Corrective Measures Study Addendum

Safety-Kleen Service Center
934 North 5th Street
Saint Pauls, North Carolina
EPA ID No. NCD980846935

H&H Job No. SKS-005
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Table of Contents

List of Tables

List of Figures

List of Appendices

Corrective Measures Study Addendum
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1.0 Introduction

Hart & Hickman, PC (H&H) has prepared this Corrective Measures Study (CMS) Addendum on behalf of Safety-Kleen Systems, Inc. (S-K) for the Saint Pauls, North Carolina S-K facility. A CMS was previously submitted on November 16, 2015, which recommended chemical injection for remediation of impacted soil and groundwater. Prior to confirming the specific injection scope of work, the CMS recommended additional data collection as part of a pilot test phase. During a meeting with the North Carolina Department of Environmental Quality (NCDEQ) on November 14, 2018, NCDEQ approved initiation of the pilot test scope of work. In addition, NCDEQ approved completion of an updated groundwater monitoring event. This CMS Addendum documents the results of the pilot testing and groundwater monitoring event and provides updated recommendations for corrective action to be performed as part of the CMS implementation.

2.0 Background Information

S-K currently operates a hazardous waste storage facility located at 934 North 5th Street in Saint Pauls, Robeson County, North Carolina (34.821°, -78.976°). The site location is shown on Figures 1 and 2. The facility maintains a Resource Conservation and Recovery Act (RCRA) permit for hazardous waste storage. In 2009, a spill of used mineral spirits occurred at the facility. The spill occurred from the Return and Fill unit. This unit is a stand-alone steel structure where used mineral spirits are transferred from drums into a dumpster-like unit and are then pumped to an aboveground storage tank. In addition to the Return and Fill unit, drums are also filled with clean mineral spirits at this location. The spill occurred when a pump associated with the Return and Fill unit failed and used mineral spirits filled the secondary containment vessel. A small amount of mineral spirits overflowed the containment structure and impacted the soil in two areas adjacent to the Return and Fill structure. The locations of the Return and Fill unit and the spill are shown on Figures 3 and 4.

S-K personnel performed the initial cleanup in the area of the spill. A small quantity of soil was excavated from the spill area and the excavation was backfilled with clean sand. S-K reported the spill to NCDEQ. NCDEQ representatives requested that soil samples be collected to evaluate potential impacts to soil underlying the excavation areas. Two phases of soil sampling were completed in 2009, the results of which indicated that the spill had impacted soils in a small area below and another adjacent to the Return and Fill secondary containment structure.

Based on the results of the 2009 soil sampling events, it was concluded that impacted soil was limited to a small area underlying the spill area and partially underlying the Return and Fill containment structure. Soils in these areas were excavated from April 6 through 12, 2010. Soil was removed from two exterior spill areas to a depth of 2 ft (ft) below ground surface (bgs) using a backhoe. A hand shovel was then used to remove a limited quantity of soil from below the Return and Fill containment structure. The final dimensions of the excavation were approximately 26 ft long, 5 to 12 ft wide, and 2 ft deep. Approximately 22 tons of soil were excavated. These activities were documented in a Spill Assessment Report submitted to NCDEQ on July 14, 2010.

The results of the final post-excavation soil samples indicated tetrachloroethene (PCE) concentrations remained above the NCDEQ Protection of Groundwater Preliminary Soil Remediation Goal (PSRG) in the area below the Return and Fill containment structure. Arsenic was also detected at concentrations above the Protection of Groundwater PSRG, but was attributed to natural background levels.

Additional soil and groundwater investigations were conducted in April 2011. Soil samples were collected to delineate the extent of impacts in the area of the Return and Fill as well as at background locations to evaluate background arsenic concentrations. Based on the results of the soil sampling, soil contained concentrations of PCE above the Protection of Groundwater PSRG, but the extent of impacted soil was delineated and limited to a small area below the Return and Fill structure. Background arsenic soil sampling and statistical evaluation of results confirmed that arsenic concentrations observed in the area of the spill were indicative of background levels. In addition to the soil sampling, two temporary wells (TW-1 and TW-2) were installed in April 2011 to determine if contaminants from the impacted soil near the Return and Fill containment structure had leached to local groundwater. Groundwater samples collected from temporary wells TW-1 and TW-2 indicated volatile organic compounds (VOCs) at concentrations above 2L Standards. The temporary wells were abandoned following sampling. A Soil and Groundwater Investigation Report documenting the April 2011 soil and groundwater sampling event was submitted to NCDEQ on July 12, 2011.

The July 2011 report recommended additional temporary direct-push borings to evaluate the extent of impacted groundwater. NCDEQ responded to this submittal with a letter dated November 2, 2012, which requested determination of local groundwater flow direction. Permanent monitoring wells are the most accurate way to gauge groundwater elevations, and thus groundwater flow direction. Therefore, on December 13, 2012, a Revised Groundwater Investigation Workplan was submitted to NCDEQ recommending installation of five permanent monitoring wells rather than additional temporary direct-push borings. The workplan was approved in a letter dated January 23, 2013.

Five monitoring wells (MW-1 through MW-5) were installed and sampled in February 2013. On April 22, 2013, S-K submitted an e-mail with attached tables and figures to the NCDEQ Project Manager along with a recommendation to install two additional monitoring wells prior to submittal of the final report. This plan was approved by Kathleen Lawson with NCDEQ in an email dated April 29, 2013. Two additional wells (MW-6 and MW-7) were installed and sampled in May and June 2013. The results of the groundwater investigation indicated a plume of groundwater impacted by VOCs at concentrations above NC 2L Standards extending from the Return and Fill structure to the north. Perimeter monitoring wells either contained no VOCs at concentrations above 2L Standards, or contained trace levels of VOCs slightly above the 2L Standards. This investigation was documented in a Groundwater Investigation Report dated June 25, 2013. The report recommended an additional groundwater sampling event followed by evaluation of remedial alternatives to address impacted soil and groundwater.

NCDEQ issued a letter on December 18, 2013 requesting completion of a groundwater sampling event and submittal of the sampling results with a CMS workplan within 90 days. The groundwater sampling event was subsequently completed in January 2014. However, S-K requested an extension of the deadline for submittal of the CMS in order to evaluate whether risk-based remediation could be pursued for the site under recently passed North Carolina General Statute (NCGS) 130A-310.65 to 310.77. On June 5, 2014, an Extension Request and Workplan for Additional Investigation was submitted to NCDEQ. This request proposed additional data collection, which could be used during future preparation of either a Risk Assessment (RA) or CMS. NCDEQ issued a letter approving the June 2014 workplan on July 3, 2014. However, S-K inadvertently did not receive the letter until November 21, 2014. Upon receipt of the approval letter, S-K immediately initiated the work detailed in the June 2014 workplan. S-K also requested an extension of the deadline for the submittal of a CMS or RA until April 30, 2015.

In September 2014, two monitoring wells were abandoned and replaced. These wells were relocated due to S-K plans for installing a new tanker pad. The monitoring well abandonment and replacement was approved by NCDEQ in an email dated September 2, 2014. On September 5, 2014, monitoring wells MW-5 and MW-7 were abandoned and wells MW-5R and MW-7R were

installed outside of the proposed construction area. A Monitoring Well Abandonment and Replacement Report was submitted on September 22, 2014.

A Groundwater Investigation Report was submitted to NCDEQ on April 30, 2015. The report detailed site investigation activities performed between December 2014 and March 2015, in accordance with the approved June 2014 workplan. Site investigation activities included a comprehensive groundwater monitoring event, soil gas sampling, and collection of modeling parameters for a potential RA. Based on the results of the investigation, two additional quarterly sampling events were performed in June 2015 and September 2015 to monitor groundwater concentrations. The quarterly events were approved in correspondence issued from NCDEQ on June 11, 2015, with the understanding that either a CMS or a RA would be submitted within 60 days of the September 2015 sampling event. Based on discussions with the property owner regarding implementation of land-use controls, S-K elected to proceed with a CMS.

A CMS was submitted on November 16, 2015, which recommended chemical injection for remediation of impacted soil and groundwater. Prior to confirming the specific injection scope of work, the CMS recommended additional data collection as part of a pilot test phase. During a meeting with the NCDEQ on November 14, 2018, NCDEQ approved initiation of the pilot test scope of work. In addition, NCDEQ approved completion of an updated groundwater monitoring event. This CMS Addendum documents the results of these activities and provides updated recommendations for corrective action to be performed as part of the CMS implementation.

3.0 Recent Field Activities

H&H performed a groundwater monitoring event and saturated zone soil sampling in December 2018 and January 2019. The groundwater monitoring event was performed to determine current concentrations at the site and evaluate parameters related to the proposed chemical injection activities. The soil sampling was performed to ensure proper dosing calculations and evaluate injection depths for proposed injection activities. A summary of the recent field activities is provided below.

3.1 Groundwater Monitoring Event

H&H performed a groundwater monitoring event on December 27, 2018 and January 3, 2019. As part of the groundwater monitoring event, H&H measured depth to groundwater and collected groundwater samples from the site monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5R MW-6, and MW-7R). A summary of the monitoring activities is provided below. Well construction details are summarized in Table 1 and well locations are shown on Figure 4.

Prior to collecting groundwater samples, the depth to groundwater was measured in all site wells on December 27, 2018. Depth to groundwater measurements were collected with a decontaminated electronic water level meter. The groundwater elevation in each monitoring well was then calculated based on the previously measured top-of-casing elevations and depth to groundwater data. Groundwater elevation data are summarized in Table 1. A discussion of the depth to groundwater data as it related to the site hydrogeology is provided in Section 4.2.

On December 27 and 28, 2018 and January 3, 2019, groundwater samples were collected from monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5R MW-6, and MW-7R. Groundwater samples were collected using low-flow sampling protocol. A YSI Pro-Plus handheld water quality meter and flow cell were used to monitor temperature, conductivity, dissolved oxygen (DO), pH, and oxygen-reduction potential (ORP). Turbidity during purging was also monitored via a Micro TPI portable turbidity meter. Following well purging and upon stabilization of field parameters, groundwater samples were collected for field and laboratory analyses. Field parameter data are summarized in Table 2.

The samples were placed in an ice-filled cooler and shipped to Pace Analytical Services, Inc. (Pace) under chain-of-custody protocol. Samples were analyzed for VOCs by EPA Method 8260B, sulfite and sulfide by Standard Method 4500, sulfate by EPA Method 9056, and total and dissolved iron by EPA Method 6010D. Analyses for sulfate, sulfite, sulfide, and total and dissolved iron were performed in order to evaluate parameters related to proposed chemical injection activities. An additional sample was also collected from well MW-2 and submitted to ReSolution Partners, LLC for analysis of total oxidant demand (TOD). The TOD testing results were used to evaluate the dosing for proposed chemical injection activities.

For quality assurance/quality control (QA/QC), a duplicate sample was collected from well MW-2 and submitted to Pace for analysis of the same constituents as well MW-2. A trip blank also accompanied the samples to Pace and was analyzed for VOCs by EPA Method 8260B.

The laboratory analytical reports are included in Appendix A. H&H reviewed the laboratory reports to confirm the data quality. The results of the data quality review are discussed below:

- The duplicate sample concentrations were within acceptable levels.
- Chloroform was detected at a concentration of 1.3 micrograms per liter (µg/L) in the trip blank. However, chloroform was not detected in the groundwater samples from the site so the trip blank detection is not considered a concern.
- L1 flags were reported for carbon tetrachloride analyses for the December 27 and 28, 2018 groundwater samples. This flag indicates analyte recovery in the laboratory control sample (LCS) was above QC limits so the reported concentrations may be biased high. Carbon tetrachloride was not detected in the groundwater samples from the site so this flag is not considered a concern.
- L1, M0, P4, and/or c2 data flags were reported for 2-chlorovinyl ether analyses. These flags are related to acid preservation of the samples, unacceptable LCS recovery, or unacceptable matrix spike (MS)/matrix spike duplicate (MSD) recovery. However, 2-chlorovinyl ether is not a constituent of concern (COC) for the site and has not been

detected in soil or groundwater samples from the site to date; therefore, these flags are not considered a concern.

- An M1 flag was reported for dibromomethane analysis for well MW-1. This flag indicates MS recovery exceeded QC limits. However, dibromomethane is not a COC for the site. In addition, the batch was accepted based on LCS recovery; therefore, this flag is not considered a concern.
- H1, H3, and H6 data flags were reported for the sulfite analyses. These flags indicate that the analyses were performed outside of the EPA Method hold time of 15 minutes. These flags are expected when sulfite is not analyzed in the field. Sulfite is not a COC for the site and the purpose of the sulfite monitoring was to evaluate conditions pre-injection. Reduced precision for the sulfite analyses do not significantly impact design of the proposed injection scope of work.
- B data flags were reported for total and dissolved iron analyses for well MW-5R, total iron analysis for well MW-7R, and dissolved iron analysis for well MW-4. This flag denotes that the analyte was detected in the associated method blank, which means concentrations reported for these wells may be biased high. The purpose of the iron monitoring was to evaluate conditions pre-injection and the iron concentrations alone do not significantly impact design of the proposed injection scope of work; therefore, these flags are not considered a concern.

Based on review of the laboratory reports, the laboratory qualifiers do not substantially change the conclusions and recommendations presented in this report. Table 2 summarizes data for parameters related to natural attenuation or injection. Table 3 summarizes data for COCs in groundwater. The results of the laboratory analyses with respect to the extent of impacted groundwater are discussed in Section 4.4. The results of the analyses with respect to proposed injection activities are discussed in Section 5.3.

3.2 Saturated Zone Soil Sampling

On January 3, 2019, two soil borings (SB-1 and SB-2) were advanced in the areas of estimated maximum groundwater impacts. A hand auger was used to clear utilities to a depth of 5 ft bgs, and then a direct-push technology (DPT) rig was used to advance each boring to an estimated depth of 20 ft bgs. During boring advancement, H&H field-screened the soil for the presence of VOCs with a PID. H&H also characterized the soil for lithologic purposes and inspected the soil for the presence of staining and odors. Based on the PID readings observed during the field screening, soil samples from SB-1 at depths of 9-10 ft bgs and 15-16 ft bgs were submitted to Pace for laboratory analyses of VOCs by EPA Method 8260. In addition, a portion of the sample collected from the 9-10 ft bgs interval was submitted to ReSolution Partners, LLC for analysis of TOD. The soil sampling data were used to evaluate the injection depths and dosing for the proposed corrective measures, as discussed in Section 5.3. Note that the soil samples were collected below the water table and were therefore not used in determination of the extent of unsaturated zone impacted soil. Laboratory analytical reports are included in Appendix A. Boring logs are included as Appendix B.

H&H reviewed the laboratory reports to confirm the data quality. E data flags were reported for 2-hexanone in SB-1 (9-10) and for 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene in SB-1 (15-16). These flags denote that the analyte exceeded its calibration range. However, after speaking with the lab, the lowest dilution they can perform is a 50 times dilution. When analyzed at this dilution, results for these compounds were not detected above the reporting limit. Thus, these are likely accurate results. As such, the laboratory qualifiers do not substantially change the conclusions and recommendations presented in this report. The results of the pilot test data collection activities with respect to the proposed corrective measures are discussed in Section 5.3.

4.0 Conceptual Site Model Information

4.1 Site Geology

According to the Geologic Map of North Carolina (1985), the site is located within the Coastal Plain physiographic province. The Coastal Plain is characterized by flat land to gently rolling hills and valleys. Elevations range from sea level near the coast to about 600 ft in the sand hills of the southern inner Coastal Plain. The sediments of the Coastal Plain were deposited during transgressive-regressive cycles caused by eustatic sea level fluctuations, and form an eastward thickening wedge of stratified, unconsolidated to semi-consolidated, alluvial and marine deposits. These sediments consist primarily of sand, clay, silt, and gravel, with variable amounts of shell material that range in age from Cretaceous to recent (Holocene). Unconformably underlying the coastal plain sediments is a crystalline basement rock surface composed of massive igneous rocks and highly deformed metamorphic rocks that range in age from Precambrian to lower Paleozoic.

The Geologic Map indicates that the site is underlain by the Black Creek formation of the Coastal Plain. This formation consists of gray to black, lignitic, clay which contains thin beds and laminae of fine-grained micaceous sand and thick lenses of cross-bedded sand, with glauconitic, fossiliferous clayey sand lenses in the upper part.

According to the Soil Survey of Robeson County, North Carolina, prepared by the United States Department of Agriculture (USDA) Soil Conservation Service, the site lies within the Coxville soil series. Specifically, the site soils are described as Coxville loam. Coxville loam consists of poorly drained soil on broad low flats or in Carolina bays and is on the lowest part of the landscape. The subsoil is typically 56 inches thick. The upper 4 inches of the subsoil is described as gray sandy clay loam with pale-brown mottles, and the lower 52 inches of the subsoil is described as gray clay loam or clay with brown and red mottles.

Based on soils encountered during previous drilling operations, subsurface soils consist primarily of clayey sand with interbedded lenses of sand and clay. Bedrock has not been encountered during borings drilled at the site to a maximum depth of 20 ft bgs. A cross-section location map and cross-sections depicting the subsurface geology are included as Figures 5, 6, and 7, respectively.

4.2 Site Hydrogeology

Based on references published by the United States Geological Survey (Winner and Coble, 1996), the hydrogeology of the Coastal Plain consists of 10 aquifers divided by nine confining units. The uppermost unit is the surficial aquifer and crystalline basement rock forms the base of the units. The aquifers are sedimentary deposits composed mostly of sand with lesser amounts of gravel and limestone, while the confining units are composed primarily of clay and silt. The age of the deposits range from Holocene to Cretaceous and the thickness of the aquifers ranges from zero along the Fall Line to more than 10,000 ft at Cape Hatteras.

The surficial aquifer underlies a large portion of the North Carolina Coastal Plain, including the site vicinity. Age and lithology of the surficial aquifer are spatially variable and thickness may vary from a few ft to nearly 100 ft. In the site vicinity, sediments that comprise the surficial aquifer are coarse and poorly sorted sands and silty sands.

According to the North Carolina Division of Water Resources (NCDWR), the lithostratigraphic unit immediately underlying the surficial aquifer in the site area is the Black Creek confining unit. This late Cretaceous formation consists of clay, silty clay, and sandy clay and has as average thickness of 45 ft. In the site vicinity, the Black Creek confining unit is estimated to be at a depth of 40 to 50 ft bgs.

Nine permanent monitoring wells have been installed across the site during prior assessment activities. (Nine wells have been installed but only seven wells currently exist since MW-5 and MW-7 were abandoned, as discussed in Section 2.0.) The depth to groundwater measured in these

wells historically ranges from 1.14 to 8.31 ft bgs. Well construction and depth to groundwater data are summarized in Table 1.

A groundwater elevation contour map based on the most recent gauging event in December 2018 is included as Figure 8. This figure shows that groundwater flows radially towards the northwest, northeast, and southeast based on the December 2018 gauging data. However, it should be noted that this groundwater flow direction is not consistent with historical data and the data may be impacted by hurricane weather conditions in late 2018. Historical data show some localized variability over time; however, the predominant flow direction is typically northeast towards Mercer Branch Creek, which is located approximately 450 ft north of the site. Mercer Branch Creek flows in an easterly direction and is defined by NCDEQ as a Class C Swamp Water.

The horizontal hydraulic gradient based on the December 2018 data ranges from 0.059 to 0.076 ft per ft (ft/ft). In January 2015, slug tests were performed using monitoring wells MW-4, MW-5R and MW-6 to estimate the hydraulic conductivity of the aquifer sediments. The results of the calculations indicated an average (geometric mean) hydraulic conductivity of 0.3844 ft per day (ft/d). The average is similar to published values of hydraulic conductivity for sediments consisting of clayey sand and sandy silt such as those present in the surficial aquifer at the site. Testing of a Shelby tube collected below the groundwater table in December 2014 indicated an effective porosity of 13.4 percent. Based on estimated values for hydraulic gradient (mid-range value of 0.065 ft/ft), hydraulic conductivity (0.3844 ft/d), and effective porosity (13.5 percent), the groundwater flow velocity in the shallow aquifer zone at the site is estimated at 0.19 ft/d (69 ft per year). Table 4 summarizes soil and aquifer properties.

4.3 Extent of Impacted Soil

As discussed in Section 2.0, accessible impacted soil in the area of the used mineral spirits spill was excavated in 2009 and 2010. The extent of remaining impacted soil was assessed based on data collected from post-excavation soil samples as well as supplemental soil borings. A tabulated summary of recent and historical soil analytical data in comparison to soil action levels is included

in Table 5. Per NCDEQ guidance, the soil action levels used for this comparison were the NCDEQ PSRGs dated February 2018.

As shown on Table 5, the majority of impacted soil was removed during the historical excavation. However, a localized area of soil impacted by PCE at concentrations above the Protection of Groundwater PSRG remains beneath the Return and Fill Unit (samples S-9 and S-13) where excavation could not be feasibly performed. The horizontal extent of impacts appears adequately delineated and limited to the area below the Return and Fill Unit. Vertically, impacts are assumed to extend to the groundwater table, which has been measured at a depth as shallow as 1.42 ft bgs in the area. No exceedances of Residential or Industrial PSRGs were identified in the shallow soil samples. The estimated extent of impacted soil impacted is shown on Figure 9.

4.4 Extent of Impacted Groundwater

The existing monitoring well network consists of seven shallow monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5R, MW-6, and MW-7R). Prior assessment activities confirmed the presence of groundwater impacted by VOCs, as discussed in further detail below. A tabulated summary of recent and historical groundwater analytical data collected from the monitoring well network in comparison to groundwater action levels is included in Table 3. The groundwater action levels utilized for this comparison consist of the NC 2L Standards dated April 2013 and the Interim 2L Standards dated April 2018.

As shown on Table 3, multiple VOCs have historically been detected in groundwater at concentrations above their respective 2L Standards. However, contaminant concentrations are generally low throughout the site and in most wells concentrations have fluctuated above and below NC 2L Standards. COCs historically detected above NC 2L Standards include 1,2-dichlorobenzene, 1,4-dichlorobenzene, isopropylbenzene, naphthalene, 1,2,4-trimethylbenzene, and PCE. During the most recent sampling event performed in December 2018 and January 2019, the only constituent detected above 2L Standards was naphthalene in well MW-1 at a concentration of 6.2 µg/L, which only slightly exceeds the

2L Standard of 6.0 µg/L. Based on the generally low concentrations in groundwater overall, H&H does not consider additional horizontal or vertical delineation wells to be warranted. The estimated horizontal extent of groundwater impacted above 2L Standards based on the latest groundwater monitoring event is shown on Figure 10. Due to variability in plume extent depending on the sampling date, historical groundwater plume maps are also included in Appendix C.

5.0 Corrective Measures Study Addendum

5.1 Corrective Action Objectives

The objectives of the corrective action are as follows:

- Reduction of VOC concentrations in soil to below the Protection of Groundwater PSRGs or demonstration that impacted soil is not substantially leaching to groundwater via other methods (modeling, leaching analysis, groundwater monitoring data over time, etc.)
- Reduction of VOC concentrations in groundwater to below NC 2L Groundwater Standards

The referenced action levels are summarized in the attached Tables 3 and 5. Note that the corrective actions proposed in this CMS are intended to achieve the conservative objectives detailed above. However, depending on the effectiveness of the remedial efforts, S-K may propose alternate corrective action objectives at a later date which rely on additional risk assessment calculations or land use restrictions. If alternate objectives are proposed at a later date, those objectives and the rationale for their selection will be presented to NCDEQ for review.

5.2 Preliminary Screening of Corrective Measures Technologies

As part of the November 2015 CMS preparation, a preliminary screening of available remedial technologies and their potential applicability to impacts present at the subject site was performed. During this screening, the site characteristics, waste characteristics, and technology limitations were taken into account. For groundwater, the technologies evaluated included air sparging, pump and treat/dual-phase extraction, in-situ chemical injection, and monitored natural attenuation. Based on the small size and limited contaminant concentrations associated with the plume in groundwater at the subject site, the CMS concluded that chemical injection was the most favorable alternative to address impacted groundwater. For soil, the technologies evaluated included soil excavation, soil vapor extraction (SVE), and in-situ chemical injection. Based on the small size and limited concentrations associated with the area of impacted soil, as well as the presence of a building preventing soil excavation and shallow groundwater inhibiting SVE effectiveness, the

CMS concluded that chemical injection was also the most favorable alternative to address impacted soil. The CMS recommended collection of additional data as part of a pilot testing phase to confirm the injection scope of work. The results of the additional data collection are described in Section 5.3.

5.3 Pilot Test Data Collection

As discussed in Section 3.2, soil sampling was performed in December 2018 in order to evaluate the dosing for chemical injection and the vertical injection extent. Continuous soil samples were collected from the surface to an estimated depth of 20 ft bgs from two soil borings advanced in the areas of estimated maximum impacts. The results of the PID screening showed the highest VOC concentrations at the 10 ft bgs depth zone with reduced concentrations at greater depths. Laboratory analysis of saturated zone soil samples indicated detectable concentrations of various VOCs at depths of 9-10 and 15-16 ft bgs. However, the only constituents detected at concentrations above PSRGs were 2-hexanone and 1,1,2-trichloroethane. 2-Hexanone is a common laboratory contaminant and attributed to laboratory or sample contamination rather than contamination associated with the S-K facility. 1,1,2-Trichloroethane has not been detected in groundwater samples collected at the site to date and is therefore not considered a key constituent of concern related to groundwater injection. As such, the lab data are less useful in determining injection depths. Based on review of the PID readings, H&H recommends injection at depths of 3 to 13 ft bgs.

A sample collected from the 9-10 ft bgs interval was also analyzed for TOD. The TOD data were used to confirm the recommended dosing for chemical oxidation activities as discussed below. The TOD data generally indicate that the natural oxidant demand across the site does not prohibit chemical oxidation as an effective remedial measure. Laboratory reports for the VOC and TOD testing are included in Appendix A.

5.4 Proposed Injection Scope of Work

5.4.1 Injection for Groundwater Remediation

As discussed in Section 4.4, groundwater concentrations have fluctuated above and below 2L Standards in most monitoring wells, and exceedances of 2L Standards during the latest groundwater monitoring event were limited to naphthalene in well MW-1 at a concentration only slightly above the 2L Standard. This CMS proposes chemical injection in an area defined based on review of both recent and historical areas of groundwater impact in order to prevent future fluctuations in concentrations above 2L Standards. Based on evaluation of the plume size, COCs, and injectate costs, H&H recommends injection of OBC™ for groundwater remediation. OBC™ is a product produced by Redox Tech, LLC which consists of sodium persulfate activated with calcium peroxide. OBC™ delivers one of the strongest chemical oxidants for short-term in-situ chemical oxidation (persulfate) and also provides electron acceptors (oxygen and sulfate) for longer-term biological oxidation.

A total of 21 direct-push injection points are proposed at the locations shown on Figure 11. The number of injection locations is intended to cover the plume extent accounting for possible future fluctuations in concentrations above 2L Standards and assuming a radius of influence of 6 ft. A total of 4,000 pounds (lbs) of OBC™ mixed with water to form 2,625 gallons of injectate will be injected (190 lbs of OBC™ mixed with water to form 125 gallons of injectate at each injection location). At the conclusion of injection activities, the injection borings will be backfilled using bentonite and patched to match surface conditions.

5.4.2 Injection for Soil Remediation

Two angled injection wells will be installed below the Return and Fill Building to remediate impacted soil. The proposed injection well locations are shown on Figure 12. Clean backfill is present just outside the building in this area that was placed during the prior soil excavation activities. At each injection well location, the clean backfill will be removed using a hand shovel

sufficient to use a hand auger to advance a boring at an angle below the building. H&H will endeavor to keep the boring as close to horizontal as feasible in order to address shallow impacted soil. Polyvinyl chloride (PVC) pipe will be inserted into the boring and pushed further below the building to the extent feasible. H&H anticipates that the wells will extend approximately 3 ft below the building, but the actual distance may be more or less depending on conditions encountered in the field. The wells will be constructed with 2-inch diameter 0.020-inch slot screen for the angled portion of the well below the building. A PVC elbow and PVC pipe will be used to provide access to the well at the ground surface. Soil is expected to collapse around the portion of the well below the building. In the area outside the building, the sand backfill will be returned to the excavation to a depth of approximately 1 ft bgs. A concrete pad and flush-mounted stainless steel bolt-down manhole cover will then be installed at the surface at each injection well location.

H&H recommends the use of sodium permanganate to address PCE-impacted soil. Sodium permanganate is considered the most effective option for remediation of chlorinated solvent impacts via chemical oxidation. Sodium permanganate is also fully soluble and can therefore be injected through well screens. Also, since both permanganate and persulfate (i.e. OBC™) are in-situ chemical oxidation injectates, potential mixing of the injectates in the subsurface is not considered a concern. Injection will be performed into the permanent injection wells using appropriate pumps and injection piping. One bucket of sodium permanaganate (57 lbs) mixed with water to form a 20% by weight solution will be injected into the two wells.

5.4.3 Injection Permitting

Prior to performing the injection, H&H will complete the required notifications to the NCDEQ Underground Injection Control (UIC) Program. The land surface area of the proposed injection zone is less than 10,000 square ft. Therefore, the injection will be defined by the UIC Program as a “small-scale injection operation”, which is permitted by rule but requires submittal of a Notification of Intent to Construct or Operate Injection Wells at least two weeks prior to injection.

5.4.4 Injection Groundwater Monitoring

The seven existing monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5R, MW-6, and MW-7R) will be sampled prior to injection then approximately three months after injection. Groundwater monitoring events will then continue on a semiannual basis until one of the following criteria are met: (1) NCDEQ approves termination of the groundwater monitoring; (2) reported groundwater concentrations are below 2L Standards for a period of two consecutive years; or (3) a risk-based remediation option is pursued. The seven existing monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5R, MW-6, and MW-7R) will be sampled during each event. However, S-K may propose a reduced sampling scope of work depending on the results of future monitoring data. Approval will be obtained from NCDEQ prior to modification of the sampling scope of work. A GSAP related to the proposed groundwater monitoring is provided in Section 6.0.

5.4.5 Post-Injection Soil Monitoring

Post-injection soil sampling will be performed concurrent with the second post-injection groundwater monitoring event (approximately nine months following injection). To complete the soil sampling, a hand auger will be used to advance a boring at an angle below the Return and Fill Building at the approximate locations of previous samples S-9 and S-13. The clean backfill outside the building may be removed in advance using a hand shovel in order to facilitate the soil sampling. Two soil samples will be collected at the approximate prior locations of samples S-9 and S-13 and analyzed for VOCs by EPA Method 8260. Additional soil samples will be collected and placed on hold with the laboratory for possible analysis of VOCs by Synthetic Soil Precipitation Leaching Procedure (SPLP). If the results of the total VOC analysis indicate concentrations above Soil to Groundwater PSRGs, the SPLP analysis will also be performed for that sample. If the results of the total VOC analysis indicate no exceedances of PSRGs or if the results of the SPLP analysis indicate no exceedances of 2L Standards in the leachate, no further action will be performed with regard to impacted soil. If the results of the SPLP analysis indicate exceedances of 2L Standards, additional permanganate injection will be performed into the existing injection wells during the next scheduled groundwater monitoring event. The procedures for the injection will be similar to

those performed for the initial injection event as described in Section 5.4.2. Post-injection soil monitoring will then be performed again during the next scheduled groundwater monitoring event, as described in this section. The data will be used to evaluate the need for additional injection events or alternative remediation approaches.

5.5 Reporting

Reports documenting injection activities and soil and groundwater sampling events will be submitted on a semiannual basis. Each report will be submitted within 60 days following receipt of laboratory data for the final sampling event performed within each semiannual period. The reports will consist of a brief cover letter with attached tables and figures describing sampling and analytical protocol, groundwater elevation data and groundwater flow direction, soil and/or groundwater analytical data, laboratory results in comparison to applicable screening levels, and a discussion of any notable trends in contaminant concentrations or plume migration. For semiannual periods where injection is performed, the report will also include documentation of injection activities.

5.6 Estimated Costs

Refer to the Corrective Measures Study cost estimate in Appendix D for details regarding costs associated with implementation of the proposed corrective measures.

5.7 Implementation Schedule

A proposed implementation schedule is summarized in Table 6. The following key compliance dates are proposed:

- Within 30 days of approval of this CMS by NCDEQ, the pre-injection groundwater monitoring event will be performed.
- Within 60 days of approval of this CMS by NCDEQ, the soil and groundwater injection event will be performed.

- The first post-injection groundwater monitoring event will be performed three months after injection, after which groundwater monitoring events will continue on a semiannual basis.
- The first post-injection soil monitoring event will be performed concurrent with the second post-injection groundwater monitoring event. If the results of the soil sampling indicate exceedances of closure goals, an additional injection event and an additional post-injection soil monitoring event may be performed concurrent with subsequent semiannual groundwater monitoring events.
- Monitoring reports will be submitted on a semiannual basis within 60 days following receipt of laboratory data for the final sampling event performed within each semiannual period.

6.0 Groundwater Sampling and Analysis Plan

Groundwater monitoring events will be performed before injection activities to confirm the proposed injection area and following injection to evaluate the effectiveness of the corrective measures. Refer to Section 5.4.4 for a discussion of the proposed groundwater monitoring schedule. The following sections provide details regarding sampling and gauging protocol for each groundwater monitoring event.

6.1 Pre-Mobilization Activities

6.1.1 Sampling Program Coordination

Prior to mobilization to the field for the sampling program, sampling personnel will review the GSAP to ensure collection of necessary field data and conformance with the procedures described below. Necessary equipment will be procured and/or prepared for use prior to commencement of field activities.

The sampling program will be coordinated with the contract laboratory to ensure that properly prepared sample kits are available. The sample kits will include necessary sample containers with closures and appropriate preservatives, coolers, waterproof labels, and chain-of-custody forms.

Records of site visits and sampling events will be maintained in weatherproof, bound, dedicated logbooks. Information to be recorded during the sampling event includes the following:

- Identification of sampling personnel
- Identification of wells measured/sampled
- Dates and times of measurement/sample collection
- Results of static water level measurements and well soundings
- Deficiencies in the physical condition of wells noted during well observations
- Purging/sampling methods and volumes

- Results of field water quality measurements and visual observation of samples
- Analyses to be performed, container types, and preservatives

6.1.2 Health and Safety Plan Review

Field personnel will review the Health and Safety Plan prior to mobilization. Based on previous experience with groundwater sampling at the Saint Pauls S-K facility, modified Level D protection, consisting of long pants, reflective high-visibility safety vests, safety glasses, and steel-toed shoes, is adequate to ensure worker protection. Latex or other chemical resistant gloves will be worn during well purging and sampling. Field personnel will also review health and safety procedures, job safety analyses, and site hazards each morning on-site to be prepared in the event of a medical emergency.

6.2 Sampling Equipment and Procedures

6.2.1 Static Water Level Survey

During each sampling event, a static water level survey will be conducted prior to well purging and sampling. The top of each well has been surveyed to a standard elevation. Static water levels will be measured from the top-of-casing using an electronic water level indicator or other suitable device in designated wells. Data will be recorded in logbooks. If certain monitoring wells are found to be dry or contain insufficient water for sampling, those wells will not be sampled during the scheduled event.

To minimize the potential for cross-contamination, wells that have historically shown no detectable or minimal concentrations of constituents of concern will be measured before wells with elevated constituent concentrations. The downhole measuring device will be thoroughly rinsed with laboratory-grade isopropyl alcohol then deionized water between well locations.

6.2.2 Well Integrity Observation

Prior to purging, the wells will be observed to confirm well integrity and identify needed repairs. Well observations will document observed deficiencies in the condition of the well casing, cap/protective cover, and surface pad. Deficiencies will be recorded in the logbooks and brought to the attention of appropriate project manager and/or S-K personnel upon completion of the sampling event.

6.2.3 Well Purging and Sampling

Purging Equipment and Method

Wells to be sampled will be purged prior to sample collection. Purging of each well will be accomplished using low flow techniques while monitoring water quality indicator parameters for stabilization, as described below. To minimize the potential for cross-contamination, wells that have historically shown no detectable or minimal concentrations of constituents of concern will be purged and sampled before wells with elevated constituent concentrations. The required purging equipment will include the following:

- Electronic water-level indicator
- Sampling pump – adjustable rate peristaltic pump
- Tubing – Primary tubing will be polyethylene, a short section of silicone tubing will also be used for the section around the rotohead of the peristaltic pump
- Flow measurement supplies – graduated cylinder and stop watch
- Multi-parameter water quality meter with flow-through-cell – YSI or similar, capable of monitoring pH, DO, ORP, temperature, and specific conductance
- Turbidity meter
- Decontamination supplies – deionized water, laboratory-grade isopropyl alcohol, and non-phosphate soap
- Field logbook
- Polyethylene sheeting – placed over the well head

- Department of Transportation (DOT) approved container to contain the purged water and proper label

Purging and Sampling Procedure

Disposable polyethylene tubing will be cut to a length necessary for an intake at the approximate middle of the screened interval for each well (see Table 1). The water level will be measured to nearest 0.01 ft and recorded in the logbook. The water level indicator will be left in the monitoring well during purging to monitor the drawdown. The discharge line from the pump will be connected to a flow-through cell. The discharge line from the flow-through cell will be directed to a container to store the purge water during the purging and sampling of the monitoring well. A disposable T-valve will be installed in-line between the pump discharge and the flow-through cell to allow collection of samples for turbidity measurement.

Well purging will begin at a low flow rate (0.2 to 0.5 liter per minute). The rate will be slowly increased while the water level is monitored. An adequate flow rate that maintains a drawdown of less than 0.33 ft will be determined. If drawdown is greater than 0.33 ft, the flow rate will be maintained at a maximum level of 0.2 liter per minute. The discharge rate of the pump will be measured with a graduated cylinder and a stop watch. The water level and flow rate will be recorded in the field logbook.

During purging, the depth to water and water-quality indicator parameters will be monitored and recorded every three to five minutes. The water-quality indicator field parameters will include turbidity, DO, specific conductivity, ORP, temperature, and pH. Purging will continue until selected parameters have stabilized within the criteria detailed below for three successive readings. If stabilization of these parameters does not occur within one hour of purging, sampling will proceed with notes made in the field logbook regarding the lack of stabilization.

Parameter	Stabilization Criteria
pH	± 0.1 pH units
Specific Conductivity	± 5% µS/cm
Turbidity	± 10% NTUs (when turbidity is greater than 10 NTUs)

Once purging is complete, sampling will proceed at the same pumping rate or a slightly reduced rate (0.2 to 0.5 liter per minute) in order to minimize disturbance of the water column. Samples will be collected directly from the discharge port of the pump tubing prior to passing through the flow-through cell or T-valve for the turbidity meter. Samples will be collected in laboratory supplied containers. Once the required samples have been collected, the tubing will be removed from the well and disposed of properly.

Management of Purge Water

Purge water will be collected in a 55-gallon drum or other DOT-approved container. The water will be managed and properly disposed of by S-K.

Decontamination Procedures

The electronic water level indicator probe will be thoroughly rinsed with laboratory-grade isopropyl alcohol then deionized water between well locations. Other purging and sampling equipment is either disposable (tubing) or sampled water does not come into contact with the equipment (flow-through cell and turbidity meter).

Groundwater Sample Handling

Groundwater samples will be collected and handled in such a way as to minimize the potential for cross-contamination, loss of volatile constituents, or other interferences. Sampling personnel will wear clean latex, nitrile, or other suitable chemical resistant, non-reactive gloves when handling sampling equipment and containers, and will minimize contact with the sampled groundwater. Care will be taken to prevent contact of the sampling equipment with the ground or other potential sources of sample contamination. Gloves will be changed between tasks and between sampling

locations. The color, turbidity, and odor of each sample along with the field analysis parameters will be noted by the field technician and recorded in the logbook. Collected samples will be retained in coolers pending transport to the laboratory with adequate ice to maintain samples at a temperature of approximately 4 degrees Celsius until received by the laboratory.

Sample Containers, Preservatives, and Labels

Samples will be collected in clean, method-specified containers, with appropriate preservatives, supplied by the laboratory. Prior to use, sample containers will be stored, with lids secured, in a clean cooler or box.

Once a sample is collected, the sample container will be secured with a tight-fitting lid and a waterproof adhesive label will be affixed. The label will include sample identification, time and date of collection, sampler's initials, and other pertinent information, as appropriate. The sample containers will be retained in a cooler at or below 4 degrees Celsius as described above pending transport to the laboratory.

Sample Custody Control, and Shipment and Receipt of Samples

After sample collection, chain-of-custody forms will be filled out in indelible ink, in legible writing, listing sample containers and will accompany the samples throughout shipment and handling. Samples will be packed on sufficient ice to achieve a temperature of 4 degrees Celsius and sealed prior to shipment. To the extent practical, samples will be submitted to the laboratory within 24 hours of sample collection. If samples are delivered to the laboratory by a third-party courier, a custody seal will be affixed to the cooler such that the cooler cannot be opened without breaking the seal.

Sampling personnel will be responsible for the care of collected samples until custody has been transferred to the laboratory, courier, or shipping department. Sample custodians will assure that the sample containers are in the custodians' physical possession, in view at all times, or stored in a secure area to prevent tampering.

Upon delivery of samples to the laboratory or courier, the sampler will retain a copy of the chain-of-custody form, signed by the sampler and/or laboratory personnel indicating the date and time the samples were relinquished and received. A copy of the chain-of-custody form showing all signatures from the sampler to the laboratory will be incorporated in the analytical report issued by the contract laboratory.

6.2.4 Collection of Quality Control Field Samples

For the purpose of field sample quality control, a laboratory-prepared trip blank will accompany the sample containers from the lab. One duplicate sample will be also collected during each sampling event. The monitoring well selected for duplicate sampling will rotate during each sampling event.

6.3 Analytical Laboratory Procedures

6.3.1 Laboratory Methods and Sample Containers

Upon receipt, the laboratory will measure the internal temperature of each sample cooler. The samples will then be logged in and maintained at the appropriate temperature pending extraction and/or analysis within the method-specified holding times. In the event of sample container breakage or other problems with the sample shipment, the laboratory will contact H&H immediately.

During each monitoring event, samples from each monitoring well, the duplicate sample, and the trip blank will be analyzed for VOCs by EPA Method 8260B. Laboratory analyses will be performed in accordance with the QA/QC protocol specified in USEPA publications "Test Methods for Evaluating Solid Waste", SW-846, Rev. 6, February 2007; "Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-20, 1983; or other appropriate methods.

Additional parameters will be monitored during pre-injection and the initial post-injection monitoring events to evaluate parameters associated with the injection products. These parameters will include sulfate by EPA Method 9056 and manganese by EPA Method 6020. Collection of samples for analysis of sulfate and manganese will cease for each well when concentrations reduce to the

higher concentration between the following two criteria for two consecutive sampling events: (1) concentrations below 2L Standards for sulfate (250 milligrams per liter) or manganese (50 µg/L), or (2) concentrations at or below the highest levels detected pre-injection.

Note that unreacted permanganate could result in damage to laboratory equipment. As such, samples will also be evaluated for unreacted permanganate via either visual observations or the use of a colorimetric test kit. If evidence of unreacted permanganate is identified, samples will be quenched through the addition of ascorbic acid prior to analysis in accordance with the recommendations detailed in the EPA Groundwater Issue, Groundwater Sample Preservation at In-Situ Chemical Oxidation Sites – Recommended Guidelines (EPA/600R/R-12/049, 2012).

6.3.2 Data Reduction, Validation, and Management

Data Reduction

Calculations and data reduction will be completed by laboratory personnel in accordance with procedures specified by USEPA in "Test Methods for Evaluating Solid Waste", SW-846, Rev. 6, February 2007; "Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020, 1983; or other appropriate methods. Procedures, units, and equations used in data reduction will be consistent with the analysis method.

Data Validation

The contracted laboratory will verify that the data are properly documented and filed according to chain-of-custody records, and that calculations made from raw data are correct. Results from calibration standards will be examined to ensure they are within expected ranges. Blank, duplicate, spike, standard, and QC data for each batch will be examined to ensure conformance with specified QA/QC goals.

Data Management

The sampling contractor will be responsible for tabulation, management, and statistical analysis of analytical data received from the laboratory.

6.3.3 Laboratory Quality Control Analyses

To monitor system performance, control samples, including blanks, duplicates, spike duplicates, analytical standards, and reference materials, will be incorporated in the operation of the laboratory facility. The laboratory selected to complete the specified analyses must submit laboratory QC data consistent with the provisions specified in this GSAP. Minimum QC sampling and testing requirements follow.

Matrix Spikes

Matrix spike samples will be run at a frequency of one per sample batch, one per every 20 samples analyzed, or consistent with EPA guidance. The results from these analyses will be compared to the control limits established for precision and bias to assess whether or not the analysis is in statistical control.

Method Blanks

To monitor potential contamination in the laboratory, method blanks will be run at a frequency of one every 20 samples, or a minimum of one per sample batch, or as specified in EPA guidance. For organic analyses, blank results will be acceptable if the concentration of the target analytes in the blank are below the practical quantitation limit for each analyte. In accordance with EPA guidance, exceptions will be made for common laboratory contaminants (methylene chloride, acetone, 2-butanone, toluene, and phthalate esters may be present at concentrations up to five times the method-specified practical quantitation limit) and the results for the blank will still be acceptable.

Matrix Spike Duplicates

Analysis of a matrix spike duplicate will be used to determine matrix-specific precision. A matrix duplicate or matrix spike duplicate will be run at a frequency of one in 20, or a minimum of one per sample batch, or as specified in EPA guidance.

Safety-Kleen Facility\Saint Pauls, NC

CERTIFICATION PAGE

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Robert A. Schoepke., P.G.
Director - Remediation
Safety-Kleen Systems, Inc.

TABLES

TABLE 1

MONITORING WELL CONSTRUCTION AND DEPTH TO GROUNDWATER DATA
SAFETY-KLEEN SERVICE CENTER
ST. PAULS, NORTH CAROLINA

Monitoring Well ID	Date Installed	Well Casing Diameter (inches)	Screened Interval (feet)	Depth of Well (feet)	Top of Casing (feet)	Date Last Measured	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-1	2/14/2013	1	4-14	14	98.12	2/28/2013	ND	2.45	NA	95.67
						6/21/2013	ND	2.55	NA	95.57
						1/9/2014	ND	3.04	NA	95.08
						12/16/2014	ND	4.23	NA	93.89
						3/17/2015	ND	1.77	NA	96.35
						6/3/2015	ND	3.50	NA	94.62
						9/16/2015	ND	4.58	NA	93.54
						12/27/2018	ND	3.75	NA	94.37
MW-2	2/14/2013	1	4-14	14	97.96	2/28/2013	ND	2.11	NA	95.85
						6/21/2013	ND	2.27	NA	95.69
						1/9/2014	ND	2.87	NA	95.09
						12/16/2014	ND	5.17	NA	92.79
						3/17/2015	ND	1.42	NA	96.54
						6/3/2015	ND	3.63	NA	94.33
						9/16/2015	ND	5.21	NA	92.75
						12/27/2018	ND	3.70	NA	94.26
MW-3	2/14/2013	1	4-14	14	97.89	2/28/2013	ND	2.05	NA	95.84
						6/21/2013	ND	2.20	NA	95.69
						1/9/2014	ND	2.75	NA	95.14
						12/16/2014	ND	5.15	NA	92.74
						3/17/2015	ND	1.35	NA	96.54
						6/3/2015	ND	3.55	NA	94.34
						9/16/2015	ND	5.35	NA	92.54
						12/27/2018	ND	3.72	NA	94.17
MW-4	2/14/2013	1	4-14	14	98.25	2/28/2013	ND	2.45	NA	95.80
						6/21/2013	ND	2.59	NA	95.66
						1/9/2014	ND	3.25	NA	95.00
						12/16/2014	ND	5.48	NA	92.77
						3/17/2015	ND	1.68	NA	96.57
						6/3/2015	ND	3.99	NA	94.26
						9/16/2015	ND	5.21	NA	93.04
						12/27/2018	ND	1.45	NA	96.80
MW-5	2/14/2013	1	4-14	14	97.89	2/28/2013	ND	2.11	NA	95.78
						6/21/2013	ND	2.41	NA	95.48
						1/9/2014	ND	2.94	NA	94.95
						Abandoned on 9/5/14				
MW-5R	9/5/2014	1	4-14	14	98.07	12/16/2014	ND	5.40	NA	92.67
						3/17/2015	ND	1.30	NA	96.77
						6/3/2015	ND	3.64	NA	94.43
						9/17/2015	ND	5.44	NA	92.63
						12/27/2018	ND	1.14	NA	96.93

TABLE 1

MONITORING WELL CONSTRUCTION AND DEPTH TO GROUNDWATER DATA
SAFETY-KLEEN SERVICE CENTER
ST. PAULS, NORTH CAROLINA

Monitoring Well ID	Date Installed	Well Casing Diameter (inches)	Screened Interval (feet)	Depth of Well (feet)	Top of Casing (feet)	Date Last Measured	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-6	5/28/2013	1	4-14	14	98.53	6/5/2013	ND	6.85	NA	91.68
						6/21/2013	ND	3.80	NA	94.73
						1/9/2014	ND	3.98	NA	94.55
						12/16/2014	ND	5.97	NA	92.56
						3/17/2015	ND	1.81	NA	96.72
						6/3/2015	ND	3.41	NA	95.12
						9/17/2015	ND	5.95	NA	92.58
						12/27/2018	ND	3.65	NA	94.88
MW-7	5/28/2013	1	4-14	14	97.83	6/5/2013	ND	6.71	NA	91.12
						6/21/2013	ND	6.50	NA	91.33
						1/9/2014	ND	7.02	NA	90.81
						Abandoned on 9/5/14				
MW-7R	9/5/2014	1	4-14	14	98.08	12/16/2014	ND	7.61	NA	90.47
						3/17/2015	ND	2.80	NA	95.28
						6/3/2015	ND	4.54	NA	93.54
						9/17/2015	ND	8.31	NA	89.77
						12/27/2018	ND	3.07	NA	95.01

Notes:
1. Elevations are referenced to an arbitrary on-site benchmark of 100.00 feet.
2. ND = Not detected.
3. NA = Not applicable.
4. Dates prior to 9/17/15 were gauged by previous consultant.

TABLE 2

GROUNDWATER NATURAL ATTENUATION AND INJECTION PARAMETER DATA
SAFETY-KLEEN SERVICE CENTER
SAINT PAULS, NORTH CAROLINA

Sample Identification	Date	Parameter													
		Temperature	Conductivity	Dissolved Oxygen	pH	Oxidation-Reduction Potential	Turbidity	Nitrate	Sulfate	Sulfide	Sulfite	Methane	Ferrous Iron	Total Iron	Dissolved Iron
		°C	µs/cm^2	mg/L	standard units	mV	NTU	µg/L	µg/L	ug/L	ug/L	µg/L	µg/L	µg/L	µg/L
MW-1	2/28/2013	11.73	71	3.30	5.29	-27.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/9/2014	11.48	81	1.58	5.77	66.7	2.88	NA	NA	NA	NA	NA	NA	NA	NA
	12/18/2014	16.70	55	0.27	5.13	190.7	>1,000	<50	<5,000	NA	NA	9.6	NA	NA	NA
	3/17/2015	16.94	67	0.21	9.07	-201.9	4	NA	NA	NA	NA	NA	NA	NA	NA
	6/3/2015	20.70	61	1.20	4.49	162	133	NA	NA	NA	NA	NA	NA	NA	NA
	9/16/2015	22.63	36	1.13	4.46	146.1	82.5	NA	NA	NA	NA	NA	NA	NA	NA
	12/28/2018	17.99	53	0.56	4.66	18.9	2.55	NA	8,300	<200	<1,000	NA	NA	615	636
MW-2	2/28/2013	12.00	79	3.14	5.05	73.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/9/2014	10.79	52	2.74	5.52	182.4	1.28	NA	NA	NA	NA	NA	NA	NA	NA
	12/17/2014	17.11	68	0.18	5.19	75.8	1.11	<50	12,000	NA	NA	17	2,800	NA	NA
	3/17/2015	15.06	52	0.26	7.73	-123.3	5	NA	NA	NA	NA	NA	NA	NA	NA
	6/4/2015	17.51	67	0.24	4.90	110	1.02	NA	NA	NA	NA	NA	NA	NA	NA
	9/16/2015	22.68	46	0.20	4.78	-10.8	2.26	NA	NA	NA	NA	NA	NA	NA	NA
	1/3/2019	15.49	50	0.25	4.45	-10.4	4.13	NA	7,100	390	<1,000	NA	NA	1,400	1,500
	1/3/2019 (duplicate)	15.49	50	0.25	4.45	-10.4	4.13	NA	6,900	260	<1,000	NA	NA	1,380	1,450
MW-3	2/28/2013	12.20	34	2.85	5.98	-9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/9/2014	11.31	33	2.34	4.68	293.4	0.95	NA	NA	NA	NA	NA	NA	NA	NA
	12/17/2014	17.50	44	0.31	4.79	211.1	46	<50	5,100	NA	NA	130	2,900	NA	NA
	3/17/2015	15.23	37	0.62	7.04	-38.8	2	NA	NA	NA	NA	NA	NA	NA	NA
	6/4/2015	17.78	47	2.27	4.53	178.7	113	NA	NA	NA	NA	NA	NA	NA	NA
	9/16/2015	22.14	37	0.54	4.82	68.8	20.8	NA	NA	NA	NA	NA	NA	NA	NA
	1/3/2019	15.26	47	0.93	4.45	-16.5	6.37	NA	4,500J	720	<1,000	NA	NA	2,070	2,390
MW-4	2/28/2013	12.97	203	2.14	5.65	-202.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/9/2014	14.40	64	2.40	5.47	216.1	0.71	NA	NA	NA	NA	NA	NA	NA	NA
	12/17/2014	16.48	46	2.87	5.05	379.0	0.58	<5,000	630	NA	NA	0.1	ND	NA	NA
	3/17/2015	15.52	38	2.43	7.57	-4.6	1	NA	NA	NA	NA	NA	NA	NA	NA
	6/4/2015	18.50	58	1.64	5.27	185.9	2.03	NA	NA	NA	NA	NA	NA	NA	NA
	9/16/2015	23.10	61	1.13	5.22	26.8	3.21	NA	NA	NA	NA	NA	NA	NA	NA
	1/3/2019	15.90	66	2.11	4.7	9.7	2.44	NA	1,600J	<200	<1,000	NA	NA	139	22.9J
MW-5	2/28/2013	13.95	109	0.65	5.96	-298.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/9/2014	15.11	122	0.37	5.85	129.4	0.99	NA	NA	NA	NA	NA	NA	NA	NA
MW-5R	12/17/2014	15.71	35	1.41	4.62	298.8	35.6	<50	<5,000	NA	NA	2.3	500	NA	NA
	3/17/2015	15.62	80	2.79	7.29	-40.9	2	NA	NA	NA	NA	NA	NA	NA	NA
	6/3/2015	20.80	61	1.42	3.93	218.6	148	NA	NA	NA	NA	NA	NA	NA	NA
	9/17/2015	27.40	46	0.46	4.45	166.9	4.96	NA	NA	NA	NA	NA	NA	NA	NA
	12/27/2018	15.94	95	0.34	3.92	84	1.06	NA	22,900	<200	<1,000	NA	NA	31.5J	19.3J
MW-6	6/5/2013	23.16	6034	0.22	4.37	78.3	1,000	NA	NA	NA	NA	NA	NA	NA	NA
	1/9/2014	17.99	26	0.20	4.61	266.5	2.2	NA	NA	NA	NA	NA	NA	NA	NA
	12/16/2014	18.68	33	0.17	4.82	240.7	9.04	NA	NA	NA	NA	NA	NA	NA	NA
	3/17/2015	17.58	29	0.42	8.86	-13.2	2	NA	NA	NA	NA	NA	NA	NA	NA
	6/3/2015	22.11	37	0.15	3.97	200	1.6	NA	NA	NA	NA	NA	NA	NA	NA
	9/17/2015	28.72	33	0.20	4.34	179.6	0.76	NA	NA	NA	NA	NA	NA	NA	NA
	12/27/2018	18.99	33	0.22	3.99	71.8	1.42	NA	920J	<200	<1,000	NA	NA	141	161
MW-7	6/5/2013	20.92	75	0.30	4.96	4.0	>1,000	NA	NA	NA	NA	NA	NA	NA	NA
	1/9/2014	19.32	31	1.62	4.80	294.6	5.34	NA	NA	NA	NA	NA	NA	NA	NA
MW-7R	12/16/2014	19.82	50	1.80	4.70	256.9	73.6	NA	NA	NA	NA	NA	NA	NA	NA
	3/17/2015	15.33	65	3.14	12.94	-6.4	1	NA	NA	NA	NA	NA	NA	NA	NA
	6/3/2015	23.49	54	2.43	4.50	192.6	14.1	NA	NA	NA	NA	NA	NA	NA	NA
	9/17/2015	25.53	47	0.15	4.38	155.6	8.97	NA	NA	NA	NA	NA	NA	NA	NA
	12/27/2018	17.19	94	1.03	3.93	84	2.5	NA	3,000J	<200	<1,000	NA	NA	59.8 B	193

Notes:
1. NA =Not Analyzed
2. ND = Not Detected
3. B = Analyte was detected in the associated method blank.
4. J = Indicates a concentration above the laboratory detection limit but below the laboratory reporting limit.

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
SAFETY-KLEEN SERVICE CENTER
ST. PAULS, NORTH CAROLINA

PARAMETER	SAMPLE DATE	8260 VOLATILES (ug/L)																				
		Acetone	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Chlorobenzene	Chloromethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	cis-1,2-Dichloroethene	Ethylbenzene	p-Isopropyltoluene	Isopropylbenzene	Methylene Chloride	Naphthalene	n-Propylbenzene	Tetrachloroethene	Toluene	Trichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Xylene (Total)
MW-1	02/28/13	11	<5.0	<5.0	<5.0	<2.0	<1.0	0.3J	<1.0	<1.0	0.4J	1.1	<5.0	<5.0	<1.0	1.6J	<5.0	0.4J	<1.0	<1.0	7.6	0.9J	<2.0
	01/09/14	<10	<5.0	<5.0	<5.0	<2.0	<1.0	0.9J	<1.0	<1.0	1	1.1	<5.0	0.8J	<1.0	3.6J	0.7J	0.5J	<1.0	0.4J	3.5J	<5.0	<2.0
	12/18/14	210	4J	3.8J	2.2J	0.2J	<1.0	1.3	1	5.5	25	22	0.8J	15	<1.0	**93**	19	**3.2**	<1.0	0.8J	110	<5.0	<2.0
	03/17/15	<10	<5.0	0.2J	<5.0	<2.0	<1.0	0.8J	<1.0	0.6J	0.6J	0.5J	<5.0	0.8J	<1.0	<5.0	0.6J	<0.7	<1.0	<1.0	7.1	<5.0	<2.0
	06/03/15	25	4.6J	4.8J	3.2J	<2.0	<1.0	**20**	1.7	**9.6**	29	46	<5.0	26	**5.6**	**110B**	33	**5.1**	0.8J	0.8J	200	<5.0	<2.0
	09/16/15	<10	4.8J	5.0J	4.5J	<2.0	<1.0	**26**	2.5	**13**	43	42	<5.0	23	<1.0	**87**	31	**8.5**	<1.0	1.2	210	1.2J	1.0J
	12/28/18	<10	<5.0	<5.0	1.0J	<2.0	<1.0	0.92J	<1.0	<1.0	<1.0	0.74J	1.5J	1.6J	<1.0	**6.2**	0.72J	<0.78	<1.0	<1.0	6.2	<5.0	<2.0
MW-2	02/28/13	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	**0.7**	<1.0	<1.0	<5.0	<5.0	<2.0
	01/09/14	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	**0.7**	<1.0	<1.0	<5.0	<5.0	<2.0
	01/09/14 (duplicate)	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	**0.8**	<1.0	<1.0	<5.0	<5.0	<2.0
	12/17/14	<10	6	6.9	3J	<2.0	<1.0	10	1.1	5.3	1.6	26	2.2J	29	<1.0	**63B**	39	0.4J	<1.0	<1.0	230	<5.0	5.2J
	03/17/15	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	<0.7	<1.0	<1.0	0.6J	<5.0	<2.0
	06/04/15	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	0.3J	<1.0	<5.0	0.2J	<0.7	<1.0	<1.0	5.4	<5.0	<2.0
	09/16/15	<10	6.6	9.2	3.9J	<2.0	<1.0	7.1	0.9J	4.1	0.9J	14	4.9J	28	<1.0	**49**	44	**0.8**	<1.0	<1.0	250	0.4J	4.1
	09/16/15 (duplicate)	<10	7.4	9.9	4.5J	<2.0	<1.0	7.5	1.0J	4.4	1	14	5.4	30	<1.0	**52**	47	**0.8**	<1.0	<1.0	250	0.4J	4.5
	01/03/19	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	<0.78	<1.0	<1.0	<5.0	<5.0	<2.0
	01/03/19 (duplicate)	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	<0.78	<1.0	<1.0	<5.0	<5.0	<2.0
MW-3	02/28/13	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	0.3J	<1.0	<1.0	<5.0	<5.0	<2.0
	01/09/14	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	0.5J	<1.0	<1.0	<5.0	<5.0	<2.0
	12/17/14	12	2.4J	1.9J	0.8J	<2.0	<1.0	2.8	0.4J	1.8	1.2	1.6	<5.0	5.3	<1.0	**8.1B**	3.8J	**0.9**	<1.0	<1.0	73	<5.0	0.2J
	03/17/15	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	<0.7	<1.0	<1.0	<5.0	<5.0	<2.0
	06/04/15	<10	2.1J	2.2J	1.0J	<2.0	<1.0	3	0.4J	1.9	0.9J	2	<5.0	7.2	0.5J	**16B**	3.4J	0.4J	0.4J	<1.0	94	<5.0	<2.0
	6/4/15 (Duplicate)	3.2J	2.1J	2.3J	1.2J	<2.0	<1.0	3.6	0.4J	2.1	0.9J	2.2	<5.0	8.5	0.4J	**27B**	3.7J	0.4J	0.4J	<1.0	110	<5.0	<2.0
	09/16/15	<10	1.9J	2.3J	1.6J	<2.0	<1.0	4.1	0.5J	2.5	1.4	2.1	<5.0	7.2	<1.0	**18**	2.4J	**0.7J**	<1.0	<1.0	150	<5.0	<2.0
	01/03/19	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	<0.78	<1.0	<1.0	<5.0	<5.0	<2.0
MW-4	02/28/13	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	**2.0**	<1.0	<1.0	<5.0	<5.0	<2.0
	02/28/13 (duplicate)	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	**2.0**	<1.0	<1.0	<5.0	<5.0	<2.0
	01/09/14	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	**2.0**	<1.0	<1.0	<5.0	<5.0	<2.0
	12/17/14	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	**1.0**	<1.0	<1.0	<5.0	<5.0	<2.0
	03/17/15	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	0.4J	<1.0	<1.0	<5.0	<5.0	<2.0
	06/04/15	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	0.5J	<1.0	<1.0	<5.0	<5.0	<2.0
	09/16/15	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	**0.8**	<1.0	<1.0	<5.0	<5.0	<2.0
	01/03/19	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	<0.78	<1.0	<1.0	<5.0	<5.0	<2.0

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
SAFETY-KLEEN SERVICE CENTER
ST. PAULS, NORTH CAROLINA

PARAMETER	SAMPLE DATE	8260 VOLATILES (ug/L)																				
		Acetone	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Chlorobenzene	Chloromethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	cis-1,2-Dichloroethene	Ethylbenzene	p-Isopropyltoluene	Isopropylbenzene	Methylene Chloride	Naphthalene	n-Propylbenzene	Tetrachloroethene	Toluene	Trichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Xylene (Total)
MW-5	02/28/13	<10	<5.0	21	9.7	<2.0	<1.0	17	1.9	**11**	3.6	21	<5.0	**72**	<1.0	**130**	8.1	**1.4**	<1.0	0.4J	**810**	<5.0	0.9J
	01/09/14	<10	8.2	13	6.3	<2.0	<1.0	13	1.8	**8.2**	2.3	24	5.4	54	<1.0	**94**	47	**1.6**	<1.0	0.4	**460E**	<5.0	3.4
MW-5R	12/17/14	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	0.5J	<1.0	<1.0	<5.0	<5.0	<2.0
	12/17/14 (duplicate)	11	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	0.5J	<1.0	<1.0	<5.0	<5.0	<2.0
	03/17/15	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	<0.7	<1.0	<1.0	<5.0	<5.0	<2.0
	06/03/15	4.7J	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	0.4J	<5.0	<5.0	<0.7	0.2J	<1.0	<5.0	<5.0	<2.0
	09/16/15	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	0.6J	<1.0	<1.0	<5.0	<5.0	<2.0
	12/27/18	<10	<5.0	<5.0	<5.0	<2.0	0.54J	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	<0.78	<1.0	<1.0	<5.0	<5.0	<2.0
MW-6	06/05/13	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	**1.0**	<1.0	<1.0	<5.0	<5.0	<2.0
	01/09/14	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	**1.0**	<1.0	<1.0	<5.0	<5.0	<2.0
	12/16/14	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	0.5J	<1.0	<1.0	<5.0	<5.0	<2.0
	03/17/15	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	0.4J	<1.0	<1.0	<5.0	<5.0	<2.0
	3/17/15 (duplicate)	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	0.5J	<1.0	<1.0	<5.0	<5.0	<2.0
	06/03/15	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	0.4J	<5.0	<5.0	0.6J	<1.0	<1.0	<5.0	<5.0	<2.0
	09/17/15	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	0.5J	<1.0	<1.0	<5.0	<5.0	<2.0
	12/27/18	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	<0.78	<1.0	<1.0	<5.0	<5.0	<2.0
MW-7	06/05/13	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	0.5J	0.6J	<1.0	<5.0	<5.0	<2.0
	06/05/13 (duplicate)	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	0.6J	0.6J	<1.0	<5.0	<5.0	<2.0
	01/09/14	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	0.5	<1.0	<1.0	<5.0	<5.0	<2.0
MW-7R	12/16/14	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	0.5J	<1.0	<1.0	<5.0	<5.0	<2.0
	03/17/15	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	<0.7	<1.0	<1.0	<5.0	<5.0	<2.0
	06/03/15	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	<0.7	<1.0	<1.0	<5.0	<5.0	<2.0
	09/17/15	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	<0.7	<1.0	<1.0	<5.0	<5.0	<2.0
	12/27/18	<10	<5.0	<5.0	<5.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<5.0	<0.78	<1.0	<1.0	<5.0	<5.0	<2.0
NC 2L STANDARDS		6,000	70	70	70	50	3	20	200	6	70	600	25	70	5	6	70	0.7	600	3	400	400	500

Notes:
1. "<" = Not detected above laboratory reporting limit.
2. NC 2L Standards = Title 15A NCAC 2L .0202 Groundwater Standards.
3. Units reported in micrograms per liter (ug/L).
4. Bold = Indicates concentrations above the NC 2L Standards.
5. Table shows constituents detected in groundwater at concentrations above the laboratory detection limit.
6. J = Indicates a concentration above the laboratory detection limit but below the laboratory reporting limit.
7. E = The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
8. B = Analyte was detected in the associated method blank.

TABLE 4
SOIL AND AQUIFER PROPERTIES
SAFETY-KLEEN SERVICE CENTER
ST. PAULS, NORTH CAROLINA

Well Identification	Slug Test Date	Hydraulic Conductivity	
		Bouwer - Rice Method	Hvorslev Method
		(ft/d)	(ft/d)
MW-4	1/8/15	1.008	1.180
MW-5R	1/8/15	0.190	0.275
MW-6	1/8/15	0.189	0.275
Geometric Mean		0.3844	

Parameter	Date	Sample Depth	Total Porosity	Effective Porosity	Moisture Content	Dry Bulk Density	Fraction Organic Carbon
		(ft)	(%)	(%)	(% weight)	(g/cc)	(g/g)
ST1	12/22/14	0.5-2	36.0	NA	18.1	1.68	NA
ST2	12/22/14	3.5-5	36.6	13.4	NA	NA	NA
BB-1	12/18/14	1	NA	NA	NA	NA	1.45E-03
	12/18/14	4	NA	NA	NA	NA	7.71E-04

Notes:
1. ft/d = feet per day
2. g/cc = grams per cubic centimeter
3. g/g = grams per gram
4. Samples ST1 and BB-1 (1') were collected above the water table.
5. Samples ST2 and BB-1 (4') were collected below the water table.
6. NA = Not Analyzed

TABLE 5

SUMMARY OF SOIL ANALYTICAL RESULTS (2009)
SAFETY-KLEEN SERVICE CENTER
ST. PAULS, NORTH CAROLINA

PARAMETER	BORING	B-1*	B-2*	B-4	B-5	B-6	B-7*	B-8*	B-9	B-10	B-11*	B-12*		Protection of Groundwater PSRG	Residential PSRG	Industrial PSRG
	DEPTH	1'	1'	0-2'	0-2'	2-4'	0-2'	0-2'	2-4'	0-2'	1.5'	1.5'				
	DATE	10/7/2009	10/7/2009	12/1/2009	12/1/2009	12/4/2009	12/1/2009	12/1/2009	12/4/2009	12/1/2009	12/4/2009	12/4/2009				
SEMIVOLATILES in ug/kg																
Bis (2-ethylhexyl)phthalate		1,200	<390	NA	NA	NA	NA	NA	NA	NA	NA	NA		14,000	39,000	160,000
VOLATILES in ug/kg																
Acetone		650	<99	<91	710	<100	<91	<92	<98	<91	<100	<97		25,000	12,000,000	140,000,000
Carbon disulfide		<9	<9.9	<9.1	<9.2	<10	<9.1	<9.2	<9.8	<9.1	<10	<9.7		4,100	160,000	740,000
Chloroform		<4.5	<4.9	<4.5	<4.6	<5.2	<4.5	<4.6	<4.9	<4.6	<5.2	<4.9		390	340	1,500
Dichlorodifluoromethane		<9	<9.9	<9.1	<9.2	<10	<9.1	<9.2	<9.8	<9.1	<10	<9.7		30,000	18,000	78,000
Naphthalene		<9	<9.9	<9.1	<9.2	<10	<9.1	<9.2	<9.8	<9.1	<10	<9.7		390	4,100	18,000
n-Butylbenzene		17	<9.9	<9.1	<9.2	<10	<9.1	<9.2	<9.8	<9.1	<10	<9.7		4,500	780,000	12,000,000
sec-Butylbenzene		41	<9.9	<9.1	<9.2	<10	<9.1	<9.2	<9.8	<9.1	<10	<9.7		4,100	1,600,000	23,000,000
Isopropylbenzene		19	<9.9	<9.1	<9.2	<10	<9.1	10	<9.8	<9.1	<10	<9.7		2,300	410,000	2,100,000
p-Isopropyltoluene		66	<9.9	<9.1	<9.2	<10	<9.1	<9.2	<9.8	<9.1	11	<9.7		1,240	NE	NE
n-Propylbenzene		11	<9.9	<9.1	<9.2	<10	<9.1	<9.2	<9.8	<9.1	<10	<9.7		2,600	780,000	5,100,000
Styrene		<0.0045	<0.0049	<0.0045	<0.0046	<0.0052	<0.0045	<0.0046	<0.0049	<0.0046	<0.0052	<0.0049		1,200,000	1,200,000	7,300,000
Tetrachloroethene		**5,100**	**7.6**	<4.5	<4.6	<5.2	<4.5	<4.6	<4.9	<4.6	**790**	<4.9		6.3	17,000	82,000
Toluene		<0.0045	<0.0049	<0.0045	<0.0046	<0.0052	<0.0045	<0.0046	<0.0049	<0.0046	<0.0052	<0.0049		8,300	990,000	9,700,000
1,3,5-Trimethylbenzene		1,100	<9.9	<9.1	<9.2	<10	<9.1	<9.2	<9.8	<9.1	36	<9.7		11,000	56,000	320,000
Xylene (Total)		59	<4.9	<4.5	<4.6	<5.2	<4.5	<4.6	<4.9	<4.6	<5.2	<4.9		9,900	120,000	530,000
MADEP VPH and EPH in mg/kg																
C_5-C_8 Aliphatics		<8.4	<9.2	NA	NA	NA	NA	NA	NA	NA	NA	NA		NE	110	460
C_9-C_{18} Aliphatics		**647.3**	**30.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA				
C_9-C_{12} Aliphatics		**85.3**	**30.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA		19	20	93
C_9-C_{18} Aliphatics		**562**	<12.5	NA	NA	NA	NA	NA	NA	NA	NA	NA				
C_{19}-C_{36} Aliphatics		<11.9	<12.5	NA	NA	NA	NA	NA	NA	NA	NA	NA		160,000	47,000	700,000
C_9-C_{22} Aromatics		**23.2**	<12.5	NA	NA	NA	NA	NA	NA	NA	NA	NA				
C_9-C_{10} Aromatics		**23.2**	<9.2	NA	NA	NA	NA	NA	NA	NA	NA	NA		2.4	22	130
C_{11}-C_{22} Aromatics		<11.9	<12.5	NA	NA	NA	NA	NA	NA	NA	NA	NA				

Notes:
1. PSRGs = Preliminary Soil Remediation Goals established by NCDEQ dated February 2018.
2. NE = Not established.
3. NA = Not analyzed.
4. Bold = Indicates concentrations above the lower of the Protection of Groundwater or Residential PSRGs.
5. Table shows only constituents detected in soil at the site.
6. * = Sample location excavated.
7. Data for background sampling locations is not shown.
8. PSRGs are established for total petroleum hydrocarbons for aliphatic low, medium, and high and aromatic low medium and high. These designations are based on the EPA Regional Screening Level (RSL) guidance, which also shows what carbon fraction classes are associated with each designation. The PSRGs shown are based on the carbon fraction classes that most closely match the analyzed ranges; however, note that in some cases the carbon fraction classes do not match exactly.

TABLE 5

SUMMARY OF SOIL ANALYTICAL RESULTS (2010)
SAFETY-KLEEN SERVICE CENTER
ST. PAULS, NORTH CAROLINA

PARAMETER	SAMPLE	S-1	S-2	S-3*	S-4	S-5*	S-6*	S-7	S-8	S-9	S-10**	S-11**	S-12	S-13	S-14		Protection of Groundwater PSRG	Residential PSRG	Industrial PSRG
	DEPTH	1'	1'	1'	2'	1'	1'	1'	2'	1'	1'	1'	1'	1'	1'				
	DATE	4/6/2010	4/6/2010	4/6/2010	4/6/2010	4/6/2010	4/6/2010	4/6/2010	4/6/2010	4/7/2010	4/7/2010	4/7/2010	4/7/2010	4/7/2010	4/9/2010				
SEMIVOLATILES in ug/kg																			
Bis (2-ethylhexyl)phthalate		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		14,000	39,000	160,000
VOLATILES in ug/kg																			
Acetone		<0.88	<1.0	<0.89	<0.95	10	6.7	6.4	2.5J	0.9J	4.0J	6.5	5.7J	7	5.7		25,000	12,000,000	140,000,000
Carbon disulfide		<0.18	<0.2	<0.18	<0.19	<0.2	<0.19	<0.18	<0.21	<0.4	<0.4	<0.5	<0.5	<0.4	<0.4		4,100	160,000	740,000
Chloroform		<0.13	<0.14	<0.13	<0.14	<0.14	<0.13	<0.13	<0.15	<0.2	<0.2	<0.3	<0.3	<0.2	<0.2		390	340	1,500
Dichlorodifluoromethane		<0.14	<0.15	<0.14	<0.15	<0.15	<0.14	<0.14	<0.16	<0.5	<0.5	<0.6	<0.6	<0.5	<0.5		30,000	18,000	78,000
Naphthalene		<0.14	<0.16	<0.14	<0.16	<0.16	<0.15	<0.15	<0.17	<0.3	<0.3	<0.3	<0.3	<0.3	<0.2		390	4,100	18,000
n-Butylbenzene		<0.14	<0.15	<0.14	<0.15	<0.15	<0.14	<0.14	<0.16	<0.3	<0.3	<0.4	<0.4	<0.3	<0.3		4,500	780,000	12,000,000
sec-Butylbenzene		<0.09	<0.10	<0.09	<0.10	<0.10	<0.09	<0.9	<0.11	<0.3	<0.3	<0.3	<0.4	<0.3	<0.3		4,100	1,600,000	23,000,000
Isopropylbenzene		<0.10	<0.11	<0.10	<0.11	<0.11	<0.10	<0.10	<0.12	<0.3	<0.3	<0.4	<0.4	<0.3	<0.3		2,300	410,000	2,100,000
p-Isopropyltoluene		<0.13	1.3	<0.13	<0.14	<0.14	<0.13	<0.13	<0.15	<0.2	<0.2	<0.3	<0.3	<0.2	<0.2		1,240	NE	NE
n-Propylbenzene		<0.09	<0.10	<0.09	<0.10	<0.10	<0.09	<0.09	<0.11	<0.3	<0.3	<0.4	<0.4	<0.3	<0.3		2,600	780,000	5,100,000
Styrene		<0.14	<0.16	<0.14	<0.16	<0.16	<0.15	<0.15	<0.17	<0.2	<0.2	<0.3	<0.3	8.8	<0.2		1,200,000	1,200,000	7,300,000
Tetrachloroethene		1.4	<0.21	2.3	2.2	**9.2**	**50**	2.7	1.2	**72**	3.7	2.4	2.5	**15**	4.8		6.3	17,000	82,000
Toluene		<0.11	0.45J	<0.11	0.48J	0.95J	<0.11	<0.11	0.88J	0.4J	0.5J	0.8J	0.7J	1.8	<0.3		8,300	990,000	9,700,000
1,3,5-Trimethylbenzene		<0.12	<0.13	<0.12	<0.13	<0.13	6.1	<0.12	<0.14	<0.3	<0.3	<0.3	<0.3	<0.3	<0.2		11,000	56,000	320,000
Xylene (Total)		<0.27	<0.31	<0.27	<0.29	0.88J	<0.28	<0.27	<0.32	<0.6	<0.6	<0.7	<0.7	<0.6	<0.5		9,900	120,000	530,000
MADEP VPH and EPH in mg/kg																			
C_5-C_8 Aliphatics		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NE	110	460
C_9-C_{18} Aliphatics		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
C_9-C_{12} Aliphatics		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		19	20	93
C_9-C_{18} Aliphatics		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
C_{19}-C_{36} Aliphatics		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		160,000	47,000	700,000
C_9-C_{22} Aromatics		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
C_9-C_{10} Aromatics		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		2.4	22	130
C_{11}-C_{22} Aromatics		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				

Notes:
1. PSRGs = Preliminary Soil Remediation Goals established by NCDEQ dated February 2018.
2. NE = Not established.
3. NA = Not analyzed.
4. Bold = Indicates concentrations above the lower of the Protection of Groundwater or Residential PSRGs.
5. Table shows only constituents detected in soil at the site.
6. * = Sample location excavated.
7. Data for background sampling locations is not shown.
8. Samples S-10 and S-11 are duplicate samples.
9. PSRGs are established for total petroleum hydrocarbons for aliphatic low, medium, and high and aromatic low medium and high. These designations are based on the EPA Regional Screening Level (RSL) guidance, which also shows what carbon fraction classes are associated with each designation. The PSRGs shown are based on the carbon fraction classes that most closely match the analyzed ranges; however, note that in some cases the carbon fraction classes do not match exactly.

TABLE 5

SUMMARY OF SOIL ANALYTICAL RESULTS (2011)
SAFETY-KLEEN SERVICE CENTER
ST. PAULS, NORTH CAROLINA

PARAMETER	SAMPLE	B-13	B-14	S-14		Protection of Groundwater PSRG	Residential PSRG	Industrial PSRG
	DEPTH	1-1.5	4-5	1-1.5				
	DATE	4/27/2011	4/27/2011	4/29/2011				
SEMIVOLATILES in ug/kg								
Bis (2-ethylhexyl)phthalate		NA	NA	NA		14,000	39,000	160,000
VOLATILES in ug/kg								
Acetone		<110	NA	<90		25,000	12,000,000	140,000,000
Carbon Disulfide		<11	NA	5.9J		4,100	160,000	740,000
Chloroform		0.3J	NA	0.3J		390	340	1,500
Dichlorodifluoromethane		<11	NA	0.3J		30,000	18,000	78,000
Naphthalene		3J	NA	2.4J		390	4,100	18,000
n-Butylbenzene		<11	NA	<9		4,500	780,000	12,000,000
sec-Butylbenzene		<11	NA	<9		4,100	1,600,000	23,000,000
Isopropylbenzene		<11	NA	0.9J		2,300	410,000	2,100,000
p-Isopropyltoluene		<11	NA	0.2J		1,240	NE	NE
n-Propylbenzene		<11	NA	<9		2,600	780,000	5,100,000
Styrene		<5.5	NA	<4.5		1,200,000	1,200,000	7,300,000
Tetrachloroethene		1.9J	NA	0.3J		6.3	17,000	82,000
Toluene		0.2J	NA	<4.5		8,300	990,000	9,700,000
1,3,5-Trimethylbenzene		<11	NA	<9.0		11,000	56,000	320,000
Xylenes (total)		<5.5	NA	<4.5		9,900	120,000	530,000
MADEP VPH and EPH in mg/kg								
C_5-C_8 Aliphatics		NA	<1.9	NA		NE	110	460
C_9-C_{18} Aliphatics		NA	ND	NA		19	20	93
C_9-C_{12} Aliphatics		NA	<1.9	NA				
C_9-C_{18} Aliphatics		NA	<12.3	NA				
C_{19}-C_{36} Aliphatics		NA	<12.3	NA		160,000	47,000	700,000
C_9-C_{22} Aromatics		NA	ND	NA		2.4	22	130
C_9-C_{10} Aromatics		NA	<1.9	NA				
C_{11}-C_{22} Aromatics		NA	<12.3	NA				

Notes:
1. PSRGs = Preliminary Soil Remediation Goals established by NC Inactive Hazardous Sites Branch dated September 2015.
2. NE = Not established.
3. NA = Not analyzed.
4. Bold = Indicates concentrations above the lower of the Protection of Groundwater or Residential PSF
5. Table shows only constituents detected in soil at the site.
6. * = Sample location excavated.
7. Data for background sampling locations is not shown.
8. PSRGs are established for total petroleum hydrocarbons for aliphatic low, medium, and high and aromatic low medium and high. These designations are based on the EPA Regional Screening Level (RSL) guidance, which also shows what carbon fraction classes are associated with each designation. The PSRGs shown are based on the carbon fraction classes that most closely match the analyzed ranges; however, note that in some cases the carbon fraction classes do not match exactly.

TABLE 6

SUMMARY OF SATURATED ZONE SOIL ANALYTICAL RESULTS
SAFETY-KLEEN SERVICE CENTER
ST. PAULS, NORTH CAROLINA

PARAMETER	SAMPLE	SB-1	SB-1		Protection of Groundwater PSRG	Residential PSRG	Industrial PSRG
	DEPTH	9-10	15-16				
	DATE	12/28/2018	12/28/2018				
VOLATILES in ug/kg					**PSRGs in ug/kg**		
Acetone		7.7J	5.2J		25,000	12,000,000	140,000,000
Naphthalene		3.2J	52.1		390	4,100	18,000
n-Butylbenzene		94.2	111		4,500	780,000	12,000,000
sec-Butylbenzene		69.8	56.9		4,100	1,600,000	23,000,000
tert-Butylbenzene		16.5	15.7		3,100	1,600,000	23,000,000
2-Chlorotoluene		<4.7	1.4J		520	310,000	4,700,000
Dibromochloromethane		<4.7	0.90J		2.1	8,300	39,000
1,2-Dichlorobenzene		<4.7	10.2		390	380,000	2,000,000
1,3-Dichlorobenzene		<4.7	1.6J		NE	NE	NE
1,4-Dichlorobenzene		1.1J	6.8		120	2,800	12,000
Ethylbenzene		3.7J	27.3		13,000	6,100	27,000
2-Hexanone		**626**	**183**		180	42,000	280,000
Isopropylbenzene		27.4	75.2		2,300	410,000	2,100,000
p-Isopropyltoluene		76.6	77.7		1,240	NE	NE
n-Propylbenzene		82.1	137		2,600	780,000	5,100,000
Styrene		<4.7	1.8J		1,200,000	1,200,000	7,300,000
Tetrachloroethene		<4.7	0.40J		6.3	17,000	82,000
1,1,2-Trichloroethane		<4.7	**27.9**		3.9	320	1,300
1,2,4-Trimethylbenzene		340	907		12,000	63,000	370,000
1,3,5-Trimethylbenzene		113	397		11,000	56,000	320,000
Xylenes (total)		7.0J	135		9,900	120,000	530,000

Notes:
1. PSRGs = Preliminary Soil Remediation Goals established by NC Department of Environmental Quality dated February 2018.
2. NE = Not established.
3. Bold = Indicates concentrations above the Protection of Groundwater PSRG.
4. Note that data is not used in evaluation of the extent of impacted soil since samples were collected from the saturated zone.

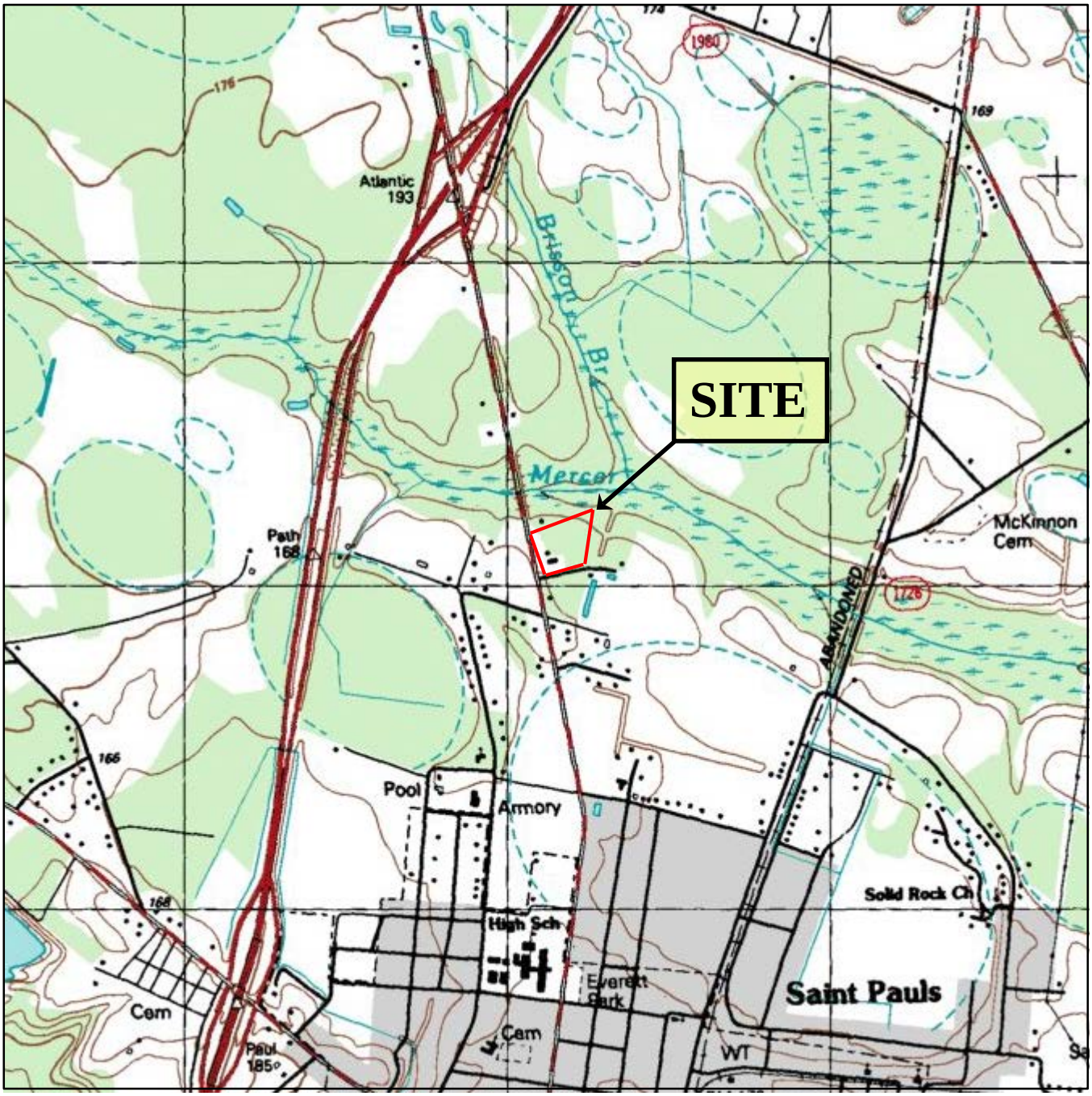
TABLE 7

CMS IMPLEMENTATION SCHEDULE
SAFETY-KLEEN SERVICE CENTER
ST. PAULS, NORTH CAROLINA

TASK	Year 1												Year 2											
	Quarter 1			Quarter 2			Quarter 3			Quarter 4			Quarter 1			Quarter 2			Quarter 3			Quarter 4		
	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3
NCDEQ approval of CMS																								
Pre-injection groundwater monitoring																								
Completion of injection event																								
Post-injection groundwater monitoring																								
Post-injection soil monitoring (2nd event only to be performed if needed)																								
Semiannual report submittal																								
Possible additional soil injection event																								
No further action status (depending on post-injection sampling data)																								

TASK	Year 3												Year 4											
	Quarter 1			Quarter 2			Quarter 3			Quarter 4			Quarter 1			Quarter 2			Quarter 3			Quarter 4		
	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3
NCDEQ approval of CMS																								
Pre-injection groundwater monitoring																								
Completion of injection event																								
Post-injection groundwater monitoring																								
Post-injection soil monitoring (2nd event only to be performed if needed)																								
Semiannual report submittal																								
Possible additional soil injection event																								
No further action status (depending on post-injection sampling data)																								

FIGURES



N

APPROXIMATE

0 2000 4000

SCALE IN FEET

U.S.G.S. QUADRANGLE MAP

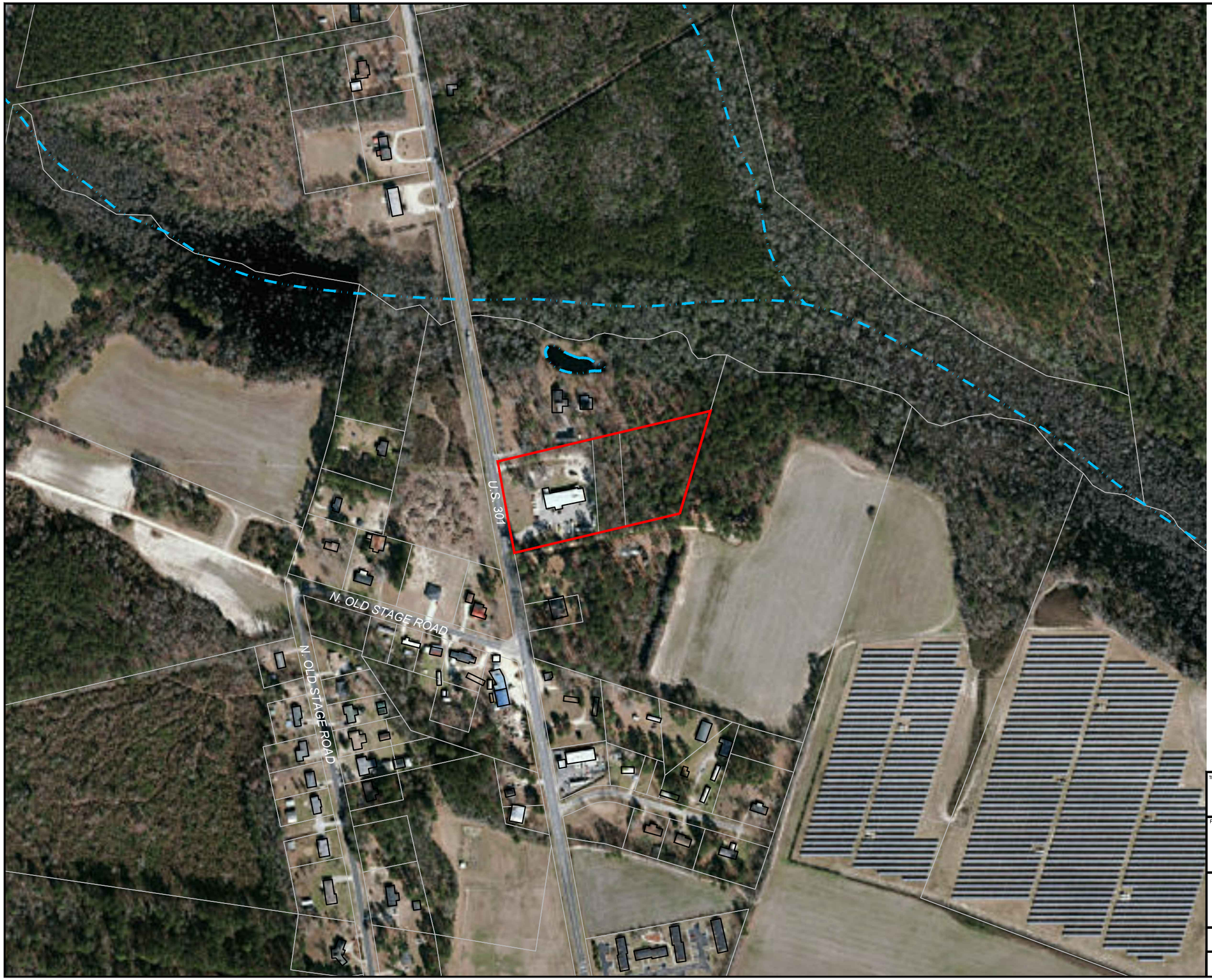
SAINT PAULS, NORTH CAROLINA, 1997

QUADRANGLE
7.5 MINUTE SERIES (TOPOGRAPHIC)

TITLE	**SITE LOCATION MAP**
PROJECT	SAFETY-KLEEN SYSTEMS, INC. 934 NORTH FIFTH STREET ST PAULS, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
3921 Sunset Ridge Road, Ste. 301
Raleigh, North Carolina 27607
919-847-4241 (p) 919-847-4261 (f)

DATE:	2-8-19	REVISION NO:	0
JOB NO:	SKS-005	FIGURE:	1



LEGEND

SITE PROPERTY BOUNDARY

ADJACENT PARCEL BOUNDARY

SURFACE WATER BODIES

N

APPROXIMATE

0 350 700

SCALE IN FEET

TITLE

SITE VICINITY MAP

PROJECT

SAFETY-KLEEN SYSTEMS, INC.
934 U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

3921 Sunset Ridge Road, Suite 301
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)
License # C-1269 / #C-245 Geology

DATE: 2-22-19	REVISION NO. 0
JOB NO. SKS-005	FIGURE NO. 2

NOTES:
1. BASE MAP PROVIDED BY PROJECT SOLUTIONS CO., SANITARY SEWER, WATER LINE, AND MONITORING WELL LOCATIONS ADDED BY ATC GROUP SERVICES.

2. UTILITY LOCATIONS ARE BASED ON A SURVEY BY BATEMAN CIVIL SURVEY COMPANY, PC. SOME UTILITY LOCATIONS WERE UNCLEAR AND SOME LOCATIONS MAY NOT BE MAPPED DUE TO THE LIMITATIONS OF THE SURVEY EQUIPMENT.

3. * PRIVATE WELL NO LONGER IN USE. PROPERTY IS CONNECTED TO PUBLIC WATER, ALTHOUGH EXACT LOCATION OF PUBLIC WATER LINE ON PROPERTY COULD NOT BE MAPPED.

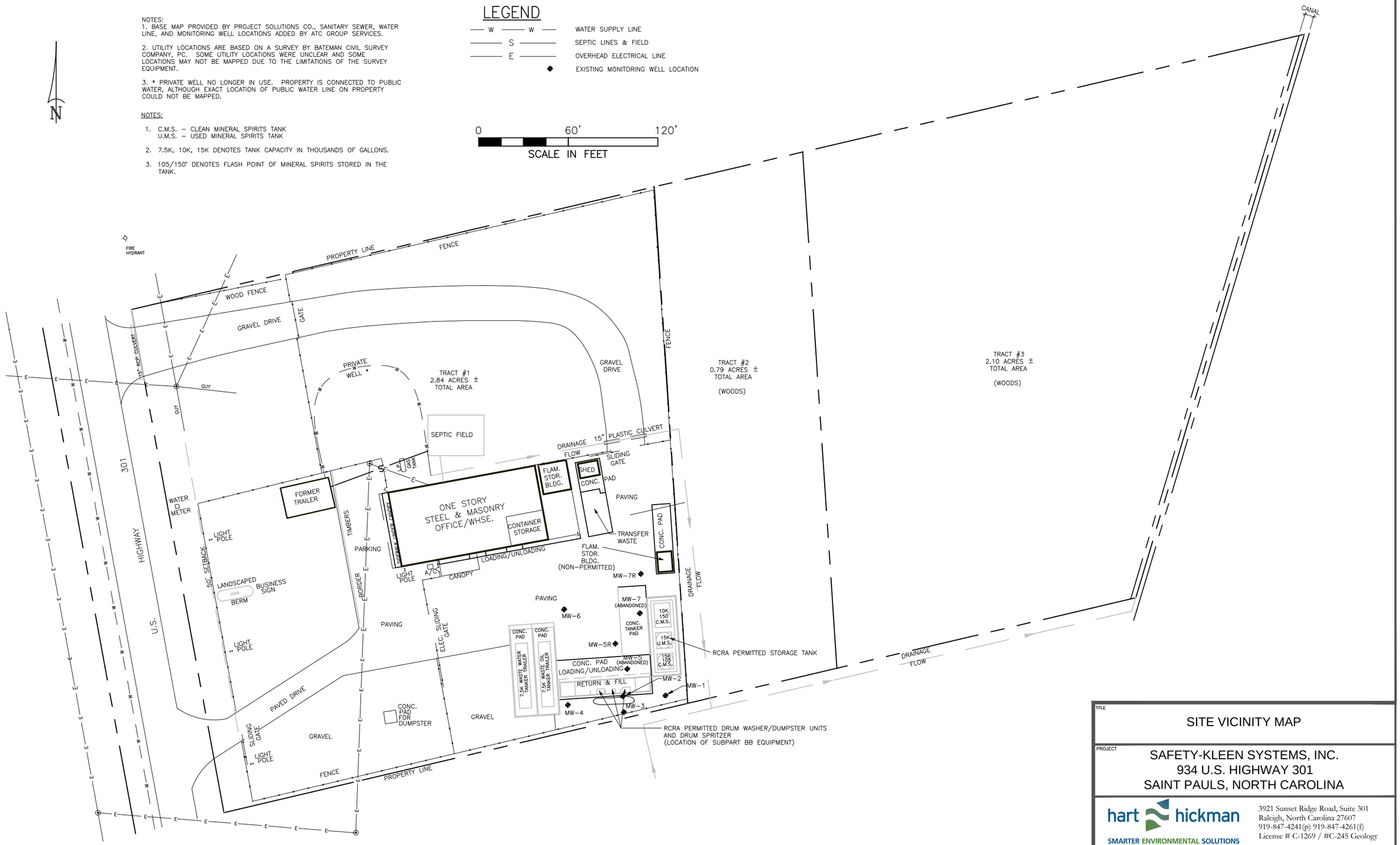
NOTES:

1. C.M.S. – CLEAN MINERAL SPIRITS TANK
   U.M.S. – USED MINERAL SPIRITS TANK
2. 7.5K, 10K, 15K DENOTES TANK CAPACITY IN THOUSANDS OF GALLONS.
3. 105/150' DENOTES FLASH POINT OF MINERAL SPIRITS STORED IN THE TANK.

LEGEND

- W — WATER SUPPLY LINE
- S — SEPTIC LINES & FIELD
- E — OVERHEAD ELECTRICAL LINE
- ◆ EXISTING MONITORING WELL LOCATION

0 60' 120'
SCALE IN FEET

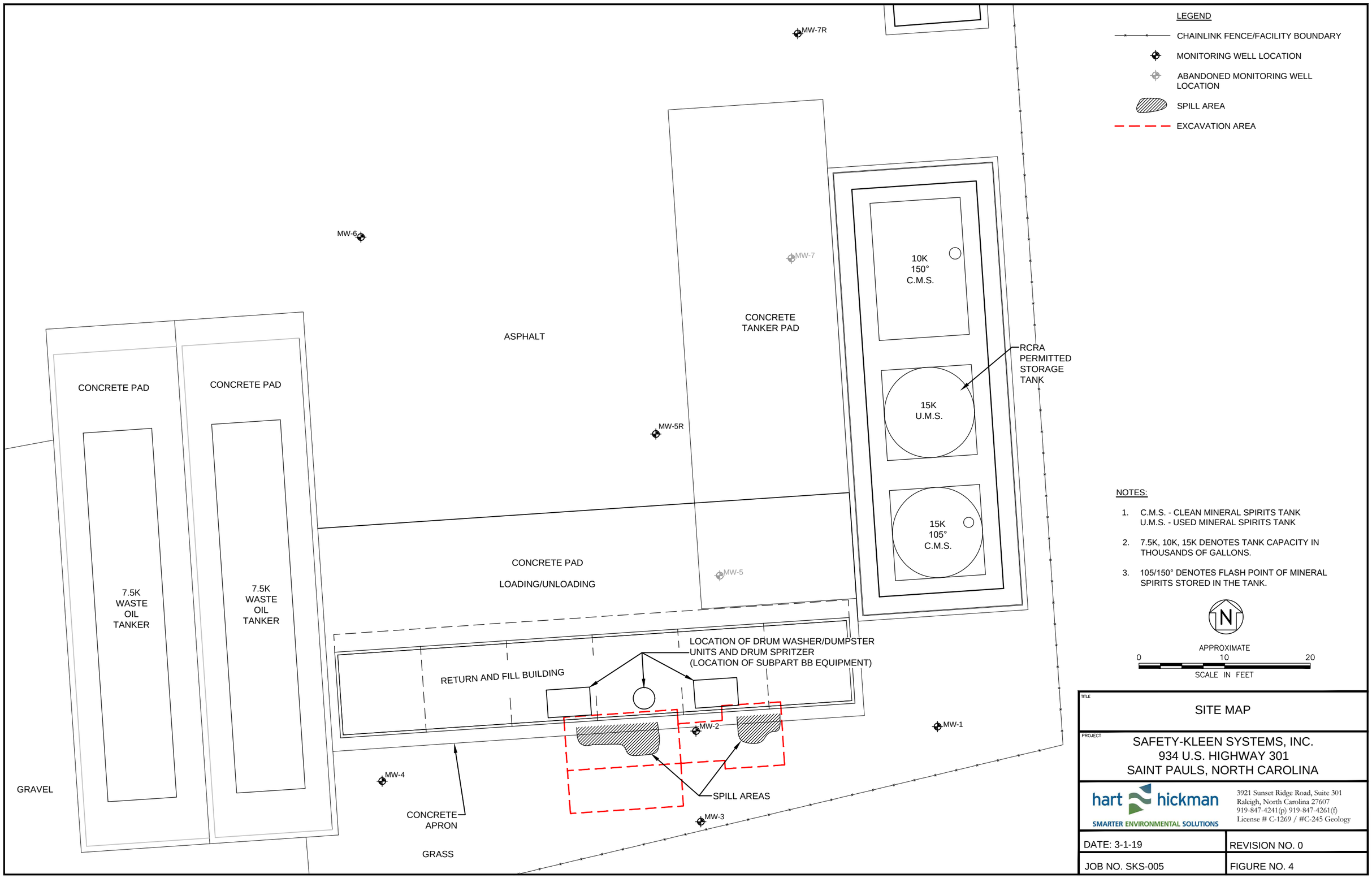


TITLE
SITE VICINITY MAP

PROJECT
SAFETY-KLEEN SYSTEMS, INC.
934 U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
3921 Sunset Ridge Road, Suite 301
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)
License # C-1269 / #C-245 Geology

DATE: 2-11-19	REVISION NO. 0
JOB NO. SKS-005	FIGURE NO. 3



NOTES:

1. C.M.S. - CLEAN MINERAL SPIRITS TANK
   U.M.S. - USED MINERAL SPIRITS TANK
2. 7.5K, 10K, 15K DENOTES TANK CAPACITY IN THOUSANDS OF GALLONS.
3. 105/150° DENOTES FLASH POINT OF MINERAL SPIRITS STORED IN THE TANK.

N

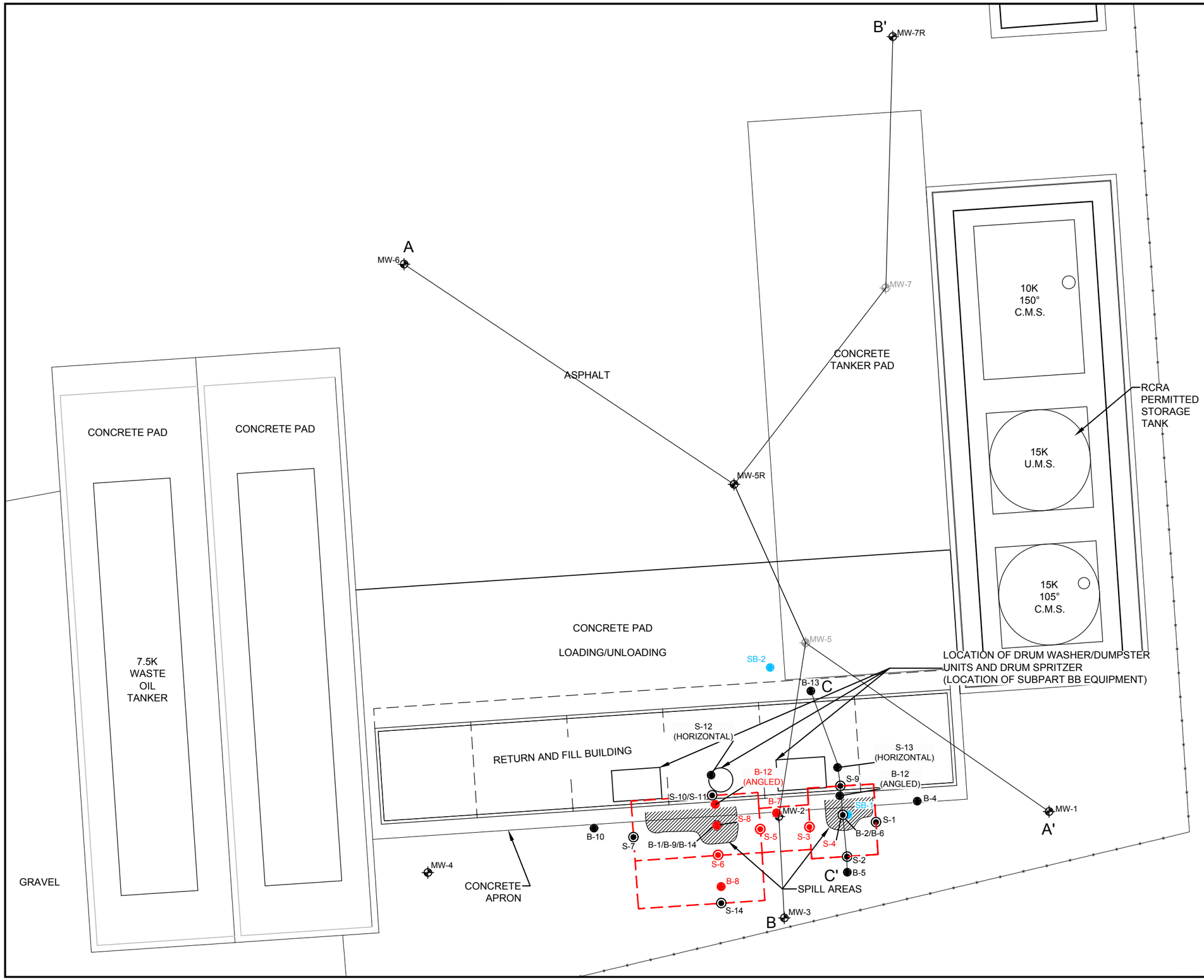
APPROXIMATE
0 10 20
SCALE IN FEET

TITLE
SITE MAP

PROJECT
SAFETY-KLEEN SYSTEMS, INC.
934 U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
3921 Sunset Ridge Road, Suite 301
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)
License # C-1269 / #C-245 Geology

DATE: 3-1-19 | REVISION NO. 0
JOB NO. SKS-005 | FIGURE NO. 4



LEGEND

- CHAINLINK FENCE/FACILITY BOUNDARY
- MONITORING WELL LOCATION
- ABANDONED MONITORING WELL LOCATION
- SPILL AREA
- SOIL BORING LOCATION
- EXCAVATED SOIL BORING LOCATION
- SOIL SAMPLE LOCATION
- EXCAVATED SOIL SAMPLE LOCATION
- JANUARY 2019 SOIL BORING LOCATION

NOTES:

1. C.M.S. - CLEAN MINERAL SPIRITS TANK
   U.M.S. - USED MINERAL SPIRITS TANK
2. 7.5K, 10K, 15K DENOTES TANK CAPACITY IN THOUSANDS OF GALLONS.
3. 105/150° DENOTES FLASH POINT OF MINERAL SPIRITS STORED IN THE TANK.

N

APPROXIMATE
0 10 20
SCALE IN FEET

TITLE
CROSS-SECTION LOCATION MAP

PROJECT
SAFETY-KLEEN SYSTEMS, INC.
934 U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
3921 Sunset Ridge Road, Suite 301
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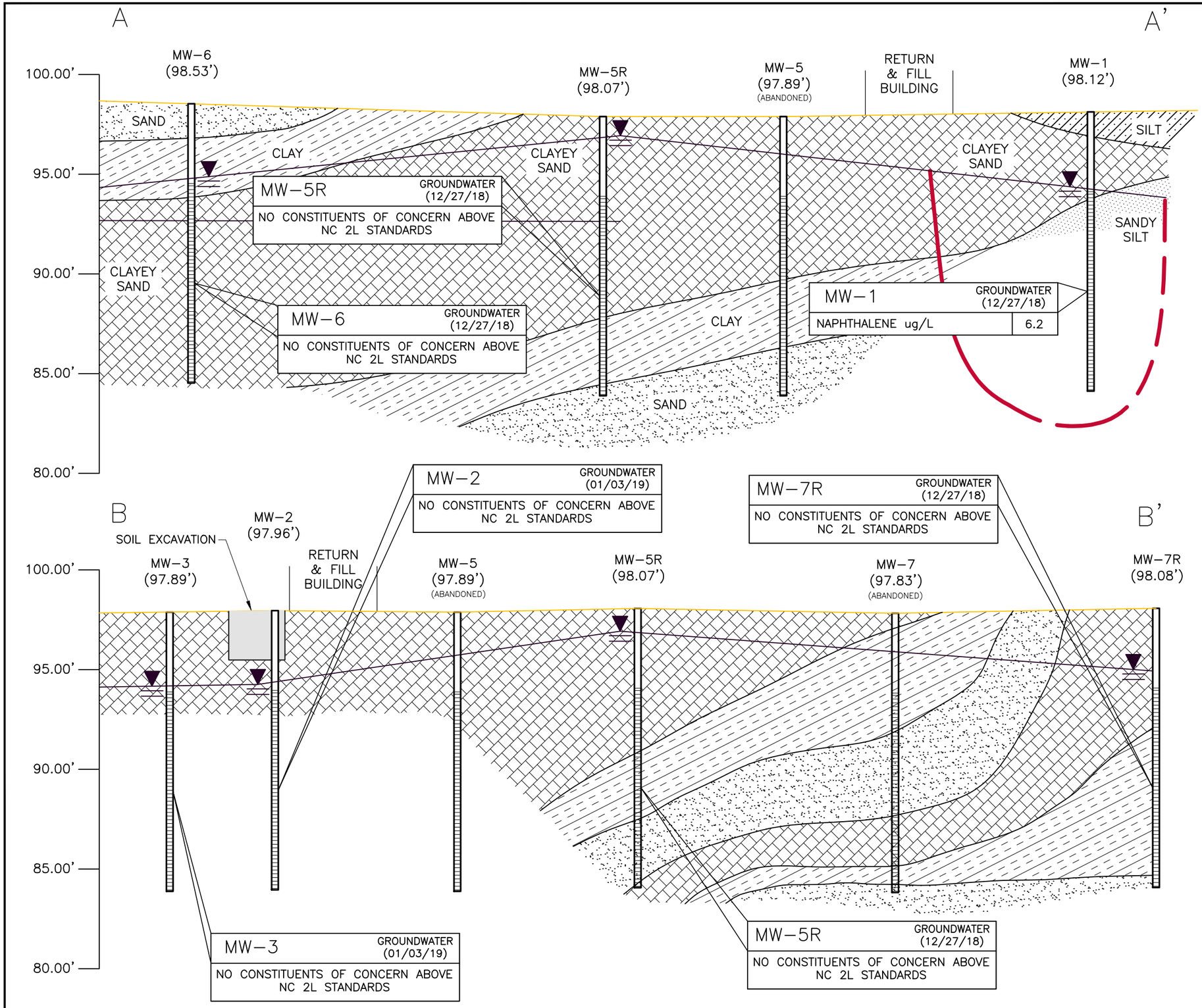
919-847-4241(p) 919-847-4261(f)
License # C-1269 / #C-245 Geology

DATE: 2-22-19	REVISION NO. 0
JOB NO. SKS-005	FIGURE NO. 5



TITLE

GEOLOGIC CROSS-SECTIONS A-A' & B-B'

PROJECT

SAFETY-KLEEN SYSTEMS, INC.
934 U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

3921 Sunset Ridge Road, Suite 301
Raleigh, North Carolina 27607
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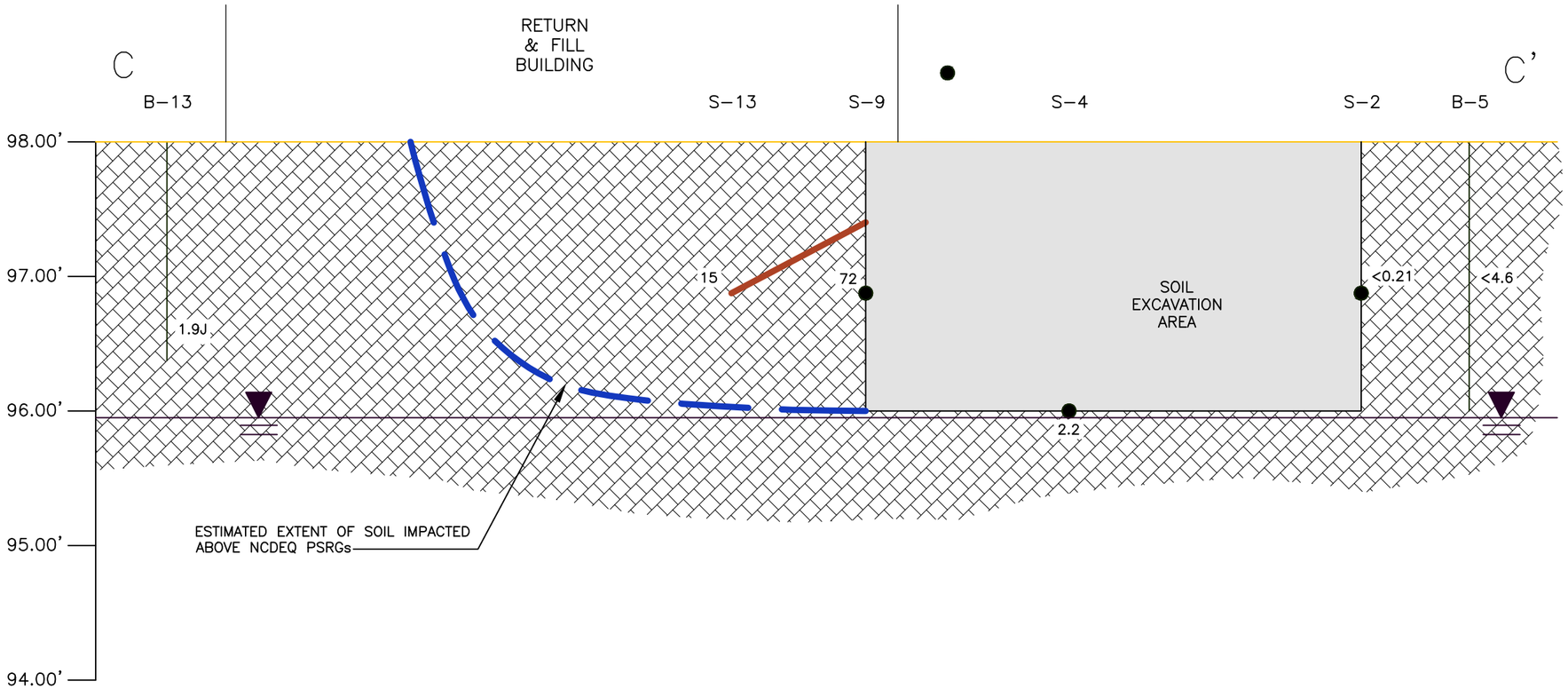
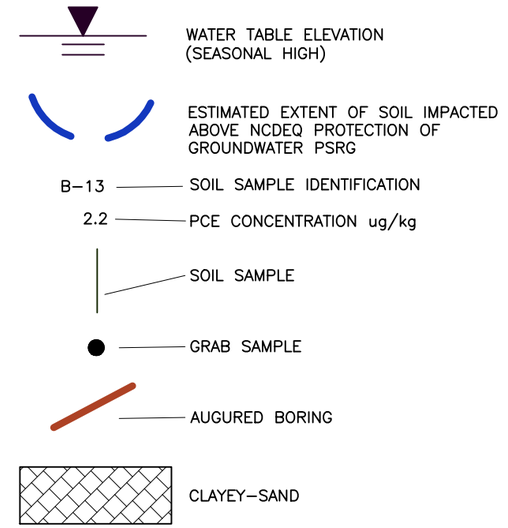
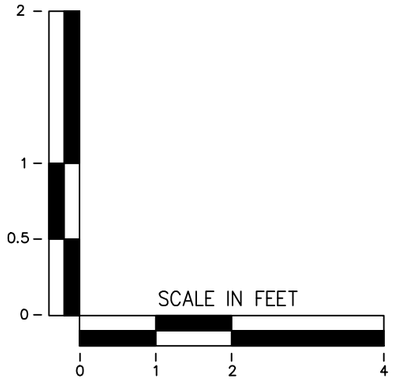
License # C-1269 / #C-245 Geology

DATE: 2-11-19	REVISION NO. 0
JOB NO. SKS-005	FIGURE NO. 6







TITLE

GEOLOGIC CROSS-SECTIONS C-C'

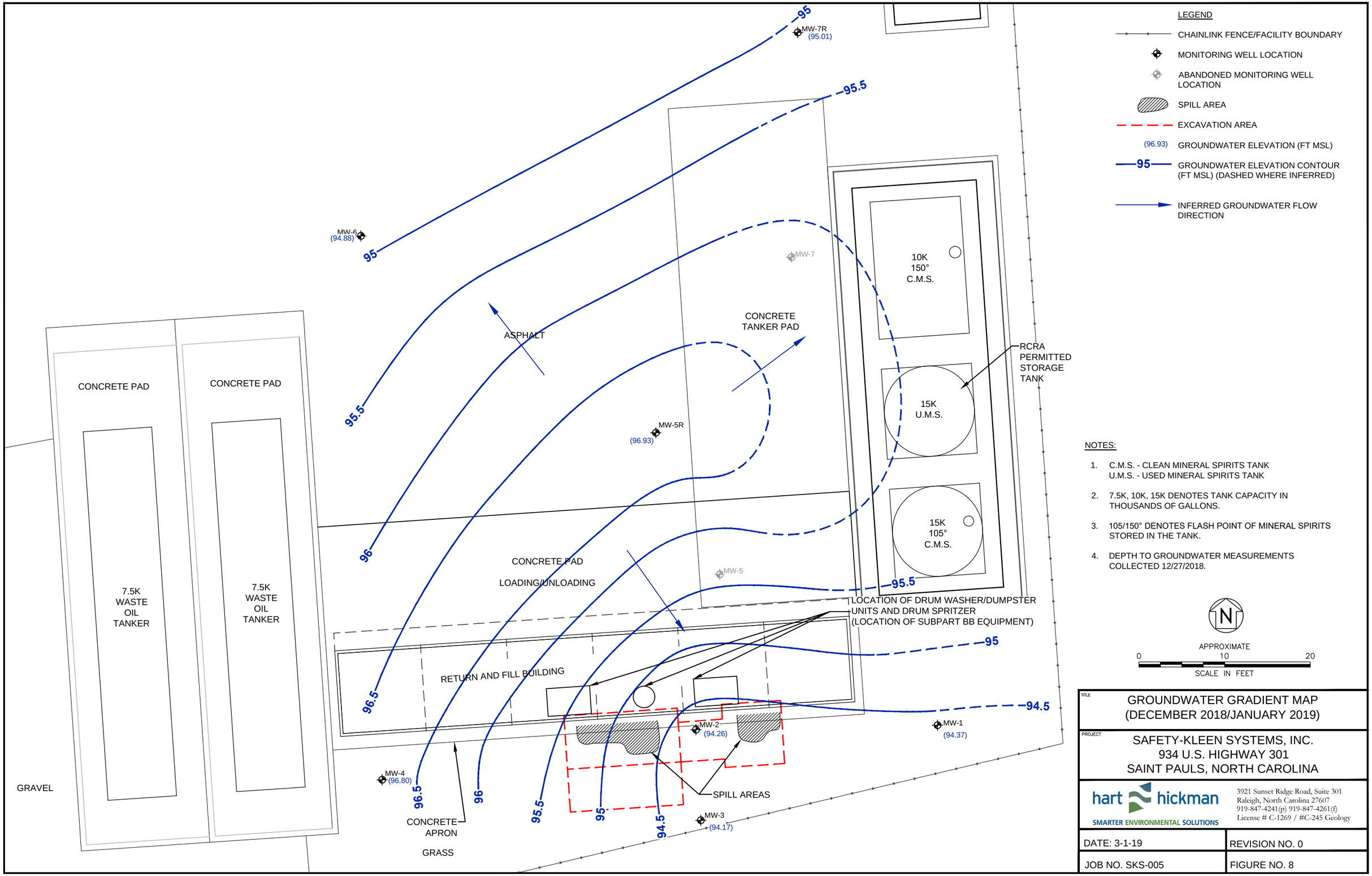
PROJECT

SAFETY-KLEEN SYSTEMS, INC.
934 U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

3921 Sunset Ridge Road, Suite 301
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)
License # C-1269 / #C-245 Geology

DATE: 2-11-19	REVISION NO. 0
JOB NO. SKS-005	FIGURE NO. 7



LEGEND

- CHAINLINK FENCE/FACILITY BOUNDARY
- MONITORING WELL LOCATION
- ABANDONED MONITORING WELL LOCATION
- SPILL AREA
- EXCAVATION AREA
- (96.93) GROUNDWATER ELEVATION (FT MSL)
- 95 GROUNDWATER ELEVATION CONTOUR (FT MSL) (DASHED WHERE INFERRED)
- INFERRED GROUNDWATER FLOW DIRECTION

NOTES:

1. C.M.S. - CLEAN MINERAL SPIRITS TANK
   U.M.S. - USED MINERAL SPIRITS TANK
2. 7.5K, 10K, 15K DENOTES TANK CAPACITY IN THOUSANDS OF GALLONS.
3. 105/150° DENOTES FLASH POINT OF MINERAL SPIRITS STORED IN THE TANK.
4. DEPTH TO GROUNDWATER MEASUREMENTS COLLECTED 12/27/2018.

N

APPROXIMATE
0 10 20
SCALE IN FEET

TITLE
GROUNDWATER GRADIENT MAP
(DECEMBER 2018/JANUARY 2019)

PROJECT
SAFETY-KLEEN SYSTEMS, INC.
934 U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
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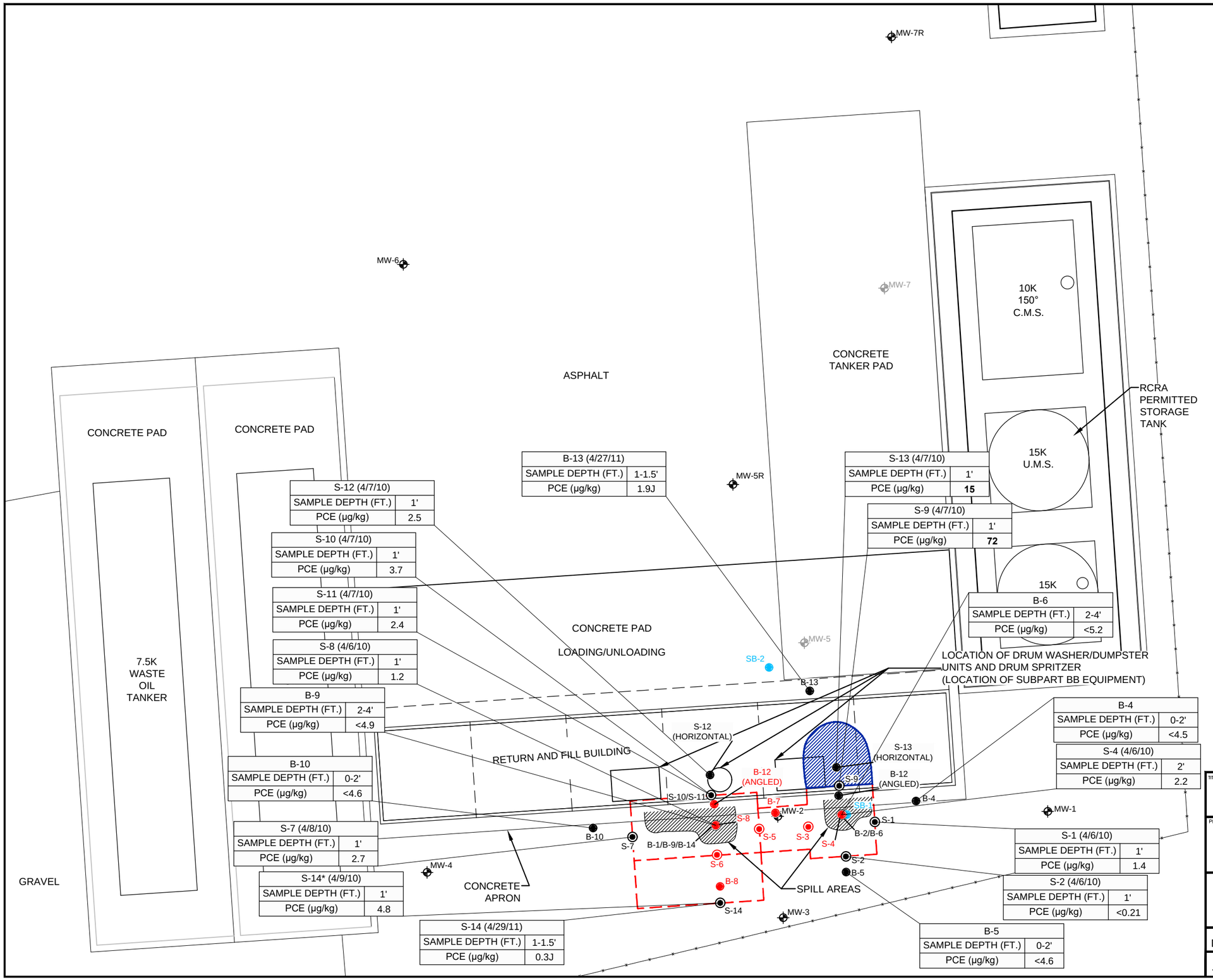
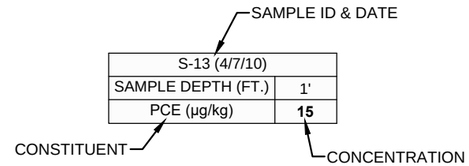
919-847-4241(p) 919-847-4261(f)
License # C-1269 / #C-245 Geology

DATE: 3-1-19	REVISION NO. 0
JOB NO. SKS-005	FIGURE NO. 8



LEGEND

- CHAINLINK FENCE/FACILITY BOUNDARY
- MONITORING WELL LOCATION
- ABANDONED MONITORING WELL LOCATION
- SPILL AREA
- EXCAVATION AREA
- SOIL BORING LOCATION
- EXCAVATED SOIL BORING LOCATION
- SOIL SAMPLE LOCATION
- EXCAVATED SOIL SAMPLE LOCATION
- JANUARY 2019 SOIL BORING LOCATION
- ESTIMATED EXTENT OF SOIL IMPACTED ABOVE NCDEQ PSRGs



NOTES:

1. C.M.S. - CLEAN MINERAL SPIRITS TANK
   U.M.S. - USED MINERAL SPIRITS TANK
2. 7.5K, 10K, 15K DENOTES TANK CAPACITY IN THOUSANDS OF GALLONS.
3. 105/150° DENOTES FLASH POINT OF MINERAL SPIRITS STORED IN THE TANK.
4. CONCENTRATIONS SHOWN IN **BOLD** EXCEED NCDEQ PROTECTION OF GROUNDWATER PRELIMINARY SOIL REMEDIATION GOAL.

N

APPROXIMATE
0 10 20
SCALE IN FEET

TITLE

EXTENT OF SOIL IMPACTS

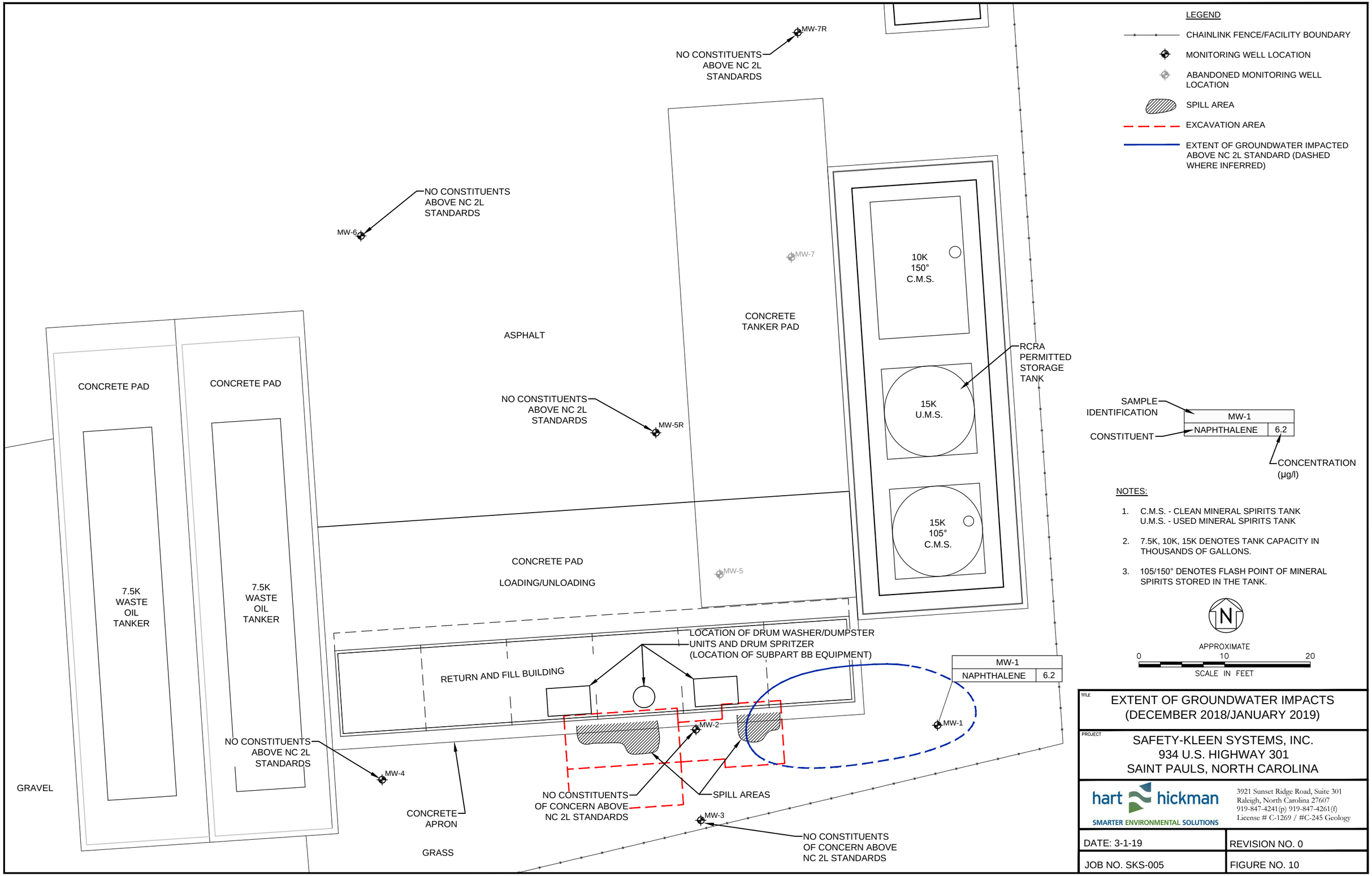
PROJECT

SAFETY-KLEEN SYSTEMS, INC.
934 U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
3921 Sunset Ridge Road, Suite 301
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)
License # C-1269 / #C-245 Geology

DATE: 3-1-19 | REVISION NO. 0

JOB NO. SKS-005 | FIGURE NO. 9



TITLE
EXTENT OF GROUNDWATER IMPACTS
(DECEMBER 2018/JANUARY 2019)

PROJECT
SAFETY-KLEEN SYSTEMS, INC.
934 U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
3921 Sunset Ridge Road, Suite 301
Raleigh, North Carolina 27607
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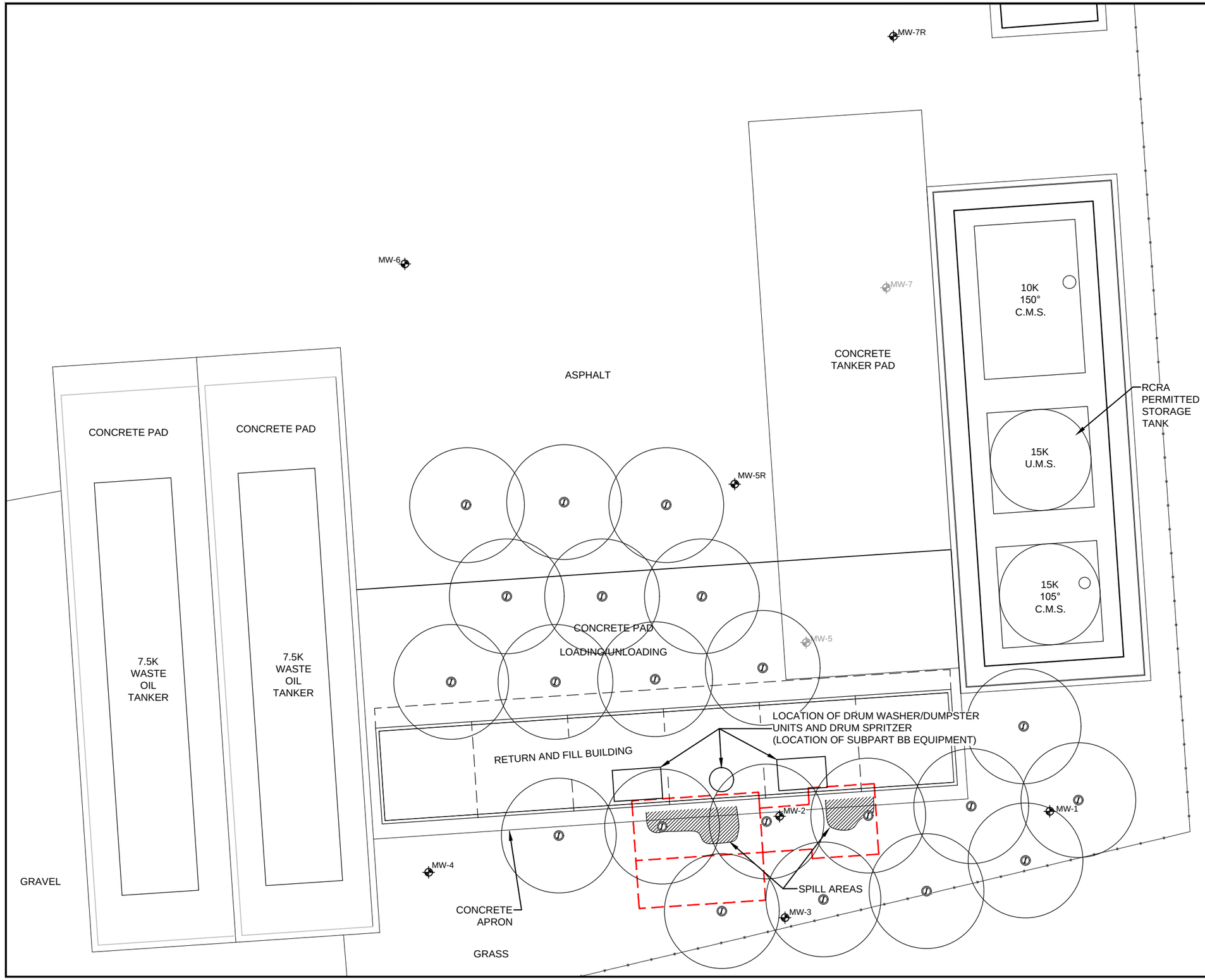
License # C-1269 / #C-245 Geology

DATE: 3-1-19	REVISION NO. 0
JOB NO. SKS-005	FIGURE NO. 10



LEGEND

- CHAINLINK FENCE/FACILITY BOUNDARY
- MONITORING WELL LOCATION
- ABANDONED MONITORING WELL LOCATION
- SPILL AREA
- EXCAVATION AREA
- DIRECT-PUSH INJECTION POINT AND ESTIMATED 6-FOOT RADIUS OF INFLUENCE

NOTES:

1. C.M.S. - CLEAN MINERAL SPIRITS TANK
   U.M.S. - USED MINERAL SPIRITS TANK
2. 7.5K, 10K, 15K DENOTES TANK CAPACITY IN THOUSANDS OF GALLONS.
3. 105/150° DENOTES FLASH POINT OF MINERAL SPIRITS STORED IN THE TANK.

N

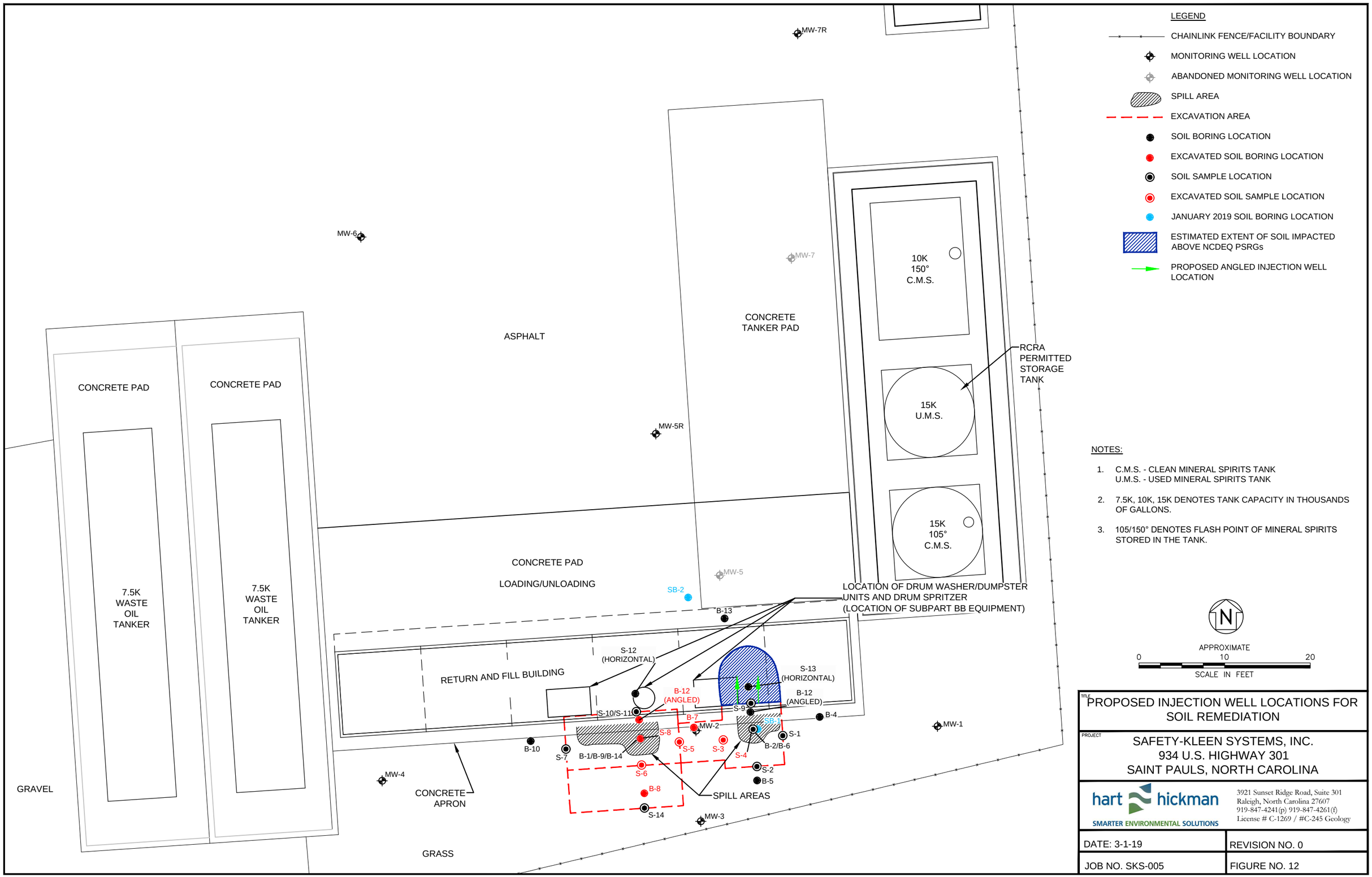
APPROXIMATE
0 10 20
SCALE IN FEET

TITLE
PROPOSED DIRECT-PUSH INJECTION LOCATIONS FOR GROUNDWATER REMEDIATION

PROJECT
SAFETY-KLEEN SYSTEMS, INC.
934 U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
3921 Sunset Ridge Road, Suite 301
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)
License # C-1269 / #C-245 Geology

DATE: 3-1-19	REVISION NO. 0
JOB NO. SKS-005	FIGURE NO. 11



LEGEND

- CHAINLINK FENCE/FACILITY BOUNDARY
- MONITORING WELL LOCATION
- ABANDONED MONITORING WELL LOCATION
- SPILL AREA
- EXCAVATION AREA
- SOIL BORING LOCATION
- EXCAVATED SOIL BORING LOCATION
- SOIL SAMPLE LOCATION
- EXCAVATED SOIL SAMPLE LOCATION
- JANUARY 2019 SOIL BORING LOCATION
- ESTIMATED EXTENT OF SOIL IMPACTED ABOVE NCDEQ PSRGs
- PROPOSED ANGLED INJECTION WELL LOCATION

NOTES:

1. C.M.S. - CLEAN MINERAL SPIRITS TANK
   U.M.S. - USED MINERAL SPIRITS TANK
2. 7.5K, 10K, 15K DENOTES TANK CAPACITY IN THOUSANDS OF GALLONS.
3. 105/150° DENOTES FLASH POINT OF MINERAL SPIRITS STORED IN THE TANK.

N

APPROXIMATE
0 10 20
SCALE IN FEET

TITLE
PROPOSED INJECTION WELL LOCATIONS FOR SOIL REMEDIATION

PROJECT
SAFETY-KLEEN SYSTEMS, INC.
934 U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
3921 Sunset Ridge Road, Suite 301
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)
License # C-1269 / #C-245 Geology

DATE: 3-1-19	REVISION NO. 0
JOB NO. SKS-005	FIGURE NO. 12

APPENDIX A
LABORATORY ANALYTICAL REPORTS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

February 25, 2019

Robert Schoepke
Safety-Kleen Corporation - Elgin
1502 E. Villa Street
Elgin, IL 60120

RE: Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Dear Robert Schoepke:
Enclosed are the analytical results for sample(s) received by the laboratory on December 29, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Sakina Mckenzie
sakina.mckenzie@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Justin Ballard, Hart & Hickman, PC
Robert Harrell
Lisa Nickels, Hart & Hickman, PC
Genna K. Olson, Hart & Hickman, PC

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Virginia Certification #: 460204

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2613208001	**MW-1**	Water	12/28/18 12:50	12/29/18 10:00
2613208002	**MW-5R**	Water	12/27/18 13:00	12/29/18 10:00
2613208003	**MW-6**	Water	12/27/18 14:30	12/29/18 10:00
2613208004	**MW-7R**	Water	12/27/18 11:20	12/29/18 10:00
2613208005	**SB-1 (9-10)**	Solid	12/28/18 15:00	12/29/18 10:00
2613208006	**SB-1 (15-16)**	Solid	12/28/18 15:30	12/29/18 10:00
2613208007	**Trip Blank**	Water	12/27/18 00:00	12/29/18 10:00

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2613208001	**MW-1**	EPA 6010D	AAP	1
		EPA 6010D	AAP	1
		EPA 8260B	JHG	85
		SM 4500-S2 D	JPT	1
		SM 4500-SO3	RNB	1
		EPA 9056A	RLC	1
2613208002	**MW-5R**	EPA 6010D	AAP	1
		EPA 6010D	AAP	1
		EPA 8260B	JHG	85
		SM 4500-S2 D	JPT	1
		SM 4500-SO3	RNB	1
		EPA 9056A	RLC	1
2613208003	**MW-6**	EPA 6010D	AAP	1
		EPA 6010D	AAP	1
		EPA 8260B	JHG	85
		SM 4500-S2 D	JPT	1
		SM 4500-SO3	RNB	1
		EPA 9056A	RLC	1
2613208004	**MW-7R**	EPA 6010D	AAP	1
		EPA 6010D	AAP	1
		EPA 8260B	JHG	85
		SM 4500-S2 D	JPT	1
		SM 4500-SO3	RNB	1
		EPA 9056A	RLC	1
2613208005	**SB-1 (9-10)**	EPA 8260B	JHG	73
		Pace SOP #204	JPT	1
2613208006	**SB-1 (15-16)**	EPA 8260B	JHG	73
		Pace SOP #204	JPT	1
2613208007	**Trip Blank**	EPA 8260B	JHG	85

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Sample: MW-1 **Lab ID: 2613208001** Collected: 12/28/18 12:50 Received: 12/29/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A								
Iron	**615**	ug/L	40.0	2.0	1	01/03/19 10:55	01/07/19 13:26	7439-89-6	
6010D MET ICP Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A								
Iron, Dissolved	**636**	ug/L	40.0	2.0	1	01/04/19 11:57	01/07/19 14:53	7439-89-6	
8260B MSV	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	10.0	8.2	1		01/07/19 15:34	67-64-1	
Acrolein	ND	ug/L	10.0	7.8	1		01/07/19 15:34	107-02-8	
Acrylonitrile	ND	ug/L	10.0	2.5	1		01/07/19 15:34	107-13-1	
Allyl chloride	ND	ug/L	5.0	0.96	1		01/07/19 15:34	107-05-1	
Benzene	ND	ug/L	1.0	0.20	1		01/07/19 15:34	71-43-2	
Bromobenzene	ND	ug/L	5.0	0.58	1		01/07/19 15:34	108-86-1	
Bromochloromethane	ND	ug/L	2.0	0.50	1		01/07/19 15:34	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.36	1		01/07/19 15:34	75-27-4	
Bromoform	ND	ug/L	2.0	0.55	1		01/07/19 15:34	75-25-2	
Bromomethane	ND	ug/L	2.0	0.95	1		01/07/19 15:34	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	3.2	1		01/07/19 15:34	78-93-3	
n-Butylbenzene	ND	ug/L	5.0	0.57	1		01/07/19 15:34	104-51-8	
sec-Butylbenzene	ND	ug/L	5.0	0.48	1		01/07/19 15:34	135-98-8	
tert-Butylbenzene	**1.0J**	ug/L	5.0	0.47	1		01/07/19 15:34	98-06-6	
n-Butyl chloride	ND	ug/L	10.0	0.85	1		01/07/19 15:34	109-69-3	
Carbon disulfide	ND	ug/L	5.0	0.79	1		01/07/19 15:34	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.42	1		01/07/19 15:34	56-23-5	L1
Chlorobenzene	ND	ug/L	2.0	0.53	1		01/07/19 15:34	108-90-7	
Chloroethane	ND	ug/L	1.0	0.52	1		01/07/19 15:34	75-00-3	
2-Chloroethylvinyl ether	ND	ug/L	2.0	0.41	1		01/07/19 15:34	110-75-8	L1,M0, P4,c2
Chloroform	ND	ug/L	1.0	0.58	1		01/07/19 15:34	67-66-3	
Chloromethane	ND	ug/L	1.0	0.38	1		01/07/19 15:34	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	0.26	1		01/07/19 15:34	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	0.68	1		01/07/19 15:34	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	0.55	1		01/07/19 15:34	96-12-8	
Dibromochloromethane	ND	ug/L	2.0	0.31	1		01/07/19 15:34	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.28	1		01/07/19 15:34	106-93-4	
Dibromomethane	ND	ug/L	2.0	0.62	1		01/07/19 15:34	74-95-3	M1
1,2-Dichlorobenzene	**0.92J**	ug/L	1.0	0.49	1		01/07/19 15:34	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.59	1		01/07/19 15:34	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.58	1		01/07/19 15:34	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.6	1		01/07/19 15:34	110-57-6	
Dichlorodifluoromethane	ND	ug/L	2.0	0.48	1		01/07/19 15:34	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.41	1		01/07/19 15:34	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.67	1		01/07/19 15:34	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.72	1		01/07/19 15:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.66	1		01/07/19 15:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.46	1		01/07/19 15:34	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.60	1		01/07/19 15:34	78-87-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Sample: MW-1 **Lab ID: 2613208001** Collected: 12/28/18 12:50 Received: 12/29/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
1,3-Dichloropropane	ND	ug/L	1.0	0.69	1		01/07/19 15:34	142-28-9	
2,2-Dichloropropane	ND	ug/L	2.0	0.23	1		01/07/19 15:34	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	0.60	1		01/07/19 15:34	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.22	1		01/07/19 15:34	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.30	1		01/07/19 15:34	10061-02-6	
Ethylbenzene	**0.74J**	ug/L	1.0	0.45	1		01/07/19 15:34	100-41-4	
Ethyl methacrylate	ND	ug/L	10.0	0.59	1		01/07/19 15:34	97-63-2	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	1.2	1		01/07/19 15:34	87-68-3	
2-Hexanone	ND	ug/L	10.0	0.89	1		01/07/19 15:34	591-78-6	
Iodomethane	ND	ug/L	10.0	3.1	1		01/07/19 15:34	74-88-4	
Isopropylbenzene (Cumene)	**1.6J**	ug/L	5.0	0.43	1		01/07/19 15:34	98-82-8	
p-Isopropyltoluene	**1.5J**	ug/L	5.0	0.47	1		01/07/19 15:34	99-87-6	
Methacrylonitrile	ND	ug/L	10.0	0.79	1		01/07/19 15:34	126-98-7	
Methyl acrylate	ND	ug/L	10.0	0.89	1		01/07/19 15:34	96-33-3	
Methylene Chloride	ND	ug/L	1.0	0.50	1		01/07/19 15:34	75-09-2	
Methyl methacrylate	ND	ug/L	10.0	0.89	1		01/07/19 15:34	80-62-6	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.86	1		01/07/19 15:34	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	10.0	1.6	1		01/07/19 15:34	1634-04-4	
Naphthalene	**6.2**	ug/L	5.0	0.30	1		01/07/19 15:34	91-20-3	
2-Nitropropane	ND	ug/L	10.0	2.1	1		01/07/19 15:34	79-46-9	
Propionitrile	ND	ug/L	10.0	3.1	1		01/07/19 15:34	107-12-0	
n-Propylbenzene	**0.72J**	ug/L	5.0	0.50	1		01/07/19 15:34	103-65-1	
Styrene	ND	ug/L	1.0	0.50	1		01/07/19 15:34	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	2.0	0.32	1		01/07/19 15:34	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.0	0.53	1		01/07/19 15:34	79-34-5	
Tetrachloroethene	ND	ug/L	0.78	0.78	1		01/07/19 15:34	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1.3	1		01/07/19 15:34	109-99-9	
Toluene	ND	ug/L	1.0	0.31	1		01/07/19 15:34	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	0.53	1		01/07/19 15:34	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	0.47	1		01/07/19 15:34	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.38	1		01/07/19 15:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.59	1		01/07/19 15:34	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.34	1		01/07/19 15:34	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.51	1		01/07/19 15:34	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.46	1		01/07/19 15:34	96-18-4	
1,2,4-Trimethylbenzene	**6.2**	ug/L	5.0	0.46	1		01/07/19 15:34	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	5.0	0.62	1		01/07/19 15:34	108-67-8	
Vinyl acetate	ND	ug/L	5.0	0.42	1		01/07/19 15:34	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.60	1		01/07/19 15:34	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1.5	1		01/07/19 15:34	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.92	1		01/07/19 15:34	179601-23-1	
o-Xylene	ND	ug/L	2.0	0.54	1		01/07/19 15:34	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%.	81-119		1		01/07/19 15:34	17060-07-0	
Dibromofluoromethane (S)	97	%.	82-114		1		01/07/19 15:34	1868-53-7	
4-Bromofluorobenzene (S)	92	%.	82-120		1		01/07/19 15:34	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Sample: MW-1 **Lab ID: 2613208001** Collected: 12/28/18 12:50 Received: 12/29/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
Surrogates									
Toluene-d8 (S)	96	%.	82-109		1		01/07/19 15:34	2037-26-5	
4500S2D Sulfide Water	Analytical Method: SM 4500-S2 D								
Sulfide	ND	mg/L	0.20	0.20	1		12/31/18 11:36	18496-25-8	
4500SO3B Sulfite, Iodometric	Analytical Method: SM 4500-SO3								
Sulfite	ND	mg/L	1.0	1.0	1		01/10/19 10:37		H1,H6
9056 IC Anions	Analytical Method: EPA 9056A								
Sulfate	**8.3**	mg/L	5.0	0.017	1		01/03/19 02:24	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Sample: MW-5R **Lab ID: 2613208002** Collected: 12/27/18 13:00 Received: 12/29/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A								
Iron	**31.5J**	ug/L	40.0	2.0	1	01/03/19 10:55	01/07/19 13:31	7439-89-6	B
6010D MET ICP Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A								
Iron, Dissolved	**19.3J**	ug/L	40.0	2.0	1	01/04/19 11:57	01/07/19 15:40	7439-89-6	B
8260B MSV	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	10.0	8.2	1		01/07/19 16:04	67-64-1	
Acrolein	ND	ug/L	10.0	7.8	1		01/07/19 16:04	107-02-8	
Acrylonitrile	ND	ug/L	10.0	2.5	1		01/07/19 16:04	107-13-1	
Allyl chloride	ND	ug/L	5.0	0.96	1		01/07/19 16:04	107-05-1	
Benzene	ND	ug/L	1.0	0.20	1		01/07/19 16:04	71-43-2	
Bromobenzene	ND	ug/L	5.0	0.58	1		01/07/19 16:04	108-86-1	
Bromochloromethane	ND	ug/L	2.0	0.50	1		01/07/19 16:04	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.36	1		01/07/19 16:04	75-27-4	
Bromoform	ND	ug/L	2.0	0.55	1		01/07/19 16:04	75-25-2	
Bromomethane	ND	ug/L	2.0	0.95	1		01/07/19 16:04	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	3.2	1		01/07/19 16:04	78-93-3	
n-Butylbenzene	ND	ug/L	5.0	0.57	1		01/07/19 16:04	104-51-8	
sec-Butylbenzene	ND	ug/L	5.0	0.48	1		01/07/19 16:04	135-98-8	
tert-Butylbenzene	ND	ug/L	5.0	0.47	1		01/07/19 16:04	98-06-6	
n-Butyl chloride	ND	ug/L	10.0	0.85	1		01/07/19 16:04	109-69-3	
Carbon disulfide	ND	ug/L	5.0	0.79	1		01/07/19 16:04	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.42	1		01/07/19 16:04	56-23-5	L1
Chlorobenzene	ND	ug/L	2.0	0.53	1		01/07/19 16:04	108-90-7	
Chloroethane	ND	ug/L	1.0	0.52	1		01/07/19 16:04	75-00-3	
2-Chloroethylvinyl ether	ND	ug/L	2.0	0.41	1		01/07/19 16:04	110-75-8	L1,P4, c2
Chloroform	ND	ug/L	1.0	0.58	1		01/07/19 16:04	67-66-3	
Chloromethane	**0.54J**	ug/L	1.0	0.38	1		01/07/19 16:04	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	0.26	1		01/07/19 16:04	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	0.68	1		01/07/19 16:04	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	0.55	1		01/07/19 16:04	96-12-8	
Dibromochloromethane	ND	ug/L	2.0	0.31	1		01/07/19 16:04	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.28	1		01/07/19 16:04	106-93-4	
Dibromomethane	ND	ug/L	2.0	0.62	1		01/07/19 16:04	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.49	1		01/07/19 16:04	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.59	1		01/07/19 16:04	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.58	1		01/07/19 16:04	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.6	1		01/07/19 16:04	110-57-6	
Dichlorodifluoromethane	ND	ug/L	2.0	0.48	1		01/07/19 16:04	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.41	1		01/07/19 16:04	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.67	1		01/07/19 16:04	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.72	1		01/07/19 16:04	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.66	1		01/07/19 16:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.46	1		01/07/19 16:04	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.60	1		01/07/19 16:04	78-87-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Sample: MW-5R **Lab ID: 2613208002** Collected: 12/27/18 13:00 Received: 12/29/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
1,3-Dichloropropane	ND	ug/L	1.0	0.69	1		01/07/19 16:04	142-28-9	
2,2-Dichloropropane	ND	ug/L	2.0	0.23	1		01/07/19 16:04	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	0.60	1		01/07/19 16:04	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.22	1		01/07/19 16:04	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.30	1		01/07/19 16:04	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.45	1		01/07/19 16:04	100-41-4	
Ethyl methacrylate	ND	ug/L	10.0	0.59	1		01/07/19 16:04	97-63-2	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	1.2	1		01/07/19 16:04	87-68-3	
2-Hexanone	ND	ug/L	10.0	0.89	1		01/07/19 16:04	591-78-6	
Iodomethane	ND	ug/L	10.0	3.1	1		01/07/19 16:04	74-88-4	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	0.43	1		01/07/19 16:04	98-82-8	
p-Isopropyltoluene	ND	ug/L	5.0	0.47	1		01/07/19 16:04	99-87-6	
Methacrylonitrile	ND	ug/L	10.0	0.79	1		01/07/19 16:04	126-98-7	
Methyl acrylate	ND	ug/L	10.0	0.89	1		01/07/19 16:04	96-33-3	
Methylene Chloride	ND	ug/L	1.0	0.50	1		01/07/19 16:04	75-09-2	
Methyl methacrylate	ND	ug/L	10.0	0.89	1		01/07/19 16:04	80-62-6	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.86	1		01/07/19 16:04	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	10.0	1.6	1		01/07/19 16:04	1634-04-4	
Naphthalene	ND	ug/L	5.0	0.30	1		01/07/19 16:04	91-20-3	
2-Nitropropane	ND	ug/L	10.0	2.1	1		01/07/19 16:04	79-46-9	
Propionitrile	ND	ug/L	10.0	3.1	1		01/07/19 16:04	107-12-0	
n-Propylbenzene	ND	ug/L	5.0	0.50	1		01/07/19 16:04	103-65-1	
Styrene	ND	ug/L	1.0	0.50	1		01/07/19 16:04	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	2.0	0.32	1		01/07/19 16:04	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.0	0.53	1		01/07/19 16:04	79-34-5	
Tetrachloroethene	ND	ug/L	0.78	0.78	1		01/07/19 16:04	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1.3	1		01/07/19 16:04	109-99-9	
Toluene	ND	ug/L	1.0	0.31	1		01/07/19 16:04	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	0.53	1		01/07/19 16:04	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	0.47	1		01/07/19 16:04	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.38	1		01/07/19 16:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.59	1		01/07/19 16:04	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.34	1		01/07/19 16:04	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.51	1		01/07/19 16:04	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.46	1		01/07/19 16:04	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	5.0	0.46	1		01/07/19 16:04	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	5.0	0.62	1		01/07/19 16:04	108-67-8	
Vinyl acetate	ND	ug/L	5.0	0.42	1		01/07/19 16:04	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.60	1		01/07/19 16:04	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1.5	1		01/07/19 16:04	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.92	1		01/07/19 16:04	179601-23-1	
o-Xylene	ND	ug/L	2.0	0.54	1		01/07/19 16:04	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%.	81-119		1		01/07/19 16:04	17060-07-0	
Dibromofluoromethane (S)	99	%.	82-114		1		01/07/19 16:04	1868-53-7	
4-Bromofluorobenzene (S)	98	%.	82-120		1		01/07/19 16:04	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Sample: MW-5R **Lab ID: 2613208002** Collected: 12/27/18 13:00 Received: 12/29/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
Surrogates									
Toluene-d8 (S)	97	%.	82-109		1		01/07/19 16:04	2037-26-5	
4500S2D Sulfide Water	Analytical Method: SM 4500-S2 D								
Sulfide	ND	mg/L	0.20	0.20	1		12/31/18 11:36	18496-25-8	
4500SO3B Sulfite, Iodometric	Analytical Method: SM 4500-SO3								
Sulfite	ND	mg/L	1.0	1.0	1		01/10/19 10:39		H3,H6
9056 IC Anions	Analytical Method: EPA 9056A								
Sulfate	**22.9**	mg/L	5.0	0.017	1		01/03/19 02:45	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Sample: MW-6 **Lab ID: 2613208003** Collected: 12/27/18 14:30 Received: 12/29/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A								
Iron	**141**	ug/L	40.0	2.0	1	01/03/19 10:55	01/07/19 13:36	7439-89-6	
6010D MET ICP Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A								
Iron, Dissolved	**161**	ug/L	40.0	2.0	1	01/04/19 11:57	01/07/19 15:45	7439-89-6	
8260B MSV	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	10.0	8.2	1		01/07/19 16:34	67-64-1	
Acrolein	ND	ug/L	10.0	7.8	1		01/07/19 16:34	107-02-8	
Acrylonitrile	ND	ug/L	10.0	2.5	1		01/07/19 16:34	107-13-1	
Allyl chloride	ND	ug/L	5.0	0.96	1		01/07/19 16:34	107-05-1	
Benzene	ND	ug/L	1.0	0.20	1		01/07/19 16:34	71-43-2	
Bromobenzene	ND	ug/L	5.0	0.58	1		01/07/19 16:34	108-86-1	
Bromochloromethane	ND	ug/L	2.0	0.50	1		01/07/19 16:34	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.36	1		01/07/19 16:34	75-27-4	
Bromoform	ND	ug/L	2.0	0.55	1		01/07/19 16:34	75-25-2	
Bromomethane	ND	ug/L	2.0	0.95	1		01/07/19 16:34	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	3.2	1		01/07/19 16:34	78-93-3	
n-Butylbenzene	ND	ug/L	5.0	0.57	1		01/07/19 16:34	104-51-8	
sec-Butylbenzene	ND	ug/L	5.0	0.48	1		01/07/19 16:34	135-98-8	
tert-Butylbenzene	ND	ug/L	5.0	0.47	1		01/07/19 16:34	98-06-6	
n-Butyl chloride	ND	ug/L	10.0	0.85	1		01/07/19 16:34	109-69-3	
Carbon disulfide	ND	ug/L	5.0	0.79	1		01/07/19 16:34	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.42	1		01/07/19 16:34	56-23-5	L1
Chlorobenzene	ND	ug/L	2.0	0.53	1		01/07/19 16:34	108-90-7	
Chloroethane	ND	ug/L	1.0	0.52	1		01/07/19 16:34	75-00-3	
2-Chloroethylvinyl ether	ND	ug/L	2.0	0.41	1		01/07/19 16:34	110-75-8	L1,P4, c2
Chloroform	ND	ug/L	1.0	0.58	1		01/07/19 16:34	67-66-3	
Chloromethane	ND	ug/L	1.0	0.38	1		01/07/19 16:34	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	0.26	1		01/07/19 16:34	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	0.68	1		01/07/19 16:34	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	0.55	1		01/07/19 16:34	96-12-8	
Dibromochloromethane	ND	ug/L	2.0	0.31	1		01/07/19 16:34	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.28	1		01/07/19 16:34	106-93-4	
Dibromomethane	ND	ug/L	2.0	0.62	1		01/07/19 16:34	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.49	1		01/07/19 16:34	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.59	1		01/07/19 16:34	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.58	1		01/07/19 16:34	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.6	1		01/07/19 16:34	110-57-6	
Dichlorodifluoromethane	ND	ug/L	2.0	0.48	1		01/07/19 16:34	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.41	1		01/07/19 16:34	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.67	1		01/07/19 16:34	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.72	1		01/07/19 16:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.66	1		01/07/19 16:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.46	1		01/07/19 16:34	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.60	1		01/07/19 16:34	78-87-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Sample: MW-6 **Lab ID: 2613208003** Collected: 12/27/18 14:30 Received: 12/29/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
1,3-Dichloropropane	ND	ug/L	1.0	0.69	1		01/07/19 16:34	142-28-9	
2,2-Dichloropropane	ND	ug/L	2.0	0.23	1		01/07/19 16:34	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	0.60	1		01/07/19 16:34	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.22	1		01/07/19 16:34	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.30	1		01/07/19 16:34	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.45	1		01/07/19 16:34	100-41-4	
Ethyl methacrylate	ND	ug/L	10.0	0.59	1		01/07/19 16:34	97-63-2	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	1.2	1		01/07/19 16:34	87-68-3	
2-Hexanone	ND	ug/L	10.0	0.89	1		01/07/19 16:34	591-78-6	
Iodomethane	ND	ug/L	10.0	3.1	1		01/07/19 16:34	74-88-4	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	0.43	1		01/07/19 16:34	98-82-8	
p-Isopropyltoluene	ND	ug/L	5.0	0.47	1		01/07/19 16:34	99-87-6	
Methacrylonitrile	ND	ug/L	10.0	0.79	1		01/07/19 16:34	126-98-7	
Methyl acrylate	ND	ug/L	10.0	0.89	1		01/07/19 16:34	96-33-3	
Methylene Chloride	ND	ug/L	1.0	0.50	1		01/07/19 16:34	75-09-2	
Methyl methacrylate	ND	ug/L	10.0	0.89	1		01/07/19 16:34	80-62-6	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.86	1		01/07/19 16:34	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	10.0	1.6	1		01/07/19 16:34	1634-04-4	
Naphthalene	ND	ug/L	5.0	0.30	1		01/07/19 16:34	91-20-3	
2-Nitropropane	ND	ug/L	10.0	2.1	1		01/07/19 16:34	79-46-9	
Propionitrile	ND	ug/L	10.0	3.1	1		01/07/19 16:34	107-12-0	
n-Propylbenzene	ND	ug/L	5.0	0.50	1		01/07/19 16:34	103-65-1	
Styrene	ND	ug/L	1.0	0.50	1		01/07/19 16:34	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	2.0	0.32	1		01/07/19 16:34	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.0	0.53	1		01/07/19 16:34	79-34-5	
Tetrachloroethene	ND	ug/L	0.78	0.78	1		01/07/19 16:34	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1.3	1		01/07/19 16:34	109-99-9	
Toluene	ND	ug/L	1.0	0.31	1		01/07/19 16:34	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	0.53	1		01/07/19 16:34	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	0.47	1		01/07/19 16:34	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.38	1		01/07/19 16:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.59	1		01/07/19 16:34	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.34	1		01/07/19 16:34	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.51	1		01/07/19 16:34	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.46	1		01/07/19 16:34	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	5.0	0.46	1		01/07/19 16:34	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	5.0	0.62	1		01/07/19 16:34	108-67-8	
Vinyl acetate	ND	ug/L	5.0	0.42	1		01/07/19 16:34	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.60	1		01/07/19 16:34	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1.5	1		01/07/19 16:34	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.92	1		01/07/19 16:34	179601-23-1	
o-Xylene	ND	ug/L	2.0	0.54	1		01/07/19 16:34	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%.	81-119		1		01/07/19 16:34	17060-07-0	
Dibromofluoromethane (S)	97	%.	82-114		1		01/07/19 16:34	1868-53-7	
4-Bromofluorobenzene (S)	99	%.	82-120		1		01/07/19 16:34	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Sample: MW-6 **Lab ID: 2613208003** Collected: 12/27/18 14:30 Received: 12/29/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
Surrogates									
Toluene-d8 (S)	95	%.	82-109		1		01/07/19 16:34	2037-26-5	
4500S2D Sulfide Water	Analytical Method: SM 4500-S2 D								
Sulfide	ND	mg/L	0.20	0.20	1		12/31/18 11:39	18496-25-8	
4500SO3B Sulfite, Iodometric	Analytical Method: SM 4500-SO3								
Sulfite	ND	mg/L	1.0	1.0	1		01/10/19 10:40		H3,H6
9056 IC Anions	Analytical Method: EPA 9056A								
Sulfate	**0.92J**	mg/L	5.0	0.017	1		01/03/19 04:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Sample: MW-7R **Lab ID: 2613208004** Collected: 12/27/18 11:20 Received: 12/29/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A								
Iron	**59.8**	ug/L	40.0	2.0	1	01/03/19 10:55	01/07/19 13:41	7439-89-6	B
6010D MET ICP Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A								
Iron, Dissolved	**193**	ug/L	40.0	2.0	1	01/04/19 11:57	01/07/19 15:50	7439-89-6	
8260B MSV	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	10.0	8.2	1		01/07/19 17:04	67-64-1	
Acrolein	ND	ug/L	10.0	7.8	1		01/07/19 17:04	107-02-8	
Acrylonitrile	ND	ug/L	10.0	2.5	1		01/07/19 17:04	107-13-1	
Allyl chloride	ND	ug/L	5.0	0.96	1		01/07/19 17:04	107-05-1	
Benzene	ND	ug/L	1.0	0.20	1		01/07/19 17:04	71-43-2	
Bromobenzene	ND	ug/L	5.0	0.58	1		01/07/19 17:04	108-86-1	
Bromochloromethane	ND	ug/L	2.0	0.50	1		01/07/19 17:04	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.36	1		01/07/19 17:04	75-27-4	
Bromoform	ND	ug/L	2.0	0.55	1		01/07/19 17:04	75-25-2	
Bromomethane	ND	ug/L	2.0	0.95	1		01/07/19 17:04	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	3.2	1		01/07/19 17:04	78-93-3	
n-Butylbenzene	ND	ug/L	5.0	0.57	1		01/07/19 17:04	104-51-8	
sec-Butylbenzene	ND	ug/L	5.0	0.48	1		01/07/19 17:04	135-98-8	
tert-Butylbenzene	ND	ug/L	5.0	0.47	1		01/07/19 17:04	98-06-6	
n-Butyl chloride	ND	ug/L	10.0	0.85	1		01/07/19 17:04	109-69-3	
Carbon disulfide	ND	ug/L	5.0	0.79	1		01/07/19 17:04	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.42	1		01/07/19 17:04	56-23-5	L1
Chlorobenzene	ND	ug/L	2.0	0.53	1		01/07/19 17:04	108-90-7	
Chloroethane	ND	ug/L	1.0	0.52	1		01/07/19 17:04	75-00-3	
2-Chloroethylvinyl ether	ND	ug/L	2.0	0.41	1		01/07/19 17:04	110-75-8	L1,P4, c2
Chloroform	ND	ug/L	1.0	0.58	1		01/07/19 17:04	67-66-3	
Chloromethane	ND	ug/L	1.0	0.38	1		01/07/19 17:04	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	0.26	1		01/07/19 17:04	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	0.68	1		01/07/19 17:04	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	0.55	1		01/07/19 17:04	96-12-8	
Dibromochloromethane	ND	ug/L	2.0	0.31	1		01/07/19 17:04	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.28	1		01/07/19 17:04	106-93-4	
Dibromomethane	ND	ug/L	2.0	0.62	1		01/07/19 17:04	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.49	1		01/07/19 17:04	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.59	1		01/07/19 17:04	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.58	1		01/07/19 17:04	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.6	1		01/07/19 17:04	110-57-6	
Dichlorodifluoromethane	ND	ug/L	2.0	0.48	1		01/07/19 17:04	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.41	1		01/07/19 17:04	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.67	1		01/07/19 17:04	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.72	1		01/07/19 17:04	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.66	1		01/07/19 17:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.46	1		01/07/19 17:04	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.60	1		01/07/19 17:04	78-87-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Sample: MW-7R **Lab ID: 2613208004** Collected: 12/27/18 11:20 Received: 12/29/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
1,3-Dichloropropane	ND	ug/L	1.0	0.69	1		01/07/19 17:04	142-28-9	
2,2-Dichloropropane	ND	ug/L	2.0	0.23	1		01/07/19 17:04	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	0.60	1		01/07/19 17:04	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.22	1		01/07/19 17:04	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.30	1		01/07/19 17:04	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.45	1		01/07/19 17:04	100-41-4	
Ethyl methacrylate	ND	ug/L	10.0	0.59	1		01/07/19 17:04	97-63-2	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	1.2	1		01/07/19 17:04	87-68-3	
2-Hexanone	ND	ug/L	10.0	0.89	1		01/07/19 17:04	591-78-6	
Iodomethane	ND	ug/L	10.0	3.1	1		01/07/19 17:04	74-88-4	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	0.43	1		01/07/19 17:04	98-82-8	
p-Isopropyltoluene	ND	ug/L	5.0	0.47	1		01/07/19 17:04	99-87-6	
Methacrylonitrile	ND	ug/L	10.0	0.79	1		01/07/19 17:04	126-98-7	
Methyl acrylate	ND	ug/L	10.0	0.89	1		01/07/19 17:04	96-33-3	
Methylene Chloride	ND	ug/L	1.0	0.50	1		01/07/19 17:04	75-09-2	
Methyl methacrylate	ND	ug/L	10.0	0.89	1		01/07/19 17:04	80-62-6	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.86	1		01/07/19 17:04	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	10.0	1.6	1		01/07/19 17:04	1634-04-4	
Naphthalene	ND	ug/L	5.0	0.30	1		01/07/19 17:04	91-20-3	
2-Nitropropane	ND	ug/L	10.0	2.1	1		01/07/19 17:04	79-46-9	
Propionitrile	ND	ug/L	10.0	3.1	1		01/07/19 17:04	107-12-0	
n-Propylbenzene	ND	ug/L	5.0	0.50	1		01/07/19 17:04	103-65-1	
Styrene	ND	ug/L	1.0	0.50	1		01/07/19 17:04	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	2.0	0.32	1		01/07/19 17:04	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.0	0.53	1		01/07/19 17:04	79-34-5	
Tetrachloroethene	ND	ug/L	0.78	0.78	1		01/07/19 17:04	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1.3	1		01/07/19 17:04	109-99-9	
Toluene	ND	ug/L	1.0	0.31	1		01/07/19 17:04	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	0.53	1		01/07/19 17:04	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	0.47	1		01/07/19 17:04	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.38	1		01/07/19 17:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.59	1		01/07/19 17:04	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.34	1		01/07/19 17:04	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.51	1		01/07/19 17:04	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.46	1		01/07/19 17:04	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	5.0	0.46	1		01/07/19 17:04	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	5.0	0.62	1		01/07/19 17:04	108-67-8	
Vinyl acetate	ND	ug/L	5.0	0.42	1		01/07/19 17:04	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.60	1		01/07/19 17:04	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1.5	1		01/07/19 17:04	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.92	1		01/07/19 17:04	179601-23-1	
o-Xylene	ND	ug/L	2.0	0.54	1		01/07/19 17:04	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%.	81-119		1		01/07/19 17:04	17060-07-0	
Dibromofluoromethane (S)	99	%.	82-114		1		01/07/19 17:04	1868-53-7	
4-Bromofluorobenzene (S)	99	%.	82-120		1		01/07/19 17:04	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Sample: MW-7R **Lab ID: 2613208004** Collected: 12/27/18 11:20 Received: 12/29/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
Surrogates									
Toluene-d8 (S)	96	%.	82-109		1		01/07/19 17:04	2037-26-5	
4500S2D Sulfide Water	Analytical Method: SM 4500-S2 D								
Sulfide	ND	mg/L	0.20	0.20	1		12/31/18 11:39	18496-25-8	
4500SO3B Sulfite, Iodometric	Analytical Method: SM 4500-SO3								
Sulfite	ND	mg/L	1.0	1.0	1		01/10/19 10:40		H3,H6
9056 IC Anions	Analytical Method: EPA 9056A								
Sulfate	**3.0J**	mg/L	5.0	0.017	1		01/03/19 04:49	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Sample: SB-1 (9-10) **Lab ID: 2613208005** Collected: 12/28/18 15:00 Received: 12/29/18 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035	Analytical Method: EPA 8260B Preparation Method: EPA 5035								
Acetone	**7.7J**	ug/kg	93.2	2.3	1	01/02/19 16:30	01/02/19 22:30	67-64-1	
Acrolein	ND	ug/kg	46.6	1.7	1	01/02/19 16:30	01/02/19 22:30	107-02-8	
Acrylonitrile	ND	ug/kg	46.6	0.67	1	01/02/19 16:30	01/02/19 22:30	107-13-1	
Benzene	ND	ug/kg	4.7	0.16	1	01/02/19 16:30	01/02/19 22:30	71-43-2	
Bromobenzene	ND	ug/kg	4.7	0.23	1	01/02/19 16:30	01/02/19 22:30	108-86-1	
Bromochloromethane	ND	ug/kg	4.7	0.68	1	01/02/19 16:30	01/02/19 22:30	74-97-5	
Bromodichloromethane	ND	ug/kg	4.7	0.24	1	01/02/19 16:30	01/02/19 22:30	75-27-4	
Bromoform	ND	ug/kg	4.7	0.63	1	01/02/19 16:30	01/02/19 22:30	75-25-2	
Bromomethane	ND	ug/kg	9.3	0.75	1	01/02/19 16:30	01/02/19 22:30	74-83-9	
2-Butanone (MEK)	ND	ug/kg	93.2	1.2	1	01/02/19 16:30	01/02/19 22:30	78-93-3	
n-Butylbenzene	**94.2**	ug/kg	4.7	0.21	1	01/02/19 16:30	01/02/19 22:30	104-51-8	
sec-Butylbenzene	**69.8**	ug/kg	4.7	0.19	1	01/02/19 16:30	01/02/19 22:30	135-98-8	
tert-Butylbenzene	**16.5**	ug/kg	4.7	0.19	1	01/02/19 16:30	01/02/19 22:30	98-06-6	
Carbon disulfide	ND	ug/kg	9.3	0.26	1	01/02/19 16:30	01/02/19 22:30	75-15-0	
Carbon tetrachloride	ND	ug/kg	4.7	0.46	1	01/02/19 16:30	01/02/19 22:30	56-23-5	
Chlorobenzene	ND	ug/kg	4.7	0.64	1	01/02/19 16:30	01/02/19 22:30	108-90-7	
Chloroethane	ND	ug/kg	4.7	0.47	1	01/02/19 16:30	01/02/19 22:30	75-00-3	
Chloroform	ND	ug/kg	4.7	0.16	1	01/02/19 16:30	01/02/19 22:30	67-66-3	
Chloromethane	ND	ug/kg	9.3	0.18	1	01/02/19 16:30	01/02/19 22:30	74-87-3	
2-Chlorotoluene	ND	ug/kg	4.7	0.29	1	01/02/19 16:30	01/02/19 22:30	95-49-8	
4-Chlorotoluene	ND	ug/kg	4.7	0.22	1	01/02/19 16:30	01/02/19 22:30	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	4.7	0.37	1	01/02/19 16:30	01/02/19 22:30	96-12-8	
Dibromochloromethane	ND	ug/kg	4.7	0.093	1	01/02/19 16:30	01/02/19 22:30	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	4.7	0.28	1	01/02/19 16:30	01/02/19 22:30	106-93-4	
Dibromomethane	ND	ug/kg	4.7	0.50	1	01/02/19 16:30	01/02/19 22:30	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	4.7	0.26	1	01/02/19 16:30	01/02/19 22:30	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	4.7	0.20	1	01/02/19 16:30	01/02/19 22:30	541-73-1	
1,4-Dichlorobenzene	**1.1J**	ug/kg	4.7	0.21	1	01/02/19 16:30	01/02/19 22:30	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	9.3	0.30	1	01/02/19 16:30	01/02/19 22:30	75-71-8	
1,1-Dichloroethane	ND	ug/kg	4.7	0.38	1	01/02/19 16:30	01/02/19 22:30	75-34-3	
1,2-Dichloroethane	ND	ug/kg	4.7	0.26	1	01/02/19 16:30	01/02/19 22:30	107-06-2	
1,1-Dichloroethene	ND	ug/kg	4.7	0.25	1	01/02/19 16:30	01/02/19 22:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	4.7	0.45	1	01/02/19 16:30	01/02/19 22:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	4.7	0.23	1	01/02/19 16:30	01/02/19 22:30	156-60-5	
1,2-Dichloropropane	ND	ug/kg	4.7	0.33	1	01/02/19 16:30	01/02/19 22:30	78-87-5	
1,3-Dichloropropane	ND	ug/kg	4.7	0.33	1	01/02/19 16:30	01/02/19 22:30	142-28-9	
2,2-Dichloropropane	ND	ug/kg	4.7	0.33	1	01/02/19 16:30	01/02/19 22:30	594-20-7	
1,1-Dichloropropene	ND	ug/kg	4.7	0.12	1	01/02/19 16:30	01/02/19 22:30	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	4.7	0.29	1	01/02/19 16:30	01/02/19 22:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	4.7	0.29	1	01/02/19 16:30	01/02/19 22:30	10061-02-6	
Diisopropyl ether	ND	ug/kg	4.7	0.48	1	01/02/19 16:30	01/02/19 22:30	108-20-3	
Ethylbenzene	**3.7J**	ug/kg	4.7	0.18	1	01/02/19 16:30	01/02/19 22:30	100-41-4	
2-Hexanone	**626**	ug/kg	46.6	0.66	1	01/02/19 16:30	01/02/19 22:30	591-78-6	E
Isopropylbenzene (Cumene)	**27.4**	ug/kg	4.7	0.20	1	01/02/19 16:30	01/02/19 22:30	98-82-8	
p-Isopropyltoluene	**76.6**	ug/kg	4.7	0.19	1	01/02/19 16:30	01/02/19 22:30	99-87-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Sample: SB-1 (9-10) **Lab ID: 2613208005** Collected: 12/28/18 15:00 Received: 12/29/18 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035	Analytical Method: EPA 8260B Preparation Method: EPA 5035								
Methylene Chloride	ND	ug/kg	18.6	0.53	1	01/02/19 16:30	01/02/19 22:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	46.6	0.62	1	01/02/19 16:30	01/02/19 22:30	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	4.7	0.55	1	01/02/19 16:30	01/02/19 22:30	1634-04-4	
Naphthalene	**3.2J**	ug/kg	4.7	0.40	1	01/02/19 16:30	01/02/19 22:30	91-20-3	
n-Propylbenzene	**82.1**	ug/kg	4.7	0.22	1	01/02/19 16:30	01/02/19 22:30	103-65-1	
Styrene	ND	ug/kg	4.7	0.18	1	01/02/19 16:30	01/02/19 22:30	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	4.7	0.19	1	01/02/19 16:30	01/02/19 22:30	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	4.7	0.31	1	01/02/19 16:30	01/02/19 22:30	79-34-5	
Tetrachloroethene	ND	ug/kg	4.7	0.33	1	01/02/19 16:30	01/02/19 22:30	127-18-4	
Toluene	ND	ug/kg	4.7	0.46	1	01/02/19 16:30	01/02/19 22:30	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	4.7	0.46	1	01/02/19 16:30	01/02/19 22:30	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	4.7	0.29	1	01/02/19 16:30	01/02/19 22:30	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	4.7	0.46	1	01/02/19 16:30	01/02/19 22:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	4.7	0.20	1	01/02/19 16:30	01/02/19 22:30	79-00-5	
Trichloroethene	ND	ug/kg	4.7	0.23	1	01/02/19 16:30	01/02/19 22:30	79-01-6	
Trichlorofluoromethane	ND	ug/kg	4.7	0.30	1	01/02/19 16:30	01/02/19 22:30	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	4.7	0.39	1	01/02/19 16:30	01/02/19 22:30	96-18-4	
1,2,4-Trimethylbenzene	**340**	ug/kg	219	12.7	50	01/02/19 16:30	01/02/19 21:16	95-63-6	
1,3,5-Trimethylbenzene	**113**	ug/kg	4.7	0.10	1	01/02/19 16:30	01/02/19 22:30	108-67-8	
Vinyl acetate	ND	ug/kg	9.3	0.94	1	01/02/19 16:30	01/02/19 22:30	108-05-4	
Vinyl chloride	ND	ug/kg	9.3	0.14	1	01/02/19 16:30	01/02/19 22:30	75-01-4	
Xylene (Total)	**7.0J**	ug/kg	9.3	0.51	1	01/02/19 16:30	01/02/19 22:30	1330-20-7	
m&p-Xylene	**7.0**	ug/kg	4.7	0.28	1	01/02/19 16:30	01/02/19 22:30	179601-23-1	
o-Xylene	**3.0J**	ug/kg	4.7	0.23	1	01/02/19 16:30	01/02/19 22:30	95-47-6	
Surrogates									
Dibromofluoromethane (S)	108	%.	73-114		1	01/02/19 16:30	01/02/19 22:30	1868-53-7	
Toluene-d8 (S)	105	%.	85-109		1	01/02/19 16:30	01/02/19 22:30	2037-26-5	
4-Bromofluorobenzene (S)	374	%.	77-124		1	01/02/19 16:30	01/02/19 22:30	460-00-4	S0
1,2-Dichloroethane-d4 (S)	134	%.	69-133		1	01/02/19 16:30	01/02/19 22:30	17060-07-0	S0
Percent Moisture	Analytical Method: Pace SOP #204								
Percent Moisture	**15.5**	%	0.10	0.10	1		12/31/18 11:57		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Sample: SB-1 (15-16) **Lab ID: 2613208006** Collected: 12/28/18 15:30 Received: 12/29/18 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035	Analytical Method: EPA 8260B Preparation Method: EPA 5035								
Acetone	**5.2J**	ug/kg	91.3	2.3	1	01/02/19 08:50	01/02/19 14:42	67-64-1	
Acrolein	ND	ug/kg	45.7	1.6	1	01/02/19 08:50	01/02/19 14:42	107-02-8	
Acrylonitrile	ND	ug/kg	45.7	0.66	1	01/02/19 08:50	01/02/19 14:42	107-13-1	
Benzene	ND	ug/kg	4.6	0.16	1	01/02/19 08:50	01/02/19 14:42	71-43-2	
Bromobenzene	ND	ug/kg	4.6	0.23	1	01/02/19 08:50	01/02/19 14:42	108-86-1	
Bromochloromethane	ND	ug/kg	4.6	0.67	1	01/02/19 08:50	01/02/19 14:42	74-97-5	
Bromodichloromethane	ND	ug/kg	4.6	0.24	1	01/02/19 08:50	01/02/19 14:42	75-27-4	
Bromoform	ND	ug/kg	4.6	0.62	1	01/02/19 08:50	01/02/19 14:42	75-25-2	
Bromomethane	ND	ug/kg	9.1	0.73	1	01/02/19 08:50	01/02/19 14:42	74-83-9	
2-Butanone (MEK)	ND	ug/kg	91.3	1.2	1	01/02/19 08:50	01/02/19 14:42	78-93-3	
n-Butylbenzene	**111**	ug/kg	4.6	0.20	1	01/02/19 08:50	01/02/19 14:42	104-51-8	
sec-Butylbenzene	**56.9**	ug/kg	4.6	0.18	1	01/02/19 08:50	01/02/19 14:42	135-98-8	
tert-Butylbenzene	**15.7**	ug/kg	4.6	0.18	1	01/02/19 08:50	01/02/19 14:42	98-06-6	
Carbon disulfide	ND	ug/kg	9.1	0.26	1	01/02/19 08:50	01/02/19 14:42	75-15-0	
Carbon tetrachloride	ND	ug/kg	4.6	0.45	1	01/02/19 08:50	01/02/19 14:42	56-23-5	
Chlorobenzene	ND	ug/kg	4.6	0.63	1	01/02/19 08:50	01/02/19 14:42	108-90-7	
Chloroethane	ND	ug/kg	4.6	0.46	1	01/02/19 08:50	01/02/19 14:42	75-00-3	
Chloroform	ND	ug/kg	4.6	0.16	1	01/02/19 08:50	01/02/19 14:42	67-66-3	
Chloromethane	ND	ug/kg	9.1	0.17	1	01/02/19 08:50	01/02/19 14:42	74-87-3	
2-Chlorotoluene	**1.4J**	ug/kg	4.6	0.28	1	01/02/19 08:50	01/02/19 14:42	95-49-8	
4-Chlorotoluene	ND	ug/kg	4.6	0.22	1	01/02/19 08:50	01/02/19 14:42	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	4.6	0.37	1	01/02/19 08:50	01/02/19 14:42	96-12-8	
Dibromochloromethane	**0.90J**	ug/kg	4.6	0.091	1	01/02/19 08:50	01/02/19 14:42	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	4.6	0.27	1	01/02/19 08:50	01/02/19 14:42	106-93-4	
Dibromomethane	ND	ug/kg	4.6	0.49	1	01/02/19 08:50	01/02/19 14:42	74-95-3	
1,2-Dichlorobenzene	**10.2**	ug/kg	4.6	0.26	1	01/02/19 08:50	01/02/19 14:42	95-50-1	
1,3-Dichlorobenzene	**1.6J**	ug/kg	4.6	0.19	1	01/02/19 08:50	01/02/19 14:42	541-73-1	
1,4-Dichlorobenzene	**6.8**	ug/kg	4.6	0.21	1	01/02/19 08:50	01/02/19 14:42	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	9.1	0.29	1	01/02/19 08:50	01/02/19 14:42	75-71-8	
1,1-Dichloroethane	ND	ug/kg	4.6	0.37	1	01/02/19 08:50	01/02/19 14:42	75-34-3	
1,2-Dichloroethane	ND	ug/kg	4.6	0.26	1	01/02/19 08:50	01/02/19 14:42	107-06-2	
1,1-Dichloroethene	ND	ug/kg	4.6	0.25	1	01/02/19 08:50	01/02/19 14:42	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	4.6	0.44	1	01/02/19 08:50	01/02/19 14:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	4.6	0.23	1	01/02/19 08:50	01/02/19 14:42	156-60-5	
1,2-Dichloropropane	ND	ug/kg	4.6	0.32	1	01/02/19 08:50	01/02/19 14:42	78-87-5	
1,3-Dichloropropane	ND	ug/kg	4.6	0.32	1	01/02/19 08:50	01/02/19 14:42	142-28-9	
2,2-Dichloropropane	ND	ug/kg	4.6	0.32	1	01/02/19 08:50	01/02/19 14:42	594-20-7	
1,1-Dichloropropene	ND	ug/kg	4.6	0.12	1	01/02/19 08:50	01/02/19 14:42	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	4.6	0.28	1	01/02/19 08:50	01/02/19 14:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	4.6	0.28	1	01/02/19 08:50	01/02/19 14:42	10061-02-6	
Diisopropyl ether	ND	ug/kg	4.6	0.47	1	01/02/19 08:50	01/02/19 14:42	108-20-3	
Ethylbenzene	**27.3**	ug/kg	4.6	0.17	1	01/02/19 08:50	01/02/19 14:42	100-41-4	
2-Hexanone	**183**	ug/kg	45.7	0.65	1	01/02/19 08:50	01/02/19 14:42	591-78-6	
Isopropylbenzene (Cumene)	**75.2**	ug/kg	4.6	0.19	1	01/02/19 08:50	01/02/19 14:42	98-82-8	
p-Isopropyltoluene	**77.7**	ug/kg	4.6	0.18	1	01/02/19 08:50	01/02/19 14:42	99-87-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Sample: SB-1 (15-16) **Lab ID: 2613208006** Collected: 12/28/18 15:30 Received: 12/29/18 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035	Analytical Method: EPA 8260B Preparation Method: EPA 5035								
Methylene Chloride	ND	ug/kg	18.3	0.52	1	01/02/19 08:50	01/02/19 14:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	45.7	0.61	1	01/02/19 08:50	01/02/19 14:42	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	4.6	0.54	1	01/02/19 08:50	01/02/19 14:42	1634-04-4	
Naphthalene	**52.1**	ug/kg	4.6	0.39	1	01/02/19 08:50	01/02/19 14:42	91-20-3	
n-Propylbenzene	**137**	ug/kg	4.6	0.22	1	01/02/19 08:50	01/02/19 14:42	103-65-1	
Styrene	**1.8J**	ug/kg	4.6	0.17	1	01/02/19 08:50	01/02/19 14:42	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	4.6	0.18	1	01/02/19 08:50	01/02/19 14:42	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	4.6	0.30	1	01/02/19 08:50	01/02/19 14:42	79-34-5	
Tetrachloroethene	**0.40J**	ug/kg	4.6	0.32	1	01/02/19 08:50	01/02/19 14:42	127-18-4	
Toluene	ND	ug/kg	4.6	0.45	1	01/02/19 08:50	01/02/19 14:42	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	4.6	0.45	1	01/02/19 08:50	01/02/19 14:42	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	4.6	0.28	1	01/02/19 08:50	01/02/19 14:42	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	4.6	0.45	1	01/02/19 08:50	01/02/19 14:42	71-55-6	
1,1,2-Trichloroethane	**27.9**	ug/kg	4.6	0.19	1	01/02/19 08:50	01/02/19 14:42	79-00-5	
Trichloroethene	ND	ug/kg	4.6	0.23	1	01/02/19 08:50	01/02/19 14:42	79-01-6	
Trichlorofluoromethane	ND	ug/kg	4.6	0.29	1	01/02/19 08:50	01/02/19 14:42	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	4.6	0.38	1	01/02/19 08:50	01/02/19 14:42	96-18-4	
1,2,4-Trimethylbenzene	**907**	ug/kg	4.6	0.26	1	01/02/19 08:50	01/02/19 14:42	95-63-6	E
1,3,5-Trimethylbenzene	**397**	ug/kg	4.6	0.10	1	01/02/19 08:50	01/02/19 14:42	108-67-8	E
Vinyl acetate	ND	ug/kg	9.1	0.92	1	01/02/19 08:50	01/02/19 14:42	108-05-4	
Vinyl chloride	ND	ug/kg	9.1	0.14	1	01/02/19 08:50	01/02/19 14:42	75-01-4	
Xylene (Total)	**135**	ug/kg	9.1	0.50	1	01/02/19 08:50	01/02/19 14:42	1330-20-7	
m&p-Xylene	**78.8**	ug/kg	4.6	0.27	1	01/02/19 08:50	01/02/19 14:42	179601-23-1	
o-Xylene	**55.8**	ug/kg	4.6	0.23	1	01/02/19 08:50	01/02/19 14:42	95-47-6	
Surrogates									
Dibromofluoromethane (S)	101	%.	73-114		1	01/02/19 08:50	01/02/19 14:42	1868-53-7	
Toluene-d8 (S)	104	%.	85-109		1	01/02/19 08:50	01/02/19 14:42	2037-26-5	
4-Bromofluorobenzene (S)	158	%.	77-124		1	01/02/19 08:50	01/02/19 14:42	460-00-4	S0
1,2-Dichloroethane-d4 (S)	128	%.	69-133		1	01/02/19 08:50	01/02/19 14:42	17060-07-0	
Percent Moisture	Analytical Method: Pace SOP #204								
Percent Moisture	**12.5**	%	0.10	0.10	1		12/31/18 11:58		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Sample: Trip Blank **Lab ID: 2613208007** Collected: 12/27/18 00:00 Received: 12/29/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	10.0	8.2	1		01/07/19 13:34	67-64-1	
Acrolein	ND	ug/L	10.0	7.8	1		01/07/19 13:34	107-02-8	
Acrylonitrile	ND	ug/L	10.0	2.5	1		01/07/19 13:34	107-13-1	
Allyl chloride	ND	ug/L	5.0	0.96	1		01/07/19 13:34	107-05-1	
Benzene	ND	ug/L	1.0	0.20	1		01/07/19 13:34	71-43-2	
Bromobenzene	ND	ug/L	5.0	0.58	1		01/07/19 13:34	108-86-1	
Bromochloromethane	ND	ug/L	2.0	0.50	1		01/07/19 13:34	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.36	1		01/07/19 13:34	75-27-4	
Bromoform	ND	ug/L	2.0	0.55	1		01/07/19 13:34	75-25-2	
Bromomethane	ND	ug/L	2.0	0.95	1		01/07/19 13:34	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	3.2	1		01/07/19 13:34	78-93-3	
n-Butylbenzene	ND	ug/L	5.0	0.57	1		01/07/19 13:34	104-51-8	
sec-Butylbenzene	ND	ug/L	5.0	0.48	1		01/07/19 13:34	135-98-8	
tert-Butylbenzene	ND	ug/L	5.0	0.47	1		01/07/19 13:34	98-06-6	
n-Butyl chloride	ND	ug/L	10.0	0.85	1		01/07/19 13:34	109-69-3	
Carbon disulfide	ND	ug/L	5.0	0.79	1		01/07/19 13:34	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.42	1		01/07/19 13:34	56-23-5	L1
Chlorobenzene	ND	ug/L	2.0	0.53	1		01/07/19 13:34	108-90-7	
Chloroethane	ND	ug/L	1.0	0.52	1		01/07/19 13:34	75-00-3	
2-Chloroethylvinyl ether	ND	ug/L	2.0	0.41	1		01/07/19 13:34	110-75-8	L1,P4, c2
Chloroform	**1.3**	ug/L	1.0	0.58	1		01/07/19 13:34	67-66-3	
Chloromethane	ND	ug/L	1.0	0.38	1		01/07/19 13:34	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	0.26	1		01/07/19 13:34	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	0.68	1		01/07/19 13:34	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	0.55	1		01/07/19 13:34	96-12-8	
Dibromochloromethane	ND	ug/L	2.0	0.31	1		01/07/19 13:34	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.28	1		01/07/19 13:34	106-93-4	
Dibromomethane	ND	ug/L	2.0	0.62	1		01/07/19 13:34	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.49	1		01/07/19 13:34	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.59	1		01/07/19 13:34	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.58	1		01/07/19 13:34	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.6	1		01/07/19 13:34	110-57-6	
Dichlorodifluoromethane	ND	ug/L	2.0	0.48	1		01/07/19 13:34	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.41	1		01/07/19 13:34	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.67	1		01/07/19 13:34	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.72	1		01/07/19 13:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.66	1		01/07/19 13:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.46	1		01/07/19 13:34	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.60	1		01/07/19 13:34	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.69	1		01/07/19 13:34	142-28-9	
2,2-Dichloropropane	ND	ug/L	2.0	0.23	1		01/07/19 13:34	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	0.60	1		01/07/19 13:34	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.22	1		01/07/19 13:34	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.30	1		01/07/19 13:34	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.45	1		01/07/19 13:34	100-41-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Sample: Trip Blank **Lab ID: 2613208007** Collected: 12/27/18 00:00 Received: 12/29/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
Ethyl methacrylate	ND	ug/L	10.0	0.59	1		01/07/19 13:34	97-63-2	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	1.2	1		01/07/19 13:34	87-68-3	
2-Hexanone	ND	ug/L	10.0	0.89	1		01/07/19 13:34	591-78-6	
Iodomethane	ND	ug/L	10.0	3.1	1		01/07/19 13:34	74-88-4	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	0.43	1		01/07/19 13:34	98-82-8	
p-Isopropyltoluene	ND	ug/L	5.0	0.47	1		01/07/19 13:34	99-87-6	
Methacrylonitrile	ND	ug/L	10.0	0.79	1		01/07/19 13:34	126-98-7	
Methyl acrylate	ND	ug/L	10.0	0.89	1		01/07/19 13:34	96-33-3	
Methylene Chloride	ND	ug/L	1.0	0.50	1		01/07/19 13:34	75-09-2	
Methyl methacrylate	ND	ug/L	10.0	0.89	1		01/07/19 13:34	80-62-6	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.86	1		01/07/19 13:34	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	10.0	1.6	1		01/07/19 13:34	1634-04-4	
Naphthalene	ND	ug/L	5.0	0.30	1		01/07/19 13:34	91-20-3	
2-Nitropropane	ND	ug/L	10.0	2.1	1		01/07/19 13:34	79-46-9	
Propionitrile	ND	ug/L	10.0	3.1	1		01/07/19 13:34	107-12-0	
n-Propylbenzene	ND	ug/L	5.0	0.50	1		01/07/19 13:34	103-65-1	
Styrene	ND	ug/L	1.0	0.50	1		01/07/19 13:34	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	2.0	0.32	1		01/07/19 13:34	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.0	0.53	1		01/07/19 13:34	79-34-5	
Tetrachloroethene	ND	ug/L	0.78	0.78	1		01/07/19 13:34	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1.3	1		01/07/19 13:34	109-99-9	
Toluene	ND	ug/L	1.0	0.31	1		01/07/19 13:34	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	0.53	1		01/07/19 13:34	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	0.47	1		01/07/19 13:34	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.38	1		01/07/19 13:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.59	1		01/07/19 13:34	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.34	1		01/07/19 13:34	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.51	1		01/07/19 13:34	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.46	1		01/07/19 13:34	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	5.0	0.46	1		01/07/19 13:34	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	5.0	0.62	1		01/07/19 13:34	108-67-8	
Vinyl acetate	ND	ug/L	5.0	0.42	1		01/07/19 13:34	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.60	1		01/07/19 13:34	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1.5	1		01/07/19 13:34	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.92	1		01/07/19 13:34	179601-23-1	
o-Xylene	ND	ug/L	2.0	0.54	1		01/07/19 13:34	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%.	81-119		1		01/07/19 13:34	17060-07-0	
Dibromofluoromethane (S)	98	%.	82-114		1		01/07/19 13:34	1868-53-7	
4-Bromofluorobenzene (S)	102	%.	82-120		1		01/07/19 13:34	460-00-4	
Toluene-d8 (S)	97	%.	82-109		1		01/07/19 13:34	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

QC Batch: 20015 Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A Analysis Description: 6010D MET
Associated Lab Samples: 2613208001, 2613208002, 2613208003, 2613208004

METHOD BLANK: 90058 Matrix: Water
Associated Lab Samples: 2613208001, 2613208002, 2613208003, 2613208004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	ug/L	9.2J	40.0	2.0	01/04/19 12:28	

LABORATORY CONTROL SAMPLE: 90059

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	1000	999	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 90060 90061

Parameter	Units	2613252002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	46000	1000	1000	46200	46100	15	5	75-125	0	20	M1

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

QC Batch: 20104 Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A Analysis Description: 6010D MET Dissolved
Associated Lab Samples: 2613208001, 2613208002, 2613208003, 2613208004

METHOD BLANK: 90471 Matrix: Water
Associated Lab Samples: 2613208001, 2613208002, 2613208003, 2613208004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	4.4J	40.0	2.0	01/07/19 14:43	

LABORATORY CONTROL SAMPLE: 90472

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	1000	969	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 90473 90474

Parameter	Units	2613208001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	615	1000	1000	1520	1560	88	93	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

QC Batch: 19946 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035 Analysis Description: 8260 MSV 5035
Associated Lab Samples: 2613208005, 2613208006

METHOD BLANK: 89805 Matrix: Solid
Associated Lab Samples: 2613208005, 2613208006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	250	10.0	01/02/19 10:12	
1,1,1-Trichloroethane	ug/kg	ND	250	24.5	01/02/19 10:12	
1,1,2,2-Tetrachloroethane	ug/kg	ND	250	16.5	01/02/19 10:12	
1,1,2-Trichloroethane	ug/kg	ND	250	10.5	01/02/19 10:12	
1,1-Dichloroethane	ug/kg	ND	250	20.5	01/02/19 10:12	
1,1-Dichloroethene	ug/kg	ND	250	13.5	01/02/19 10:12	
1,1-Dichloropropene	ug/kg	ND	250	6.5	01/02/19 10:12	
1,2,3-Trichlorobenzene	ug/kg	ND	250	24.5	01/02/19 10:12	
1,2,3-Trichloropropane	ug/kg	ND	250	21.0	01/02/19 10:12	
1,2,4-Trichlorobenzene	ug/kg	ND	250	15.5	01/02/19 10:12	
1,2,4-Trimethylbenzene	ug/kg	ND	250	14.5	01/02/19 10:12	
1,2-Dibromo-3-chloropropane	ug/kg	ND	250	20.0	01/02/19 10:12	
1,2-Dibromoethane (EDB)	ug/kg	ND	250	15.0	01/02/19 10:12	
1,2-Dichlorobenzene	ug/kg	ND	250	14.0	01/02/19 10:12	
1,2-Dichloroethane	ug/kg	ND	250	14.0	01/02/19 10:12	
1,2-Dichloropropane	ug/kg	ND	250	17.5	01/02/19 10:12	
1,3,5-Trimethylbenzene	ug/kg	ND	250	5.5	01/02/19 10:12	
1,3-Dichlorobenzene	ug/kg	ND	250	10.5	01/02/19 10:12	
1,3-Dichloropropane	ug/kg	ND	250	17.5	01/02/19 10:12	
1,4-Dichlorobenzene	ug/kg	ND	250	11.5	01/02/19 10:12	
2,2-Dichloropropane	ug/kg	ND	250	17.5	01/02/19 10:12	
2-Butanone (MEK)	ug/kg	ND	5000	65.0	01/02/19 10:12	
2-Chlorotoluene	ug/kg	ND	250	15.5	01/02/19 10:12	
2-Hexanone	ug/kg	ND	2500	35.5	01/02/19 10:12	
4-Chlorotoluene	ug/kg	ND	250	12.0	01/02/19 10:12	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	2500	33.5	01/02/19 10:12	
Acetone	ug/kg	ND	5000	125	01/02/19 10:12	
Acrolein	ug/kg	ND	2500	90.0	01/02/19 10:12	
Acrylonitrile	ug/kg	ND	2500	36.0	01/02/19 10:12	
Benzene	ug/kg	ND	250	8.5	01/02/19 10:12	
Bromobenzene	ug/kg	ND	250	12.5	01/02/19 10:12	
Bromochloromethane	ug/kg	ND	250	36.5	01/02/19 10:12	
Bromodichloromethane	ug/kg	ND	250	13.0	01/02/19 10:12	
Bromoform	ug/kg	ND	250	34.0	01/02/19 10:12	
Bromomethane	ug/kg	ND	500	40.0	01/02/19 10:12	
Carbon disulfide	ug/kg	ND	500	14.0	01/02/19 10:12	
Carbon tetrachloride	ug/kg	ND	250	24.5	01/02/19 10:12	
Chlorobenzene	ug/kg	ND	250	34.5	01/02/19 10:12	
Chloroethane	ug/kg	ND	250	25.0	01/02/19 10:12	
Chloroform	ug/kg	ND	250	8.5	01/02/19 10:12	
Chloromethane	ug/kg	ND	500	9.5	01/02/19 10:12	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

METHOD BLANK: 89805 Matrix: Solid
Associated Lab Samples: 2613208005, 2613208006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/kg	ND	250	24.0	01/02/19 10:12	
cis-1,3-Dichloropropene	ug/kg	ND	250	15.5	01/02/19 10:12	
Dibromochloromethane	ug/kg	ND	250	5.0	01/02/19 10:12	
Dibromomethane	ug/kg	ND	250	27.0	01/02/19 10:12	
Dichlorodifluoromethane	ug/kg	ND	500	16.0	01/02/19 10:12	
Diisopropyl ether	ug/kg	ND	250	26.0	01/02/19 10:12	
Ethylbenzene	ug/kg	ND	250	9.5	01/02/19 10:12	
Isopropylbenzene (Cumene)	ug/kg	ND	250	10.5	01/02/19 10:12	
m&p-Xylene	ug/kg	ND	250	15.0	01/02/19 10:12	
Methyl-tert-butyl ether	ug/kg	ND	250	29.5	01/02/19 10:12	
Methylene Chloride	ug/kg	ND	1000	28.5	01/02/19 10:12	
n-Butylbenzene	ug/kg	ND	250	11.0	01/02/19 10:12	
n-Propylbenzene	ug/kg	ND	250	12.0	01/02/19 10:12	
Naphthalene	ug/kg	ND	250	21.5	01/02/19 10:12	
o-Xylene	ug/kg	ND	250	12.5	01/02/19 10:12	
p-Isopropyltoluene	ug/kg	ND	250	10.0	01/02/19 10:12	
sec-Butylbenzene	ug/kg	ND	250	10.0	01/02/19 10:12	
Styrene	ug/kg	ND	250	9.5	01/02/19 10:12	
tert-Butylbenzene	ug/kg	ND	250	10.0	01/02/19 10:12	
Tetrachloroethene	ug/kg	ND	250	17.5	01/02/19 10:12	
Toluene	ug/kg	ND	250	24.5	01/02/19 10:12	
trans-1,2-Dichloroethene	ug/kg	ND	250	12.5	01/02/19 10:12	
trans-1,3-Dichloropropene	ug/kg	ND	250	15.5	01/02/19 10:12	
Trichloroethene	ug/kg	ND	250	12.5	01/02/19 10:12	
Trichlorofluoromethane	ug/kg	ND	250	16.0	01/02/19 10:12	
Vinyl acetate	ug/kg	ND	500	50.5	01/02/19 10:12	
Vinyl chloride	ug/kg	ND	500	7.5	01/02/19 10:12	
Xylene (Total)	ug/kg	ND	500	27.5	01/02/19 10:12	
1,2-Dichloroethane-d4 (S)	%.	127	69-133		01/02/19 10:12	
4-Bromofluorobenzene (S)	%.	114	77-124		01/02/19 10:12	
Dibromofluoromethane (S)	%.	108	73-114		01/02/19 10:12	
Toluene-d8 (S)	%.	103	85-109		01/02/19 10:12	

METHOD BLANK: 89809 Matrix: Solid
Associated Lab Samples: 2613208005, 2613208006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	0.20	01/02/19 10:36	
1,1,1-Trichloroethane	ug/kg	ND	5.0	0.49	01/02/19 10:36	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	0.33	01/02/19 10:36	
1,1,2-Trichloroethane	ug/kg	ND	5.0	0.21	01/02/19 10:36	
1,1-Dichloroethane	ug/kg	ND	5.0	0.41	01/02/19 10:36	
1,1-Dichloroethene	ug/kg	ND	5.0	0.27	01/02/19 10:36	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

METHOD BLANK: 89809 Matrix: Solid
Associated Lab Samples: 2613208005, 2613208006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1-Dichloropropene	ug/kg	ND	5.0	0.13	01/02/19 10:36	
1,2,3-Trichlorobenzene	ug/kg	ND	5.0	0.49	01/02/19 10:36	
1,2,3-Trichloropropane	ug/kg	ND	5.0	0.42	01/02/19 10:36	
1,2,4-Trichlorobenzene	ug/kg	ND	5.0	0.31	01/02/19 10:36	
1,2,4-Trimethylbenzene	ug/kg	ND	5.0	0.29	01/02/19 10:36	
1,2-Dibromo-3-chloropropane	ug/kg	ND	5.0	0.40	01/02/19 10:36	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	0.30	01/02/19 10:36	
1,2-Dichlorobenzene	ug/kg	ND	5.0	0.28	01/02/19 10:36	
1,2-Dichloroethane	ug/kg	ND	5.0	0.28	01/02/19 10:36	
1,2-Dichloropropane	ug/kg	ND	5.0	0.35	01/02/19 10:36	
1,3,5-Trimethylbenzene	ug/kg	ND	5.0	0.11	01/02/19 10:36	
1,3-Dichlorobenzene	ug/kg	ND	5.0	0.21	01/02/19 10:36	
1,3-Dichloropropane	ug/kg	ND	5.0	0.35	01/02/19 10:36	
1,4-Dichlorobenzene	ug/kg	ND	5.0	0.23	01/02/19 10:36	
2,2-Dichloropropane	ug/kg	ND	5.0	0.35	01/02/19 10:36	
2-Butanone (MEK)	ug/kg	ND	100	1.3	01/02/19 10:36	
2-Chlorotoluene	ug/kg	ND	5.0	0.31	01/02/19 10:36	
2-Hexanone	ug/kg	ND	50.0	0.71	01/02/19 10:36	
4-Chlorotoluene	ug/kg	ND	5.0	0.24	01/02/19 10:36	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	50.0	0.67	01/02/19 10:36	
Acetone	ug/kg	ND	100	2.5	01/02/19 10:36	
Acrolein	ug/kg	ND	50.0	1.8	01/02/19 10:36	
Acrylonitrile	ug/kg	ND	50.0	0.72	01/02/19 10:36	
Benzene	ug/kg	ND	5.0	0.17	01/02/19 10:36	
Bromobenzene	ug/kg	ND	5.0	0.25	01/02/19 10:36	
Bromochloromethane	ug/kg	ND	5.0	0.73	01/02/19 10:36	
Bromodichloromethane	ug/kg	ND	5.0	0.26	01/02/19 10:36	
Bromoform	ug/kg	ND	5.0	0.68	01/02/19 10:36	
Bromomethane	ug/kg	ND	10.0	0.80	01/02/19 10:36	
Carbon disulfide	ug/kg	ND	10.0	0.28	01/02/19 10:36	
Carbon tetrachloride	ug/kg	ND	5.0	0.49	01/02/19 10:36	
Chlorobenzene	ug/kg	ND	5.0	0.69	01/02/19 10:36	
Chloroethane	ug/kg	ND	5.0	0.50	01/02/19 10:36	
Chloroform	ug/kg	ND	5.0	0.17	01/02/19 10:36	
Chloromethane	ug/kg	ND	10.0	0.19	01/02/19 10:36	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	0.48	01/02/19 10:36	
cis-1,3-Dichloropropene	ug/kg	ND	5.0	0.31	01/02/19 10:36	
Dibromochloromethane	ug/kg	ND	5.0	0.10	01/02/19 10:36	
Dibromomethane	ug/kg	ND	5.0	0.54	01/02/19 10:36	
Dichlorodifluoromethane	ug/kg	ND	10.0	0.32	01/02/19 10:36	
Diisopropyl ether	ug/kg	ND	5.0	0.52	01/02/19 10:36	
Ethylbenzene	ug/kg	ND	5.0	0.19	01/02/19 10:36	
Isopropylbenzene (Cumene)	ug/kg	ND	5.0	0.21	01/02/19 10:36	
m&p-Xylene	ug/kg	ND	5.0	0.30	01/02/19 10:36	
Methyl-tert-butyl ether	ug/kg	ND	5.0	0.59	01/02/19 10:36	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

METHOD BLANK: 89809 Matrix: Solid
Associated Lab Samples: 2613208005, 2613208006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Methylene Chloride	ug/kg	ND	20.0	0.57	01/02/19 10:36	
n-Butylbenzene	ug/kg	ND	5.0	0.22	01/02/19 10:36	
n-Propylbenzene	ug/kg	ND	5.0	0.24	01/02/19 10:36	
Naphthalene	ug/kg	ND	5.0	0.43	01/02/19 10:36	
o-Xylene	ug/kg	ND	5.0	0.25	01/02/19 10:36	
p-Isopropyltoluene	ug/kg	ND	5.0	0.20	01/02/19 10:36	
sec-Butylbenzene	ug/kg	ND	5.0	0.20	01/02/19 10:36	
Styrene	ug/kg	ND	5.0	0.19	01/02/19 10:36	
tert-Butylbenzene	ug/kg	ND	5.0	0.20	01/02/19 10:36	
Tetrachloroethene	ug/kg	ND	5.0	0.35	01/02/19 10:36	
Toluene	ug/kg	ND	5.0	0.49	01/02/19 10:36	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	0.25	01/02/19 10:36	
trans-1,3-Dichloropropene	ug/kg	ND	5.0	0.31	01/02/19 10:36	
Trichloroethene	ug/kg	ND	5.0	0.25	01/02/19 10:36	
Trichlorofluoromethane	ug/kg	ND	5.0	0.32	01/02/19 10:36	
Vinyl acetate	ug/kg	ND	10.0	1.0	01/02/19 10:36	
Vinyl chloride	ug/kg	ND	10.0	0.15	01/02/19 10:36	
Xylene (Total)	ug/kg	ND	10.0	0.55	01/02/19 10:36	
1,2-Dichloroethane-d4 (S)	%.	124	69-133		01/02/19 10:36	
4-Bromofluorobenzene (S)	%.	114	77-124		01/02/19 10:36	
Dibromofluoromethane (S)	%.	110	73-114		01/02/19 10:36	
Toluene-d8 (S)	%.	103	85-109		01/02/19 10:36	

LABORATORY CONTROL SAMPLE: 89806

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	50	56.6	113	61-133	
1,1,1-Trichloroethane	ug/kg	50	56.7	113	71-149	
1,1,2,2-Tetrachloroethane	ug/kg	50	48.3	97	70-134	
1,1,2-Trichloroethane	ug/kg	50	48.3	97	74-139	
1,1-Dichloroethane	ug/kg	50	49.0	98	81-140	
1,1-Dichloroethene	ug/kg	50	48.3	97	68-150	
1,1-Dichloropropene	ug/kg	50	49.1	98	71-139	
1,2,3-Trichlorobenzene	ug/kg	50	54.3	109	40-164	
1,2,3-Trichloropropane	ug/kg	50	51.8	104	72-141	
1,2,4-Trichlorobenzene	ug/kg	50	55.1	110	49-147	
1,2,4-Trimethylbenzene	ug/kg	50	51.5	103	64-137	
1,2-Dibromo-3-chloropropane	ug/kg	50	52.6	105	80-134	
1,2-Dibromoethane (EDB)	ug/kg	50	48.9	98	70-143	
1,2-Dichlorobenzene	ug/kg	50	50.1	100	59-162	
1,2-Dichloroethane	ug/kg	50	51.0	102	69-135	
1,2-Dichloropropane	ug/kg	50	45.6	91	68-147	
1,3,5-Trimethylbenzene	ug/kg	50	51.9	104	68-138	
1,3-Dichlorobenzene	ug/kg	50	51.0	102	67-152	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

LABORATORY CONTROL SAMPLE: 89806

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3-Dichloropropane	ug/kg	50	48.7	97	67-143	
1,4-Dichlorobenzene	ug/kg	50	51.1	102	72-138	
2,2-Dichloropropane	ug/kg	50	60.1	120	56-162	
2-Butanone (MEK)	ug/kg	100	87.2J	87	52-163	
2-Chlorotoluene	ug/kg	50	48.8	98	69-142	
2-Hexanone	ug/kg	100	91.7	92	60-186	
4-Chlorotoluene	ug/kg	50	50.1	100	64-137	
4-Methyl-2-pentanone (MIBK)	ug/kg	100	92.1	92	80-129	
Acetone	ug/kg	100	96.0J	96	52-160	
Acrolein	ug/kg	100	98.8	99	42-183	
Acrylonitrile	ug/kg	200	168	84	63-133	
Benzene	ug/kg	50	47.3	95	70-141	
Bromobenzene	ug/kg	50	48.6	97	70-143	
Bromochloromethane	ug/kg	50	49.5	99	74-141	
Bromodichloromethane	ug/kg	50	53.3	107	68-125	
Bromoform	ug/kg	50	53.0	106	65-140	
Bromomethane	ug/kg	50	56.9	114	41-148	
Carbon disulfide	ug/kg	100	88.9	89	72-138	
Carbon tetrachloride	ug/kg	50	58.4	117	57-146	
Chlorobenzene	ug/kg	50	50.1	100	65-133	
Chloroethane	ug/kg	50	51.5	103	48-143	
Chloroform	ug/kg	50	52.6	105	72-138	
Chloromethane	ug/kg	50	46.4	93	41-147	
cis-1,2-Dichloroethene	ug/kg	50	48.5	97	71-142	
cis-1,3-Dichloropropene	ug/kg	50	49.3	99	69-129	
Dibromochloromethane	ug/kg	50	52.0	104	64-122	
Dibromomethane	ug/kg	50	51.3	103	68-147	
Dichlorodifluoromethane	ug/kg	50	61.5	123	18-147	
Diisopropyl ether	ug/kg	50	44.3	89	62-144	
Ethylbenzene	ug/kg	50	50.9	102	70-143	
Isopropylbenzene (Cumene)	ug/kg	50	51.8	104	65-140	
m&p-Xylene	ug/kg	100	104	104	80-120	
Methyl-tert-butyl ether	ug/kg	100	105	105	80-126	
Methylene Chloride	ug/kg	50	47.9	96	71-136	
n-Butylbenzene	ug/kg	50	49.8	100	46-179	
n-Propylbenzene	ug/kg	50	49.6	99	65-150	
Naphthalene	ug/kg	50	51.7	103	47-167	
o-Xylene	ug/kg	50	52.4	105	70-141	
p-Isopropyltoluene	ug/kg	50	51.9	104	70-134	
sec-Butylbenzene	ug/kg	50	50.5	101	70-141	
Styrene	ug/kg	50	52.9	106	68-134	
tert-Butylbenzene	ug/kg	50	51.6	103	66-142	
Tetrachloroethene	ug/kg	50	48.5	97	59-144	
Toluene	ug/kg	50	46.8	94	62-142	
trans-1,2-Dichloroethene	ug/kg	50	48.0	96	71-138	
trans-1,3-Dichloropropene	ug/kg	50	51.3	103	68-131	
Trichloroethene	ug/kg	50	47.6	95	65-152	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

LABORATORY CONTROL SAMPLE: 89806

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/kg	50	55.9	112	64-133	
Vinyl acetate	ug/kg	50	42.5	85	36-122	
Vinyl chloride	ug/kg	50	52.7	105	53-141	
Xylene (Total)	ug/kg	150	156	104	61-122	
1,2-Dichloroethane-d4 (S)	%.			124	69-133	
4-Bromofluorobenzene (S)	%.			112	77-124	
Dibromofluoromethane (S)	%.			112	73-114	
Toluene-d8 (S)	%.			102	85-109	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 89807 89808

Parameter	Units	2613076022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/kg		2720	2720	2720	2730	100	100	30-131	0	26	
1,1,1-Trichloroethane	ug/kg		2720	2720	2890	2900	106	106	42-146	0	25	
1,1,2,2-Tetrachloroethane	ug/kg		2720	2720	2470	2500	91	92	25-144	1	18	
1,1,2-Trichloroethane	ug/kg		2720	2720	2600	2550	95	94	52-130	2	26	
1,1-Dichloroethane	ug/kg		2720	2720	2480	2480	91	91	52-145	0	24	
1,1-Dichloroethene	ug/kg		2720	2720	2470	2530	91	93	39-154	2	27	
1,1-Dichloropropene	ug/kg		2720	2720	2460	2480	90	91	45-137	1	26	
1,2,3-Trichlorobenzene	ug/kg		2720	2720	2740	2870	101	105	32-136	5	21	
1,2,3-Trichloropropane	ug/kg		2720	2720	2550	2520	94	92	26-154	1	34	
1,2,4-Trichlorobenzene	ug/kg		2720	2720	2760	2800	101	103	21-130	1	28	
1,2,4-Trimethylbenzene	ug/kg		2720	2720	2390	2400	88	88	13-152	0	31	
1,2-Dibromo-3-chloropropane	ug/kg		2720	2720	2410	2530	89	93	42-120	5	81	
1,2-Dibromoethane (EDB)	ug/kg		2720	2720	2580	2580	95	95	39-139	0	29	
1,2-Dichlorobenzene	ug/kg		2720	2720	2590	2610	95	96	10-182	1	64	
1,2-Dichloroethane	ug/kg		2720	2720	2770	2750	102	101	58-118	1	23	
1,2-Dichloropropane	ug/kg		2720	2720	2210	2320	81	85	51-136	5	24	
1,3,5-Trimethylbenzene	ug/kg		2720	2720	2660	2650	98	97	22-146	1	31	
1,3-Dichlorobenzene	ug/kg		2720	2720	2550	2550	93	94	15-161	0	42	
1,3-Dichloropropane	ug/kg		2720	2720	2490	2570	91	94	45-134	3	27	
1,4-Dichlorobenzene	ug/kg		2720	2720	2570	2560	94	94	15-164	0	36	
2,2-Dichloropropane	ug/kg		2720	2720	2970	2960	109	109	29-149	0	27	
2-Butanone (MEK)	ug/kg		5450	5450	3540J	3570J	65	66	22-158		30	
2-Chlorotoluene	ug/kg		2720	2720	2530	2510	93	92	16-156	1	33	
2-Hexanone	ug/kg		5450	5450	3850	3970	71	73	10-198	3	50	
4-Chlorotoluene	ug/kg		2720	2720	2490	2450	91	90	11-151	1	35	
4-Methyl-2-pentanone (MIBK)	ug/kg		5450	5450	4390	4310	81	79	29-135	2	33	
Acetone	ug/kg		5450	5450	3310J	3770J	59	68	59-136		27	
Acrolein	ug/kg		5450	5450	4530	4590	83	84	23-177	1	22	
Acrylonitrile	ug/kg		10900	10900	8230	8240	75	76	38-130	0	23	
Benzene	ug/kg		2720	2720	2430	2430	89	89	42-140	0	25	
Bromobenzene	ug/kg		2720	2720	2510	2480	92	91	18-156	1	34	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 89807 89808

Parameter	Units	2613076022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromochloromethane	ug/kg		2720	2720	2520	2510	93	92	59-127	1	22	
Bromodichloromethane	ug/kg		2720	2720	2510	2580	92	95	39-123	3	24	
Bromoform	ug/kg		2720	2720	2470	2490	91	91	30-136	1	22	
Bromomethane	ug/kg		2720	2720	1950	1880	72	69	10-164	4	31	
Carbon disulfide	ug/kg		5450	5450	3960	4060	73	74	55-135	2	24	
Carbon tetrachloride	ug/kg		2720	2720	2760	2760	101	101	33-136	0	27	
Chlorobenzene	ug/kg		2720	2720	2560	2570	94	94	28-144	0	31	
Chloroethane	ug/kg		2720	2720	1670	694	61	25	10-163	82	30	R1
Chloroform	ug/kg		2720	2720	2680	2710	98	100	52-131	1	23	
Chloromethane	ug/kg		2720	2720	2250	2330	83	85	28-149	3	28	
cis-1,2-Dichloroethene	ug/kg		2720	2720	2470	2510	91	92	50-134	1	23	
cis-1,3-Dichloropropene	ug/kg		2720	2720	2390	2470	88	91	39-125	3	28	
Dibromochloromethane	ug/kg		2720	2720	2380	2470	87	91	32-118	4	29	
Dibromomethane	ug/kg		2720	2720	2730	2860	100	105	50-133	5	22	
Dichlorodifluoromethane	ug/kg		2720	2720	2660	2780	97	102	10-158	5	44	
Diisopropyl ether	ug/kg		2720	2720	2180	2200	80	81	44-135	1	29	
Ethylbenzene	ug/kg		2720	2720	2610	2600	96	95	13-164	0	33	
Isopropylbenzene (Cumene)	ug/kg		2720	2720	2550	2450	94	90	13-156	4	33	
m&p-Xylene	ug/kg		5450	5450	5330	5320	98	98	34-120	0	100	
Methyl-tert-butyl ether	ug/kg		5450	5450	5200	5380	95	99	73-131	4	36	
Methylene Chloride	ug/kg		2720	2720	2480	2500	91	92	53-138	1	26	
n-Butylbenzene	ug/kg		2720	2720	2360	2360	87	87	21-161	0	34	
n-Propylbenzene	ug/kg		2720	2720	2470	2470	91	91	16-158	0	34	
Naphthalene	ug/kg		2720	2720	2820	2830	104	104	31-150	0	30	
o-Xylene	ug/kg		2720	2720	2770	2780	102	102	13-160	0	29	
p-Isopropyltoluene	ug/kg		2720	2720	2390	2430	88	89	10-164	2	33	
sec-Butylbenzene	ug/kg		2720	2720	2430	2410	89	89	12-164	1	34	
Styrene	ug/kg		2720	2720	2750	2730	101	100	16-151	1	33	
tert-Butylbenzene	ug/kg		2720	2720	2360	2340	87	86	10-160	1	33	
Tetrachloroethene	ug/kg		2720	2720	2450	2470	90	91	33-141	1	32	
Toluene	ug/kg	ND	2720	2720	2360	2410	87	89	32-145	2	31	
trans-1,2-Dichloroethene	ug/kg		2720	2720	2470	2500	91	92	43-144	1	26	
trans-1,3-Dichloropropene	ug/kg		2720	2720	2420	2480	89	91	30-130	3	33	
Trichloroethene	ug/kg		2720	2720	2220	2320	82	85	16-172	4	30	
Trichlorofluoromethane	ug/kg		2720	2720	2680	2670	98	98	14-149	1	32	
Vinyl acetate	ug/kg		2720	2720	1980	2050	73	75	10-120	3	74	
Vinyl chloride	ug/kg		2720	2720	2580	2650	95	97	40-140	3	28	
Xylene (Total)	ug/kg		8170	8170	8090	8090	99	99	19-120	0	28	
1,2-Dichloroethane-d4 (S)	%.						121	122	69-133			
4-Bromofluorobenzene (S)	%.						108	110	77-124			
Dibromofluoromethane (S)	%.						109	112	73-114			
Toluene-d8 (S)	%.						101	102	85-109			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

QC Batch: 20188 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV
Associated Lab Samples: 2613208001, 2613208002, 2613208003, 2613208004, 2613208007

METHOD BLANK: 90762 Matrix: Water
Associated Lab Samples: 2613208001, 2613208002, 2613208003, 2613208004, 2613208007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	2.0	0.32	01/07/19 13:04	
1,1,1-Trichloroethane	ug/L	ND	1.0	0.38	01/07/19 13:04	
1,1,2,2-Tetrachloroethane	ug/L	ND	2.0	0.53	01/07/19 13:04	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.59	01/07/19 13:04	
1,1-Dichloroethane	ug/L	ND	1.0	0.41	01/07/19 13:04	
1,1-Dichloroethene	ug/L	ND	1.0	0.72	01/07/19 13:04	
1,1-Dichloropropene	ug/L	ND	1.0	0.60	01/07/19 13:04	
1,2,3-Trichlorobenzene	ug/L	ND	5.0	0.53	01/07/19 13:04	
1,2,3-Trichloropropane	ug/L	ND	1.0	0.46	01/07/19 13:04	
1,2,4-Trichlorobenzene	ug/L	ND	5.0	0.47	01/07/19 13:04	
1,2,4-Trimethylbenzene	ug/L	ND	5.0	0.46	01/07/19 13:04	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	0.55	01/07/19 13:04	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	0.28	01/07/19 13:04	
1,2-Dichlorobenzene	ug/L	ND	1.0	0.49	01/07/19 13:04	
1,2-Dichloroethane	ug/L	ND	1.0	0.67	01/07/19 13:04	
1,2-Dichloropropane	ug/L	ND	1.0	0.60	01/07/19 13:04	
1,3,5-Trimethylbenzene	ug/L	ND	5.0	0.62	01/07/19 13:04	
1,3-Dichlorobenzene	ug/L	ND	1.0	0.59	01/07/19 13:04	
1,3-Dichloropropane	ug/L	ND	1.0	0.69	01/07/19 13:04	
1,4-Dichlorobenzene	ug/L	ND	1.0	0.58	01/07/19 13:04	
2,2-Dichloropropane	ug/L	ND	2.0	0.23	01/07/19 13:04	
2-Butanone (MEK)	ug/L	ND	10.0	3.2	01/07/19 13:04	
2-Chloroethylvinyl ether	ug/L	ND	2.0	0.41	01/07/19 13:04	
2-Chlorotoluene	ug/L	ND	1.0	0.26	01/07/19 13:04	
2-Hexanone	ug/L	ND	10.0	0.89	01/07/19 13:04	
2-Nitropropane	ug/L	ND	10.0	2.1	01/07/19 13:04	
4-Chlorotoluene	ug/L	ND	1.0	0.68	01/07/19 13:04	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	0.86	01/07/19 13:04	
Acetone	ug/L	ND	10.0	8.2	01/07/19 13:04	
Acrolein	ug/L	ND	10.0	7.8	01/07/19 13:04	
Acrylonitrile	ug/L	ND	10.0	2.5	01/07/19 13:04	
Allyl chloride	ug/L	ND	5.0	0.96	01/07/19 13:04	
Benzene	ug/L	ND	1.0	0.20	01/07/19 13:04	
Bromobenzene	ug/L	ND	5.0	0.58	01/07/19 13:04	
Bromochloromethane	ug/L	ND	2.0	0.50	01/07/19 13:04	
Bromodichloromethane	ug/L	ND	1.0	0.36	01/07/19 13:04	
Bromoform	ug/L	ND	2.0	0.55	01/07/19 13:04	
Bromomethane	ug/L	ND	2.0	0.95	01/07/19 13:04	
Carbon disulfide	ug/L	ND	5.0	0.79	01/07/19 13:04	
Carbon tetrachloride	ug/L	ND	1.0	0.42	01/07/19 13:04	
Chlorobenzene	ug/L	ND	2.0	0.53	01/07/19 13:04	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

METHOD BLANK: 90762 Matrix: Water
Associated Lab Samples: 2613208001, 2613208002, 2613208003, 2613208004, 2613208007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloroethane	ug/L	ND	1.0	0.52	01/07/19 13:04	
Chloroform	ug/L	ND	1.0	0.58	01/07/19 13:04	
Chloromethane	ug/L	ND	1.0	0.38	01/07/19 13:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.66	01/07/19 13:04	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.22	01/07/19 13:04	
Dibromochloromethane	ug/L	ND	2.0	0.31	01/07/19 13:04	
Dibromomethane	ug/L	ND	2.0	0.62	01/07/19 13:04	
Dichlorodifluoromethane	ug/L	ND	2.0	0.48	01/07/19 13:04	
Ethyl methacrylate	ug/L	ND	10.0	0.59	01/07/19 13:04	
Ethylbenzene	ug/L	ND	1.0	0.45	01/07/19 13:04	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	1.2	01/07/19 13:04	
Iodomethane	ug/L	ND	10.0	3.1	01/07/19 13:04	
Isopropylbenzene (Cumene)	ug/L	ND	5.0	0.43	01/07/19 13:04	
m&p-Xylene	ug/L	ND	2.0	0.92	01/07/19 13:04	
Methacrylonitrile	ug/L	ND	10.0	0.79	01/07/19 13:04	
Methyl acrylate	ug/L	ND	10.0	0.89	01/07/19 13:04	
Methyl methacrylate	ug/L	ND	10.0	0.89	01/07/19 13:04	
Methyl-tert-butyl ether	ug/L	ND	10.0	1.6	01/07/19 13:04	
Methylene Chloride	ug/L	ND	1.0	0.50	01/07/19 13:04	
n-Butyl chloride	ug/L	ND	10.0	0.85	01/07/19 13:04	
n-Butylbenzene	ug/L	ND	5.0	0.57	01/07/19 13:04	
n-Propylbenzene	ug/L	ND	5.0	0.50	01/07/19 13:04	
Naphthalene	ug/L	ND	5.0	0.30	01/07/19 13:04	
o-Xylene	ug/L	ND	2.0	0.54	01/07/19 13:04	
p-Isopropyltoluene	ug/L	ND	5.0	0.47	01/07/19 13:04	
Propionitrile	ug/L	ND	10.0	3.1	01/07/19 13:04	
sec-Butylbenzene	ug/L	ND	5.0	0.48	01/07/19 13:04	
Styrene	ug/L	ND	1.0	0.50	01/07/19 13:04	
tert-Butylbenzene	ug/L	ND	5.0	0.47	01/07/19 13:04	
Tetrachloroethene	ug/L	ND	0.78	0.78	01/07/19 13:04	
Tetrahydrofuran	ug/L	ND	10.0	1.3	01/07/19 13:04	
Toluene	ug/L	ND	1.0	0.31	01/07/19 13:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.46	01/07/19 13:04	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.30	01/07/19 13:04	
trans-1,4-Dichloro-2-butene	ug/L	ND	5.0	1.6	01/07/19 13:04	
Trichloroethene	ug/L	ND	1.0	0.34	01/07/19 13:04	
Trichlorofluoromethane	ug/L	ND	1.0	0.51	01/07/19 13:04	
Vinyl acetate	ug/L	ND	5.0	0.42	01/07/19 13:04	
Vinyl chloride	ug/L	ND	1.0	0.60	01/07/19 13:04	
Xylene (Total)	ug/L	ND	2.0	1.5	01/07/19 13:04	
1,2-Dichloroethane-d4 (S)	%.	103	81-119		01/07/19 13:04	
4-Bromofluorobenzene (S)	%.	102	82-120		01/07/19 13:04	
Dibromofluoromethane (S)	%.	97	82-114		01/07/19 13:04	
Toluene-d8 (S)	%.	97	82-109		01/07/19 13:04	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

LABORATORY CONTROL SAMPLE: 90763

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	51.0	102	68-137	
1,1,1-Trichloroethane	ug/L	50	64.5	129	72-134	
1,1,2,2-Tetrachloroethane	ug/L	50	51.0	102	51-158	
1,1,2-Trichloroethane	ug/L	50	57.3	115	78-131	
1,1-Dichloroethane	ug/L	50	58.3	117	69-151	
1,1-Dichloroethene	ug/L	50	63.2	126	64-158	
1,1-Dichloropropene	ug/L	50	57.4	115	70-133	
1,2,3-Trichlorobenzene	ug/L	50	53.3	107	73-130	
1,2,3-Trichloropropane	ug/L	50	44.7	89	78-133	
1,2,4-Trichlorobenzene	ug/L	50	53.5	107	51-163	
1,2,4-Trimethylbenzene	ug/L	50	48.9	98	63-137	
1,2-Dibromo-3-chloropropane	ug/L	50	44.5	89	58-124	
1,2-Dibromoethane (EDB)	ug/L	50	56.6	113	71-134	
1,2-Dichlorobenzene	ug/L	50	54.1	108	70-135	
1,2-Dichloroethane	ug/L	50	59.3	119	72-129	
1,2-Dichloropropane	ug/L	50	56.8	114	64-135	
1,3,5-Trimethylbenzene	ug/L	50	53.1	106	70-142	
1,3-Dichlorobenzene	ug/L	50	54.4	109	71-134	
1,3-Dichloropropane	ug/L	50	61.1	122	70-140	
1,4-Dichlorobenzene	ug/L	50	51.9	104	70-131	
2,2-Dichloropropane	ug/L	50	51.2	102	34-170	
2-Butanone (MEK)	ug/L	100	141	141	52-143	
2-Chloroethylvinyl ether	ug/L	50	114	228	67-145	L1
2-Chlorotoluene	ug/L	50	54.5	109	77-128	
2-Hexanone	ug/L	100	127	127	61-136	
2-Nitropropane	ug/L	100	82.0	82	50-136	
4-Chlorotoluene	ug/L	50	54.5	109	79-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	101	101	71-129	
Acetone	ug/L	100	171	171	48-224	
Acrolein	ug/L	100	109	109	57-185	
Acrylonitrile	ug/L	200	216	108	66-154	
Allyl chloride	ug/L	100	101	101	58-150	
Benzene	ug/L	50	59.4	119	68-132	
Bromobenzene	ug/L	50	49.3	99	75-122	
Bromochloromethane	ug/L	50	58.1	116	73-133	
Bromodichloromethane	ug/L	50	53.8	108	67-121	
Bromoform	ug/L	50	46.3	93	57-125	
Bromomethane	ug/L	50	46.1	92	35-156	
Carbon disulfide	ug/L	100	102	102	47-141	
Carbon tetrachloride	ug/L	50	61.9	124	66-122	L1
Chlorobenzene	ug/L	50	52.8	106	71-126	
Chloroethane	ug/L	50	46.7	93	43-143	
Chloroform	ug/L	50	58.9	118	71-136	
Chloromethane	ug/L	50	40.6	81	47-123	
cis-1,2-Dichloroethene	ug/L	50	60.3	121	74-131	
cis-1,3-Dichloropropene	ug/L	50	52.5	105	78-120	
Dibromochloromethane	ug/L	50	50.2	100	65-115	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

LABORATORY CONTROL SAMPLE: 90763

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromomethane	ug/L	50	63.9	128	79-129	
Dichlorodifluoromethane	ug/L	50	34.6	69	29-124	
Ethyl methacrylate	ug/L	100	99.0	99	75-130	
Ethylbenzene	ug/L	50	56.6	113	68-129	
Hexachloro-1,3-butadiene	ug/L	50	59.6	119	58-142	
Iodomethane	ug/L	100	107	107	49-154	
Isopropylbenzene (Cumene)	ug/L	50	50.3	101	64-129	
m&p-Xylene	ug/L	100	117	117	67-137	
Methacrylonitrile	ug/L	100	95.3	95	74-139	
Methyl acrylate	ug/L	100	102	102	66-142	
Methyl methacrylate	ug/L	100	95.8	96	75-133	
Methyl-tert-butyl ether	ug/L	100	106	106	59-130	
Methylene Chloride	ug/L	50	64.6	129	61-147	
n-Butyl chloride	ug/L	100	110	110	74-139	
n-Butylbenzene	ug/L	50	52.2	104	57-157	
n-Propylbenzene	ug/L	50	53.4	107	61-145	
Naphthalene	ug/L	50	51.8	104	48-144	
o-Xylene	ug/L	50	54.8	110	52-141	
p-Isopropyltoluene	ug/L	50	54.0	108	58-137	
Propionitrile	ug/L	100	102	102	69-139	
sec-Butylbenzene	ug/L	50	48.9	98	65-138	
Styrene	ug/L	50	53.3	107	77-128	
tert-Butylbenzene	ug/L	50	46.6	93	50-189	
Tetrachloroethene	ug/L	50	56.6	113	51-139	
Tetrahydrofuran	ug/L	100	104	104	56-147	
Toluene	ug/L	50	58.5	117	60-133	
trans-1,2-Dichloroethene	ug/L	50	64.0	128	69-144	
trans-1,3-Dichloropropene	ug/L	50	48.8	98	74-128	
trans-1,4-Dichloro-2-butene	ug/L	100	89.8	90	61-139	
Trichloroethene	ug/L	50	55.9	112	73-126	
Trichlorofluoromethane	ug/L	50	53.5	107	55-132	
Vinyl acetate	ug/L	50	56.5	113	52-141	
Vinyl chloride	ug/L	50	45.5	91	50-133	
Xylene (Total)	ug/L	150	172	114	78-132	
1,2-Dichloroethane-d4 (S)	%.			99	81-119	
4-Bromofluorobenzene (S)	%.			92	82-120	
Dibromofluoromethane (S)	%.			107	82-114	
Toluene-d8 (S)	%.			96	82-109	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 90764 90765

Parameter	Units	2613208001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	50	50	52.0	50.4	104	101	68-137	3	11	
1,1,1-Trichloroethane	ug/L	ND	50	50	63.1	62.2	126	124	66-142	1	11	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 90764 90765

Parameter	Units	2613208001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,2,2-Tetrachloroethane	ug/L	ND	50	50	53.1	51.5	106	103	39-171	3	13	
1,1,2-Trichloroethane	ug/L	ND	50	50	60.7	58.3	121	117	73-136	4	12	
1,1-Dichloroethane	ug/L	ND	50	50	60.4	58.7	121	117	66-155	3	15	
1,1-Dichloroethene	ug/L	ND	50	50	61.8	62.6	124	125	33-181	1	34	
1,1-Dichloropropene	ug/L	ND	50	50	56.6	54.8	113	110	70-133	3	12	
1,2,3-Trichlorobenzene	ug/L	ND	50	50	52.2	50.8	104	102	73-130	3	22	
1,2,3-Trichloropropane	ug/L	ND	50	50	44.9	43.0	90	86	78-133	4	14	
1,2,4-Trichlorobenzene	ug/L	ND	50	50	52.0	50.0	104	100	44-164	4	13	
1,2,4-Trimethylbenzene	ug/L	6.2	50	50	51.3	50.2	90	88	44-161	2	9	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	45.4	44.0	91	88	58-124	3	15	
1,2-Dibromoethane (EDB)	ug/L	ND	50	50	59.7	56.8	119	114	71-134	5	12	
1,2-Dichlorobenzene	ug/L	0.92J	50	50	55.4	54.3	109	107	69-135	2	10	
1,2-Dichloroethane	ug/L	ND	50	50	61.3	57.4	123	115	36-159	7	10	
1,2-Dichloropropane	ug/L	ND	50	50	58.6	57.4	117	115	68-132	2	11	
1,3,5-Trimethylbenzene	ug/L	ND	50	50	47.9	45.8	96	92	62-149	4	12	
1,3-Dichlorobenzene	ug/L	ND	50	50	53.9	51.6	108	103	68-135	4	10	
1,3-Dichloropropane	ug/L	ND	50	50	63.8	61.0	128	122	70-138	5	10	
1,4-Dichlorobenzene	ug/L	ND	50	50	53.2	50.7	105	100	49-153	5	9	
2,2-Dichloropropane	ug/L	ND	50	50	46.5	46.4	93	93	34-170	0	9	
2-Butanone (MEK)	ug/L	ND	100	100	88.0	84.1	88	84	10-189	5	23	
2-Chloroethylvinyl ether	ug/L	ND	50	50	ND	ND	0	0	67-145		36	M0
2-Chlorotoluene	ug/L	ND	50	50	54.0	53.8	108	108	77-128	0	10	
2-Hexanone	ug/L	ND	100	100	91.4	87.8	91	88	40-135	4	18	
2-Nitropropane	ug/L	ND	100	100	80.4	79.0	80	79	50-136	2	16	
4-Chlorotoluene	ug/L	ND	50	50	54.7	53.2	109	106	79-126	3	10	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	101	97.7	101	98	30-177	3	10	
Acetone	ug/L	ND	100	100	75.8	76.0	76	76	44-223	0	14	
Acrolein	ug/L	ND	100	100	90.3	85.6	90	86	57-185	5	30	
Acrylonitrile	ug/L	ND	200	200	225	212	113	106	13-189	6	12	
Allyl chloride	ug/L	ND	100	100	99.0	101	99	101	58-150	2	18	
Benzene	ug/L	ND	50	50	60.0	59.4	120	119	66-139	1	10	
Bromobenzene	ug/L	ND	50	50	50.7	48.8	101	98	75-122	4	12	
Bromochloromethane	ug/L	ND	50	50	60.9	58.5	122	117	73-133	4	13	
Bromodichloromethane	ug/L	ND	50	50	55.0	52.1	110	104	57-120	5	13	
Bromoform	ug/L	ND	50	50	47.6	45.8	95	92	48-128	4	13	
Bromomethane	ug/L	ND	50	50	56.0	53.5	112	107	10-187	4	32	
Carbon disulfide	ug/L	ND	100	100	102	102	102	102	47-141	0	322	
Carbon tetrachloride	ug/L	ND	50	50	62.3	61.2	125	122	58-127	2	14	
Chlorobenzene	ug/L	ND	50	50	54.3	53.4	109	107	63-137	2	10	
Chloroethane	ug/L	ND	50	50	50.0	48.5	100	97	52-146	3	16	
Chloroform	ug/L	ND	50	50	58.4	59.1	116	118	74-137	1	9	
Chloromethane	ug/L	ND	50	50	39.8	39.9	80	80	41-127	0	10	
cis-1,2-Dichloroethene	ug/L	ND	50	50	64.0	61.1	127	121	71-138	5	16	
cis-1,3-Dichloropropene	ug/L	ND	50	50	51.3	50.0	103	100	32-145	3	12	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 90764 90765

Parameter	Units	2613208001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dibromochloromethane	ug/L	ND	50	50	51.7	51.3	103	103	52-116	1	13	
Dibromomethane	ug/L	ND	50	50	65.3	64.8	131	130	79-129	1	14	M1
Dichlorodifluoromethane	ug/L	ND	50	50	34.8	35.4	70	71	36-126	2	15	
Ethyl methacrylate	ug/L	ND	100	100	97.0	93.3	97	93	75-130	4	14	
Ethylbenzene	ug/L	0.74J	50	50	58.0	56.0	114	110	31-174	3	10	
Hexachloro-1,3-butadiene	ug/L	ND	50	50	58.7	56.8	117	114	58-142	3	11	
Iodomethane	ug/L	ND	100	100	105	103	105	103	49-154	1	30	
Isopropylbenzene (Cumene)	ug/L	1.6J	50	50	50.9	48.9	99	95	56-139	4	12	
m&p-Xylene	ug/L	ND	100	100	115	110	115	110	27-179	4	10	
Methacrylonitrile	ug/L	ND	100	100	98.3	99.8	98	100	74-139	2	14	
Methyl acrylate	ug/L	ND	100	100	103	101	103	101	66-142	2	19	
Methyl methacrylate	ug/L	ND	100	100	97.2	91.3	97	91	75-133	6	13	
Methyl-tert-butyl ether	ug/L	ND	100	100	104	103	104	103	38-120	1	12	
Methylene Chloride	ug/L	ND	50	50	65.4	64.0	131	128	61-146	2	15	
n-Butyl chloride	ug/L	ND	100	100	109	108	109	108	74-139	1	10	
n-Butylbenzene	ug/L	ND	50	50	50.4	48.2	100	95	46-160	4	11	
n-Propylbenzene	ug/L	0.72J	50	50	47.1	46.3	93	91	60-148	2	10	
Naphthalene	ug/L	6.2	50	50	57.8	56.3	103	100	25-159	3	14	
o-Xylene	ug/L	ND	50	50	54.1	51.7	108	103	52-141	4	65	
p-Isopropyltoluene	ug/L	1.5J	50	50	54.0	51.8	105	101	59-134	4	9	
Propionitrile	ug/L	ND	100	100	107	104	107	104	69-139	3	16	
sec-Butylbenzene	ug/L	ND	50	50	51.3	50.2	103	100	62-144	2	12	
Styrene	ug/L	ND	50	50	47.6	45.5	95	91	77-128	4	14	
tert-Butylbenzene	ug/L	1.0J	50	50	46.8	44.6	92	87	50-189	5	9	
Tetrachloroethene	ug/L	ND	50	50	57.7	54.8	115	110	36-155	5	14	
Tetrahydrofuran	ug/L	ND	100	100	107	102	107	102	56-147	5	12	
Toluene	ug/L	ND	50	50	58.7	57.1	117	114	52-146	3	11	
trans-1,2-Dichloroethene	ug/L	ND	50	50	64.8	62.9	130	126	61-152	3	14	
trans-1,3-Dichloropropene	ug/L	ND	50	50	48.4	46.9	97	94	37-146	3	12	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	100	89.1	87.0	89	87	61-139	2	12	
Trichloroethene	ug/L	ND	50	50	55.4	53.1	111	106	61-141	4	12	
Trichlorofluoromethane	ug/L	ND	50	50	52.5	52.5	105	105	51-141	0	13	
Vinyl acetate	ug/L	ND	50	50	54.1	51.2	108	102	52-141	6	14	
Vinyl chloride	ug/L	ND	50	50	45.3	45.0	91	90	22-156	1	26	
Xylene (Total)	ug/L	ND	150	150	169	162	113	108	78-132	4	7	
1,2-Dichloroethane-d4 (S)	%.						99	99	81-119			
4-Bromofluorobenzene (S)	%.						91	91	82-120			
Dibromofluoromethane (S)	%.						108	110	82-114			
Toluene-d8 (S)	%.						97	97	82-109			

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

QC Batch: 19902
QC Batch Method: Pace SOP #204
Analysis Method: Pace SOP #204
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 2613208005, 2613208006

SAMPLE DUPLICATE: 89630

Parameter	Units	2613202001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	18.8	20.1	7	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

QC Batch: 19901 Analysis Method: SM 4500-S2 D
QC Batch Method: SM 4500-S2 D Analysis Description: 4500S2D Sulfide Water
Associated Lab Samples: 2613208001, 2613208002, 2613208003, 2613208004

METHOD BLANK: 89623 Matrix: Water
Associated Lab Samples: 2613208001, 2613208002, 2613208003, 2613208004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.20	0.20	12/31/18 11:31	

LABORATORY CONTROL SAMPLE: 89624

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.52	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 89625 89626

Parameter	Units	2613208002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.53	0.55	106	111	30-129	4	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

QC Batch: 20281 Analysis Method: SM 4500-SO3
QC Batch Method: SM 4500-SO3 Analysis Description: 4500SO3B Sulfite, Iodometric
Associated Lab Samples: 2613208001, 2613208002, 2613208003, 2613208004

METHOD BLANK: 91104 Matrix: Water
Associated Lab Samples: 2613208001, 2613208002, 2613208003, 2613208004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfite	mg/L	ND	1.0	1.0	01/10/19 10:35	H6

LABORATORY CONTROL SAMPLE: 91105

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfite	mg/L	10	10.0	100	80-120	H6

SAMPLE DUPLICATE: 91106

Parameter	Units	2613208001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfite	mg/L	ND	ND		10	H1,H6

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

QC Batch: 19934 Analysis Method: EPA 9056A
QC Batch Method: EPA 9056A Analysis Description: 9056 IC Anions
Associated Lab Samples: 2613208001, 2613208002, 2613208003, 2613208004

METHOD BLANK: 89763 Matrix: Water
Associated Lab Samples: 2613208001, 2613208002, 2613208003, 2613208004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	0.017	01/02/19 18:08	

LABORATORY CONTROL SAMPLE: 89764

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	10	9.7	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 89765 89766

Parameter	Units	2613077001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	ND	10	10	11.9	0.88J	93	-16	90-110		15	M1

MATRIX SPIKE SAMPLE: 89767

Parameter	Units	2613077002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20.5	10	28.9	84	90-110	M1

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALIFIERS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

WORKORDER QUALIFIERS

WO: 2613208

[1] 02/25/2019: Report revised to report data to MDL.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H1	Analysis conducted outside the EPA method holding time.
H3	Sample was received or analysis requested beyond the recognized method holding time.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P4	Sample field preservation does not meet EPA or method recommendations for this analysis.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.
c2	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.

Pace Analytical Services, LLC
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Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613208

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2613208001	**MW-1**	EPA 3010A	20015	EPA 6010D	20045
2613208002	**MW-5R**	EPA 3010A	20015	EPA 6010D	20045
2613208003	**MW-6**	EPA 3010A	20015	EPA 6010D	20045
2613208004	**MW-7R**	EPA 3010A	20015	EPA 6010D	20045
2613208001	**MW-1**	EPA 3010A	20104	EPA 6010D	20126
2613208002	**MW-5R**	EPA 3010A	20104	EPA 6010D	20126
2613208003	**MW-6**	EPA 3010A	20104	EPA 6010D	20126
2613208004	**MW-7R**	EPA 3010A	20104	EPA 6010D	20126
2613208005	**SB-1 (9-10)**	EPA 5035	19946	EPA 8260B	19961
2613208006	**SB-1 (15-16)**	EPA 5035	19946	EPA 8260B	19961
2613208001	**MW-1**	EPA 8260B	20188		
2613208002	**MW-5R**	EPA 8260B	20188		
2613208003	**MW-6**	EPA 8260B	20188		
2613208004	**MW-7R**	EPA 8260B	20188		
2613208007	**Trip Blank**	EPA 8260B	20188		
2613208005	**SB-1 (9-10)**	Pace SOP #204	19902		
2613208006	**SB-1 (15-16)**	Pace SOP #204	19902		
2613208001	**MW-1**	SM 4500-S2 D	19901		
2613208002	**MW-5R**	SM 4500-S2 D	19901		
2613208003	**MW-6**	SM 4500-S2 D	19901		
2613208004	**MW-7R**	SM 4500-S2 D	19901		
2613208001	**MW-1**	SM 4500-SO3	20281		
2613208002	**MW-5R**	SM 4500-SO3	20281		
2613208003	**MW-6**	SM 4500-SO3	20281		
2613208004	**MW-7R**	SM 4500-SO3	20281		
2613208001	**MW-1**	EPA 9056A	19934		
2613208002	**MW-5R**	EPA 9056A	19934		
2613208003	**MW-6**	EPA 9056A	19934		
2613208004	**MW-7R**	EPA 9056A	19934		

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Safety-Kleen Corporation - Elgin	Report To:	Robert Schoepke	Attention:	ROBERT HARRELL
Address:	1502 E. Villa Street	Copy To:	RHARRELL@HARTNICKMAN.COM GJASON@HART11.COM	Company Name:	HART & NICKMAN
Elgin, IL 60120		Purchase Order #:		Address:	3921 SUNSET RIDGE RD STE 301 Raleigh NC
Email:	robert.schoepke@safety-kleen.com	Project Name:	Safety-Kleen Saint Pauls, NC (SK-005)	Pace Quote:	
Phone:	(847) 468-6733 Fax	Project #:	SK-005	Pace Project Manager:	sakina.mckenzie@pacelabs.com
Requested Due Date:				Pace Profile #:	1168

Regulatory Agency

State / Location

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analysis Test Y/N	Requested Analysis Filtered (Y/N): 8260 Full List	8260 Full List	Sulfate and Sulfite	Sulfide	Metals by 6010_IRON	Metals by 6010_Dissolved Ir	Trip BLANK	Residual Chlorine (Y/N)
1	MW-1			12/28	1250														X	X	X	X	X	X	X	
2	MW-5R			12/27	1300														↓	↓	↓	↓	↓	↓	↓	
3	MW-6			12/27	1430																					
4	MW-7R			↓	1120																					
5	SB-1 (9-10)			12/28	1500														X	X						
6	SB-1 (15-16)			↓	1530														X	X						
7	TRIP BLANK																		X	X						
8																										
9																										
10																										
11																										
12																										

WO#: 2613208

2613208

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
CALL W/ QUESTIONS	LLT & H&H	12/28	PM	FEDEX MZalvman	12/29/18	1000	0.4	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed:

Sample Condition Upon Receipt

Pace Analytical

Client Name: SK - Elgin

Project #

WO#: 2613208

PM: SMM Due Date: 01/08/19

CLIENT: SK-Elgin

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Tracking #: 7847 0153 7958

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Thermometer Used: 83 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 0.4 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 12/29/18 MP

Temp should be above freezing to 6°C

			Comments:
Chain of Custody Present:	☑Yes	☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes	☑No ☐N/A	4.
Samples Arrived within Hold Time:	☐Yes	☑No ☐N/A	5. Sulfites out of hold
Short Hold Time Analysis (<72hr):	☑Yes	☐No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No ☐N/A	7.
Sufficient Volume:	☑Yes	☐No ☐N/A	8.
Correct Containers Used:	☑Yes	☐No ☐N/A	9.
-Pace Containers Used:	☑Yes	☐No ☐N/A	
Containers Intact:	☑Yes	☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☑Yes	☐No ☐N/A	11.
Sample Labels match COC:	☑Yes	☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W/S			
All containers needing preservation have been checked.	☑Yes	☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes	☐No	Initial when completed: Lot # of added preservative:
Samples checked for dechlorination:	☐Yes	☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☑No ☐N/A	15.
Trip Blank Present:	☑Yes	☐No ☐N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No ☐N/A	
Pace Trip Blank Lot # (if purchased):			

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

February 25, 2019

Robert Schoepke
Safety-Kleen Corporation - Elgin
1502 E. Villa Street
Elgin, IL 60120

RE: Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

Dear Robert Schoepke:
Enclosed are the analytical results for sample(s) received by the laboratory on January 04, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Sakina Mckenzie
sakina.mckenzie@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Justin Ballard, Hart & Hickman, PC
Robert Harrell
Lisa Nickels, Hart & Hickman, PC
Genna K. Olson, Hart & Hickman, PC

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Virginia Certification #: 460204

Pace Analytical Services, LLC
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Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2613330001	**MW-2**	Water	01/03/19 12:45	01/04/19 09:15
2613330002	**MW-3**	Water	01/03/19 11:10	01/04/19 09:15
2613330003	**MW-4**	Water	01/03/19 16:00	01/04/19 09:15
2613330004	**Dup**	Water	01/03/19 00:00	01/04/19 09:15

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SAMPLE ANALYTE COUNT

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2613330001	**MW-2**	EPA 6010D	AAP	1
		EPA 6010D	AAP	1
		EPA 8260B	JHG	85
		SM 4500-S2 D	JPT	1
		SM 4500-SO3	RNB	1
		EPA 9056A	RLC	1
2613330002	**MW-3**	EPA 6010D	AAP	1
		EPA 6010D	AAP	1
		EPA 8260B	JHG	85
		SM 4500-S2 D	JPT	1
		SM 4500-SO3	RNB	1
		EPA 9056A	RLC	1
2613330003	**MW-4**	EPA 6010D	AAP	1
		EPA 6010D	AAP	1
		EPA 8260B	JHG	85
		SM 4500-S2 D	JPT	1
		SM 4500-SO3	RNB	1
		EPA 9056A	RLC	1
2613330004	**Dup**	EPA 6010D	AAP	1
		EPA 6010D	AAP	1
		EPA 8260B	JHG	85
		SM 4500-S2 D	JPT	1
		SM 4500-SO3	RNB	1
		EPA 9056A	RLC	1

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

Sample: MW-2 **Lab ID: 2613330001** Collected: 01/03/19 12:45 Received: 01/04/19 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A								
Iron	**1400**	ug/L	40.0	2.0	1	01/07/19 12:14	01/09/19 19:42	7439-89-6	
6010D MET ICP Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A								
Iron, Dissolved	**1500**	ug/L	40.0	2.0	1	01/09/19 11:59	01/10/19 20:27	7439-89-6	
8260B MSV	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	10.0	8.2	1		01/05/19 00:40	67-64-1	
Acrolein	ND	ug/L	10.0	7.8	1		01/05/19 00:40	107-02-8	
Acrylonitrile	ND	ug/L	10.0	2.5	1		01/05/19 00:40	107-13-1	
Allyl chloride	ND	ug/L	5.0	0.96	1		01/05/19 00:40	107-05-1	
Benzene	ND	ug/L	1.0	0.20	1		01/05/19 00:40	71-43-2	
Bromobenzene	ND	ug/L	5.0	0.58	1		01/05/19 00:40	108-86-1	
Bromochloromethane	ND	ug/L	2.0	0.50	1		01/05/19 00:40	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.36	1		01/05/19 00:40	75-27-4	
Bromoform	ND	ug/L	2.0	0.55	1		01/05/19 00:40	75-25-2	
Bromomethane	ND	ug/L	2.0	0.95	1		01/05/19 00:40	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	3.2	1		01/05/19 00:40	78-93-3	
n-Butylbenzene	ND	ug/L	5.0	0.57	1		01/05/19 00:40	104-51-8	
sec-Butylbenzene	ND	ug/L	5.0	0.48	1		01/05/19 00:40	135-98-8	
tert-Butylbenzene	ND	ug/L	5.0	0.47	1		01/05/19 00:40	98-06-6	
n-Butyl chloride	ND	ug/L	10.0	0.85	1		01/05/19 00:40	109-69-3	
Carbon disulfide	ND	ug/L	5.0	0.79	1		01/05/19 00:40	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.42	1		01/05/19 00:40	56-23-5	
Chlorobenzene	ND	ug/L	2.0	0.53	1		01/05/19 00:40	108-90-7	
Chloroethane	ND	ug/L	1.0	0.52	1		01/05/19 00:40	75-00-3	
2-Chloroethylvinyl ether	ND	ug/L	2.0	0.41	1		01/05/19 00:40	110-75-8	P4,c2
Chloroform	ND	ug/L	1.0	0.58	1		01/05/19 00:40	67-66-3	
Chloromethane	ND	ug/L	1.0	0.38	1		01/05/19 00:40	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	0.26	1		01/05/19 00:40	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	0.68	1		01/05/19 00:40	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	0.55	1		01/05/19 00:40	96-12-8	
Dibromochloromethane	ND	ug/L	2.0	0.31	1		01/05/19 00:40	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.28	1		01/05/19 00:40	106-93-4	
Dibromomethane	ND	ug/L	2.0	0.62	1		01/05/19 00:40	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.49	1		01/05/19 00:40	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.59	1		01/05/19 00:40	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.58	1		01/05/19 00:40	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.6	1		01/05/19 00:40	110-57-6	
Dichlorodifluoromethane	ND	ug/L	2.0	0.48	1		01/05/19 00:40	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.41	1		01/05/19 00:40	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.67	1		01/05/19 00:40	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.72	1		01/05/19 00:40	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.66	1		01/05/19 00:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.46	1		01/05/19 00:40	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.60	1		01/05/19 00:40	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.69	1		01/05/19 00:40	142-28-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

Sample: MW-2 **Lab ID: 2613330001** Collected: 01/03/19 12:45 Received: 01/04/19 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
2,2-Dichloropropane	ND	ug/L	2.0	0.23	1		01/05/19 00:40	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	0.60	1		01/05/19 00:40	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.22	1		01/05/19 00:40	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.30	1		01/05/19 00:40	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.45	1		01/05/19 00:40	100-41-4	
Ethyl methacrylate	ND	ug/L	10.0	0.59	1		01/05/19 00:40	97-63-2	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	1.2	1		01/05/19 00:40	87-68-3	
2-Hexanone	ND	ug/L	10.0	0.89	1		01/05/19 00:40	591-78-6	
Iodomethane	ND	ug/L	10.0	3.1	1		01/05/19 00:40	74-88-4	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	0.43	1		01/05/19 00:40	98-82-8	
p-Isopropyltoluene	ND	ug/L	5.0	0.47	1		01/05/19 00:40	99-87-6	
Methacrylonitrile	ND	ug/L	10.0	0.79	1		01/05/19 00:40	126-98-7	
Methyl acrylate	ND	ug/L	10.0	0.89	1		01/05/19 00:40	96-33-3	
Methylene Chloride	ND	ug/L	1.0	0.50	1		01/05/19 00:40	75-09-2	
Methyl methacrylate	ND	ug/L	10.0	0.89	1		01/05/19 00:40	80-62-6	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.86	1		01/05/19 00:40	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	10.0	1.6	1		01/05/19 00:40	1634-04-4	
Naphthalene	ND	ug/L	5.0	0.30	1		01/05/19 00:40	91-20-3	
2-Nitropropane	ND	ug/L	10.0	2.1	1		01/05/19 00:40	79-46-9	
Propionitrile	ND	ug/L	10.0	3.1	1		01/05/19 00:40	107-12-0	
n-Propylbenzene	ND	ug/L	5.0	0.50	1		01/05/19 00:40	103-65-1	
Styrene	ND	ug/L	1.0	0.50	1		01/05/19 00:40	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	2.0	0.32	1		01/05/19 00:40	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.0	0.53	1		01/05/19 00:40	79-34-5	
Tetrachloroethene	ND	ug/L	0.78	0.78	1		01/05/19 00:40	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1.3	1		01/05/19 00:40	109-99-9	
Toluene	ND	ug/L	1.0	0.31	1		01/05/19 00:40	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	0.53	1		01/05/19 00:40	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	0.47	1		01/05/19 00:40	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.38	1		01/05/19 00:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.59	1		01/05/19 00:40	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.34	1		01/05/19 00:40	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.51	1		01/05/19 00:40	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.46	1		01/05/19 00:40	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	5.0	0.46	1		01/05/19 00:40	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	5.0	0.62	1		01/05/19 00:40	108-67-8	
Vinyl acetate	ND	ug/L	5.0	0.42	1		01/05/19 00:40	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.60	1		01/05/19 00:40	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1.5	1		01/05/19 00:40	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.92	1		01/05/19 00:40	179601-23-1	
o-Xylene	ND	ug/L	2.0	0.54	1		01/05/19 00:40	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%.	81-119		1		01/05/19 00:40	17060-07-0	
Dibromofluoromethane (S)	100	%.	82-114		1		01/05/19 00:40	1868-53-7	
4-Bromofluorobenzene (S)	96	%.	82-120		1		01/05/19 00:40	460-00-4	
Toluene-d8 (S)	95	%.	82-109		1		01/05/19 00:40	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

Sample: MW-2 **Lab ID: 2613330001** Collected: 01/03/19 12:45 Received: 01/04/19 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide Water	Analytical Method: SM 4500-S2 D								
Sulfide	**0.39**	mg/L	0.20	0.20	1		01/08/19 11:09	18496-25-8	
4500SO3B Sulfite, Iodometric	Analytical Method: SM 4500-SO3								
Sulfite	ND	mg/L	1.0	1.0	1		01/10/19 10:41		H1,H6
9056 IC Anions	Analytical Method: EPA 9056A								
Sulfate	**7.1**	mg/L	5.0	0.017	1		01/07/19 20:09	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

Sample: MW-3 **Lab ID: 2613330002** Collected: 01/03/19 11:10 Received: 01/04/19 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A								
Iron	**2070**	ug/L	40.0	2.0	1	01/07/19 12:14	01/09/19 19:47	7439-89-6	
6010D MET ICP Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A								
Iron, Dissolved	**2390**	ug/L	40.0	2.0	1	01/09/19 11:59	01/10/19 20:46	7439-89-6	
8260B MSV	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	10.0	8.2	1		01/05/19 01:10	67-64-1	
Acrolein	ND	ug/L	10.0	7.8	1		01/05/19 01:10	107-02-8	
Acrylonitrile	ND	ug/L	10.0	2.5	1		01/05/19 01:10	107-13-1	
Allyl chloride	ND	ug/L	5.0	0.96	1		01/05/19 01:10	107-05-1	
Benzene	ND	ug/L	1.0	0.20	1		01/05/19 01:10	71-43-2	
Bromobenzene	ND	ug/L	5.0	0.58	1		01/05/19 01:10	108-86-1	
Bromochloromethane	ND	ug/L	2.0	0.50	1		01/05/19 01:10	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.36	1		01/05/19 01:10	75-27-4	
Bromoform	ND	ug/L	2.0	0.55	1		01/05/19 01:10	75-25-2	
Bromomethane	ND	ug/L	2.0	0.95	1		01/05/19 01:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	3.2	1		01/05/19 01:10	78-93-3	
n-Butylbenzene	ND	ug/L	5.0	0.57	1		01/05/19 01:10	104-51-8	
sec-Butylbenzene	ND	ug/L	5.0	0.48	1		01/05/19 01:10	135-98-8	
tert-Butylbenzene	ND	ug/L	5.0	0.47	1		01/05/19 01:10	98-06-6	
n-Butyl chloride	ND	ug/L	10.0	0.85	1		01/05/19 01:10	109-69-3	
Carbon disulfide	ND	ug/L	5.0	0.79	1		01/05/19 01:10	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.42	1		01/05/19 01:10	56-23-5	
Chlorobenzene	ND	ug/L	2.0	0.53	1		01/05/19 01:10	108-90-7	
Chloroethane	ND	ug/L	1.0	0.52	1		01/05/19 01:10	75-00-3	
2-Chloroethylvinyl ether	ND	ug/L	2.0	0.41	1		01/05/19 01:10	110-75-8	P4,c2
Chloroform	ND	ug/L	1.0	0.58	1		01/05/19 01:10	67-66-3	
Chloromethane	ND	ug/L	1.0	0.38	1		01/05/19 01:10	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	0.26	1		01/05/19 01:10	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	0.68	1		01/05/19 01:10	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	0.55	1		01/05/19 01:10	96-12-8	
Dibromochloromethane	ND	ug/L	2.0	0.31	1		01/05/19 01:10	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.28	1		01/05/19 01:10	106-93-4	
Dibromomethane	ND	ug/L	2.0	0.62	1		01/05/19 01:10	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.49	1		01/05/19 01:10	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.59	1		01/05/19 01:10	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.58	1		01/05/19 01:10	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.6	1		01/05/19 01:10	110-57-6	
Dichlorodifluoromethane	ND	ug/L	2.0	0.48	1		01/05/19 01:10	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.41	1		01/05/19 01:10	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.67	1		01/05/19 01:10	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.72	1		01/05/19 01:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.66	1		01/05/19 01:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.46	1		01/05/19 01:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.60	1		01/05/19 01:10	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.69	1		01/05/19 01:10	142-28-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

Sample: MW-3 **Lab ID: 2613330002** Collected: 01/03/19 11:10 Received: 01/04/19 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
2,2-Dichloropropane	ND	ug/L	2.0	0.23	1		01/05/19 01:10	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	0.60	1		01/05/19 01:10	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.22	1		01/05/19 01:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.30	1		01/05/19 01:10	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.45	1		01/05/19 01:10	100-41-4	
Ethyl methacrylate	ND	ug/L	10.0	0.59	1		01/05/19 01:10	97-63-2	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	1.2	1		01/05/19 01:10	87-68-3	
2-Hexanone	ND	ug/L	10.0	0.89	1		01/05/19 01:10	591-78-6	
Iodomethane	ND	ug/L	10.0	3.1	1		01/05/19 01:10	74-88-4	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	0.43	1		01/05/19 01:10	98-82-8	
p-Isopropyltoluene	ND	ug/L	5.0	0.47	1		01/05/19 01:10	99-87-6	
Methacrylonitrile	ND	ug/L	10.0	0.79	1		01/05/19 01:10	126-98-7	
Methyl acrylate	ND	ug/L	10.0	0.89	1		01/05/19 01:10	96-33-3	
Methylene Chloride	ND	ug/L	1.0	0.50	1		01/05/19 01:10	75-09-2	
Methyl methacrylate	ND	ug/L	10.0	0.89	1		01/05/19 01:10	80-62-6	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.86	1		01/05/19 01:10	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	10.0	1.6	1		01/05/19 01:10	1634-04-4	
Naphthalene	ND	ug/L	5.0	0.30	1		01/05/19 01:10	91-20-3	
2-Nitropropane	ND	ug/L	10.0	2.1	1		01/05/19 01:10	79-46-9	
Propionitrile	ND	ug/L	10.0	3.1	1		01/05/19 01:10	107-12-0	
n-Propylbenzene	ND	ug/L	5.0	0.50	1		01/05/19 01:10	103-65-1	
Styrene	ND	ug/L	1.0	0.50	1		01/05/19 01:10	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	2.0	0.32	1		01/05/19 01:10	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.0	0.53	1		01/05/19 01:10	79-34-5	
Tetrachloroethene	ND	ug/L	0.78	0.78	1		01/05/19 01:10	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1.3	1		01/05/19 01:10	109-99-9	
Toluene	ND	ug/L	1.0	0.31	1		01/05/19 01:10	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	0.53	1		01/05/19 01:10	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	0.47	1		01/05/19 01:10	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.38	1		01/05/19 01:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.59	1		01/05/19 01:10	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.34	1		01/05/19 01:10	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.51	1		01/05/19 01:10	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.46	1		01/05/19 01:10	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	5.0	0.46	1		01/05/19 01:10	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	5.0	0.62	1		01/05/19 01:10	108-67-8	
Vinyl acetate	ND	ug/L	5.0	0.42	1		01/05/19 01:10	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.60	1		01/05/19 01:10	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1.5	1		01/05/19 01:10	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.92	1		01/05/19 01:10	179601-23-1	
o-Xylene	ND	ug/L	2.0	0.54	1		01/05/19 01:10	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%.	81-119		1		01/05/19 01:10	17060-07-0	
Dibromofluoromethane (S)	97	%.	82-114		1		01/05/19 01:10	1868-53-7	
4-Bromofluorobenzene (S)	98	%.	82-120		1		01/05/19 01:10	460-00-4	
Toluene-d8 (S)	97	%.	82-109		1		01/05/19 01:10	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

Sample: MW-3 **Lab ID: 2613330002** Collected: 01/03/19 11:10 Received: 01/04/19 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide Water	Analytical Method: SM 4500-S2 D								
Sulfide	**0.72**	mg/L	0.20	0.20	1		01/08/19 11:11	18496-25-8	
4500SO3B Sulfite, Iodometric	Analytical Method: SM 4500-SO3								
Sulfite	ND	mg/L	1.0	1.0	1		01/10/19 10:42		H1,H6
9056 IC Anions	Analytical Method: EPA 9056A								
Sulfate	**4.5J**	mg/L	5.0	0.017	1		01/07/19 20:31	14808-79-8	

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ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

Sample: MW-4 **Lab ID: 2613330003** Collected: 01/03/19 16:00 Received: 01/04/19 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A								
Iron	**139**	ug/L	40.0	2.0	1	01/07/19 12:14	01/09/19 19:52	7439-89-6	
6010D MET ICP Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A								
Iron, Dissolved	**22.9J**	ug/L	40.0	2.0	1	01/09/19 11:59	01/10/19 20:51	7439-89-6	B
8260B MSV	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	10.0	8.2	1		01/05/19 01:39	67-64-1	
Acrolein	ND	ug/L	10.0	7.8	1		01/05/19 01:39	107-02-8	
Acrylonitrile	ND	ug/L	10.0	2.5	1		01/05/19 01:39	107-13-1	
Allyl chloride	ND	ug/L	5.0	0.96	1		01/05/19 01:39	107-05-1	
Benzene	ND	ug/L	1.0	0.20	1		01/05/19 01:39	71-43-2	
Bromobenzene	ND	ug/L	5.0	0.58	1		01/05/19 01:39	108-86-1	
Bromochloromethane	ND	ug/L	2.0	0.50	1		01/05/19 01:39	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.36	1		01/05/19 01:39	75-27-4	
Bromoform	ND	ug/L	2.0	0.55	1		01/05/19 01:39	75-25-2	
Bromomethane	ND	ug/L	2.0	0.95	1		01/05/19 01:39	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	3.2	1		01/05/19 01:39	78-93-3	
n-Butylbenzene	ND	ug/L	5.0	0.57	1		01/05/19 01:39	104-51-8	
sec-Butylbenzene	ND	ug/L	5.0	0.48	1		01/05/19 01:39	135-98-8	
tert-Butylbenzene	ND	ug/L	5.0	0.47	1		01/05/19 01:39	98-06-6	
n-Butyl chloride	ND	ug/L	10.0	0.85	1		01/05/19 01:39	109-69-3	
Carbon disulfide	ND	ug/L	5.0	0.79	1		01/05/19 01:39	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.42	1		01/05/19 01:39	56-23-5	
Chlorobenzene	ND	ug/L	2.0	0.53	1		01/05/19 01:39	108-90-7	
Chloroethane	ND	ug/L	1.0	0.52	1		01/05/19 01:39	75-00-3	
2-Chloroethylvinyl ether	ND	ug/L	2.0	0.41	1		01/05/19 01:39	110-75-8	P4,c2
Chloroform	ND	ug/L	1.0	0.58	1		01/05/19 01:39	67-66-3	
Chloromethane	ND	ug/L	1.0	0.38	1		01/05/19 01:39	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	0.26	1		01/05/19 01:39	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	0.68	1		01/05/19 01:39	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	0.55	1		01/05/19 01:39	96-12-8	
Dibromochloromethane	ND	ug/L	2.0	0.31	1		01/05/19 01:39	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.28	1		01/05/19 01:39	106-93-4	
Dibromomethane	ND	ug/L	2.0	0.62	1		01/05/19 01:39	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.49	1		01/05/19 01:39	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.59	1		01/05/19 01:39	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.58	1		01/05/19 01:39	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.6	1		01/05/19 01:39	110-57-6	
Dichlorodifluoromethane	ND	ug/L	2.0	0.48	1		01/05/19 01:39	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.41	1		01/05/19 01:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.67	1		01/05/19 01:39	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.72	1		01/05/19 01:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.66	1		01/05/19 01:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.46	1		01/05/19 01:39	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.60	1		01/05/19 01:39	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.69	1		01/05/19 01:39	142-28-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

Sample: MW-4 **Lab ID: 2613330003** Collected: 01/03/19 16:00 Received: 01/04/19 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
2,2-Dichloropropane	ND	ug/L	2.0	0.23	1		01/05/19 01:39	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	0.60	1		01/05/19 01:39	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.22	1		01/05/19 01:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.30	1		01/05/19 01:39	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.45	1		01/05/19 01:39	100-41-4	
Ethyl methacrylate	ND	ug/L	10.0	0.59	1		01/05/19 01:39	97-63-2	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	1.2	1		01/05/19 01:39	87-68-3	
2-Hexanone	ND	ug/L	10.0	0.89	1		01/05/19 01:39	591-78-6	
Iodomethane	ND	ug/L	10.0	3.1	1		01/05/19 01:39	74-88-4	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	0.43	1		01/05/19 01:39	98-82-8	
p-Isopropyltoluene	ND	ug/L	5.0	0.47	1		01/05/19 01:39	99-87-6	
Methacrylonitrile	ND	ug/L	10.0	0.79	1		01/05/19 01:39	126-98-7	
Methyl acrylate	ND	ug/L	10.0	0.89	1		01/05/19 01:39	96-33-3	
Methylene Chloride	ND	ug/L	1.0	0.50	1		01/05/19 01:39	75-09-2	
Methyl methacrylate	ND	ug/L	10.0	0.89	1		01/05/19 01:39	80-62-6	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.86	1		01/05/19 01:39	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	10.0	1.6	1		01/05/19 01:39	1634-04-4	
Naphthalene	ND	ug/L	5.0	0.30	1		01/05/19 01:39	91-20-3	
2-Nitropropane	ND	ug/L	10.0	2.1	1		01/05/19 01:39	79-46-9	
Propionitrile	ND	ug/L	10.0	3.1	1		01/05/19 01:39	107-12-0	
n-Propylbenzene	ND	ug/L	5.0	0.50	1		01/05/19 01:39	103-65-1	
Styrene	ND	ug/L	1.0	0.50	1		01/05/19 01:39	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	2.0	0.32	1		01/05/19 01:39	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.0	0.53	1		01/05/19 01:39	79-34-5	
Tetrachloroethene	ND	ug/L	0.78	0.78	1		01/05/19 01:39	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1.3	1		01/05/19 01:39	109-99-9	
Toluene	ND	ug/L	1.0	0.31	1		01/05/19 01:39	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	0.53	1		01/05/19 01:39	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	0.47	1		01/05/19 01:39	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.38	1		01/05/19 01:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.59	1		01/05/19 01:39	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.34	1		01/05/19 01:39	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.51	1		01/05/19 01:39	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.46	1		01/05/19 01:39	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	5.0	0.46	1		01/05/19 01:39	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	5.0	0.62	1		01/05/19 01:39	108-67-8	
Vinyl acetate	ND	ug/L	5.0	0.42	1		01/05/19 01:39	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.60	1		01/05/19 01:39	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1.5	1		01/05/19 01:39	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.92	1		01/05/19 01:39	179601-23-1	
o-Xylene	ND	ug/L	2.0	0.54	1		01/05/19 01:39	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%.	81-119		1		01/05/19 01:39	17060-07-0	
Dibromofluoromethane (S)	96	%.	82-114		1		01/05/19 01:39	1868-53-7	
4-Bromofluorobenzene (S)	98	%.	82-120		1		01/05/19 01:39	460-00-4	
Toluene-d8 (S)	98	%.	82-109		1		01/05/19 01:39	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

Sample: MW-4 **Lab ID: 2613330003** Collected: 01/03/19 16:00 Received: 01/04/19 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide Water	Analytical Method: SM 4500-S2 D								
Sulfide	ND	mg/L	0.20	0.20	1		01/08/19 11:12	18496-25-8	
4500SO3B Sulfite, Iodometric	Analytical Method: SM 4500-SO3								
Sulfite	ND	mg/L	1.0	1.0	1		01/10/19 10:43		H1,H6
9056 IC Anions	Analytical Method: EPA 9056A								
Sulfate	**1.6J**	mg/L	5.0	0.017	1		01/07/19 21:17	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

Sample: Dup **Lab ID: 2613330004** Collected: 01/03/19 00:00 Received: 01/04/19 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A								
Iron	**1380**	ug/L	40.0	2.0	1	01/07/19 12:14	01/09/19 19:57	7439-89-6	
6010D MET ICP Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A								
Iron, Dissolved	**1450**	ug/L	40.0	2.0	1	01/09/19 11:59	01/10/19 20:56	7439-89-6	
8260B MSV	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	10.0	8.2	1		01/05/19 02:09	67-64-1	
Acrolein	ND	ug/L	10.0	7.8	1		01/05/19 02:09	107-02-8	
Acrylonitrile	ND	ug/L	10.0	2.5	1		01/05/19 02:09	107-13-1	
Allyl chloride	ND	ug/L	5.0	0.96	1		01/05/19 02:09	107-05-1	
Benzene	ND	ug/L	1.0	0.20	1		01/05/19 02:09	71-43-2	
Bromobenzene	ND	ug/L	5.0	0.58	1		01/05/19 02:09	108-86-1	
Bromochloromethane	ND	ug/L	2.0	0.50	1		01/05/19 02:09	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.36	1		01/05/19 02:09	75-27-4	
Bromoform	ND	ug/L	2.0	0.55	1		01/05/19 02:09	75-25-2	
Bromomethane	ND	ug/L	2.0	0.95	1		01/05/19 02:09	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	3.2	1		01/05/19 02:09	78-93-3	
n-Butylbenzene	ND	ug/L	5.0	0.57	1		01/05/19 02:09	104-51-8	
sec-Butylbenzene	ND	ug/L	5.0	0.48	1		01/05/19 02:09	135-98-8	
tert-Butylbenzene	ND	ug/L	5.0	0.47	1		01/05/19 02:09	98-06-6	
n-Butyl chloride	ND	ug/L	10.0	0.85	1		01/05/19 02:09	109-69-3	
Carbon disulfide	ND	ug/L	5.0	0.79	1		01/05/19 02:09	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.42	1		01/05/19 02:09	56-23-5	
Chlorobenzene	ND	ug/L	2.0	0.53	1		01/05/19 02:09	108-90-7	
Chloroethane	ND	ug/L	1.0	0.52	1		01/05/19 02:09	75-00-3	
2-Chloroethylvinyl ether	ND	ug/L	2.0	0.41	1		01/05/19 02:09	110-75-8	P4,c2
Chloroform	ND	ug/L	1.0	0.58	1		01/05/19 02:09	67-66-3	
Chloromethane	ND	ug/L	1.0	0.38	1		01/05/19 02:09	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	0.26	1		01/05/19 02:09	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	0.68	1		01/05/19 02:09	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	0.55	1		01/05/19 02:09	96-12-8	
Dibromochloromethane	ND	ug/L	2.0	0.31	1		01/05/19 02:09	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.28	1		01/05/19 02:09	106-93-4	
Dibromomethane	ND	ug/L	2.0	0.62	1		01/05/19 02:09	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.49	1		01/05/19 02:09	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.59	1		01/05/19 02:09	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.58	1		01/05/19 02:09	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.6	1		01/05/19 02:09	110-57-6	
Dichlorodifluoromethane	ND	ug/L	2.0	0.48	1		01/05/19 02:09	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.41	1		01/05/19 02:09	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.67	1		01/05/19 02:09	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.72	1		01/05/19 02:09	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.66	1		01/05/19 02:09	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.46	1		01/05/19 02:09	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.60	1		01/05/19 02:09	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.69	1		01/05/19 02:09	142-28-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

Sample: Dup **Lab ID: 2613330004** Collected: 01/03/19 00:00 Received: 01/04/19 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
2,2-Dichloropropane	ND	ug/L	2.0	0.23	1		01/05/19 02:09	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	0.60	1		01/05/19 02:09	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.22	1		01/05/19 02:09	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.30	1		01/05/19 02:09	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.45	1		01/05/19 02:09	100-41-4	
Ethyl methacrylate	ND	ug/L	10.0	0.59	1		01/05/19 02:09	97-63-2	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	1.2	1		01/05/19 02:09	87-68-3	
2-Hexanone	ND	ug/L	10.0	0.89	1		01/05/19 02:09	591-78-6	
Iodomethane	ND	ug/L	10.0	3.1	1		01/05/19 02:09	74-88-4	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	0.43	1		01/05/19 02:09	98-82-8	
p-Isopropyltoluene	ND	ug/L	5.0	0.47	1		01/05/19 02:09	99-87-6	
Methacrylonitrile	ND	ug/L	10.0	0.79	1		01/05/19 02:09	126-98-7	
Methyl acrylate	ND	ug/L	10.0	0.89	1		01/05/19 02:09	96-33-3	
Methylene Chloride	ND	ug/L	1.0	0.50	1		01/05/19 02:09	75-09-2	
Methyl methacrylate	ND	ug/L	10.0	0.89	1		01/05/19 02:09	80-62-6	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.86	1		01/05/19 02:09	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	10.0	1.6	1		01/05/19 02:09	1634-04-4	
Naphthalene	ND	ug/L	5.0	0.30	1		01/05/19 02:09	91-20-3	
2-Nitropropane	ND	ug/L	10.0	2.1	1		01/05/19 02:09	79-46-9	
Propionitrile	ND	ug/L	10.0	3.1	1		01/05/19 02:09	107-12-0	
n-Propylbenzene	ND	ug/L	5.0	0.50	1		01/05/19 02:09	103-65-1	
Styrene	ND	ug/L	1.0	0.50	1		01/05/19 02:09	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	2.0	0.32	1		01/05/19 02:09	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.0	0.53	1		01/05/19 02:09	79-34-5	
Tetrachloroethene	ND	ug/L	0.78	0.78	1		01/05/19 02:09	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1.3	1		01/05/19 02:09	109-99-9	
Toluene	ND	ug/L	1.0	0.31	1		01/05/19 02:09	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	0.53	1		01/05/19 02:09	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	0.47	1		01/05/19 02:09	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.38	1		01/05/19 02:09	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.59	1		01/05/19 02:09	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.34	1		01/05/19 02:09	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.51	1		01/05/19 02:09	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.46	1		01/05/19 02:09	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	5.0	0.46	1		01/05/19 02:09	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	5.0	0.62	1		01/05/19 02:09	108-67-8	
Vinyl acetate	ND	ug/L	5.0	0.42	1		01/05/19 02:09	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.60	1		01/05/19 02:09	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1.5	1		01/05/19 02:09	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.92	1		01/05/19 02:09	179601-23-1	
o-Xylene	ND	ug/L	2.0	0.54	1		01/05/19 02:09	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%.	81-119		1		01/05/19 02:09	17060-07-0	
Dibromofluoromethane (S)	98	%.	82-114		1		01/05/19 02:09	1868-53-7	
4-Bromofluorobenzene (S)	98	%.	82-120		1		01/05/19 02:09	460-00-4	
Toluene-d8 (S)	97	%.	82-109		1		01/05/19 02:09	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

Sample: Dup **Lab ID: 2613330004** Collected: 01/03/19 00:00 Received: 01/04/19 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide Water	Analytical Method: SM 4500-S2 D								
Sulfide	**0.26**	mg/L	0.20	0.20	1		01/08/19 11:12	18496-25-8	
4500SO3B Sulfite, Iodometric	Analytical Method: SM 4500-SO3								
Sulfite	ND	mg/L	1.0	1.0	1		01/10/19 10:46		H1,H6
9056 IC Anions	Analytical Method: EPA 9056A								
Sulfate	**6.9**	mg/L	5.0	0.017	1		01/07/19 21:40	14808-79-8	

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QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

QC Batch: 20189 Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A Analysis Description: 6010D MET
Associated Lab Samples: 2613330001, 2613330002, 2613330003, 2613330004

METHOD BLANK: 90768 Matrix: Water
Associated Lab Samples: 2613330001, 2613330002, 2613330003, 2613330004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	ug/L	12.8J	40.0	2.0	01/09/19 18:49	

LABORATORY CONTROL SAMPLE: 90769

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	1000	986	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 90770 90771

Parameter	Units	2613315001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	234	1000	1000	1260	1280	103	104	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

QC Batch: 20309 Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A Analysis Description: 6010D MET Dissolved
Associated Lab Samples: 2613330001, 2613330002, 2613330003, 2613330004

METHOD BLANK: 91200 Matrix: Water
Associated Lab Samples: 2613330001, 2613330002, 2613330003, 2613330004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	16.6J	40.0	2.0	01/10/19 20:13	

LABORATORY CONTROL SAMPLE: 91201

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	1000	1070	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 91202 91203

Parameter	Units	2613330001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	1500	1000	1000	2530	2450	103	94	75-125	4	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

QC Batch: 20127 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV
Associated Lab Samples: 2613330001, 2613330002, 2613330003, 2613330004

METHOD BLANK: 90572 Matrix: Water
Associated Lab Samples: 2613330001, 2613330002, 2613330003, 2613330004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	2.0	0.32	01/04/19 22:41	
1,1,1-Trichloroethane	ug/L	ND	1.0	0.38	01/04/19 22:41	
1,1,2,2-Tetrachloroethane	ug/L	ND	2.0	0.53	01/04/19 22:41	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.59	01/04/19 22:41	
1,1-Dichloroethane	ug/L	ND	1.0	0.41	01/04/19 22:41	
1,1-Dichloroethene	ug/L	ND	1.0	0.72	01/04/19 22:41	
1,1-Dichloropropene	ug/L	ND	1.0	0.60	01/04/19 22:41	
1,2,3-Trichlorobenzene	ug/L	ND	5.0	0.53	01/04/19 22:41	
1,2,3-Trichloropropane	ug/L	ND	1.0	0.46	01/04/19 22:41	
1,2,4-Trichlorobenzene	ug/L	ND	5.0	0.47	01/04/19 22:41	
1,2,4-Trimethylbenzene	ug/L	ND	5.0	0.46	01/04/19 22:41	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	0.55	01/04/19 22:41	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	0.28	01/04/19 22:41	
1,2-Dichlorobenzene	ug/L	ND	1.0	0.49	01/04/19 22:41	
1,2-Dichloroethane	ug/L	ND	1.0	0.67	01/04/19 22:41	
1,2-Dichloropropane	ug/L	ND	1.0	0.60	01/04/19 22:41	
1,3,5-Trimethylbenzene	ug/L	ND	5.0	0.62	01/04/19 22:41	
1,3-Dichlorobenzene	ug/L	ND	1.0	0.59	01/04/19 22:41	
1,3-Dichloropropane	ug/L	ND	1.0	0.69	01/04/19 22:41	
1,4-Dichlorobenzene	ug/L	ND	1.0	0.58	01/04/19 22:41	
2,2-Dichloropropane	ug/L	ND	2.0	0.23	01/04/19 22:41	
2-Butanone (MEK)	ug/L	ND	10.0	3.2	01/04/19 22:41	
2-Chloroethylvinyl ether	ug/L	ND	2.0	0.41	01/04/19 22:41	
2-Chlorotoluene	ug/L	ND	1.0	0.26	01/04/19 22:41	
2-Hexanone	ug/L	ND	10.0	0.89	01/04/19 22:41	
2-Nitropropane	ug/L	ND	10.0	2.1	01/04/19 22:41	
4-Chlorotoluene	ug/L	ND	1.0	0.68	01/04/19 22:41	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	0.86	01/04/19 22:41	
Acetone	ug/L	ND	10.0	8.2	01/04/19 22:41	
Acrolein	ug/L	ND	10.0	7.8	01/04/19 22:41	
Acrylonitrile	ug/L	ND	10.0	2.5	01/04/19 22:41	
Allyl chloride	ug/L	ND	5.0	0.96	01/04/19 22:41	
Benzene	ug/L	ND	1.0	0.20	01/04/19 22:41	
Bromobenzene	ug/L	ND	5.0	0.58	01/04/19 22:41	
Bromochloromethane	ug/L	ND	2.0	0.50	01/04/19 22:41	
Bromodichloromethane	ug/L	ND	1.0	0.36	01/04/19 22:41	
Bromoform	ug/L	ND	2.0	0.55	01/04/19 22:41	
Bromomethane	ug/L	ND	2.0	0.95	01/04/19 22:41	
Carbon disulfide	ug/L	ND	5.0	0.79	01/04/19 22:41	
Carbon tetrachloride	ug/L	ND	1.0	0.42	01/04/19 22:41	
Chlorobenzene	ug/L	ND	2.0	0.53	01/04/19 22:41	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

METHOD BLANK: 90572 Matrix: Water
Associated Lab Samples: 2613330001, 2613330002, 2613330003, 2613330004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloroethane	ug/L	ND	1.0	0.52	01/04/19 22:41	
Chloroform	ug/L	ND	1.0	0.58	01/04/19 22:41	
Chloromethane	ug/L	ND	1.0	0.38	01/04/19 22:41	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.66	01/04/19 22:41	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.22	01/04/19 22:41	
Dibromochloromethane	ug/L	ND	2.0	0.31	01/04/19 22:41	
Dibromomethane	ug/L	ND	2.0	0.62	01/04/19 22:41	
Dichlorodifluoromethane	ug/L	ND	2.0	0.48	01/04/19 22:41	
Ethyl methacrylate	ug/L	ND	10.0	0.59	01/04/19 22:41	
Ethylbenzene	ug/L	ND	1.0	0.45	01/04/19 22:41	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	1.2	01/04/19 22:41	
Iodomethane	ug/L	ND	10.0	3.1	01/04/19 22:41	
Isopropylbenzene (Cumene)	ug/L	ND	5.0	0.43	01/04/19 22:41	
m&p-Xylene	ug/L	ND	2.0	0.92	01/04/19 22:41	
Methacrylonitrile	ug/L	ND	10.0	0.79	01/04/19 22:41	
Methyl acrylate	ug/L	ND	10.0	0.89	01/04/19 22:41	
Methyl methacrylate	ug/L	ND	10.0	0.89	01/04/19 22:41	
Methyl-tert-butyl ether	ug/L	ND	10.0	1.6	01/04/19 22:41	
Methylene Chloride	ug/L	ND	1.0	0.50	01/04/19 22:41	
n-Butyl chloride	ug/L	ND	10.0	0.85	01/04/19 22:41	
n-Butylbenzene	ug/L	ND	5.0	0.57	01/04/19 22:41	
n-Propylbenzene	ug/L	ND	5.0	0.50	01/04/19 22:41	
Naphthalene	ug/L	ND	5.0	0.30	01/04/19 22:41	
o-Xylene	ug/L	ND	2.0	0.54	01/04/19 22:41	
p-Isopropyltoluene	ug/L	ND	5.0	0.47	01/04/19 22:41	
Propionitrile	ug/L	ND	10.0	3.1	01/04/19 22:41	
sec-Butylbenzene	ug/L	ND	5.0	0.48	01/04/19 22:41	
Styrene	ug/L	ND	1.0	0.50	01/04/19 22:41	
tert-Butylbenzene	ug/L	ND	5.0	0.47	01/04/19 22:41	
Tetrachloroethene	ug/L	ND	0.78	0.78	01/04/19 22:41	
Tetrahydrofuran	ug/L	ND	10.0	1.3	01/04/19 22:41	
Toluene	ug/L	ND	1.0	0.31	01/04/19 22:41	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.46	01/04/19 22:41	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.30	01/04/19 22:41	
trans-1,4-Dichloro-2-butene	ug/L	ND	5.0	1.6	01/04/19 22:41	
Trichloroethene	ug/L	ND	1.0	0.34	01/04/19 22:41	
Trichlorofluoromethane	ug/L	ND	1.0	0.51	01/04/19 22:41	
Vinyl acetate	ug/L	ND	5.0	0.42	01/04/19 22:41	
Vinyl chloride	ug/L	ND	1.0	0.60	01/04/19 22:41	
Xylene (Total)	ug/L	ND	2.0	1.5	01/04/19 22:41	
1,2-Dichloroethane-d4 (S)	%.	102	81-119		01/04/19 22:41	
4-Bromofluorobenzene (S)	%.	100	82-120		01/04/19 22:41	
Dibromofluoromethane (S)	%.	98	82-114		01/04/19 22:41	
Toluene-d8 (S)	%.	98	82-109		01/04/19 22:41	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

LABORATORY CONTROL SAMPLE: 90573

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	48.0	96	68-137	
1,1,1-Trichloroethane	ug/L	50	55.2	110	72-134	
1,1,2,2-Tetrachloroethane	ug/L	50	48.3	97	51-158	
1,1,2-Trichloroethane	ug/L	50	52.4	105	78-131	
1,1-Dichloroethane	ug/L	50	53.0	106	69-151	
1,1-Dichloroethene	ug/L	50	54.7	109	64-158	
1,1-Dichloropropene	ug/L	50	53.5	107	70-133	
1,2,3-Trichlorobenzene	ug/L	50	46.5	93	73-130	
1,2,3-Trichloropropane	ug/L	50	40.6	81	78-133	
1,2,4-Trichlorobenzene	ug/L	50	43.8	88	51-163	
1,2,4-Trimethylbenzene	ug/L	50	46.3	93	63-137	
1,2-Dibromo-3-chloropropane	ug/L	50	40.3	81	58-124	
1,2-Dibromoethane (EDB)	ug/L	50	50.8	102	71-134	
1,2-Dichlorobenzene	ug/L	50	49.6	99	70-135	
1,2-Dichloroethane	ug/L	50	51.1	102	72-129	
1,2-Dichloropropane	ug/L	50	52.1	104	64-135	
1,3,5-Trimethylbenzene	ug/L	50	46.6	93	70-142	
1,3-Dichlorobenzene	ug/L	50	47.1	94	71-134	
1,3-Dichloropropane	ug/L	50	54.3	109	70-140	
1,4-Dichlorobenzene	ug/L	50	47.5	95	70-131	
2,2-Dichloropropane	ug/L	50	39.9	80	34-170	
2-Butanone (MEK)	ug/L	100	87.5	88	52-143	
2-Chloroethylvinyl ether	ug/L	50	37.1	74	67-145	
2-Chlorotoluene	ug/L	50	48.5	97	77-128	
2-Hexanone	ug/L	100	88.5	88	61-136	
2-Nitropropane	ug/L	100	80.5	80	50-136	
4-Chlorotoluene	ug/L	50	49.7	99	79-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.7	99	71-129	
Acetone	ug/L	100	80.0	80	48-224	
Acrolein	ug/L	100	111	111	57-185	
Acrylonitrile	ug/L	200	218	109	66-154	
Allyl chloride	ug/L	100	104	104	58-150	
Benzene	ug/L	50	54.7	109	68-132	
Bromobenzene	ug/L	50	44.6	89	75-122	
Bromochloromethane	ug/L	50	55.5	111	73-133	
Bromodichloromethane	ug/L	50	48.4	97	67-121	
Bromoform	ug/L	50	43.1	86	57-125	
Bromomethane	ug/L	50	61.3	123	35-156	
Carbon disulfide	ug/L	100	111	111	47-141	
Carbon tetrachloride	ug/L	50	55.6	111	66-122	
Chlorobenzene	ug/L	50	50.9	102	71-126	
Chloroethane	ug/L	50	54.3	109	43-143	
Chloroform	ug/L	50	53.7	107	71-136	
Chloromethane	ug/L	50	46.5	93	47-123	
cis-1,2-Dichloroethene	ug/L	50	54.3	109	74-131	
cis-1,3-Dichloropropene	ug/L	50	45.9	92	78-120	
Dibromochloromethane	ug/L	50	47.2	94	65-115	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

LABORATORY CONTROL SAMPLE: 90573

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromomethane	ug/L	50	56.8	114	79-129	
Dichlorodifluoromethane	ug/L	50	42.3	85	29-124	
Ethyl methacrylate	ug/L	100	94.0	94	75-130	
Ethylbenzene	ug/L	50	51.0	102	68-129	
Hexachloro-1,3-butadiene	ug/L	50	50.0	100	58-142	
Iodomethane	ug/L	100	109	109	49-154	
Isopropylbenzene (Cumene)	ug/L	50	48.9	98	64-129	
m&p-Xylene	ug/L	100	105	105	67-137	
Methacrylonitrile	ug/L	100	99.1	99	74-139	
Methyl acrylate	ug/L	100	99.2	99	66-142	
Methyl methacrylate	ug/L	100	95.1	95	75-133	
Methyl-tert-butyl ether	ug/L	100	95.5	96	59-130	
Methylene Chloride	ug/L	50	57.3	115	61-147	
n-Butyl chloride	ug/L	100	104	104	74-139	
n-Butylbenzene	ug/L	50	46.6	93	57-157	
n-Propylbenzene	ug/L	50	46.2	92	61-145	
Naphthalene	ug/L	50	45.7	91	48-144	
o-Xylene	ug/L	50	48.4	97	52-141	
p-Isopropyltoluene	ug/L	50	51.5	103	58-137	
Propionitrile	ug/L	100	103	103	69-139	
sec-Butylbenzene	ug/L	50	46.3	93	65-138	
Styrene	ug/L	50	48.5	97	77-128	
tert-Butylbenzene	ug/L	50	47.5	95	50-189	
Tetrachloroethene	ug/L	50	52.7	105	51-139	
Tetrahydrofuran	ug/L	100	103	103	56-147	
Toluene	ug/L	50	52.8	106	60-133	
trans-1,2-Dichloroethene	ug/L	50	57.6	115	69-144	
trans-1,3-Dichloropropene	ug/L	50	42.4	85	74-128	
trans-1,4-Dichloro-2-butene	ug/L	100	85.1	85	61-139	
Trichloroethene	ug/L	50	52.1	104	73-126	
Trichlorofluoromethane	ug/L	50	54.9	110	55-132	
Vinyl acetate	ug/L	50	52.8	106	52-141	
Vinyl chloride	ug/L	50	49.5	99	50-133	
Xylene (Total)	ug/L	150	153	102	78-132	
1,2-Dichloroethane-d4 (S)	%.			100	81-119	
4-Bromofluorobenzene (S)	%.			92	82-120	
Dibromofluoromethane (S)	%.			108	82-114	
Toluene-d8 (S)	%.			97	82-109	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 90574 90575

Parameter	Units	2613332002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	50	50	48.6	48.7	97	97	68-137	0	11	
1,1,1-Trichloroethane	ug/L	ND	50	50	59.8	61.1	120	122	66-142	2	11	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 90574 90575

Parameter	Units	2613332002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,2,2-Tetrachloroethane	ug/L	ND	50	50	51.0	49.3	102	99	39-171	3	13	
1,1,2-Trichloroethane	ug/L	ND	50	50	53.2	55.4	106	111	73-136	4	12	
1,1-Dichloroethane	ug/L	ND	50	50	56.2	56.5	112	112	66-155	0	15	
1,1-Dichloroethene	ug/L	ND	50	50	55.5	57.7	111	115	33-181	4	34	
1,1-Dichloropropene	ug/L	ND	50	50	51.9	52.6	104	105	70-133	1	12	
1,2,3-Trichlorobenzene	ug/L	ND	50	50	47.7	47.7	95	95	73-130	0	22	
1,2,3-Trichloropropane	ug/L	ND	50	50	41.9	41.1	84	82	78-133	2	14	
1,2,4-Trichlorobenzene	ug/L	ND	50	50	47.3	44.7	95	89	44-164	6	13	
1,2,4-Trimethylbenzene	ug/L	ND	50	50	44.8	44.8	90	90	44-161	0	9	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	44.8	44.3	90	89	58-124	1	15	
1,2-Dibromoethane (EDB)	ug/L	ND	50	50	52.8	56.2	106	112	71-134	6	12	
1,2-Dichlorobenzene	ug/L	ND	50	50	50.7	50.6	101	101	69-135	0	10	
1,2-Dichloroethane	ug/L	ND	50	50	55.7	57.4	111	115	36-159	3	10	
1,2-Dichloropropane	ug/L	ND	50	50	56.1	55.6	112	111	68-132	1	11	
1,3,5-Trimethylbenzene	ug/L	ND	50	50	48.7	49.5	97	99	62-149	1	12	
1,3-Dichlorobenzene	ug/L	ND	50	50	49.4	49.2	99	98	68-135	0	10	
1,3-Dichloropropane	ug/L	ND	50	50	57.4	59.4	115	119	70-138	3	10	
1,4-Dichlorobenzene	ug/L	ND	50	50	47.3	47.2	95	94	49-153	0	9	
2,2-Dichloropropane	ug/L	ND	50	50	44.4	46.1	89	92	34-170	4	9	
2-Butanone (MEK)	ug/L	ND	100	100	82.8	80.3	83	80	10-189	3	23	
2-Chloroethylvinyl ether	ug/L	ND	50	50	ND	ND	0	0	67-145		36	M1
2-Chlorotoluene	ug/L	ND	50	50	50.0	50.8	100	102	77-128	2	10	
2-Hexanone	ug/L	ND	100	100	85.1	86.2	85	86	40-135	1	18	
2-Nitropropane	ug/L	ND	100	100	73.7	76.1	74	76	50-136	3	16	
4-Chlorotoluene	ug/L	ND	50	50	50.1	49.3	100	99	79-126	2	10	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	90.7	94.0	91	94	30-177	4	10	
Acetone	ug/L	ND	100	100	68.9	70.0	69	70	44-223	2	14	
Acrolein	ug/L	ND	100	100	73.8	74.4	74	74	57-185	1	30	
Acrylonitrile	ug/L	ND	200	200	193	204	96	102	13-189	5	12	
Allyl chloride	ug/L	ND	100	100	89.0	94.9	89	95	58-150	6	18	
Benzene	ug/L	ND	50	50	55.6	56.5	111	113	66-139	2	10	
Bromobenzene	ug/L	ND	50	50	48.8	48.6	98	97	75-122	0	12	
Bromochloromethane	ug/L	ND	50	50	56.8	58.5	114	117	73-133	3	13	
Bromodichloromethane	ug/L	ND	50	50	48.5	51.0	97	102	57-120	5	13	
Bromoform	ug/L	ND	50	50	42.1	44.4	84	89	48-128	5	13	
Bromomethane	ug/L	ND	50	50	48.3	50.8	97	102	10-187	5	32	
Carbon disulfide	ug/L	ND	100	100	87.9	93.8	88	94	47-141	7	322	
Carbon tetrachloride	ug/L	ND	50	50	55.4	59.3	111	119	58-127	7	14	
Chlorobenzene	ug/L	ND	50	50	49.3	50.7	99	101	63-137	3	10	
Chloroethane	ug/L	ND	50	50	43.4	47.6	87	95	52-146	9	16	
Chloroform	ug/L	ND	50	50	52.9	55.2	106	110	74-137	4	9	
Chloromethane	ug/L	ND	50	50	37.5	38.4	75	77	41-127	3	10	
cis-1,2-Dichloroethene	ug/L	ND	50	50	57.6	58.6	114	116	71-138	2	16	
cis-1,3-Dichloropropene	ug/L	ND	50	50	48.1	48.8	96	98	32-145	1	12	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 90574 90575

Parameter	Units	2613332002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dibromochloromethane	ug/L	ND	50	50	47.5	48.1	95	96	52-116	1	13	
Dibromomethane	ug/L	ND	50	50	60.5	63.4	121	127	79-129	5	14	
Dichlorodifluoromethane	ug/L	ND	50	50	33.0	34.4	66	69	36-126	4	15	
Ethyl methacrylate	ug/L	ND	100	100	92.6	95.1	93	95	75-130	3	14	
Ethylbenzene	ug/L	ND	50	50	50.7	51.8	101	104	31-174	2	10	
Hexachloro-1,3-butadiene	ug/L	ND	50	50	53.9	53.2	108	106	58-142	1	11	
Iodomethane	ug/L	ND	100	100	99.8	106	100	106	49-154	6	30	
Isopropylbenzene (Cumene)	ug/L	ND	50	50	45.4	46.9	91	94	56-139	3	12	
m&p-Xylene	ug/L	ND	100	100	105	108	105	108	27-179	2	10	
Methacrylonitrile	ug/L	ND	100	100	91.0	93.3	91	93	74-139	2	14	
Methyl acrylate	ug/L	ND	100	100	98.4	100	98	100	66-142	2	19	
Methyl methacrylate	ug/L	ND	100	100	92.0	93.8	92	94	75-133	2	13	
Methyl-tert-butyl ether	ug/L	ND	100	100	105	106	104	105	38-120	1	12	
Methylene Chloride	ug/L	ND	50	50	59.9	62.0	120	124	61-146	3	15	
n-Butyl chloride	ug/L	ND	100	100	99.9	102	100	102	74-139	2	10	
n-Butylbenzene	ug/L	ND	50	50	44.0	44.5	88	89	46-160	1	11	
n-Propylbenzene	ug/L	ND	50	50	49.2	49.8	98	100	60-148	1	10	
Naphthalene	ug/L	ND	50	50	50.8	50.0	102	100	25-159	1	14	
o-Xylene	ug/L	ND	50	50	51.2	52.2	102	104	52-141	2	65	
p-Isopropyltoluene	ug/L	ND	50	50	48.2	47.8	96	96	59-134	1	9	
Propionitrile	ug/L	ND	100	100	95.2	98.5	95	99	69-139	3	16	
sec-Butylbenzene	ug/L	ND	50	50	44.8	44.8	90	90	62-144	0	12	
Styrene	ug/L	ND	50	50	48.4	49.6	97	99	77-128	3	14	
tert-Butylbenzene	ug/L	ND	50	50	43.9	44.4	88	89	50-189	1	9	
Tetrachloroethene	ug/L	ND	50	50	49.9	50.8	100	102	36-155	2	14	
Tetrahydrofuran	ug/L	ND	100	100	99.7	101	100	101	56-147	1	12	
Toluene	ug/L	ND	50	50	54.2	55.1	108	110	52-146	2	11	
trans-1,2-Dichloroethene	ug/L	ND	50	50	56.5	59.4	113	119	61-152	5	14	
trans-1,3-Dichloropropene	ug/L	ND	50	50	44.4	45.9	89	92	37-146	3	12	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	100	76.9	75.3	77	75	61-139	2	12	
Trichloroethene	ug/L	ND	50	50	50.1	52.0	100	104	61-141	4	12	
Trichlorofluoromethane	ug/L	ND	50	50	45.7	47.5	91	95	51-141	4	13	
Vinyl acetate	ug/L	ND	50	50	45.6	46.1	91	92	52-141	1	14	
Vinyl chloride	ug/L	ND	50	50	41.7	42.8	83	86	22-156	3	26	
Xylene (Total)	ug/L	ND	150	150	157	160	104	107	78-132	2	7	
1,2-Dichloroethane-d4 (S)	%.						99	99	81-119			
4-Bromofluorobenzene (S)	%.						95	94	82-120			
Dibromofluoromethane (S)	%.						104	107	82-114			
Toluene-d8 (S)	%.						95	95	82-109			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

QC Batch: 20240 Analysis Method: SM 4500-S2 D
QC Batch Method: SM 4500-S2 D Analysis Description: 4500S2D Sulfide Water
Associated Lab Samples: 2613330001, 2613330002, 2613330003, 2613330004

METHOD BLANK: 90918 Matrix: Water
Associated Lab Samples: 2613330001, 2613330002, 2613330003, 2613330004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.20	0.20	01/08/19 11:07	

LABORATORY CONTROL SAMPLE: 90919

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.50	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 90920 90921

Parameter	Units	2613330001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	0.39	0.5	0.5	0.64	0.64	51	51	30-129	0	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

QC Batch: 20281 Analysis Method: SM 4500-SO3
QC Batch Method: SM 4500-SO3 Analysis Description: 4500SO3B Sulfite, Iodometric
Associated Lab Samples: 2613330001, 2613330002, 2613330003, 2613330004

METHOD BLANK: 91104 Matrix: Water
Associated Lab Samples: 2613330001, 2613330002, 2613330003, 2613330004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfite	mg/L	ND	1.0	1.0	01/10/19 10:35	H6

LABORATORY CONTROL SAMPLE: 91105

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfite	mg/L	10	10.0	100	80-120	H6

SAMPLE DUPLICATE: 91106

Parameter	Units	2613208001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfite	mg/L	ND	ND		10	H1,H6

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

QC Batch: 20186 Analysis Method: EPA 9056A
QC Batch Method: EPA 9056A Analysis Description: 9056 IC Anions
Associated Lab Samples: 2613330001, 2613330002, 2613330003, 2613330004

METHOD BLANK: 90756 Matrix: Water
Associated Lab Samples: 2613330001, 2613330002, 2613330003, 2613330004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	0.017	01/07/19 14:02	

LABORATORY CONTROL SAMPLE: 90757

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	10	10.9	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 90758 90759

Parameter	Units	2613332001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	185	20	20	1220	1220	5190	5190	90-110	0	15	E,M1

MATRIX SPIKE SAMPLE: 90760

Parameter	Units	2613332002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	1020	5000	90-110	E,M1

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

WORKORDER QUALIFIERS

WO: 2613330

[1] 02/25/2019: Report revised to report data to MDL.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H1	Analysis conducted outside the EPA method holding time.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P4	Sample field preservation does not meet EPA or method recommendations for this analysis.
c2	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Safety-Kleen Saint Pauls, NC
Pace Project No.: 2613330

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2613330001	**MW-2**	EPA 3010A	20189	EPA 6010D	20215
2613330002	**MW-3**	EPA 3010A	20189	EPA 6010D	20215
2613330003	**MW-4**	EPA 3010A	20189	EPA 6010D	20215
2613330004	**Dup**	EPA 3010A	20189	EPA 6010D	20215
2613330001	**MW-2**	EPA 3010A	20309	EPA 6010D	20333
2613330002	**MW-3**	EPA 3010A	20309	EPA 6010D	20333
2613330003	**MW-4**	EPA 3010A	20309	EPA 6010D	20333
2613330004	**Dup**	EPA 3010A	20309	EPA 6010D	20333
2613330001	**MW-2**	EPA 8260B	20127		
2613330002	**MW-3**	EPA 8260B	20127		
2613330003	**MW-4**	EPA 8260B	20127		
2613330004	**Dup**	EPA 8260B	20127		
2613330001	**MW-2**	SM 4500-S2 D	20240		
2613330002	**MW-3**	SM 4500-S2 D	20240		
2613330003	**MW-4**	SM 4500-S2 D	20240		
2613330004	**Dup**	SM 4500-S2 D	20240		
2613330001	**MW-2**	SM 4500-SO3	20281		
2613330002	**MW-3**	SM 4500-SO3	20281		
2613330003	**MW-4**	SM 4500-SO3	20281		
2613330004	**Dup**	SM 4500-SO3	20281		
2613330001	**MW-2**	EPA 9056A	20186		
2613330002	**MW-3**	EPA 9056A	20186		
2613330003	**MW-4**	EPA 9056A	20186		
2613330004	**Dup**	EPA 9056A	20186		

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Safety-Kleen Corporation - Elgin	Report To:	Robert Schoepke	Attention:	R.HARRELL / ACCOUNTS PAYABLE@HARTHICKMAN.COM
Address:	1502 E. Villa Street	Copy To:	R.HARRELL@HARTHICKMAN.COM	Company Name:	HART & HICKMAN
Elgin, IL 60120			GOLSON@ " " "	Address:	3921 SUNSET RIDGE RD RALEIGH NC
Email:	robert.schoepke@safety-kleen.com	Purchase Order #:		Pace Quote:	SKS-005
Phone:	(847) 468-6733 Fax	Project Name:	Safety-Kleen Saint Pauls, NC (SK-005)	Pace Project Manager:	sakina.mckenzie@pacelabs.com,
Requested Due Date:		Project #:	SKS-005	Pace Profile #:	1168

Regulatory Agency

State / Location

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	8260 Full List	8260 Full List	Sulfate and Sulfite	Sulfide	Metals by 6010_IRON	Metals by 6010_Dissolved Ir	Trip BLANK	Residual Chlorine (Y/N)	
1	MW-2			1/3/19	1245														X	X	X	X	X	X			1
2	MW-3			↓	1110														↓	↓	↓	↓	↓	↓			2
3	MW-4			↓	1600																						3
4	DUP																										4
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
VERIFY DUP FOR ALL ANALYSIS	LIZ D / H&H	1/3/19	PM	FEDEX						
				Chandra Hunter	1/4/19	0915	2,4	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: LIZ DEPOY

SIGNATURE of SAMPLER: [signature] DATE Signed: 1/3/19

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

WO# : 2613330

2613330

Sample Condition Upon Receip

WO#: 2613330

PM: SMM Due Date: 01/15/19
CLIENT: SK-Elgin

Pace Analytical

Client Name: S-K Elgin

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Optional
Proj. Due Date:
Proj. Name:

Tracking #: 449494060859

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____

Thermometer Used 032 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 2.4°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 1/24/19 CH

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	1/24/19 (CH) ☑Yes	☑No	☐N/A	5. Sulfite received out of hold
Short Hold Time Analysis (<72hr):	☑Yes	☐No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10. 1/24/19 CH
Filtered volume received for Dissolved tests	☑Yes	☐No	☐N/A	11. Dissolved Mets field Filtered
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: CW				
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes	☐No		Initial when completed: _____ Lot # of added preservative: _____
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	15.
Trip Blank Present:	☐Yes	☑No	☐N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased): _____				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** _____

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

ReSolution Partners, LLC

January 15, 2019

Mr. Robert Harrell
Project Environmental Scientist
Hart & Hickman, PC
3921 Sunset Ridge Road, Suite 301
Raleigh, NC 27607

Subject: ProvectOX Total Oxidant Demand (TOD) Testing Report for the Safety Kleen Site, St. Pauls, NC.

Dear Mr. Harrell:

ReSolution Partners, LLC is pleased to provide Hart & Hickman with Total Oxidant Demand (TOD) testing for the Safety Kleen Project in St. Pauls, NC.

OBJECTIVE

The objective of the TOD study is to determine the amount of self-activated persulfate (ProvectOX) required to oxidize natural and anthropogenic sources of organic compounds in site soil and groundwater.

BACKGROUND

The constituents of interest for this project are tetrachloroethene, naphthalene, 1,2-dichlorobenzene, 1,4-dichlorobenzene and 1,2,4,-trichlorobenzene. The samples were received on ice. The soil sample was received triple-bagged in a resealable (i.e. Ziploc) bag with minimal headspace. The groundwater sample was received in a 250 mL plastic wide-mouth bottle. The soil sample was lightly and quickly homogenized within the bag it was received in to obtain consistent results for potential replicates and minimize any volatile loss that may contribute to the TOD. The project team has indicated the use of 80:17:3 ratio of sodium persulfate : ferric oxide : TerrOR (pH buffer) and the groundwater to be used to saturate the soil for the TOD test. The samples received, description, and comments are shown in Table 1.

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ReSolution Partners, LLC

Table 1.
Samples Received for TOD Testing

Sample Name	Sample Date	Sample Matrix	Sample Comments
SB-1 9'-10'	12/28/2018	Soil	Poorly Graded Sand with Silt (SP), fine sand, non-plastic, grey 10YR6/1, solvent odor, moist.
MW-2	1/3/2019	Ground Water	Slight brown precipitate/turbidity, no odor.

METHODOLOGY

Testing conformed with procedures comparable to those discussed by Haselow et. al 2003 and in PeroxyChem's (formerly FMC) Persulfate Technical bulletin. Five mL of the groundwater sample was used to saturate the soil sample. For the soil samples, a soil to liquid ratio of 30 g soil to 75 mL liquid was used. The liquid used for the TOD testing included deionized water. Each sample was set up with a blank that included no ProvectOX. The blank is used to determine any background bias to the TOD analysis.

Each sample was reacted in a closed container at ambient temperature for 7 days. During this period, the sample reaction containers were occasionally agitated to expose solid particle surfaces to the persulfate. As necessary, the samples were centrifuged to assist in the visual titration process. Residual persulfate was determined in an aliquot of the sample decantate by back titration of a standard ferrous ammonium sulfate (FAS) solution using a standard potassium permanganate solution.

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RESULTS

The samples were set up with ProvectOX dosages on January 8, 2019. The titrations were performed on January 15, 2019. Prior to titration, the samples were centrifuged as necessary to separate the liquid from the solids. An aliquot of the liquid fraction was used to determine residual persulfate by titration. The ProvectOX TOD is reported in Table 2.

Table 2.
ProvectOX TOD (7 day) Results

Soil / GW Sample	pH	ProvectOX TOD (g/kg)
SB-1 9'-10' / MW-2	3.96	1.6

Please contact me with any questions at kbaker@resolutionpartnersllc.net or 608-669-6949.

Sincerely,

Kevin Baker

Kevin Baker
Laboratory Manager

967 Jonathon Drive · Madison, WI · 53713

APPENDIX B
SOIL BORING LOGS

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

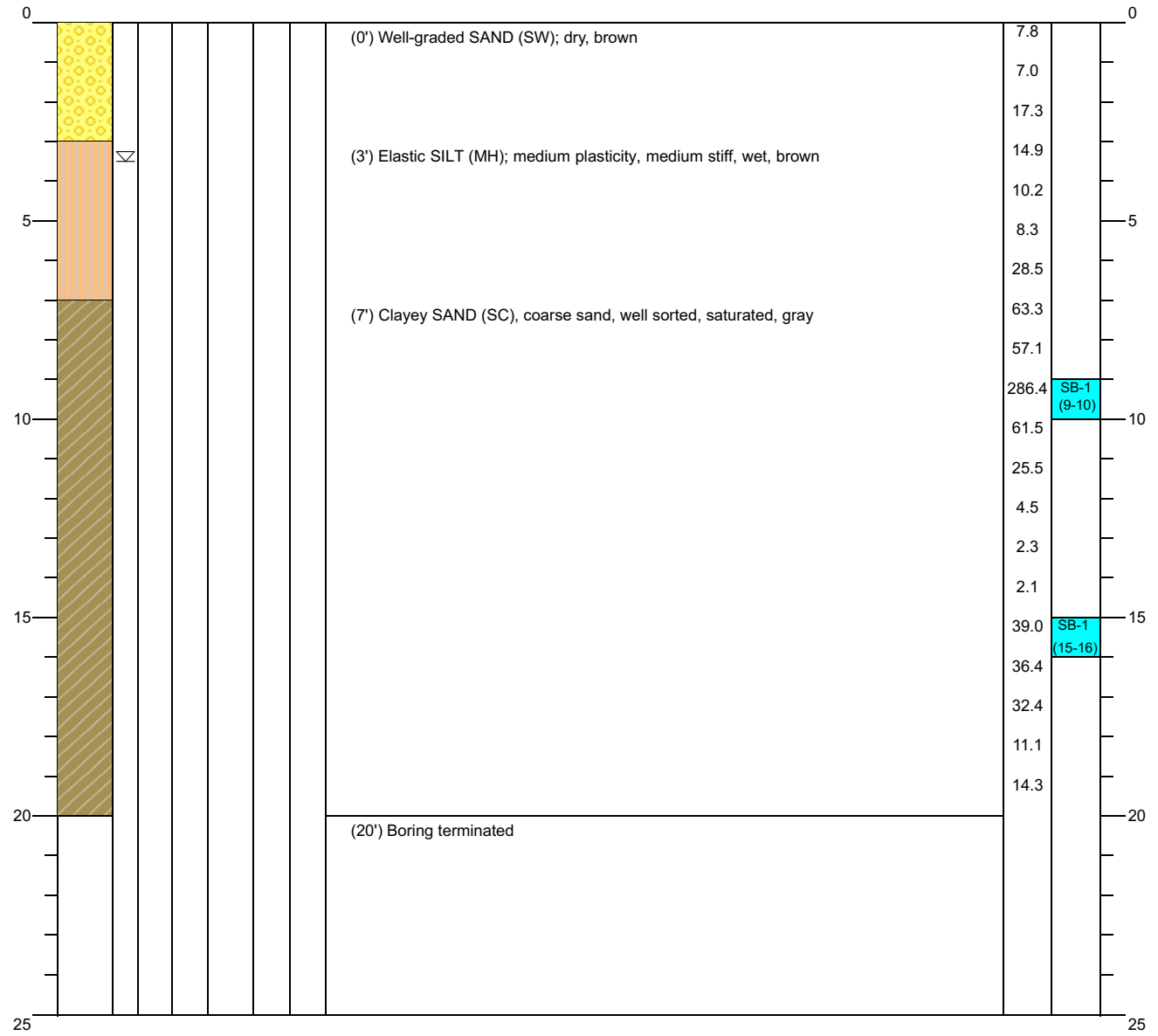
Client:	**Safety Kleen**
Project:	**SKS.005**
Address:	**934 Noth Fifth Street, Robeson, Saint Pauls, NC**

BORING LOG

Boring No. **SB-1**

Page: **1 of 1**

Drilling Start Date:	**12/28/18**	Boring Depth (ft):	**20.0**
Drilling End Date:	**12/28/18**	Boring Diameter (in):	**2.25**
Drilling Company:	**Regional Probing Services**	Sampling Method(s):	**Continuous Macrocore**
Drilling Method:	**Direct Push**	DTW During Drilling (ft):	**3.5**
Drilling Equipment:	**Geoprobe 9271DT**		
Driller:	**Larry Opper**		
Logged By:	**Liz Depoy**		



NOTES: Hole precleared to 5.0' on 12/28/18 by Regional Probing Services using hand auger.

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

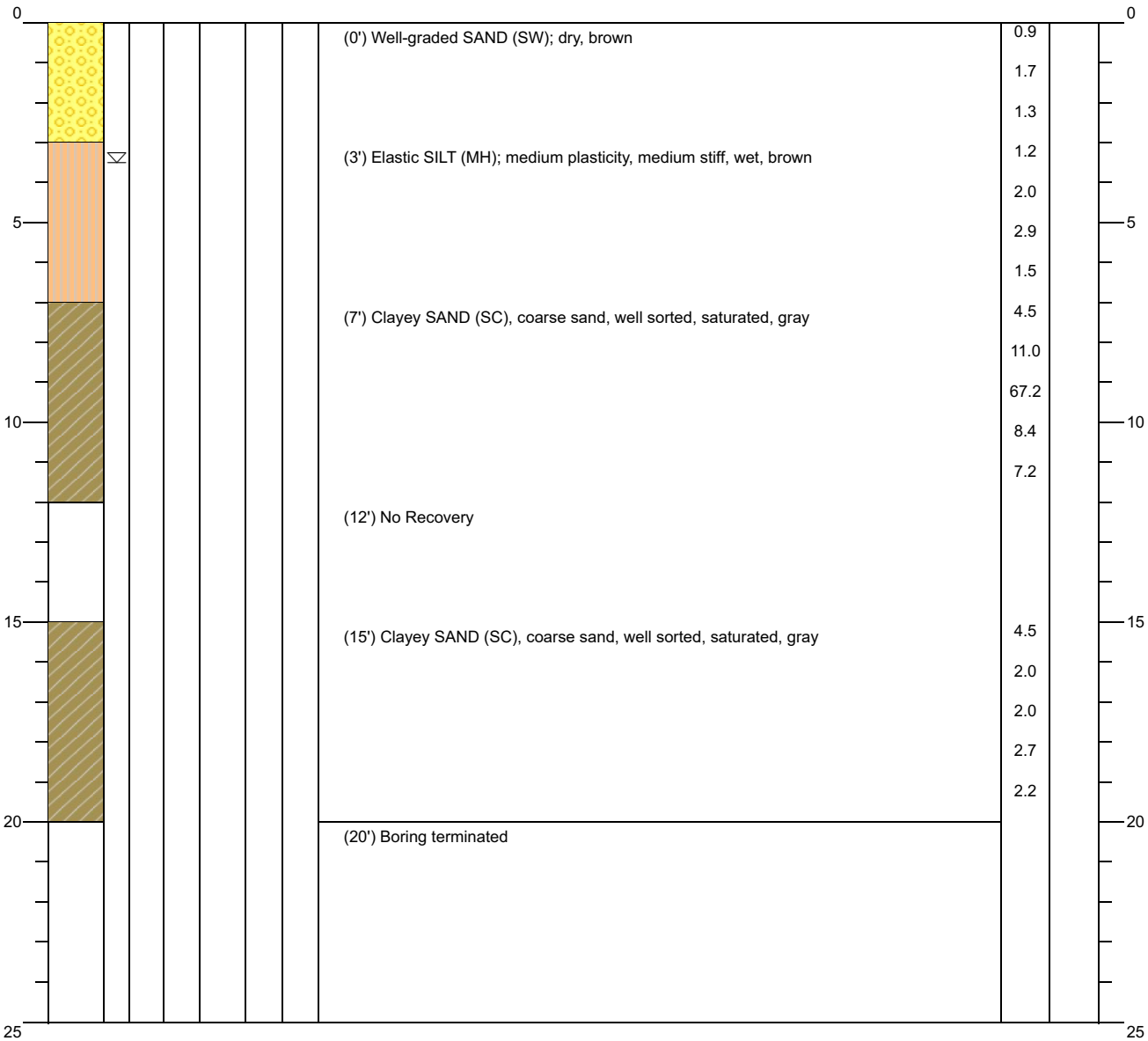
Client:	**Safety Kleen**
Project:	**SKS.005**
Address:	**934 Noth Fifth Street, Robeson, Saint Pauls, NC**

BORING LOG

Boring No. **SB-2**

Page: **1 of 1**

Drilling Start Date:	**12/28/18**	Boring Depth (ft):	**20.0**
Drilling End Date:	**12/28/18**	Boring Diameter (in):	**2.25**
Drilling Company:	**Regional Probing Services**	Sampling Method(s):	**Continuous Macrocore**
Drilling Method:	**Direct Push**	DTW During Drilling (ft):	**3.5**
Drilling Equipment:	**Geoprobe 9271DT**		
Driller:	**Larry Opper**		
Logged By:	**Liz Depoy**		



NOTES: Hole precleared to 5.0' on 12/28/2018 using hand auger.

APPENDIX C

HISTORICAL GROUNDWATER CONTOUR MAPS AND PLUME MAPS

NOTES:
1. BASE MAP PROVIDED BY PROJECT SOLUTIONS CO., SANITARY SEWER, WATER LINE, AND MONITORING WELL LOCATIONS ADDED BY ATC.

2. UTILITY LOCATIONS ARE BASED ON A SURVEY BY BATEMAN CIVIL SURVEY COMPANY, PC. SOME UTILITY LOCATIONS WERE UNCLEAR AND SOME LOCATIONS MAY NOT BE MAPPED DUE TO THE LIMITATIONS OF THE SURVEY EQUIPMENT.

N

LEGEND:

- EXCAVATION AREA
- SPILL AREA
- EXISTING MONITORING WELL LOCATION
- 95.84 GROUNDWATER ELEVATION CONTOUR (ft.)
- (95.78) GROUNDWATER ELEVATION (ft.)
- INFERRED GROUNDWATER FLOW DIRECTION

0 10' 20'
SCALE IN FEET

MW-6
(NOT INSTALLED)

MW-7
(NOT INSTALLED)

CONC. PAD

10K 150 C.M.S.

15K U.M.S.

15K 105 C.M.S.

ASPHALT

LOADING/UNLOADING TANKFARM

CONC. PAD

CONC. PAD

CONCRETE PAD FOR WASTE OIL TANKER

CONCRETE PAD FOR WASTE OIL TANKER

EXCAVATION AREA

CONC. PAD

LOADING/UNLOADING

MW-5
(95.78)

RETURN AND FILL BUILDING

MW-2
(95.85)

MW-1
(95.67)

MW-4
(95.80)

CONCRETE APRON

SPILL AREAS

GRAVEL

GRASS

MW-3
(95.84)

95.84 95.82 95.80 95.78 95.76 95.74 95.72 95.70 95.68

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Raleigh, North Carolina 27604 (919) 871-0999 FAX (919) 871-0335

PROJECT NO. 45.16031.0012
DATE 06-18-2013
SCALE 1"=10'
REV. BY GO
PREP. BY CS
TYPE CODE
CAD FILE 1252894.dwg

TITLE FIGURE 5
GROUNDWATER ELEVATION CONTOUR MAP (02/28/13)
SAFETY-KLEEN SYSTEMS, INC.
U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

NOTES:
1. GROUNDWATER ELEVATIONS FOR WELLS MW-1 THROUGH MW-5 WERE MEASURED ON 02/28/2013.

NOTES:
1. BASE MAP PROVIDED BY PROJECT SOLUTIONS CO., SANITARY SEWER, WATER LINE, AND MONITORING WELL LOCATIONS ADDED BY ATC.

2. UTILITY LOCATIONS ARE BASED ON A SURVEY BY BATEMAN CIVIL SURVEY COMPANY, PC. SOME UTILITY LOCATIONS WERE UNCLEAR AND SOME LOCATIONS MAY NOT BE MAPPED DUE TO THE LIMITATIONS OF THE SURVEY EQUIPMENT.

N

LEGEND:

- EXCAVATION AREA
- SPILL AREA
- EXISTING MONITORING WELL LOCATION
- 95.00 — GROUNDWATER ELEVATION CONTOUR (ft.)
- (91.33) GROUNDWATER ELEVATION (ft.)
- INFERRED GROUNDWATER FLOW DIRECTION

0 10' 20'
SCALE IN FEET

94.50
94.00
93.50
93.00
92.50
92.00
91.50
95.00
95.50

MW-6 (94.73)
MW-7 (91.33)
MW-5 (95.48)
MW-2 (95.69)
MW-1 (95.57)
MW-4 (95.66)
MW-3 (95.69)

CONC. PAD
CONC. PAD
CONC. PAD
CONCRETE PAD FOR WASTE OIL TANKER
CONCRETE PAD FOR WASTE OIL TANKER
ASPHALT
LOADING/UNLOADING TANKFARM
10K 150 C.M.S.
15K U.M.S.
15K 105 C.M.S.
EXCAVATION AREA
CONC. PAD
LOADING/UNLOADING
RETURN AND FILL BUILDING
CONCRETE APRON
SPILL AREAS
GRAVEL
GRASS

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PROJECT NO. 45.16031.0012
DATE 06-18-2013
SCALE 1"=10'
REV. BY GO
PREP. BY CS
TYPE CODE
CAD FILE 1252894.dwg

TITLE FIGURE 6
GROUNDWATER ELEVATION CONTOUR MAP (06/21/2013)
SAFETY-KLEEN SYSTEMS, INC.
U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

NOTES:
1. GROUNDWATER ELEVATIONS MEASURED ON 06/21/2013.

NOTES:
1. BASE MAP PROVIDED BY PROJECT SOLUTIONS CO., SANITARY SEWER, WATER LINE, AND MONITORING WELL LOCATIONS ADDED BY ATC.

2. UTILITY LOCATIONS ARE BASED ON A SURVEY BY BATEMAN CIVIL SURVEY COMPANY, PC. SOME UTILITY LOCATIONS WERE UNCLEAR AND SOME LOCATIONS MAY NOT BE MAPPED DUE TO THE LIMITATIONS OF THE SURVEY EQUIPMENT.

N

LEGEND:

- EXCAVATION AREA
- SPILL AREA
- MONITORING WELL LOCATION
- 93.00 — GROUNDWATER ELEVATION CONTOUR (ft.)
- (93.89) GROUNDWATER ELEVATION (ft.)
- INFERRED GROUNDWATER FLOW DIRECTION

0 10' 20'
SCALE IN FEET

MW-7R (90.47)
MW-6 (92.56)
MW-7 (ABANDONED)
MW-5R (92.67)
MW-5 (ABANDONED)
MW-4 (92.77)
MW-3 (92.74)
MW-2 (92.79)
MW-1 (93.89)

90.50
91.00
91.50
92.00
92.50
93.00
93.50

ASPHALT
CONCRETE TANKER PAD
10K
15K U.M.S.
15K 105 C.M.S.
CONC. PAD
CONC. PAD
CONCRETE PAD FOR WASTE OIL TANKER
CONCRETE PAD FOR WASTE OIL TANKER
LOADING/UNLOADING
RETURN AND FILL BUILDING
EXCAVATION AREA
SPILL AREAS
CONCRETE APRON
GRAVEL
GRASS

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PROJECT NO. 45.16031.0012
DATE 01-13-2015
SCALE 1"=10'
REV. BY GO
PREP. BY AW
TYPE CODE
CAD FILE 1252894.dwg

TITLE FIGURE 3
GROUNDWATER ELEVATION CONTOUR MAP - DECEMBER 2014
SAFETY-KLEEN SYSTEMS, INC.
U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

NOTES:
1. GROUNDWATER ELEVATIONS MEASURED ON 12/16/2014.

NOTES:
1. BASE MAP PROVIDED BY PROJECT SOLUTIONS CO., SANITARY SEWER, WATER LINE, AND MONITORING WELL LOCATIONS ADDED BY ATC.

2. UTILITY LOCATIONS ARE BASED ON A SURVEY BY BATEMAN CIVIL SURVEY COMPANY, PC. SOME UTILITY LOCATIONS WERE UNCLEAR AND SOME LOCATIONS MAY NOT BE MAPPED DUE TO THE LIMITATIONS OF THE SURVEY EQUIPMENT.

N

SCALE IN FEET

LEGEND:

- EXCAVATION AREA
- SPILL AREA
- MONITORING WELL LOCATION
- SOIL BORING LOCATION
- EXCAVATED SOIL BORING LOCATION
- SOIL SAMPLE LOCATION
- EXCAVATED SOIL SAMPLE LOCATION
- 96.50 GROUNDWATER ELEVATION CONTOUR (ft.)
- (95.28) GROUNDWATER ELEVATION (ft.)
- INFERRED GROUNDWATER FLOW DIRECTION

95.50
96.00
96.50
MW-7R (95.28)
MW-6 (96.72)
MW-7 (ABANDONED)
10K 150 C.M.S.
CONCRETE TANKER PAD
15K U.M.S.
MW-5R (96.77)
15K 105 C.M.S.
EXCAVATION AREA
MW-5 (ABANDONED)
CONC. PAD
LOADING/UNLOADING
B-13
S-10/S-11
B-11 (ANGLED)
B-12 (ANGLED)
S-12 (HORIZONTAL)
S-13 (HORIZONTAL)
RETURN AND FILL BUILDING
B-7
S-9
B-4
S-5
S-3
S-1
B-10
S-7
MW-2 (96.54)
B-2/B-6
S-6
S-8
S-4
S-2
B-5
B-8
B-1/B-9/B-14
SPILL AREAS
S-14
MW-3 (96.54)
MW-1 (96.35)
CONC. PAD
CONC. PAD
CONCRETE PAD FOR WASTE OIL TANKER
CONCRETE APRON
MW-4 (96.57)

ATC ASSOCIATES OF NORTH CAROLINA, P.C.
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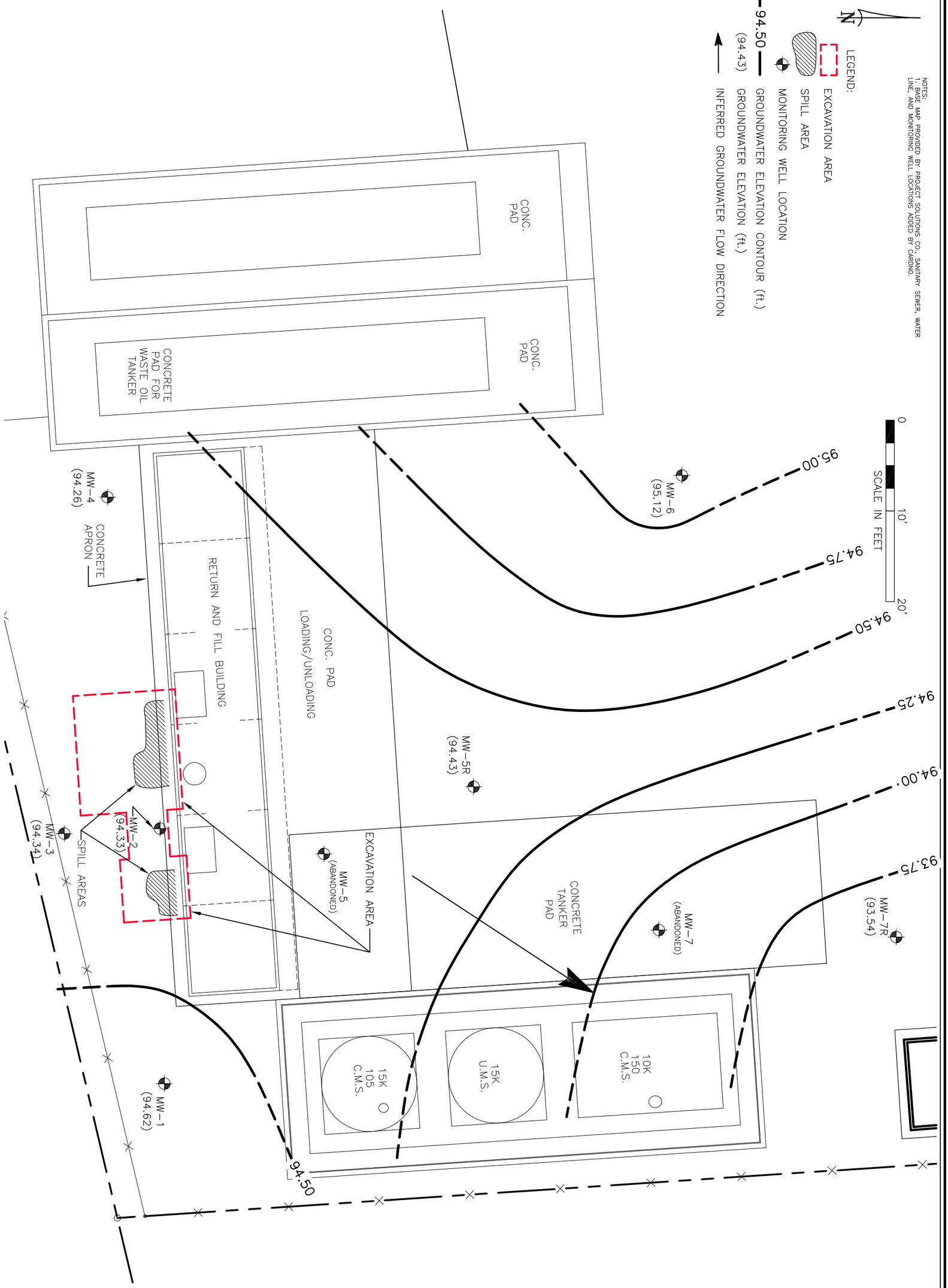
PROJECT NO. 45.16031.0012
DATE 04-03-2015
SCALE 1"=10'
REV. BY GO
PREP. BY AW
TYPE CODE
CAD FILE 1252894.dwg

TITLE FIGURE 4
GROUNDWATER ELEVATION CONTOUR MAP - MARCH 2015
SAFETY-KLEEN SYSTEMS, INC.
U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

NOTES:
1. GROUNDWATER ELEVATIONS MEASURED ON 03/17/2015.



NOTES:
1. GROUNDWATER ELEVATIONS MEASURED ON 06/03/2015.

TITLE **FIGURE 7**
GROUNDWATER ELEVATION CONTOUR MAP (JUNE 2015)
SAFETY-KLEEN SYSTEMS, INC.
U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

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Raleigh, North Carolina 27604 (919) 871-0999 FAX (919) 871-0335

CAD FILE	TYPE CODE	PREP. BY	REV. BY	SCALE	DATE	PROJECT NO.
1252894.dwg		AW	GO	1"=10'	11-04-2015	45.16031.0012

NOTES:
1. BASE MAP PROVIDED BY PROJECT SOLUTIONS CO., SANITARY SEWER, WATER LINE, AND MONITORING WELL LOCATIONS ADDED BY CARDNO.

N

LEGEND:

- EXCAVATION AREA
- SPILL AREA
- MONITORING WELL LOCATION
- 91.50 — GROUNDWATER ELEVATION CONTOUR (ft.)
- (89.77) GROUNDWATER ELEVATION (ft.)
- INFERRED GROUNDWATER FLOW DIRECTION

0 10' 20'
SCALE IN FEET

MW-7R (89.77)
MW-6 (92.58)
MW-7 (ABANDONED)
MW-5R (92.63)
MW-5 (ABANDONED)
MW-4 (93.04)
MW-2 (92.75)
MW-3 (92.54)
MW-1 (93.54)

90.00
90.50
91.00
91.50
92.00
92.50
93.00
93.50

10K 150 C.M.S.
15K U.M.S.
15K 105 C.M.S.

CONCRETE TANKER PAD
ASPHALT
CONC.
CONC.
CONCRETE PAD FOR WASTE OIL TANKER
CONCRETE PAD FOR WASTE OIL TANKER
CONC. PAD LOADING/UNLOADING
RETURN AND FILL BUILDING
EXCAVATION AREA
SPILL AREAS
CONCRETE APRON
GRAVEL
GRASS

11/16/2015 9:40am - sthompson - H:\125 - ATC__1252894_p1-11-16-15.dwg

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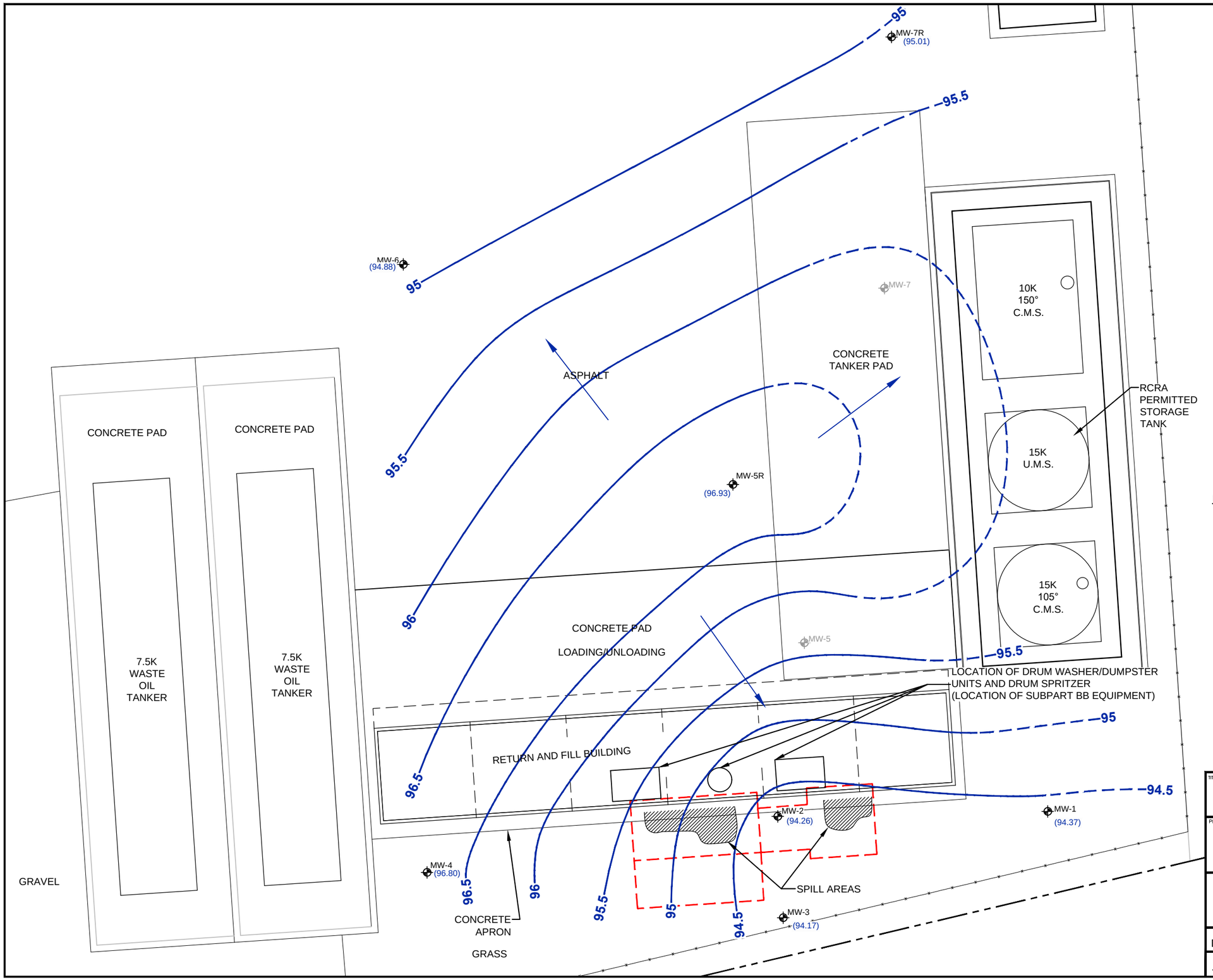
Shaping the Future
Raleigh, North Carolina 27604 (919) 871-0999 FAX (919) 871-0335

PROJECT NO.	DATE	SCALE	REV. BY	PREP. BY
45.160031.0012	11-04-2015	1"=10'	GO	AW

TYPE CODE	CAD FILE
	1252894.dwg

TITLE **FIGURE 8**
GROUNDWATER ELEVATION CONTOUR MAP (SEPTEMBER 2015)
SAFETY-KLEEN SYSTEMS, INC.
U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

NOTES:
1. GROUNDWATER ELEVATIONS MEASURED ON 09/16-17/2015.



LEGEND

- SITE PROPERTY BOUNDARY
- ADJACENT PARCEL BOUNDARY
- CHAINLINK FENCE
- MONITORING WELL LOCATION
- ABANDONED MONITORING WELL LOCATION
- SPILL AREA
- EXCAVATION AREA
- (96.93) GROUNDWATER ELEVATION (FT MSL)
- 95 GROUNDWATER ELEVATION CONTOUR (FT MSL) (DASHED WHERE INFERRED)
- INFERRED GROUNDWATER FLOW DIRECTION

NOTES:

1. C.M.S. - CLEAN MINERAL SPIRITS TANK
   U.M.S. - USED MINERAL SPIRITS TANK
2. 7.5K, 10K, 15K DENOTES TANK CAPACITY IN THOUSANDS OF GALLONS.
3. 105/150° DENOTES FLASH POINT OF MINERAL SPIRITS STORED IN THE TANK.
4. DEPTH TO GROUNDWATER MEASUREMENTS COLLECTED 12/27/2018.

N

APPROXIMATE
0 10 20
SCALE IN FEET

TITLE
GROUNDWATER GRADIENT MAP
(DECEMBER 2018/JANUARY 2019)

PROJECT
SAFETY-KLEEN SYSTEMS, INC.
934 U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
3921 Sunset Ridge Road, Suite 301
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)
License # C-1269 / #C-245 Geology

DATE: 2-22-19	REVISION NO. 0
JOB NO. SKS-005	FIGURE NO. 6

NOTES:
1. BASE MAP PROVIDED BY PROJECT SOLUTIONS CO., SANITARY SEWER, WATER LINE, AND MONITORING WELL LOCATIONS ADDED BY ATC.

2. UTILITY LOCATIONS ARE BASED ON A SURVEY BY BATEMAN CIVIL SURVEY COMPANY, PC. SOME UTILITY LOCATIONS WERE UNCLEAR AND SOME LOCATIONS MAY NOT BE MAPPED DUE TO THE LIMITATIONS OF THE SURVEY EQUIPMENT.

N

SCALE IN FEET

LEGEND:

EXCAVATION AREA

SPILL AREA

EXISTING MONITORING WELL LOCATION

MW-7 (06/05/13)	GROUNDWATER
NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARD	

MW-6 (06/05/13)	GROUNDWATER
TETRACHLOROETHLYENE ug/L	1

MW-5 (02/28/13)	GROUNDWATER
1,4-DICHLOROBENZENE ug/L	11
ISOPROPYLBENZENE ug/L	72
NAPHTHALENE ug/L	130
TETRACHLOROETHLYENE ug/L	1.4
1,2,4-TRIMETHYLBENZENE ug/L	810

MW-2 (02/28/13)	GROUNDWATER
TETRACHLOROETHLYENE ug/L	0.7

MW-4 (02/28/13)	GROUNDWATER
TETRACHLOROETHLYENE ug/L	2

MW-3 (02/28/13)	GROUNDWATER
NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS	

MW-1 (02/28/13)	GROUNDWATER
NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS	

CONC. PAD

10K 150 C.M.S.

15K U.M.S.

15K 105 C.M.S.

ASPHALT

LOADING/UNLOADING TANKFARM

CONC. PAD LOADING/UNLOADING

CONCRETE PAD FOR WASTE OIL TANKER

CONCRETE PAD FOR WASTE OIL TANKER

RETURN AND FILL BUILDING

CONCRETE APRON

GRAVEL

GRASS

MW-1

MW-2

MW-3

MW-4

MW-5

MW-6

MW-7

EXCAVATION AREA

SPILL AREAS

EXTENT OF GROUNDWATER IMPACTED ABOVE NC 2L STANDARDS

NOTES:
1. BOXES SHOW CONSTITUENTS DETECTED AT CONCENTRATIONS EQUAL TO OR EXCEEDING NC 2L STANDARDS.

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PROJECT NO. 45.16031.0012
DATE 06-18-2013
SCALE 1"=10'
REV. BY GO
PREP. BY CS
TYPE CODE
CAD FILE 1252894.dwg

TITLE FIGURE 7
GROUNDWATER ANALYTICAL DATA MAP
SAFETY-KLEEN SYSTEMS, INC.
U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

NOTES:
1. BASE MAP PROVIDED BY PROJECT SOLUTIONS CO., SANITARY SEWER, WATER LINE, AND MONITORING WELL LOCATIONS ADDED BY ATC.

2. UTILITY LOCATIONS ARE BASED ON A SURVEY BY BATEMAN CIVIL SURVEY COMPANY, PC. SOME UTILITY LOCATIONS WERE UNCLEAR AND SOME LOCATIONS MAY NOT BE MAPPED DUE TO THE LIMITATIONS OF THE SURVEY EQUIPMENT.

N

LEGEND:

EXCAVATION AREA

SPILL AREA

MONITORING WELL LOCATION

0 10' 20'

SCALE IN FEET

MW–7R (12/16/14)	GROUNDWATER
NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS	

MW–7R

MW–6 (12/16/14)	GROUNDWATER
NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS	

MW–6

MW–7
(ABANDONED)

CONCRETE
TANKER
PAD

ASPHALT

10K
150
C.M.S.

MW–5R (12/17/14)	GROUNDWATER
NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS	

MW–5R

MW–1 (12/18/14)	GROUNDWATER
NAPHTHALENE ug/L	93
TETRACHLOROETHLYENE ug/L	3.2

15K
105
C.M.S.

CONC.

MW–2 (12/17/14)	GROUNDWATER
NAPHTHALENE ug/L	63B

EXTENT OF GROUNDWATER IMPACTED ABOVE NC 2L STANDARDS

MW–3 (12/17/14)	GROUNDWATER
NAPHTHALENE ug/L	8.1B
TETRACHLOROETHLYENE ug/L	0.9

CONCRETE
PAD FOR
WASTE OIL
TANKER

CONCRETE
PAD FOR
WASTE OIL
TANKER

EXCAVATION AREA

MW–5
(ABANDONED)

CONC. PAD
LOADING/UNLOADING

RETURN AND FILL BUILDING

MW–4 (12/17/14)	GROUNDWATER
TETRACHLOROETHLYENE ug/L	1.0

MW–2

MW–1

MW–4

CONCRETE
APRON

SPILL AREAS

MW–3

GRAVEL

GRASS

ATC
ATC ASSOCIATES OF NORTH CAROLINA, P.C.
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PROJECT NO. 45.16031.0012
DATE 01–13–2015
SCALE 1"=10'
REV. BY GO
PREP. BY AW
TYPE CODE
CAD FILE 1252894.dwg

TITLE FIGURE 5
GROUNDWATER ANALYTICAL DATA MAP – DECEMBER 2014
SAFETY–KLEEN SYSTEMS, INC.
U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

NOTES:
1. BOXES SHOW CONSTITUENTS DETECTED AT CONCENTRATIONS EXCEEDING NC 2L STANDARDS.
2. B = ANALYTE WAS DETECTED IN THE ASSOCIATED METHOD BLANK.

NOTES:
1. BASE MAP PROVIDED BY PROJECT SOLUTIONS CO., SANITARY SEWER, WATER LINE, AND MONITORING WELL LOCATIONS ADDED BY ATC.

2. UTILITY LOCATIONS ARE BASED ON A SURVEY BY BATEMAN CIVIL SURVEY COMPANY, PC. SOME UTILITY LOCATIONS WERE UNCLEAR AND SOME LOCATIONS MAY NOT BE MAPPED DUE TO THE LIMITATIONS OF THE SURVEY EQUIPMENT.

N

LEGEND:

EXCAVATION AREA

SPILL AREA

MONITORING WELL LOCATION

0 10' 20'

SCALE IN FEET

MW-7R (03/17/15) GROUNDWATER

NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS

MW-6 (03/17/15) GROUNDWATER

NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS

MW-2 (03/17/15) GROUNDWATER

NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS

MW-3 (03/17/15) GROUNDWATER

NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS

MW-4 (03/17/15) GROUNDWATER

NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS

MW-5R (03/17/15) GROUNDWATER

NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS

MW-1 (03/17/15) GROUNDWATER

NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS

MW-7R

MW-6

MW-7 (ABANDONED)

MW-5R

MW-5 (ABANDONED)

MW-2

MW-1

MW-4

MW-3

10K 150 C.M.S.

15K 105 C.M.S.

CONCRETE TANKER PAD

ASPHALT

CONC.

CONCRETE PAD FOR WASTE OIL TANKER

CONCRETE PAD FOR WASTE OIL TANKER

CONC. PAD LOADING/UNLOADING

RETURN AND FILL BUILDING

EXCAVATION AREA

SPILL AREAS

CONCRETE APRON

GRAVEL

GRASS

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PROJECT NO. 45.16031.0012

DATE 04-03-2015

SCALE 1"=10'

REV. BY GO

PREP. BY AW

TYPE CODE

CAD FILE 1252894.dwg

TITLE FIGURE 6
GROUNDWATER ANALYTICAL DATA MAP - MARCH 2015
SAFETY-KLEEN SYSTEMS, INC.
U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

NOTES:
1. BOXES SHOW CONSTITUENTS DETECTED AT CONCENTRATIONS EXCEEDING NC 2L STANDARDS.

NOTES:
1. BASE MAP PROVIDED BY PROJECT SOLUTIONS CO., SANITARY SEWER, WATER LINE, AND MONITORING WELL LOCATIONS ADDED BY CARDNO.

N

LEGEND:
- EXCAVATION AREA
- SPILL AREA
- MONITORING WELL LOCATION

0 10' 20'
SCALE IN FEET

MW-6 (06/03/15)	GROUNDWATER
NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS	

MW-6

MW-7R (06/03/15)	GROUNDWATER
NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS	

MW-7R

MW-7
(ABANDONED)

CONCRETE TANKER PAD

ASPHALT

10K
150
C.M.S.

MW-5R (06/03/15)	GROUNDWATER
NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS	

MW-5R

MW-2 (06/04/15)	GROUNDWATER
NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS	

CONC.

MW-3 (06/04/15)	GROUNDWATER
NAPHTHALENE ug/L	168

MW-1 (06/03/15)	GROUNDWATER
1,4-DICHLOROBENZENE ug/L	9.6
METHYLENE CHLORIDE ug/L	5.6
NAPHTHALENE ug/L	110B
TETRACHLOROETHENE ug/L	5.1

EXCAVATION AREA

MW-5
(ABANDONED)

CONC. PAD
LOADING/UNLOADING

CONCRETE PAD FOR WASTE OIL TANKER

CONCRETE PAD FOR WASTE OIL TANKER

RETURN AND FILL BUILDING

MW-4 (06/04/15)	GROUNDWATER
NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS	

MW-4

CONCRETE APRON

MW-2

MW-1

MW-3

SPILL AREAS

GRAVEL

EXTENT OF GROUNDWATER IMPACTED ABOVE NC 2L STANDARDS

NOTES:
1. BOXES SHOW CONSTITUENTS DETECTED AT CONCENTRATIONS EXCEEDING NC 2L STANDARDS.

TITLE **FIGURE 10**
EXTENT OF GROUNDWATER IMPACT (JUNE 2015)
SAFETY-KLEEN SYSTEMS, INC.
U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

CAD FILE 1252894.dwg | TYPE CODE | PREP. BY AW | REV. BY GO | SCALE 1"=10' | DATE 11-04-2015 | PROJECT NO. 45.160031.0012

Cardno
Shaping the Future
Raleigh, North Carolina 27604
(919) 871-0999 FAX (919) 871-0335

NOTES:
1. BASE MAP PROVIDED BY PROJECT SOLUTIONS CO., SANITARY SEWER, WATER LINE, AND MONITORING WELL LOCATIONS ADDED BY CARDNO.

N

0 10' 20'
SCALE IN FEET

LEGEND:
- EXCAVATION AREA
- SPILL AREA
- MONITORING WELL LOCATION

MW-6 (09/17/15)	GROUNDWATER
NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS	

MW-6

MW-7R (09/17/15)	GROUNDWATER
NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS	

MW-7R

MW-7
(ABANDONED)

CONCRETE
TANKER
PAD

ASPHALT

10K
150
C.M.S.

MW-5R (09/16/15)	GROUNDWATER
NO CONSTITUENTS DETECTED ABOVE NC 2L STANDARDS	

MW-5R

MW-1 (09/16/15)	GROUNDWATER
1,2-DICHLOROBENZENE ug/L	26
1,4-DICHLOROBENZENE ug/L	13
NAPHTHALENE ug/L	87
TETRACHLOROETHENE ug/L	8.5

C.M.S.

MW-2 (09/16/15)	GROUNDWATER
NAPHTHALENE ug/L	49
TETRACHLOROETHENE ug/L	0.8

CONC.

MW-3 (09/16/15)	GROUNDWATER
NAPHTHALENE ug/L	18
TETRACHLOROETHENE ug/L	0.7J

CONCRETE
PAD FOR
WASTE OIL
TANKER

CONCRETE
PAD FOR
WASTE OIL
TANKER

MW-4 (09/16/15)	GROUNDWATER
TETRACHLOROETHENE ug/L	0.8

GRAVEL

EXCAVATION AREA

MW-5
(ABANDONED)

CONC. PAD
LOADING/UNLOADING

RETURN AND FILL BUILDING

MW-2

MW-1

MW-4

CONCRETE
APRON

SPILL AREAS

MW-3

GRASS

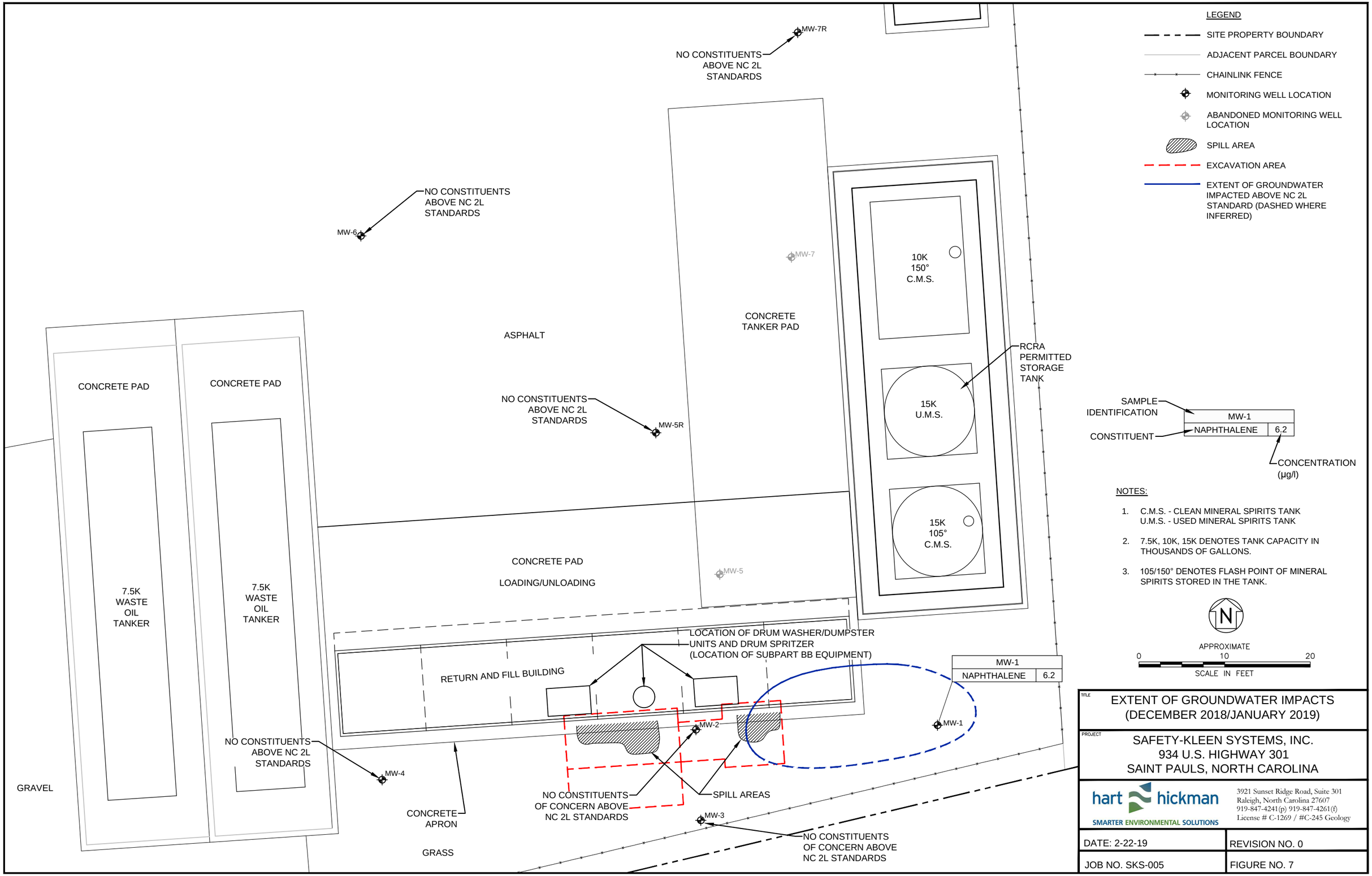
EXTENT OF GROUNDWATER IMPACTED ABOVE NC 2L STANDARDS

NOTES:
1. BOXES SHOW CONSTITUENTS DETECTED AT CONCENTRATIONS EXCEEDING NC 2L STANDARDS.

TITLE **FIGURE 11**
EXTENT OF GROUNDWATER IMPACT (SEPTEMBER 2015)
SAFETY-KLEEN SYSTEMS, INC.
U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

CAD FILE 1252894.dwg
TYPE CODE
PREP. BY AW
REV. BY GO
SCALE 1"=10'
DATE 11-04-2015
PROJECT NO. 45.16031.0012

Cardno
Shaping the Future
Raleigh, North Carolina 27604
(919) 871-0999 FAX (919) 871-0335



NOTES:

1. C.M.S. - CLEAN MINERAL SPIRITS TANK
   U.M.S. - USED MINERAL SPIRITS TANK
2. 7.5K, 10K, 15K DENOTES TANK CAPACITY IN THOUSANDS OF GALLONS.
3. 105/150° DENOTES FLASH POINT OF MINERAL SPIRITS STORED IN THE TANK.

N

APPROXIMATE
0 10 20
SCALE IN FEET

TITLE
EXTENT OF GROUNDWATER IMPACTS
(DECEMBER 2018/JANUARY 2019)

PROJECT
SAFETY-KLEEN SYSTEMS, INC.
934 U.S. HIGHWAY 301
SAINT PAULS, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
3921 Sunset Ridge Road, Suite 301
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)
License # C-1269 / #C-245 Geology

DATE: 2-22-19	REVISION NO. 0
JOB NO. SKS-005	FIGURE NO. 7

APPENDIX D
CORRECTIVE MEASURES COST ESTIMATE

Corrective Action Cost Estimate, Safety-Kleen Service Center, Saint-Pauls, North Carolina

	Activity		Estimate	
1.	INJECTION FOR SOIL AND GROUNDWATER REMEDIATION			
	Assumptions			
	- Scope of Work Detailed in February 2019 Corrective Measures Study.			
	- Injection price based on quote provided by Redox Tech, LLC			
	- Data evaluation and reporting			
	1a. Injection Permitting, Planning, and Coordination	Subtotal (1a)	$	2,533
	1b. Field Activities			
	Labor		$	4,744
	Travel Expenses		$	873
	Subcontractors (Utility Locating, Injectate Purchase, Direct-Push Injection)		$	24,365
	Equipment		$	860
		Sutotal (1b)	$	30,842
	1c. Data Evaluation and Reporting	Subtotal (1c)	$	2,748
		Activity 1 Subtotal	$	36,123
2.	ADDITIONAL INJECTION FOR SOIL REMEDIATION (IF NEEDED)			
	Assumptions			
	- Scope of Work Detailed in February 2019 Corrective Measures Study.			
	- Injection price based on quote provided by Redox Tech, LLC			
	- Data evaluation and reporting			
	2a. Injection Permitting, Planning, and Coordination	Subtotal (2a)	$	856
	2b. Field Activities			
	Labor		$	1,352
	Travel Expenses		$	108
	Subcontractors (Injectate Purchase)		$	330
	Equipment		$	15
		Sutotal (2b)	$	1,805
	2c. Data Evaluation and Reporting	Subtotal (2c)	$	1,321
		Activity 2 Subtotal	$	3,982
3.	GROUNDWATER MONITORING			
	Assumptions			
	- Scope of Work Detailed in February 2019 Corrective Measures Study.			
	- Monitoring of seven monitoring wells during each event			
	- Completion of one pre-injection and six post-injection events			
	- Analysis for volatile organic compounds, sulfate, and manganese by EPA Method 8260 during each event			
	- Data evaluation and reporting			
	3a. Field Activities			
	Labor		$	14,924
	Travel Expenses		$	1,698
	Laboratory Costs		$	9,506
	Equipment		$	3,850
		Subtotal (3a)	$	29,978
	3b. Data Evaluation and Reporting	Subtotal (3b)	$	16,807
		Activity 3 Subtotal	$	46,785

4.	CONFIRMATORY SOIL SAMPLING			
	Assumptions - Scope of Work Detailed in February 2019 Corrective Measures Study. - Up to two sampling events - Advancement of one hand auger soil boring during each event - Analysis for volatile organic compounds by EPA Method 8260 - Costs are included for anlaysis of samples for SPLP, although this may not be required - Data evaluation and reporting			
	4a. Field Activities			
	Labor		$	2,364
	Travel Expenses		$	226
	Laboratory Costs		$	1,556
	Equipment		$	90
		Subtotal (4a)	$	4,236
	4b. Data Evaluation and Reporting	Subtotal (4b)	$	3,367
		Activity 4 Subtotal	$	7,603
5.	WELL ABANDONMENT AND SITE CLOSURE ACTIVITIES			
	Assumptions - Abandonment of 7 monitoring wells and 2 injection wells - Data evaluation and reporting			
	5a. Field Activities			
	Labor		$	1,692
	Travel Expenses		$	113
	Laboratory Costs		$	2,122
	Equipment		$	15
		Subtotal (5a)	$	3,942
	5b. Data Evaluation and Reporting	Subtotal (5b)	$	1,867
		Activity 5 Subtotal	$	5,808
1.	INJECTION FOR SOIL AND GROUNDWATER REMEDIATION		$	36,123
2.	ADDITIONAL INJECTION FOR SOIL REMEDIATION (IF NEEDED)		$	3,982
3.	GROUNDWATER MONITORING		$	46,785
4.	CONFIRMATORY SOIL SAMPLING		$	7,603
5.	WELL ABANDONMENT AND SITE CLOSURE ACTIVITIES		$	5,808
	TOTAL CORRECTIVE MEASURES COST ESTIMATE		**$**	**100,300**