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YSI INCORPORATED

RCRA FACILITY INVESTIGATION AT YSI INCORPORATED FACILITY

U.S. EPA ID# OHD004246716
Greene County Court of Common Pleas Case No. 2002CV0424
Consent Order and Final Judgment Entry

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TABLE OF CONTENTS

FIGURES:

TABLES:

APPENDICES:

1.0 INTRODUCTION

1.1 Background

YSI Incorporated (YSI) is located at 1700/1725 Brannum Lane in Greene County, Ohio (Figure 1). The northern portion of the site is located within the village limits of Yellow Springs, Ohio, while the southern portion of the site is located in Miami Township, Greene County, Ohio. The site covers an area of approximately 13 acres and includes four buildings (the Brannum East Building, the Brannum West Building, the Webb Building, and a garage) plus two storage sheds and paved parking lots and access roads (Figure 2).

On April 1, 2002, based on the detection of several volatile organic compounds (VOC) in samples from YSI water wells and neighboring water wells, the Ohio Environmental Protection Agency (OEPA) issued an Administrative Consent Order (ACO) to YSI. The ACO directed YSI to complete Source Control / Groundwater Interim Action (SCIA) activities at the facility. The technical requirements of the ACO were outlined in *Statement of Work for Conducting Source Control / Groundwater Interim Actions* (Statement of Work), included as an attachment to the ACO.

On July 10, 2003, Judge Wolaver of the Greene County Common Pleas Court entered a Consent Order between YSI and the State of Ohio. The Consent Order provided the terms of settlement in a lawsuit filed by the state against YSI in May 2002. Among other things, the Consent Order required YSI to continue work under the existing SCIA Statement of Work and to complete RCRA corrective action and closure work.

In response to the ACO and the SCIA Statement of Work, YSI implemented interim actions to address VOCs in groundwater in two areas of the YSI facility known as the Current Shipping Dock Area and the Former Shipping Dock Area. Carbon tetrachloride was identified in the Former Shipping Dock Area at concentrations requiring interim actions, while tetrachloroethene, 1,1,1-trichloroethane, and 1,1-dichloroethene were identified at concentrations warranting interim action in the Current Shipping Dock Area. The interim action activities were implemented as described in *Source Area Interim Action Detailed Plans and Specifications, YSI Incorporated* (Detailed Plans and Specifications, BHE, May 19, 2005). YSI also provided potable water to affected area residents and completed monitored natural attenuation of off-site groundwater impacts as described in *Detailed Plans and Specification, Groundwater Plume Remedial Interim Action, YSI Incorporated, Yellow Springs, Ohio* (BHE, July 2006).

Concurrent with the implementation of SCIA interim actions, YSI completed a RCRA Facility Investigation (RFI) that focused on human and ecological exposure to constituents of concern (COCs) through exposure pathways not addressed by the SCIA Statement of Work. The RFI was initially completed in October 2005 and concluded by identifying the need for corrective measures for VOCs in soil in the Current Shipping Dock Area and the Former Shipping Dock Area:

- tetrachloroethene concentrations in soil in the Current Shipping Dock Area exceeded human health risk goals, and 1,1,1-trichloroethane concentrations exceeded ecological screening values;
- carbon tetrachloride concentrations in the Former Shipping Dock Area exceeded human health risk goals as well as ecological screening values.

The October 2005 RFI was not finalized. The next step in the RCRA process, after the identification of the need for corrective measures, is submittal of a Corrective Measures Study (CMS) Work Plan. However, SCIA interim actions were underway in the Current Shipping Dock and Former Shipping Dock Areas when the RFI was initially submitted to OEPA in October 2005. The SCIA Detailed Plans and Specifications document requires evaluation of soil conditions at the conclusion of the interim actions. Therefore, YSI requested that submittal of a final RFI and a CMS Work Plan, if required, be postponed until completion of SCIA interim actions and subsequent re-evaluation of soil conditions.

Ohio EPA approved this request by letter dated May 31, 2006. In that letter, Ohio EPA required submittal of a revised RFI report after completion of the SCIA interim action. This document serves as the revised RFI requested by Ohio EPA. The May 31, 2006 Ohio EPA letter requires the revised RFI to include a determination of the need for corrective measures. A determination of the need for corrective measures is included in this revised RFI.

1.2 Objectives

According to paragraph 41 of the Consent Order, the RFI Work Plan must "provide for the determination of the nature and extent of the contamination at the Facility caused by the disposal, discharge, or release of Waste Material from Waste Management Units. The RFI work plan shall include procedures for the evaluation of human health and/or ecological risk threatened or potentially threatened at the Facility." The RFI Work Plan was prepared in response to the requirements of Paragraph 41 of the Consent Order. The RCRA Facility Investigation documented herein was conducted as described in the RFI Work Plan. This document presents the results of the RFI Investigation, as well as the SCIA interim action activities (identified as an Interim Measures as defined in Section V.D. of the Consent Order), and includes a determination of the need for corrective measures at the site.

1.3 Scope of RFI Investigation

The SC/GWIA Administrative Order addresses the soil to groundwater leaching pathway and the groundwater ingestion and inhalation pathway. The SC/GWIA Administrative Order specifies that groundwater compliance levels be developed, and that interim actions to attain these goals be implemented. The groundwater compliance levels are risk-based concentrations designed to be protective of human health, and these levels are equal to or less than Maximum Contaminant Levels (MCLs) for drinking water. The SC/GWIA Administrative Order also directed YSI to provide an alternate potable water supply to impacted residences, and this interim action has been completed (see Description of Current Conditions Report, Section 3.7.2). The SC/GWIA Administrative Order also directed YSI to develop soil remediation goals based on eliminating the potential for contaminants to leach to ground water at concentrations that will lead to an exceedance of groundwater compliance levels. Contaminants at the Former Shipping Dock Area and the Current Shipping Dock Area exceeded these soil remediation goals, and interim actions to address these source areas were implemented concurrently with completion of the October 2005 RFI.

Figure 3 identifies the exposure pathways evaluated during the RCRA Facility Investigation, as well as those pathways investigated as required by the SC/GWIA Administrative Order. As shown in this figure, the groundwater ingestion and inhalation pathway and the soil to groundwater leaching pathway are addressed by the SC/GWIA Administrative Order. Therefore, no additional evaluation of these pathways was completed during preparation of the October 2005 RFI document. The SCIA interim actions were designed to address these pathways, and results of the interim actions are

presented in this revised RFI document as RCRA Interim Measures. The RCRA Facility Investigation focused on possible exposure pathways not addressed by the SC/GWIA Administrative Order. These pathways include the soil direct contact pathway, the surface water ingestion and inhalation pathway, the sediment direct contact pathway, and the soil vapor and groundwater vapor to indoor air pathway. Possible ecological exposure pathways associated with soil, surface water, and sediment were also evaluated.

1.4 Purpose of this Document

This document provides the results of the RCRA Facility Investigation as well as SCIA interim actions conducted for the YSI facility. This document is based on the October 2005 RFI, but includes more current data generated since the October 2005 document. The remaining sections of this document summarize the approach of the RCRA Facility Investigation (Section 2), outline the data collection and evaluation methods employed for this investigation (Section 3), present a human health evaluation of site data (Section 4), present an ecological evaluation of site data (Section 5), and present conclusions based on the data evaluation (Section 6). References cited in this document are listed in Section 7.

2.0 APPROACH

The RFI described in this document consisted of three main tasks: 1) evaluate the nature and extent of contamination caused by the disposal, discharge, or release of waste material from waste management units at the site, 2) evaluate human health and ecological risk from the disposal, discharge, or release by comparing analytical results to existing comparison standards or a site-specific standard, and 3) identify areas where corrective measures are required.

This approach is briefly described below.

2.1 Evaluate Nature and Extent of Contamination in Targeted RFI Media and Pathways

As presented in the Description of Current Conditions Report, significant environmental investigations have identified the extent of contamination in soil on the YSI facility, as well as in groundwater on and off of the YSI site. The results of these investigations are depicted in the Description of Current Conditions Report Figures 1-1 through 1-4, Figures 5-1 through 5-21, and are described in Sections 1 and 5 of the Description of Current Conditions Report. In the Description of Current Conditions Report (Section 8.2.1), YSI proposed to continue source area and groundwater investigation and interim action activities under the SCIA Administrative Order, while investigating other media and exposure pathways under the RFI. These additional media include surface water, sediment, and indoor air. During the RCRA Facility Investigation, additional samples of surface water and sediment were collected and analyzed for contaminants of concern (COCs) on and off of the YSI facility. Soil gas in impacted areas beneath facility buildings was sampled and analyzed for COCs. These results were presented in the October 2005 RFI. Additionally, groundwater monitoring, soil sampling and analysis, and soil vapor sampling and analysis has occurred since YSI's submittal of the October 2005 RFI. For completeness, both sets of additional data (that were collected after the Description of Current Conditions but before the October 2005 RFI, and data generated after the October 2005 RFI) are discussed in this document.

To be complete, an exposure pathway must have: (1) a source of contamination, (2) a mechanism for transport of a COC through environmental media, and (3) a receptor (human or ecological) that comes into contact with the COC. An evaluation of exposure pathway completeness was conducted using previously-generated data (as summarized in the Description of Current Conditions Report) and new data generated during the RFI. Table 1 identifies the media that were investigated, the exposure pathways that were evaluated for completeness, and the data (new and/or existing) that were used to conduct these evaluations. This table also identifies those pathways and media where COCs were addressed during SCIA interim actions.

2.2 Evaluate Media and Pathway Analytical Results

Risk associated with exposure to COCs was evaluated for those exposure pathways determined to be complete, as described above. This evaluation was completed by comparing data to existing comparison standards. Table 2 identifies the existing standards against which site data were compared to evaluate risk.

For each COC, the maximum value in each media for each discrete area, as well as the 95% upper confidence limit (95% UCL) of the mean, where a 95% UCL could be calculated (see Section 3.3 of this document for more details), were compared to the standards shown in Table 2. As shown in this table, U.S. EPA Regional Screening Levels, Groundwater Compliance Levels and Soil Remediation Goals established during the SCIA Interim Actions, and Maximum Contaminant Levels (MCLs) for drinking water were used to evaluate data from the soil, surface water, and sediment pathways. The indoor air pathway was evaluated with use of the *Vapor Intrusion Screening Level (VISL) Calculator* (EPA, June 2015). Soil, groundwater, and soil gas data were used in this evaluation.

The hierarchy of screening values identified in *Guidance for Conducting RCRA Ecological Risk Assessments* (OEPA, revised April 2008) a) were used to evaluate the ecological pathway. Soil, surface water, and sediment data were used in this evaluation.

2.3 Identify Areas Requiring Corrective Measures

The final task of the RCRA Facility Investigation is to identify those media that exceed applicable standards and warrant corrective measures. The remainder of this report presents the investigation and data evaluation tasks conducted during the RCRA Facility Investigation and the SCIA interim action. Conclusions and recommendations are provided in Section 6 of this document.

3.0 METHODS AND ANALYTICAL RESULTS

Both existing and newly-acquired media analytical data were evaluated during this RCRA Facility Investigation. The sections that follow describe the methods used for data collection and review.

3.1 Sample Collection, Analysis, and Results

Investigation of sediment, surface water, indoor air, and soil was conducted during the RCRA Facility Investigation, as presented in the October 2005 RFI document. Additional investigation of select media has been conducted since submission of the October 2005 RFI. The results originally presented in the October 2005 RFI, as well as results from subsequent investigations, are presented below.

Samples were collected, handled, and packaged as described in Section 3 of the RFI Work Plan. All samples were analyzed for the COCs identified in Table 3. Sediment, surface water, and sediment samples were analyzed by SW846 Method 8260B. Soil gas samples were analyzed by EPA Method TO-14 and TO-15.

The collection and analysis of sediment, surface water, soil gas, and soil samples is discussed below. Analytical results are also briefly summarized in the sections that follow.

3.1.1 Sediment

Sediment Sample Collection and Analysis

Previous sediment analytical data is described in Section 5.6.3.1 and depicted in Figure 5-19 of the Description of Current Conditions Report. During the RCRA Facility Investigation, additional sediment samples were collected from intermittent and perennial streams to supplement the previous data.

Figure 4 identifies locations from which sediment samples were collected during the RCRA Facility Investigation. Table 4 identifies the sampling intervals and sample identification numbers from each of the sampling locations shown in Figure 4.

Sediment samples were collected in accordance with Sediment Sampling Guide and Methodologies (OEPA, Division of Surface Water, November 2001) and as described in Section 3.1.2 of the RFI Work Plan. In intermittent drainages that were dry at the time of sampling, a sample was collected from the upper three inches of sediment and from three inches to six inches beneath the sediment surface. In flowing streams and in ponds, a vertical core of sediment was collected and was divided into several depth intervals (such as 0 to 3 inches, 3 to 6 inches, etc.) and each depth interval was submitted for analysis. Fine-grained sediment deposits in streams on and near the YSI property are generally less than three inches in depth and are underlain by a gravel substrate. Therefore, only one depth interval was collected at most stream sampling locations.

Guidance in *Sediment Sampling Guide and Methodologies* recommends that sediment collection be biased toward areas of fine grained silts and clays, as these particles have higher specific capacity, unbalanced electrical charges, and a larger surface area to volume ratio, and are therefore more chemically, physically, and biologically interactive. Therefore, at many sampling locations, co-located samples were collected for particle-size analysis. Particle size analysis was conducted by ASTM Method D422, Standard Test Method for Particle-Size Analysis of Soils.

Sediment Sample Analytical Results

Analytical results for sediment samples collected during the RCRA Facility Investigation are provided in Table 5. Summaries of laboratory analytical reports are provided in Appendix A. Particle-size analysis results for sediment samples collected during the RCRA Facility Investigation are provided in Appendix B.

As shown in Table 5, acetone was detected in three sediment samples collected in a pond located south southwest of the YSI facility (see Figure 4 for locations). Previous sediment sampling (described in Section 5.6.3.1 of the Description of Current Conditions Report) identified the presence of 1,1,1-trichloroethane in one sediment sample from a small spring that discharges to this pond.

3.1.2 Surface Water

Surface Water Sample Collection and Analysis

Previous surface water sampling data was described in Section 5.6.3.1 of the Description of Current Conditions Report. To supplement this data, YSI collected additional surface water samples in local drainages.

Figures 5 and 6 identify the locations where surface water samples were collected. Figure 5 depicts upgradient, on-site, and downgradient surface water sampling locations, while Figure 6 depicts storm event surface water sampling locations. Table 6 identifies the samples collected at each sampling location.

All surface water samples and storm event samples were collected as described in Section 3.1.1 of the RFI Work Plan by directly collecting the sample from the stream or storm flow. Because sample containers were pre-preserved with acid, these samples were collected by dipping an unpreserved container into the stream flow, then transferring the contents to a preserved container.

Surface Water Sample Analytical Results

Surface water sample analytical results are provided in Table 7. Summaries of laboratory analytical reports are provided in Appendix A. As shown in Table 7, the compounds 1,1-dichloroethane, 1,1-dichloroethene, and 1,1,1-trichloroethane were detected in one or more samples collected during the RCRA Facility Investigation. 1,1-dichloroethane was identified in two surface water samples collected in a stream east of the YSI facility. 1,1-dichloroethene was identified in one sample from this stream. 1,1,1-trichloroethane was identified in four samples from this stream as well as in seven samples from a pond and upgradient spring-fed streams located south southwest of the YSI facility. No COCs were identified in stormwater samples.

The results for 1,1,1-trichloroethane in surface water samples collected during the RCRA Facility Investigation are generally consistent with those in previous samples. 1,1,1-trichloroethane has previously been detected in samples from the stream east of the YSI facility, as well as in spring-fed streams and an associated pond located south southwest of the site. One previous sample from a spring-fed stream that discharges to this pond also contained 1,1-dichloroethane and 1,1,1-dichloroethene. Previous surface water sampling also identified the presence of tetrachloroethene and toluene in a stream upgradient (north) of the YSI site. Previous surface water sampling results are discussed in Section 5.6.3.1 of the Description of Current Conditions Report.

3.1.3 Soil Gas

Soil Gas Sample Collection and Analysis

Soil gas samples were collected from two locations in the Brannum East Building and two locations in the Brannum West Building during the RCRA Facility Investigation, as well as an additional location beneath the northeastern portion of the Brannum East building in June 2011. Sampling locations are shown in Figure 7. Table 8 identifies the samples collected at each sampling location.

Soil gas samples were collected in general accordance with ASTM Standard D5314, *Standard Guide for Soil Gas Monitoring in the Vadose Zone* (ASTM, 1992, reapproved 2001) and as described in

Section 3.1.3 of the RFI Work Plan. Samples were collected from immediately beneath the concrete slab of each building (the Brannum East and Brannum West building), in the aggregate material beneath the slab, as organic vapors in this material are more available for intrusion into a building than are vapors in deeper soils. An electric drill was used to drill small holes through the slab at each sampling location. A small piece of Teflon-lined tubing was placed through the hole, with the bottom of the tubing located in the aggregate beneath the slab. The hole around the tubing was sealed with several inches of sand capped with modeling clay. A valve was placed on the top of the tubing (the above-slab end of the tubing), and a manually-operated vacuum pump was used to slowly purge several liters of air to ensure that ambient air was not present in the tubing or beneath the slab. Following purging, the valve was closed and the pump disconnected.

Samples were collected from each location at least 24 hours after completion of the sampling point installation, to allow for equilibrium conditions to be reached beneath the slab after installation of the sampling point. Samples were collected by attaching the inlet controller of a SUMMA canister directly to the tubing, opening the valve on the tubing, and opening the control valve on the canister. The vacuum of the canister was used to draw a sample into the canister. A controller that allows the sample to be collected over a period of one hour was used.

Soil Gas Sample Analytical Results

Soil gas sample analytical results are provided in Table 9. Summaries of laboratory analytical reports are provided in Appendix A.

3.1.4 Soil

The known extent of COC impacts in soils was identified during previous investigations at the site and is described in Section 5.0 of the Description of Current Conditions Report. Of five suspect source areas investigated, the Current Shipping Dock Area and the Former Shipping Dock Area contained concentrations of COCs requiring interim actions under the SC/GWIA process. An interim action was required for carbon tetrachloride in the Former Shipping Dock Area. Carbon tetrachloride and chloroform were present in groundwater immediately beneath the source area at concentrations above their respective groundwater compliance levels. An interim action was also required for 1,1-dichloroethene, tetrachloroethene, and 1,1,1-trichloroethane at the Current Shipping Dock Area. Both of these source areas were relatively localized. The Current Shipping Dock Area is entirely paved or covered by a building, while approximately half of the Former Shipping Dock Area is covered by pavement, thereby limiting the potential for direct contact by human and ecological receptors. Relatively low concentrations of VOCs were identified in other areas during the source area investigation; however, these detects were generally found at depth and were below the threshold at which interim actions are required by the SC/GWIA Statement of Work. Other investigations, including a water line installation investigation and off-site soil sampling, indicated that the extent of COC impacts in soil was localized to the source areas.

Additional Soil Investigation

Soil sampling and analysis was conducted during the RCRA Facility Investigation (in 2004) to better define a perimeter of COC impacts in the Former Shipping Dock Area and the Old Brannum House Area. Additional soil investigation in the Former Shipping Dock Area and the Current Shipping Dock Area was conducted in 2015 at the completion of the SCIA interim action to assess current VOC concentrations in soil. These investigations are described below.

Figures 8 and 9 depict the locations where additional soil sampling was conducted in the Former Shipping Dock Area and the Old Brannum House Area, respectively during the RCRA Facility Investigation. Samples collected from each soil boring are listed in Table 10. Figure 10 depicts sampling locations during the 2015 SCIA Soil Investigation.

Soil samples were collected using Geoprobe™ hydraulic direct-push sampling methods as described in Section 3.1.4 of the RFI Work Plan. Soil was collected continuously in four-foot increments from surface to the boring termination depth, and the collected soil was immediately field-screened for the presence of volatile organic vapors with a photoionization detector (equipped with an 11.7 electron volt photolamp) and flame ionization detector. Samples for VOC analysis collected during the RCRA Facility Investigation were collected with Encore™ samplers, while samples collected during the 2015 SCIA Soil Investigation were collected with Terracore samplers and field-preserved.

Additional Soil Sample Analytical Results

Analytical results for soil samples collected during the RCRA Facility Investigation are provided in Table 11, while results for samples collected during the SCIA Soil investigation are provided in Table 12. Summaries of laboratory analytical reports are provided in Appendix A. Soil boring logs for the borings advanced to collect these samples are provided in Appendix C.

As shown in Table 11, the compounds benzene, toluene, ethylbenzene, xylene (BTEX compounds) and 1,2,4-trimethylbenzene were identified in several samples. Several chlorinated compounds are the primary COCs at the site, and interim actions were required for carbon tetrachloride (in the Former Shipping Dock Area) and tetrachloroethene, 1,1,1-trichloroethane, and 1,1-dichloroethene (in the Current Shipping Dock Area). Neither these compounds, nor breakdown products of these compounds, were detected in RCRA Facility Investigation soil samples.

As shown in Table 12, BTEX compounds, 1,2,4-trimethylbenzene, acetone, the chlorinated VOCs that are the COCs at the site (1,1,1-trichloroethane, tetrachloroethane, carbon tetrachloride, and 1,1,-dichloroethene) or are their breakdown products (methylene chloride, chloromethane, cis-1,2-dichloroethene) were detected in one or more of the 2015 soil samples.

3.2 Analytical Data Review

Sample analytical data received from the laboratory were reviewed as described in Section 8 of the Quality Assurance Project Plan (Appendix B to the RFI Work Plan). This review was conducted to ensure that laboratory results meet QC acceptance criteria. The data review included:

- Comparison of sampling date, sample extraction dates, and sample analysis dates to ensure that sample holding time limits were met;
- Comparison of reported versus requested analyses (from the chain of custody form) to identify data omissions;
- Review of analytical methods and reporting limits for compliance with project requirements;
- Comparison of surrogate spike recoveries to QC acceptance criteria for the method;
- Review of matrix spike/matrix spike duplicate recoveries and comparison to QC acceptance criteria for indications of a sample matrix interference;

- Review of field blanks, trip blanks, and laboratory blank results for the presence of contaminants that may indicate a field or laboratory contaminant source;
- Review of field duplicate samples and comparison to QC acceptance criteria;
- This data validation does not include a review of laboratory instrument calibration, raw data (analyst notes, GC/MS output, etc.). This information will be maintained in the laboratory's file according to the laboratory QA/QC manual.

This data review was conducted for each batch of laboratory analytical data. The results of the review were documented in data review memorandums. Data review memorandums for the sampling conducted as described in Section 3.1 are provided in Appendix D.

3.3 Calculation of 95% Upper Confidence Limit

As described in Section 2.2, the 95% upper confidence limit (95% UCL) of the mean was calculated, where possible, for the COCs in a media in each discrete area. Prior to these 95% UCL determinations, previously-generated data (presented in the Description of Current Conditions Report) was combined with analytical data generated during the RCRA Facility Investigation, with the exception of the Current Shipping Dock Area and the Former Shipping Dock Area. For soils in the Current Shipping Dock Area and the Former Shipping Dock Area, the 2015 data collected during the SCIA Soil Investigation was utilized. Historic soil sampling results from these areas were not utilized, as they no longer represent current conditions after completion of the SCIA interim action.

For surface water and sediment data, 95% UCLs were determined for the entire data set (i.e., the entire area that was assessed during previous investigations and the RCRA Facility Investigation was treated as one area). For soils, data were organized by the suspect source areas identified in Figure 11. These suspect source areas were those identified prior to conducting investigations under the SC/GWIA Administrative Order. In addition to these geographically defined areas, analytical results from other scattered areas across the YSI site were combined into a separate exposure area identified as On-site Drainageways and Other Areas.

95% UCLs were calculated using EPA's ProUCL software (Version 3.02). The ProUCL user's guide (Singh et al. 2004) notes that ProUCL (and UCL algorithms in general) do not address situations where there are more than about 15% non-detects. With the exception of the detection of 1,1,1-trichloroethane in surface water samples, no COCs were present in more than 15% of data from an evaluated media in an exposure area. Regardless, some 95% UCLs were estimated in cases where there were substantial numbers of samples in a media with detections of a COC, particularly in cases where the maximum concentrations were relatively high. In all cases where 95% UCLs were calculated, the data did not fit any of the parametric distributions in ProUCL, and non-parametric estimation techniques were employed. In cases where 95% UCLs were not calculated, maximum concentrations were used as the default exposure concentrations.

The calculation of 95% UCLs, even in instances where the data set contained well more than 15% non-detects, was conducted in response to a public comment to the RFI Work Plan. When issued for public comment in February 2004, the work plan proposed comparing maximum detected concentrations to applicable standards. A public comment requested that 95% UCLs be calculated, and that the higher of the maximum detected concentration or the calculated 95% UCL concentration be used for this evaluation.

4.0 HUMAN HEALTH EVALUATION

As described previously, the evaluation of site data during the RCRA Facility Investigation was conducted by comparing previously-collected and newly-acquired data to existing applicable standards. The human health exposure pathways evaluated during the RFI and the comparison standards used to evaluate site data are shown in Table 2. Each of these pathways is evaluated below.

4.1 Soil Direct Contact Pathway

To evaluate the soil direct contact exposure pathway, previously-collected data and additional analytical data developed during the RCRA Facility Investigation were grouped by area (see Figure 10). The maximum and 95% UCL concentrations (where a UCL could be calculated) for detected compounds in each area were then compared to November 2015 U.S. EPA Regional Screening Levels. This analysis conservatively assumes that an exposure to maximum (or 95% UCL concentrations) for all compounds in an area would occur at once, even if the maximum concentrations for different COCs are scattered geographically throughout the area. Soil analytical data was grouped into the following areas:

- Webb Building Area (see Description of Current Conditions Report, Figure 5-12 and Table 5-10 for soil analytical data from the Webb Building)
- Old Brannum House Soil Area (see Description of Current Conditions Report, Figure 5-13 and Table 5-13 for soil analytical data from the Webb Building)
- Old Brannum House and Waste Storage Shed Area (see Figure 5-14 and Table 5-16 from the Description of Current Conditions Report, plus Figure 9 and Table 11 from this document)
- Drainageways (see Figure 5-17 and Table 5-25 from the Description of Current Conditions Report)
- Other Areas (see Description of Current Conditions Report, Figure 5-17 and Table 28)
- Current Shipping Dock Area (see Figure 10 and Table 12 from this document)
- Former Shipping Dock Area (see Figure 10 and Table 12 from this document)

For areas where more than one COC was present in soils, the cumulative cancer risk and non-cancer hazard index were calculated (see Tables 14, 16, 18, 20, 22, 24). For carcinogenic compounds, the maximum or 95% UCL for each COC in an area divided by the RSL for that compound. This done for each carcinogenic COC in the area, and the results were summed and multiplied by 10^{-5}, as shown below for a situation with two carcinogens:

Cumulative risk = [(conc. A/cancer RSL A) + (conc. B/cancer RSL B)] x $1x10^{-5}$

Where: conc. A is the concentration of contaminant A

cancer RSL A is the cancer RSL for contaminant A

conc. B is the concentration of contaminant B

cancer RSL B is the cancer RSL for contaminant B

A cancer risk of $1x10^{-5}$, consistent with Ohio EPA guidance in *Human Health Cumulative Carcinogenic Risk and Non-carcinogenic Hazard Goals for the DERR Remedial Response Program* (http://epa.ohio.gov/portals/30/rules/HH%20Cumulative%20Carc%20Risk%20and%20Non-Carc%20Hazard%20Goals.pdf), the RFI Work Plan, and the ongoing SC/GWIA interim actions, was established as the cancer risk goal.

For non-cancer hazard, the maximum concentration (or 95% UCL, whichever is higher) for each COC in the area was divided by the RSL. This was done for each COC in the area, and the results were summed, as shown below for an example with two non-carcinogenic compounds:

Cumulative risk = [(conc. A/non-cancer RSL A) + (conc. B/non-cancer RSL B)]

Where: conc. A is the concentration of contaminant A

non-cancer RSL A is the non-cancer RSL for contaminant A

conc. B is the concentration of contaminant B

non-cancer RSL B is the non-cancer RSL for contaminant B

A non-cancer hazard index of 1 was established as the non-cancer risk goal, consistent with the RFI Work Plan and the Ohio EPA *Human Health Cumulative Carcinogenic Risk and Non-carcinogenic Hazard Goals for the DERR Remedial Response Program.*

4.1.1 Webb Building Area

A summary of soil analytical results for the Webb Building Area is provided in Table 13. This table includes the number of samples analyzed in the area, identifies the number of detections by compound, and provides 95% UCL calculations, where appropriate. This table also lists RSLs for residential and industrial land use.

As shown in this table, a total of 20 samples from this area were analyzed for VOCs. A total of six VOCs were identified in one or more samples.

- Benzene was identified in one sample (5% of all samples) at a concentration of 11 ug/kg
- Ethylbenzene was detected in four samples (20% of all samples) at a maximum concentration of 9.0 ug/kg
- Toluene was identified in seven samples (35% of all samples) at a maximum concentration of 20.8 ug/kg
- 1,1,1-Trichloroethane was detected in one sample (5% of all samples) at a concentration of 11.0 ug/kg
- 1,2,4-Trimethylbenzene was identified in two samples (10% of all samples) at a maximum concentration of 8.3 ug/kg
- Xylenes were identified in seven samples (35% of all samples) at a maximum concentration of 18.4 ug/kg

As described in Section 3.3 of this document, UCL algorithms in general do not address situations where there are more than about 15% non-detects (i.e., where COC are detected in less than 85% of the samples). None of the COCs identified in the Webb Building Area were identified in more than 35% of all samples. However, 95% UCLs were determined for ethylbenzene, toluene, 1,2,4-trimethylbenzene, and xylenes, as these compounds were detected in 10% or more of the soil samples from the area.

Table 14 presents an evaluation of the soil analytical data from the Webb Building Area. The detected compounds were divided into those identified as carcinogenic and non-carcinogenic based on their RSL listing and the maximum or 95% UCL of the mean (whichever was higher) was compared to the lower of the RSL for residential or industrial soil.

Two compounds (benzene and ethylbenzene) for which cancer risk standards were identified in the RSLs were identified in the Webb Building Area at a concentration well below the residential RSL. As shown in Table 14, the calculated total cancer risk in this area was $1.1x10^{-7}$, below the cancer risk goal of $1x10^{-5}$.

Several non-carcinogenic compounds were identified in the Webb Building area. 95% UCLs were calculated for all compounds that were detected in more than one sample, and in each case, the maximum detected concentration was higher than the calculated 95% UCL. Therefore, the maximum detected concentration was divided by the lowest of the residential or industrial direct-contact RSL. This was done for each compound, and the results were summed to yield a result of $1.1x10^{-2}$, below the non-cancer hazard goal of 1.

Based on these results, corrective measures are not required in the Webb Building Area.

4.1.2 Old Brannum House Soil Area

Soil analytical results from the Old Brannum House Soil Area are summarized in Table 15. As shown in the table, benzene, ethylbenzene, toluene, xylene, and 1,2,4-trimethylbenzene were detected in this area. Benzene, ethylbenzene, and 1,2,4-trimethylbenzene were identified in one sample each, at concentrations of 7.2, 6.4, and 6.4 ug/kg. Toluene was identified in three samples (12.5% of all samples from the area) at a maximum concentration of 17.8 ug/kg. Xylene was identified in two samples from the area at a maximum concentration of 10.0 ug/kg. Because of the relatively low concentrations of these detections and the low number of samples in which these compounds were detected, 95% UCLs were not calculated.

The evaluation of soil analytical data from the Old Brannum House Area is summarized in Table 16. As shown in this table, the benzene cancer risk from this area is calculated as $7.1x10^{-8}$, below the cancer risk goal of $1x10^{-5}$. The non-carcinogenic hazard index was calculated to be $7.2x10^{-3}$, below the non-cancer hazard goal of 1.

Based on these results, corrective measures in this area are not required.

4.1.3 Old Brannum House and Waste Storage Shed Area

A summary of soil analytical results for Old Brannum House and Waste Storage Shed Area is provided in Table 17. As shown in this table, a total of nine COCs were identified in one or more samples.

- Benzene was identified in six samples (10.3% of all samples) at a maximum concentration of 11 ug/kg
- 1,1-Dichloroethane was identified in two samples (3.4% of all samples) at a maximum concentration of 8.2 ug/kg
- Ethylbenzene was detected in five (8.6%) samples at a maximum concentration of 16.3 ug/kg
- Toluene was identified in eight samples (13.8% of all samples) at a maximum concentration of 34.7 ug/kg
- 1,1,1-Trichloroethane was identified in 17 (29.3%) samples at a maximum concentration of 1,440 ug/kg
- 1,2,4-Trimethylbenzene was detected in two (3.4%) samples at a maximum concentration of 6.8 ug/kg
- Xylene was identified in seven samples (12.1% of all samples) at a maximum concentration of 24.3 ug/kg
- Acetonitrile was detected in six samples (23.1% of all samples analyzed for this compound) at a maximum concentration of 32.2 ug/kg
- 1,4-Dioxane was detected in one of 22 samples (4.5%) analyzed for this compound at a concentration of 45 ug/kg

As described in Section 3.3 of this document, UCL algorithms in general do not address situations where there are more than about 15% non-detects (i.e., where COC are detected in less than 85% of the samples). None of the COCs identified in the Old Brannum House and Waste Storage Shed Area were identified in more than 29.3% of all samples. However, 95% UCLs were determined for benzene, toluene, 1,1,1-trichloroethane, xylene, and acetonitrile, as these compounds were detected in more than 10% of the soil samples from area.

Table 18 presents a summary of the Old Brannum House and Waste Storage Shed soil direct contact evaluation. For the carcinogenic compounds 1,4-dioxane and benzene, a cumulative cancer risk of $2.3x10^{-7}$ was calculated, below the cancer risk goal of $1x10^{-5}$. For non-carcinogenic effects, the multi-chemical adjustment yielded a non-cancer hazard index of $2.3x10^{-2}$, below the non-cancer hazard goal of 1.

Based on this evaluation, corrective measures are not required in the Old Brannum House and Waste Storage Shed Area.

4.1.4 On-site Drainageways and Other Areas

The COCs tetrachloroethene and 1,1,1-trichloroethane were identified in soil samples from On-site Drainageways and other areas at the YSI facility. As shown in Table 19, tetrachloroethene was identified in one of 36 soil samples (2.8%) at a concentration of 7 ug/kg, while 1,1,1-trichloroethane was identified in 4 samples (11.1% of the total) at a maximum concentration of 21.7 ug/kg. The 95% UCL for 1,1,1-trichloroethane was calculated as 11 ug/kg.

As shown in Table 20, neither the cancer risk nor the non-cancer hazard index goals are exceeded in this area. The cancer risk associated with the maximum detected concentration of tetrachloroethene in

this area is $2.9x10^{-9}$, below the goal of $1x10^{-5}$. The non-cancer hazard index for both detected compounds is $2.9x10^{-4}$, below the non-cancer hazard goal of 1.

Based on these results, corrective measures are not required in this area.

4.1.5 Current Shipping Dock Area

A summary of September 2015 soil analytical results for the Current Shipping Dock Area is provided in Table 21. The September 2015 investigation was conducted to document that SCIA soil remediation goals had been achieved. These samples were collected in areas where remediation was required and represent current conditions in the area. Therefore, the September 2015 results from this area were evaluated, rather than historical data that was presented in the October 2005 RFI. A total of 12 COCs were identified in this area.

- Acetone was identified in eight samples (80% of samples from the area) at a maximum concentration of 23.8 ug/kg
- Benzene was identified in nine samples (90% of all samples) at a maximum concentration of 5.11 ug/kg
- Carbon tetrachloride was identified in two samples (20%) at a maximum concentration of 3.49 ug/kg
- Chloroethane was detected in one sample (10%) at a concentration of 3.59 ug/kg
- Chloromethane was identified in one sample (10%) at a concentration of 1.76 ug/kg
- Cis-1,2-Dichloroethene was detected in one sample (10%) at a concentration of 1.94 ug/kg
- Ethylbenzene was identified in 80% of all samples (eight samples) at a maximum concentration of 5.88 ug/kg
- Tetrachloroethene was identified in one sample (10%of the total) at a concentration of 6.21 ug/kg
- Toluene was identified in 90% of the samples from this area (nine samples) at a maximum concentration of 15.4 ug/kg
- 1,1,1-trichloroethane was identified in four samples from this area (40% of the total) at a maximum concentration of 24.6 ug/kg
- Xylene was identified in nine samples (90%) at a maximum concentration of 11.54 ug/kg.

Table 22 provides a summary of the direct contact pathway evaluation of the soil analytical results from the Current Shipping Dock Area. As shown in this table, the calculated cancer risk is $1.6x10^{-7}$, below the cancer risk goal of $1x10^{-5}$, and the non-cancer hazard index is $1.6x10^{-2}$, below the non-cancer hazard goal of 1.

Based on these results, corrective measures are not required in the Current Shipping Dock Area.

4.1.6 Former Shipping Dock Area

A summary of September 2015 soil analytical results for the Former Shipping Dock Area is provided in Table 23. The September 2015 investigation was conducted to document that SCIA soil remediation goals had been achieved. These samples were collected in areas where remediation was required and represent current conditions in the area. Therefore, the September 2015 results from this area were evaluated, rather than historical data that was presented in the October 2005 RFI. A total of three COCs were identified in this area.

- Acetone was identified in one sample (11.1% of all samples) at a concentration of 13.8 ug/kg.
- Methylene chloride was detected in 3 samples (33.3%) at a maximum concentration of 2.53 ug/kg.
- Toluene was detected in 1 sample (11.1%) at a concentration of 2.67 ug/kg.

The soil direct contact pathway evaluation is summarized in Table 24. As shown in this table, the cancer risk for methylene chloride is $4.6x10^{-10}$, below the cancer risk goal of $1x10^{-5}$. The non-cancer hazard index risk for the detected compounds in the area is $4.7x10^{-5}$, below the non-cancer hazard risk goal of 1.

Based on these results, corrective measures are not required in the Former Shipping Dock Area.

4.2 Sediment Direct Contact Pathway

To evaluate the sediment direct contact exposure pathway, previously-collected sediment analytical data as well as analytical data developed during the RCRA Facility Investigation (described in Section 3.1.1 of this document) were compared to the applicable standards presented in Table 2. The lowest of these standards for each COC was used to evaluate the need for corrective action in sediments.

Table 25 provides a summary of all sediment analytical data generated from the YSI site and surrounding streams and ponds. As shown in this table, two non-carcinogenic compounds were detected in sediment samples. Acetone was identified in three samples (4.5% of all sediment samples) at a maximum concentration of 209 ug/kg. 1,1,1-trichloroethane was detected in one sample at a concentration of 8.8 ug/kg.

Table 26 summarizes the evaluation of sediment analytical data. As shown in this table, the non-carcinogenic hazard index for these compounds is $4.5x10^{-6}$, below the non-carcinogenic hazard goal of 1.

Based on these results, corrective measures for COC impacts in sediment are not required.

4.3 Surface Water Direct Contact, Ingestion and Inhalation

To evaluate the surface water pathway, previously-collected surface water data as well as surface water analytical data generated during the RCRA Facility Investigation (described in Section 3.1.2 of this document) were compared to water quality criteria for the Ohio River drainage basin (Ohio Administrative Code 3745-1-34), generic groundwater risk-based cleanup numbers from *Closure Plan Review Guidance for RCRA Facilities*, Part 2, Appendix D, Table 1, tap water *Risk-Based*

Concentrations and *Preliminary Remediation Goals*, and maximum contaminant levels for drinking water (MCLs). The lowest concentration from these applicable standards for each COC was selected.

As for soil and sediment media, a cancer risk of $1x10^{-5}$ was established as the cancer risk goal. A non-cancer hazard index of 1 was established as the non-cancer risk goal.

As shown in Table 27, five COCs were detected in one or more surface water samples.

- 1,1-Dichloroethane was identified in five samples (6.6% of all surface water samples) at a maximum concentration of 1.3 ug/l
- 1,1-Dichloroethene was identified in three samples (3.9% of surface water samples) at a maximum concentration of 1.2 ug/l
- Tetrachloroethene was identified in three samples (3.9%) at a maximum concentration of 2 ug/l
- Toluene was identified in two samples (2.6% of surface water samples) at a maximum concentration of 1.1 ug/l
- 1,1,1-Trichloroethane was identified in 32 samples (42% of surface water samples) at a maximum concentration of 15.2 ug/l

A 95% UCL was calculated for 1,1,1-trichloroethane, the only compound identified in more than 10% of surface water samples. The 95% UCL was less than the maximum detected concentration.

Table 28 summarizes the evaluation of surface water analytical data. As shown in this table, the cancer risk for tetrachloroethene in surface water does not exceed the cancer risk goal of $1x10^{-5}$. The multi-chemical adjusted non-carcinogenic hazard index for detected compounds is 0.91, below the goal of 1. Based on these results, corrective measures for COCs in surface water are not required. Further, all detections of tetrachloroethene in surface water have been in samples collected north (upstream) of the YSI facility. These samples were collected in the inlet stream to a pond located approximately 300 feet north of the YSI facility (see Description of Current Conditions Report, Figure 5-19, sampling locations ST-1 and ST-9/9A). This pond discharges to a small stream at the south side of the pond, and this stream flows south through the northeast corner of the YSI property before crossing beneath Brannum Lane and U.S. Route 68 and continuing south (see Description of Current Conditions Report, Section 3.6 for a more detailed description of local surface water features). Tetrachloroethene was not detected in any surface water samples on or downstream of the YSI property. Tetrachloroethene was also not detected in sampling conducted during the RCRA Facility Investigation.

Based on these results, corrective measures for COC impacts in surface water are not required.

4.4 Groundwater Ingestion

As described previously (Section 1.1) and shown in Figure 3, the groundwater ingestion and soil to groundwater leaching pathway were addressed by SCIA interim actions. On-site sources at the Current Shipping Dock Area and the Former Shipping Dock Area were addressed through implementation of a reductive dechlorination interim action, while monitored natural attenuation of on-site and off-site groundwater was conducted. These interim actions were effective in meeting SCIA groundwater compliance levels in on-site and off-site groundwater as well as SCIA soil

remediation goals for source areas. The SCIA soil remediation goals were established, as required by the ACO and SCIA Statement of Work, to be protective of the soil to groundwater leaching pathway.

4.4.1 On-Site Groundwater

Numerous monitoring wells on the YSI property were installed and monitored during the SCIA investigation and interim action (see Figure 12). As monitoring results indicated that COCs were not present in the wells, or impacts were at low concentrations below SCIA groundwater compliance levels and MCLs, monitoring was discontinued and the wells were properly abandoned.

Table 29 presents results for the last round of monitoring at the final four on-site wells for which monitoring was required. Two of these wells (MW-8S and MW-FDIA-2) were located in the Former Shipping Dock area, and MW-CDIA-2 was located in the Current Shipping Dock Area. Table 29 also presents the project-specific groundwater compliance level, the U.S. EPA MCL, and the U.S. EPA RSL for tap water. As shown in this table, all detected VOCs were identified at concentrations below the SCIA groundwater compliance level, the MCL, and the RSL with the exception of 1,1-dichloroethane in samples from wells MW-15I and MW-CDIA-2. 1,1-dichloroethane was identified at concentrations above the RSL, but below the SCIA GCL, in the most recent samples from these wells.

Groundwater at the YSI facility is not used as a drinking water source. The YSI facility is supplied with potable water from the Village of Yellow Springs municipal source. Therefore, although one compound exceeds its RSL, there is not an excess risk associated with ingestion of groundwater from the site.

Based on these results, corrective measures for COC impacts in on-site groundwater are not required.

4.4.2 Off-Site Groundwater

The most recent off-site groundwater monitoring results for select wells are presented in Table 30. This table presents results for numerous off-site groundwater wells or formerly-used residential wells that were monitored on or after October 2008. As shown in this Table, a total of 11 off-site wells were monitored after this date. The locations of these wells are shown on Figure 12. Additional wells were monitored prior to October 2008, but monitoring was discontinued because COCs were not detected or were detected at low concentrations and the wells were properly abandoned.

Table 30 includes SCIA groundwater compliance levels, U.S. EPA Maximum Contaminant Levels (MCLs), and U.S. EPA RSLs for tapwater. As shown in this table, no results exceeded MCLs. The concentration of 1,1-dichloroethane in one well (1793 Xenia) exceeded the tapwater RSL; however, concentrations of this compound in samples from monitoring wells MW-10 and MW-10I, located at the 1793 Xenia Avenue property, were below the RSL.

The apparent ingestion risk associated with the RSL tapwater exceedances described above appears to be overstated. The property at 1793 Xenia is undeveloped but, when formerly developed, was connected to a municipal water supply by YSI in response to the ACO and SCIA Statement of Work. Additionally, SCIA interim actions at the YSI site have met remediation goals for the two source areas at the site (see Sections 4.1.5 and 4.1.6), eliminating this source of COC migration to groundwater. All wells at 1793 Xenia Avenue have been properly abandoned.

Based on these results, corrective measures for COC impacts in off-site groundwater are not required.

4.5 Soil to Groundwater Leaching

Analytical results for soil samples collected in the Current Shipping Dock Area and the Former Shipping Dock Area in September 2015 were reviewed to evaluate the soil to groundwater leaching pathway. The September 2015 results represent current conditions in the two areas where SCIA interim actions were required.

Table 31 presents the September 2015 results and includes SCIA interim action soil remediation goals as well as U.S. EPA RSLs for the soil to groundwater leaching pathway. The RSLs include risk-based values (calculated to be protective of the RSL tapwater screening level) and, for compounds with an MCL, an RSL calculated to be protective of the MCL. As shown in Table 31, 15 VOC compounds were identified in one or more of the September 2015 samples. Nine of these compounds (1,1,1-trichloroethane; 1,2,4-trimethylbenzene, acetone; chloromethane; cis-1,2-dichloroethane; m,p-xylene; methylene chloride; o-xylene; and toluene) were detected at concentrations below the RSL and, if calculated to guide the interim action, the SCIA soil remediation goal. An RSL or SCIA goal is not available for one additional compound, chloroethane.

Five compounds were identified at concentrations above one or more of the screening levels:

- 1,1-dichloroethane was identified in 5 of 19 samples at a maximum concentration of 17.7 ug/kg. The average concentration in samples in which this compound was detected was 8.41 ug/kg. The RSL for this compound is 0.78 ug/kg. However, RSL guidance (section 4.12.5 of the Users Guide at https://www.epa.gov/risk/regional-screening-levels-rsls-users-guide-november-2015 indicates that RSLs for the soil to groundwater leaching pathway are calculated using a dilution attenuation factor of 1, but that a dilution attenuation factor of 20 is appropriate for source areas up to 0.5 acres in size. All of the 1,1-dichloroethane detections were in the Current Shipping Dock Area, a source are approximately 0.15 acres in size. Use of the U.S. EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search) with a dilution factor of 20 results in an RSL of 15.6 ug/kg, above the average detected concentration of this compound.

- Benzene was identified in 9 samples from the Current Shipping Dock Area at a maximum concentration of 5.54 ug/kg. The average concentration of benzene in samples in which it was identified was 3.51 ug/kg. The RSL for benzene is 0.26 ug/kg (risk-based) and 2.6 ug/kg (MCL-based). However, use of a dilution attenuation factor of 20 for this small (<0.5 acre) area (per the RSL guidance reference above) results in RSLs of 5.2 (risk-based) and 52 (MCL-based). The average benzene concentration was below 5.2 ug/kg.

- Carbon tetrachloride was identified in 2 samples from 1 soil boring in the Current Shipping Dock Area at concentrations of 1.85 ug/kg and 3.49 ug/kg. The RSLs for this compound are 0.18 ug/kg (risk-based) and 1.9 ug/kg (MCL-based). However, use of a dilution attenuation factor of 20 (per the RSL guidance reference above) results in RSLs of 3.8 ug/kg (risk-based) and 38 (MCL-based). All carbon tetrachloride detections were below this concentration.

- Ethylbenzene was identified in 8 samples in the Current Shipping Dock Area at max concentration of 5.88 ug/kg and an average concentration of 3.7 ug/kg, above the 1.7 ug/kg RSL (risk-based). However, use of a dilution attenuation factor of 20 (per the RSL guidance

reference above) results in an RSL of 34 ug/kg, well above the detected concentrations of this compound.

- Tetrachloroethene was detected in one sample from the Current Shipping Dock Area at a concentration of 6.21 ug/kg, above the RSLs of 5.1 ug/kg (risk-based) and 2.3 ug/kg (MCL-based). Application of a dilution attenuation factor of 20 (per the RSL guidance reference above) results in RSLs of 102 ug/kg (risk-based) and 46 ug/kg (MCL-based), well above the detected concentration.

Based on this information as well as current groundwater conditions (see Section 4.4), corrective measures are not required for the soil to groundwater leaching pathway.

4.6 Vapor Intrusion into Indoor Air

4.6.1 YSI Facility

The vapor intrusion into indoor air pathway was initially assessed following the screening approach of *Draft Guidance for Evaluating the Vapor Intrusion into Indoor Air Pathway from Groundwater and Soils* (U.S. Environmental Protection Agency, November 2002). Although the pathway evaluation was conducted prior to release of *OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air* (U.S. Environmental Protection Agency, June 2015), sample collection and analysis was conducted in accordance with the 2015 document.

Because of the known presence of soil and groundwater impacts at the site, the RFI Work Plan proposed to collect soil gas samples at two locations beneath the Brannum East building and two locations beneath the Brannum West building and compare analytical results for these samples to the soil gas target levels of *Draft Guidance for Evaluating the Vapor Intrusion into Indoor Air Pathway from Groundwater and Soils*. The collection and analysis of these samples is described in Section 3.1.3 of this document. As described in Section 3.1.3, an additional soil gas sample was collected beneath the Brannum East Building in June 2011.

A summary of detected compounds in soil gas samples is provided in Table 32. This table presents the highest detected concentration for each COC and calculate the anticipated indoor air concentration through use of U.S. EPA's Vapor Intrusion Screening Level Calculator (available at https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-levels.) Table 32 also presents the carcinogenic risk and hazard for the COCs in both a residential and commercial setting. The multi-chemical adjusted carcinogenic risk for a residential setting from detected compounds is $2.79x10^{-6}$, below the cancer risk goal of $1x10^{-5}$. The non-cancer risk for a residential setting is $1.67x10^{-1}$, below the goal of 1. The carcinogenic risk for a commercial setting from the detected compounds is $6.29x10^{-7}$, below the cancer risk goal of $1x10^{-5}$. The non-cancer risk for a commercial setting from the detected compounds is $4.37x10^{-2}$, below the goal of 1.

EPA's Vapor Intrusion Screening Level calculator does not include inputs for ethanol, 4-ethyltoluene, heptane, and 1,3,5-trimethylbenzene. Therefore, these compounds are not included the evaluation of Table 29. Occupational exposure standards or RSLs were reviewed in order to evaluate potential risk from these compounds:

- The Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL) and the National Institute for Occupational Safety and Health (NIOSH) Recommended

Exposure Limit (REL) is 1000 parts per million, almost 41,000 times greater than the maximum detected concentration of this compound.

- Neither an occupational exposure standard or an RSL for 4-ethyltoluene were identified.

- The NIOSH REL for heptane is 85 ppm, while the OSHA PEL is 500 ppm. This compound was detected at a maximum concentration of 5.03 ppb (0.00503 ppm), well below the NIOSH and OSHA standards.

- The NIOSH REL for 1,3,5-trimethylbenzene is 25 ppm. An OSHA PEL has not been established. This compound was detected at a maximum concentration of 0.613 ppb, or 0.000613 ppm, well below the REL.

This analysis was conservatively conducted using the maximum detected concentration across all samples, assuming that these maximum concentrations were present beneath the entire building footprint, and assuming exposure to these maximum concentrations all at once. Based on these results, corrective measures are not required for the soil gas to indoor air vapor pathway at the YSI site.

4.6.2 Off-site Properties

In accordance with the requirements of the SC/GWIA order, YSI has conducted extensive groundwater plume investigation and monitoring. A network of on and off-site monitoring wells as well as several residential wells were regularly sampled (as described in the Description of Current Conditions Document) until SCIA groundwater compliance levels were achieved. Results for this monitoring were provided to OEPA on an ongoing basis as well as in annual reports documenting the progress of the SCIA interim action.

The draft RFI presented off-site groundwater monitoring data that was current at the time. However, the discussion that follows is based on more recent groundwater monitoring results as these results represent current conditions.

Off-site groundwater results from 2009 through 2014 were reviewed, and the highest detected concentration of VOC in each well was identified. The highest detected concentration from all wells was then identified, and the U.S. EPA Vapor Intrusion Screening Level calculator was used to identify the carcinogenic risk and non-carcinogenic hazard. This evaluation is conservative for several reasons. Maximum concentrations of VOCs occurred in several samples collected from different monitoring locations, not in an individual sample. Comparison of the maximum concentrations assumes exposure (through vapor migration) to the maximum concentrations of all COCs at one time. As shown in Table 33, the risk and hazard are below the target goals. Based on these results, corrective measures are not required for the groundwater to inhalation pathway.

5.0 ECOLOGICAL EVALUATION

As described in the RFI Work Plan, existing analytical data from previous investigations at the site, as wells as additional data collected during the RCRA Facility Investigation (described in Section 3 of this document) were evaluated using the criteria established in *Guidance for Conducting RCRA Ecological Risk Assessments* (OEPA, 2003). The OEPA guidance establishes a four-level approach to investigate sites. In Level I, the potential for ecological risk is assessed by determining if current or past releases at a site are suspected and identifying important ecological resources at the site and in

the area. In a Level II screening assessment, site analytical data is screened against media-specific, toxicologically-based benchmark values. If exceedances are noted, a Level III study (a Baseline Ecological Risk Assessment) can be conducted, or a remedial action can be proposed. If no exceedances are noted, no additional ecological investigation is required. At the conclusion of the Level III study, a determination that no further action is required can be made, a remedial action can be proposed, or a Level IV study (a Field Baseline Ecological Risk Assessment) can be conducted.

The ecological risk assessment conducted during the RCRA Facility Investigation consisted of Level I and Level II studies. The ecological setting of the YSI facility is described in Section 5.1. The methods employed during the Level I and Level II studies are described in Section 5.2. The results of the evaluations are detailed in Section 5.3.

5.1 Ecological Settings

5.1.1 Regional Setting

According to a Preliminary Assessment/Site Inspection (PA/SI) conducted by OEPA at the YSI facility (U.S. EPA 1999), 87 species of fish, 36 mussel species, and numerous species of native birds exist in the Little Miami River and vicinity. Jacoby Run and the Little Miami River are designated by the State of Ohio as State Resource Waters and Exceptional Warm Water Aquatic Life Use Habitats (EWH). This designation is given to waters that are capable of supporting and maintaining an exceptional or unusual community of warm water aquatic organisms. Jacoby Run and the Little Miami River (Figure 1) are considered primary contact recreational resources, and the Little Miami River provides a fishery. A canoe launch for the Little Miami River is located at Jacoby Road.

According to OEPA, sensitive terrestrial environments exist in the area as wetlands found along Jacoby Run, area farm ponds, and the Little Miami River. A one-acre wetland is located east of U.S. 68, according to the Ohio EPA GIS database. John Bryan State Park is located approximately two miles east of the site. The park consists of hardwood forest along both banks of the Little Miami River. Glen Helen Nature Preserve is located less than two miles northeast of the site. The park bounds the east and west banks of Yellow Springs Gorge.

The presence of two protected terrestrial species (the False Gromwell (*Onosmodium hispidissmum*) and the Matted Spikerush (*Eleocharis intermedia*) have been reported approximately 0.3 mile to the south, along Hyde Road.

5.1.2 Local Setting

The soils of the source areas on the YSI property typically do not contain natural communities, as they are either covered in asphalt or in lawn. While the grass-covered areas may be utilized by some wildlife, this use is likely not quantitatively important.

The drainage channels in the vicinity of the YSI property are ephemeral to intermittent in nature and it is unlikely that they contain functioning aquatic communities. Ponds are located along these intermittent channels and likely contain functioning aquatic communities. These channels also serve as conduits for potential transport of contaminants to downgradient ecosystems in Jacoby Branch and the Little Miami River.

In 2003, YSI completed a Preliminary Ecological Investigation of the Nelson Pond near YSI Incorporated (BHE, 2003). The preliminary ecological investigation was summarized in the Description of Current Conditions Report. As part of this assessment, YSI completed an Ecological Scoping Checklist for the pond (see Appendix E) during a site visit on January 31, 2003. This checklist documented the results of the qualitative habitat assessment of the pond and surrounding area conducted during the site visit. The pond is located on a residential property at the northwest corner of the intersection of U.S. 68 and Hyde Road (Figure 4) and is bordered by a wetland and a small, forested area to the north. It receives drainage from two small intermittent tributaries draining the land to the southwest of the YSI property. Besides the ducks and geese that were utilizing the pond at the time of the visit, there was evidence of use by rabbits, deer, fox, and raccoons. Additionally, BHE observed robins, cardinals, titmice, and chickadees around the site. While no fish were observed, Mr. Nelson (personal communication) stated that Chinese Carp (grass carp) had been stocked. In addition, Mr. Nelson indicated that during the spring, summer, and fall, the pond is inhabited by several species of frogs. It can be assumed that the other ponds in the area have similar ecological attributes.

A wetland is located north of the pond on sloping terrain. The wetland is approximately 0.5 acre in size and contains at least three springs. Each spring feeds an intermittent stream. Another intermittent stream, flowing from west to east, originates from drainage tiles and surface water from ditches located along East Enon Road (Figure 4). All of these streams converge just prior to emptying into the pond. According to Mr. Nelson, additional springs and seeps feed directly into the pond.

An ecological scoping assessment of the YSI property and surrounding area was conducted on May 10, 2005. The results of this qualitative assessment are documented in an Ecological Scoping Checklist (Appendix F). The site is largely developed with a commercial manufacturing facility. Approximately two-thirds of the site is occupied by various buildings, parking lots and associated driveways. Brannum Lane bisects the site. Approximately one-third of the site consists of landscaped grass and small shrubs and about two percent of the site is mixed woodland. During the site visit, several passerine bird species were observed, including the American robin, European starling, and red-winged blackbird. A mourning dove and two hawks, a red-tailed hawk and another unidentified hawk, were also observed. All of these species are common to southwest Ohio. None are known to feed in the soil at depths greater than approximately six inches and their prey species are not known to commonly inhabit soil at depths greater than about two feet. Less than one percent of the site was occupied by an intermittent stream, which was not observed to contain any water or biota or evidence of any biota.

5.1.3 Topography and Surface Water Drainage

The topography of the YSI facility is relatively flat, with elevation ranging from about 990 feet asl in the southern portion to approximately 1011 feet asl in the portion west of Brannum Lane. Located on a ridge that separates the Jacoby Creek and Yellow Spring Creek watersheds, the site slopes downward to the south and east toward an unnamed tributary of Jacoby Branch. Yellow Springs Creek drains the residential area to the north.

An unnamed tributary of Jacoby Branch begins just north of the YSI property as the discharge of a small pond that appears to be fed by drainage tiles located in agricultural fields to the north (Figure 4). The tributary crosses the northern portion of the YSI facility and beneath U.S. 68 and then continues south, roughly paralleling U.S. 68. It receives discharge from a small spring-fed pond located at the northwest corner of U.S. 68 and Hyde Road (the Nelson Pond), as well as the overflow discharge from a pond east of the northeast corner of this intersection, before crossing beneath Hyde

Road and discharging to a small pond south of Hyde Road. This pond then discharges to a larger pond to the east which, in turn, flows into a larger pond to its east. Discharge from this pond then flows south into a small intermittent stream to the south, ultimately joining Jacoby Branch and the Little Miami River.

Surface water on the northern portion of the YSI facility drains, via storm drains and overland flow, to the unnamed tributary of Jacoby Branch that crosses the northern portion of the YSI site. Surface water runoff in the central portion of the site flows primarily through a storm drain system to a drainage ditch along the west side of U.S. 68. Water in the ditch flows through a culvert beneath U.S. 68 to the east side of the road where it subsequently discharges to the unnamed tributary. Surface water on the southern portion of the site flows primarily to a drainage ditch along the west side of U.S. 68, and makes its way into the same unnamed intermittent tributary.

5.2 Ecological Risk Assessment Methods

This ecological risk assessment was conducted following the guidance set forth by the OEPA Division of Hazardous Waste Management (DHWM) in *Guidance for Conducting RCRA Ecological Risk Assessments* (2003, updated April 2008). The OEPA guidance recommends a flexible, four-phased approach (Levels I-IV) to demonstrate whether or not a site contains chemicals in concentrations great enough to cause harm or risks to the environment. Levels I and II of this process are described below.

5.2.1 Level I Assessment

According to *Guidance for Conducting RCRA Ecological Risk Assessments*, the purpose of the Level I assessment is to eliminate sites from further evaluation that have no potential for past or current releases of chemical and non-chemical stressors, or that do not contain important ecological resources on or in the vicinity. If releases have occurred and important ecological resources are present, the site is subject to further evaluation.

Task 1 under Level I involves assessment of existing data on the nature and extent of contamination. Information such as knowledge of historical and current uses, environmental history review, site release history, and site inspection results are generally considered adequate for Level I assessment. However, at the YSI site, a considerable amount of soil, groundwater, surface water, and sediment analytical data were used to complete this task.

In Task 2 of the Level I assessment, information from the OEPA 2001 PA/SI site visit, a YSI site visit in January 2003 (focused on the Nelson Pond), and a recent YSI site visit specifically associated with this ecological risk assessment were used to develop the Ecological Scoping Checklist [Attachment B of Chapter 2 of the guidance (OEPA, 2003)]. This habitat evaluation checklist helps identify the presence or absence of important ecological resources on or in the vicinity of the property.

Task 3 is conducted if implementation of Tasks 1 and 2 results in positive determinations of contaminant releases and presence of important ecological resources. In Task 3, potential chemical and non-chemical stressors were identified.

In Task 4, the information from Tasks 1-3 was reviewed to determine if ecological risks are suspected. To complete this task, potential exposure pathways were identified and documented.

Under Task 5, results of the Level I assessment were documented. Potentially complete exposure pathways to important ecological resources were identified; therefore, the ecological assessment proceeded to Level II.

5.2.2 Level II Screening Assessment

Overview

The Level II screening assessment was completed after the full nature and extent of the site contamination associated with suspected releases had been determined. According to the guidance (OEPA, 2003), the purpose of a Level II screening assessment is to screen the list of detected chemicals per media as appropriate, identify potential contaminants of concern (PECOCs) and non-chemical stressors, evaluate habitats potentially impacted by the site, finalize the conceptual site model, and conduct other tasks as may be required to complete a screening level risk evaluation. If concentrations of all site-related stressors are below the appropriate screening-level benchmarks in all relevant media, and surface waters meet applicable criteria, then the site is considered to have minimal impact on important ecological resources and no further assessment is necessary. If concentrations of any chemical stressors exceed benchmarks, PECOCs are identified and the evaluation proceeds through the entirety of Level II.

The Level II Screening Assessment potentially consists of 14 tasks, as follow:

- Task 1 – Evaluate Existing Site Data
- Task 2 – Site Characterization
- Task 3 – Data/Media Evaluation
- Task 4 – Scientific Management Decision Point - Removal
- Task 5 – Media Screening
- Task 6 – Potential Ecological Chemical of Concern (PECOC) Selection
- Task 7 – Conduct Site Survey
- Task 8 – Update Site Description
- Task 9 – Identify Ecological Receptors
- Task 10 – Identify Complete Exposure Pathways
- Task 11 – Identify Candidate Assessment Endpoints
- Task 12 – Develop a Preliminary Conceptual Site Model
- Task 13 – Scientific Management Decision Point – (Ecological Risk Probable?)
- Task 14 – Submit Level II Report.

Tasks 1–5 are required of all Level II screening assessments. Tasks 6-13 are only required if chemicals are retained as PECOCs.

Task Descriptions

Task 1

In Task 1, existing data were evaluated to assess their sufficiency for use in the ERA. Sufficiency requires that the nature and extent of contamination associated with potentially complete exposure pathways are fully characterized. Sites with potentially impacted lotic surface waters or sediments are generally required to undergo biological criteria investigations to determine compliance with Ohio Surface Water Standards. As discussed below, this was not relevant to the YSI property or surrounding properties.

Task 2

In Task 2, the full nature and extent of contamination is determined, as necessary, through site characterization sampling. As discussed below, this has been accomplished through the SC/GWIA and RCRA Facility Investigation efforts. These data were summarized in the context of ecological exposure pathways and the conceptual model was finalized. An important component of the Task 2 evaluation was determining concentrations of contaminants of interest (COI) for comparison to benchmarks (under Task 5). For each medium of interest, the "biologically-active" part (e.g., depth) was defined (as part of the conceptual model), since receptors may not contact some portions of these media.

Task 3

Task 3 (Data/Media Evaluation) is a two-step process. The first step (Data Evaluation) involves the application of decision rules based on: (1) frequency of detection (the 5% rule) for compounds of interest (COIs); (2) assessment of common laboratory contaminants (concentrations greater than 10 times those in the blank); and (3) assessment of non-common laboratory contaminants (concentrations greater than five times those in the blank). This evaluation eliminates detected compounds that are not representative of levels of the chemicals in the environment. The second step (Media Evaluation) involves comparison of contaminant data to background and Ohio-Specific Sediment Reference Values to determine if media have been impacted. Concentrations of chemicals in excess of background or Ohio-Specific Sediment Reference Values are not necessarily deleterious. Instead, they indicate presence of contamination.

Task 4

Task 4 provides a Scientific Management Decision Point (SMDP) to allow for a decision for remedial action in lieu of pursuing further ecological evaluations, based on the Task 3 evaluation. No decision for remedial action was reached during this Task; rather, the ecological evaluation proceeded to Task 5 as described later in this document.

Task 5

Task 5 involves screening of media analytical data against benchmark values specified in the OEPA guidance. These benchmarks are levels considered safe for biota. If concentrations of all chemical stressors in a given medium are below the appropriate screening values, the entire medium may be eliminated from further ecological risk evaluation. Media of direct concern to ecological assessment (based on the conceptual model) include soils, surface waters, and sediments. Groundwater is of

(indirect) concern to the extent that groundwater releases impact media that ecological receptors may contact (i.e., through outcropping as springs and seeps). Consistent with *Guidance for Conducting RCRA Ecological Risk Assessments* for this Level II screening assessment, maximum detected media concentrations of COIs were used to assess all exposure pathways. As described in Section 4 and shown in Tables 13 through 28, maximum concentrations of COIs were greater than 95% UCL concentrations in all cases where 95% UCL concentrations were calculated, with the exception of methylene chloride concentrations in the Former Shipping Dock Area (reference Tables 23 and 24). Therefore, with the exception of the methylene chloride 95% UCL in the Former Shipping Dock Area, maximum concentrations were used for this evaluation.

Soil Benchmark Values

According to *Guidance for Conducting RCRA Ecological Risk Assessments*, maximum soil concentrations are to be used for comparison of site related chemicals to benchmarks in the Level II assessment. Chemicals with maximum concentrations found to be greater than the benchmark values are to be retained as PECOCs (Task 6). However, if only minor exceedances are detected and other evidence can substantiate, a claim may be made that no additional ecological investigations of soils are warranted. The soil screening hierarchy includes U.S. EPA Ecological Soil Screening Levels (available at the Risk Assessment Information System at https://rais.ornl.gov/tools/eco_search.php), then Preliminary Remediation Goals for Ecological Endpoints (Efroymson et al 1997) and then U.S. EPA Region 5 Ecological Screening Levels. Note that the U.S. EPA Ecological Soil Screening Levels are not available for the COIs at the YSI site.

Surface Water Benchmark Values

Maximum surface water concentrations of COIs were compared to outside the mixing zone average (OMZA) listed in OAC 3745-1, as required by *Guidance for Conducting RCRA Ecological Risk Assessments*. Because OMZA values are available for few of the COIs at the site, the surface water results were also compared to U.S. EPA Region V ESLs. If all chemical constituents are below their corresponding criteria, the surface water may be eliminated as an exposure medium. If only minor exceedances are detected and other evidence can substantiate, a claim may be made that no additional ecological investigations are warranted. For lotic waters, biological criteria corresponding to the aquatic life habitat designation of the water body are to be in full attainment. There are no perennial streams in the vicinity of YSI, so this requirement does not apply. There are, however, lotic habitats downgradient of these intermittent tributaries (in Jacoby Branch and the Little Miami River) that might receive COIs from these intermittent channels via storm flow.

Sediment Benchmark Values

Sediment chemical burdens of both ponds and drainage channels were compared to screening levels identified in Section 3.3.5(B)(ii)(d) of *Guidance for Conducting RCRA Ecological Risk Assessments.* If all chemical constituents are below their corresponding screening values, the sediment may be eliminated as an exposure medium. If only minor exceedances are detected and other evidence can substantiate, a claim may be made that no additional ecological investigations are warranted. The OEPA-specified hierarchy gives priority to consensus-based threshold effect concentration (TEC) values (MacDonald et al. 2000). For the COIs at the YSI facility, there are no TEC values. Therefore, the U.S. EPA Region V ESLs were used.

Tasks 6-13

Tasks 6-13 are conducted if PECOCs are identified. As discussed below, these tasks were not required for the YSI assessment. The Level II risk assessment reported herein includes results, findings, and documentation of Tasks 1-5.

5.3 Ecological Risk Assessment Results

5.3.1 Level I Assessment

Potential Releases (Task 1)

Based on investigations conducted at the site (and summarized in the Description of Current Conditions Report), it is clear that releases of hazardous materials have occurred at the YSI facility and that source areas exist on the property. Interim actions, required under the SC/GWIA Administrative Order, have recently been completed in two source areas on the YSI facility.

Potential Ecological Receptors (Task 2)

The results of the OEPA PA/SI site visit, the Nelson Pond site visit and ecological resources checklist, and the YSI ecological site visit (see Section 5.1 for a description of these items) indicate the presence of important ecological resources in the vicinity of the YSI facility. In addition, Jacoby Branch and the Little Miami River, which receive drainage from the property, are designated as State Resource Waters and EWHs.

Potential Stressors (Task 3)

Based on site investigations conducted under the SC/GWIA Administrative Order and during the RCRA Facility Investigation, potential chemical stressors include several VOCs such as 1,1,1-trichloroethane, 1,1-dichloroethene, 1,1-dichloroethane, tetrachloroethene, carbon tetrachloride, and chloroform. However, the entire suite of VOCs for which laboratory analysis was conducted were retained and evaluated as potential chemical stressors. Other potential stressors, such as metals and semivolatile organic compounds, were eliminated from consideration based on previous evaluations documented in the Description of Current Conditions Report.

Potentially Complete Exposure Pathways (Task 4)

Based on the information gathered to support Tasks 1-3 of the Level I Assessment, it appears that chemical stressors are potentially present in four media at or in the vicinity of YSI: soils, surface water, drainage channel sediments, and groundwater. It is unlikely that ecological receptors come in direct contact with groundwater, but contact with the other three media is likely. An OEPA pathways table developed for the YSI property is provided as Appendix G.

Summary (Task 5)

Based on the information and evaluation associated with Tasks 1-4 of the Level I assessment, releases of hazardous materials have occurred at the YSI facility, important ecological resources occur on and

in the vicinity of the property, and the potential exists for exposures via several pathways. Therefore, it was determined that a Level II screening assessment was required.

5.3.2 Level II (Screening) Assessment

Evaluation of Existing Site Data (Task 1)

Extensive multi-media sampling has occurred at YSI and surrounding properties over a four-year period. Results for all soil, sediment, and surface water investigations are summarized in the Description of Current Conditions Report or in Section 3.1 of this document. It appears that the full nature and extent of soil, surface water, and sediment contamination has been determined.

Site Characterization (Task 2)

Nature and Extent of Contamination

YSI has collected chemical data for soils, groundwater, surface water and sediments from fall 2002 through fall 2004 and considers the full nature and extent of contamination relevant to ecological assessment to have been determined. As such, no additional sampling is required for this Level II screening assessment. This Level II screening assessment utilized all data collected to date for soils, surface waters, and drainage channel and pond sediments. Because ecological receptors will not come into direct contact with groundwater, evaluation of groundwater data was not conducted. However, outcropping of groundwater to springs and seeps appears to occur to the south and southwest of the YSI facility, and surface water in this area has been sampled and is included in this evaluation.

Conceptual Site Model

The existing data were organized into a conceptual site model (CSM) for ecological assessment at the YSI facility. This conceptual site model is graphically depicted in Figure 13.

The primary source of contaminants at the YSI facility is past facility operations, which spanned a period beginning approximately in 1951. These operations involved uncontrolled releases of hazardous materials and wastes to the environment. Based on investigations at the site, the source areas at the site are isolated at specific locations. There appear to be no ongoing operations at YSI that result in current discharges of hazardous materials to the landscape.

After entering the soil matrix, chemical constituents begin the process of movement (percolation) downward through the soil profile and unconsolidated till to the bedrock surface via percolation and fractures. Contaminants in the saturated unconsolidated till are likely transported downgradient toward the tributary of Jacoby Branch. Some fraction likely enters the upper carbonate aquifer through solution channels, vertical fractures, and bedding planes, while the rest may outcrop as springs and seeps. Such outcropping provides a means by which contaminated groundwater becomes available to ecological receptors in drainage channels and ponds.

Once in the upper carbonate unit, groundwater may migrate both horizontally and vertically depending on the influence of local hydraulic gradients and fracture patterns. During transport in the geological matrix, concentrations of COCs will dissipate as a result of dilution, attenuation, dispersion, and biochemical degradation. It is assumed that once contaminants reach the bedrock

aquifer, they are unavailable to ecological receptors unless they move back up into the unconsolidated till and emerge as springs and seeps.

The potential exists for transport of soil-bound and volatilized contaminants by wind. However, no uncontrolled releases to surface soils have apparently occurred for many years, so surface concentrations are expected to be low and previous sampling of surface and near-surface soils did not identify elevated COI concentrations at these depths. Also, the source areas are covered in asphalt or lawn grass, so this volatilization/particulate emission mechanism is likely not contributing to current ambient air burdens of COIs. Therefore, the pathway is denoted in Figure 13 by a dashed line to represent its inactive status. Also, particulate-bound transport of organics in wind is generally not considered to be quantitatively important.

Four ecological exposure pathways are potentially complete at the YSI property (Figure 13), each associated with a different contact medium. Of these, the air pathway (involving exposure of terrestrial biota via inhalation) is likely not quantitatively important. The soil pathway may involve exposure of terrestrial biota via inhalation, dermal contact, and ingestion (including food chain dynamics). The extent to which this pathway is important depends substantially on the ecological status of these locations (e.g., covered in asphalt or lawn). The surface water pathway involves potential exposure of aquatic and terrestrial biota ingesting pond water and of aquatic biota via dermal contact. Aquatic biota could also potentially be exposed through ingestion of or dermal contact with contaminated water from pond or drainage channels and their sediments.

Biologically Active Zones

For soils, the 0-2 ft depth was considered to be the biologically active zone. A summary of numbers of soil samples by area and depth is provided in Table 34. Of note are the few samples collected in the 0-2 ft depth zone, the zone considered to be biologically active and of greatest relevance to ecological risk assessment. It should be noted that the Current Shipping Dock Area, the Webb Building Area, and portions of the Former Shipping Dock Area and Old Brannum House and Waste Storage Shed Area are beneath pavement or buildings.

Surface water samples were not evaluated with reference to depth since the ponds are quite shallow. For example, the Nelson Pond is approximately 9 feet deep at its deepest location. Therefore, all surface water samples were considered to be representative of zone of potential exposure.

For sediments, the biologically active zone was considered to be 0-6 inches. As shown in Table 35 the vast majority of the sediment samples were collected from the 0-6 inch-depth and no samples were collected from depths greater than 1 foot. Therefore, all samples were used in the ecological evaluation.

Exposure Areas

Estimating concentrations of chemicals in areas where ecological receptors may occur on the site typically requires that the exposure areas be defined. For soils, the source areas identified in Figure 10 were each assumed to be an exposure area. In addition, data from several non-adjacent areas and several drainageways was viewed as one exposure area.

For water and sediment data, exposure areas have not been previously defined by geographic areas. For this evaluation, the entire area from which surface water and sediment samples were collected was treated as one exposure area.

Concentrations of Chemicals of Interest (COIs)

To ensure that all potential COIs were considered, all VOCs for which laboratory analysis had been conducted were included in the evaluation, even though some may not have been used at the facility or may not have been detected during previous investigations.

Tables 36 through 42 summarize the soils data for all sampling depths in the soil exposure areas. Tables 43 and 44 summarize surface water data and sediment data, respectively. Each of these tables identifies the number of samples in each exposure area, the number and percent of samples in which each COI was detected, the maximum detected concentration (or the maximum detection limit if the COI was not detected in any samples), and the ecological screening value against which data for the COI was compared.

Data/Media Evaluation (Task 3)

As shown in Tables 34 through 44, very few of the COIs were detected in more than 5% of the samples in any medium. Based on the 5% detection rule, the majority of COIs could be eliminated from further consideration. However, as discussed below, a few of the COIs had detection limits that exceeded the relevant benchmarks, and such conditions exist for all three media. Therefore, while it is highly unlikely that these contaminants actually exist at the site (as they have not been detected in previous investigations at the site), it would be inappropriate to eliminate them from further consideration solely on the basis of the 5% rule.

The second step (Media Evaluation) involves comparison of contaminant data to background and Ohio-Specific Sediment Reference Values to determine if media have been impacted. Background values have not been established at YSI for the COIs. Only three of the 67 sediment samples had detectable concentrations of acetone (4.5% detection rate). All three of these samples were collected at two locations in Nelson Pond on the same date. However, Ohio-specific sediment reference values are not available for VOCs. Therefore, the media evaluation portion of Task 3 could not be conducted; rather, the data were compared to screening level benchmarks in Task 5 (see Section 5.3.2.5).

Decision Point (Task 4)

Task 4 provides a Scientific Management Decision Point (SMDP) to allow for a decision for remedial action in lieu of pursuing further ecological evaluations, based on the Task 3 evaluation. No decision for remedial action was reached during this Task; rather, the ecological evaluation proceeded to Task 5 as described below.

Comparison to Screening Level Benchmarks (Task 5)

Benchmarks for the COIs are presented in Tables 36 through 42 (soils data), Table 43 (for surface waters), and Table 44 (for sediment data) where such benchmarks exist. As discussed in Section 5.2.1, selection of benchmarks was consistent with the hierarchy specified by OEPA in *Guidance for Conducting RCRA Ecological Risk Assessments*.

Soils

As shown in Tables 36 through 42, no soil results at any depth exceeded the screening level benchmarks.

The detection limits for six undetected COIs (acrylonitrile, allyl chloride, choroprene, 1,2-dibromo-3-chloropropane, and propionitrile) in soil samples exceeded the relevant benchmarks. Detection limits for methacrylonitrile in three September 2015 soil samples from the Former Shipping Dock Area were above the screening level. This compound has not been detected in any samples from the site. However, because these compounds have not been detected during investigations at and near the YSI site, it is unlikely that contamination by any them is present. The detection limit for one soil sample (collected in September 2015 from the Former Shipping Dock Area) was above the screening level; detection limits for the remaining soil samples from this area and elsewhere on the site were below the screening level, so it is unlikely that impacts by this compound are present.

Based on this evaluation, the soil exposure pathway is quantitatively insignificant and no PECOCs were identified for further evaluation.

Surface Waters

Five COIs were detected in surface water samples. As shown in Table 43, 1,1-dichloroethane, 1,1-dichloroethene, tetrachloroethene, toluene, and 1,1,1-trichloroethane were detected in as little as 2.6% of surface water samples (toluene) to as much as 42.1% of surface water samples (1,1,1-trichloroethane). Only 1,1,1-trichloroethane was detected in more than 7% of the samples. None of the detected values approached the relevant screening benchmarks.

Based on this evaluation, the surface water exposure pathway was considered quantitatively unimportant and no PECOCs were identified for further evaluation.

Sediments

Two COIs (acetone and 1,1,1-trichloroethane) were detected in sediment samples (Table 44). The single detected concentration of 1,1,1-trichloroethane (8.8 ug/kg) was well below the screening level benchmark of 213 ug/kg. Acetone was detected in three sediment samples (4.5% of all sediment samples) at a maximum concentration of 209 ug/kg, above the benchmark value of 9.9 ug/kg.

Several factors were considered during the evaluation of the acetone data, as discussed below.

- Since January 2012, acetone was identified in two wells on the YSI property. Acetone was identified once in a sample from well MW-8S (in the Former Shipping Dock Area) at an estimated concentration of 10.5 ug/L in a January 2012 sample, and was detected in 7 of 9 samples from well MW-CDIA-2 (in the Current Dock Area) at a maximum concentration of 67 ug/L. The last six years (2007, 2008, 2009, 2010, 2011, 2012) of off-site groundwater monitoring associated with the SCIA Interim Action were reviewed; acetone was not detected in any off-site groundwater samples during this period.

- Acetone was identified in nine soil samples (Tables 33 through 39) at a maximum concentration of 23.8 ug/kg, below the soil screening level and well below the maximum detected concentration of this compound in sediment.

- Acetone was not detected in sediment samples in upstream spring and seep-fed drainages that discharge to the pond in which acetone was detected, nor has it been detected in upgradient groundwater monitoring wells.

Based on these factors, it is unlikely that the acetone identified in sediment is attributable to the YSI facility.

The detection limits for 11 COIs (acetone; acetonitrile; acrolein; acrylonitrile; 2-butanone; 1,1-dichloroethane; 1,1-dichloroethene; 2-hexanone; bromomethane; 4-methyl-2-pentanone; and vinyl acetate) exceeded the relevant ecological benchmarks. The detection limit for all of the samples with non-detectable concentrations of acetone, acrolein, acrylonitrile, 2-butanone, 1,1-dichloroethane, bromomethane, and 4-methyl-2-pentanone exceeded the screening level, while all but one of the 2-hexanone detection limits exceeded the screening level. For 1,1-dichloroethene, only three of 67 detection limits exceeded the screening level, while for vinyl acetate and acetonitrile, 12 and three detection limits, respectively, exceeded the screening levels. Because there is no history of the detection of acrolein, acrylonitrile, 2-hexanone, bromomethane, 4-methyl-2-pentanone, or vinyl acetate at the YSI facility, it is unlikely that contamination by these COIs is present in sediment. Acetonitrile, 1,1-dichloroethane and 1,1-dichloroethene have been detected at the YSI property, but not at concentrations above soil screening levels. The detection limits in soils for these COIs were not above screening levels. 2-butanone has not been detected in any source area soils on the YSI property, and the detection limits for this compound in soil were below the soil screening levels. Based on this information, it is unlikely that these compounds are present in sediment downgradient of the site as a result of activities at the YSI site.

Based on this evaluation, the sediment pathway was considered quantitatively unimportant, and no PECOCs were identified for further evaluation.

(Tasks 6-13)

Because the results of Tasks 1-5 indicated that no exposure pathways were quantitatively important and no PECOCs were developed for soil, surface water, or sediment pathways, the Level II assessment stops at the completion of Task 5 and Tasks 6-13 are not conducted.

6.0 SUMMARY AND CONCLUSIONS

6.1 Summary of RFI Investigations Results

6.1.1 Human Health Evaluation

Soil Direct Contact Pathway

No COCs were identified in soil at concentrations exceeding applicable standards, and cancer and non-cancer risk goals were not exceeded. Therefore, no soil corrective measures are required.

Sediment Direct Contact Pathway

No COCs were identified in sediment samples collected upstream, on, and downstream of the YSI property at concentrations above applicable standards. Therefore, no sediment corrective measures are required.

Surface Water Pathway

Only one compound, tetrachloroethene, was detected at concentrations above applicable standards in surface water samples. Tetrachloroethene was detected in surface water samples collected

approximately 300 feet upstream of the YSI facility, in the inlet to a small pond. No corrective measures for surface water impacts attributable to the YSI facility are required.

Groundwater Ingestion Pathway

As described in Section 4.4, COC concentrations in recent on-site and off-site groundwater monitoring results indicate that the concentration of COCs were below SCIA groundwater compliance levels and MCLs (Tables 29 and 30). 1,1-dichloroethane was identified at concentrations above the RSL in samples from 2 on-site wells. However, groundwater from the YSI site is not used as a potable water source and corrective measures are not required. 1,1-dichloroethane results in samples from one off-site well exceed the RSL. However, groundwater at this property is not used as a potable source and corrective measures are not required.

Soil to Groundwater Leaching Pathway

Five compounds were identified in one or more samples above risk-based or MCL-based RSLs, or both. However, as described in Section 4.5, the U.S. EPA RSLs are calculated with a default dilution attenuation factor of 1. The RSL User Guidance indicates that a dilution attenuation factor of 20 may be used for source areas up to 0.5 acre in size. All detections at concentrations above the default RSL were in the Current Shipping Dock Area, an area approximately 0.15 acres in size. After adjusting RSLs for a dilution attenuation factor of 20, no September 2015 soil samples exceed the RSLs. Corrective action is not required.

Indoor Vapor Intrusion Pathway

The indoor vapor intrusion exposure pathway was evaluated for the YSI facility by collecting soil gas samples and comparing analytical results to applicable standards. Soil gas samples were collected from immediately beneath the floor slab in the lowest level of the Brannum East and Brannum West buildings, at locations where below-slab soils were known to be impacted with COCs. No corrective measures for this pathway are required.

The vapor intrusion pathway for off-site properties was evaluated using recent groundwater analytical data. The maximum detected concentration of all COCs in recent sampling events was used in the evaluation. No corrective measures for this pathway are required.

6.1.2 Ecological Evaluation

Soils

COIs were not detected in soils at the YSI property in concentrations of concern to ecological receptors. Therefore, corrective measures are not required.

Surface Water

No compounds detected in surface water exceeded relevant benchmarks. Therefore, no corrective measures are required.

Sediments

Acetone was detected in concentrations that exceeded benchmarks. However, these sediment detections for acetone were from three sediment samples collected at two locations in Nelson Pond on the same day. As described in Section 5.3.2, acetone has been detected in groundwater samples from two wells on the YSI property in recent sampling rounds, but at low concentrations relative to the maximum sediment detection. There is not a history of acetone detections in other on-site or off-site groundwater wells associated with the YSI project, and no remediation or interim action for acetone has been required. Therefore, it is unlikely that acetone is present in downgradient sediments as a result of YSI activities.

While the detection limits for a few COIs in all media exceeded relevant ecological benchmarks, there is no history of detection of most of these chemicals at the YSI property. The few (in sediments only) that had been identified as COIs in the source characterization investigation or had known history of use on the YSI property, were not present at levels of ecological concern in the source area soils. Therefore, it is unlikely that any of these compounds are present in concentrations that exceed benchmarks in sediments located downgradient of the YSI facility.

Because no PECOCs were identified in the Level II assessment, the evaluation ended with Task 5 of Level II. The conclusion is that there is no concern to ecological receptors, either on site or off site, from contamination originating at source areas on the YSI property.

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FIGURES

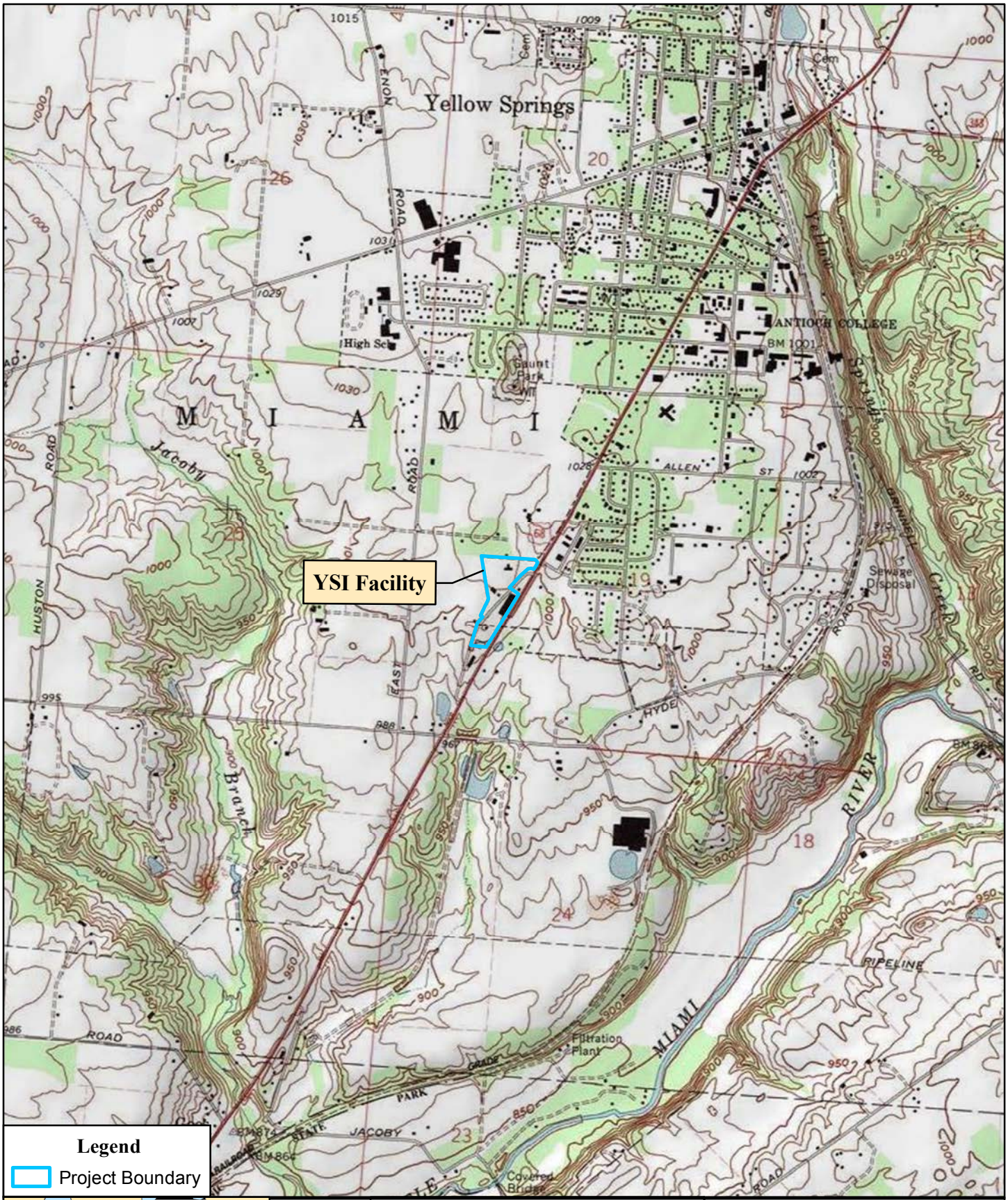

Figure 1. General location of the YSI property, Yellow Springs, Ohio.

POWER ENGINEERS

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Figure 2. YSI Facility Site Layout.

POWER ENGINEERS

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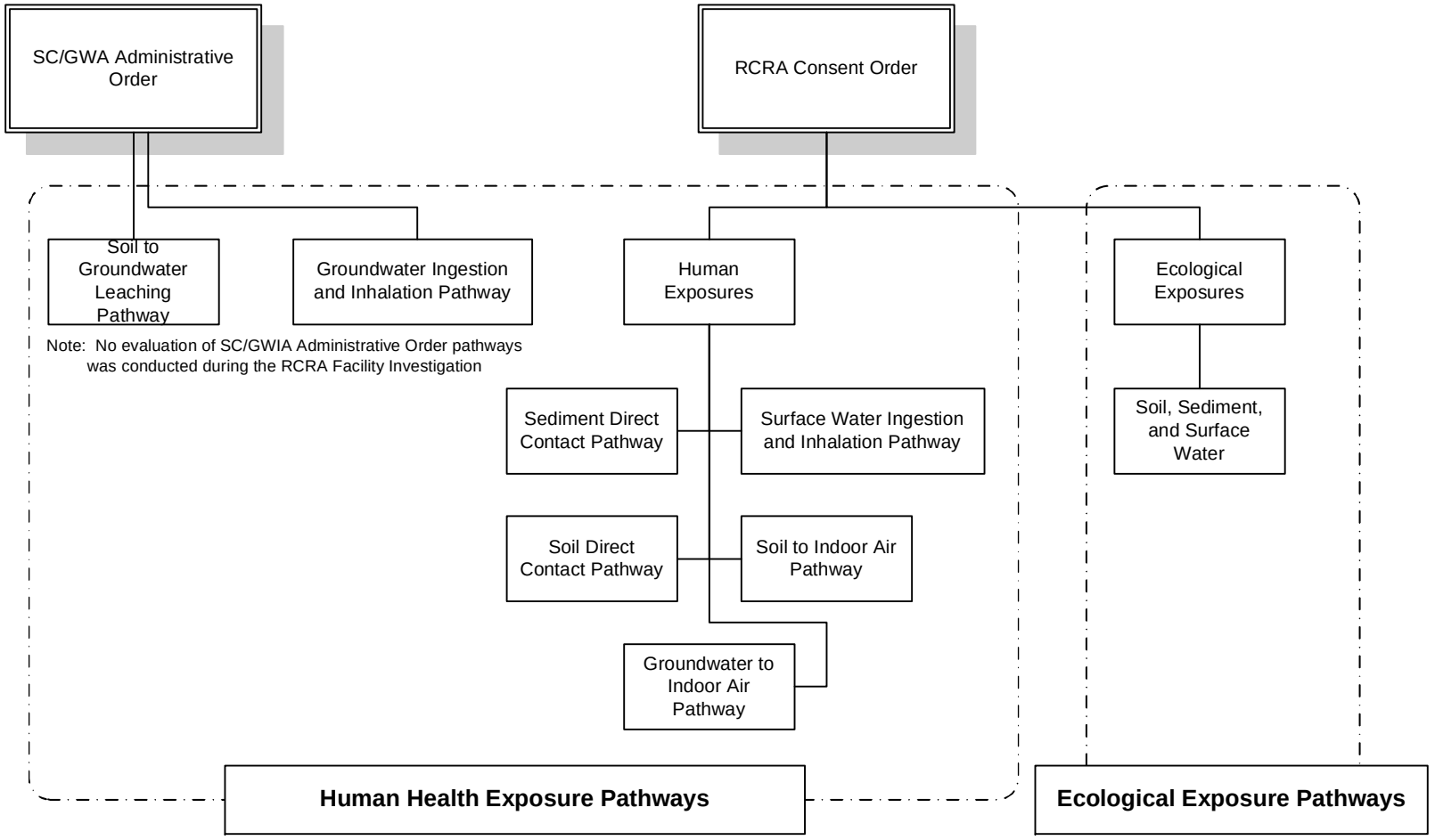

Figure 3. Exposure Pathways Evaluated under RCRA Facility Investigation, YSI Incorporated, Yellow Springs, Ohio

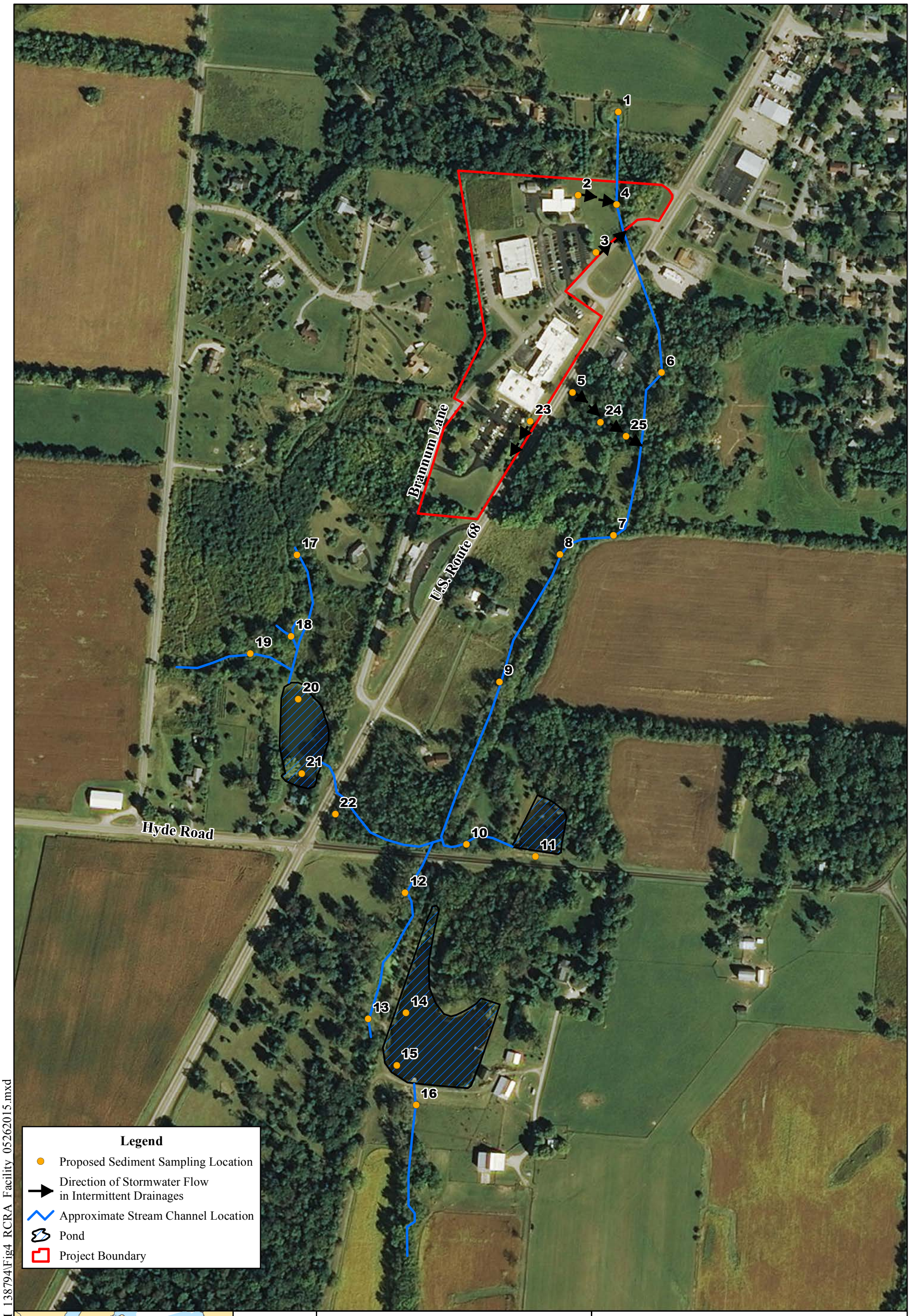

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Figure 4. RCRA Facility Investigation Sediment Sampling Locations, YSI Incorporated, Yellow Springs, Ohio.

POWER ENGINEERS

Brannum Lane

U.S. Route 68

Hyde Road

Legend

- Pond Sampling Location
  Shallow and Deep Samples to be Collected
- Stream Surface Water
- Approximate Stream Channel Location
- Pond
- Project Boundary

N

S

0 175 350 525

Feet

1 inch = 350 feet

Date: 5/27/2015

Basemap: ESRI Imagery (2013)

Figure 5. RCRA Facility Investigation Surface Water Sampling Locations, YSI Incorporated, Yellow Springs, Ohio.

POWER ENGINEERS

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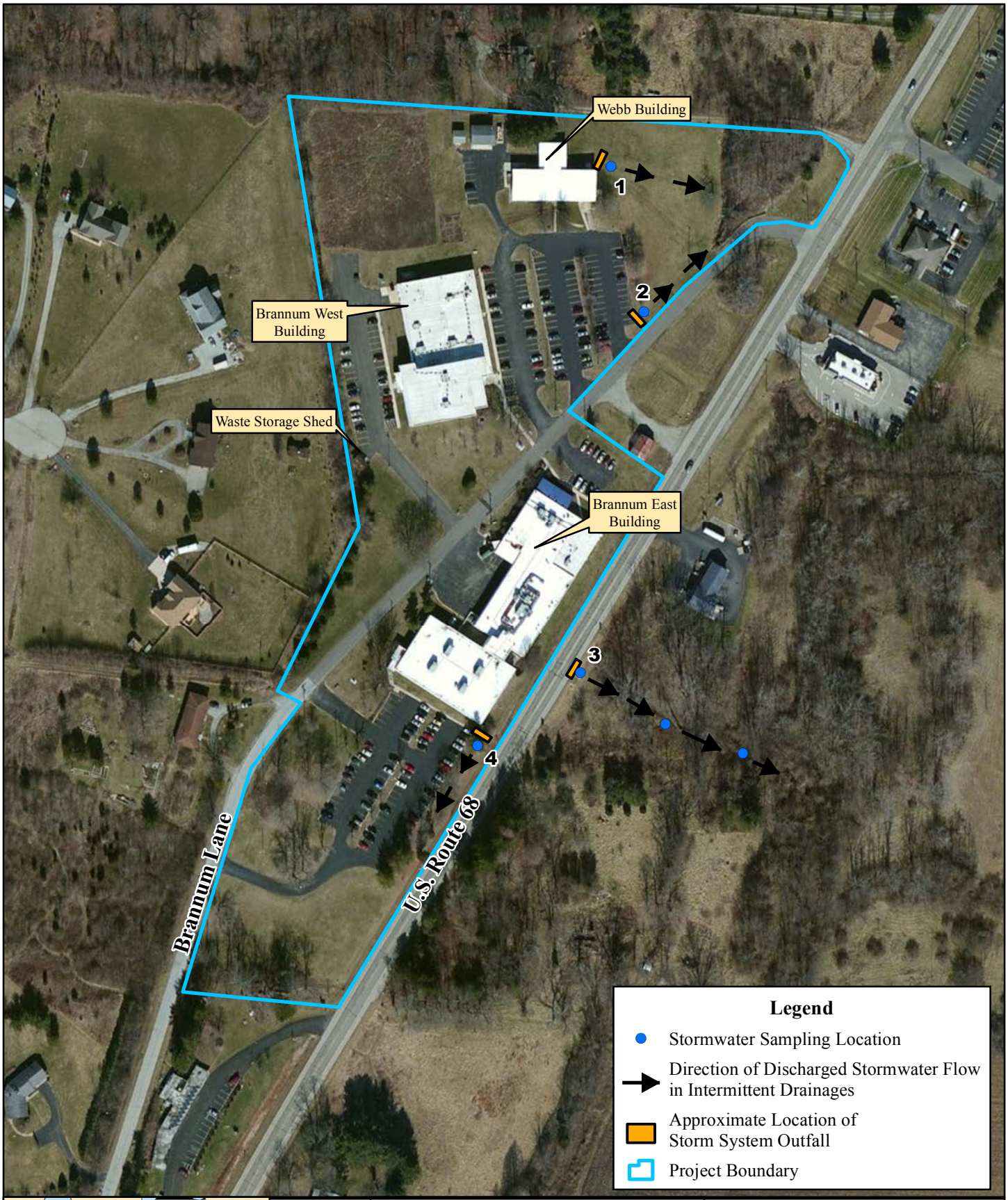

Figure 6. RCRA Facility Investigation Stormwater Sampling Locations, YSI Incorporated, Yellow Springs, Ohio.

POWER ENGINEERS

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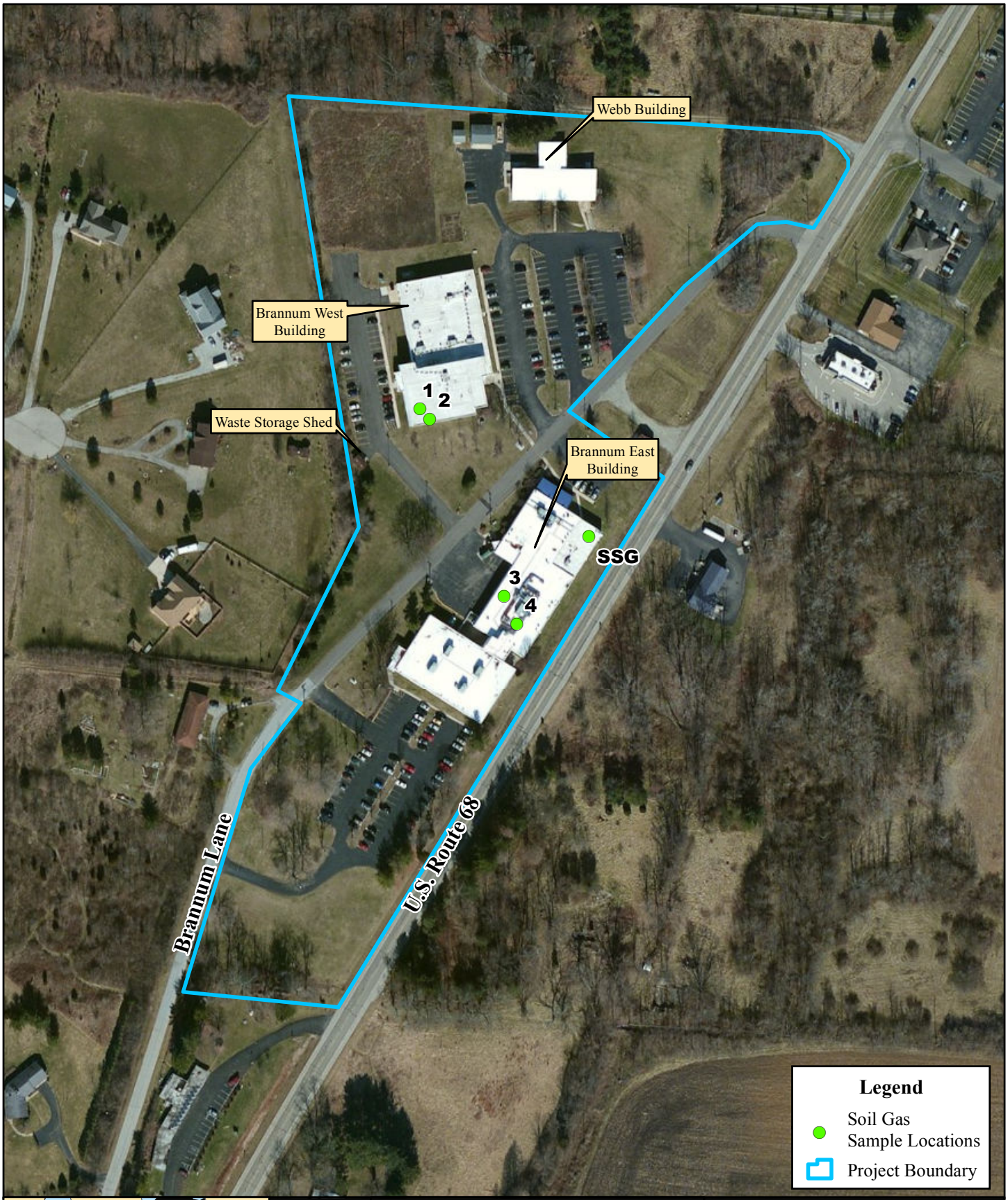

N

S

0 100 200 300

Feet

1 inch = 200 feet

Date: 3/21/2016

Basemap: ESRI Imagery (2013)

Figure 7. RCRA Facility Investigation Soil Gas Sampling Locations, YSI Incorporated, Yellow Springs, Ohio.

POWER ENGINEERS

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B117	2 - 3'	9 - 10'
Toluene	6.1	9.6

B118	3 - 4'	10 - 11'
Benzene	8.7	ND
Ethylbenzene	7.8	ND
Toluene	22.5	7.1
1,2,4-Trimethylbenzene	6.4	ND
Xylene	11.9	ND

B65	13-14'	16-17'	Groundwater
Benzene	ND	ND	2.6
Carbon Tetrachloride	26.4	ND	1.7
Chloroform	ND	ND	8
1,1-Dichloroethane	ND	ND	2.3
1,1-Dichloroethene	ND	ND	4.1
Toluene	ND	ND	1.2
1,1,1-Trichloroethane	16.5	ND	73.6

B91	4-5'	8-9'	Groundwater
1,1,1-Trichloroethane	ND	ND	2.1

OEPA PA/SI Sampling Location	YSI-SO-13 (Soil)	YSI-GW-03 (Groundwter)
Acetone	ND	9 (Estimated)
Methylcyclohexane	ND	0.6 (Estimated)

B61	9-10'	18 - 19'	Groundwater
Carbon Tetrachloride	ND	ND	1.3
Chloroform	ND	ND	1.1
1,1,1-Trichloroethane	ND	ND	10.6
Toluene	ND		

B27	14-15'	16-17'
1,1,1-Trichloroethane	644	25.8

B63	2 - 3'	5 - 6'	8- 9'	11 - 12'	15 - 16'
1,1,1-Trichloroethane	ND	ND	ND	ND	1,380

B62	3- 4'	15 - 16'
1,1,1-Trichloroethane	ND	91.9

B90	5- 6'	15 - 16'	Groundwater
1,1,1-Trichloroethane	ND	ND	3.6

B29	3- 4'	15 - 16'
Carbon Tetrachloride		9.5

B89	10- 11'	14 - 15'	Groundwater
1,1,1-Trichlorethane	ND	ND	2.7

B28
No VOCs detected in soil samples No Groundwater sample collected

B64	14- 15'	18 - 19'	Groundwater
Carbon Tetrachloride	651	3,610	103
Chloroform	ND	23	50
1,1-Dichlorotehane	ND	ND	1.2
1,1-Dichlorotehene	ND	ND	0.73
Toluene	ND	ND	1.1
1,1,1-Trichloroethane	ND	ND	19.6

B30	5 - 6'	15 - 16'	Groundwater
Carbon Tetrachloride	ND	ND	14.7
Chloroform	ND	ND	1.8
1,1,1-Trichloroethane	ND	ND	5

Legend

- Source Area Sampling Location
- Suspect Source Area
- Project Boundary
- Buildings
- Sidewalk
- Streets

ND : Not Detected
NA : Not Analyzed
Soil results are inb ug/kg (ppb)
Groundwater results are in ug/l (ppb)

N

S

0 30 60 90

Feet

1 inch = 60 feet

Date: 6/5/2015

Basemap: ESRI Imagery (2013)

Figure 8. RCRA Facility Investigation Soil Sampling Locations near the Former Shipping Dock Area, YSI Incorporated, Yellow Springs, Ohio.

POWER ENGINEERS

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B17	3-4'	14-15'	Groundwater
1,1,1-Trichloroethane	ND	11.0	87.8
1,1-Dichloroethene	ND	ND	2.9
Toluene	ND	ND	2.2
Xylene	ND	ND	1.4

B88	3-4'	11-12'	Groundwater
1,1-Dichloroethene	ND	ND	1.3
1,1,1-Trichloroethane	ND	ND	29.2

B17

B88

B71	7-8'	15-16'	Groundwater
1,1-Dichloroethene	ND	ND	5.7
1,1,1-Trichloroethane	ND	231	158

B71

B104	8-9'	11-12'	Groundwater
1,1,1-Trichloroethane	38.2	52.8	30.6
Benzene	7.2	ND	ND
Toluene	17	ND	1.2
Ethylbenzene	6.7	ND	ND
Xylene	9.5	ND	ND
1,2,4-Trimethylbenzene	6.0	ND	ND
1,4-Dioxane	ND	ND	60
1,1-Dichloroethene	ND	ND	1.1

B82	4-5'	7-8'	Groundwater
1,1-Dichloroethane	ND	ND	8.0
1,1-Dichloroethene	ND	ND	5.9
Toluene	ND	ND	1.5
1,1,1-Trichloroethane	60.6	6.7	136
1,4-Dioxane	NA	NA	100

B92	6-7'	9-10'	Groundwater
1,1,1-Trichloroethane	ND	7.9	58.6
1,1-Dichloroethene	ND	ND	0.86

B92

B104

B82

B73	10-11'	15-16'
1,1-Dichloroethane	8.2	ND
1,1,1-Trichloroethane	382	64.6

B73

B54	12-13'	16-17'	Groundwater
Toluene	ND	ND	1.2
1,1,1-Trichloroethane	ND	ND	0.7

B54

B52	4-5'	6-7'	Groundwater
1,1-Dichloroethene	ND	ND	2.2
1,1,1-Trichloroethane	ND	ND	116

B52

B51	2-3'	10-11'
1,1,1-Trichloroethane	ND	9.1

B51

B19	11-12'	12-13'
1,1,1-Trichloroethane	30.0	37.7

B19

B99	3-4'	7-8'
Acetonitrile	30.6	ND

B99

B113

B113	2-4'	7-8'
Benzene	7.8	ND
Ethylbenzene	5.8	ND
Toluene	20.6	13.8
Xylene	7.9	6.3

B93	5-6'	9-10'	Groundwater
1,1-Dichloroethene	ND	ND	1.0
Toluene	ND	ND	1.2
1,1,1-Trichloroethane	ND	ND	93.6

B93

B114	2-3'	6-7'
Benzene	ND	11.0
Ethylbenzene	16.3	ND
Toluene	34.7	16.0
1,2,4-Trimethylbenzene	6.8	ND
Xylene	24.3	7.8

B114

B68	2-3'	10-11'	Groundwater
Toluene	ND	ND	1.3
1,1,1-Trichloroethane	ND	ND	1.9

B68

B98	3-4'	7-8'	Groundwater
Acetonitrile	32.2	30.5	ND
1,1-Dichloroethene	ND	ND	1.3
1,1,1-Trichloroethane	ND	ND	117

B98

B69	3-4'	14-15'	Groundwater
1,1-Dichloroethane	ND	ND	0.63

B69

B67: No VOCs detected in soil samples.
No groundwater sample collected.

B67

B97

B97	6-7'	7-8'	Groundwater
Acetonitrile	28.0	24.7	ND
1,1,1-Trichloroethane	ND	ND	41.4
1,4-Dioxane	ND	ND	2.0

B94

B94	4-5'	7-8'	Groundwater
1,1,1-Trichloroethane	ND	ND	6.2

B96

B96	4-5'	7-8'	Groundwater
1,1-Dichloroethane	ND	ND	0.67
1,1,1-Trichloroethane	ND	ND	46.5
1,4-Dioxane	ND	ND	2.0

B95: No VOCs detected in soil samples.
No groundwater sample collected.

B95

B116

B116	3-4'	8-9'
Benzene	7.1	8.2
Ethylbenzene	8.6	8.6
Toluene	21.9	23.6
Xylene	ND	11.0

B21

B21	2-3'	9-10'
1,1-Dichloroethane	ND	7.5
1,1,1-Trichloroethane	ND	619

B115

B115	3-4'	7-8'
Toluene	ND	12.9
Xylene	ND	6.5

B20

B20: No VOCs detected in soil samples.
No groundwater sample collected.

B18

B18	13-14'	14-15'
1,1,1-Trichloroethane	616	1,440
1,4-Dioxane	NA	45

B23

B23	5-6'	12-13'	Groundwater
Toluene	ND	ND	1.4
1,1,1-Trichloroethane	ND	ND	8.0

B74

B74	7-8'	10-11'	Groundwater
1,1,1-Trichloroethane	ND	13.1	1.9

B22

B22	1-2'	9-10'
1,1,1-Trichloroethane	ND	13.4

B75

B75	6-8'	14-15'	Groundwater
Toluene	ND	ND	1.5
1,1,1-Trichloroethane	ND	ND	3.0

B70

B70	7-8'	10-11'	Groundwater
Toluene	ND	ND	1.2

B72

B72	9-10'	14-15'	Groundwater
1,1,1-Trichloroethane	ND	ND	0.8

B39

B39	5-6'	11-12'	Groundwater
Toluene	ND	ND	1.3
1,1,1-Trichloroethane	ND	ND	5.0

Legend

- Source Area Sampling Location
- Stormwater Drain
- Suspect Source Area
- Project Boundary
- Buildings
- Sidewalk
- Streets

ND : Not Detected
NA : Not Analyzed
Soil results are inb ug/kg (ppb)
Groundwater results are in ug/l (ppb)

N

S

0 30 60 90

Feet

1 inch = 68 feet

Date: 6/5/2015

Basemap: ESRI Imagery (2013)

Figure 9. RCRA Facility Investigation Soil Sampling Locations near the Old Brannum House Area, YSI Incorporated, Yellow Springs, Ohio.

POWER ENGINEERS

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Figure 10. SCIA Soil Investigation Sampling Locations, YSI Incorporated, Yellow Springs, Ohio.

POWER ENGINEERS

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Figure 11. Suspect Source Areas at YSI Incorporated.

POWER ENGINEERS

YSI Facility
534 Golden Willow
574 Golden Willow
575 Golden Willow
568 Golden Willow
571 Golden Willow
MW-1
MW-8S
MW-FDIA-3
MW-FDIA-1
MW-FDIA-2
MW-7S
MW-7I
MW-CDIA-1
MW-CDIA-2
MW-CDIA-3
MW-CDIA-4
MW-15S
MW-15I
3667 Brannum
1655 Xenia
MW-13S
MW-13I
MW-2
MW-10S
MW-10I
MW-18I
1793 Xenia
MW-3
3621 Brannum
3601 Xenia
3624 Xenia
MW-17I
MW-14I
MW-16S
520 East Hyde
734 East Hyde
150 East Hyde
508 East Hyde
764 East Hyde
3470 Xenia
721 East Hyde
665 East Hyde
665 East Hyde (Barn)

Legend

MW - 9S - Monitoring Well

1655 Xenia - Residential Well

Note : monitoring wells ending in "S" are screened in the unconsolidated zone. Wells ending in "I" are completed in the upper carbonate aquifer. Wells ending in "D" are completed in the lower carbonate aquifer.

N

S

0 150 300 450

Feet

1 inch = 300 feet

Date: 9/18/2015

Basemap: ESRI Imagery (2013)

Figure 12. Ground Water Monitoring Wells and Residential Wells on and near the YSI Incorporated Facility, Yellow Springs, Ohio.

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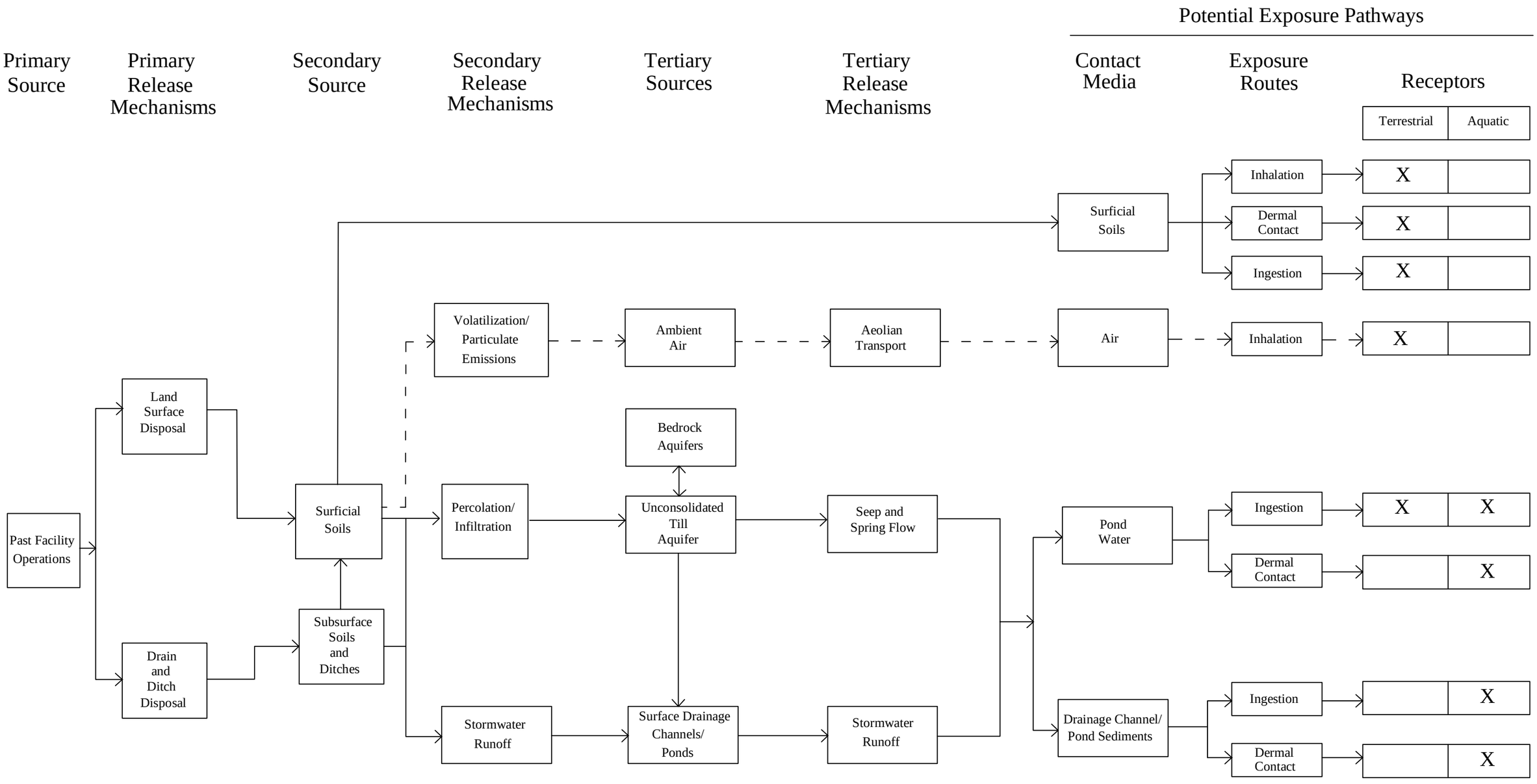

Figure 13. YSI conceptual site model for ecological assessment.

TABLES

Table 1. Media and Exposure Pathways Evaluated during RCRA Facility Investigation at YSI Incorporated, Yellow Springs, Ohio

Media	Pathways to be Evaluated	Data to Conduct Evaluation
Soil	Direct Contact	Previous data summarized in DOCC, data acquired during the RFI, and data acquired in 2015 at conclusion of SCIA interim actions.
	Leaching to Groundwater	Addressed by SCIA Administrative Order. 2015 soil data, collected at conclusion of SCIA interim action, will be used to evaluate effectiveness of this interim measure.
	Ecological risk	Previous data summarized in DOCC plus data acquired during the RFI and 2015 soil data acquired at conclusion of SCIA interim actions.
Surface Water	Ingestion and Dermal Contact	Previous data summarized in DOCC plus data acquired during the RFI.
	Ecological risk	
Sediment	Ecological risk	Previous data summarized in DOCC plus data acquired during the RFI.
	Direct Contact	
Indoor air	Soil to Indoor Air	Previous data summarized in DOCC plus data acquired during the RFI.
	Groundwater to Indoor Air	
Groundwater	Ingestion and inhalation	Addressed by SCIA Administrative Order. Recent groundwater results will be used to evaluate the effectiveness of these Interim Measures during the RFI.

Notes:

1. DOCC - Description of Current Conditions Report dated September 5, 2003
2. RFI - RCRA Facility Investigation
3. Addressed by SC/GWIA Administrative Order - this indicates that SC/GWIA goals for soil / groundwater are based on this pathway. For soil, SC/GWIA soil remediation goals are based on the leaching to groundwater pathway. SC/GWIA groundwater compliance levels are based on ingestion and inhalation.

Table 2. Applicable Standards for Evaluation of Media and Exposure Pathways at YSI Incorporated, Yellow Springs, Ohio

Media	Evaluated Pathway	Applicable Standards
Soil	Direct Contact	1. U.S. EPA Regional Screening Levels (November 2015) for residential and industrial soils 2. Other standards presented to OEPA for approval (if required)
	Leaching to Groundwater	1. Leach-based soil standards developed as required by SCIA Statement of Work. 2. U.S. EPA Regional Screening Levels for leaching to groundwater (Risk-based SSL)
	Ecological Risk	1. OEPA Ecological Risk Assessment Guidance Document (revised April 2008): Section 3.3.5 establishes a hierarchy of soil screening values that begins with U.S. EPA Ecological Screening Levels (Eco-SSLs). No Eco-SSLs have been established for VOCs. 2. Preliminary Remediation Goals for Ecological Endpoints (Rfroymson et al 1997) 3. EPA Region 5 Ecological Screening Levels (updated August 2003)
Surface Water	Ingestion and Inhalation	1. U.S. EPA Regional Screening Levels (January 2015, Tapwater column) 2. U.S. EPA Maximum Contaminant Levels for drinking water
	Ecological risk	1. Outside Mixing Zone Average water quality criteria (Ohio Administrative Code 3745-1) for the Ohio River drainage basin as specified in OEPA Ecological Risk Assessment Guidance Document, revised April 2008. 3. U.S EPA Region 5 Ecological Screening Levels
Sediment	Direct Contact	1. U.S. EPA Regional Screening Levels (June 2015) for residential and industrial soils Other standards presented to OEPA for approval (if required)
	Ecological risk	OEPA Guidance for Conducting RCRA Ecological Risk Assessments (March 2003). Section 3.3.5 establishes a hierarchy of sediment screening values. 1. Threshold Effect Concentration values (MacDonald et al. 2000) 2. EPA Region 5 Ecological Screening Levels (updated August 2003) Other standards presented to OEPA for approval (if required)
Indoor air	Vapor Intrusion	U.S. EPA Vapor Intrusion Screening Levels Calculator (July 2015)
Groundwater	Ingestion	Groundwater Compliance Levels (GCLs) developed as required by SCIA Statement of Work, U.S. EPA Maximum Contaminant Levels, and U.S. EPA Regional Screening Levels

Table 3. Volatile Organic Compound Parameter List for Samples Collected during RCRA Facility Investigation, YSI Incorporated, Yellow Springs, Ohio

Surface Water, Soil, and Sediment Samples VOCs by SW846 Method 8260B	Soil Gas Samples VOCs by EPA Methods TO-14 and TO-15
Acetone	Acetone
Acetonitrile	Allyl chloride
Acrolein	Benzene
Acrylonitrile	Benzyl chloride
Allyl chloride	Bromodichloromethane
Benzene	Bromoform
Bromodichloromethane	Bromomethane
Bromoform	1,3-butadiene
Bromomethane	Carbon disulfide
2-Butanone (MEK)	Carbon tetrachloride
Carbon disulfide	Chlorobenzene
Carbon tetrachloride	Chloroform
Chlorobenzene	Chloromethane
Chloroethane	cis-1,2-dichloroethene
Chloroform	trans-1,2-dichloroethene
Chloromethane	cis-1,3-dichloropropene
Chloroprene	trans-1,3-dichloropropene
Dibromochloromethane	Cyclohexane
1,2-Dibromo-3-chloropropane	Dibromochloromethane
1,2-Dibromoethane	1,2-dibromoethane
Dibromomethane	o-Dichlorobenzene
t-1,4-Dichloro-2-butene	p-Dichlorobenzene
Dichlorodifluoromethane	m-Dichlorobenzene
1,1-Dichloroethane	Dichlorodifluoromethane
1,2-Dichloroethane	1,1-dichloroethane
1,1-Dichloroethene	1,1-dichloroethene
cis-1,2-Dichloroethene	1,2-dichloroethane
trans-1,2-Dichloroethene	1,2-dichloropropane
1,2-Dichloropropane	Dichlorotetrafluoroethane
cis-1,3-Dichloropropene	1,4-dioxane
trans-1,3-Dichloropropene	Ethyl acetate
1,4-Dioxane	Ethylbenzene
Ethylbenzene	Ethyl chloride
Ethyl methacrylate	4-Ethyltoluene
2-Hexanone	Heptane
Iodomethane	Hexachloro-1,3-butadiene
Methacrylonitrile	Hexane
Methylene chloride	2-Hexanone
Methyl methacrylate	Methylene chloride
4-Methyl-2-pentanone	Methyl ethyl ketone
Pentachloroethane	4-methyl-2-pentanone
Propionitrile	Methyl tert-butyl ether
Styrene	2-propanol

Table 3. Volatile Organic Compound Parameter List for Samples Collected during RCRA Facility Investigation, YSI Incorporated, Yellow Springs, Ohio

Surface Water, Soil, and Sediment Samples VOCs by SW846 Method 8260B	Soil Gas Samples VOCs by EPA Methods TO-14 and TO-15
1,1,1,2-Tetrachloroethane	Propylene
1,1,2,2-Tetrachloroethane	Styrene
Tetrachloroethene	1,1,2,2-tetrachloroethane
Toluene	Tetrachloroethene
1,1,1-Trichloroethane	Tetrahydrofuran
1,1,2-Trichloroethane	Toluene
Trichloroethene	1,2,4-trichlorobenzene
Trichlorofluoromethane	1,1,1-trichloroethane
1,1,2-Trichloro-1,2,2-trifluoroethane	1,1,2-trichloroethane
1,2,3-Trichloropropane	Trichloroethene
1,2,4-Trimethylbenzene	Trichlorofluoromethane
Vinyl acetate	1,1,2-trichloro-1,2,2-trifluoroethane
Vinyl chloride	1,2,4-trimethylbenzene
Xylenes	1,3,5-trimethylbenzene
	2,2,4-trimethylpentane
	m-Xylene
	o-Xylene
	p-Xylene
	Vinyl acetate
	Vinyl bromide
	Vinyl chloride

Table 4. Summary of RCRA Facility Investigation Sediment Sampling Locations, YSI Incorporated, Yellow Springs, Ohio

Sampling Location	Sample ID	Description
1	YSI-SED-1	0-3" interval
2	YSI-SED-2 0-3”	0-3" interval
	YSI-SED-2 3-6"	3-6" interval
3	YSI-SED-3 0-3”	0-3" interval
	YSI-SED-3 0-3"	3-6" interval
4	YSI-SED-4	0-3" interval
5	YSI-SED-5	0-3" interval
6	YSI-SED-6	0-3" interval
7	YSI-SED-7	0-3" interval
8	YSI-SED-8	0-3" interval
9	YSI-SED-9	0-3" interval
10	YSI-SED-10 0-3”	0-3" interval
	YSI-SED-10 3-6"	3-6" interval
11	YSI-SED-11 0-3"	0-3" interval
	YSI-SED-11 3-6"	3-6" interval
12	YSI-SED-12	0-3" interval
13	YSI-SED-13 0-3"	0-3" interval
	YSI-SED-13 3-6"	3-6" interval
	YSI-SED-13 6-9"	6-9" interval
14	YSI-SED-14 0-3"	0-3" interval
	YSI-SED-14 3-6"	3-6" interval
15	YSI-SED-15 0-3"	0-3" interval
	YSI-SED-15 3-6"	3-6" interval
	YSI-SED-15 6-9"	6-9" interval
	YSI-SED-15 9-12"	9-12" interval
16	YSI-SED-16	0-3" interval
17	YSI-SED-17	0-3" interval
18	YSI-SED-18	0-3" interval
19	YSI-SED-19	0-3" interval
20	YSI-SED-20 0-3"	0-3" interval
	YSI-SED-20 3-6"	3-6" interval
	YSI-SED-20 6-9"	6-9" interval
21	YSI-SED-21 0-3"	0-3" interval
	YSI-SED-21 3-6"	3-6" interval
22	YSI-SED-22	0-3" interval
23	YSI-SED-23 0-3”	0-3" interval
	YSI-SED-23 3-6"	3-6" interval
24	YSI-SED-24 0-3”	0-3" interval
	YSI-SED-24 3-6"	3-6" interval
25	YSI-SED-25 0-3”	0-3" interval
	YSI-SED-25 3-6"	3-6" interval

Note: Refer to Figure 4 for sediment sampling locations.

Table 5. Analytical Results for Sediment Samples Collected During RCRA Facility Investigation, YSI Incorporated, Yellow Springs, Ohio

Parameter	Sample ID and Analytical Results																
	YSI-SED-1	YSI-SED-2 0-3"	YSI-SED-2 3-6"	YSI-SED-3 0-3"	YSI-SED-3 3-6"	YSI-SED-4	YSI-SED-5	YSI-SED-6	YSI-SED-7	YSI-SED-8	YSI-SED-9	YSI-SED-10 0-3"	YSI-SED-10 3-6"	YSI-SED-11 0-3"	YSI-SED-11 3-6"	YSI-SED-12	YSI-SED-13 0-3"
Acetone	<166	<178	<144	<177	<145	<168	<149	<134	<136	<147	<127	<172	<155	<326	<395	<142	<177
Acrolein	<82.9	<89.1	<72.0	<88.3	<72.4	<84.2	<74.6	<66.8	<67.8	<73.4	<63.5	<85.8	<77.6	<163	<198	<70.8	<88.7
Acrylonitrile	<3.80	<4.08	<3.30	<4.05	<3.31	<3.86	<3.42	<3.06	<3.11	<3.36	<2.91	<3.93	<3.56	<7.46	<9.05	<3.24	<88.7
Allyl chloride	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Benzene	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Bromodichloromethane	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Bromoform	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
2-Butanone	<83	<89	<72	<88	<72	<84	<75	<67	<68	<73	<63	<86	<78	<160	<200	<71	<89
Carbon disulfide	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Carbon tetrachloride	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Chlorobenzene	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Chloroethane	<16.6	<17.8	<14.4	<17.7	<14.5	<16.8	<14.9	<13.4	<13.6	<14.7	<12.7	<17.2	<15.5	<32.6	<39.5	<14.2	<17.7
Chloroform	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Chloromethane	<16.6	<17.8	<14.4	<17.7	<14.5	<16.8	<14.9	<13.4	<13.6	<14.7	<12.7	<17.2	<15.5	<32.6	<39.5	<14.2	<17.7
Chloroprene	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Dibromochloromethane	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Dibromomethane	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Dichlorodifluoromethane	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
1,2-Dibromo-3-chloropropane	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
1,2-Dibromoethane	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
trans-1,4-Dichloro-2-butene	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
1,1-Dichloroethane	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
1,2-Dichloroethane	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
1,1-Dichloroethene	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
cis-1,2-Dichloroethene	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
trans-1,2-Dichloroethene	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
1,2-Dichloropropane	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
cis-1,3-Dichloropropene	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
trans-1,3-Dichloropropene	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Ethyl methacrylate	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Ethylbenzene	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
2-Hexanone	<82.9	<89.1	<72.0	<88.3	<72.4	<84.2	<74.6	<66.8	<67.8	<73.4	<63.5	<85.8	<77.6	<163	<198	<70.8	<88.7
Iodomethane	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Methacrylonitrile	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Bromomethane	<16.6	<17.8	<14.4	<17.7	<14.5	<16.8	<14.9	<13.4	<13.6	<14.7	<12.7	<17.2	<15.5	<32.6	<39.5	<14.2	<17.7
Methylene Chloride	<16.6	<17.8	<14.4	<17.7	<14.5	<16.8	<14.9	<13.4	<13.6	<14.7	<12.7	<17.2	<15.5	<32.6	<39.5	<14.2	<17.7
4-Methyl-2-pentanone	<82.9	<89.1	<72.0	<88.3	<72.4	<84.2	<74.6	<66.8	<67.8	<73.4	<63.5	<85.8	<77.6	<163	<198	<70.8	<88.7
Methyl methacrylate	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Pentachloroethane	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Propionitrile	<82.9	<89.1	<72.0	<88.3	<72.4	<84.2	<74.6	<66.8	<67.8	<73.4	<63.5	<85.8	<77.6	<163	<198	<70.8	<88.7
Styrene	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
1,1,1,2-Tetrachloroethane	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
1,1,2,2-Tetrachloroethane	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Tetrachloroethene	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Toluene	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
1,1,1-Trichloroethane	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
1,1,2-Trichloroethane	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Trichloroethene	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Trichlorofluoromethane	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Trichlorotrifluoroethane	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
1,2,3-Trichloropropane	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
1,2,4-Trimethylbenzene	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Vinyl Acetate	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Vinyl Chloride	<2.55	<2.75	<2.22	<2.72	<2.23	<2.59	<2.30	<2.06	<2.09	<2.26	<1.95	<2.64	<2.39	<5.02	<6.09	<2.18	<3.5
Xylenes, Total	<8.3	<8.9	<7.2	<8.8	<7.2	<8.4	<7.5	<6.7	<6.8	<7.3	<6.3	<8.6	<7.8	<16	<20	<7.1	<8.9
Acetonitrile	<17	<18	<14	<18	<14	<17	<15	<13	<14	<15	<13	<17	<16	<33	<40	<14	<18
1,4 Dioxane	<33	<36	<29	<35	<29	<34	<30	<27	<27	<29	<25	<34	<31	<65	<79	<28	<35

Notes:

1. All samples collected in November 2004.
2. All units are in micrograms per kilogram (ug/kg), or parts per billion (ppb) and are reported on a dry weight basis.
3. "<" indicates that the compound was not detected at the listed reporting level. For example, "<8.3" indicates that the compound was not detected at or above a concentraqtion of 8.3 ug/kg.
4. Results for detected compounds are indicated in **bold text**.

Parameter	Sample ID and Analytical Results														
	YSI-SED-13 3-6"	YSI-SED-13 6-9"	YSI-SED-14 0-3"	YSI-SED-14 3-6"	YSI-SED-15 0-3"	YSI-SED-15 3-6"	YSI-SED-15 6-9"	YSI-SED-15 9-12"	YSI-SED-17	YSI-SED-18	YSI-SED-19	YSI-SED-20 0-3"	YSI-SED-20 3-6"	YSI-SED-20 6-9"	YSI-SED-21 0-3"
Acetone	<156	<323	<187	<128	<317	<249	<157	<147	<139	<178	<127	**209**	**176**	<133	<182
Acrolein	<78.1	<161	<93.6	<63.8	<159	<124	<78.7	<73.5	<69.5	<89.1	<63.3	<93.1	<69.7	<66.5	<90.9
Acrylonitrile	<78.1	<161	<93.6	<63.8	<7.27	<5.70	<3.61	<73.5	<3.18	<4.08	<2.90	<4.26	<3.19	<3.05	<4.16
Allyl chloride	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Benzene	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Bromodichloromethane	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Bromoform	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
2-Butanone	<78	<160	<94	<64	<160	<120	<79	<74	<70	<89	<63	<93	<70	<66	<91
Carbon disulfide	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Carbon tetrachloride	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Chlorobenzene	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Chloroethane	<15.6	<32.3	<18.7	<12.8	<31.7	<24.9	<15.7	<14.7	<13.9	<17.8	<12.7	<18.6	<13.9	<13.3	<18.2
Chloroform	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Chloromethane	<15.6	<32.3	<18.7	<12.8	<31.7	<24.9	<15.7	<14.7	<13.9	<17.8	<12.7	<18.6	<13.9	<13.3	<18.2
Chloroprene	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Dibromochloromethane	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Dibromomethane	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Dichlorodifluoromethane	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
1,2-Dibromo-3-chloropropane	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
1,2-Dibromoethane	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
trans-1,4-Dichloro-2-butene	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
1,1-Dichloroethane	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
1,2-Dichloroethane	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
1,1-Dichloroethene	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
cis-1,2-Dichloroethene	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
trans-1,2-Dichloroethene	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
1,2-Dichloropropane	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
cis-1,3-Dichloropropene	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
trans-1,3-Dichloropropene	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Ethyl methacrylate	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Ethylbenzene	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
2-Hexanone	<78.1	<161	<93.6	<63.8	<159	<124	<78.7	<73.5	<69.5	<89.1	<63.3	<93.1	<69.7	<66.5	<90.9
Iodomethane	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Methacrylonitrile	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Bromomethane	<15.6	<32.3	<18.7	<12.8	<31.7	<24.9	<15.7	<14.7	<13.9	<17.8	<12.7	<18.6	<13.9	<13.3	<18.2
Methylene Chloride	<15.6	<32.3	<18.7	<12.8	<31.7	<24.9	<15.7	<14.7	<13.9	<17.8	<12.7	<18.6	<13.9	<13.3	<18.2
4-Methyl-2-pentanone	<78.1	<161	<93.6	<63.8	<159	<124	<78.7	<73.5	<69.5	<89.1	<63.3	<93.1	<69.7	<66.5	<90.9
Methyl methacrylate	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Pentachloroethane	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Propionitrile	<78.1	<161	<93.6	<63.8	<159	<124	<78.7	<73.5	<69.5	<89.1	<63.3	<93.1	<69.7	<66.5	<90.9
Styrene	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
1,1,1,2-Tetrachloroethane	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
1,1,2,2-Tetrachloroethane	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Tetrachloroethene	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Toluene	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
1,1,1-Trichloroethane	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
1,1,2-Trichloroethane	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Trichloroethene	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Trichlorofluoromethane	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Trichlorotrifluoroethane	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
1,2,3-Trichloropropane	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
1,2,4-Trimethylbenzene	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Vinyl Acetate	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Vinyl Chloride	<3.1	<6.5	<3.7	<2.6	<4.89	<3.83	<2.43	<2.9	<2.14	<2.75	<1.95	<2.87	<2.15	<2.05	<2.80
Xylenes, Total	<7.8	<16	<9.4	<6.4	<16	<12	<7.9	<7.4	<7.0	<8.9	<6.3	<9.3	<7.0	<6.6	<9.1
Acetonitrile	<16	<32	<19	<13	<32	<25	<16	<15	<14	<18	<13	<19	<14	<13	<18
1,4 Dioxane	<31	<65	<37	<26	<63	<50	<31	<29	<28	<36	<25	<37	<28	<27	<36

Parameter	Sample ID and Analytical Results							
	YSI-SED-21 3-6"	YSI-SED-22	YSI-SED-23 0-3"	YSI-SED-23 3-6"	YSI-SED-24 0-3"	YSI-SED-24 3-6"	YSI-SED-25 0-3"	YSI-SED-25 3-6"
Acetone	**167**	<167	<171	<139	<122	<137	<143	<128
Acrolein	<74.0	<83.5	<85.5	<69.4	<61.1	<68.7	<71.5	<64.2
Acrylonitrile	<3.39	<3.82	<3.91	<69.4	<61.1	<68.7	<71.5	<64.2
Allyl chloride	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Benzene	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Bromodichloromethane	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Bromoform	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
2-Butanone	<74	<83	<85	<69	<61	<69	<72	<64
Carbon disulfide	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Carbon tetrachloride	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Chlorobenzene	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Chloroethane	<14.8	<16.7	<17.1	<13.9	<12.2	<13.7	<14.3	<12.8
Chloroform	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Chloromethane	<14.8	<16.7	<17.1	<13.9	<12.2	<13.7	<14.3	<12.8
Chloroprene	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Dibromochloromethane	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Dibromomethane	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Dichlorodifluoromethane	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
1,2-Dibromo-3-chloropropane	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
1,2-Dibromoethane	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
trans-1,4-Dichloro-2-butene	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
1,1-Dichloroethane	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
1,2-Dichloroethane	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
1,1-Dichloroethene	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
cis-1,2-Dichloroethene	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
trans-1,2-Dichloroethene	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
1,2-Dichloropropane	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
cis-1,3-Dichloropropene	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
trans-1,3-Dichloropropene	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Ethyl methacrylate	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Ethylbenzene	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
2-Hexanone	<74.0	<83.5	<85.5	<69.4	<61.1	<68.7	<71.5	<64.2
Iodomethane	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Methacrylonitrile	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Bromomethane	<14.8	<16.7	<17.1	<13.9	<12.2	<13.7	<14.3	<12.8
Methylene Chloride	<14.8	<16.7	<17.1	<13.9	<12.2	<13.7	<14.3	<12.8
4-Methyl-2-pentanone	<74.0	<83.5	<85.5	<69.4	<61.1	<68.7	<71.5	<64.2
Methyl methacrylate	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Pentachloroethane	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Propionitrile	<74.0	<83.5	<85.5	<69.4	<61.1	<68.7	<71.5	<64.2
Styrene	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
1,1,1,2-Tetrachloroethane	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
1,1,2,2-Tetrachloroethane	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Tetrachloroethene	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Toluene	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
1,1,1-Trichloroethane	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
1,1,2-Trichloroethane	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Trichloroethene	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Trichlorofluoromethane	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Trichlorotrifluoroethane	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
1,2,3-Trichloropropane	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
1,2,4-Trimethylbenzene	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Vinyl Acetate	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Vinyl Chloride	<2.28	<2.57	<2.63	<2.8	<2.4	<2.7	<2.9	<2.6
Xylenes, Total	<7.4	<8.3	<8.5	<6.9	<6.1	<6.9	<7.2	<6.4
Acetonitrile	<15	<17	<17	<14	<12	<14	<14	<13
1,4 Dioxane	<30	<33	<34	<28	<24	<27	<29	<26

Table 6. Summary of RCRA Facility Investigation Surface and Storm Water Sampling Locations, YSI Incorporated, Yellow Springs, Ohio

Sampling Location	Sample ID
Surface Water Sampling Locations	
1	YSI-SW-1 YSI-SW-1A
2	YSI-SW-2
3	YSI-SW-3
4	YSI-SW-4
5	YSI-SW-5
6	YSI-SW-6
7	YSI-SW-7
8	YSI-SW-8
9	YSI-SW-9
10	YSI-SW-10 YSI-SW-10B
11	YSI-SW-11
12	YSI-SW-12
13	YSI-SW-13 YSI-SW-13B
14	YSI-SW-14 YSI-SW-14B
15	YSI-SW-15
16	YSI-SW-16 YSI-SW-16A YSI-SW-16B
17	YSI-SW-17
18	YSI-SW-18
19	YSI-SW-19 YSI-SW-19A
20	YSI-SW-20
21	YSI-SW-21
22	YSI-SW-22
23	YSI-SW-23 YSI-SW-23A YSI-SW-23B
24	YSI-SW-24 YSI-SW-24B
25	YSI-SW-25
26	YSI-SW-26
Storm Water Sampling Locations	
1	YSI-STW-1
2	YSI-STW-2
3	YSI-STW-3
4	YSI-STW-4

See Figures 5 and 6 for surface water and storm water sampling locations, respectively.
Sample IDs ending in "A" indicate field duplicate samples.
Sample IDs ending in "B" indicate a deeper sample from a pond.

Table 7. Analytical Results for Surface Water Samples collected during RCRA Facility Investigation, YSI Incorporated, Yellow Springs, Ohio

Parameter	Stream / Pond Sample ID and Analytical Results																	
	YSI-SW-1	YSI-SW-1A	YSI-SW-2	YSI-SW-3	YSI-SW-4	YSI-SW-5	YSI-SW-6	YSI-SW-7	YSI-SW-8	YSI-SW-9	YSI-SW-10	YSI-SW-10B	YSI-SW-11	YSI-SW-12	YSI-SW-13	YSI-SW-13B	YSI-SW-14	YSI-SW-14B
Acetone	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Acrolein	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Acrylonitrile	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89
Allyl chloride	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Benzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5
Carbon disulfide	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon tetrachloride	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chloroform	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chloroprene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dibromochloromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromomethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,4-Dichloro-2-butene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	<0.5	<0.5	<0.5	<0.5	**0.67**	<0.5	**1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.56**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethyl methacrylate	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5
Iodomethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methacrylonitrile	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Bromomethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methylene chloride	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5
Methyl methacrylate	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Pentachloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Propionitrile	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Styrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	<0.5	<0.5	<0.5	<0.5	**10.9**	**3.5**	**15.2**	**2.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichlorofluoromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichlorotrifluoroethane	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,2,3-Trichloropropane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2,4-Trimethylbenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl acetate	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Vinyl chloride	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36
Xylenes, Total	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acetonitrile	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,4 Dioxane	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20

Notes:

1. All samples collected in November and December 2004.
2. All units are in micrograms per liter (ug/l), or parts per billion (ppb).
3. "<" indicates that the compound was not detected at the listed reporting level. For example, "<5.0" indicates that the compound was not detected at or above a concentraqtion of 5.0 ug/l.
4. Results for detected compounds are indicated in **bold text**.
5. Samples ending in "A" are field duplicate samples. Samples ending in "B" are deep samples from ponds.

Parameter	Stream / Pond Sample ID and Analytical Results																
	YSI-SW-15	YSI-SW-16	YSI-SW-16A	YSI-SW-16B	YSI-SW-17	YSI-SW-18	YSI-SW-19	YSI-SW-19A	YSI-SW-20	YSI-SW-21	YSI-SW-22	YSI-SW-23	YSI-SW-23A	YSI-SW-23B	YSI-SW-24	YSI-SW-24B	YSI-SW-25
Acetone	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Acrolein	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Acrylonitrile	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89
Allyl chloride	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Benzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5
Carbon disulfide	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon tetrachloride	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chloroform	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chloroprene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dibromochloromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromomethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,4-Dichloro-2-butene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethyl methacrylate	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5
Iodomethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methacrylonitrile	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Bromomethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methylene chloride	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5
Methyl methacrylate	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Pentachloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Propionitrile	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Styrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	<0.5	<0.5	<0.5	<0.5	<0.5	**2.7**	<0.5	<0.5	<0.5	<0.5	**4**	**0.66**	**0.7**	**0.8**	**0.7**	**0.76**	<0.5
1,1,2-Trichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichlorofluoromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichlorotrifluoroethane	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,2,3-Trichloropropane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2,4-Trimethylbenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl acetate	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Vinyl chloride	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36
Xylenes, Total	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acetonitrile	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,4 Dioxane	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20

Parameter	Storm Water Sample ID and Analytical Results				
	YSI-SW-26	YSI-STW-1	YSI-STW-2	YSI-STW-3	YSI-STW-4
Acetone	<20.0	<20.0	<20.0	<20.0	<20.0
Acrolein	<50.0	<50.0	<50.0	<50.0	<50.0
Acrylonitrile	<1.89	<1.89	<1.89	<1.89	<1.89
Allyl chloride	<5.0	<5.0	<5.0	<5.0	<5.0
Benzene	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone	<12.5	<12.5	<12.5	<12.5	<12.5
Carbon disulfide	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon tetrachloride	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<5.0	<5.0	<5.0	<5.0	<5.0
Chloroform	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane	<5.0	<5.0	<5.0	<5.0	<5.0
Chloroprene	<5.0	<5.0	<5.0	<5.0	<5.0
Dibromochloromethane	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromomethane	<1.0	<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane	<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,4-Dichloro-2-butene	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0	<1.0
Ethyl methacrylate	<5.0	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone	<12.5	<12.5	<12.5	<12.5	<12.5
Iodomethane	<5.0	<5.0	<5.0	<5.0	<5.0
Methacrylonitrile	<5.0	<5.0	<5.0	<5.0	<5.0
Bromomethane	<5.0	<5.0	<5.0	<5.0	<5.0
Methylene chloride	<5.0	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	<12.5	<12.5	<12.5	<12.5	<12.5
Methyl methacrylate	<5.0	<5.0	<5.0	<5.0	<5.0
Pentachloroethane	<5.0	<5.0	<5.0	<5.0	<5.0
Propionitrile	<50.0	<50.0	<50.0	<50.0	<50.0
Styrene	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0
Trichlorofluoromethane	<1.0	<1.0	<1.0	<1.0	<1.0
Trichlorotrifluoroethane	<2.0	<2.0	<2.0	<2.0	<2.0
1,2,3-Trichloropropane	<5.0	<5.0	<5.0	<5.0	<5.0
1,2,4-Trimethylbenzene	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl acetate	<5.0	<5.0	<5.0	<5.0	<5.0
Vinyl chloride	<0.36	<0.36	<0.36	<0.36	<0.36
Xylenes, Total	<1.0	<1.0	<1.0	<1.0	<1.0
Acetonitrile	<10	<10	<10	<10	<10
1,4 Dioxane	<20	<20	<20	<20	<20

Table 8. Summary of RCRA Facility Investigation Soil Gas Sampling Locations, YSI Incorporated, Yellow Springs, Ohio

Sampling Location	Sample ID
1	YSI-SG-1
2	YSI-SG-2 YSI-SG-2A
3	YSI-SG-3
4	YSI-SG-4 YSI-SG-4A
SSG	SSG-1

Sample ending in "A" are field duplicate samples
See Figure 7 for sampling locations.

Table 9. Analytical Results for Soil Gas Samples collected during RCRA Facility Investigation, YSI Incorporated, Yellow Springs, Ohio

Parameter	Sample ID and Analytical Results						
	YSI-SG-1	YSI-SG-2	YSI-SG-2A	YSI-SG-3	YSI-SG-4	YSI-SG-4A	SSG-1
Propylene	**7.4**	**3.08**	**3.39**	**1.66**	**1.28**	**1.47**	ND
Freon 12 (Dichlorodifluoromethane)	**0.99**	**1.08**	**1.69**	**0.432**	<0.356	<0.467	ND
Chloromethane	<0.391	**0.484**	<0.338	<0.337	<0.356	<0.467	ND
Freon 114 (Dichlorodifluoroethane)	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	NA
Vinyl chloride	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
1,3-Butadiene	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Bromomethane	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Chloroethane	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Bromoethene (Vinyl bromide)	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	NA
Acetone	**58.6**	**30.6**	**31.7**	**24.7**	**30.9**	**22.8**	**6.19**
Freon 11 (Trichlorofluoromethane)	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Isopropyl alcohol	**19.5**	**85.8**	**79**	**9**	**148**	**178**	NA
1,1-Dichloroethene	<0.391	<0.347	<0.338	**3.15**	<0.356	<0.467	ND
Methylene chloride	**0.567**	**0.816**	<0.338	<0.337	<0.356	**1.01**	**1.73**
Allyl Chloride (3-chloropropene)	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	NA
Freon 113 (1,1,2-Trichloro-1,2,2-trifluoroethane)	<0.391	<0.347	<0.338	**0.621**	<0.356	<0.467	ND
Carbon disulfide	**2.06**	**4.73**	**0.651**	**0.423**	**0.822**	**1.39**	ND
trans-1,2-Dichloroethene	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
1,1-Dichloroethane	<0.391	**2.45**	**2.24**	<0.337	<0.356	<0.467	ND
Methyl tert-butyl ether	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Vinyl Acetate	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Methyl ethyl ketone (2-Butanone)	**10.5**	**10.5**	**10.9**	**5.25**	**11**	**3.19**	**1.12**
cis-1,2-Dichloroethylene	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Hexane	**1.37**	**1.51**	**1.79**	<0.337	<0.356	<0.467	**0.51**
Ethyl acetate	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Chloroform	<0.391	**0.403**	**0.343**	<0.337	<0.356	<0.467	ND
Tetrahydrofuran	**0.773**	**0.72**	**0.822**	<0.337	**0.666**	<0.467	ND
1,2-Dichloroethane	**0.541**	**0.441**	<0.338	<0.337	<0.356		ND
1,1,1-Trichloroethane	**2.02**	**92.8**	**93.2**	**28.6**	**0.904**	<0.467	ND
Benzene	**0.855**	**0.864**	**0.815**	**0.388**	**0.444**	<0.467	ND
Carbon tetrachloride	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Cyclohexane	**2.11**	**7.55**	**9.87**	<0.337	<0.356	<0.467	ND
1,2-Dichloropropane	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Bromodichloromethane	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
2,2,4-Trimethylpentane	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Trichloroethene	**0.529**	<0.347	<0.338	<0.337	<0.356	<0.467	ND
1,4-Dioxane	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	NA
Heptane	**1.69**	**4.24**	**5.03**	**1.56**	**3.01**	<0.467	ND
cis-1,3-Dichloropropene	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Methyl isobutyl ketone	**1.96**	**0.721**	**0.844**	<0.337	**1**	<0.467	ND
trans-1,3-Dichloropropene	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
1,1,2-Trichloroethane	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Toluene	**29.9**	**19.1**	**16.2**	**7.23**	**22**	**2.64**	**0.45**
2-Hexanone (Methyl butyl ketone)	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Dibromochloromethane	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
1,2-Dibromoethane	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Tetrachloroethene	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Chlorobenzene	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Ethylbenzene	**1.19**	**0.9**	**1.09**	<0.337	**1.67**	**1.04**	ND
m-/p-Xylenes	**1.85**	**2.49**	**3.05**	**0.845**	**4.89**	**3.43**	ND
Bromoform	<0.391	<0.347	<0.338	**<0.337**	**<0.356**	**<0.467**	ND
Styrene	**0.897**	**1.31**	**1.58**	<0.337	**1.68**	<0.467	ND
o-Xylene	**0.668**	**0.927**	**1.09**	<0.337	**1.7**	**1.13**	ND
1,1,2,2,-Tetrachloroethane	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
4-Ethyltoluene	<0.391	**0.543**	**0.592**	<0.337	**1.29**	**0.787**	ND
1,3,5-Trimethylbenzene	<0.391	<0.347	<0.338	<0.337	**0.613**	<0.467	ND
1,2,4-Trimethylbenzene	**0.411**	**0.861**	**0.926**	<0.337	**1.97**	**1.02**	**0.61**
Benzyl chloride	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
1,3-Dichlorobenzene	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
1,4-Dichlorobenzene	**0.409**	**1.98**	**2.13**	<0.337	<0.356	<0.467	ND
1,2-Dichlorobenzene	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
1,2,4-Trichlorobenzene	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Hexachlorobutadiene	<0.391	<0.347	<0.338	<0.337	<0.356	<0.467	ND
Dichlorotetrafluoroethane	NA	NA	NA	NA	NA	NA	ND
Ethanol	NA	NA	NA	NA	NA	NA	**2.44**
Naphthalene	NA	NA	NA	NA	NA	NA	ND
2-propanol	NA	NA	NA	NA	NA	NA	ND

Notes:

1. All samples collected in January 2005 except sample SSG-1 (collected in June 2011).
2. All units are in parts per billion by volume (ppbv)
3. "<" indicates that the compound was not detected at the listed reporting level.
   For example, "<0.391" indicates that the compound was not detected at a concentration equal to or greater than 0.391 ppbv.
4. Samples ending in "A" are field duplicate samples. Samples ending in "B" are deep samples from ponds.
5. Results for detected compounds are indicated in **bold text**.
6. ND - Not detected.
7. NA - Not analyzed.

Table 10. Summary of RCRA Facility Investigation Soil Sampling Locations, YSI Incorporated, Yellow Springs, Ohio

Sampling Location	Sample ID
B-113	YSI-B113 2-4'
	YSI-B113 7-8'
B-114	YSI-B114 2-3'
	YSI-B114 6-7'
B-115	YSI-B115 3-4'
	YSI-B115 7-8'
B-116	YSI-B116 3-4'
	YSI-B116 8-9'
B-117	YSI-B117 2-3'
	YSI-B117 9-10'
B-118	YSI-B118 3-4'
	YSI-B118 10-11'

See Figures 8 and 9 for soil sampling locations.

Table 11. Analytical Results for Soil Samples collected during RCRA Facility Investigation, YSI Incorporated, Yellow Springs, Ohio

CONSTITUENT	Sample ID and Analytical Results											
	YSI-B113-2'-4'	**YSI-B113-7'-8'**	**YSI-B114-2'-3'**	**YSI-B114-6'-7'**	**YSI-B115-3'-4'**	**YSI-B115-7'-8'**	**YSI-B116-3'-4'**	**YSI-B116-8'-9'**	**YSI-B117-2'-3'**	**YSI-B117-9'-10'**	**YSI-B118-3'-4'**	**YSI-B118-10'-11'**
Acetone	<115	<110	<121	<112	<125	<112	<124	<113	<111	<112	<114	<109
Acrolein	<57.6	<54.9	<60.5	<56.2	<62.4	<56.2	<62.2	<56.4	<55.7	<55.8	<57.1	<54.4
Acrylonitrile	<2.64	<2.52	<2.77	<2.57	<2.86	<2.57	<2.85	<2.58	<2.55	<2.56	<2.61	<2.49
Allyl chloride	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Benzene	**7.8**	<5.5	**11**	**5.7**	<6.2	<5.6	**7.1**	**8.2**	<5.6	<5.6	**8.7**	<5.4
Bromodichloromethane	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Bromoform	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
2-Butanone (MEK)	<58	<55	<60	<56	<62	<56	<62	<56	<56	<56	<57	<54
Carbon disulfide	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Carbon tetrachloride	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Chlorobenzene	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Chloroethane	<11.5	<11.0	<12.1	<11.2	<12.5	<11.2	<12.4	<11.3	<11.1	<11.2	<11.4	<10.9
Chloroform	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Chloromethane	<11.5	<11.0	<12.1	<11.2	<12.5	<11.2	<12.4	<11.3	<11.1	<11.2	<11.4	<10.9
Chloroprene	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Dibromochloromethane	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Dibromomethane	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Dichlorodifluoromethane	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
1,2-Dibromo-3-chloropropane	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
1,2-Dibromoethane (EDB)	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
trans-1,4-Dichloro-2-butene	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
1,1-Dichloroethane	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
1,2-Dichloroethane	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
1,1-Dichloroethene	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
cis-1,2-Dichloroethene	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
trans-1,2-Dichloroethene	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
1,2-Dichloropropane	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
cis-1,3-Dichloropropene	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
trans-1,3-Dichloropropene	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Ethyl methacrylate	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Ethylbenzene	**5.8**	<5.5	**16.3**	<5.6	<6.2	<5.6	**8.6**	**8.6**	<5.6	<5.6	**7.8**	<5.4
2-Hexanone	<57.6	<54.9	<60.5	<56.2	<62.4	<56.2	<62.2	<56.4	<55.7	<55.8	<57.1	<54.4
Iodomethane (Methyl Iodide)	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Methacrylonitrile	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Bromomethane	<11.5	<11.0	<12.1	<11.2	<12.5	<11.2	<12.4	<11.3	<11.1	<11.2	<11.4	<10.9
Methylene Chloride	<11.5	<11.0	<12.1	<11.2	<12.5	<11.2	<12.4	<11.3	<11.1	<11.2	<11.4	<10.9
4-Methyl-2-pentanone (MIBK)	<57.6	<54.9	<60.5	<56.2	<62.4	<56.2	<62.2	<56.4	<55.7	<55.8	<57.1	<54.4
Methyl methacrylate	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Pentachloroethane	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Propionitrile	<57.6	<54.9	<60.5	<56.2	<62.4	<56.2	<62.2	<56.4	<55.7	<55.8	<57.1	<54.4
Styrene	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
1,1,1,2-Tetrachloroethane	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
1,1,2,2-Tetrachloroethane	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Tetrachloroethene	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Toluene	**20.6**	**13.8**	**34.7**	**16**	<6.2	**12.9**	**21.9**	**23.8**	**6.1**	**9.6**	**22.5**	**7.1**
1,1,1-Trichloroethane	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
1,1,2-Trichloroethane	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Trichloroethene	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Trichlorofluoromethane	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Trichlorotrifluoroethane	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
1,2,3-Trichloropropane	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
1,2,4-Trimethylbenzene	<5.8	<5.5	**6.8**	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	**6.4**	<5.4
Vinyl Acetate	<5.8	<5.5	<6.0	<5.6	<6.2	<5.6	<6.2	<5.6	<5.6	<5.6	<5.7	<5.4
Vinyl Chloride	<1.77	<1.69	<1.86	<1.73	<1.92	<1.73	<1.92	<1.74	<1.72	<1.72	<1.76	<1.68
Xylenes, Total	**7.9**	**6.3**	**24.3**	**7.8**	<6.2	**6.5**	<6.2	**11**	<5.6	<5.6	**11.9**	<5.4
Acetonitrile	<12	<11	<10	<11	<12	<11	<12	<11	<11	<11	<11	<11

Notes:

1. All samples collected in December 2004.
2. All units are in micrograms per kilogram (ug/kg), or parts per billion (ppb).
3. "<" indicates that the compound was not detected at the listed reporting level.
4. Samples ending in "A" are field duplicate samples.
5. Results for detected compounds are indicated in **bold text**.

Table 12. Analytical Results for September 2015 SCIA Soil Investigation at YSI Incorporated, Yellow Springs, Ohio.

Analyte	SB-1 (0-2)		SB-1 (6-8)		SB-1 (8-10)		SB-2 (0-2)		SB-2 (2-4)		SB-2 (6-8)		SB-3 (0-2)		SB-3 (4-6)		SB-3 (8-10)		SB-4 (6-8)		SB-4 (10-12)		SB-5 (4-6)		SB-5 (6-8)		SB-6 (2-4)		SB-6 (6-8)		SB-7 (2-4)		SB-7 (4-6)		SB-8 (3-6)		SB-9 (3-6)	
	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1,1,2-Tetrachloroethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
1,1,1-Trichloroethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	**13**		**24.6**		3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	**3.07**	J	**5.99**	
1,1,2,2-Tetrachloroethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
1,1,2-Trichloroethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
1,1-Dichloroethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	**5.84**		**7.15**		**6.79**		4.04	U	3.69	U	3.72	U	4.1	U	**4.55**		**17.7**	
1,1-Dichloroethene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
1,2,3-Trichloropropane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
1,2,4-Trimethylbenzene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	**3.07**	J	**3.52**	J	**4.43**		3.61	U	**3.26**	J	**2.2**	J	**2.84**	J	**3.25**	J	**2.53**	J	5.65	U
1,2-Dibromo-3-chloropropane	35.6	U	28.3	U	30.7	U	34.3	U	33.8	U	282	U	30.1	U	33.3	U	33.6	U	23.5	U	23.8	U	23.3	U	21.7	U	24.3	U	22.1	U	22.3	U	24.6	U	24.6	U	33.9	U
1,2-Dibromoethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
1,2-Dichloroethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
1,2-Dichloropropane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
1,4 Dioxane	593	U	472	U	511	U	572	U	563	U	4700	U	501	U	555	U	559	U	391	U	397	U	389	U	361	U	404	U	369	U	372	U	410	U	410	U	565	U
2-Butanone	29.6	U	23.6	U	25.6	U	28.6	U	28.1	U	235	U	25.1	U	27.8	U	28	U	19.6	U	19.9	U	19.4	U	18.1	U	20.2	U	18.4	U	18.6	U	20.5	U	20.5	U	28.3	U
2-Hexanone	14.8	U	11.8	U	12.8	U	14.3	U	14.1	U	118	U	12.5	U	13.9	U	14	U	9.78	U	9.93	U	9.71	U	9.03	U	10.1	U	9.22	U	9.31	U	10.3	U	10.3	U	14.1	U
4-Methyl-2-pentanone	14.8	U	11.8	U	12.8	U	14.3	U	14.1	U	118	U	12.5	U	13.9	U	14	U	9.78	U	9.93	U	9.71	U	9.03	U	10.1	U	9.22	U	9.31	U	10.3	U	10.3	U	14.1	U
Acetone	59.3	U	47.2	U	51.1	U	57.2	U	56.3	U	470	U	50.1	U	**13.8**	J	55.9	U	39.1	U	**7.38**	J	**9.4**	J	36.1	U	**10.2**	J	**7.13**	J	**5.8**	J	**8.45**	J	**13.3**	J	**23.8**	J
Acetonitrile	119	U	94.5	U	102	U	114	U	113	U	940	U	100	U	111	U	112	U	78.2	U	79.4	U	77.7	U	72.3	U	80.9	U	73.7	U	74.5	U	82.1	U	82.1	U	113	U
Acrolein	59.3	U	47.2	U	51.1	U	57.2	U	56.3	U	470	U	50.1	U	55.5	U	55.9	U	39.1	U	39.7	U	38.9	U	36.1	U	40.4	U	36.9	U	37.2	U	41	U	41	U	56.5	U
Acrylonitrile	59.3	U	47.2	U	51.1	U	57.2	U	56.3	U	470	U	50.1	U	55.5	U	55.9	U	39.1	U	39.7	U	38.9	U	36.1	U	40.4	U	36.9	U	37.2	U	41	U	41	U	56.5	U
Allyl chloride	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Benzene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	**3.04**	J	**5.54**		**5.11**		**1.47**	J	**3.06**	J	**2.17**	J	**3.78**		**3.76**	J	**3.68**	J	5.65	U
Bromodichloromethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Bromoform	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Bromomethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Carbon disulfide	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Carbon tetrachloride	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	**1.85**	J	**3.49**	J	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Chlorobenzene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Chloroethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	**3.59**	J	5.65	U
Chloroform	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Chloromethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	**1.76**	J	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Chloroprene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
cis-1,2-Dichloroethene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	**1.94**	J	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
cis-1,3-Dichloropropene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Dibromochloromethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Dibromomethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Dichlorodifluoromethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Ethyl Benzene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	**3.25**	J	**4.54**		**5.88**		3.61	U	**3.78**	J	**2.13**	J	**3.16**	J	**3.52**	J	**3.45**	J	5.65	U
Ethyl methacrylate	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
m,p-Xylene	11.9	U	9.45	U	10.2	U	11.4	U	11.3	U	94	U	10	U	11.1	U	11.2	U	**4.94**	J	**7.08**	J	**7.86**		**1.67**	J	**5.13**	J	**3.29**	J	**5.18**	J	**5.36**	J	**4.58**	J	11.3	U
Methyl iodide	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Methyl methacrylate	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Methylacrylonitrile	59.3	U	47.2	U	51.1	U	57.2	U	56.3	U	470	U	50.1	U	55.5	U	55.9	U	39.1	U	39.7	U	38.9	U	36.1	U	40.4	U	36.9	U	37.2	U	41	U	41	U	56.5	U
Methylene chloride	**2.38**	J	18.9	U	20.4	U	22.9	U	22.5	U	188	U	20	U	**2.28**	J	**2.53**	J	15.6	U	15.9	U	15.5	U	14.5	U	16.2	U	14.7	U	14.9	U	16.4	U	16.4	U	22.6	U
o-Xylene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	**2.15**	J	**3.03**	J	**3.68**	J	3.61	U	**2.41**	J	**1.5**	J	**2.09**	J	**2.31**	J	**2.19**	J	5.65	U
Pentachloroethane	11.9	U	9.45	U	10.2	U	11.4	U	11.3	U	94	U	10	U	11.1	U	11.2	U	7.82	U	7.94	U	7.77	U	7.23	U	8.09	U	7.37	U	7.45	U	8.21	U	8.21	U	11.3	U
Propionitrile	119	U	94.5	U	102	U	114	U	113	U	940	U	100	U	111	U	112	U	78.2	U	79.4	U	77.7	U	72.3	U	80.9	U	73.7	U	74.5	U	82.1	U	82.1	U	113	U
Styrene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Tetrachloroethene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	**6.21**		3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Toluene	5.93	U	4.72	U	5.11	U	**2.67**	J	5.63	U	47	U	5.01	U	5.55	U	5.59	U	**9.34**		**14.6**		**15.4**		**3.92**		**9.64**		**6.28**		**10.4**		**10.5**		**10.2**		5.65	U
trans-1,2-Dichloroethene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
trans-1,3-Dichloropropene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
trans-1,4-Dichloro-2-butene	29.6	U	23.6	U	25.6	U	28.6	U	28.1	U	235	U	25.1	U	27.8	U	28	U	19.6	U	19.9	U	19.4	U	18.1	U	20.2	U	18.4	U	18.6	U	20.5	U	20.5	U	28.3	U
Trichloroethene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Trichlorofluoromethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Trichlorotrifluoroethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U
Vinyl acetate	14.8	U	11.8	U	12.8	U	14.3	U	14.1	U	118	U	12.5	U	13.9	U	14	U	9.78	U	9.93	U	9.71	U	9.03	U	10.1	U	9.22	U	9.31	U	10.3	U	10.3	U	14.1	U
Vinyl chloride	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U

Notes:
1. U indicates that the compound was not detected at the indicated laboratory Limit of Quantitation.
2. J indicates that the compound was detected at an estimated concentration above the Method Detection Limit but below the laboratory Limit of Quantitation.
3. NE - not established. A SCIA soil remediation goal was not established because a SCIA interim action was not required for this compound.
4. All soil samples were collected on September 1, 2015.
5. Detected compounds are identified in bold font.
6. Samples SB-1, SB-2, and SB-3 are from the Former Shipping Dock Area. Samples SB-4 through SB-9 are from the Current Shipping Dock Area.

Table 13. Summary of Soil Analytical Data from the Webb Building Area, YSI Incorporated, Yellow Springs, Ohio

Constituent	Max (ug/kg)	# of Samples	# Detects	% Detects	Max Detect (ug/kg)	95% UCL (ug/kg)	UCL Method	EPA RSL Residential Soil	EPA RSL Industrial Soil	Basis for RSL
Acetone	152	20	0	0.0				6.1E+07	6.7E+08	n
Acrolein	76	20	0	0.0				1.4E+02	6.0E+02	n
Acrylonitrile	55.9	20	0	0.0				2.5E+02	1.1E+03	c
Allyl chloride	7.6	20	0	0.0				7.2E+02	3.2E+03	c
Benzene	11	20	1	5.0%	11			1.2E+03	5.1E+03	c
Bromodichloromethane	7.6	20	0	0.0				2.9E+02	1.3E+03	c
Bromoform	7.6	20	0	0.0				1.9E+04	8.6E+04	c
2-Butanone (MEK)	76	20	0	0.0				2.7E+07	1.9E+08	n
Carbon disulfide	7.6	20	0	0.0				7.7E+05	3.5E+06	n
Carbon tetrachloride	7.6	20	0	0.0				6.5E+02	2.9E+03	c
Chlorobenzene	7.6	20	0	0.0				2.8E+05	1.3E+06	n
Chloroethane	15	20	0	0.0				1.4E+06	5.7E+06	n
Chloroform	7.6	20	0	0.0				3.2E+02	1.4E+03	c
Chloromethane	15	20	0	0.0				1.1E+05	4.6E+05	n
Chloroprene	7.6	20	0	0.0				1.0E+01	4.4E+01	c
Dibromochloromethane	7.6	20	0	0.0				7.3E+02	3.2E+03	c
Dibromomethane	7.6	20	0	0.0				2.3E+04	9.8E+04	n
Dichlorodifluoromethane	7.6	20	0	0.0				8.7E+04	3.7E+05	n
1,2-Dibromo-3-chloropropane	7.6	20	0	0.0				5.3E+00	6.4E+01	c
1,2-Dibromoethane (EDB)	7.6	20	0	0.0				3.6E+01	1.6E+02	c
trans-1,4-Dichloro-2-butene	7.6	20	0	0.0				7.4E+00	3.2E+01	c
1,1-Dichloroethane	7.6	20	0	0.0				3.6E+03	1.6E+04	c
1,2-Dichloroethane	7.6	20	0	0.0				4.6E+02	2.0E+03	c
1,1-Dichloroethene	7.6	20	0	0.0				2.3E+05	1.0E+06	n
cis-1,2-Dichloroethene	7.6	20	0	0.0				1.6E+05	2.3E+06	n
trans-1,2-Dichloroethene	7.6	20	0	0.0				1.6E+06	2.3E+07	n
1,2-Dichloropropane	7.6	20	0	0.0				1.0E+03	4.4E+03	c
cis-1,3-Dichloropropene	7.6	20	0	0.0				1.8E+03	8.2E+03	c
trans-1,3-Dichloropropene	7.6	20	0	0.0				1.8E+03	8.2E+03	c
Ethyl methacrylate	7.6	20	0	0.0				1.4E+06	7.1E+06	n
Ethylbenzene	9.0	20	4	20.0%	9.0	6.3	Modified-t UCL	5.8E+03	2.5E+04	c
2-Hexanone	76	20	0	0.0				2.0E+05	1.3E+06	n
Iodomethane (Methyl Iodide)	7.6	20	0	0.0				NE	NE	
Methacrylonitrile	7.6	20	0	0.0				7.5E+03	1.0E+05	n
Bromomethane	15	20	0	0.0				6.8E+03	3.0E+04	n
Methylene Chloride	15	20	0	0.0				5.7E+04	1.0E+06	c
4-Methyl-2-pentanone (MIBK)	76	20	0	0.0				5.3E+06	5.6E+07	n
Methyl methacrylate	7.6	20	0	0.0				4.4E+06	1.9E+07	n
Pentachloroethane	7.6	20	0	0.0				7.7E+03	3.6E+04	c
Propionitrile	76	20	0	0.0				NE	NE	
Styrene	7.6	20	0	0.0				6.0E+06	3.5E+07	n
1,1,1,2-Tetrachloroethane	7.6	20	0	0.0				2.0E+03	8.8E+03	c
1,1,2,2-Tetrachloroethane	7.6	20	0	0.0				6.0E+02	2.7E+03	c
Tetrachloroethene	7.6	20	0	0.0				2.4E+04	1.0E+05	c
Toluene	20.8	20	7	35.0%	20.8	10.5	Modified-t UCL	4.9E+06	4.7E+07	n
1,1,1-Trichloroethane	11.0	20	1	5.0%	11.0			8.1E+06	3.6E+07	n
1,1,2-Trichloroethane	7.6	20	0	0.0				1.1E+04	5.0E+03	c
Trichloroethene	7.6	20	0	0.0				9.4E+02	6.0E+03	c
Trichlorofluoromethane	7.6	20	0	0.0				7.3E+05	3.1E+06	n
1,2,3-Trichloropropane	7.6	20	0	0.0				5.1E+00	1.1E+02	c
1,2,4-Trimethylbenzene	7.6	20	2	10.0%	8.3	6.2	Modified-t UCL	5.8E+04	2.4E+05	n
Vinyl Acetate	7.6	20	0	0.0				9.1E+05	3.8E+06	n
Vinyl Chloride	1.1	20	0	0.0				5.9E+01	1.7E+03	c
Xylenes, Total	18.4	20	7	35.0%	18.4	8.4	Modified-t UCL	6.5E+05	2.8E+06	n

Table 14. Soil Direct Contact Pathway Evaluation for the Webb Building Area
YSI Incorporated, Yellow Springs, Ohio

Compound	Maximum Concentration	95% UCL	EPA RSL Residential Soils	EPA RSL Industrial Soils	Lowest Standard	Concentration/ Lowest Standard	Goal
Carcinogenic Effects							
Benzene	11.0	N/A	1.2E+03	5.1E+03	1.2E+03	9.2E-03	
Ethylbenzene	9.0	6.3	5.8E+03	2.5E+04	5.8E+03	1.6E-03	
Total carcinogenic risk in this area (multiply summed conc/lowest standard by 1x10-5):						1.1E-07	1.0E-05
Non-Carcinogenic Effects							
Benzene	11.0	N/A	1.2E+03	5.1E+03	1.2E+03	9.2E-03	
Toluene	20.8	10.5	4.9E+06	4.7E+07	4.9E+06	4.2E-06	
1,1,1-Trichloroethane	11.0	N/A	8.1E+06	3.6E+07	8.1E+06	1.4E-06	
Total xylenes	18.4	8.4	6.5E+05	2.8E+06	6.5E+05	2.8E-05	
Ethylbenzene	9.0	6.3	5.8E+03	2.5E+04	5.8E+03	1.6E-03	
1,2,4-Trimethylbenzene	8.3	6.2	5.8E+04	2.4E+05	5.8E+04	1.4E-04	
Total non-carcinogenic risk in this area (sum of concentration/lowest standard for each compound):						1.1E-02	1

Notes:
1. All results and standards are in units of micrograms per kilogram (ug/kg), or parts per billion.
2. Where a 95% UCL was calculated, the higher of the maximum or 95% UCL was used in determining risk.
3. N/A = Not applicable. A 95% UCL was not calculated.
4. EPA Regional Screening Levels (RSL), Direct Contact Residential Soils, November 2015
5. EPA Regional Screening Levels (RSL), Direct Contact Industrial Soils, November 2015
6. In Carcinogenic or non-carcinogenic column: c = carcinogenic, n = non-carcinogenic, ns = soil saturated concentration
7. NE = Not established. A standard has not been established.

Table 15. Summary of Soil Analytical Data from the Old Brannum House Soil Area, YSI

Constituent	Max (ug/kg)	# of Samples	# Detects	% Detects	Max Detect (ug/kg)	EPA RSL Residential Soil	EPA RSL Industrial Soil	Basis for RSL
Acetone	940	24	0	0.0		6.1E+07	6.7E+08	n
Acrolein	470	24	0	0.0		1.4E+02	6.0E+02	n
Acrylonitrile	56.5	24	0	0.0		2.5E+02	1.1E+03	c
Allyl chloride	47	24	0	0.0		7.2E+02	3.2E+03	c
Benzene	47	24	1	4.2	7.2	1.2E+03	5.1E+03	c
Bromodichloromethane	47	24	0	0.0		2.9E+02	1.3E+03	c
Bromoform	47	24	0	0.0		1.9E+04	8.6E+04	c
2-Butanone (MEK)	470	24	0	0.0		2.7E+07	1.9E+08	n
Carbon disulfide	47	24	0	0.0		7.7E+05	3.5E+06	n
Carbon tetrachloride	47	24	0	0.0		6.5E+02	2.9E+03	c
Chlorobenzene	47	24	0	0.0		2.8E+05	1.3E+06	n
Chloroethane	94	24	0	0.0		1.4E+06	5.7E+06	n
Chloroform	47	24	0	0.0		3.2E+02	1.4E+03	c
Chloromethane	94	24	0	0.0		1.1E+05	4.6E+05	n
Chloroprene	47	24	0	0.0		1.0E+01	4.4E+01	c
Dibromochloromethane	47	24	0	0.0		7.3E+02	3.2E+03	c
Dibromomethane	47	24	0	0.0		2.3E+04	9.8E+04	n
Dichlorodifluoromethane	47	24	0	0.0		8.7E+04	3.7E+05	n
1,2-Dibromo-3-chloropropane	47	24	0	0.0		5.3E+00	6.4E+01	c
1,2-Dibromoethane (EDB)	47	24	0	0.0		3.6E+01	1.6E+02	c
trans-1,4-Dichloro-2-butene	47	24	0	0.0		7.4E+00	3.2E+01	c
1,1-Dichloroethane	47	24	0	0.0		3.6E+03	1.6E+04	c
1,2-Dichloroethane	47	24	0	0.0		4.6E+02	2.0E+03	c
1,1-Dichloroethene	47	24	0	0.0		2.3E+05	1.0E+06	n
cis-1,2-Dichloroethene	47	24	0	0.0		1.6E+05	2.3E+06	n
trans-1,2-Dichloroethene	47	24	0	0.0		1.6E+06	2.3E+07	n
1,2-Dichloropropane	47	24	0	0.0		1.0E+03	4.4E+03	c
cis-1,3-Dichloropropene	47	24	0	0.0		1.8E+03	8.2E+03	c
trans-1,3-Dichloropropene	47	24	0	0.0		1.8E+03	8.2E+03	c
Ethyl methacrylate	47	24	0	0.0		1.4E+06	7.1E+06	n
Ethylbenzene	47	24	1	4.2	6.4	5.8E+03	2.5E+04	c
2-Hexanone	470	24	0	0.0		2.0E+05	1.3E+06	n
Iodomethane (Methyl Iodide)	47	24	0	0.0		NE	NE	
Methacrylonitrile	47	24	0	0.0		7.5E+03	1.0E+05	n
Bromomethane	94	24	0	0.0		6.8E+03	3.0E+04	n
Methylene Chloride	94	24	0	0.0		5.7E+04	1.0E+06	c
4-Methyl-2-pentanone (MIBK)	470	24	0	0.0		5.3E+06	5.6E+07	n
Methyl methacrylate	47	24	0	0.0		4.4E+06	1.9E+07	n
Pentachloroethane	47	24	0	0.0		7.7E+03	3.6E+04	c

Table 15. Summary of Soil Analytical Data from the Old Brannum House Soil Area, YSI

Constituent	Max (ug/kg)	# of Samples	# Detects	% Detects	Max Detect (ug/kg)	EPA RSL Residential Soil	EPA RSL Industrial Soil	Basis for RSL
Propionitrile	470	24	0	0.0		NE	NE	
Styrene	47	24	0	0.0		6.0E+06	3.5E+07	n
1,1,1,2-Tetrachloroethane	47	24	0	0.0		2.0E+03	8.8E+03	c
1,1,2,2-Tetrachloroethane	47	24	0	0.0		6.0E+02	2.7E+03	c
Tetrachloroethene	47	24	0	0.0		2.4E+04	1.0E+05	c
Toluene	47	24	3	12.5	17.8	4.9E+06	4.7E+07	n
1,1,1-Trichloroethane	47	24	0	0.0		8.1E+06	3.6E+07	n
1,1,2-Trichloroethane	47	24	0	0.0		1.1E+04	5.0E+03	c
Trichloroethene	47	24	0	0.0		9.4E+02	6.0E+03	c
Trichlorofluoromethane	47	24	0	0.0		7.3E+05	3.1E+06	n
Trichlorotrifluoroethane						4.0E+06	1.7E+07	ns
1,2,3-Trichloropropane	47	24	0	0.0		5.1E+00	1.1E+02	c
1,2,4-Trimethylbenzene	47	24	1	4.2	6.4	5.8E+04	2.4E+05	n
Vinyl Acetate	47	24	0	0.0		9.1E+04	3.8E+05	n
Vinyl Chloride	11	24	0	0.0		5.9E+01	1.7E+03	c
Xylenes, Total	47	24	2	8.3	10	6.5E+05	2.8E+06	n
Acetonitrile	24	4	0	0.0		8.1E+04	3.4E+05	n
1,4-Dioxane	18	2	0	0.0		5.3E+03	2.3E+04	c

Notes:
1. The highest detection limit for this compound is listed in the "Max" column if there no detections of this compound in the area.
2. NE = Not established. A standard has not been established.
3. EPA Regional Screening Levels (RSL), Direct Contact Residential Soils (November 2015)
4. EPA Regional Screening Levels (RSL), Direct Contact Industrial Soils (November 2015)
5. In Carcinogenic or non-carcinogenic column: c = carcinogenic, n = non-carcinogenic, ns = soil saturated concentration
6. All results and RSLs are in units of micrograms per kilogram (ug/kg) or parts per billion.

Table 16. Soil Direct Contact Pathway Evaluation for the Old Brannum House Soil Area
YSI Incorporated, Yellow Springs, Ohio

Compound	Maximum Concentration	95% UCL	EPA RSL Residential Soil	EPA RSL Industrial Soil	Lowest Standard	Concentration/ Lowest Standard	Goal
Carcinogenic Effects							
Benzene	7.2	N/A	1.2E+03	5.1E+03	1.2E+03	6.0E-03	
Ethylbenzene	6.4	N/A	5.8E+03	2.5E+04	5.8E+03	1.1E-03	
Total carcinogenic risk in this area (multiply summed conc/lowest standard by 1x10-5):						7.1E-08	1.0E-05
Non-Carcinogenic Effects							
Benzene	7.2	N/A	1.2E+03	5.1E+03	1.2E+03	6.0E-03	
Toluene	17.8	N/A	4.9E+06	4.7E+07	4.9E+06	3.6E-06	
Total xylenes	10	N/A	6.5E+05	2.8E+06	6.5E+05	1.5E-05	
Ethylbenzene	6.4	N/A	5.8E+03	2.5E+04	5.8E+03	1.1E-03	
1,2,4-Trimethylbenzene	6.4	N/A	5.8E+04	2.4E+05	5.8E+04	1.1E-04	
Total non-carcinogenic risk in this area (sum of concentration/lowest standard for each compound):						7.2E-03	1

Notes:
1. All results and standards are in units of micrograms per kilogram (ug/kg), or parts per billion.
2. Where a 95% UCL was calculated, the higher of the maximum or 95% UCL was used in determining risk.
3. N/A = Not applicable. A 95% UCL was not calculated.
4. EPA Regional Screening Levels (RSL), Direct Contact Residential Soils (November 2015)
5. EPA Regional Screening Levels (RSL), Direct Contact Industrial Soils (November 2015)
6. In Carcinogenic or non-carcinogenic column: c = carcinogenic, n = non-carcinogenic, ns = soil saturated concentration
7. NE = Not established. A standard has not been established.

Table 17. Summary of Soil Analytical Data from the Old Brannum House / Waste Storage Shed Area, YSI

Constituent	Max (ug/kg)	# of Samples	# Detects	% Detects	Max Detect (ug/kg)	95% UCL (ug/kg)	UCL Method
Acetone	129	58	0	0.0			
Acrolein	64.7	58	0	0.0			
Acrylonitrile	30.8	58	0	0.0			
Allyl chloride	6.5	58	0	0.0			
Benzene	11	58	6	10.3	11	3.8	Modified-t
Bromodichloromethane	6.5	58	0	0.0			
Bromoform	6.5	58	0	0.0			
2-Butanone (MEK)	65	58	0	0.0			
Carbon disulfide	6.5	58	0	0.0			
Carbon tetrachloride	6.5	58	0	0.0			
Chlorobenzene	6.5	58	0	0.0			
Chloroethane	12.9	58	0	0.0			
Chloroform	6.5	58	0	0.0			
Chloromethane	12.9	58	0	0.0			
Chloroprene	6.5	58	0	0.0			
Dibromochloromethane	6.5	58	0	0.0			
Dibromomethane	6.5	58	0	0.0			
Dichlorodifluoromethane	6.5	58	0	0.0			
1,2-Dibromo-3-chloropropane	6.5	58	0	0.0			
1,2-Dibromoethane (EDB)	6.5	58	0	0.0			
trans-1,4-Dichloro-2-butene	6.5	58	0	0.0			
1,1-Dichloroethane	8.2	58	2	3.4	8.2		
1,2-Dichloroethane	6.5	58	0	0.0			
1,1-Dichloroethene	6.5	58	0	0.0			
cis-1,2-Dichloroethene	6.5	58	0	0.0			
trans-1,2-Dichloroethene	6.5	58	0	0.0			
1,2-Dichloropropane	6.5	58	0	0.0			
cis-1,3-Dichloropropene	6.5	58	0	0.0			
trans-1,3-Dichloropropene	6.5	58	0	0.0			
Ethyl methacrylate	6.5	58	0	0.0			
Ethylbenzene	16.3	58	5	8.6	16.3		
2-Hexanone	64.7	58	0	0.0			
Iodomethane (Methyl Iodide)	6.5	58	0	0.0			
Methacrylonitrile	6.5	58	0	0.0			
Bromomethane	12.9	58	0	0.0			
Methylene Chloride	12.9	58	0	0.0			
4-Methyl-2-pentanone (MIBK)	64.7	58	0	0.0			
Methyl methacrylate	6.5	58	0	0.0			
Pentachloroethane	6.5	58	0	0.0			
Propionitrile	64.7	58	0	0.0			
Styrene	6.5	58	0	0.0			
1,1,1,2-Tetrachloroethane	6.5	58	0	0.0			

Table 17. Summary of Soil Analytical Data from the Old Brannum House / Waste Storage Shed Area, YSI

Constituent	Max (ug/kg)	# of Samples	# Detects	% Detects	Max Detect (ug/kg)	95% UCL (ug/kg)	UCL Method
1,1,2,2-Tetrachloroethane	6.5	58	0	0.0			
Tetrachloroethene	6.5	58	0	0.0			
Toluene	34.7	58	8	13.8	34.7	9	95% Chebyshev
1,1,1-Trichloroethane	1440	58	17	29.3	1440	246.7	97.5% Chebyshev
1,1,2-Trichloroethane	6.5	58	0	0.0			
Trichloroethene	6.5	58	0	0.0			
Trichlorofluoromethane	6.5	58	0	0.0			
Trichlorotrifluoroethane	6.2	8	0	0.0			
1,2,3-Trichloropropane	6.5	58	0	0.0			
1,2,4-Trimethylbenzene	6.8	58	2	3.4	6.8		
Vinyl Acetate	6.5	58	0	0.0			
Vinyl Chloride	1.92	58	0	0.0			
Xylenes, Total	24.3	58	7	12.1	24.3	4.6	Modified-t
Acetonitrile	32.2	26	6	23.1	32.2	20.8	95% Chebyshev
1,4-Dioxane	45	22	1	4.5	45		

Notes:
1. The highest detection limit for this compound is listed in the "Max" column if there no detections of this compound in t
2. NE = Not established. A standard has not been established.
3. EPA Regional Screening Levels (RSL), Direct Contact Residential Soils (November 2015)
4. EPA Regional Screening Levels (RSL), Direct Contact Industrial Soils (November 2015)
5. In Carcinogenic or non-carcinogenic column: c = carcinogenic, n = non-carcinogenic, ns = soil saturated concentratior
6. All results and RSLs are in units of micrograms per kilogram (ug/kg) or parts per billion.

Table 18. Soil Direct Contact Pathway Evaluation for the Old Brannum House Area and Waste Storage Shed Area, YSI Incorporated, Yellow Springs, Ohio

Compound	Maximum Concentration	95% UCL	EPA RSL Residential Soil	EPA RSL Industrial Soil	Lowest Standard	Concentration/ Lowest Standard	Goal
Carcinogenic Effects							
1,4-Dioxane	45	N/A	5.3E+03	2.4E+04	5.30E+03	8.5E-03	
1,1-Dichloroethane	8.2	N/A	3.6E+03	1.6E+04	3.6E+03	2.3E-03	
Ethylbenzene	16.3	N/A	5.8E+03	2.5E+04	5.8E+03	2.8E-03	
Benzene	11	3.8	1.2E+03	5.1E+03	1.2E+03	9.2E-03	
Total carcinogenic risk in this area (multiply summed conc/lowest standard by 1x10-5):						2.3E-07	1.0E-05
Non-Carcinogenic Effects							
1,4-Dioxane	45	N/A	5.3E+03	2.3E+04	5.30E+03	8.5E-03	
Benzene	11	3.8	1.2E+03	5.1E+03	1.2E+03	9.2E-03	
1,1-Dichloroethane	8.2	N/A	3.6E+03	1.6E+04	3.6E+03	2.3E-03	
Toluene	34.7	9	4.9E+06	4.7E+07	4.9E+06	7.1E-06	
Acetonitrile	32.2	20.8	8.1E+05	3.4E+06	8.10E+04	4.0E-04	
1,2,4-Trimethylbenzene	6.8	N/A	5.8E+04	2.4E+05	5.8E+04	1.2E-04	
Ethylbenzene	16.3	N/A	5.8E+03	2.5E+04	5.8E+03	2.8E-03	
Total xylenes	24.3	4.6	6.5E+05	2.8E+06	6.5E+05	3.7E-05	
1,1,1-Trichloroethane	1440	246.7	8.1E+06	3.6E+07	8.1E+06	1.8E-04	
Total non-carcinogenic risk in this area (sum of concentration/lowest standard for each compound):						2.3E-02	1

Notes:

1. All results and standards are in units of micrograms per kilogram (ug/kg), or parts per billion.
2. Where a 95% UCL was calculated, the higher of the maximum or 95% UCL was used in determining risk.
3. N/A = Not applicable. A 95% UCL was not calculated.
4. EPA Regional Screening Levels (RSL), Direct Contact Residential Soils (November 2015)
5. EPA Regional Screening Levels (RSL), Direct Contact Industrial Soils (November 2015)
6. In Carcinogenic or non-carcinogenic column: c = carcinogenic, n = non-carcinogenic, ns = soil saturated concentration
7. NE = Not established. A standard has not been established.

Table 19. Summary of Soil Analytical Data from Drainageways and Other Areas at YSI Incorporated, Yellow Springs, Ohio

Constituent	Max (ug/kg)	# of Samples	# Detects	% Detects	Max Detect (ug/kg)	95% UCL (ug/kg)	UCL Method	EPA RSL Residential Soil	EPA RSL Industrial Soil	Basis for RSL
Acetone	127.0	36	0	0.0				6.1E+07	6.7E+08	n
Acrolein	63.7	36	0	0.0				1.4E+02	6.0E+02	n
Acrylonitrile	30.3	36	0	0.0				2.5E+02	1.1E+03	c
Allyl chloride	6.4	36	0	0.0				7.2E+02	3.2E+03	c
Benzene	6.4	36	0	0.0				1.2E+03	5.1E+03	c
Bromodichloromethane	6.4	36	0	0.0				2.9E+02	1.3E+03	c
Bromoform	6.4	36	0	0.0				1.9E+04	8.6E+04	c
2-Butanone (MEK)	64.0	36	0	0.0				2.7E+07	1.9E+08	n
Carbon disulfide	6.4	36	0	0.0				7.7E+05	3.5E+06	n
Carbon tetrachloride	6.4	36	0	0.0				6.5E+02	2.9E+03	c
Chlorobenzene	6.4	36	0	0.0				2.8E+05	1.3E+06	n
Chloroethane	12.7	36	0	0.0				1.4E+06	5.7E+06	n
Chloroform	6.4	36	0	0.0				3.2E+02	1.4E+03	c
Chloromethane	12.7	36	0	0.0				1.1E+05	4.6E+05	n
Chloroprene	6.4	36	0	0.0				1.0E+01	4.4E+01	c
Dibromochloromethane	6.4	36	0	0.0				7.3E+02	3.2E+03	c
Dibromomethane	6.4	36	0	0.0				2.3E+04	9.8E+04	n
Dichlorodifluoromethane	6.4	36	0	0.0				8.7E+04	3.7E+05	n
1,2-Dibromo-3-chloropropane	6.4	36	0	0.0				5.3E+00	6.4E+01	c
1,2-Dibromoethane (EDB)	6.4	36	0	0.0				3.6E+01	1.6E+02	c
trans-1,4-Dichloro-2-butene	6.4	36	0	0.0				7.4E+00	3.2E+01	c
1,1-Dichloroethane	6.4	36	0	0.0				3.6E+03	1.6E+04	c
1,2-Dichloroethane	6.4	36	0	0.0				4.6E+02	2.0E+03	c
1,1-Dichloroethene	6.4	36	0	0.0				2.3E+05	1.0E+06	n
cis-1,2-Dichloroethene	6.4	36	0	0.0				1.6E+05	2.3E+06	n
trans-1,2-Dichloroethene	6.4	36	0	0.0				1.6E+06	2.3E+07	n
1,2-Dichloropropane	6.4	36	0	0.0				1.0E+03	4.4E+03	c
cis-1,3-Dichloropropene	6.4	36	0	0.0				1.8E+03	8.2E+03	c
trans-1,3-Dichloropropene	6.4	36	0	0.0				1.8E+03	8.2E+03	c
Ethyl methacrylate	6.4	36	0	0.0				1.4E+06	7.1E+06	n
Ethylbenzene	6.4	36	0	0.0				5.8E+03	2.5E+04	c
2-Hexanone	63.7	36	0	0.0				2.0E+05	1.3E+06	n
Iodomethane (Methyl Iodide)	6.4	36	0	0.0				NE	NE	
Methacrylonitrile	6.4	36	0	0.0				7.5E+03	1.0E+05	n
Bromomethane	12.7	36	0	0.0				6.8E+03	3.0E+04	n
Methylene Chloride	12.7	36	0	0.0				5.7E+04	1.0E+06	c
4-Methyl-2-pentanone (MIBK)	63.7	36	0	0.0				5.3E+06	5.6E+07	n
Methyl methacrylate	6.4	36	0	0.0				4.4E+06	1.9E+07	n
Pentachloroethane	6.4	36	0	0.0				7.7E+03	3.6E+04	c
Propionitrile	63.7	36	0	0.0				NE	NE	
Styrene	6.4	36	0	0.0				6.0E+06	3.5E+07	n
1,1,1,2-Tetrachloroethane	6.4	36	0	0.0				2.0E+03	8.8E+03	c
1,1,2,2-Tetrachloroethane	6.4	36	0	0.0				6.0E+02	2.7E+03	c
Tetrachloroethene	7.0	36	1	2.8%	7.0			2.4E+04	1.0E+05	c

Table 19. Summary of Soil Analytical Data from Drainageways and Other Areas at YSI Incorporated, Yellow Springs, Ohio

Constituent	Max (ug/kg)	# of Samples	# Detects	% Detects	Max Detect (ug/kg)	95% UCL (ug/kg)	UCL Method	EPA RSL Residential Soil	EPA RSL Industrial Soil	Basis for RSL
Toluene	6.4	36	0	0.0				4.9E+06	4.7E+07	n
1,1,1-Trichloroethane	6.4	36	4	11.1%	21.7	11	95% Chebyshev	8.1E+06	3.6E+07	n
1,1,2-Trichloroethane	6.4	36	0	0.0				1.1E+04	5.0E+03	c
Trichloroethene	6.4	36	0	0.0				9.4E+02	6.0E+03	c
Trichlorofluoromethane	6.4	36	0	0.0				7.3E+05	3.1E+06	n
1,2,3-Trichloropropane	6.4	36	0	0.0				5.1E+00	1.1E+02	c
1,2,4-Trimethylbenzene	6.4	36	0	0.0				5.8E+04	2.4E+05	n
Vinyl Acetate	6.4	36	0	0.0				9.1E+04	3.8E+05	n
Vinyl Chloride	1.3	36	0	0.0				5.9E+01	1.7E+03	c
Xylenes, Total	6.4	36	0	0.0				6.5E+05	2.8E+06	n
Acetonitrile	6.4	15	0	0.0				8.1E+05	3.4E+06	n

Notes:
1. The highest detection limit for this compound is listed in the "Max" column if there no detections of this compound in the area.
2. NE = Not established. A standard has not been established.
3. EPA Regional Screening Levels (RSL), Direct Contact Residential Soils (November 2015)
4. EPA Regional Screening Levels (RSL), Direct Contact Industrial Soils (November 2015)
5. In Carcinogenic or non-carcinogenic column: c = carcinogenic, n = non-carcinogenic, ns = soil saturated concentration
6. All results and RSLs are in units of micrograms per kilogram (ug/kg) or parts per billion.

Table 20. Soil Direct Contact Pathway Evaluation for Drainageways and Other Areas,
YSI Incorporated, Yellow Springs, Ohio

Compound	Maximum Concentration	95% UCL	EPA RSL Residential Soil	EPA RSL Industrial Soil	Lowest Standard	Concentration/ Lowest Standard	Goal
Carcinogenic Effects							
Tetrachloroethene	7	N/A	2.4E+04	1.0E+05	2.4E+04	2.9E-04	
Total carcinogenic risk in this area (multiply summed conc/lowest standard by 1x10-5):						2.9E-09	1.0E-05
Non-Carcinogenic Effects							
Tetrachloroethene	7	N/A	2.4E+04	1.0E+05	2.4E+04	2.9E-04	
1,1,1-Trichloroethane	21.7	11	8.1E+06	3.6E+07	8.1E+06	2.7E-06	
Total non-carcinogenic risk in this area (sum of concentration/lowest standard for each compound):						2.9E-04	1

Notes:
1. All results and standards are in units of micrograms per kilogram (ug/kg), or parts per billion.
2. Where a 95% UCL was calculated, the higher of the maximum or 95% UCL was used in determining risk.
3. N/A = Not applicable. A 95% UCL was not calculated.
4. EPA Regional Screening Levels (RSL), Direct Contact Residential Soils (November 2015)
5. EPA Regional Screening Levels (RSL), Direct Contact Industrial Soils (November 2015)
6. In Carcinogenic or non-carcinogenic column: c = carcinogenic, n = non-carcinogenic, ns = soil saturated concentration
7. NE = Not established. A standard has not been established.

Table 21. Summary of Soil Analytical Data from the Current Shipping Dock Area at YSI Incorporated, Yellow Springs, Ohio

Constituent	# of Samples	# Detects	% Detects	Max Detect (ug/kg)	95% UCL (ug/kg)	UCL Method	EPA RSL Residential Soil	EPA RSL Industrial Soil	Basis for RSL
Acetone	10	8	80.0%	23.8	14.6	Student's-t	6.1E+07	6.7E+08	n
Acrolein	10	0	0.0				1.4E+02	6.0E+02	n
Acrylonitrile	10	0	0.0				2.5E+02	1.1E+03	c
Allyl chloride	10	0	0.0				7.2E+02	3.2E+03	c
Benzene	10	9	90.0%	5.11	4.31	Student's-t	1.2E+03	5.1E+03	c
Bromodichloromethane	10	0	0.0				2.9E+02	1.3E+03	c
Bromoform	10	0	0.0				1.9E+04	8.6E+04	c
2-Butanone (MEK)	10	0	0.0				2.7E+07	1.9E+08	n
Carbon disulfide	10	0	0.0				7.7E+05	3.5E+06	n
Carbon tetrachloride	10	2	20.0%	3.49			6.5E+02	2.9E+03	c
Chlorobenzene	10	0	0.0				2.8E+05	1.3E+06	n
Chloroethane	10	1	10.0%	3.59			1.4E+06	5.7E+06	n
Chloroform	10	0	0.0				3.2E+02	1.4E+03	c
Chloromethane	10	1	0.0	1.76			1.1E+05	4.6E+05	n
Chloroprene	10	0	0.0				1.0E+01	4.4E+01	c
Dibromochloromethane	10	0	0.0				7.3E+02	3.2E+03	c
Dibromomethane	10	0	0.0				2.3E+04	9.8E+04	n
Dichlorodifluoromethane	10	0	0.0				8.7E+04	3.7E+05	n
1,2-Dibromo-3-chloropropane	10	0	0.0				5.3E+00	6.4E+01	c
1,2-Dibromoethane (EDB)	10	0	0.0				3.6E+01	1.6E+02	c
trans-1,4-Dichloro-2-butene	10	0	0.0				7.4E+00	3.2E+01	c
1,1-Dichloroethane	10	5	50.0%	17.7	13.5	Student's-t	3.6E+03	1.6E+04	c
1,2-Dichloroethane	10	0	0.0				4.6E+02	2.0E+03	c
1,1-Dichloroethene	10	0	0.0				2.3E+05	1.0E+06	n
cis-1,2-Dichloroethene	10	1	10.0%	1.94			1.6E+05	2.3E+06	n
trans-1,2-Dichloroethene	10	0	0.0				1.6E+06	2.3E+07	n
1,2-Dichloropropane	10	0	0.0				1.0E+03	4.4E+03	c
cis-1,3-Dichloropropene	10	0	0.0				1.8E+03	8.2E+03	c
trans-1,3-Dichloropropene	10	0	0.0				1.8E+03	8.2E+03	c
Ethyl methacrylate	10	0	0.0				1.4E+06	7.1E+06	n
Ethylbenzene	10	8	80.0%	5.88	4.45	Student's-t	5.8E+03	2.5E+04	c
2-Hexanone	10	0	0.0				2.0E+05	1.3E+06	n
Iodomethane (Methyl Iodide)	10	0	0.0				NE	NE	
Methacrylonitrile	10	0	0.0				7.5E+03	1.0E+05	n
Bromomethane	10	0	0.0				6.8E+03	3.0E+04	n
Methylene Chloride	10	0	0.0				5.7E+04	1.0E+06	c
4-Methyl-2-pentanone (MIBK)	10	0	0.0				5.3E+06	5.6E+07	n
Methyl methacrylate	10	0	0.0				4.4E+06	1.9E+07	n
Pentachloroethane	10	0	0.0				7.7E+03	3.6E+04	c
Propionitrile	10	0	0.0				NE	NE	
Styrene	10	0	0.0				6.0E+06	3.5E+07	n
1,1,1,2-Tetrachloroethane	10	0	0.0				2.0E+03	8.8E+03	c

Table 21. Summary of Soil Analytical Data from the Current Shipping Dock Area at YSI Incorporated, Yellow Springs, Ohio

Constituent	# of Samples	# Detects	% Detects	Max Detect (ug/kg)	95% UCL (ug/kg)	UCL Method	EPA RSL Residential Soil	EPA RSL Industrial Soil	Basis for RSL
1,1,2,2-Tetrachloroethane	10	0	0.0				6.0E+02	2.7E+03	c
Tetrachloroethene	10	1	10.0%	6.21			2.4E+04	1.0E+05	c
Toluene	10	9	90.0%	15.4	12.3	Student's-t	4.9E+06	4.7E+07	n
1,1,1-Trichloroethane	10	4	40.0%	24.6	22.9	Student's-t	8.1E+06	3.6E+07	n
1,1,2-Trichloroethane	10	0	0.0				1.1E+04	5.0E+03	c
Trichloroethene	10	0	0.0				9.4E+02	6.0E+03	c
Trichlorofluoromethane	10	0	0.0				7.3E+05	3.1E+06	n
Trichlorotrifluoroethane	10	0	0.0				4.0E+06	1.7E+07	ns
1,2,3-Trichloropropane	10	0	0.0				5.1E+00	1.1E+02	c
1,2,4-Trimethylbenzene	10	0	0.0				5.8E+04	2.4E+05	n
Vinyl Acetate	10	0	0.0				9.1E+04	3.8E+05	n
Vinyl Chloride	10	0	0.0				5.9E+01	1.7E+03	c
Xylenes, Total	10	9	90.0%	11.54	8.92	Student's-t	6.5E+05	2.8E+06	n
1,4-Dioxane	10	0	0.0				5.3E+03	2.3E+04	n
Acetonitrile	10	0	0.0				8.1E+05	3.4E+06	c

Notes:
1. The highest detection limit for this compound is listed in the "Max" column if there no detections of this compound in the area.
2. NE = Not established. A standard has not been established.
3. EPA Regional Screening Levels (RSL), Direct Contact Residential Soils (November 2015)
4. EPA Regional Screening Levels (RSL), Direct Contact Industrial Soils (November 2015)
5. In Carcinogenic or non-carcinogenic column: c = carcinogenic, n = non-carcinogenic, ns = soil saturated concentration
6. All results and RSLs are in units of micrograms per kilogram (ug/kg) or parts per billion.

Table 22. Soil Direct Contact Pathway Evaluation for the Current Shipping Dock Area
YSI Incorporated, Yellow Springs, Ohio

Compound	Maximum Concentration	95% UCL	EPA RSL Residential	EPA RSL Industrial	Lowest Standard	Concentration/ Lowest Standard	Goal
Carcinogenic Effects							
Benzene	5.11	4.31	1.2E+03	5.1E+03	1.2E+03	4.3E-03	
Carbon tetrachloride	3.49	N/A	6.5E+02	2.9E+03	6.5E+02	5.4E-03	
1,1-dichloroethane	17.7	13.5	3.6E+03	1.6E+04	3.6E+03	4.9E-03	
Tetrachloroethene	6.21	N/A	2.4E+04	1.0E+05	2.4E+04	2.6E-04	
Ethylbenzene	5.88	4.45	5.8E+03	2.5E+04	5.8E+03	1.0E-03	
Total carcinogenic risk in this area (multiply summed conc/lowest standard by 1x10-5):						1.6E-07	1.0E-05
Non-Carcinogenic Effects							
Benzene	5.11	4.31	1.2E+03	5.1E+03	1.2E+03	4.3E-03	
Carbon tetrachloride	3.49	N/A	6.5E+02	2.9E+03	6.5E+02	5.4E-03	
1,1-dichloroethane	17.7	13.5	3.6E+03	1.6E+04	3.6E+03	4.9E-03	
Ethylbenzene	5.88	4.45	5.8E+03	2.5E+04	5.8E+03	1.0E-03	
Acetone	23.8	14.6	6.1E+07	6.7E+08	6.1E+07	3.9E-07	
Chloroethane	3.59	N/A	1.4E+06	5.7E+06	1.4E+06	2.6E-06	
cis-1,2-Dichloroethene	1.94	N/A	1.6E+05	2.3E+06	1.6E+05	1.2E-05	
Tetrachloroethene	6.21	N/A	2.4E+04	1.0E+05	2.4E+04	2.6E-04	
Total non-carcinogenic risk in this area (sum of concentration/lowest standard for each compound):						1.6E-02	1

Notes:
1. All results and standards are in units of micrograms per kilogram (ug/kg), or parts per billion.
2. Where a 95% UCL was calculated, the higher of the maximum or 95% UCL was used in determining risk.
3. N/A = Not applicable. A 95% UCL was not calculated.
4. EPA Regional Screening Levels (RSL), Direct Contact Residential Soils (November 2015)
5. EPA Regional Screening Levels (RSL), Direct Contact Industrial Soils (November 2015)
6. In Carcinogenic or non-carcinogenic column: c = carcinogenic, n = non-carcinogenic, ns = soil saturated concentration
7. NE = Not established. A standard has not been established.

Table 23. Summary of Soil Analytical Data from the Former Shipping Dock Area at YSI Incorporated, Yellow Springs, Ohio

Constituent	# of Samples	# Detects	% Detects	Max Detect (ug/kg)	95% UCL (ug/kg)	UCL Method	EPA RSL Residential Soil	EPA RSL Industrial Soil	Basis for RSL
Acetone	9	1	11.1%	13.8			6.1E+07	6.7E+08	n
Acrolein	9	0	0.0				1.4E+02	6.0E+02	n
Acrylonitrile	9	0	0.0				2.5E+02	1.1E+03	c
Allyl chloride	9	0	0.0				7.2E+02	3.2E+03	c
Benzene	9	0	0.0				1.2E+03	5.1E+03	c
Bromodichloromethane	9	0	0.0				2.9E+02	1.3E+03	c
Bromoform	9	0	0.0				1.9E+04	8.6E+04	c
2-Butanone (MEK)	9	0	0.0				2.7E+07	1.9E+08	n
Carbon disulfide	9	0	0.0				7.7E+05	3.5E+06	n
Carbon tetrachloride	9	0	0.0				6.5E+02	2.9E+03	c
Chlorobenzene	9	0	0.0				2.8E+05	1.3E+06	n
Chloroethane	9	0	0.0				1.4E+06	5.7E+06	n
Chloroform	9	0	0.0				3.2E+02	1.4E+03	c
Chloromethane	9	0	0.0				1.1E+05	4.6E+05	n
Chloroprene	9	0	0.0				1.0E+01	4.4E+01	c
Dibromochloromethane	9	0	0.0				7.3E+02	3.2E+03	c
Dibromomethane	9	0	0.0				2.3E+04	9.8E+04	n
Dichlorodifluoromethane	9	0	0.0				8.7E+04	3.7E+05	n
1,2-Dibromo-3-chloropropane	9	0	0.0				5.3E+00	6.4E+01	c
1,2-Dibromoethane (EDB)	9	0	0.0				3.6E+01	1.6E+02	c
trans-1,4-Dichloro-2-butene	9	0	0.0				7.4E+00	3.2E+01	c
1,1-Dichloroethane	9	0	0.0				3.6E+03	1.6E+04	c
1,2-Dichloroethane	9	0	0.0				4.6E+02	2.0E+03	c
1,1-Dichloroethene	9	0	0.0				2.3E+05	1.0E+06	n
cis-1,2-Dichloroethene	9	0	0.0				1.6E+05	2.3E+06	n
trans-1,2-Dichloroethene	9	0	0.0				1.6E+06	2.3E+07	n
1,2-Dichloropropane	9	0	0.0				1.0E+03	4.4E+03	c
cis-1,3-Dichloropropene	9	0	0.0				1.8E+03	8.2E+03	c
trans-1,3-Dichloropropene	9	0	0.0				1.8E+03	8.2E+03	c
Ethyl methacrylate	9	0	0.0				1.4E+06	7.1E+06	n
Ethylbenzene	9	0	0.0				5.8E+03	2.5E+04	c
2-Hexanone	9	0	0.0				2.0E+05	1.3E+06	n
Iodomethane (Methyl Iodide)	9	0	0.0				NE	NE	
Methacrylonitrile	9	0	0.0				7.5E+03	1.0E+05	n
Bromomethane	9	0	0.0				6.8E+03	3.0E+04	n
Methylene Chloride	9	3	33.3%	2.53	2.61	Student's-t	5.7E+04	1.0E+06	c
4-Methyl-2-pentanone (MIBK)	9	0	0.0				5.3E+06	5.6E+07	n
Methyl methacrylate	9	0	0.0				4.4E+06	1.9E+07	n
Pentachloroethane	9	0	0.0				7.7E+03	3.6E+04	c
Propionitrile	9	0	0.0				NE	NE	
Styrene	9	0	0.0				6.0E+06	3.5E+07	n
1,1,1,2-Tetrachloroethane	9	0	0.0				2.0E+03	8.8E+03	c
1,1,2,2-Tetrachloroethane	9	0	0.0				6.0E+02	2.7E+03	c
Tetrachloroethene	9	0	0.0				2.4E+04	1.0E+05	c
Toluene	9	1	11.1%	2.67			4.9E+06	4.7E+07	n
1,1,1-Trichloroethane	9	0	0.0				8.1E+06	3.6E+07	n
1,1,2-Trichloroethane	9	0	0.0				1.1E+04	5.0E+03	c
Trichloroethene	9	0	0.0				9.4E+02	6.0E+03	c
Trichlorofluoromethane	9	0	0.0				7.3E+05	3.1E+06	n
Trichlorotrifluoroethane	9	0	0.0				4.0E+06	1.7E+07	ns
1,2,3-Trichloropropane	9	0	0.0				5.1E+00	1.1E+02	c
1,2,4-Trimethylbenzene	9	0	0.0				5.8E+04	2.4E+05	n
Vinyl Acetate	9	0	0.0				9.1E+04	3.8E+05	n
Vinyl Chloride	9	0	0.0				5.9E+01	1.7E+03	c
Xylenes, Total	9	0	0.0				6.5E+05	2.8E+06	n
Acetonitrile	9	0	0.0				8.1E+05	3.4E+06	c
1,4-Dioxane	9	0	0.0				5.3E+03	2.3E+04	n

Notes:
1. The highest detection limit for this compound is listed in the "Max" column if there no detections of this compound in the area.
2. NE = Not established. A standard has not been established.
3. EPA Regional Screening Levels (RSL), Direct Contact Residential Soils (November 2015)
4. EPA Regional Screening Levels (RSL), Direct Contact Industrial Soils (November 2015)
5. In Carcinogenic or non-carcinogenic column: c = carcinogenic, n = non-carcinogenic, ns = soil saturated concentration
6. All results and RSLs are in units of micrograms per kilogram (ug/kg) or parts per billion.

Table 24. Soil Direct Contact Pathway Evaluation for the Former Shipping Dock Area
YSI Incorporated, Yellow Springs, Ohio

Compound	Maximum Concentration	95% UCL	EPA RSL Residential Soils	EPA RSL Industrial Soils	Lowest Standard	Concentration/ Lowest Standard	Goal
Carcinogenic Effects							
Methylene Chloride	2.53	2.61	5.7E+04	1.0E+06	5.7E+04	4.6E-05	
Total carcinogenic risk in this area (multiply summed conc/lowest standard by 1x10-5):						4.6E-10	1.0E-05
Non-Carcinogenic Effects							
Methylene Chloride	2.53	2.61	5.7E+04	1.0E+06	5.7E+04	4.6E-05	
Acetone	13.8	N/A	6.1E+07	6.7E+08	6.1E+07	2.3E-07	
Toluene	2.7	N/A	4.9E+06	4.7E+07	4.9E+06	5.4E-07	
Total non-carcinogenic risk in this area (sum of concentration/lowest standard for each compound):						4.7E-05	1

Notes:
1. All results and standards are in units of micrograms per kilogram (ug/kg), or parts per billion.
2. Where a 95% UCL was calculated, the higher of the maximum or 95% UCL was used in determining risk.
3. N/A = Not applicable. A 95% UCL was not calculated.
4. EPA Regional Screening Levels (RSL), Direct Contact Residential Soils (November 2015)
5. EPA Regional Screening Levels (RSL), Direct Contact Industrial Soils (November 2015)
6. In Carcinogenic or non-carcinogenic column: c = carcinogenic, n = non-carcinogenic, ns = soil saturated concentration
7. NE = Not established. A standard has not been established.

Table 25. Summary of Sediment Analytical Data, YSI Incorporated, Yellow Springs, Ohio

Constituent	Max (ug/kg)	# of Samples	# Detects	% Detects	Max Detect (ug/kg)	95% UCL (ug/kg)	UCL Method	EPA RSL Residential Soil	EPA RSL Industrial Soil	Basis for RSL
Acetone	420	67	3	4.5%	209			6.1E+07	6.7E+08	n
Acrolein	206	67	0	0.0				1.4E+02	6.0E+02	n
Acrylonitrile	175	67	0	0.0				2.5E+02	1.1E+03	c
Allyl chloride	21	67	0	0.0				7.2E+02	3.2E+03	c
Benzene	21	67	0	0.0				1.2E+03	5.1E+03	c
Bromodichloromethane	21	67	0	0.0				2.9E+02	1.3E+03	c
Bromoform	21	67	0	0.0				1.9E+04	8.6E+04	c
2-Butanone (MEK)	210	67	0	0.0				2.7E+07	1.9E+08	n
Carbon disulfide	21	67	0	0.0				7.7E+05	3.5E+06	n
Carbon tetrachloride	21	67	0	0.0				6.5E+02	2.9E+03	c
Chlorobenzene	21	67	0	0.0				2.8E+05	1.3E+06	n
Chloroethane	42	67	0	0.0				1.4E+06	5.7E+06	n
Chloroform	21	67	0	0.0				3.2E+02	1.4E+03	c
Chloromethane	42	67	0	0.0				1.1E+05	4.6E+05	n
Chloroprene	21	67	0	0.0				1.0E+01	4.4E+01	c
Dibromochloromethane	21	67	0	0.0				7.3E+02	3.2E+03	c
Dibromomethane	21	67	0	0.0				2.3E+04	9.8E+04	n
Dichlorodifluoromethane	21	67	0	0.0				8.7E+04	3.7E+05	n
1,2-Dibromo-3-chloropropane	21	67	0	0.0				5.3E+00	6.4E+01	c
1,2-Dibromoethane (EDB)	21	67	0	0.0				3.6E+01	1.6E+02	c
trans-1,4-Dichloro-2-butene	21	67	0	0.0				7.4E+00	3.2E+01	c
1,1-Dichloroethane	21	67	0	0.0				3.6E+03	1.6E+04	c
1,2-Dichloroethane	21	67	0	0.0				4.6E+02	2.0E+03	c
1,1-Dichloroethene	21	67	0	0.0				2.3E+05	1.0E+06	n
cis-1,2-Dichloroethene	21	67	0	0.0				1.6E+05	2.3E+06	n
trans-1,2-Dichloroethene	21	67	0	0.0				1.6E+06	2.3E+07	n
1,2-Dichloropropane	21	67	0	0.0				1.0E+03	4.4E+03	c
cis-1,3-Dichloropropene	21	67	0	0.0				1.8E+03	8.2E+03	c
trans-1,3-Dichloropropene	21	67	0	0.0				1.8E+03	8.2E+03	c
Ethyl methacrylate	21	67	0	0.0				1.4E+06	7.1E+06	n
Ethylbenzene	21	67	0	0.0				5.8E+03	2.5E+04	c
2-Hexanone	210	67	0	0.0				2.0E+05	1.3E+06	n
Iodomethane (Methyl Iodide)	21	67	0	0.0				NE	NE	
Methacrylonitrile	21	67	0	0.0				7.5E+03	1.0E+05	n
Bromomethane	41.2	67	0	0.0				6.8E+03	3.0E+04	n
Methylene Chloride	42	67	0	0.0				5.7E+04	1.0E+06	c
4-Methyl-2-pentanone (MIBK)	210	67	0	0.0				5.3E+06	5.6E+07	n
Methyl methacrylate	21	67	0	0.0				4.4E+06	1.9E+07	n
Pentachloroethane	21	67	0	0.0				7.7E+03	3.6E+04	c
Propionitrile	206	67	0	0.0				NE	NE	
Styrene	21	67	0	0.0				6.0E+06	3.5E+07	n
1,1,1,2-Tetrachloroethane	21	67	0	0.0				2.0E+03	8.8E+03	c

Table 25. Summary of Sediment Analytical Data, YSI Incorporated, Yellow Springs, Ohio

Constituent	Max (ug/kg)	# of Samples	# Detects	% Detects	Max Detect (ug/kg)	95% UCL (ug/kg)	UCL Method	EPA RSL Residential Soil	EPA RSL Industrial Soil	Basis for RSL
1,1,2,2-Tetrachloroethane	21	67	0	0.0				6.0E+02	2.7E+03	c
Tetrachloroethene	21	67	0	0.0				2.4E+04	1.0E+05	c
Toluene	21	67	0	0.0				4.9E+06	4.7E+07	n
1,1,1-Trichloroethane	21	67	1	1.5%	8.8			8.1E+06	3.6E+07	n
1,1,2-Trichloroethane	21	67	0	0.0				1.1E+04	5.0E+03	c
Trichloroethene	21	67	0	0.0				9.4E+02	6.0E+03	c
Trichlorofluoromethane	21	67	0	0.0				7.3E+05	3.1E+06	n
Trichlorotrifluoroethane	20	41	0	0.0				4.0E+06	1.7E+07	ns
1,2,3-Trichloropropane	21	67	0	0.0				5.1E+00	1.1E+02	c
1,2,4-Trimethylbenzene	21	67	0	0.0				5.8E+04	2.4E+05	n
Vinyl Acetate	21	67	0	0.0				9.1E+04	3.8E+05	n
Vinyl Chloride	7	67	0	0.0				5.9E+01	1.7E+03	c
Xylenes, Total	21	67	0	0.0				6.5E+05	2.8E+06	n
Acetonitrile	82	48	0	0.0				8.1E+05	3.4E+06	n
1,4 Dioxane	79	48	0	0.0				5.3E+03	2.4E+04	c

Notes:
1. The highest detection limit for this compound is listed in the "Max" column if there no detections of this compound in the area.
2. NE = Not established. A standard has not been established.
3. EPA Regional Screening Levels (RSL), Direct Contact Residential Soils (November 2015)
4. EPA Regional Screening Levels (RSL), Direct Contact Industrial Soils (November 2015)
5. In Carcinogenic or non-carcinogenic column: c = carcinogenic, n = non-carcinogenic, ns = soil saturated concentration
6. All results and RSLs are in units of micrograms per kilogram (ug/kg) or parts per billion.

Table 26. Sediment Direct Contact Pathway Evaluation, YSI Incorporated, Yellow Springs, Ohio

Compound	Maximum Concentration	95% UCL	EPA RSL Residential Soil	EPA RSL Industrial Soil	Lowest Standard	Concentration/ Lowest Standard	Goal
Carcinogenic Effects							
No carcinogenic compounds detected in sediment samples						N/A	1.0E-05
Non-Carcinogenic Effects							
Acetone	209	N/A	6.1E+07	6.7E+08	6.1E+07	3.4E-06	
1,1,1-Trichloroethane	8.8	N/A	8.1E+06	3.6E+07	8.1E+06	1.1E-06	
Total non-carcinogenic risk in this area (sum of concentration/lowest standard for each compound):						4.5E-06	1

Notes:

1. All results and standards are in units of micrograms per kilogram (ug/kg), or parts per billion.
2. Where a 95% UCL was calculated, the higher of the maximum or 95% UCL was used in determining risk.
3. N/A = Not applicable. A 95% UCL was not calculated.
4. EPA Regional Screening Levels (RSL), Direct Contact Residential Soils (November 2015)
5. EPA Regional Screening Levels (RSL), Direct Contact Industrial Soils (November 2015)
6. In Carcinogenic or non-carcinogenic column: c = carcinogenic, n = non-carcinogenic, ns = soil saturated concentration
7. NE = Not established. A standard has not been established.

Table 27. Summary of Surface Water Analytical Data, YSI Incorporated, Yellow Springs, Ohio

Constituent	Max (ug/l)	# of Samples	# Detects	% Detects	Max Detect (ug/l)	95% UCL (ug/l)	UCL Method	Applicable Standards (ug/l)			Basis of RLS
								Ohio River Drainage Basin Criteria 2014	EPA RSL Tapwater	MCL	
Acetone	20	76	0	0.0				NE	1.4E+04	NE	n
Acrolein	50	76	0	0.0				780	4.2E-02	NE	n
Acrylonitrile	1.89	76	0	0.0				6.6	5.2E-02	NE	c
Allyl chloride	5	76	0	0.0				NE	7.3E-01	NE	c
Benzene	1	76	0	0.0				710	4.5E-01	5.0E+00	c
Bromodichloromethane	1	76	0	0.0				460	1.3E-01	8.0E+01	c
Bromoform	1	76	0	0.0				3600	3.3E+00	8.0E+01	c
2-Butanone (MEK)	12.5	76	0	0.0				NE	5.6E+03	NE	n
Carbon disulfide	1	76	0	0.0				NE	8.1E+02	NE	n
Carbon tetrachloride	0.5	76	0	0.0				44	4.5E-01	5.0E+00	c
Chlorobenzene	1	76	0	0.0				21000	7.8E+01	1.0E+02	n
Chloroethane	5	76	0	0.0				NE	2.1E+04	NE	
Chloroform	1	76	0	0.0				4700	2.2E-01	8.0E+01	n
Chloromethane	5	76	0	0.0				NE	1.9E+02	NE	n
Chloroprene	5	76	0	0.0				NE	1.9E+02	NE	c
Dibromochloromethane	1	76	0	0.0				340	1.7E-01	8.0E+01	c
Dibromomethane	1	76	0	0.0				NE	8.0E+00	NE	n
Dichlorodifluoromethane	1	76	0	0.0				460	2.0E+02	NE	n
1,2-Dibromo-3-chloropropane	5	76	0	0.0				NE	3.3E-04	2.0E-01	c
1,2-Dibromoethane (EDB)	5	76	0	0.0				NE	7.5E-03	5.0E-02	c
trans-1,4-Dichloro-2-butene	5	76	0	0.0				NE	1.3E-03	NE	c
1,1-Dichloroethane	1.3	76	5	6.6	1.3			NE	2.7E+00	NE	c
1,2-Dichloroethane	1	76	0	0.0				990	1.7E-01	5.0E+00	c
1,1-Dichloroethene	1.2	76	3	3.9	1.2			32	2.8E+02	7.0E+00	n
cis-1,2-Dichloroethene	1	76	0	0.0				NE	3.6E+01	7.0E+01	n
trans-1,2-Dichloroethene	1	76	0	0.0				140000	3.6E+02	1.0E+02	n
1,2-Dichloropropane	1	76	0	0.0				390	4.4E-01	5.0E+00	c
cis-1,3-Dichloropropene	1	76	0	0.0				1700	4.7E-01	NE	c
trans-1,3-Dichloropropene	1	76	0	0.0				1700	4.7E-01	NE	c
Ethyl methacrylate	5	76	0	0.0				NE	4.6E+02	NE	n
Ethylbenzene	1	76	0	0.0				29000	1.5E+00	7.0E+02	c
2-Hexanone	12.5	76	0	0.0				NE	3.8E+01	NE	n
Iodomethane (Methyl Iodide)	5	76	0	0.0				NE	NE	NE	
Methacrylonitrile	5	76	0	0.0				NE	1.9E+01	NE	n
Bromomethane	5	76	0	0.0				4000	7.5E+01	NE	n
Methylene Chloride	5	76	0	0.0				16000	1.1E+01	5.0E+00	c
4-Methyl-2-pentanone (MIBK)	12.5	76	0	0.0				NE	1.2E+03	NE	n
Methyl methacrylate	5	76	0	0.0				NE	1.4E+03	NE	n
Pentachloroethane	5	76	0	0.0				NE	6.4E-01	NE	c
Propionitrile	50	76	0	0.0				NE	NE	NE	
Styrene	1	76	0	0.0				NE	1.2E+03	1.0E+02	n
1,1,1,2-Tetrachloroethane	1	76	0	0.0				NE	5.7E-01	NE	c
1,1,2,2-Tetrachloroethane	1	76	0	0.0				110	7.6E-02	NE	c
Tetrachloroethene	2	76	3	3.9	2			89	1.1E+01	5.0E+00	c
Toluene	1.1	76	2	2.6	1.1			200000	1.1E+03	1.0E+03	n
1,1,1-Trichloroethane	15.2	76	32	42.1	15.2	3.9	97.5% Chebyshev	NE	8.0E+03	2.0E+02	n
1,1,2-Trichloroethane	1	76	0	0.0				420	2.8E-01	5.0E+00	c
Trichloroethene	1.2	76	0	0.0				810	4.9E-01	5.0E+00	c
Trichlorofluoromethane	1	76	0	0.0				NE	1.1E+03	NE	n
Trichlorotrifluoroethane	2	50	0	0.0				NE	5.5E+04	NE	n
1,2,3-Trichloropropane	5	76	0	0.0				NE	7.5E-04	NE	c
1,2,4-Trimethylbenzene	1	76	0	0.0				NE	1.5E+01	NE	n
Vinyl Acetate	5	76	0	0.0				NE	4.1E+02	NE	n
Vinyl Chloride	1	76	0	0.0				5300	1.9E-02	2.0E+00	c
Xylenes	1	76	0	0.0				NE	1.9E+02	1.0E+04	n
Acetonitrile	20	56	0	0.0				NE	1.3E+03	NE	n
1,4-Dioxane	20	46	0	0.0				NE	4.6E-01	NE	c

Table 28. Surface Water Pathway Evaluation, YSI Incorporated, Yellow Springs, Ohio

Compound	Maximum Concentration	95% UCL	Ohio Water Quality Criteria	EPA RSL Tapwater	MCL	Lowest Standard	Concentration/ Lowest Standard	Goal
Carcinogenic Effects								
1,1-Dichloroethane	1.3	N/A	NE	2.7	NE	2.7	4.8E-01	
Tetrachloroethene	2	N/A	89	11	5	5	0.40	
Total carcinogenic risk in this area (multiply summed conc/lowest standard by 1x10-5):							8.8E-06	1.0E-05
Non-Carcinogenic Effects								
1,1-Dichloroethane	1.3	N/A	NE	2.7	NE	2.7	4.8E-01	
1,1-Dichloroethene	1.2	N/A	32	280	7	7	1.7E-01	
Toluene	1.1	N/A	200,000	1100	1,000	1000	1.1E-03	
1,1,1-Trichloroethane	15.2	3.9	NE	800	200	200	7.6E-02	
Tetrachloroethene	2	N/A	89	11	5	11	1.8E-01	
Total non-carcinogenic risk in this area (sum of concentration/lowest standard for each compound):							9.1E-01	1

Notes:

1. All results and standards are in units of micrograms per kilogram (ug/l), or parts per billion.
2. Where a 95% UCL was calculated, the higher of the maximum or 95% UCL was used in determining risk.
3. N/A = Not applicable. A 95% UCL was not calculated.
4. NE = Not established. A standard has not been established.
5. EPA Regional Screening Levels (RSL), Tapwater (November 2015)
6. Ohio River Drainage Basin Criteria are from Ohio Administrative Code 3745-1-34, Nondrinking water quality criteria Updated 2014).
7 In Carcinogenic or non-carcinogenic column: c = carcinogenic, n = non-carcinogenic, mcl = maximum contaminant level
8. NE = Not established. A standard has not been established.

Table 29. On-Site Groundwater Ingestion Evaluation, YSI Incorporated, Yellow Springs, Ohio

Parameter	Units	Sample ID and Date Collected				U.S. EPA MCL	Project-Specific GCL	U.S. EPA RSL, tapwater
		MW-15I	MW-CDIA-2	MW-8S	MW-FDIA-2			
		12/17/2014	12/17/2014	10/15/2013	10/15/2013			
Acetone	ug/L	< 10	<10	<20	<20	NE	770	14000
Acetonitrile	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	170	0.026
Acrolein	ug/L	< 10	< 10	<5.0	<5.0	NE	NE	0.0000084
Acrylonitrile	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	NE	0.055
Allyl chloride	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	NE	0.73
Benzene	ug/L	< 1.0	< 1.0	<1.0	<1.0	5	5	0.46
Bromodichloromethane	ug/L	< 1.0	< 1.0	<1.0	<1.0	80*	NE	0.13
Bromoform	ug/L	< 1.0	< 1.0	<1.0	<1.0	80*	NE	3.3
Bromomethane	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	NE	7.5
2-Butanone	ug/L	< 5.0	< 5.0	<5.0	<1.0	NE	8,400	5600
Carbon disulfide	ug/L	< 1.0	< 1.0	<2.5	<2.5	NE	1,300	810
Carbon tetrachloride	ug/L	< 0.50	< 0.50	<1.0	<1.0	5	2.6	0.46
Chlorobenzene	ug/L	< 1.0	< 1.0	<1.0	<1.0	100	NE	78
Chloroethane	ug/L	< 1.0	**8.9**	<1.0	<1.0	NE	9,600	NE
Chloroform	ug/L	<1.0	<1.0	<1.0	<1.0	80*	2.8	0.22
Chloromethane	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	33	190
Chloroprene	ug/L	< 1.0	< 1.0	<5.0	<5.0	NE	NE	NE
Dibromochloromethane	ug/L	< 1.0	< 1.0	<1.0	<1.0	80*	NE	0.87
1,2-Dibromo-3-chloropropane	ug/L	< 1.0	< 1.0	<1.0	<1.0	0.2	NE	0.00033
Dibromomethane	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	NE	8.3
1,2-Dibromoethane	ug/L	< 1.0	< 1.0	<1.0	<1.0	0.05	NE	0.0075
trans-1,4-Dichloro-2-butene	ug/L	< 2.0	< 2.0	<5.0	<5.0	NE	NE	0.0013
1,1-Dichloroethane	ug/L	**4.7**	**11**	<1.0	<1.0	NE	990	2.8
1,1-Dichloroethene	ug/L	**4.4**	<1.0	<1.0	<1.0	7	7	280
1,2-Dichloroethane	ug/L	< 1.0	< 1.0	<1.0	<1.0	5	NE	0.17
cis-1,2-Dichloroethene	ug/L	< 1.0	**5.9**	<1.0	<1.0	70	70	36
trans-1,2-Dichloroethene	ug/L	< 1.0	< 1.0	<1.0	<1.0	100	100	360
1,2-Dichloropropane	ug/L	< 1.0	< 1.0	<2.0	<2.0	5	NE	0.44
cis-1,3-Dichloropropene	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	NE	
trans-1,3-Dichloropropene	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	NE	0.47
Dichlorodifluoromethane	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	NE	200
1,4 Dioxane	ug/L	< 50	< 50	<120	<120	NE	77	0.46
Ethyl Benzene	ug/L	< 1.0	< 1.0	<1.0	<1.0	700	700	1.5
Ethyl methacrylate	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	NE	630
2-Hexanone	ug/L	< 5.0	< 5.0	<5.0	<5.0	NE	NE	38
Methyl iodide	ug/L	< 1.0	< 1.0	<5.0	<5.0	NE	NE	NE
Methylacrylonitrile	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	NE	1.9
Methylene chloride	ug/L	< 5.0	< 5.0	<5.0	<1.0	5	5	11
Methyl methacrylate	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	NE	1400
4-Methyl-2-pentanone	ug/L	< 1.0	< 1.0	<5.0	<5.0	NE	NE	6300
Pentachloroethane	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	NE	0.65
Propionitrile	ug/L	< 10	< 10	<5.0	<5.0	NE	NE	NE
Styrene	ug/L	< 1.0	< 1.0	<1.0	<1.0	100	NE	1200
1,1,1,2-Tetrachloroethane	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	NE	0.57
1,1,2,2-Tetrachloroethane	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	NE	0.076
Tetrachloroethene	ug/L	< 1.0	< 1.0	<2.0	<2.0	5	5	11
Toluene	ug/L	< 1.0	< 1.0	<1.0	<1.0	1,000	960	1100
Trichloroethene	ug/L	< 1.0	< 1.0	<1.0	<1.0	5	1	0.49
1,1,1-Trichloroethane	ug/L	**5.9**	< 1.0	<1.0	<1.0	200	200	8000
1,1,2-Trichloroethane	ug/L	< 1.0	< 1.0	<1.0	<1.0	5	NE	0.28
Trichlorofluoromethane	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	NE	5200
Trichlorotrifluoroethane	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	78,000	55000
1,2,3-Trichloropropane	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	NE	0.00075
1,2,4-Trimethylbenzene	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	16	15
Vinyl acetate	ug/L	< 1.0	< 1.0	<1.0	<1.0	NE	NE	410
Vinyl chloride	ug/L	< 1.0	< 1.0	<1.0	<1.0	2	1	0.019
m,p-Xylene	ug/L	< 2.0	< 2.0	<2.0	<2.0			
o-Xylene	ug/L	< 1.0	< 1.0	<1.0	<1.0	10,000	280	190

Notes:

1. ug/L = micrograms per liter, or parts per billion.
2. "<" indicates that the constituent was not identified at a concentration above the indicated concentration.
3. U.S. EPA MCL is the Maximum Contaminant Level for drinking water, applicable to public water systems.
4. Site-specific GCL is the Groundwater Compliance Level established for compounds of concern for the YSI Area Wells Project.
5. NE - indicates that an EPA MCL and/or project-specific GCL has not been established.
6. VOC results **in bold text** indicate that the compound was detected in the sample.
7. RSL - U.S. EPA Regional Screening Level (November 2015)

* No MCL has been established for these individual compounds. A MCL of 80 ug/L applies to the total concentration of trihalometahes. These compounds are trihalomethanes.

Table 30. Off-Site Groundwater Ingestion Evaluation, YSI Incorporated, Yellow Springs, Ohio (Detected Compounds Only)

VOC	1655 Xenia		3624 Xenia		3601 Xenia		3667 Brannum		MW-14I		MW-17I		MW-18I		665 E. Hyde		MW-10		MW-10I		1793 Xenia		SCIA GCL	MCL	RSL
	Date Collected	ug/L	Date Collected	ug/L	Date	ug/L	Date	ug/L	Date	ug/L	Date	ug/L	Date	ug/L	Date	ug/L	Date	ug/L	Date	ug/L	Date	ug/L			
1,1-Dichloroethane		1.03		1.2		1.36		<0.5		1.76		1.76		1.76		<0.5		<1		1.1		6.21	990	NE	2.8
1,1-Dichloroethene		<1		1.23	October	0.81	October	<0.5	October	<0.5	October	<0.5	October	<0.5	October	<0.5	October	<0.5	October	1.01		<1	7	7	280
1,1,1-Trichloroethane	May 2011	9.97	October 2010	15.5	2010	15.3	2008	1.19	2008	<0.5	2008	<0.5	2009	<0.5	2009	<0.5	2009	<0.5	2010	11.6	May 2011	9.28	200	200	8000

Table 31. Soil to Groundwater Leaching Pathway Evaluation, YSI Incorporated, Yellow Springs, Ohio.

Analyte	SB-1 (0-2)		SB-1 (6-8)		SB-1 (8-10)		SB-2 (0-2)		SB-2 (2-4)		SB-2 (6-8)		SB-3 (0-2)		SB-3 (4-6)		SB-3 (8-10)		SB-4 (6-8)		SB-4 (10-12)		SB-5 (4-6)		SB-5 (6-8)		SB-6 (2-4)		SB-6 (6-8)		SB-7 (2-4)		SB-7 (4-6)		SB-8 (3-6)		SB-9 (3-6)		SCIA Soil Remediation Goal	U.S. EPA RSL, Groundwater Protection	
	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag		Risk-Based	MCL-based
1,1,1,2-Tetrachloroethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		0.22	
1,1,1-Trichloroethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	**13**		**24.6**		3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	**3.07**	J	**5.99**		18000	28000	70
1,1,2,2-Tetrachloroethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		0.03	
1,1,2-Trichloroethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		0.089	
1,1-Dichloroethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	**5.84**		**7.15**				**6.79**		4.04	U	3.69	U	3.72	U	4.1	U	**4.55**		**17.7**			0.78	
1,1-Dichloroethene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U	265	100	2.5
1,2,3-Trichloropropane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		0.00032	
1,2,4-Trimethylbenzene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	**3.07**	J	**3.52**	J	**4.43**		3.61	U	**3.26**	J	**2.2**	J	**2.84**	J	**3.25**	J	**2.53**	J	5.65	U		21	
1,2-Dibromo-3-chloropropane	35.6	U	28.3	U	30.7	U	34.3	U	33.8	U	282	U	30.1	U	33.3	U	33.6	U	23.5	U	23.8	U	23.3	U	21.7	U	24.3	U	22.1	U	22.3	U	24.6	U	24.6	U	33.9	U		0.00014	0.0086
1,2-Dibromoethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		0.0021	0.014
1,2-Dichloroethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		0.048	1.4
1,2-Dichloropropane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		0.15	1.7
1,4 Dioxane	593	U	472	U	511	U	572	U	563	U	4700	U	501	U	555	U	559	U	391	U	397	U	389	U	361	U	404	U	369	U	372	U	410	U	410	U	565	U		0.094	
2-Butanone	29.6	U	23.6	U	25.6	U	28.6	U	28.1	U	235	U	25.1	U	27.8	U	28	U	19.6	U	19.9	U	19.4	U	18.1	U	20.2	U	18.4	U	18.6	U	20.5	U	20.5	U	28.3	U		1200	
2-Hexanone	14.8	U	11.8	U	12.8	U	14.3	U	14.1	U	118	U	12.5	U	13.9	U	14	U	9.78	U	9.93	U	9.71	U	9.03	U	10.1	U	9.22	U	9.31	U	10.3	U	10.3	U	14.1	U		8.8	
4-Methyl-2-pentanone	14.8	U	11.8	U	12.8	U	14.3	U	14.1	U	118	U	12.5	U	13.9	U	14	U	9.78	U	9.93	U	9.71	U	9.03	U	10.1	U	9.22	U	9.31	U	10.3	U	10.3	U	14.1	U		1400	
Acetone	59.3	U	47.2	U	51.1	U	57.2	U	56.3	U	470	U	50.1	U	**13.8**	J	55.9	U	39.1	U	**7.38**	J	**9.4**	J	36.1	U	**10.2**	J	**7.13**	J	**5.8**	J	**8.45**	J	**13.3**	J	**23.8**	J		2900	
Acetonitrile	119	U	94.5	U	102	U	114	U	113	U	940	U	100	U	111	U	112	U	78.2	U	79.4	U	77.7	U	72.3	U	80.9	U	73.7	U	74.5	U	82.1	U	82.1	U	113	U		26	
Acrolein	59.3	U	47.2	U	51.1	U	57.2	U	56.3	U	470	U	50.1	U	55.5	U	55.9	U	39.1	U	39.7	U	38.9	U	36.1	U	40.4	U	36.9	U	37.2	U	41	U	41	U	56.5	U		0.0084	
Acrylonitrile	59.3	U	47.2	U	51.1	U	57.2	U	56.3	U	470	U	50.1	U	55.5	U	55.9	U	39.1	U	39.7	U	38.9	U	36.1	U	40.4	U	36.9	U	37.2	U	41	U	41	U	56.5	U			
Allyl chloride	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		0.23	
Benzene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	**3.04**	J	**5.54**		**5.11**		**1.47**	J	**3.06**	J	**2.17**	J	**3.78**		**3.76**	J	**3.68**	J	5.65	U		0.26	2.6
Bromodichloromethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		0.036	22
Bromoform	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		0.87	21
Bromomethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		1.9	
Carbon disulfide	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		240	
Carbon tetrachloride	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	**1.85**	J	**3.49**	J	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U	410	0.18	1.9
Chlorobenzene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		53	68
Chloroethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	**3.59**	J	5.65	U			
Chloroform	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		0.061	22
Chloromethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	**1.76**	J	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		49	
Chloroprene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U			
cis-1,2-Dichloroethene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	**1.94**	J	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		11	21
cis-1,3-Dichloropropene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		0.17	
Dibromochloromethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		0.23	21
Dibromomethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U			
Dichlorodifluoromethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		300	
Ethyl Benzene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	**3.25**	J	**4.54**		**5.88**		3.61	U	**3.78**	J	**2.13**	J	**3.16**	J	**3.52**	J	**3.45**	J	5.65	U		1.7	780
Ethyl methacrylate	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		150	
m,p-Xylene	11.9	U	9.45	U	10.2	U	11.4	U	11.3	U	94	U	10	U	11.1	U	11.2	U	**4.94**	J	**7.08**	J	**7.86**		**1.67**	J	**5.13**	J	**3.29**	J	**5.18**	J	**5.36**	J	**4.58**	J	11.3	U		190	
Methyl iodide	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U			
Methyl methacrylate	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		300	
Methylacrylonitrile	59.3	U	47.2	U	51.1	U	57.2	U	56.3	U	470	U	50.1	U	55.5	U	55.9	U	39.1	U	39.7	U	38.9	U	36.1	U	40.4	U	36.9	U	37.2	U	41	U	41	U	56.5	U		0.43	
Methylene chloride	**2.38**	J	18.9	U	20.4	U	22.9	U	22.5	U	188	U	20	U	**2.28**	J	**2.53**	J	15.6	U	15.9	U	15.5	U	14.5	U	16.2	U	14.7	U	14.9	U	16.4	U	16.4	U	22.6	U		2.9	1.3
o-Xylene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	**2.15**	J	**3.03**	J	**3.68**	J	3.61	U	**2.41**	J	**1.5**	J	**2.09**	J	**2.31**	J	**2.19**	J	5.65	U		190	
Pentachloroethane	11.9	U	9.45	U	10.2	U	11.4	U	11.3	U	94	U	10	U	11.1	U	11.2	U	7.82	U	7.94	U	7.77	U	7.23	U	8.09	U	7.37	U	7.45	U	8.21	U	8.21	U	11.3	U		0.31	
Propionitrile	119	U	94.5	U	102	U	114	U	113	U	940	U	100	U	111	U	112	U	78.2	U	79.4	U	77.7	U	72.3	U	80.9	U	73.7	U	74.5	U	82.1	U	82.1	U	113	U			
Styrene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		1300	110
Tetrachloroethene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	**6.21**		3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U	1800	5.1	2.3
Toluene	5.93	U	4.72	U	5.11	U	**2.67**	J	5.63	U	47	U	5.01	U	5.55	U	5.59	U	**9.34**		**14.6**		**15.4**		**3.92**		**9.64**		**6.28**		**10.4**		**10.5**		**10.2**		5.65	U		760	690
trans-1,2-Dichloroethene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		110	31
trans-1,3-Dichloropropene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		0.17	
trans-1,4-Dichloro-2-butene	29.6	U	23.6	U	25.6	U	28.6	U	28.1	U	235	U	25.1	U	27.8	U	28	U	19.6	U	19.9	U	19.4	U	18.1	U	20.2	U	18.4	U	18.6	U	20.5	U	20.5	U	28.3	U		0.00062	
Trichloroethene	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		0.18	1.8
Trichlorofluoromethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		3300	
Trichlorotrifluoroethane	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		140000	
Vinyl acetate	14.8	U	11.8	U	12.8	U	14.3	U	14.1	U	118	U	12.5	U	13.9	U	14	U	9.78	U	9.93	U	9.71	U	9.03	U	10.1	U	9.22	U	9.31	U	10.3	U	10.3	U	14.1	U		87	
Vinyl chloride	5.93	U	4.72	U	5.11	U	5.72	U	5.63	U	47	U	5.01	U	5.55	U	5.59	U	3.91	U	3.97	U	3.89	U	3.61	U	4.04	U	3.69	U	3.72	U	4.1	U	4.1	U	5.65	U		0.0065	0.69

Notes:
1. U indicates that the compound was not detected at the indicated laboratory Limit of Quantitation.
2. J indicates that the compound was detected at an estimated concentration above the Method Detection Limit but below the laboratory Limit of Quantitation.
3. All soil samples were collected on September 1, 2015.
4. Detected compounds are identified in bold font.
5. Samples SB-1, SB-2, and SB-3 are from the Former Shipping Dock Area. Samples SB-4 through SB-9 are from the Current Shipping Dock Area.
6. All results and screening levels are in units of ug/kg.
7. SCIA Soil Remediation Goal - site-specific soil cleanup goal established for SCIA interim action
8. U.S. EPA RSL - Regional Screening Level (November 2015)

Table 32. Summary of Soil Gas Analytical Data and Risk Evaluation, YSI Incorporated, Yellow Springs, Ohio

Compound	g/mol	Maximum Concentration (ppbv)	(g/mol) x (ppbv)	ug/m^3	Sample ID	Calculated Indoor Air Concentration (ug/m3)	Residential		Commercial	
							VI Carcinogenic Risk	VI Hazard	VI Carcinogenic Risk	VI Hazard
Acetone	58.08	59	3,403	139	YSI-SG-1	4.17E+00	No IUR	1.30E-04	No IUR	3.10E-05
Benzene	78.11	0.864	67	3	YSI-SG-2	9.00E-02	2.50E-07	2.90E-03	5.70E-08	6.80E-04
Carbon disulfide	76.139	4.73	360	15	YSI-SG-2	4.50E-01	No IUR	6.20E-04	No IUR	1.50E-04
Chloroform	119.38	0.403	48	2	YSI-SG-2	6.00E-02	4.90E-07	5.90E-04	1.10E-07	1.40E-04
Cyclohexane	84.16	9.87	831	34	YSI-SG-2A	1.02E+00	No IUR	1.60E-04	No IUR	3.90E-05
1,4-Dichlorobenzene	147	2.13	313	13	YSI-SG-2A	3.90E-01	1.50E-06	4.70E-04	3.50E-07	1.10E-04
1,1-Dichloroethane	98.96	2.45	242	10	YSI-SG-2	3.00E-01	1.70E-07	No RfC	3.90E-08	No RfC
Ethanol	46.06884	2.44	112	5	SSG-1	1.50E-01				
Ethylbenzene	106.17	1.67	177	7	YSI-SG-4	2.10E-01	1.90E-07	2.00E-04	4.30E-08	4.80E-05
4-Ethyltoluene	120.19158	1.29	155	6	YSI-SG-4	1.80E-01				
Dichlorodifluoromethane	120.91	1.69	204	8	YSI-SG-2A	2.40E-01	No IUR	2.30E-03	No IUR	5.50E-04
1,1,2-Trichloro-1,2,2-trifluoroethane	187.38	0.621	116	5	YSI-SG-2A	1.50E-01	No IUR	4.80E-06	No IUR	1.10E-06
Heptane	100.21	5.03	504	21	YSI-SG-2A	6.30E-01				
Hexane	86.18	1.79	154	6	YSI-SG-2A	1.80E-01	No IUR	2.50E-04	No IUR	5.90E-05
Isopropyl alcohol	60.1	178	10,698	438	YSI-SG-4A	1.31E+01	No IUR	6.30E-02	No IUR	1.50E-02
Methylene chloride	84.83	1.73	147	6	SSG-1	1.80E-01	1.80E-09	2.90E-04	1.50E-10	6.80E-05
Methyl ethyl ketone (2-Butanone)	82.11	11	903	37	YSI-SG-4	1.11E+00	No IUR	2.10E-04	No IUR	5.10E-05
Methyl isobutyl ketone	100.16	1.96	196	8	YSI-SG-1	2.40E-01	No IUR	7.70E-05	No IUR	1.80E-05
Propylene	42.08	7.4	311	13	YSI-SG-1	3.90E-01	No IUR	1.20E-04	No IUR	3.00E-05
Styrene	104.15	1.68	175	7	YSI-SG-4	2.10E-01	No IUR	2.00E-04	No IUR	4.80E-05
Tetrahydrofuran	72.11	0.773	56	2	YSI-SG-2A	6.00E-02	No IUR	2.90E-05	No IUR	6.80E-06
Toluene	92.14	23.8	2,193	90	YSI-SG-1, YSI-SG-YSI-SG-4	2.70E+00	No IUR	5.20E-04	No IUR	1.20E-04
1,1,1-Trichloroethane	133.4	93.2	12,433	509	YSI-SG-2A	1.53E+01	No IUR	2.90E-03	No IUR	7.00E-04
Trichloroethene	131.4	0.529	70	3	YSI-SG-1	9.00E-02	1.90E-07	4.30E-02	3.00E-08	1.00E-02
1,3,5-Trimethylbenzene	120.19	0.613	74	3	YSI-SG-4	9.00E-02				
1,2,4-Trimethylbenzene	120.19	1.97	237	10	YSI-SG-4	3.00E-01	No IUR	4.10E-02	No IUR	1.40E-02
m-/p-Xylenes	106.16	4.89	519	21	YSI-SG-4	6.30E-01	No IUR	6.00E-03	No IUR	1.40E-03
o-Xylene	106.16	1.7	180	7	YSI-SG-4	2.10E-01	No IUR	2.00E-03	No IUR	4.80E-04
						Totals:	2.79E-06	1.67E-01	6.29E-07	4.37E-02
						Goal	1.00E-05	1.00E+00	1.00E-05	1.00E+00

Notes:
1. U.S. EPA Vapor Intrusion Screening Level Calculator (https://www.epa.gov/sites/production/files/2015-09/visl-calculator_0.xlsm) was used for the calculations above

Table 33. Summary of Off-Site Vapor Intrusion Risk, YSI Incorporated, Yellow Springs, Ohio

VOC	1655 Xenia		1655 Xenia A		3624 Xenia		3601 Xenia		1793 Xenia		Highest detected concentration of COC in all wells	Groundwater to Indoor Air - Residential		
												Calculated Indoor Air Concentration	VI Carcinogenic Risk	VI Hazard
	Date Collected	ug/L	Date Collected	ug/L	Date Collected	ug/L	Date Collected	ug/L	Date Collected	ug/L	ug/L			
1,1-Dichloroethane	5/5/2009	5.81	5/5/2009	4.56	10/28/2010	1.2	10/28/2010	1.36	5/10/2011	6.21	6.21	8.43E-01	4.80E-07	No RfC
1,1-Dichloroethene	10/20/2009	1.97	5/5/2009	4.74	10/28/2010	1.23	10/28/2010	0.81	5/5/2009	4.74	4.74	3.22E+00	No IUR	1.50E-02
1,1,1-Trichloroethane	10/20/2009	16.1	5/5/2010	15.2	1/15/2010	16.8	10/28/2010	0.63	2/3/2009	20.6	16.8	6.77E+00	No IUR	1.30E-03
												Totals:	4.80E-07	1.63E-02
												Goal	1.00E-05	1

Notes:

1. VISL Groundwater Concentration to Indoor Air Concentration (GWC-IAC) Calculator Version 3.4 (https://www.epa.gov/sites/production/files/2015-09/visl-calculator_0.xlsm) was used for these calculations

Table 34. Summary of YSI Property Soil Samples by Area and Depth, YSI Incorporated, Yellow Springs, Ohio

Depth (feet)	Old Brannum House Soil	Old Brannum House / Waste Storage Shed	Former Shipping Dock	Current Shipping Dock	Webb Building	Drainage-ways	Other Locations	All Areas
0-1			3		1	1		5
1-2	1	1			2			4
2-3	1	3	1	2	1	3	2	13
3-4	1	5			1	2	1	10
4-5	1	5	1	4 (2 are 3-6')		1		8
5-6	1	2					2	5
6-7	1	4	2	3	1	1		12
7-8		11			1	3		15
8-9	2	2	2	1	1		1	9
9-10		7				1	1	9
10-11		5				1		6
11-12	2	2			3	3	1	11
12-13	3	2				1		6
13-14	1	1			1	1		4
14-15	1	5			2			8
15-16		2						2
16-17	3				1			4
17-18					3		1	4
18-19	5				2			7
19-20	1						3	4
20-21							1	1
21-22							1	1
22-23							1	1
23-24							1	1
24-25								0
25-26							1	1
26-27							1	1
2-4		1						1
6-8		1						1
Soil Pile		2						2
Sum 0-2 ft	1	1	3	0	3	1	0	9
Total	24	61	9	10	20	18	18	160

**Table 35. Sediment Sample Count by Depth,
YSI Incorporated, Yellow Springs, Ohio**

Depth (inches)	Number of Samples
0-3	48
3-6	15
6-9	3
9-12	1
Total	67

Table 36. Summary of Soil Analytical Data from all Depths in the Old Brannum House Soil Area, YSI Incorporated, Yellow Springs, Ohio

Constituent	Max[1] (ug/kg)	Count	# Detects	Max Detect (ug/kg)	% Detects	Screening Value[2] (ug/kg)
Acetone	940	24	0		0.0	2500
Acrolein	470	24	0		0.0	5270
Acrylonitrile	56.5	24	0		0.0	23.9
Allyl chloride	47	24	0		0.0	13.4
Benzene	47	24	1	**7.2**	4.2	255
Bromodichloromethane	47	24	0		0.0	540
Bromoform	47	24	0		0.0	15900
2-Butanone (MEK)	470	24	0		0.0	89600
Carbon disulfide	47	24	0		0.0	94.1
Carbon tetrachloride	47	24	0		0.0	2980
Chlorobenzene	47	24	0		0.0	40000
Chloroethane	94	24	0		0.0	NE
Chloroform	47	24	0		0.0	1190
Chloromethane	94	24	0		0.0	NE
Chloroprene	47	24	0		0.0	2.9
Dibromochloromethane	47	24	0		0.0	2050
Dibromomethane	47	24	0		0.0	NE
Dichlorodifluoromethane	47	24	0		0.0	39500
1,2-Dibromo-3-chloropropane	47	24	0		0.0	35.2
1,2-Dibromoethane (EDB)	47	24	0		0.0	1230
trans-1,4-Dichloro-2-butene	47	24	0		0.0	NE
1,1-Dichloroethane	47	24	0		0.0	20100
1,2-Dichloroethane	47	24	0		0.0	21200
1,1-Dichloroethene	47	24	0		0.0	8280
cis-1,2-Dichloroethene	47	24	0		0.0	NE
trans-1,2-Dichloroethene	47	24	0		0.0	784
1,2-Dichloropropane	47	24	0		0.0	32700
cis-1,3-Dichloropropene	47	24	0		0.0	398
trans-1,3-Dichloropropene	47	24	0		0.0	398
Ethyl methacrylate	47	24	0		0.0	30000
Ethylbenzene	47	24	1	**6.4**	4.2	5160
2-Hexanone	470	24	0		0.0	12600
Iodomethane (Methyl Iodide)	47	24	0		0.0	1230
Methacrylonitrile	47	24	0		0.0	57
Bromomethane	94	24	0		0.0	235
Methylene Chloride	94	24	0		0.0	4050
4-Methyl-2-pentanone (MIBK)	470	24	0		0.0	44300
Methyl methacrylate	47	24	0		0.0	984000
Pentachloroethane	47	24	0		0.0	10700
Propionitrile	470	24	0		0.0	49.8
Styrene	47	24	0		0.0	300000
1,1,1,2-Tetrachloroethane	47	24	0		0.0	225000
1,1,2,2-Tetrachloroethane	47	24	0		0.0	127
Tetrachloroethene	47	24	0		0.0	9920
Toluene	47	24	3	17.8	12.5	200000
1,1,1-Trichloroethane	47	24	0		0.0	29800
1,1,2-Trichloroethane	47	24	0		0.0	28600
Trichloroethene	47	24	0		0.0	12400
Trichlorofluoromethane	47	24	0		0.0	16400
1,2,3-Trichloropropane	47	24	0		0.0	3360
1,2,4-Trimethylbenzene	47	24	1	**6.4**	4.2	NE
Vinyl Acetate	47	24	0		0.0	12700
Vinyl Chloride	11	24	0		0.0	646
Xylenes, Total	47	24	2	**10**	8.3	10000
Acetonitrile	24	4	0		0.0	1370
1,4-Dioxane	18	2	0		0.0	2050

Notes:

[1] Detection limit used where there were no detections

[2] from U.S. EPA Ecological Screening Levels, Efromyson et al 1997 or Region V ESLs

Results for detected compounds are shown in **bold text**

NE = Not established. A standard has not been established.

Table 37. Summary of Soil Analytical Data from all Depths in the Waste Storage Shed and Old Brannum House Area, YSI Incorporated, Yellow Springs, Ohio

Constituent	Max[1] (ug/kg)	Count	# Detects	Max Detect (ug/kg)	% Detects	Screening Value[2] (ug/kg)
Acetone	129	58	0		0.0	2500.0
Acrolein	64.7	58	0		0.0	5270.0
Acrylonitrile	30.8	58	0		0.0	23.9
Allyl chloride	6.5	58	0		0.0	13.4
Benzene	11	58	6	**11**	10.3	255.0
Bromodichloromethane	6.5	58	0		0.0	540.0
Bromoform	6.5	58	0		0.0	15900.0
2-Butanone (MEK)	65	58	0		0.0	89600.0
Carbon disulfide	6.5	58	0		0.0	94.1
Carbon tetrachloride	6.5	58	0		0.0	2980.0
Chlorobenzene	6.5	58	0		0.0	40000.0
Chloroethane	12.9	58	0		0.0	NE
Chloroform	6.5	58	0		0.0	1190.0
Chloromethane	12.9	58	0		0.0	NE
Chloroprene	6.5	58	0		0.0	2.9
Dibromochloromethane	6.5	58	0		0.0	2050.0
Dibromomethane	6.5	58	0		0.0	NE
Dichlorodifluoromethane	6.5	58	0		0.0	39500.0
1,2-Dibromo-3-chloropropane	6.5	58	0		0.0	35.2
1,2-Dibromoethane (EDB)	6.5	58	0		0.0	1230.0
trans-1,4-Dichloro-2-butene	6.5	58	0		0.0	NE
1,1-Dichloroethane	8.2	58	2	**8.2**	3.4	20100.0
1,2-Dichloroethane	6.5	58	0		0.0	21200.0
1,1-Dichloroethene	6.5	58	0		0.0	8280.0
cis-1,2-Dichloroethene	6.5	58	0		0.0	NE
trans-1,2-Dichloroethene	6.5	58	0		0.0	784.0
1,2-Dichloropropane	6.5	58	0		0.0	32700.0
cis-1,3-Dichloropropene	6.5	58	0		0.0	398.0
trans-1,3-Dichloropropene	6.5	58	0		0.0	398.0
Ethyl methacrylate	6.5	58	0		0.0	30000.0
Ethylbenzene	16.3	58	5	**16.3**	8.6	5160.0
2-Hexanone	64.7	58	0		0.0	12600.0
Iodomethane (Methyl Iodide)	6.5	58	0		0.0	1230.0
Methacrylonitrile	6.5	58	0		0.0	57.0
Bromomethane	12.9	58	0		0.0	235.0
Methylene Chloride	12.9	58	0		0.0	4050.0
4-Methyl-2-pentanone (MIBK)	64.7	58	0		0.0	44300.0
Methyl methacrylate	6.5	58	0		0.0	984000.0
Pentachloroethane	6.5	58	0		0.0	10700.0
Propionitrile	64.7	58	0		0.0	49.8
Styrene	6.5	58	0		0.0	300000.0
1,1,1,2-Tetrachloroethane	6.5	58	0		0.0	225000.0
1,1,2,2-Tetrachloroethane	6.5	58	0		0.0	127.0
Tetrachloroethene	6.5	58	0		0.0	9920.0
Toluene	34.7	58	8	**34.7**	13.8	200000.0
1,1,1-Trichloroethane	1440	58	17	**1440**	29.3	29800.0
1,1,2-Trichloroethane	6.5	58	0		0.0	28600.0
Trichloroethene	6.5	58	0		0.0	12400.0
Trichlorofluoromethane	6.5	58	0		0.0	16400.0
Trichlorotrifluoroethane	6.2	8	0		0.0	NE
1,2,3-Trichloropropane	6.5	58	0		0.0	3360.0
1,2,4-Trimethylbenzene	6.8	58	2	**6.8**	3.4	NE
Vinyl Acetate	6.5	58	0		0.0	12700.0
Vinyl Chloride	1.92	58	0		0.0	646.0
Xylenes, Total	24.3	58	7	**24.3**	12.1	10000.0
Acetonitrile	32.2	26	6	**32.2**	23.1	1370.0
1,4-Dioxane	45	22	1	**45**	4.5	2050.0

Notes:

[1] Detection limit used where there were no detections

[2] from U.S. EPA Ecological Screening Levels, Efromyson et al 1997 or Region V ESLs

Results for detected compounds are shown in **bold text**

NE = Not established. A standard has not been established.

Table 38. Summary of Soil Analytical Data from all Depths in the Former Shipping Dock Area, YSI Incorporated, Yellow Springs, Ohio

Constituent (ug/kg)	Max[1] (ug/kg)	Count	# Detects	Max Detect (ug/kg)	% Detects	Screening Value[2] (ug/kg)
Acetone	470	9	1	**13.8**	11.1	2500.0
Acrolein	470	9	0		0.0	5270.0
Acrylonitrile	55.9	9	0		0.0	23.9
Allyl chloride	47	9	0		0.0	13.4
Benzene	47	9	0		0.0	255.0
Bromodichloromethane	47	9	0		0.0	540.0
Bromoform	47	9	0		0.0	15900.0
2-Butanone (MEK)	235	9	0		0.0	89600.0
Carbon disulfide	47	9	0		0.0	94.1
Carbon tetrachloride	47	9	0		0.0	2980.0
Chlorobenzene	47	9	0		0.0	40000.0
Chloroethane	47	9	0		0.0	NE
Chloroform	47	9	0		0.0	1190.0
Chloromethane	47	9	0		0.0	NE
Chloroprene	47	9	0		0.0	2.9
Dibromochloromethane	47	9	0		0.0	2050.0
Dibromomethane	47	9	0		0.0	NE
Dichlorodifluoromethane	47	9	0		0.0	39500.0
1,2-Dibromo-3-chloropropane	282	9	0		0.0	35.2
1,2-Dibromoethane (EDB)	47	9	0		0.0	1230.0
trans-1,4-Dichloro-2-butene	235	9	0		0.0	NE
1,1-Dichloroethane	47	9	0		0.0	20100.0
1,2-Dichloroethane	47	9	0		0.0	21200.0
1,1-Dichloroethene	47	9	0		0.0	8280.0
cis-1,2-Dichloroethene	47	9	0		0.0	NE
trans-1,2-Dichloroethene	47	9	0		0.0	784.0
1,2-Dichloropropane	47	9	0		0.0	32700.0
cis-1,3-Dichloropropene	47	9	0		0.0	398.0
trans-1,3-Dichloropropene	47	9	0		0.0	398.0
Ethyl methacrylate	47	9	0		0.0	30000.0
Ethylbenzene	47	9	0		0.0	5160.0
2-Hexanone	118	9	0		0.0	12600.0
Iodomethane (Methyl Iodide)	47	9	0		0.0	1230.0
Methacrylonitrile	470	9	0		0.0	57.0
Bromomethane	47	9	0		0.0	235.0
Methylene Chloride	188	9	3	**2.53**	33.3	4050.0
4-Methyl-2-pentanone (MIBK)	118	9	0		0.0	44300.0
Methyl methacrylate	47	9	0		0.0	984000.0
Pentachloroethane	94	9	0		0.0	10700.0
Propionitrile	940	9	0		0.0	49.8
Styrene	47	9	0		0.0	300000.0
1,1,1,2-Tetrachloroethane	47	9	0		0.0	225000.0
1,1,2,2-Tetrachloroethane	47	9	0		0.0	127.0
Tetrachloroethene	47	9	0		0.0	9920.0
Toluene	47	9	1	**2.67**	11.1	200000.0
1,1,1-Trichloroethane	47	9	0		0.0	29800.0
1,1,2-Trichloroethane	47	9	0		0.0	28600.0
Trichloroethene	47	9	0		0.0	12400.0
Trichlorofluoromethane	47	9	0		0.0	16400.0
Trichlorotrifluoroethane	47	9	0		0.0	NE
1,2,3-Trichloropropane	47	9	0		0.0	3360.0
1,2,4-Trimethylbenzene	47	9	0		0.0	NE
Vinyl Acetate	118	9	0		0.0	12700.0
Vinyl Chloride	47	9	0		0.0	646.0
Xylenes, Total	94	9	0		0.0	10000.0
Acetonitrile	940	9	0		0.0	1370.0
1,4-Dioxane	4700	9	0		0.0	2050.0

Notes:

[1] Detection limit used where there were no detections

[2] from U.S. EPA Ecological Screening Levels, Efromyson et al 1997 or Region V ESLs

Results for detected compounds are shown in **bold text**

NE = Not established. A standard has not been established.

Table 39. Summary of Soil Analytical Data from all Depths in the Current Shipping Dock Area, YSI Incorporated, Yellow Springs, Ohio

Constituent	Max[1] (ug/kg)	Count	# Detects	Max Detect (ug/kg)	% Detects	Screening Value[2] (ug/kg)
Acetone	23.8	10	8	**23.8**	80	2500.0
Acrolein	41	10	0		0	5270.0
Acrylonitrile	41	10	0		0	23.9
Allyl chloride	4.1	10	0		0	13.4
Benzene	5.54	10	9	**5.54**	90	255.0
Bromodichloromethane	4.1	10	0		0	540.0
Bromoform	4.1	10	0		0	15900.0
2-Butanone (MEK)	20.5	10	0		0	89600.0
Carbon disulfide	24.6	10	0		0	94.1
Carbon tetrachloride	3.49	10	2	**3.49**	20	2980.0
Chlorobenzene	4.1	10	0		0	40000.0
Chloroethane	3.59	10	1	**3.59**	10	NE
Chloroform	4.1	10	0		0	1190.0
Chloromethane	1.76	10	1	**1.76**	10	NE
Chloroprene	4.1	10	0		0	2.9
Dibromochloromethane	4.1	10	0		0	2050.0
Dibromomethane	4.1	10	0		0	NE
Dichlorodifluoromethane	4.1	10	0		0	39500.0
1,2-Dibromo-3-chloropropane	4.1	10	0		0	35.2
1,2-Dibromoethane (EDB)	4.1	10	0		0	1230.0
trans-1,4-Dichloro-2-butene	20.5	10	0		0	NE
1,1-Dichloroethane	17.7	10	5	**17.7**	50	20100.0
1,2-Dichloroethane	4.1	10	0		0	21200.0
1,1-Dichloroethene	4.1	10	0		0	8280.0
cis-1,2-Dichloroethene	1.94	10	1	**1.94**	10	NE
trans-1,2-Dichloroethene	4.1	10	0		0	784.0
1,2-Dichloropropane	4.1	10	0		0	32700.0
cis-1,3-Dichloropropene	4.1	10	0		0	398.0
trans-1,3-Dichloropropene	4.1	10	0		0	398.0
Ethyl methacrylate	4.1	10	0		0	30000.0
Ethylbenzene	5.88	10	8	**5.88**	80	5160.0
2-Hexanone	10.3	10	0		0	12600.0
Iodomethane (Methyl Iodide)	4.1	10	0		0	1230.0
Methacrylonitrile	41	10	0		0	57.0
Bromomethane	4.1	10	0		0	235.0
Methylene Chloride	16.4	10	0		0	4050.0
4-Methyl-2-pentanone (MIBK)	10.3	10	0		0	44300.0
Methyl methacrylate	4.1	10	0		0	984000.0
Pentachloroethane	8.21	10	0		0	10700.0
Propionitrile	82.1	10	0		0	49.8
Styrene	4.1	10	0		0	300000.0
1,1,1,2-Tetrachloroethane	4.1	10	0		0	225000.0
1,1,2,2-Tetrachloroethane	4.1	10	0		0	127.0
Tetrachloroethene	6.21	10	1	**6.21**	10	9920.0
Toluene	15.4	10	9	**15.4**	90	200000.0
1,1,1-Trichloroethane	24.6	10	4	**24.6**	40	29800.0
1,1,2-Trichloroethane	4.1	10	0		0	28600.0
Trichloroethene	4.1	10	0		0	12400.0
Trichlorofluoromethane	4.1	10	0		0	16400.0
1,2,3-Trichloropropane	4.1	10	0		0	3360.0
1,2,4-Trimethylbenzene	4.43	10	8	**4.43**	80	NE
Vinyl Acetate	10.3	10	0		0	12700.0
Vinyl Chloride	4.1	10	0		0	646.0
m,p-Xylene	7.86	10	9	**7.86**	90	10000.0
o-Xylene	3.68	10	8	**3.68**	80	10000.0
1,4-Dioxane	410	10	0		0	2050.0
Acetonitrile	82.1	10	0		0	1370.0
1,1,2-Trichloro-1,2,2-Trifluoroethane	4.1	10	0		0	NE

Notes:

[1] Detection limit used where there were no detections

[2] from U.S. EPA Ecological Screening Levels, Efromyson et al 1997 or Region V ESLs

Results for detected compounds are shown in **bold text**

NE = Not established. A standard has not been established.

Table 40. Summary of Soil Analytical Data for all Depths from the Webb Building Area, YSI Incorporated, Yellow Springs, Ohio

Constituent (ug/kg)	Max[1] (ug/kg)	Count	# Detects	Max Detect (ug/kg)	% Detects	Screening Value[2] (ug/kg)
Acetone	152	20	0		0.0	2500.0
Acrolein	76	20	0		0.0	5270.0
Acrylonitrile	55.9	20	0		0.0	23.9
Allyl chloride	7.6	20	0		0.0	13.4
Benzene	7.6	20	1	**6.7**	5.0	255.0
Bromodichloromethane	7.6	20	0		0.0	540.0
Bromoform	7.6	20	0		0.0	15900.0
2-Butanone (MEK)	76	20	0		0.0	89600.0
Carbon disulfide	7.6	20	0		0.0	94.1
Carbon tetrachloride	7.6	20	0		0.0	2980.0
Chlorobenzene	7.6	20	0		0.0	40000.0
Chloroethane	15	20	0		0.0	NE
Chloroform	7.6	20	0		0.0	1190.0
Chloromethane	15	20	0		0.0	NE
Chloroprene	7.6	20	0		0.0	2.9
Dibromochloromethane	7.6	20	0		0.0	2050.0
Dibromomethane	7.6	20	0		0.0	NE
Dichlorodifluoromethane	7.6	20	0		0.0	39500.0
1,2-Dibromo-3-chloropropane	7.6	20	0		0.0	35.2
1,2-Dibromoethane (EDB)	7.6	20	0		0.0	1230.0
trans-1,4-Dichloro-2-butene	7.6	20	0		0.0	NE
1,1-Dichloroethane	7.6	20	0		0.0	20100.0
1,2-Dichloroethane	7.6	20	0		0.0	21200.0
1,1-Dichloroethene	7.6	20	0		0.0	8280.0
cis-1,2-Dichloroethene	7.6	20	0		0.0	NE
trans-1,2-Dichloroethene	7.6	20	0		0.0	784.0
1,2-Dichloropropane	7.6	20	0		0.0	32700.0
cis-1,3-Dichloropropene	7.6	20	0		0.0	398.0
trans-1,3-Dichloropropene	7.6	20	0		0.0	398.0
Ethyl methacrylate	7.6	20	0		0.0	30000.0
Ethylbenzene	9	20	4	**9**	20.0	5160.0
2-Hexanone	76	20	0		0.0	12600.0
Iodomethane (Methyl Iodide)	7.6	20	0		0.0	1230.0
Methacrylonitrile	7.6	20	0		0.0	57.0
Bromomethane	15	20	0		0.0	235.0
Methylene Chloride	15	20	0		0.0	4050.0
4-Methyl-2-pentanone (MIBK)	76	20	0		0.0	44300.0
Methyl methacrylate	7.6	20	0		0.0	984000.0
Pentachloroethane	7.6	20	0		0.0	10700.0
Propionitrile	76	20	0		0.0	49.8
Styrene	7.6	20	0		0.0	300000.0
1,1,1,2-Tetrachloroethane	7.6	20	0		0.0	225000.0
1,1,2,2-Tetrachloroethane	7.6	20	0		0.0	127.0
Tetrachloroethene	7.6	20	0		0.0	9920.0
Toluene	20.8	20	8	**20.8**	40.0	200000.0
1,1,1-Trichloroethane	11	20	1	**11**	5.0	29800.0
1,1,2-Trichloroethane	7.6	20	0		0.0	28600.0
Trichloroethene	7.6	20	0		0.0	12400.0
Trichlorofluoromethane	7.6	20	0		0.0	16400.0
1,2,3-Trichloropropane	7.6	20	0		0.0	3360.0
1,2,4-Trimethylbenzene	8.3	20	2	**8.3**	10.0	NE
Vinyl Acetate	7.6	20	0		0.0	12700.0
Vinyl Chloride	1.2	20	0		0.0	646.0
Xylenes, Total	18.4	20	7	**18.4**	35.0	10000.0

Notes:

[1] Detection limit used where there were no detections

[2] from U.S. EPA Ecological Screening Levels, Efromyson et al 1997 or Region V ESLs

Results for detected compounds are shown in **bold text**

NE = Not established. A standard has not been established.

Table 41. Summary of Soil Analytical Data from all Depths in Drainageways, YSI Incorporated, Yellow Springs, Ohio.

Constituent	Max[1] (ug/kg)	Count	# Detects	Max Detect (ug/kg)	% Detects	Screening Value[2] (ug/kg)
Acetone	127.0	18	0		0.0	2500.0
Acrolein	63.7	18	0		0.0	5270.0
Acrylonitrile	30.3	18	0		0.0	23.9
Allyl chloride	6.4	18	0		0.0	13.4
Benzene	6.4	18	0		0.0	255.0
Bromodichloromethane	6.4	18	0		0.0	540.0
Bromoform	6.4	18	0		0.0	15900.0
2-Butanone (MEK)	64.0	18	0		0.0	89600.0
Carbon disulfide	6.4	18	0		0.0	94.1
Carbon tetrachloride	6.4	18	0		0.0	2980.0
Chlorobenzene	6.4	18	0		0.0	40000.0
Chloroethane	12.7	18	0		0.0	NE
Chloroform	6.4	18	0		0.0	1190.0
Chloromethane	12.7	18	0		0.0	NE
Chloroprene	6.4	18	0		0.0	2.9
Dibromochloromethane	6.4	18	0		0.0	2050.0
Dibromomethane	6.4	18	0		0.0	NE
Dichlorodifluoromethane	6.4	18	0		0.0	39500.0
1,2-Dibromo-3-chloropropane	6.4	18	0		0.0	35.2
1,2-Dibromoethane (EDB)	6.4	18	0		0.0	1230.0
trans-1,4-Dichloro-2-butene	6.4	18	0		0.0	NE
1,1-Dichloroethane	6.4	18	0		0.0	20100.0
1,2-Dichloroethane	6.4	18	0		0.0	21200.0
1,1-Dichloroethene	6.4	18	0		0.0	8280.0
cis-1,2-Dichloroethene	6.4	18	0		0.0	NE
trans-1,2-Dichloroethene	6.4	18	0		0.0	784.0
1,2-Dichloropropane	6.4	18	0		0.0	32700.0
cis-1,3-Dichloropropene	6.4	18	0		0.0	398.0
trans-1,3-Dichloropropene	6.4	18	0		0.0	398.0
Ethyl methacrylate	6.4	18	0		0.0	30000.0
Ethylbenzene	6.4	18	0		0.0	5160.0
2-Hexanone	63.7	18	0		0.0	12600.0
Iodomethane (Methyl Iodide)	6.4	18	0		0.0	1230.0
Methacrylonitrile	6.4	18	0		0.0	57.0
Bromomethane	12.7	18	0		0.0	235.0
Methylene Chloride	12.7	18	0		0.0	4050.0
4-Methyl-2-pentanone (MIBK)	63.7	18	0		0.0	443000.0
Methyl methacrylate	6.4	18	0		0.0	984000.0
Pentachloroethane	6.4	18	0		0.0	10700.0
Propionitrile	63.7	18	0		0.0	49.8
Styrene	6.4	18	0		0.0	300000.0
1,1,1,2-Tetrachloroethane	6.4	18	0		0.0	225000.0
1,1,2,2-Tetrachloroethane	6.4	18	0		0.0	127.0
Tetrachloroethene	7.0	18	1	**7.0**	5.6	9920.0
Toluene	6.4	18	0		0.0	200000.0
1,1,1-Trichloroethane	6.4	18	0		0.0	29800.0
1,1,2-Trichloroethane	6.4	18	0		0.0	28600.0
Trichloroethene	6.4	18	0		0.0	12400.0
Trichlorofluoromethane	6.4	18	0		0.0	16400.0
1,2,3-Trichloropropane	6.4	18	0		0.0	3360.0
1,2,4-Trimethylbenzene	6.4	18	0		0.0	NE
Vinyl Acetate	6.4	18	0		0.0	12700.0
Vinyl Chloride	1.3	18	0		0.0	646.0
Xylenes, Total	6.4	18	0		0.0	10000.0
Acetonitrile	6.4	7	0		0.0	1370.0

Notes:

[1] Detection limit used where there were no detections

[2] from U.S. EPA Ecological Screening Levels, Efromyson et al 1997 or Region V ESLs

Results for detected compounds are shown in **bold text**

NE = Not established. A standard has not been established.

Table 42. Summary of Soil Analytical Data from all Depths in Other Locations, YSI Incorporated, Yellow Springs, Ohio

Constituent	Max[1] (ug/kg)	Count	# Detects	Max Detect (ug/kg)	% Detects	Screening Value[2] (ug/kg)
Acetone	123	18	0		0.0	2500.0
Acrolein	61.5	18	0		0.0	5270.0
Acrylonitrile	58.7	18	0		0.0	23.9
Allyl chloride	6.2	18	0		0.0	13.4
Benzene	6.2	18	0		0.0	255.0
Bromodichloromethane	6.2	18	0		0.0	540.0
Bromoform	6.2	18	0		0.0	15900.0
2-Butanone (MEK)	62	18	0		0.0	89600.0
Carbon disulfide	6.2	18	0		0.0	94.1
Carbon tetrachloride	6.2	18	0		0.0	2980.0
Chlorobenzene	6.2	18	0		0.0	40000 [3]
Chloroethane	12.3	18	0		0.0	NE
Chloroform	6.2	18	0		0.0	1190.0
Chloromethane	12.3	18	0		0.0	NE
Chloroprene	6.2	18	0		0.0	2.9
Dibromochloromethane	6.2	18	0		0.0	2050.0
Dibromomethane	6.2	18	0		0.0	NE
Dichlorodifluoromethane	6.2	18	0		0.0	39500.0
1,2-Dibromo-3-chloropropane	6.2	18	0		0.0	35.2
1,2-Dibromoethane (EDB)	6.2	18	0		0.0	1230.0
trans-1,4-Dichloro-2-butene	6.2	18	0		0.0	NE
1,1-Dichloroethane	6.2	18	0		0.0	20100.0
1,2-Dichloroethane	6.2	18	0		0.0	21200.0
1,1-Dichloroethene	6.2	18	0		0.0	8280.0
cis-1,2-Dichloroethene	6.2	18	0		0.0	NE
trans-1,2-Dichloroethene	6.2	18	0		0.0	784.0
1,2-Dichloropropane	6.2	18	0		0.0	32700.0
cis-1,3-Dichloropropene	6.2	18	0		0.0	398.0
trans-1,3-Dichloropropene	6.2	18	0		0.0	398.0
Ethyl methacrylate	6.2	18	0		0.0	30000.0
Ethylbenzene	6.2	18	0		0.0	5160.0
2-Hexanone	61.5	18	0		0.0	12600.0
Iodomethane (Methyl Iodide)	6.2	18	0		0.0	1230.0
Methacrylonitrile	6.2	18	0		0.0	57.0
Bromomethane	12.3	18	0		0.0	235.0
Methylene Chloride	12.3	18	0		0.0	4050.0
4-Methyl-2-pentanone (MIBK)	61.5	18	0		0.0	44300.0
Methyl methacrylate	6.2	18	0		0.0	984000.0
Pentachloroethane	6.2	18	0		0.0	10700.0
Propionitrile	61.5	18	0		0.0	49.8
Styrene	6.2	18	0		0.0	300000 [3]
1,1,1,2-Tetrachloroethane	6.2	18	0		0.0	225000.0
1,1,2,2-Tetrachloroethane	6.2	18	0		0.0	127.0
Tetrachloroethene	6.2	18	0		0.0	9920.0
Toluene	6.2	18	0		0.0	200000 [3]
1,1,1-Trichloroethane	21.7	18	4	**21.7**	22.2	29800.0
1,1,2-Trichloroethane	6.2	18	0		0.0	28600.0
Trichloroethene	6.2	18	0		0.0	12400.0
Trichlorofluoromethane	6.2	18	0		0.0	16400.0
1,2,3-Trichloropropane	6.2	18	0		0.0	3360.0
1,2,4-Trimethylbenzene	6.2	18	0		0.0	NE
Vinyl Acetate	6.2	18	0		0.0	12700.0
Vinyl Chloride	2.3	18	0		0.0	646.0
Xylenes, Total	6.2	18	0		0.0	10000.0
Acetonitrile	6	8	0		0.0	1370.0

Notes:

[1] Detection limit used where there were no detections

[2] from U.S. EPA Ecological Screening Levels, Efromyson et al 1997 or Region V ESLs

Results for detected compounds are shown in **bold text**

NE = Not established. A standard has not been established.

Table 43. Summary of Surface Water Analytical Data, YSI Incorporated, Yellow Springs, Ohio

Constituent	Max[1] (ug/L)	Count	# Detects	Max Detect (ug/L)	% Detects	Screening Value[2] (ug/L)
Acetone	20	76	0		0.0	1700.0
Acrolein	50	76	0		0.0	780.0
Acrylonitrile	1.89	76	0		0.0	6.6
Allyl chloride	5	76	0		0.0	NE
Benzene	1	76	0		0.0	710.0
Bromodichloromethane	1	76	0		0.0	460.0
Bromoform	1	76	0		0.0	3600.0
2-Butanone (MEK)	12.5	76	0		0.0	2200.0
Carbon disulfide	1	76	0		0.0	15.0
Carbon tetrachloride	0.5	76	0		0.0	44.0
Chlorobenzene	1	76	0		0.0	21000.0
Chloroethane	5	76	0		0.0	NE
Chloroform	1	76	0		0.0	4700.0
Chloromethane	5	76	0		0.0	NE
Chloroprene	5	76	0		0.0	NE
Dibromochloromethane	1	76	0		0.0	NE
Dibromomethane	1	76	0		0.0	NE
Dichlorodifluoromethane	1	76	0		0.0	NE
1,2-Dibromo-3-chloropropane	5	76	0		0.0	NE
1,2-Dibromoethane (EDB)	5	76	0		0.0	NE
trans-1,4-Dichloro-2-butene	5	76	0		0.0	NE
1,1-Dichloroethane	1.3	76	5	**1.3**	6.6	47.0
1,2-Dichloroethane	1	76	0		0.0	990.0
1,1-Dichloroethene	1.2	76	3	**1.2**	3.9	32.0
cis-1,2-Dichloroethene	1	76	0		0.0	970.0
trans-1,2-Dichloroethene	1	76	0		0.0	140000.0
1,2-Dichloropropane	1	76	0		0.0	390.0
cis-1,3-Dichloropropene	1	76	0		0.0	NE
trans-1,3-Dichloropropene	1	76	0		0.0	NE
Ethyl methacrylate	5	76	0		0.0	NE
Ethylbenzene	1	76	0		0.0	29000.0
2-Hexanone	12.5	76	0		0.0	99.0
Iodomethane (Methyl Iodide)	5	76	0		0.0	NE
Methacrylonitrile	5	76	0		0.0	NE
Bromomethane	5	76	0		0.0	48.0
Methylene Chloride	5	76	0		0.0	16000.0
4-Methyl-2-pentanone (MIBK)	12.5	76	0		0.0	170.0
Methyl methacrylate	5	76	0		0.0	2800.0
Pentachloroethane	5	76	0		0.0	56.4
Propionitrile	50	76	0		0.0	NE
Styrene	1	76	0		0.0	100.0
1,1,1,2-Tetrachloroethane	1	76	0		0.0	NE
1,1,2,2-Tetrachloroethane	1	76	0		0.0	110.0
Tetrachloroethene	2	76	3	**2**	3.9	89.0
Toluene	1.1	76	2	**1.1**	2.6	200000.0
1,1,1-Trichloroethane	15.2	76	32	**15.2**	42.1	76.0
1,1,2-Trichloroethane	1	76	0		0.0	420.0
Trichloroethene	1.2	76	0		0.0	810.0
Trichlorofluoromethane	1	76	0		0.0	NE
Trichlorotrifluoroethane	2	50	0		0.0	NE
1,2,3-Trichloropropane	5	76	0		0.0	NE
1,2,4-Trimethylbenzene	1	76	0		0.0	NE
Vinyl Acetate	5	76	0		0.0	248.0
Vinyl Chloride	1	76	0		0.0	5300.0
Xylenes	1	76	0		0.0	10000.0
Acetonitrile	20	56	0		0.0	12000.0
1,4-Dioxane	20	46	0		0.0	22000.0

Notes:

[1]Detection limit used where there were no detections

[2] Ohio Outside Mixing Zone Average (nondrinking water) or, if not established, Region V ESL.

Results for detected compounds are shown in **bold text**

NE = Not established. A standard has not been established.

Table 44. Summary of Sediment Analytical Data, YSI Incorporated, Yellow Springs, Ohio

Constituent	Max[1] (ug/kg dw)	Count	# Detects	Max Detect (ug/kg dw)	% Detects	Screening Value[2] (ug/kg)
Acetone	420	67	3	**209**	4.5	9.9
Acrolein	206	67	0		0.0	0.0015
Acrylonitrile	175	67	0		0.0	1.2
Allyl chloride	21	67	0		0.0	NE
Benzene	21	67	0		0.0	142.0
Bromodichloromethane	21	67	0		0.0	NE
Bromoform	21	67	0		0.0	492.0
2-Butanone (MEK)	210	67	0		0.0	42.4
Carbon disulfide	21	67	0		0.0	23.9
Carbon tetrachloride	21	67	0		0.0	1450.0
Chlorobenzene	21	67	0		0.0	291.0
Chloroethane	42	67	0		0.0	NE
Chloroform	21	67	0		0.0	121.0
Chloromethane	42	67	0		0.0	NE
Chloroprene	21	67	0		0.0	NE
Dibromochloromethane	21	67	0		0.0	NE
Dibromomethane	21	67	0		0.0	NE
Dichlorodifluoromethane	21	67	0		0.0	NE
1,2-Dibromo-3-chloropropane	21	67	0		0.0	NE
1,2-Dibromoethane (EDB)	21	67	0		0.0	NE
trans-1,4-Dichloro-2-butene	21	67	0		0.0	NE
1,1-Dichloroethane	21	67	0		0.0	0.6
1,2-Dichloroethane	21	67	0		0.0	260.0
1,1-Dichloroethene	21	67	0		0.0	19.4
cis-1,2-Dichloroethene	21	67	0		0.0	NE
trans-1,2-Dichloroethene	21	67	0		0.0	654.0
1,2-Dichloropropane	21	67	0		0.0	333.0
cis-1,3-Dichloropropene	21	67	0		0.0	NE
trans-1,3-Dichloropropene	21	67	0		0.0	NE
Ethyl methacrylate	21	67	0		0.0	NE
Ethylbenzene	21	67	0		0.0	175.0
2-Hexanone	210	67	0		0.0	58.2
Iodomethane (Methyl Iodide)	21	67	0		0.0	NE
Methacrylonitrile	21	67	0		0.0	NE
Bromomethane	41.2	67	0		0.0	1.4
Methylene Chloride	42	67	0		0.0	159.0
4-Methyl-2-pentanone (MIBK)	210	67	0		0.0	25.1
Methyl methacrylate	21	67	0		0.0	168.0
Pentachloroethane	21	67	0		0.0	689.0
Propionitrile	206	67	0		0.0	NE
Styrene	21	67	0		0.0	254.0
1,1,1,2-Tetrachloroethane	21	67	0		0.0	NE
1,1,2,2-Tetrachloroethane	21	67	0		0.0	850.0
Tetrachloroethene	21	67	0		0.0	990.0
Toluene	21	67	0		0.0	1220.0
1,1,1-Trichloroethane	21	67	1	**8.8**	1.5	213.0
1,1,2-Trichloroethane	21	67	0		0.0	518.0
Trichloroethene	21	67	0		0.0	112.0
Trichlorofluoromethane	21	67	0		0.0	NE
Trichlorotrifluoroethane	20	41	0		0.0	NE
1,2,3-Trichloropropane	21	67	0		0.0	NE
1,2,4-Trimethylbenzene	21	67	0		0.0	NE
Vinyl Acetate	21	67	0		0.0	13.0
Vinyl Chloride	7	67	0		0.0	202.0
Xylenes, Total	21	67	0		0.0	433.0
Acetonitrile	82	48	0		0.0	56.0
1,4 Dioxane	79	48	0		0.0	119.0

Notes:

[1] Detection limit used where there were no detections

[2] U.S. EPA Region V ESLs.

Results for detected compounds are shown in **bold text**

NE = Not established. A standard has not been established.

APPENDIX A ANALYTICAL RESULTS FOR SAMPLES COLLECTED DURING THE RCRA FACILITY INVESTIGATION, YSI INCORPORATED, YELLOW SPRINGS, OHIO

Note: Summaries of laboratory reports are provided in paper copy herein. Complete versions of the laboratory reports are provided in electronic format on the compact disk (CD) located behind this appendix cover sheet.

APPENDIX B PARTICLE-SIZE ANALYSIS RESULTS FOR SEDIMENT SAMPLES COLLECTED DURING THE RCRA FACILITY INVESTIGATION, YSI INCORPORATED, YELLOW SPRINGS, OHIO

APPENDIX C BORING LOGS FOR SOIL SAMPLES COLLECTED DURING THE RCRA FACILITY INVESTIGATION, YSI INCORPORATED, YELLOW SPRINGS, OHIO

APPENDIX D REVIEW MEMORANDUMS FOR ANALYTICAL DATA GENERATED DURING THE RCRA FACILITY INVESTIGATION, YSI INCORPORATED, YELLOW SPRINGS, OHIO

APPENDIX E ECOLOGICAL SCOPING CHECKLIST FOR THE NELSON POND (JANUARY 2003)

APPENDIX F ECOLOGICAL SCOPING CHECKLIST FOR THE YSI ECOLOGICAL EVALUATION (MAY 2005)

APPENDIX G EVALUATION OF POTENTIAL ECOLOGICAL HARM CHECKLIST FOR THE YSI ECOLOGICAL EVALUATION