stream is:

Fuel Blending

Material Description: **purge water with TCE**

Approval Number (WS#): **WS008899**

This acceptance is based upon the information provided by the waste profile sheet you provided for the waste stream.

Badger Disposal of WI., Inc. is looking forward to assisting you with your recycling needs.

Sincerely,

Badger Disposal of WI, Inc.

Sarah L. Wetsten
Approvals Coordinator

PLEASE MAINTAIN THIS COPY FOR YOUR FILE.

5611 W. Hemlock St. Milwaukee, WI 53223
866-271-0961 • 414-760-9175 • Fax: 414-760-9189 • www.badgerdisposal.com

APPENDIX C

2006 Hydraulic Gradient Calculations

Horizontal Hydraulic Gradient - MW-2 to B-12

$$i = \frac{h1-h2}{L}$$

Wells Referenced in Calculation: MW- 2, B 12

L = Distance between wells (horizontal)		615 ft
h1 = groundwater elevation at	MW- 2	602.21 ft
h2 = groundwater elevation at	B 12	601.32 ft

i = 0.00145 ft/ft

Linear Velocity (Seepage Velocity) - MW-2 to B-12

$$v = \frac{Ka * i}{Ne}$$

Wells Referenced in Calculation: MW- 2, B 12

v = Linear groundwater flow velocity	
Ka = Mean hydraulic conductivity (geometric)	0.001612357
Conversion factor for cm/sec to ft/sec = cm/sec *3.28E-2	5.29E-05
i = Horizontal gradient	0.001447154
Ne = Effective porosity (estimated)	0.25

$$v = \frac{5.29E\text{-}05 \text{ ft/sec} \times 0.001447154 \text{ ft/ft}}{0.25}$$

$$= 3.0613E\text{-}07 \text{ ft/sec} \times 3.15E+07 \text{ sec/yr}$$

v = 9.64 ft/yr

Horizontal Hydraulic Gradient - B-5 to MW-2

$$i = \frac{h1-h2}{L}$$

Wells Referenced in Calculation: B 5, MW- 2

L = Distance between wells (horizontal)		50 ft
h1 = groundwater elevation at	B 5	602.32 ft
h2 = groundwater elevation at	MW- 2	602.21 ft

i = 0.00220 ft/ft

Linear Velocity (Seepage Velocity) - B-5 to MW-2

$$v = \frac{Ka * i}{Ne}$$

Wells Referenced in Calculation: B 5, MW- 2

v = Linear groundwater flow velocity	
Ka = Mean hydraulic conductivity (geometric)	0.00135041
Conversion factor for cm/sec to ft/sec = cm/sec *3.28E-2	4.43E-05
i = Horizontal gradient	0.0022
Ne = Effective porosity (estimated)	0.25

$$v = \frac{4.43E\text{-}05 \text{ ft/sec} \times 0.0022 \text{ ft/ft}}{0.25}$$

$$= 3.8978E\text{-}07 \text{ ft/sec} \times 3.15E+07 \text{ sec/yr}$$

v = 12.28 ft/yr

Horizontal Hydraulic Gradient - MW-5 to MW-4

$$i = \frac{h1-h2}{L}$$

Wells Referenced in Calculation: MW- 5, MW- 4

L = Distance between wells (horizontal)		35 ft
h1 = groundwater elevation at	MW- 5	601.26 ft
h2 = groundwater elevation at	MW- 4	601.17 ft

i = 0.00257 ft/ft

Linear Velocity (Seepage Velocity) - MW-5 to MW-4

$$v = \frac{Ka * i}{Ne}$$

Wells Referenced in Calculation: MW- 5, MW- 4

v = Linear groundwater flow velocity	
Ka = Mean hydraulic conductivity (geometric)	0.0013
Conversion factor for cm/sec to ft/sec = cm/sec *3.28E-2	4.26E-05
i = Horizontal gradient	0.002571429
Ne = Effective porosity (estimated)	0.25

$$v = \frac{4.26E\text{-}05 \text{ ft/sec} \times 0.002571429 \text{ ft/ft}}{0.25}$$

$$= 4.3858E\text{-}07 \text{ ft/sec} \times 3.15E+07 \text{ sec/yr}$$

v = 13.82 ft/yr

Vertical Hydraulic Gradient - MW-5 to MW-5P

$$i = \frac{h1-h2}{L}$$

Wells Referenced in Calculation: MW- 5, MW- 5P

L = Distance between wells (vertical)		20 ft
h1 = groundwater elevation at	MW- 5	601.26 ft
h2 = groundwater elevation at	MW- 5P	600.23 ft

i = 0.05150 ft/ft

Vertical Velocity (Seepage Velocity) - MW-5 to MW-5P

$$v = \frac{Ka * i}{Ne}$$

Wells Referenced in Calculation: MW- 5, MW- 5P

v = Linear groundwater flow velocity	
Ka = Mean hydraulic conductivity (geometric)	0.000220393
Conversion factor for cm/sec to ft/sec = cm/sec *3.28E-2	7.23E-06
i = Horizontal gradient	0.0515
Ne = Effective porosity (estimated)	0.25

$$v = \frac{7.23E\text{-}06 \text{ ft/sec} \times 0.0515 \text{ ft/ft}}{0.25}$$

$$= 1.4891E\text{-}06 \text{ ft/sec} \times 3.15E+07 \text{ sec/yr}$$

v = 46.91 ft/yr

APPENDIX D

SSRCL Calculations

Soil Screening Guidance Calculator

Equation Values for Ingestion — NON-INDUSTRIAL

Noncarcinogenic Parameter	Value	Carcinogenic Age-adjusted Parameter	Value	Carcinogenic Nonadjusted Parameter	Value
Target Hazard Quotient (unitless)	0.2	Target Risk (unitless)	1.0E-7	Target Risk (unitless)	1.0E-6
Body Weight (kg)	15	Adult Body Weight (kg)	70	Body Weight (kg)	70
		Child Body Weight (kg)	15		
Exposure Duration (yr)	6	Adult Exposure Duration (yr)	24	Exposure Duration (yr)	25
		Child Exposure Duration (yr)	6		
Exposure Frequency (day/yr)	350	Exposure Frequency (day/yr)	350	Exposure Frequency (day/yr)	250
Intake Rate (mg/day)	200	Adult Intake Rate (mg/day)	100	Intake Rate (mg/day)	100
		Child Intake Rate (mg/day)	200		
		Average Lifetime (yr)	70	Average Lifetime (yr)	70
		Age-adjusted Ingestion Factor (mg-yr/kg-day)	114.29		

Soil Screening Levels for Ingestion (mg/kg)

Analyte	Cas Number	Oral RfD	Oral Slope Factor	Noncarcinogenic	Carcinogenic (Age-adjusted)	Carcinogenic (Nonadjusted)
Benzene	71432	4.00E-03	5.50E-02 [a]	6.26E+01	1.16E+00	5.20E+01
Dichloroethylene, 1,2-cis-	156592	1.00E-02 [b]		1.56E+02		
Dichloroethylene, 1,2-trans-	156605	2.00E-02 [a]		3.13E+02		
Ethylbenzene	100414	1.00E-01 [a]		1.56E+03		
Naphthalene	91203	2.00E-02 [a]		3.13E+02		
Tetrachloroethylene	127184	1.00E-02 [a]	5.20E-02 [v]	1.56E+02	1.23E+00	5.50E+01
Toluene	108883	8.00E-02 [a]		1.25E+03		
Trichloroethylene	79016	3.00E-04 [v]	4.00E-01 [v]	4.69E+00	1.60E-01	7.15E+00
Trimethylbenzene, 1,2,4-	95636	5.00E-02		7.82E+02		
Trimethylbenzene, 1,3,5-	108678	5.00E-02		7.82E+02		
Vinyl Chloride	75014	3.00E-03 [a]	1.50E+00 [a]	4.69E+01	4.26E-02	1.91E+00
Xylene, m-	108383	2.00E-01 [b]		3.13E+03		

Xylene, o-	95476	2.00E+00 [b]	3.13E+04

Equation Values for Inhalation of Volatiles – NON INDUSTRIAL

Volatilization Factor Parameter	Value	Soil Saturation Concentration Parameter	Value	Noncarcinogenic Parameter	Value	Carcinogenic Parameter	Value
Surface Area (acres)	0.5			Target Hazard Quotient (unitless)	0.2	Target Risk (unitless)	1.0E-7
City (climate zone)	Minneapolis (V)			Exposure Duration (yr)	30	Exposure Duration (yr)	30
Q/C (g/m^2-s per kg/m^3)	93.77358			Exposure Frequency (day/yr)	350	Exposure Frequency (day/yr)	350
Fraction organic carbon (unitless)	0.006	Fraction organic carbon (unitless)	0.006			Average Lifetime (yr)	70
Dry soil bulk density (g/cm^3)	1.5	Dry soil bulk density (g/cm^3)	1.5				
Soil particle density (g/cm^3)	2.65	Soil particle density (g/cm^3)	2.65				
Water-filled soil porosity (L_{water}/L_{soil})	0.15	Water-filled soil porosity (L_{water}/L_{soil})	0.2				
Exposure interval (s)	9.5e08						

Soil Screening Levels for Inhalation of Volatiles (mg/kg)

Analyte	Cas Number	Inhalation RfC	Inhalation Unit Risk	Volatilization Factor	Soil Saturation Concentration	Noncarcinogenic	Carcinogenic
Benzene	71432	3.0E-02 [a]	7.8E-06 [a]	3.7E+03	9.1E+02	2.3E+01	1.1E-01
Dichloroethylene, 1,2-cis-	156592			3.9E+03	1.3E+03		
Dichloroethylene, 1,2-trans-	156605			3.1E+03	3.2E+03		
Ethylbenzene	100414	1.0E+00 [a]		7.3E+03	4.0E+02	1.5E+03	
Naphthalene	91203	3.0E-03 [a]		7.5E+04		4.7E+01	
Tetrachloroethylene	127184	6.0E-01 [v]	5.8E-07 [v]	3.4E+03	2.4E+02	4.3E+02	1.4E+00
Toluene	108883	5.0E+00 [a]		5.4E+03	6.7E+02	5.6E+03	
Trichloroethylene	79016	4.0E-02 [v]	1.1E-04 [v]	4.4E+03	1.3E+03	3.7E+01	9.7E-03
Trimethylbenzene, 1,2,4-	95636	6.0E-03		2.7E+04	1.3E+03	3.4E+01	
Trimethylbenzene, 1,3,5-	108678	6.0E-03		1.6E+04	4.8E+02	2.0E+01	
Vinyl Chloride	75014	1.0E-01 [a]	8.8E-06 [a]	1.4E+03	1.2E+03	2.9E+01	3.9E-02
Xylene, m-	108383	1.0E-01 [a]		8.2E+03	4.2E+02	1.7E+02	

Xylene, o-	95476	[a]	8.3E+03	4.2E+02

Equation Values for Ingestion

Noncarcinogenic Parameter	Value	Carcinogenic Age-adjusted Parameter	Value	Carcinogenic Nonadjusted Parameter	Value
Target Hazard Quotient (unitless)	0.2	Target Risk (unitless)	1.0E-7	Target Risk (unitless)	1.0E-6
Body Weight (kg)	15	Adult Body Weight (kg)	70	Body Weight (kg)	70
		Child Body Weight (kg)	15		
Exposure Duration (yr)	6	Adult Exposure Duration (yr)	24	Exposure Duration (yr)	25
		Child Exposure Duration (yr)	6		
Exposure Frequency (day/yr)	350	Exposure Frequency (day/yr)	350	Exposure Frequency (day/yr)	250
Intake Rate (mg/day)	200	Adult Intake Rate (mg/day)	100	Intake Rate (mg/day)	100
		Child Intake Rate (mg/day)	200		
		Average Lifetime (yr)	70	Average Lifetime (yr)	70
		Age-adjusted Ingestion Factor (mg-yr/kg-day)	114.29		

Soil Screening Levels for Ingestion (mg/kg)

Analyte	Cas Number	Oral RfD	Oral Slope Factor	Noncarcinogenic	Non-Industrial Carcinogenic (Age-adjusted)	Industrial Carcinogenic (Nonadjusted)
Dichlorobenzene, 1,4-	106467		2.40E-02 [b]		2.66E+00	1.19E+02

Equation Values for Inhalation of Volatiles

Volatilization Factor Parameter	Value	Soil Saturation Concentration Parameter	Value	Noncarcinogenic Parameter	Value	Carcinogenic Parameter	Value
Surface Area (acres)	0.5			Target Hazard Quotient (unitless)	0.2	Target Risk (unitless)	1.0E-7
City (climate zone)	Minneapolis (V)			Exposure Duration (yr)	30	Exposure Duration (yr)	30
Q/C (g/m^2-s per kg/m^3)	93.77358			Exposure Frequency (day/yr)	350	Exposure Frequency (day/yr)	350
Fraction organic carbon (unitless)	0.006	Fraction organic carbon (unitless)	0.006			Average Lifetime (yr)	70
Dry soil bulk density (g/cm^3)	1.5	Dry soil bulk density (g/cm^3)	1.5				
Soil particle density (g/cm^3)	2.65	Soil particle density (g/cm^3)	2.65				
Water-filled soil porosity (L_{water}/L_{soil})	0.2	Water-filled soil porosity (L_{water}/L_{soil})	0.2				
Exposure interval (s)	9.5e08						

Soil Screening Levels for Inhalation of Volatiles (mg/kg)

Non industrial

Analyte	Cas Number	Inhalation RfC	Inhalation Unit Risk	Volatilization Factor	Soil Saturation Concentration	Noncarcinogenic	Carcinogenic
Dichlorobenzene, 1,4-	106467	8.0E-01 [a]		2.4E+04		4.0E+03	

industrial not ran
ingestion more conservative

Equation Values for Soil to Ground Water

Partitioning Equation Parameter	Value
Dilution factor (unitless)	2
Fraction organic carbon in soil (unitless)	0.006
Water-filled soil porosity (L_{water}/L_{soil})	0.2
Dry soil bulk density (kg/L)	1.5
Soil particle density (kg/L)	2.65

Soil Screening Levels for Soil to Ground Water (mg/kg)

Analyte	Cas Number	Ground Water Concentration* (mg/L)	Ground Water Concentration Source	Soil Screening Level
Dichlorobenzene, 1,4-	106467	1.5E-01	MCLG	5.8E-01

*Ground Water Concentration=Ground Water Concentration Source × Dilution Factor

MCLG = ES

Equation Values for Ingestion – Industrial

Noncarcinogenic Parameter	Value	Carcinogenic Age-adjusted Parameter	Value	Carcinogenic Nonadjusted Parameter	Value
Target Hazard Quotient (unitless)	1	Target Risk (unitless)	1.0E-7	Target Risk (unitless)	1.0E-6
Body Weight (kg)	70	Adult Body Weight (kg)	70	Body Weight (kg)	70
		Child Body Weight (kg)	15		
Exposure Duration (yr)	25	Adult Exposure Duration (yr)	24	Exposure Duration (yr)	25
		Child Exposure Duration (yr)	6		
Exposure Frequency (day/yr)	250	Exposure Frequency (day/yr)	350	Exposure Frequency (day/yr)	250
Intake Rate (mg/day)	100	Adult Intake Rate (mg/day)	100	Intake Rate (mg/day)	100
		Child Intake Rate (mg/day)	200		
		Average Lifetime (yr)	70	Average Lifetime (yr)	70
		Age-adjusted Ingestion Factor (mg-yr/kg-day)	114.29		

Soil Screening Levels for Ingestion (mg/kg)

Analyte	Cas Number	Oral RfD	Oral Slope Factor	Noncarcinogenic	Carcinogenic (Age-adjusted)	Carcinogenic (Nonadjusted)
Benzene	71432	4.00E-03	5.50E-02 [a]	4.09E+03	1.16E+00	5.20E+01
Dichloroethylene, 1,2-cis-	156592	1.00E-02 [b]		1.02E+04		
Dichloroethylene, 1,2-trans-	156605	2.00E-02 [a]		2.04E+04		
Ethylbenzene	100414	1.00E-01 [a]		1.02E+05		
Naphthalene	91203	2.00E-02 [a]		2.04E+04		
Tetrachloroethylene	127184	1.00E-02 [a]	5.20E-02 [v]	1.02E+04	1.23E+00	5.50E+01
Toluene	108883	8.00E-02 [a]		8.18E+04		
Trichloroethylene	79016	3.00E-04 [v]	4.00E-01 [v]	3.07E+02	1.60E-01	7.15E+00
Trimethylbenzene, 1,2,4-	95636	5.00E-02		5.11E+04		
Trimethylbenzene, 1,3,5-	108678	5.00E-02		5.11E+04		
Vinyl Chloride	75014	3.00E-03 [a]	1.50E+00 [a]	3.07E+03	4.26E-02	1.91E+00
Xylene, m-	108383	2.00E-01 [b]		2.04E+05		
Xylene, o-	95476	2.00E+00 [b]		2.04E+06		

Equation Values for Inhalation of Volatiles -Industrial

Volatilization Factor Parameter	Value	Soil Saturation Concentration Parameter	Value	Noncarcinogenic Parameter	Value	Carcinogenic Parameter	Value
Surface Area (acres)	0.5			Target Hazard Quotient (unitless)	1	Target Risk (unitless)	1.0E-6
City (climate zone)	Minneapolis (V)			Exposure Duration (yr)	25	Exposure Duration (yr)	25
Q/C (g/m^2-s per kg/m^3)	93.77358			Exposure Frequency (day/yr)	250	Exposure Frequency (day/yr)	250
Fraction organic carbon (unitless)	0.006	Fraction organic carbon (unitless)	0.006			Average Lifetime (yr)	70
Dry soil bulk density (g/cm^3)	1.5	Dry soil bulk density (g/cm^3)	1.5				
Soil particle density (g/cm^3)	2.65	Soil particle density (g/cm^3)	2.65				
Water-filled soil porosity (L_{water}/L_{soil})	0.2	Water-filled soil porosity (L_{water}/L_{soil})	0.2				
Exposure interval (s)	9.5e08						

Soil Screening Levels for Inhalation of Volatiles (mg/kg)

Analyte	Cas Number	Inhalation RfC	Inhalation Unit Risk	Volatilization Factor	Soil Saturation Concentration	Noncarcinogenic	Carcinogenic
Benzene	71432	3.0E-02 [a]	7.8E-06 [a]	5.2E+03	9.1E+02	2.3E+02	2.7E+00
Dichloroethylene, 1,2-cis-	156592			5.6E+03	1.3E+03		
Dichloroethylene, 1,2-trans-	156605			4.4E+03	3.2E+03		
Ethylbenzene	100414	1.0E+00 [a]		1.0E+04	4.0E+02	1.5E+04	
Naphthalene	91203	3.0E-03 [a]		1.0E+05		4.6E+02	
Tetrachloroethylene	127184	6.0E-01 [v]	5.8E-07 [v]	4.8E+03	2.4E+02	4.2E+03	3.4E+01
Toluene	108883	5.0E+00 [a]		7.5E+03	6.7E+02	5.5E+04	
Trichloroethylene	79016	4.0E-02 [v]	1.1E-04 [v]	6.1E+03	1.3E+03	3.6E+02	2.3E-01
Trimethylbenzene, 1,2,4-	95636	6.0E-03		3.8E+04	1.3E+03	3.3E+02	
Trimethylbenzene, 1,3,5-	108678	6.0E-03		2.2E+04	4.8E+02	1.9E+02	
Vinyl Chloride	75014	1.0E-01 [a]	8.8E-06 [a]	1.9E+03	1.2E+03	2.8E+02	8.9E-01
Xylene, m-	108383	1.0E-01 [a]		1.1E+04	4.2E+02	1.7E+03	

Xylene, o-	95476	a	1.1E+04	4.2E+02

TAL based soil to groundwater screening level-generic calculations with WDNR default values and site specific TOC
sed DAF = 1 plus the equation below

AL based RCL = the SSL at DAF 1 times 20 times PAL divided by HBL or MCLG

Calculated September 19, 2006 by L. Altenbach as Site Specific Calculation for C&L Industrial Cleaners, Kenosha, WI

All units are micrograms per kilogram

Compound	SSL at DAF=1	PAL	HBL or MCLG	Soil to Groundwater Calculated PAL-based RCL micrograms per kg	milligrams/kg
1,2,4-Trimethylbenzene	41000	96	1800	43,733	43.73
1,3,5-trimethylbenzene	18000	96	1800	19,200	19.2
Naphthalene	8900	8	730	1,951	1.95
vinyl chloride	0.84	0.02	2	0.17	0.00017

Equation Values for Soil to Ground Water

Partitioning Equation Parameter	Value
Dilution factor (unitless)	2
Fraction organic carbon in soil (unitless)	0.006
Water-filled soil porosity (L_{water}/L_{soil})	0.2
Dry soil bulk density (kg/L)	1.5
Soil particle density (kg/L)	2.65

Soil Screening Levels for Soil to Ground Water (mg/kg)

Analyte	Cas Number	Ground Water Concentration* (mg/L)	Ground Water Concentration Source	Soil Screening Level
Benzene	71432	1.0E-02	MCL	5.2E-03
Dichloroethylene, 1,2-cis-	156592	1.4E-01	MCLG	5.2E-02
Dichloroethylene, 1,2-trans-	156605	2.0E-01	MCLG	1.0E-01
Ethylbenzene	100414	1.4E+00	MCLG	3.3E+00
Naphthalene	91203	1.5E+00	HBL	1.8E+01
Tetrachloroethylene	127184	1.0E-02	MCL	1.2E-02
Toluene	108883	2.0E+00	MCLG	2.5E+00
Trichloroethylene	79016	1.0E-02	MCL	1.2E-02
Trimethylbenzene, 1,2,4-	95636	3.7E+00	HBL	8.2E+01
Trimethylbenzene, 1,3,5-	108678	3.7E+00	HBL	3.6E+01
Vinyl Chloride	75014	4.0E-03	MCL	1.7E-03
Xylene, m-	108383	2.0E+01	MCLG	5.2E+01
Xylene, o-	95476	2.0E+01	MCLG	4.7E+01

*Ground Water Concentration=Ground Water Concentration Source × Dilution Factor

Equation Values for Soil to Ground Water

Partitioning Equation Parameter	Value
Dilution factor (unitless)	4
Fraction organic carbon in soil (unitless)	0.006
Water-filled soil porosity (L_{water}/L_{soil})	0.2
Dry soil bulk density (kg/L)	1.5
Soil particle density (kg/L)	2.65

Soil Screening Levels for Soil to Ground Water (mg/kg)

Analyte	Cas Number	Ground Water Concentration* (mg/L)	Ground Water Concentration Source	Soil Screening Level
Benzene	71432	2.0E-02	MCL	1.0E-02
Dichloroethylene, 1,2-cis-	156592	2.8E-01	MCLG	1.0E-01
Dichloroethylene, 1,2-trans-	156605	4.0E-01	MCLG	2.0E-01
Ethylbenzene	100414	2.8E+00	MCLG	6.6E+00
Naphthalene	91203	2.9E+00	HBL	3.5E+01
Tetrachloroethylene	127184	2.0E-02	MCL	2.4E-02
Toluene	108883	4.0E+00	MCLG	5.1E+00
Trichloroethylene	79016	2.0E-02	MCL	2.4E-02
Trimethylbenzene, 1,2,4-	95636	7.3E+00	HBL	1.6E+02
Trimethylbenzene, 1,3,5-	108678	7.3E+00	HBL	7.2E+01
Vinyl Chloride	75014	8.0E-03	MCL	3.3E-03
Xylene, m-	108383	4.0E+01	MCLG	1.0E+02
Xylene, o-	95476	4.0E+01	MCLG	9.4E+01

*Ground Water Concentration=Ground Water Concentration Source × Dilution Factor

Equation Values for Soil to Ground Water

Partitioning Equation Parameter	Value
Dilution factor (unitless)	1
Fraction organic carbon in soil (unitless)	0.006
Water-filled soil porosity (L_{water}/L_{soil})	0.2
Dry soil bulk density (kg/L)	1.5
Soil particle density (kg/L)	2.65

Soil Screening Levels for Soil to Ground Water (mg/kg)

Analyte	Cas Number	Ground Water Concentration* (mg/L)	Ground Water Concentration Source	Soil Screening Level
C Benzene	71432	5.0E-03 = ES	MCL	2.6E-03
Dichloroethylene, 1,2-cis-	156592	7.0E-02 = ES	MCLG	2.6E-02
Dichloroethylene, 1,2-trans-	156605	1.0E-01 = ES	MCLG	5.1E-02
Ethylbenzene	100414	7.0E-01 = ES	MCLG	1.7E+00
Naphthalene	91203	7.3E-01 ≠ ES	HBL — must calculate	8.9E+00
C Tetrachloroethylene	127184	5.0E-03 = ES	MCL	5.9E-03
Toluene	108883	1.0E+00 = ES	MCLG	1.3E+00
C Trichloroethylene	79016	5.0E-03 = ES	MCL	6.0E-03
Trimethylbenzene, 1,2,4-	95636	1.8E+00 ≠ ES	HBL must calculate	4.1E+01
Trimethylbenzene, 1,3,5-	108678	1.8E+00	HBL	1.8E+01
C Vinyl Chloride	75014	2.0E-03 — must calc	MCL	~~8.4E-04~~
Xylene, m-	108383	1.0E+01 = ES	MCLG	2.6E+01
Xylene, o-	95476	1.0E+01	MCLG	2.3E+01

*Ground Water Concentration=Ground Water Concentration Source × Dilution Factor

TABLE 5
2004 Soil Analytical Results - TOC
Kenosha Brownfield Investigation - C&L Industrial Cleaners
STS Project No. 86415XD

Sample Location/Sample Number	Depth (feet bgs)	Total Organic Carbon (mg/kg)
GP-23	0.5-2'	4,200
GP-23	4-6'	5,000
GP-25	0.5-2'	450,000
GP-25	4-5.3'	2,400
GP-30	0.5-2'	9,800
GP-30	4-6'	4,200
GP-33	0.5-2'	9,700
GP-33	4-5'	3,300
GP-40	0.5-2'	15,000
GP-40	4-6'	2,000
GP-42	0.5-2'	6,300
GP-42	4-6'	3,100
GP-48	0.5-2'	31,000
GP-48	2.5-4'	790
Average Concentration		5,909 (excludes GP-25 [0.5-2'])

~~0.5909 %~~

Notes:
mg/kg = Milligrams per kilogram
bgs - Below ground surface

$5909 \frac{mg}{kg} \times \frac{g}{1000mg} \times \frac{1kg}{1000g}$

$= .005909 \frac{gm}{gm}$

.59 %