# Windsor Housing Project Lot #1 133 & 137 Main Street Windsor, Vermont 05089

SMS #2022-5087 KAS #507210630

# SITE INVESTIGATION REPORT

September 29, 2022

# Prepared for:

Mount Ascutney Regional Commission P.O. Box 320 38 Ascutney Park Road Ascutney, VT 05030



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# Certification

This report, which summarizes the Site Investigation conducted at the vacant parcel located at 133 & 137 Main Street in Windsor, Vermont, State of Vermont Department of Environmental Conservation (VT DEC) #2022-5087, has been prepared under my direction.

I certify under penalty of perjury that I am an environmental professional and that all content contained within this deliverable is to the best of my knowledge true and accurate.

Jeremy Roberts, P.G.

Principal / Environmental Program Manager

# **Executive Summary**

A site investigation (SI) has been completed by KAS, Inc. (KAS) at the vacant parcel located at 133 & 137 Main Street in Windsor, Vermont ("Site"), which included the advancement of soil borings and the collection of soil samples.

The investigative work was proposed to further address contaminants of concern detected in soils at the Site during completion of a Phase II ESA.<sup>1</sup> KAS' SI work scope included the following:

- Advancement of borings to native soil depths for soil sampling and field testing to further determine the degree and extent of polycyclic aromatic hydrocarbon (PAH), arsenic and lead impacts to soil;
- Refinement of the conceptual site model presented in the work plan;
- Determination of the need for treatment and/or further monitoring that addresses soil impacts; and,
- Preparation of a summary report in accordance with the Investigation and Remediation of Contaminated Properties Rule (I-Rule).

## **Environmental Assessment - Soils**

On July 6, 2022, twelve soil borings (SB-7 through SB-18) were advanced by KAS at various locations at the Site to further assess PAH, arsenic and lead impacts to soils. No elevated photoionization detector (PID) readings or odors were noted in any of the soil borings advanced on July 6, 2022. Discrete soil samples were collected from the soil borings advanced on July 6, 2022 at shallow and intermediate depths within the historical fill layer as well as at deeper depths within the native sand layer to assess the potential for arsenic, lead and PAH impacts.

PAHs expressed as the toxic equivalent quotient (TEQ) for Benzo(a)pyrene (BaP) exceeded the background level soil concentration for urban sites in ten of the twelve shallow soil samples collected (all locations except SB14-S and SB18-S) and in three of the twelve intermediate zone samples collected (SB8-I, SB10-I and SB13-I). No PAHs were detected in any of the native sand samples collected on July 6, 2022. A concentration of arsenic and lead was reported in all of the

<sup>&</sup>lt;sup>1</sup> KAS, Inc., Phase I Environmental Site Assessment, 88 Canal Street, Bellows Falls, Vermont, March 2019



shallow, intermediate and native sand samples collected; however, the concentrations were below the applicable Vermont Soil Standard (VSS) except at SB9-S (shallow 0-18" sample) where total lead was reported at 410 mg/kg, which is slightly above the VSS of 400 mg/kg.

The source of the PAH and lead impacts is believed to be related to the historical placement of fill on the Site property and/or the Site lying in a long-time established urban environment. Fill soils containing brick, wood and slate have been observed throughout the Site down to a maximum depth of 5.0 feet below grade.

## Recommendations

Based on the investigative work as well as the above-stated conclusions for the Site, KAS recommends the following:

A Corrective Action Plan (CAP) should be prepared and implemented for the Site to protect future users from shallow PAH and lead soil impacts. The Site appears to meet the requirements for exemption from an Evaluation of Corrective Action Alternatives (ECAA) as presented in Section §35-604(b) of the I-Rule.



# 1.0 Introduction

This report provides a summary of the tasks completed as part of the Site Investigation (SI) at the vacant parcel located at 133 & 137 Main Street, Windsor, Vermont ("Site"; see Site Location and Site Vicinity Map, Appendix A). The Site is referred to as the Windsor Housing Lot #1. This work was performed by KAS, Inc. (KAS) for the Mount Ascutney Regional Commission (MARC) of Ascutney, Vermont on behalf of the prospective purchasers (Windham & Windsor Housing and Evernorth) and was sponsored by MARC using assessment funds from the Vermont Agency of Commerce and Community Development Brownfields Revitalization Program. The SI work was performed in accordance with the Work Plan and Cost Estimate for a Site Investigation prepared by KAS dated May 12, 2022 and revised on June 10, 2022. The SI Work Plan was approved by Ms. Kassandra Kimmey of the Vermont Department of Environmental Conservation (VT DEC) in an electronic message to KAS dated June 15, 2022. This report was prepared in accordance with the Investigation and Remediation of Contaminated Properties Rule (I-Rule), effective date July 6, 2019. The I-Rule site investigation checklist is included in Appendix G.

The owner and responsible party contact information is outlined below.

Owner / Responsible Party	Mailing Address	Contact Name	Phone / Email	
Windsor Improvement Corporation	P.O. Box 455	Mr. Thomas Kennedy	802-674-9201	
	Windsor, VT 05089		tkennedy@marcvt.org	

The Site is under consideration for purchase by Windham & Windsor Housing, Inc. (WWHT) and Evernorth (EN). WWHT and EN are currently looking to redevelop the Site property into housing referred to as the Windsor Housing project. The partnership and entity name in which WWHT and EN will form is intending on enrolling the Site property in the State of Vermont Brownfields Reuse and Environmental Liability Limitation Act (BRELLA) program. The Windsor Housing development team will begin with construction on the Site (Lot #1). Construction on the adjacent parcel to the south (Lot #2) will be conducted following completion of Lot #1.

# 2.0 Background

A Phase I Environmental Site Assessment (ESA) was completed at the Site property in July 2021. The Phase I assessment revealed evidence of the following recognized environmental condition (REC) in connection with the property:

1. The potential presence of historical fill material beneath the property as a result of historical urban use and historical fire(s).

In October 2021, KAS completed a Phase II ESA at the Site property and the adjacent parcel to the south (139 Main Street). The objective of the Phase II ESA work was to provide data to evaluate the potential impacts the REC may have had on the subject property soil and to provide information relevant to evaluating business environmental risk associated with potential future use and development of the subject property. The means by which this objective was completed included soil boring advancement and laboratory analysis of soil samples.



On October 6, 2021 six soil borings (SB21-1 through SB21-6) were advanced at various locations on the subject property to assess the potential presence of urban fill. No elevated photoionization detector (PID) readings or odors were noted in any of the soil borings advanced on October 6, 2021. Composite soil sampling was completed at the Site property to assess the potential for arsenic, lead and polycyclic aromatic hydrocarbon (PAH) impacts. PAHs were detected in five of the six samples at concentrations above the laboratory reporting limits. Samples COMP A (0-2'), COMP A (2-5'), COMP B (0-2') and COMP B (2-5') contained Benzo(a)pyrene (BaP) at a concentration exceeding the applicable Vermont Soil Standard (VSS) for a residential property. PAHs expressed as the Toxic Equivalent Quotient (TEQ) for BaP exceeded the background level soil concentration for urban sites in the COMP A (0-2'), COMP A (2-5'), COMP B (0-2') and COMP B (2-5') samples. A concentration of arsenic and lead was reported in all samples; however, the concentrations were below the applicable VSS.

The source of the PAH impacts is believed to be related to the historical placement of fill on the subject property. Fill soils containing brick, wood and slate were observed throughout the subject property down to a maximum depth of 5.0 feet below grade. Based on the results of the Phase II ESA, the REC identified during the Phase I ESA appears to have resulted in detectable contamination at the subject property. Soils above the native sandy layer have been shown to be impacted with PAHs above regulatory standards.

Following completion of the Phase II ESA, the report and data was shared with the VT DEC and a request for further investigation and characterization of the PAH impacts identified at the Site was requested. Copies of previous reports are on file with the VT DEC.

All previous reports are on-file at the VT DEC offices located in Montpelier, Vermont.

# 3.0 Scope of Work and Work Plan Deviations / Objectives

## 3.1 Scope of Work and Work Plan Deviations

The SI was conducted to further define the extent of PAH, arsenic and lead impacts in soils at the Site. Results of the following investigative tasks performed by KAS are presented: soil boring advancement, soil screening, sampling and laboratory analysis, an evaluation of sensitive receptors in the vicinity of the Site and refinement of the conceptual site model presented in the work plan.

No deviations to the approved work plan occurred.

# 3.2 Standard Operating Procedures

The following KAS standard operating procedures (SOPs) were used during the ISI. Copies of the SOPs are available upon request.

KAS Protocol	Title
001	Soil Screening Headspace Measurement
004	Soil Boring Advancement
005	Shallow Soil Sampling
006	Sample Containerization, Preservation, Handling and Packaging
034	Use and Maintenance of MiniRae Photoionization Detector



# 3.3 Objectives

The main objective of the site investigation was to further delineate the degree and extent of PAH, arsenic and lead impacts noted in soils during the completion of the Phase II ESA in October 2021. A goal of the proposed work scope was to collect a sufficient amount of data to properly assess the horizontal and vertical extent of impacts to soils above regulatory standard so that a Corrective Action Plan (CAP) can be developed to facilitate the proposed Site redevelopment. The preliminary redevelopment plan for the Site suggests the primary routes of exposure to potential contaminants of concern will be via direct contact with soils. A groundwater assessment was not proposed because future site use does not indicate a probable groundwater exposure risk (no wells will be drilled) and given depth to groundwater is estimated to be > 10 feet below grade. The proposed development on the Site property will use the existing Town of Windsor municipal water supply to service the property.

The Site lies in a designated urban background area according to the VT DEC and therefore the VT urban background standard for PAHs, arsenic and lead apply to the data obtained from the Site property.

# 4.0 Subsurface Exploration and Laboratory Analysis

## 4.1 Pre-Drilling Activities

Prior to initiation of the subsurface drilling activities at the Site, a site-specific Health and Safety Plan (HASP) was prepared in accordance with Vermont Occupational Safety and Health Administration (VOSHA) requirements. The Site was pre-marked, as required by Vermont Dig Safe, on June 27, 2022 and Dig Safe Number 20222600975 was assigned on June 27, 2022. All known utilities are shown on the Site Map in Appendix A.

## 4.2 Soil Boring Advancement

On July 6, 2022, KAS advanced twelve (12) soil borings (SB-7 through SB-18) at the Site (KAS Protocol #004²). All of the soil borings were advanced using a Geoprobe drill rig owned and operated by KAS. The soil borings were strategically placed across the Site property to characterize soils in order to evaluate the PAH, arsenic and lead contaminant distribution. No unanticipated conditions were encountered during the soil boring advancement. Photographic documentation is presented in Appendix E.

## 4.3 Soil Screening / Soil Sampling and Analysis

Undisturbed soil cores were collected continuously from all soil borings. The soil borings were advanced into the native sand layer, which ranged in depth of approximately 3.5 - 4.0 feet below grade. The soil cores were logged by a KAS scientist and screened for the presence of volatile organic compounds (VOCs) using a MiniRae PID. Prior to screening, the PID was calibrated with isobutylene referenced to benzene (KAS Protocol #034³). Soils were screened using KAS' Soil Screening Protocol #001⁴. Soil characteristics and contaminant concentrations were recorded by the KAS scientist in soil boring logs presented in Appendix B. Soils observed in the borings

<sup>&</sup>lt;sup>2</sup> KAS Protocol #004: Soil Borings, revised December 2010

<sup>&</sup>lt;sup>3</sup> KAS Protocol #034: Use and Maintenance of MiniRAE Lite Photoionization Detector, December 2010

<sup>&</sup>lt;sup>4</sup> KAS Protocol #001: Soil Screening Headspace Measurement, revised December 2010



generally consisted of a fine to medium silty sand with gravel overlying a native poorly graded coarse sand at deeper depths. Fill material consisting of brick and slate was noted from surface grade ranging to depths up to 4.0 feet below grade. No readings above 0.0 parts per million by volume (ppmv) were measured with the PID in any of the soil borings. No petroleum or non-petroleum odors were encountered in the soil borings. The location of each boring and significant site features were logged in the field using a handheld GPS.

Soil Sample Collection - Shallow Soils

One discrete soil sample was collected at each boring location immediately below the sod layer within the 0 - 18" below grade zone. The samples were labeled with an "S" designation (i.e. SB7-S) and submitted for laboratory analysis of PAHs via EPA Method 8270d. The samples collected from SB-9, SB-12, SB-15 and SB-18 were also submitted for analysis of arsenic and lead via EPA Method 6020, which equated to one sample collected for arsenic and lead analysis every three borings.

Soil Sample Collection – Deeper Soils

A discrete soil sample was collected from each boring from the zone between 18" below grade to the native sandy layer. The discrete sampling occurred at varying depths within this zone ranging from 2 – 4 feet bsg to evaluate contaminant distribution. At four of the boring locations (SB-7, SB-11, SB-12 and SB-15), an additional sample was collected from within the native sandy layer to confirm the results obtained during the Phase II ESA. The intermediate zone samples were labeled with an "I" designation (i.e. SB7-I) and the native sand samples were labeled with an "N" designation (i.e. SB7-N). All samples were submitted for laboratory analysis of PAHs via EPA Method 8270d. The samples collected from SB-9, SB-12, SB-15 and SB-18 were also submitted for analysis of arsenic and lead via EPA Method 6020, which equated to one sample collected for arsenic and lead analysis every three borings.

Soil Sample Collection - Waste Characterization

Prior to the completion of the site investigation, KAS shared the Phase II ESA composite soil sampling data with Casella Waste Management (Casella) to determine if the data collected to date is sufficient to prepare a waste profile for approval for future soil disposal at the Coventry, VT or Bethlehem, NH landfills. Casella indicated that they would require confirmatory Toxicity Characteristic Leaching Procedure (TCLP) analysis if the concentration of lead exceeds 100 mg/kg in any particular sample. Given this information, KAS instructed the laboratory to perform TCLP-lead analysis on any lead samples with a result ≥ 100 mg/kg.

All soil samples were submitted under proper chain of custody procedures to Eastern Analytical Laboratories in Concord, NH. Soil analytical results are summarized and compared to regulatory standards in Appendix C. The laboratory report is included in Appendix D.

# 4.3.1 Soil Analytical Results

The following provides a summary of the soil analytical results obtained on July 6, 2022.

Shallow Soils 0 - 18"

PAHs were detected in all of the 0-18" samples collected on July 6, 2022, with BaP exceeding the applicable VSS in all of these samples. PAHs expressed as the TEQ for BaP exceeded the background level soil concentration for urban sites in ten of the twelve samples collected (all locations except SB14-S and SB18-S).



A concentration of arsenic and lead was reported in all samples; however, the concentrations were below the applicable Vermont Soil Standard (VSS) except at SB-9 where total lead was reported at 410 mg/kg, which is slightly above the VSS of 400 mg/kg.

Intermediate Zone Soils > 18"

PAHs were detected in eight of the twelve intermediate zone samples collected on July 6, 2022, with BaP exceeding the applicable VSS in six of these samples (SB8-I, SB10-I, SB13-I, SB15-I, SB16-I and SB17-I). PAHs expressed as the TEQ for BaP exceeded the background level soil concentration for urban sites in three of the twelve samples collected (SB8-I, SB10-I and SB13-I).

A concentration of arsenic and lead was reported in all samples; however, the concentrations were below the applicable VSS at all locations.

Native Sandy Soils

No PAHs were detected in any of native sand samples collected on July 6, 2022.

A concentration of arsenic and lead was reported in all samples; however, the concentrations were below the applicable VSS at all locations.

TCLP-Lead Waste Characterization

Soil sample SB9-S was the only location with a reported concentration of lead > 100 mg/kg. Soil sample SB12-S contained a concentration of lead close to the threshold at 98 mg/kg. Therefore, KAS instructed EAI to run a TCLP-lead analysis on both of these samples. Both samples contained a TCLP-lead concentration of < 0.5 mg/L.

## 4.3.2 Contaminant Distribution

Results from the July 2022 soil sampling were plotted to create a concentration map for PAHs TEQ as BaP, total arsenic and total lead (Appendix A). In general, the PAH impacted soils above urban background standard were noted to be widespread and most prominent in the 0-18" shallow interval. The highest PAH concentrations were generally noted to be concentrated along the northern portion of the Site near borings SB-11, SB-12 and SB-16. The concentration of lead and arsenic in soils were generally found to be consistent throughout the Site with only one location (SB-9) along the eastern portion of the Site noted to contain an elevated concentration of lead (410 mg/kg at 0-18").

## 4.3.3 Quality Assurance/Quality Control (QAQC)

For quality assurance / quality control (QAQC) measures, one duplicate sample was collected every fifteen (15) samples. The samples were submitted to EAI for laboratory analysis of PAHs via EPA Method 8270d (two total) and lead and arsenic via EPA Method 6020 (one per). The data indicates that adequate quality and assurance and control were maintained during sampling, transporting, and analysis. A relative percent difference (RPD) was calculated between the primary sample and duplicate. The RPD is defined as 100 times the difference between the actual and duplicate sample, divided by the mean of the two samples. For most analyses, RPD values were equal to or below the targeted 50% criteria for solid samples. The relative percent difference (RPD) values ranged from -2.6% to 154.8%. Several of the PAH detections for the Duplicate-3 sample were above the 50% RPD target; however, the reported concentrations were very low overall, whereby a small difference in low values results in a high RPD. The instance described above is an example of



a flaw in the RPD method and is not indicative of weaknesses in the data. The soil SVOC PAH analysis should be accepted on the basis that similar compounds were detected in the duplicate and original sample and the total TEQ benzo(a)pyrene concentration was above the urban background standard for both the duplicate and original sample. This data is presented in Appendix E.

# 4.4 Investigation Derived Waste

No excess soils were produced during drilling activities and therefore no investigation derived waste was generated during the site investigation.

# 5.0 Updated Conceptual Site Model

## 5.1 Site Conditions

The Site property is located in Windsor, VT along the eastern side of Main Street (US Route 5) south of the corner of River Street. The Site property consists of two parcels totaling approximately 0.72 acres and is located within the central business zoning district according to the Town of Windsor. The Site is located in a mixed residential and commercial area within the Town of Windsor. The Site contains unleveled grounds throughout with a moderate slope present along the eastern portion of the subject property. The entirety of the subject property is covered by grass vegetation. No buildings or improvements are present on the subject property except for a partially buried concrete slab along the eastern edge of the Site. A former gravel driveway is present along the southwestern side of the subject property which leads to the Windsor Diner. The Windsor Diner and area immediately around it consist of a land lease which are part of Lot #2. A Site Map which shows relevant Site features and the parcel layout is included in Appendix A.

Based on a review of topographic maps and aerial photography, the Site lies at an approximate elevation of 150 feet above mean sea level (AMSL). The nearest surface water is the Connecticut River which is located approximately 0.25 miles east. Based on Site topography, the surface drainage from the Site property is anticipated to flow in a general easterly direction. Utilities servicing the Site appear to consist of municipal sewer, with a manhole located along the northeastern portion of the Site property. No other subsurface infrastructure is known to be present beneath the Site and none was reported by the Town of Windsor during completion of the ISI.

As of July 2022, during KAS' most recent property visit, neighboring property uses consisted of the following:

North: Restaurant (Bistro Midva) / Commercial building

South: Mixed commercial / residential properties and Etta Frasier Drive

East: Residential properties

West: Windsor Diner and US Route 5 (Main Street)

# 5.2 Geology

The soils beneath the Site are mapped as littoral sands and pebbly sands of glacial origin.<sup>5</sup> Soils encountered during soil boring advancement in October 2021 and July 2022 generally consisted of well to medium coarse silty sand with gravel underlain by a native course poorly graded sand.

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<sup>&</sup>lt;sup>5</sup> Doll, 1970.



Evidence of historical fill has been noted beneath the Site and has mainly been concentrated in the upper five feet. Bedrock in the vicinity of the Site property consists of Devonian-aged Gile Mountain Formation which is described as gray phyllite and schist.<sup>6</sup> No bedrock outcrop points are present at the Site and no wetland areas have been identified on the Site property according to VT DEC records.7

## 5.3 Hydrogeology

Windsor is situated within the Connecticut River watershed. As such, all land in Windsor ultimately drains to the Connecticut River, which is located approximately 0.25 miles east of the Site. Based on the topography of the local region, groundwater from the Site is expected to flow easterly towards the Connecticut River. Groundwater was encountered in one of the soil borings advanced on October 6, 2021 at a depth of approximately 10.5 feet below grade.

## 5.4 Apparent Source of Release

The PAH and lead impacts identified in shallow soils at the Site are believed to be related to the historical placement of fill and/or the Site lying in a long-time established urban environment. Fill soils containing brick, wood and slate have been observed throughout the Site during subsurface investigations.

# 5.5 Contaminant Fate and Transport

PAH impacts in excess of applicable urban background and residential soil standards have been identified in fill soils located at the Site property. Fill soils containing brick wood and/or slate have been observed throughout the Site to a maximum depth of 5.0 feet below grade. The risk for groundwater transport and/or leaching of impacts from shallow soil appears to be low given groundwater is presumed to be lie several feet below the urban fill layer based on the data collected during soil boring advancement in October 2021 and July 2022.

#### 6.0 Sensitive Receptor Risk Assessment

A sensitive receptor risk assessment of the area surrounding the Site is provided below, and a determination of the potential risk to identified receptors has been made based on proximity to the impacted areas, groundwater flow direction, contaminant mobility and volatility, and contaminant concentration levels in soil, groundwater and/or soil vapor. To date one sensitive receptor (soil) has been identified as being impacted from the presence of urban fill.

The Site and surrounding area are serviced by the municipal water supply system. According to the Vermont Agency of Natural Resources Atlas mapping tool, there are no private wells within a ½ mile of the Site. Based on this information and the general immobile nature of PAHs and lead, there does not appear to be a risk to any nearby private drinking water wells.

The nearest surface water body is the Connecticut River, which is located approximately 0.25 miles east of the Site. Given the general immobile nature of PAHs and lead, there does not appear to be a risk to nearby by surface waters.

A buried sewer line runs along the northeastern portion of the Site. Given the type of impacts noted, utility corridors do not appear to be at risk.

<sup>7</sup> VT DEC Database

<sup>&</sup>lt;sup>6</sup> Doll, 1961.



## 6.1 Potential Exposure Pathways

Potential exposure pathways to soil impacts identified at the Site have been evaluated. Routes of potential exposure to current and future property users include absorption via dermal contact and/or ingestion of soil. Impacted soils have been identified at shallow depths across the Site. The potential redevelopment plan proposed for the Site property consists of building residential housing which could result in a direct contact risk for future site users to shallow soils. The proposed future property uses and the identified potential exposure pathways will need to be evaluated through completion of a CAP to confirm adequate protection of human health is being accomplished.

# 6.2 Data Gap Analysis

Taking into consideration the conceptual site model presented in Section 5.0, KAS has completed an evaluation of potential data gaps at the Site. No data gaps have been identified. A complete picture of the Site history and use has been obtained through the completion of a Phase I ESA in July 2021. The objectives of the site investigation completed in July 2022 were met and a sufficient amount of data has been collected to date to fully evaluate potential exposure pathways and risk to nearby sensitive receptors. The only release known to have occurred at the Site is in association with the placement of historical fill and/or the Site lying in a long-time urban environment which has resulted in concentrations of PAHs and lead above regulatory standard in Site soils. No other releases have been identified and none are suspected to have occurred at the Site.

# 7.0 Conclusions

Based on the results of the site investigation performed at the Site, the following conclusions are offered:

- 1. On July 6, 2022, twelve soil borings (SB-7 through SB-18) were advanced by KAS at various locations at the Site to further assess PAH, arsenic and lead impacts to soils. No elevated PID readings or odors were noted in any of the soil borings advanced on July 6, 2022;
- 2. Discrete soil samples were collected from the soil borings advanced on July 6, 2022 at shallow and intermediate depths within the historical fill layer as well as at deeper depths within the native sand layer to assess the potential for arsenic, lead and PAH impacts;
- PAHs expressed as the TEQ for BaP exceeded the background level soil concentration for urban sites in ten of the twelve shallow soil samples collected (all locations except SB14-S and SB18-S) and in three of the twelve intermediate zone samples collected (SB8-I, SB10-I and SB13-I). No PAHs were detected in any of the native sand samples collected on July 6, 2022;
- 4. A concentration of arsenic and lead was reported in all of the shallow, intermediate and native sand samples collected; however, the concentrations were below the applicable VSS except at SB9-S (shallow 0-18" sample) where total lead was reported at 410 mg/kg, which is slightly above the VSS of 400 mg/kg;
- 5. The source of the PAH and lead impacts is believed to be related to the historical placement of fill on the Site property and/or the Site lying in a long-time established urban



- 6. environment. Fill soils containing brick, wood and slate have been observed throughout the Site down to a maximum depth of 5.0 feet below grade;
- 7. The objectives of the site investigation completed in July 2022 were met and a sufficient amount of data has been collected to date to fully evaluate potential exposure pathways and risk to nearby sensitive receptors; and,
- 8. No data gaps have been identified at the Site based on available data. The potential redevelopment plan proposed for the Site consists of building residential housing which could result in a direct contact risk for future site users to shallow soils. The proposed future property uses and the identified potential exposure pathways will need to be evaluated through completion of a CAP to confirm adequate protection of human health is being accomplished.

# 8.0 Recommendations

Based on the results of the site investigation conducted at 133 & 137 Main Street in Windsor, Vermont, KAS recommends the following:

A Corrective Action Plan (CAP) should be prepared and implemented for the Site to protect future users from shallow PAH and lead soil impacts. The Site appears to meet the requirements for exemption from an Evaluation of Corrective Action Alternatives (ECAA) as presented in Section §35-604(b) of the I-Rule.

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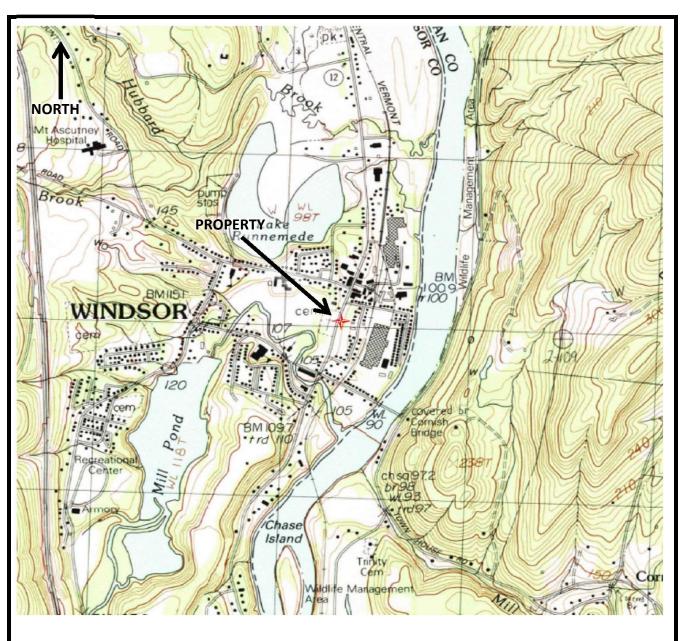
# Appendix A

Site Location Map
 Site Vicinity Map
 Site Map

4) Soil Concentration Map: PAHs TEQ Benzo(a)pyrene

5) Soil Concentration Map: Total Arsenic

6) Soil Concentration Map: Total Lead



KAS Job #: 507210630 Source: Envirosite



# 133 - 139 Main Street Windsor, VT 05089

Site Location Map Windsor, VT Quadrangle, 1984 USGS Map

Date: 08/18/21 Drawing No. 0 Scale: NTS By: JR

Site Vicinity Map
Vermont Agency of Natural Resources VERMONT

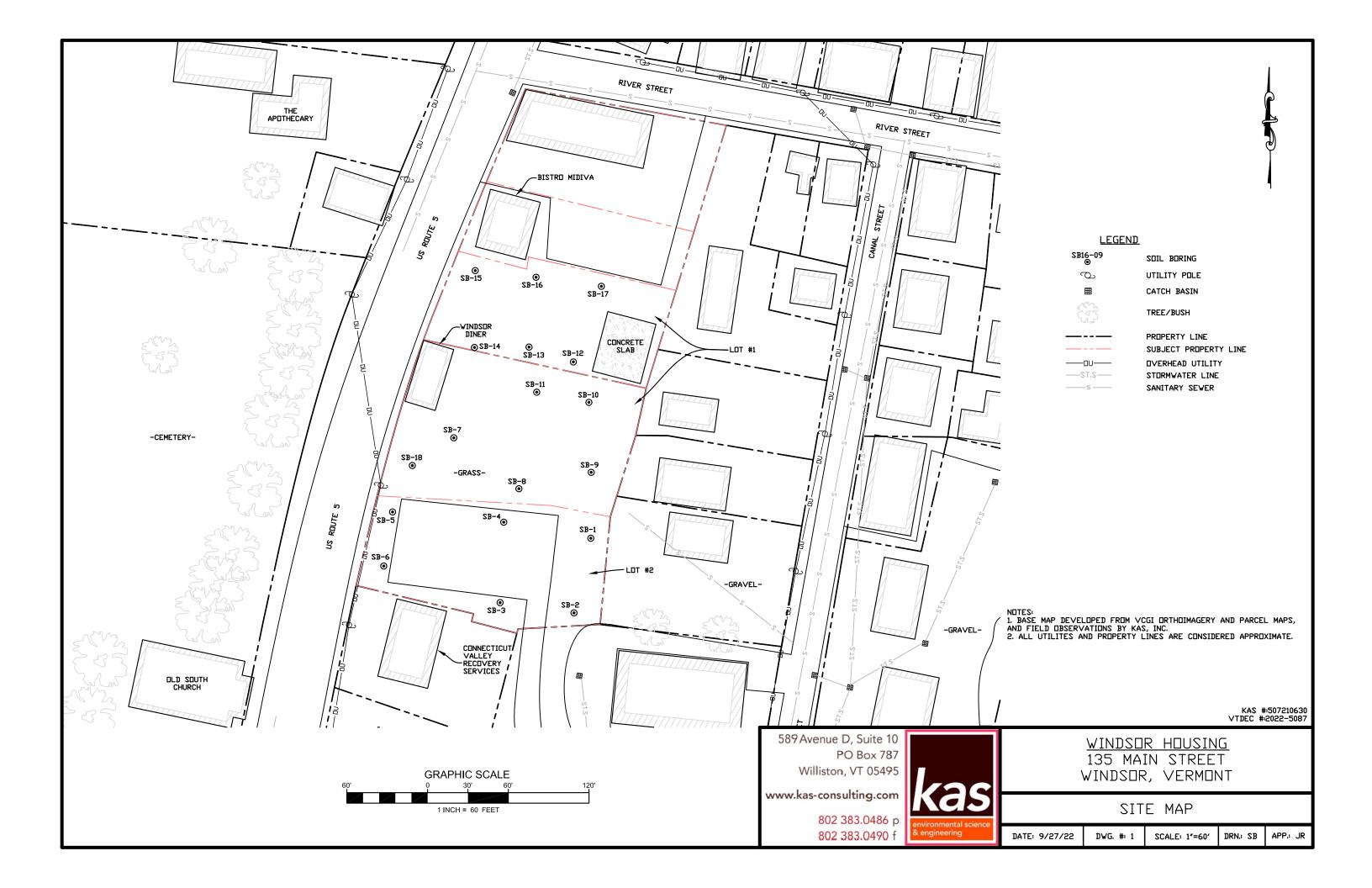
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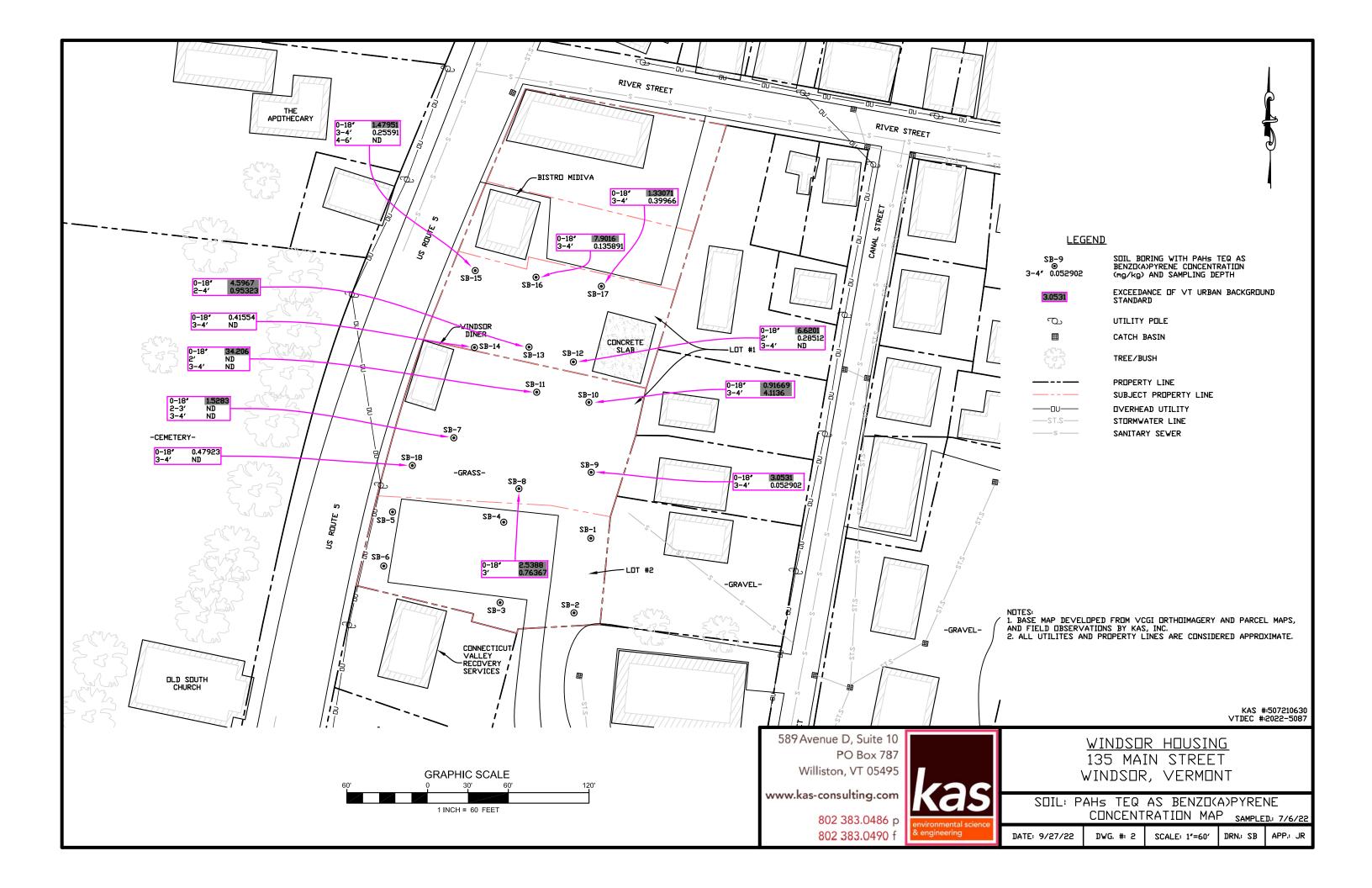


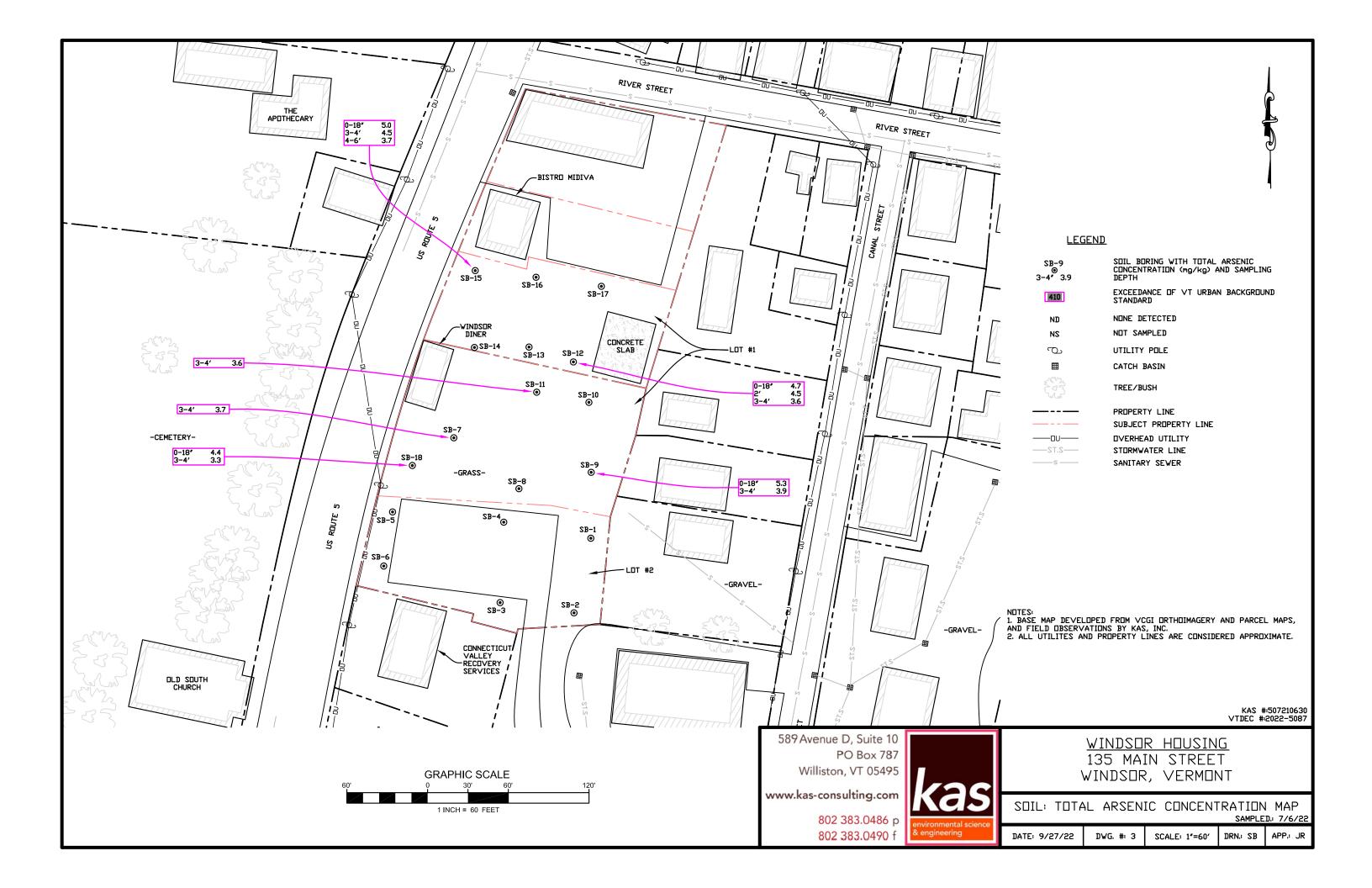


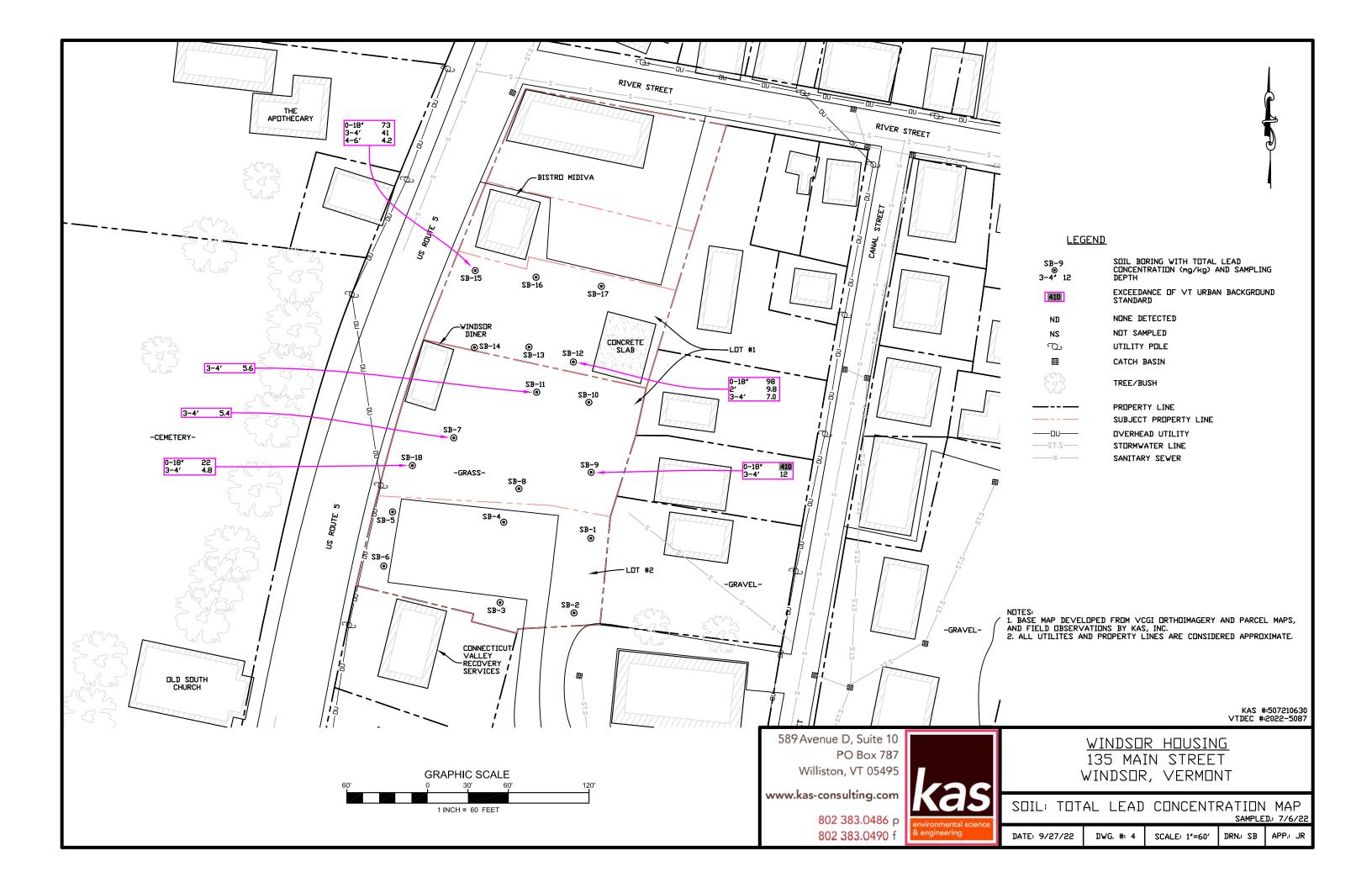
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DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map. THIS MAP IS NOT TO BE USED FOR NAVIGATION











Appendix B

**Boring Logs** 



# Soil Boring Summary Lot #1 - 133 - 137 Main Street, Windsor, VT July 6, 2022

Soil Boring #	Run Depth (ft bsg)	Group Name	PID (ppmv)	Evidence of Fill? Depth (Feet)	Soil Depth Interval Submitted for Laboratory Testing
SB-7	0.0 - 1.5	Brown Silty Sand with Gravel (Fill)	0.0		
	1.5 - 3.0	Brown Silty Sand with Gravel (Fill)	0.0		
	3.0 - 4.0	Native Poorly Graded Sand	0.0	Yes, (0 - 3)'	0-18", 2 - 3' & 3 - 4'
SB-8	0.0 - 1.5	Brown Silty Sand with Gravel (Fill)	0.0		
	1.5 - 4.0	Brown Silty Sand with Gravel (Fill) to Native Sand	0.0	Yes, (0 - 4')	0-18" & 3'
SB-9	0.0 - 1.5	Brown Silty Sand with Gravel (Fill)	0.0		
	1.5 - 3.5	Brown Silty Sand with Gravel (Fill)	0.0		
	3.5 - 4.0	Native Poorly Graded Sand	0.0	Yes, (0 - 4')	0-18" & 3 - 4'
SB-10	0.0 - 1.5	Brown Silty Sand with Gravel (Fill)	0.0		
	1.5 - 4.0	Brown Silty Sand with Gravel (Fill) to Native Sand	0.0	Yes, (0 - 4')	0-18" & 3 - 4'
SB-11	0.0 - 1.5	Brown Silty Sand with Gravel (Fill)	0.0		
	1.5 - 3.0	Brown Silty Sand with Gravel (Fill)	0.0		
	3.0 - 4.0	Native Poorly Graded Sand	0.0	Yes, (0 - 3)'	0-18", 2' & 3 - 4'
SB-12	0.0 - 1.5	Brown Silty Sand with Gravel (Fill)	0.0		
	1.5 - 3.0	Brown Silty Sand with Gravel (Fill)	0.0		
	3.0 - 4.0	Native Poorly Graded Sand	0.0	Yes, (0 - 3)'	0-18", 2' & 3 - 4'
SB-13	0.0 - 1.5	Brown Silty Sand with Gravel (Fill)	0.0		
	1.5 - 3.5	Brown Silty Sand with Gravel (Fill)	0.0		
	3.5 - 4.0	Native Poorly Graded Sand	0.0	Yes, (0 - 3.5')	0-18" & 2 - 4'
SB-14	0.0 - 1.5	Brown Silty Sand with Gravel (Fill)	0.0		
	1.5 - 4.0	Brown Silty Sand with Gravel (Fill) to Native Sand	0.0	Yes, (0 - 4')	0-18" & 3 - 4'
SB-15	0.0 - 1.5	Brown Silty Sand with Gravel (Fill)	0.0		
	1.5 - 4.0	Brown Silty Sand with Gravel (Fill)	0.0		
	4.0 - 8.0	Native Poorly Graded Sand	0.0	Yes, (0 - 4')	0-18", 3 - 4' & 4 - 8'
SB-16	0.0 - 1.5	Brown Silty Sand with Gravel (Fill)	0.0		
	1.5 - 4.0	Brown Silty Sand with Gravel (Fill) to Native Sand	0.0	Yes, (0 - 4')	0-18" & 3 - 4'
SB-17	0.0 - 1.5	Brown Silty Sand with Gravel (Fill)	0.0		
	1.5 - 4.0	Brown Silty Sand with Gravel (Fill) to Native Sand	0.0	Yes, (0 - 4')	0-18" & 3 - 4'
SB-18	0.0 - 1.5	Brown Silty Sand with Gravel (Fill)	0.0		
	1.5 - 3.5	Brown Silty Sand with Gravel (Fill)	0.0		
	3.5 - 4.0	Native Poorly Graded Sand	0.0	Yes, (0 - 3.5')	0-18" & 3 - 4'

ft bsg = feet below surface grade ppmv = parts per million by volume



# Appendix C

**Soil Quality Summary** 



#### Summary of Soil Analytical Data - Shallow Depths Lot #1, 133 - 137 Main Street Windsor, Vermont

Soil Boring ID (depth):	SB7-S	SB8-S	SB9-S	SB10-S	SB11-S	SB12-S	SB13-S	SB14-S	SB15-S	SB16-S	SB17-S	SB18-S	VSS - Resident	VT Urban Background
Sample Depth (below grade)	0 - 18"	0 - 18"	0 - 18"	0 - 18"	0 - 18"	0 - 18"	0 - 18"	0 - 18"	0 - 18"	0 - 18"	0 - 18"	0 - 18"	Soil	Standard
Sample Date:	07/06/22	07/06/22	07/06/22	07/06/22	07/06/22	07/06/22	07/06/22	07/06/22	07/06/22	07/06/22	07/06/22	07/06/22		
SVOCs (mg/kg)														
Naphthalene	0.09	0.082	0.14	0.043	0.62	0.12	0.075	0.017	0.054	0.13	0.056	0.021	2.7	-
2-Methylnaphthalene	0.051	< 0.04	< 0.07	< 0.04	0.24	0.043	< 0.04	< 0.008	0.018	< 0.04	0.023	< 0.008	-	-
1-Methylnaphthalene	0.033	< 0.04	< 0.07	< 0.04	0.16	< 0.04	< 0.04	< 0.008	0.012	< 0.04	0.019	< 0.008	-	-
Acenaphthylene	0.31	0.30	0.49	0.24	11	1.6	0.19	0.061	0.26	1.1	0.23	0.059	-	-
Acenaphthene	0.031	0.056	0.13	< 0.04	0.095	< 0.04	< 0.04	< 0.008	0.016	0.043	0.017	< 0.008	-	
Fluorene	0.074	0.14	0.19	< 0.04	0.49	0.097	< 0.04	< 0.008	0.038	0.17	0.063	0.011	2,301	-
Phenanthrene	0.83	2.5	2.2	0.39	4.7	2.2	0.63	0.11	0.61	2.1	0.90	0.19	-	-
Anthracene	0.24	0.66	0.51	0.12	3.9	0.78	0.12	0.026	0.21	0.89	0.16	0.059	-	-
Fluoranthene	1.4	3.5	4.0	0.97	18	6.0	2.6	0.36	1.4	8.4	1.5	0.53	2,301	-
Pyrene	1.2	2.9	3.1	0.82	17	4.9	2.6	0.33	1.2	6.9	1.2	0.42	-	-
Benzo(a)anthracene	0.89	1.6	1.8	0.49	17	4.0	2.0	0.20	0.82	5.4	0.74	0.28	-	-
Chrysene	1.0	1.7	2.1	0.59	16	4.1	2.7	0.24	0.91	5.6	0.91	0.33	-	-
Benzo(b)fluoranthene	1.5	2.1	2.8	0.84	36	6.4	4.4	0.36	1.2	6.8	1.2	0.47	-	-
Benzo(k)fluoranthene	0.53	0.71	1.1	0.31	13	2.6	1.4	0.13	0.46	2.6	0.38	0.19	-	-
Benzo(a)pyrene	1.1	1.8	2.2	0.64	25	4.7	3.1	0.29	1.0	5.6	0.90	0.37	0.07	
Indeno(1,2,3-cd)pyrene	0.53	1.1	1.2	0.42	8.6	2.3	2.6	0.21	0.82	2.9	0.72	0.11	-	-
Dibenzo(a,h)anthracene	0.13	0.25	0.26	0.098	2.9	0.62	0.58	0.047	0.19	0.76	0.16	0.021	-	-
Benzo(g,h,i)perylene	0.46	0.95	0.89	0.36	5.6	1.8	2.7	0.20	0.69	2.3	0.57	0.076		-
TEQ as Benzo(a)pyrene*	1.5283	2.5388	3.0531	0.91669	34.206	6.6201	4.5967	0.41554	1.47951	7.9016	1.33071	0.47923	0.07	0.580

#### NOTES:

All values reported in mg/kg, dry, unless otherwise indicated.

VSS = Vermont Soil Standards (Investigation and Remediation of Contaminated Properties Rule (I-Rule), July 6, 2019)

<xx = Compound not detected above detection limit (xx)</pre>

Results reported above detection limits are indicated in bold

Detection limits and reported concentrations at or above the the applicable standards are shaded.

- "-" indicates not analyzed or that a screening level is not provided in the I-Rule/EPA
- \* Sum of Toxicity Equivalent Quotients (TEQs) provided in laboratory report. Toxicity Equivalent Factors (TEFs) used by laboratory are consistent with those provided in I-Rule (July 6, 2019).



#### Summary of Soil Analytical Data - Intermediate Depths Lot #1, 133 - 137 Main Street Windsor, Vermont

Soil Boring ID (depth):	SB7-I	SB8-I	SB9-I	SB10-I	SB11-I	SB12-I	SB13-I	SB14-I	SB15-I	SB16-I	SB17-I	SB18-I	VSS - Resident	VT Urban Background
Sample Depth (below grade)	2 - 3'	3'	3 - 4'	3 - 4'	2'	2'	2 - 4'	3 - 4'	3 - 4'	3 - 4'	3 - 4'	3 - 4'	Soil	Standard
Sample Date:	07/06/22	07/06/22	07/06/22	07/06/22	07/06/22	07/06/22	07/06/22	07/06/22	07/06/22	07/06/22	07/06/22	07/06/22		
SVOCs (mg/kg)														
Naphthalene	< 0.009	0.042	< 0.008	0.18	< 0.008	< 0.008	0.038	< 0.008	< 0.009	< 0.008	0.019	< 0.008	2.7	-
2-Methylnaphthalene	< 0.009	< 0.04	< 0.008	0.047	< 0.008	< 0.008	0.014	< 0.008	< 0.009	< 0.008	< 0.008	< 0.008	-	-
1-Methylnaphthalene	< 0.009	< 0.04	< 0.008	< 0.04	< 0.008	< 0.008	0.016	< 0.008	< 0.009	< 0.008	< 0.008	< 0.008	-	-
Acenaphthylene	< 0.009	0.15	< 0.008	0.56	< 0.008	< 0.008	0.10	< 0.008	0.015	0.014	0.059	< 0.008	-	-
Acenaphthene	< 0.009	< 0.04	< 0.008	0.062	< 0.008	< 0.008	0.026	< 0.008	< 0.009	< 0.008	< 0.008	< 0.008	-	-
Fluorene	< 0.009	< 0.04	< 0.008	0.13	< 0.008	< 0.008	0.054	< 0.008	< 0.009	< 0.008	0.016	< 0.008	2,301	-
Phenanthrene	< 0.009	0.32	0.017	2.1	< 0.008	< 0.008	0.80	< 0.008	0.085	0.068	0.28	< 0.008	-	-
Anthracene	< 0.009	0.10	< 0.008	0.47	< 0.008	< 0.008	0.18	< 0.008	0.018	0.0098	0.030	< 0.008	-	-
Fluoranthene	< 0.009	0.81	0.052	4.4	< 0.008	0.018	1.1	< 0.008	0.29	0.15	0.49	< 0.008	2,301	-
Pyrene	< 0.009	0.69	0.050	3.9	< 0.008	0.019	1.1	< 0.008	0.26	0.13	0.40	< 0.008	-	-
Benzo(a)anthracene	< 0.009	0.44	0.031	2.4	< 0.008	0.014	0.59	< 0.008	0.15	0.072	0.19	< 0.008	-	-
Chrysene	< 0.009	0.47	0.032	2.6	< 0.008	0.014	0.63	< 0.008	0.15	0.081	0.26	< 0.008	-	-
Benzo(b)fluoranthene	< 0.009	0.72	0.052	3.4	< 0.008	0.028	0.80	< 0.008	0.22	0.12	0.37	< 0.008	-	-
Benzo(k)fluoranthene	< 0.009	0.22	0.017	1.1	< 0.008	0.0098	0.26	< 0.008	0.076	0.041	0.14	< 0.008	-	-
Benzo(a)pyrene	< 0.009	0.57	0.041	2.9	< 0.008	0.022	0.67	< 0.008	0.18	0.095	0.27	< 0.008	0.07	-
Indeno(1,2,3-cd)pyrene	< 0.009	0.23	0.034	2.0	< 0.008	0.022	0.46	< 0.008	0.13	0.072	0.24	< 0.008	-	-
Dibenzo(a,h)anthracene	< 0.009	0.052	< 0.008	0.42	< 0.008	< 0.008	0.095	< 0.008	0.025	0.014	0.048	< 0.008	-	-
Benzo(g,h,i)perylene	< 0.009	0.18	0.030	1.6	< 0.008	0.021	0.39	< 0.008	0.11	0.063	0.21	< 0.008	-	-
TEQ as Benzo(a)pyrene*	ND	0.76367	0.052902	4.1136	ND	0.28512	0.95323	ND	0.25591	0.135891	0.39966	ND	0.07	0.580

#### NOTES:

All values reported in mg/kg, dry, unless otherwise indicated.

VSS = Vermont Soil Standards (Investigation and Remediation of Contaminated Properties Rule (I-Rule), July 6, 2019)

<xx = Compound not detected above detection limit (xx)</pre>

Results reported above detection limits are indicated in bold

Detection limits and reported concentrations at or above the the applicable standards are shaded.

- "-" indicates not analyzed or that a screening level is not provided in the I-Rule/EPA
- \* Sum of Toxicity Equivalent Quotients (TEQs) provided in laboratory report. Toxicity Equivalent Factors (TEFs) used by laboratory are consistent with those provided in I-Rule (July 6, 2019).



# Summary of Soil Analytical Data - Native Depths Lot #1, 133 - 137 Main Street Windsor, Vermont

Soil Boring ID (depth):	SB7-N	SB11-N	SB12-N	SB15-N	VSS - Resident	VT Urban Background	
Sample Depth (below grade)	3 - 4'	3 - 4'	3 - 4'	4 - 6'	Soil	Standard	
Sample Date:	07/06/22	07/06/22	07/06/22	07/06/22			
SVOCs (mg/kg)							
Naphthalene	< 0.008	< 0.008	< 0.008	< 0.007	2.7	-	
2-Methylnaphthalene	< 0.008	< 0.008	< 0.008	< 0.007	-	-	
1-Methylnaphthalene	< 0.008	< 0.008	< 0.008	< 0.007	-	-	
Acenaphthylene	< 0.008	< 0.008	< 0.008	< 0.007	-	-	
Acenaphthene	< 0.008	< 0.008	< 0.008	< 0.007	-	-	
Fluorene	< 0.008	< 0.008	< 0.008	< 0.007	2,301	-	
Phenanthrene	< 0.008	< 0.008	< 0.008	< 0.007	-	-	
Anthracene	< 0.008	< 0.008	< 0.008	< 0.007	-	-	
Fluoranthene	< 0.008	< 0.008	< 0.008	< 0.007	2,301	-	
Pyrene	< 0.008	< 0.008	< 0.008	< 0.007	-	-	
Benzo(a)anthracene	< 0.008	< 0.008	< 0.008	< 0.007	-	-	
Chrysene	< 0.008	< 0.008	< 0.008	< 0.007	-	-	
Benzo(b)fluoranthene	< 0.008	< 0.008	< 0.008	< 0.007	-	-	
Benzo(k)fluoranthene	< 0.008	< 0.008	< 0.008	< 0.007	-	-	
Benzo(a)pyrene	< 0.008	< 0.008	< 0.008	< 0.007	0.07	-	
Indeno(1,2,3-cd)pyrene	< 0.008	< 0.008	< 0.008	< 0.007	-	-	
Dibenzo(a,h)anthracene	< 0.008	< 0.008	< 0.008	< 0.007	-	-	
Benzo(g,h,i)perylene	< 0.008	< 0.008	< 0.008	< 0.007	-		
TEQ as Benzo(a)pyrene*	ND	ND	ND	ND	0.07	0.580	

### NOTES:

All values reported in mg/kg, dry, unless otherwise indicated.

VSS = Vermont Soil Standards (Investigation and Remediation of Contaminated Properties Rule (I-Rule), July 6, 2019)

< xx =Compound not detected above detection limit (xx)

Results reported above detection limits are indicated in bold

Detection limits and reported concentrations at or above the the applicable standards are shaded.

- "-" indicates not analyzed or that a screening level is not provided in the I-Rule/EPA
- \* Sum of Toxicity Equivalent Quotients (TEQs) provided in laboratory report. Toxicity Equivalent Factors (TEFs) used by laboratory are consistent with those provided in I-Rule (July 6, 2019).



# Summary of Soil Analytical Data - Shallow Depths Lot #1, 133 - 137 Main Street Windsor, Vermont

Soil Boring ID (depth):	SB9-S	SB12-S	SB15-S	SB18-S	VSS - Resident Soil	EPA RSL - Resident
Sample Depth (below grade)	0 - 18"	0 - 18"	0 - 18"	0 - 18"		Soil
Sample Date:	07/06/22	07/06/22	07/06/22	07/06/22		
METALS (mg/kg)						
Total Arsenic	5.3	4.7	5.0	4.4	16	0.68
Total Lead	410	98	73	22	400	400

#### NOTES:

All values reported in mg/kg, dry, unless otherwise indicated.

EPA RSL = Environmental Protection Agency Regional Screening Level (May 2022 EPA Regional Screening Level Summary Table)

VSS = Vermont Soil Standards (Investigation and Remediation of Contaminated Properties Rule (I-Rule), July 6, 2019)

<xx = Compound not detected above detection limit (xx)</pre>

Results reported above detection limits are indicated in bold

Detection limits and reported concentrations at or above the the applicable Vermont standard are shaded.

<sup>&</sup>quot;-" indicates not analyzed or that a screening level is not provided in the I-Rule/EPA  $\,$ 



# Summary of Soil Analytical Data - Intermediate Depths Lot #1, 133 - 137 Main Street Windsor, Vermont

Soil Boring ID (depth):	SB9-I	SB12-I	SB15-I	SB18-I	VSS - Resident Soil	EPA RSL - Resident Soil
Sample Depth (below grade)	3 - 4'	2'	3 - 4'	3 - 4'	TOO ROOM ON	Soil
Sample Date:	07/06/22	07/06/22	07/06/22	07/06/22		
METALS (mg/kg)						
Total Arsenic	3.9	4.5	4.5	3.3	16	0.68
Total Lead	12	9.8	41	4.8	400	400

#### NOTES:

All values reported in mg/kg, dry, unless otherwise indicated.

EPA RSL = Environmental Protection Agency Regional Screening Level (May 2022 EPA Regional Screening Level Summary Table)

VSS = Vermont Soil Standards (Investigation and Remediation of Contaminated Properties Rule (I-Rule), July 6, 2019)

<xx = Compound not detected above detection limit (xx)</pre>

Results reported above detection limits are indicated in bold

Detection limits and reported concentrations at or above the the applicable Vermont standard are shaded.

<sup>&</sup>quot;-" indicates not analyzed or that a screening level is not provided in the I-Rule/EPA



# Summary of Soil Analytical Data - Native Depths Lot #1, 133 - 137 Main Street Windsor, Vermont

Soil Boring ID (depth):	SB7-N	SB11-N	SB12-N	SB15-N	VSS - Resident Soil	EPA RSL - Resident Soil
Sample Depth (below grade)	3 - 4'	3 - 4'	3 - 4'	4 - 6'	TOO ROOM ON	Soil
Sample Date:	07/06/22	07/06/22	07/06/22	07/06/22		
METALS (mg/kg)						
Total Arsenic	3.7	3.6	3.6	3.7	16	0.68
Total Lead	5.4	5.6	7.0	4.2	400	400

#### NOTES:

All values reported in mg/kg, dry, unless otherwise indicated.

EPA RSL = Environmental Protection Agency Regional Screening Level (May 2022 EPA Regional Screening Level Summary Table)

VSS = Vermont Soil Standards (Investigation and Remediation of Contaminated Properties Rule (I-Rule), July 6, 2019)

<xx = Compound not detected above detection limit (xx)</pre>

Results reported above detection limits are indicated in bold

Detection limits and reported concentrations at or above the the applicable Vermont standard are shaded.

<sup>&</sup>quot;-" indicates not analyzed or that a screening level is not provided in the I-Rule/EPA



# Summary of Soil Analytical Data - QAQC Lot #1, 133 - 137 Main Street Windsor, Vermont

Soil Boring ID (depth in feet):	SB18-S	Duplicate-3	RPD (%)	SB13-S	Duplicate-4	RPD (%)				
Sample Date:	07/06/22	07/06/22		07/06/22	07/06/22					
PAHs (mg/kg)										
Naphthalene	0.082	0.023	112.4	0.075	0.077	-2.6				
2-Methylnaphthalene	< 0.04	0.0083	-	< 0.04	< 0.04	-				
1-Methylnaphthalene	< 0.04	< 0.007	-	< 0.04	< 0.04	-				
Acenaphthylene	0.30	0.089	108.5	0.19	0.24	-23.3				
Acenaphthene	0.056	0.0095	142.0	< 0.04	< 0.04	-				
Fluorene	0.14	0.020	150.0	< 0.04	< 0.04	-				
Phenanthrene	2.5	0.32	154.6	0.63	0.67	-6.2				
Anthracene	0.66	0.084	154.8	0.12	0.16	-28.6				
Fluoranthene	3.5	0.67	135.7	2.6	2.4	8.0				
Pyrene	2.90	0.60	131.4	2.6	2.3	12.2				
Benzo(a)anthracene	1.6	0.38	123.2	2.0	1.8	10.5				
Chrysene	1.7	0.45	116.3	2.7	2.4	11.8				
Benzo(b)fluoranthene	2.1	0.63	107.7	4.4	3.9	12.0				
Benzo(k)fluoranthene	0.71	0.20	112.1	1.4	1.3	7.4				
Benzo(a)pyrene	1.8	0.50	113.0	3.1	2.8	10.2				
Indeno(1,2,3-cd)pyrene	1.1	0.39	95.3	2.6	2.2	16.7				
Dibenzo(a,h)anthracene	0.25	0.083	100.3	0.58	0.50	14.8				
Benzo(g,h,i)perylene	0.95		96.9	2.7	2.1	25.0				
TEQ as Benzo(a)pyrene*	2.5388	0.72545	111.1	4.5967	4.1054	11.3				

Soil Boring ID (depth):	SB 15-N	Duplicate-5	RPD (%)
Sample Date:	07/06/22	07/06/22	KFD (70)
METALS (mg/kg)			
Total Arsenic	3.7	2.6	34.9
Total Lead	4.2	3.4	21.1

# NOTES:

All values reported in mg/kg, dry, unless otherwise indicated.

<xx = Compound not detected above detection limit (xx)

Results reported above detection limits are indicated in bold

- "-" indicates not analyzed or that a screening level is not provided in the I-Rule/EPA
- \* Sum of Toxicity Equivalent Quotients (TEQs) provided in laboratory report. Toxicity Equivalent Factors (TEFs) used by laboratory are consistent with those provided in I-Rule (July 6, 2019).

RPD - Relative Percent Difference



# Appendix D

# **Analytical Laboratory Reports**



professional laboratory and drilling services

Jeremy Roberts KAS, Inc. PO Box 787 Williston, VT 05495



## Laboratory Report for:

Eastern Analytical, Inc. ID: 245635

Client Identification: Windsor Housing Lot #1 | 507210630

Date Received: 7/8/2022

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the written approval of the laboratory.

The following standard abbreviations and conventions apply to all EAI reports:

< : "less than" followed by the reporting limit

> : "greater than" followed by the reporting limit

%R: % Recovery

## Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

7.20.22

# SAMPLE CONDITIONS PAGE



Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Received on ice or cold packs (Yes/No): Y

EAI ID#: 245635

Accei	otable	temperature	range	(°C): 0-6	

Temperature upon receipt (°C): 0.7

Lab ID	Sample ID	Date Received	Date/ Sam <sub>l</sub>		Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
245635.01	SB18-S	7/8/22	7/6/22	12:25	soil	88.5	Adheres to Sample Acceptance Policy
245635.02	SB7-S	7/8/22	7/6/22	12:37	soil	88.2	Adheres to Sample Acceptance Policy
245635.03	SB8-S	7/8/22	7/6/22	12:55	soil	92.0	Adheres to Sample Acceptance Policy
245635.04	SB9-S	7/8/22	7/6/22	13:20	soil	94.0	Adheres to Sample Acceptance Policy
245635.05	SB10-S	7/8/22	7/6/22	13:40	soil	91.7	Adheres to Sample Acceptance Policy
245635.06	SB11-S	7/8/22	7/6/22	13:50	soil	93.8	Adheres to Sample Acceptance Policy
245635.07	SB12-S	7/8/22	7/6/22	14:03	soil	94.0	Adheres to Sample Acceptance Policy
245635.08	SB13-S	7/8/22	7/6/22	14:20	soil	89.4	Adheres to Sample Acceptance Policy
245635.09	SB14-S	7/8/22	7/6/22	14:32	soil	87.5	Adheres to Sample Acceptance Policy
245635.1	SB15-S	7/8/22	7/6/22	14:46	soil	90.1	Adheres to Sample Acceptance Policy
245635.11	SB16-S	7/8/22	7/6/22	15:12	soil	91.1	Adheres to Sample Acceptance Policy
245635.12	SB17-S	7/8/22	7/6/22	15:27	soil	94.1	Adheres to Sample Acceptance Policy
245635.13	SB18-I	7/8/22	7/6/22	12:30	soil	89.9	Adheres to Sample Acceptance Policy
245635.14	SB7-I	7/8/22	7/6/22	12:42	soil	81.8	Adheres to Sample Acceptance Policy
245635.15	SB8-I	7/8/22	7/6/22	13:10	soil	92.4	Adheres to Sample Acceptance Policy
245635.16	SB9-I	7/8/22	7/6/22	13:31	soil	84.8	Adheres to Sample Acceptance Policy
245635.17	SB10-l	7/8/22	7/6/22	13:44	soil	83.1	Adheres to Sample Acceptance Policy
245635.18	SB11-I	7/8/22	7/6/22	13:56	soil	85.6	Adheres to Sample Acceptance Policy
245635.19	SB12-l	7/8/22	7/6/22	14:11	soil	83.9	Adheres to Sample Acceptance Policy
245635.2	SB13-I	7/8/22	7/6/22	14:23	soil	85.4	Adheres to Sample Acceptance Policy
245635.21	SB14-l	7/8/22	7/6/22	14:41	soil	83.2	Adheres to Sample Acceptance Policy
245635.22	SB15-I	7/8/22	7/6/22	14:54	soil	80.8	Adheres to Sample Acceptance Policy

Data/Time

All results contained in this report relate only to the above listed samples.

### Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

# SAMPLE CONDITIONS PAGE



Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Received on ice or cold packs (Yes/No): Y

EAI ID#: 245635

Acceptable temperature range (°C): 0-6	Acceptable	temperature	range	(°C): 0-6
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Temperature upon receipt (°C): 0.7

Lab ID	Sample ID	Date Received	Date/ Sam <sub>l</sub>		Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
245635.23	SB16-I	7/8/22	7/6/22	15:15	soil	81.4	Adheres to Sample Acceptance Policy
245635.24	SB17-I	7/8/22	7/6/22	15:30	soil	84.2	Adheres to Sample Acceptance Policy
245635.25	SB7-N	7/8/22	7/6/22	12:45	soil	91.1	Adheres to Sample Acceptance Policy
245635.26	SB11-N	7/8/22	7/6/22	13:58	soil	87.4	Adheres to Sample Acceptance Policy
245635.27	SB12-N	7/8/22	7/6/22	14:12	soil	87.8	Adheres to Sample Acceptance Policy
245635.28	SB15-N	7/8/22	7/6/22	14:58	soil	93.5	Adheres to Sample Acceptance Policy
245635.29	Duplicate 3	7/8/22	7/6/22	12:55	soil	93.0	Adheres to Sample Acceptance Policy
245635.3	Duplicate 4	7/8/22	7/6/22	14:20	soil	89.8	Adheres to Sample Acceptance Policy
245635.31	Duplicate 5	7/8/22	7/6/22	14:58	soil	93,1	Adheres to Sample Acceptance Policy

All results contained in this report relate only to the above listed samples.

#### Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.



# LABORATORY REPORT

EAI ID#: **245635** 

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Client Sample ID:	SB18-S				
Lab Sample ID:	245635.01				
Matrix:	soil				
Date Sampled:	7/6/22				
Date Received:	7/8/22				
Date Prepared:	7/12/22				
Jnits	mg/kg				
Method	8270D				
Analyst	JMR				
		Dilution			
	Results	Factor	Date Analyzed	TEF	TEQ
laphthalene	0.021	1	7/12/22		
Methylnaphthalene	< 0.008	1	7/12/22		
-Methylnaphthalene	< 0.008	1	7/12/22		
cenaphthylene	0.059	1	7/12/22		
cenaphthene	< 0.008	1	7/12/22		
uorene	0.011	1	7/12/22		
henanthrene	0.19	1	7/12/22		
nthracene	0.059	1	7/12/22		
uoranthene	0.53	1	7/12/22		
yrene	0.42	1	7/12/22		
enzo[a]anthracene	0.28	1	7/12/22	0.1	.028
hrysene	0.33	1	7/12/22	0.001	.00033
enzo[b]fluoranthene	0.47	1	7/12/22	0.1	.047
enzo[k]fluoranthene	0.19	1	7/12/22	0.01	.0019
enzo[a]pyrene	0.37	1	7/12/22	1	.37
deno[1,2,3-cd]pyrene	0.11	1	7/12/22	0.1	.011
benz[a,h]anthracene	0.021	1	7/12/22	1	.021
·		4	7/40/00		
enzo[g,h,i]perylene	0.076	1	7/12/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

The TEF factors set forth in this report are taken from the following EPA document: "Mid- Atlantic Risk Assessment User's Gulde: November 2013". This guidance document sets forth a recommended, but not mandatory approach based upon currently available information with respect to risk assessment for response actions at CERCLA sites. This document does not establish binding rules. This document contains the most current TEF values per VT IROCP.

EALID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

lient Sample ID:	SB7-S				
ab Sample ID:	245635.02				
atrix:	soil				
ate Sampled:	7/6/22				
eate Received:	7/8/22				
ate Prepared:	7/12/22				
nits	mg/kg				
/lethod	8270D				
nalyst	JMR				
-		Dilution			
	Results	Factor	Date Analyzed	TEF	TEQ
aphthalene	0.086	1	7/13/22		
Methylnaphthalene	0.051	1	7/13/22		
Methylnaphthalene	0.033	1	7/13/22		
cenaphthylene	0.31	1	7/13/22		
cenaphthene	0.031	1	7/13/22		
uorene	0.074	1	7/13/22		
enanthrene	0.83	1	7/13/22		
thracene	0.24	1	7/13/22		
uoranthene	1.4	1	7/13/22		
rene	1.2	1	7/13/22		
enzo[a]anthracene	0.89	1	7/13/22	0.1	.089
nrysene	1.0	1	7/13/22	0.001	.001
nzo[b]fluoranthene	1.5	1	7/13/22	0.1	.15
nzo[k]fluoranthene	0.53	1	7/13/22	0.01	.0053
nzo[a]pyrene	1.1	1	7/13/22	1	1.1
deno[1,2,3-cd]pyrene	0.53	1	7/13/22	0.1	.053
enz[a,h]anthracene	0.13	1	7/13/22	1	.13
nzo[g,h,i]perylene	0.46	1	7/13/22		
Ferphenyl-D14 (surr)	65 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene



EAI ID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Client Sample ID:	SB8-S				
_ab Sample ID:	245635.03				
latrix:	soil				
Date Sampled:	7/6/22				
oate Received:	7/8/22				
ate Prepared:	7/12/22				
nits	mg/kg				
lethod	8270D				
nalyst	JMR	Dilution			
	Results	Dilution Factor	Date Analyzed	TEF	TEQ
phthalene	0.082	5	7/13/22		
Methylnaphthalene	< 0.04	5	7/13/22		
lethylnaphthalene	< 0.04	5	7/13/22		
enaphthylene	0.30	5	7/13/22		
enaphthene	0.056	5	7/13/22		
orene	0.14	5	7/13/22		
nanthrene	2.5	5	7/13/22		
hracene	0.66	5	7/13/22		
oranthene	3.5	5	7/13/22		
ene	2.9	5	7/13/22		
nzo[a]anthracene	1.6	5	7/13/22	0.1	.16
rysene	1.7	5	7/13/22	0.001	.0017
nzo[b]fluoranthene	2.1	5	7/13/22	0.1	.21
nzo[k]fluoranthene	0.71	5	7/13/22	0.01	.0071
zo[a]pyrene	1.8	5	7/13/22	1	1.8
eno[1,2,3-cd]pyrene	1.1	5	7/13/22	0.1	.11
enz[a,h]anthracene	0.25	5	7/13/22	1	.25
nzo[g,h,i]perylene	0.95	5	7/13/22		
erphenyl-D14 (surr)	86 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

The TEF factors set forth in this report are taken from the following EPA document: "Mid- Atlantic Risk Assessment User's Guide: November 2013". This guidance document sets forth a recommended, but not mandatory approach based upon currently available information with respect to risk assessment for response actions at CERCLA sites. This document does not establish binding rules. This document contains the most current TEF values per VT IROCP.

EAI ID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

lient Sample ID:	SB9-S				
ab Sample ID:	245635.04				
atrix:	soil				
ate Sampled:	7/6/22				
•					
ate Received:	7/8/22				
ate Prepared:	7/12/22				
Inits	mg/kg				
lethod	8270D				
nalyst	JMR				
	Results	Dilution Factor	Date Analyzed	TEF	TEQ
phthalene	0.14	10	7/13/22		
Methylnaphthalene	< 0.07	10	7/13/22		
1ethylnaphthalene	< 0.07	10	7/13/22		
enaphthylene	0.49	10	7/13/22		
enaphthene	0.13	10	7/13/22		
orene	0.19	10	7/13/22		
nanthrene	2.2	10	7/13/22		
hracene	0.51	10	7/13/22		
oranthene	4.0	10	7/13/22		
ene	3.1	10	7/13/22		
nzo[a]anthracene	1.8	10	7/13/22	0.1	.18
ysene	2.1	10	7/13/22	0.001	.0021
nzo[b]fluoranthene	2.8	10	7/13/22	0.1	.28
nzo[k]fluoranthene	1.1	10	7/13/22	0.01	.011
zo[a]pyrene	2.2	10	7/13/22	1	2.2
eno[1,2,3-cd]pyrene	1.2	10	7/13/22	0.1	.12
enz[a,h]anthracene	0.26	10	7/13/22	1	.26
nzo[g,h,i]perylene	0.89	10	7/13/22		
Terphenyl-D14 (surr)	85 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

The TEF factors set forth in this report are taken from the following EPA document: "Mid- Atlantic Risk Assessment User's Guide: November 2013". This guidance document sets forth a recommended, but not mandatory approach based upon currently available information with respect to risk assessment for response actions at CERCLA sites. This document does not establish binding rules. This document contains the most current TEF values per VT IROCP.

EAIID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Client Sample ID:	SB10-S				
.ab Sample ID:	245635.05				
Matrix:	soil				
Date Sampled:	7/6/22				
Date Received:	7/8/22				
Date Prepared:	7/12/22				
Jnits	mg/kg				
Method	8270D				
Analyst	JMR				
		Dilution			
	Results	Factor	Date Analyzed	TEF	TEQ
aphthalene	0.043	5	7/13/22		
Methylnaphthalene	< 0.04	5	7/13/22		
Methylnaphthalene	< 0.04	5	7/13/22		
cenaphthylene	0.24	5	7/13/22		
cenaphthene	< 0.04	5	7/13/22		
uorene	< 0.04	5	7/13/22		
henanthrene	0.39	5	7/13/22		
nthracene	0.12	5	7/13/22		
uoranthene	0.97	5	7/13/22		
yrene	0.82	5	7/13/22		
enzo[a]anthracene	0.49	5	7/13/22	0.1	.049
hrysene	0.59	5	7/13/22	0.001	.00059
enzo[b]fluoranthene	0.84	5	7/13/22	0.1	.084
enzo[k]fluoranthene	0.31	5	7/13/22	0.01	.0031
enzo[a]pyrene	0.64	5	7/13/22	1	.64
deno[1,2,3-cd]pyrene	0.42	5	7/13/22	0.1	.042
benz[a,h]anthracene	0.098	5	7/13/22	1	.098
enzo[g,h,i]perylene	0.36	5	7/13/22		
Terphenyl-D14 (surr)	81 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

The TEF factors set forth in this report are taken from the following EPA document: "Mid- Atlantic Risk Assessment User's Guide: November 2013". This guidance document sets forth a recommended, but not mandatory approach based upon currently available information with respect to risk assessment for response actions at CERCLA sites. This document does not establish binding rules. This document contains the most current TEF values per VT IROCP.

EAI ID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Oliant Cample ID.	0044.0				
Client Sample ID:	SB11-S				
_ab Sample ID:	245635.06				
Лatrix:	soil				
Date Sampled:	7/6/22				
Date Received:	7/8/22				
Date Prepared:	7/12/22				
Jnits	mg/kg				
Method	8270D				
Analyst	JMR				
	Results	Dilution Factor	Date Analyzed	TEF	TEQ
lanhthalana	0.62	11	7/13/22		
aphthalene		11	7/13/22 7/13/22		
Methylnaphthalene	0.24		7/13/22 7/13/22		
Methylnaphthalene	0.16	11			
cenaphthylene	11	11	7/13/22		
cenaphthene	0.095	11 11	7/13/22		
uorene	0.49		7/13/22		
nenanthrene	4.7	11	7/13/22		
thracene	3.9	11	7/13/22		
uoranthene	18	11	7/13/22		
vrene	17	11	7/13/22	0.4	17
enzo[a]anthracene	17	11	7/13/22	0.1	1.7
rysene	16	11	7/13/22	0.001	.016
nzo[b]fluoranthene	36	11	7/13/22	0.1	3.6
nzo[k]fluoranthene	13	11	7/13/22	0.01	.13
nzo[a]pyrene	25	11	7/13/22	1	25
leno[1,2,3-cd]pyrene	8.6	11	7/13/22	0,1	.86
benz[a,h]anthracene	2.9	11	7/13/22	1	2.9
enzo[g,h,i]perylene	5.6	11	7/13/22		
-Terphenyl-D14 (surr)	83 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

The TEF factors set forth in this report are taken from the following EPA document: "Mid- Atlantic Risk Assessment User's Guide: November 2013". This guidance document sets forth a recommended, but not mandatory approach based upon currently available information with respect to risk assessment for response actions at CERCLA sites. This document does not establish binding rules. This document contains the most current TEF values per VT IROCP.



EAI ID#: **245635** 

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Client Sample ID:	SB12-S				
ab Sample ID:	245635.07				
•					
atrix:	soil				
ate Sampled:	7/6/22				
ate Received:	7/8/22				
te Prepared:	7/12/22				
its	mg/kg				
ethod	8270D				
nalyst	JMR	Dilastia a			
	Results	Dilution Factor	Date Analyzed	TEF	TEQ
hthalene	0.12	5	7/13/22		
lethylnaphthalene	0.043	5	7/13/22		
ethylnaphthalene	< 0.04	5	7/13/22		
naphthylene	1.6	5	7/13/22		
naphthene	< 0.04	5	7/13/22		
rene	0.097	5	7/13/22		
nanthrene	2.2	5	7/13/22		
racene	0.78	5	7/13/22		
ranthene	6.0	5	7/13/22		
ene	4.9	5	7/13/22		
zo[a]anthracene	4.0	5	7/13/22	0.1	.4
sene	4.1	5	7/13/22	0.001	.0041
:o[b]fluoranthene	6.4	5	7/13/22	0.1	.64
o[k]fluoranthene	2.6	5	7/13/22	0.01	.026
o[a]pyrene	4.7	5	7/13/22	1	4.7
no[1,2,3-cd]pyrene	2.3	5	7/13/22	0.1	.23
nz[a,h]anthracene	0.62	5	7/13/22	1	.62
zo[g,h,i]perylene	1.8	5	7/13/22		
erphenyl-D14 (surr)	76 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

The TEF factors set forth in this report are taken from the following EPA document: "Mid- Atlantic Risk Assessment User's Guide: November 2013". This guidance document sets forth a recommended, but not mandatory approach based upon currently available information with respect to risk assessment for response actions at CERCLA sites. This document does not establish binding rules. This document contains the most current TEF values per VT IROCP.



EAI ID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

ent Sample ID:	SB13-S				
b Sample ID:	245635.08				
ıtrix:	soil				
te Sampled:	7/6/22				
te Received:	7/8/22				
te Prepared:	7/12/22				
nits	mg/kg				
ethod	8270D				
nalyst	JMR	Dilution			
	Results	Factor	Date Analyzed	TEF	TEQ
phthalene	0.075	5	7/13/22		
ethylnaphthalene	< 0.04	5	7/13/22		
ethylnaphthalene	< 0.04	5	7/13/22		
naphthylene	0.19	5	7/13/22		
naphthene	< 0.04	5	7/13/22		
rene	< 0.04	5	7/13/22		
nanthrene	0.63	5	7/13/22		
nracene	0.12	5	7/13/22		
oranthene	2.6	5	7/13/22		
ene	2.6	5	7/13/22		
zo[a]anthracene	2.0	5	7/13/22	0.1	.2
ysene	2.7	5	7/13/22	0.001	.0027
zo[b]fluoranthene	4.4	5	7/13/22	0.1	.44
zo[k]fluoranthene	1.4	5	7/13/22	0.01	.014
zo[a]pyrene	3.1	5	7/13/22	1	3.1
eno[1,2,3-cd]pyrene	2.6	5	7/13/22	0.1	.26
enz[a,h]anthracene	0.58	5	7/13/22	1	.58
nzo[g,h,i]perylene	2.7	5	7/13/22		
erphenyl-D14 (surr)	83 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

The TEF factors set forth in this report are taken from the following EPA document: "Mid- Atlantic Risk Assessment User's Guide: November 2013". This guidance document sets forth a recommended, but not mandatory approach based upon currently available information with respect to risk assessment for response actions at CERCLA sites. This document does not establish binding rules. This document contains the most current TEF values per VT IROCP.



EAIID#: **245635** 

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Client Sample ID:	SB14-S				
_ab Sample ID:	245635.09				
Watrix:	soil				
Date Sampled:	7/6/22				
Date Received:	7/8/22				
Date Prepared:	7/12/22				
Units	mg/kg				
Method	8270D				
Analyst	JMR	<b>-</b> 11 41			
	Results	Dilution Factor	Date Analyzed	TEF	TEQ
			-		1124
aphthalene	0.017	1	7/13/22		
Methylnaphthalene	< 0.008	1	7/13/22		
-Methylnaphthalene	< 0.008	1	7/13/22		
cenaphthylene	0.061	1	7/13/22		
cenaphthene	< 0.008	1	7/13/22		
uorene	< 0.008	1	7/13/22		
henanthrene	0.11	1	7/13/22		
nthracene	0.026	1	7/13/22		
luoranthene	0.36	1	7/13/22		
yrene	0.33	1	7/13/22		
enzo[a]anthracene	0.20	1	7/13/22	0.1	.02
hrysene	0.24	1	7/13/22	0.001	.00024
enzo[b]fluoranthene	0.36	1	7/13/22	0.1	.036
enzo[k]fluoranthene	0.13	1	7/13/22	0.01	.0013
enzo[a]pyrene	0.29	1	7/13/22	1	.29
deno[1,2,3-cd]pyrene	0.21	1	7/13/22	0.1	.021
benz[a,h]anthracene	0.047	1	7/13/22	1	.047
enzo[g,h,i]perylene	0.20	1	7/13/22		
	72 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene



EAI ID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

liant Cample ID.	0045.0				- LLANGE
lient Sample ID:	SB15-S				
ab Sample ID:	245635.1				
latrix:	soil				
ate Sampled:	7/6/22				
Pate Received:	7/8/22				
Pate Prepared:	7/12/22				
Jnits	mg/kg				
Method	8270D				
Analyst	JMR				
	Results	Dilution Factor	Date Analyzed	TEF	TEQ
			-	IEL	I LL CX
aphthalene	0.054	1	7/13/22		
Methylnaphthalene	0.018	1	7/13/22		
Methylnaphthalene	0.012	1	7/13/22		
cenaphthylene	0.26	1	7/13/22		
cenaphthene	0.016	1	7/13/22		
uorene	0.038	1	7/13/22		
henanthrene	0.61	1	7/13/22		
nthracene	0.21	1	7/13/22		
luoranthene	1.4	1	7/13/22		
yrene	1.2	1	7/13/22		
enzo[a]anthracene	0.82	1	7/13/22	0.1	.082
hrysene	0.91	1	7/13/22	0.001	.00091
enzo[b]fluoranthene	1.2	1	7/13/22	0.1	.12
enzo[k]fluoranthene	0.46	1	7/13/22	0.01	.0046
enzo[a]pyrene	1.0	1	7/13/22	1	1
deno[1,2,3-cd]pyrene	0.82	1	7/13/22	0.1	.082
ibenz[a,h]anthracene	0.19	1	7/13/22	1	.19
enzo[g,h,i]perylene	0.69	1	7/13/22		
enzo[g,n,i]peryiene	0.00	•	· · · · · · · · · · · · · · · · · · ·		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene



EAIID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

lient Sample ID:	SB16-S				
ab Sample ID:	245635.11				
atrix:	soil				
ate Sampled:	7/6/22				
ate Received:	7/8/22				
ate Prepared:	7/12/22				
nits					
	mg/kg				
ethod	8270D				
nalyst	JMR	Dilution			
	Results	Factor	Date Analyzed	TEF	TEQ
hthalene	0.13	5	7/13/22		
ethylnaphthalene	< 0.04	5	7/13/22		
ethylnaphthalene	< 0.04	5	7/13/22		
naphthylene	1.1	5	7/13/22		
naphthene	0.043	5	7/13/22		
rene	0.17	5	7/13/22		
nanthrene	2.1	5	7/13/22		
racene	0.89	5	7/13/22		
ranthene	8.4	5	7/13/22		
ene	6.9	5	7/13/22		
zo[a]anthracene	5.4	5	7/13/22	0.1	.54
ysene	5.6	5	7/13/22	0.001	.0056
nzo[b]fluoranthene	6.8	5	7/13/22	0.1	.68
zo[k]fluoranthene	2.6	5	7/13/22	0.01	.026
zo[a]pyrene	5.6	5	7/13/22	1	5.6
no[1,2,3-cd]pyrene	2.9	5	7/13/22	0.1	.29
nz[a,h]anthracene	0.76	5	7/13/22	1	.76
zo[g,h,i]perylene	2.3	5	7/13/22		
erphenyl-D14 (surr)	77 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

The TEF factors set forth in this report are taken from the following EPA document: "Mid- Atlantic Risk Assessment User's Guide: November 2013". This guidance document sets forth a recommended, but not mandatory approach based upon currently available information with respect to risk assessment for response actions at CERCLA sites. This document does not establish binding rules. This document contains the most current TEF values per VT IROCP.



EAI ID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Client Sample ID:	SB17-S				
Lab Sample ID:	245635.12				
Matrix:	soil				
Date Sampled:	7/6/22				
Date Received:	7/8/22				
Date Prepared:	7/12/22				
Units	mg/kg				
Method	8270D				
Analyst	JMR	Dilution			
	Results	Factor	Date Analyzed	TEF	TEQ
Naphthalene	0.056	1	7/13/22		
-Methylnaphthalene	0.023	1	7/13/22		
-Methylnaphthalene	0.019	1	7/13/22		
cenaphthylene	0.23	1	7/13/22		
Acenaphthene	0.017	1	7/13/22		
luorene	0.063	1	7/13/22		
henanthrene	0.90	1	7/13/22		
nthracene	0.16	1	7/13/22		
luoranthene	1.5	1	7/13/22		
Pyrene	1.2	1	7/13/22		
Benzo[a]anthracene	0.74	1	7/13/22	0.1	.074
Chrysene	0.91	1	7/13/22	0.001	.00091
Benzo[b]fluoranthene	1.2	1	7/13/22	0.1	.12
enzo[k]fluoranthene	0.38	1	7/13/22	0.01	.0038
enzo[a]pyrene	0.90	1	7/13/22	1	.9
ndeno[1,2,3-cd]pyrene	0.72	1	7/13/22	0.1	.072
Dibenz[a,h]anthracene	0.16	1	7/13/22	1	.16
Benzo[g,h,i]perylene	0.57	1	7/13/22		
-Terphenyl-D14 (surr)	68 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene



EAI ID#: **245635** 

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Client Sample ID:	SB18-I				
Lab Sample ID:	245635.13				
Matrix:	soil				
Date Sampled:	7/6/22				
Date Received:	7/8/22				
Date Prepared:	7/12/22				
Jnits	mg/kg				
Wethod	8270D				
Analyst	JMR	<b>-</b> 41			
	Results	Dilution Factor	Date Analyzed	TEF	TEQ
aphthalene	< 0.008	1	7/13/22		
Methylnaphthalene	< 0.008	1	7/13/22		
Methylnaphthalene	< 0.008	1	7/13/22		
enaphthylene	< 0.008	1	7/13/22		
enaphthene	< 0.008	1	7/13/22		
iorene	< 0.008	1	7/13/22		
enanthrene	< 0.008	1	7/13/22		
thracene	< 0.008	1	7/13/22		
uoranthene	< 0.008	1	7/13/22		
yrene	< 0.008	1	7/13/22		
enzo[a]anthracene	< 0.008	1	7/13/22	0.1	< .0008
hrysene	< 0.008	1	7/13/22	0.001	< .00000
enzo[b]fluoranthene	< 0.008	1	7/13/22	0.1	< .0008
nzo[k]fluoranthene	< 0.008	1	7/13/22	0.01	< .00008
nzo[a]pyrene	< 0.008	1	7/13/22	1	< .008
deno[1,2,3-cd]pyrene	< 0.008	1	7/13/22	0.1	< .0008
benz[a,h]anthracene	< 0.008	1	7/13/22	1	< .008
enzo[g,h,i]perylene	< 0.008	1	7/13/22		
-Terphenyl-D14 (surr)	65 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene



EAIID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Client Sample ID:	SB7-I				
₋ab Sample ID:	245635.14				
Watrix:	soil				
Date Sampled:	7/6/22				
Date Received:	7/8/22				
ate Prepared:	7/12/22				
Jnits	mg/kg				
Method	8270D				
Analyst	JMR	<b></b>			
	Results	Dilution Factor	Date Analyzed	TEF	TEQ
aphthalene	< 0.009	1	7/13/22		•
Methylnaphthalene	< 0.009	1	7/13/22		
Methylnaphthalene	< 0.009	1	7/13/22		
cenaphthylene	< 0.009	1	7/13/22		
cenaphthene	< 0.009	1	7/13/22		
uorene	< 0.009	1	7/13/22		
nenanthrene	< 0.009	1	7/13/22		
athracene	< 0.009	1	7/13/22		
uoranthene	< 0.009	1	7/13/22		
rene	< 0.009	1	7/13/22		
enzo[a]anthracene	< 0.009	1	7/13/22	0.1	< .0009
nrysene	< 0.009	1	7/13/22	0.001	< .00000
nzo[b]fluoranthene	< 0.009	1	7/13/22	0.1	< .0009
nzo[k]fluoranthene	< 0.009	1	7/13/22	0.01	< .00009
nzo[a]pyrene	< 0.009	1	7/13/22	1	< .009
leno[1,2,3-cd]pyrene	< 0.009	1	7/13/22	0.1	< .0009
enz[a,h]anthracene	< 0.009	1	7/13/22	1	< .009
nzo[g,h,i]perylene	< 0.009	1	7/13/22		
Terphenyl-D14 (surr)	62 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene



EAIID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

lient Sample ID:	SB8-I				
ab Sample ID:	245635.15				
latrix:	soil				
oate Sampled:	7/6/22				
Date Received:	7/8/22				
Pate Prepared:	7/12/22				
Jnits	mg/kg				
Method	8270D				
Analyst					
Miaiyət	JMR	Dilution			
	Results	Factor	Date Analyzed	TEF	TEQ
aphthalene	0.042	5	7/13/22		
Methylnaphthalene	< 0.04	5	7/13/22		
Methylnaphthalene	< 0.04	5	7/13/22		
enaphthylene	0.15	5	7/13/22		
enaphthene	< 0.04	5	7/13/22		
ıorene	< 0.04	5	7/13/22		
enanthrene	0.32	5	7/13/22		
ıthracene	0.10	5	7/13/22		
uoranthene	0.81	5	7/13/22		
rene	0.69	5	7/13/22		
enzo[a]anthracene	0.44	5	7/13/22	0.1	.044
nrysene	0.47	5	7/13/22	0.001	.00047
enzo[b]fluoranthene	0.72	5	7/13/22	0.1	.072
enzo[k]fluoranthene	0.22	5	7/13/22	0.01	.0022
nzo[a]pyrene	0.57	5	7/13/22	1	.57
deno[1,2,3-cd]pyrene	0.23	5	7/13/22	0.1	.023
penz[a,h]anthracene	0.052	5	7/13/22	1	.052
enzo[g,h,i]perylene	0.18	5	7/13/22		
Terphenyl-D14 (surr)	72 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

The TEF factors set forth in this report are taken from the following EPA document: "Mid- Atlantic Risk Assessment User's Guide: November 2013". This guidance document sets forth a recommended, but not mandatory approach based upon currently available information with respect to risk assessment for response actions at CERCLA sites. This document does not establish binding rules. This document contains the most current TEF values per VT IROCP.



EAI ID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Client Sample ID: SB9-I Lab Sample ID: 245635.16	
Lab Sample ID: 245635 16	
Lab Cample 15:	
Matrix: soil	
Date Sampled: 7/6/22	
Date Received: 7/8/22	
Date Prepared: 7/12/22	
Units mg/kg	
Method 8270D	
Analyst .IMR	
Dilution	TEQ
Results Factor Date Analyzed TEF	IEW
laphthalene < 0.008 1 7/13/22	
-Methylnaphthalene < 0.008 1 7/13/22	
-Methylnaphthalene < 0.008 1 7/13/22	
cenaphthylene < 0.008 1 7/13/22	
cenaphthene < 0.008 1 7/13/22	
uorene < 0.008 1 7/13/22	
henanthrene <b>0.017</b> 1 7/13/22	
nthracene < 0.008 1 7/13/22	
uoranthene <b>0.052</b> 1 7/13/22	
yrene <b>0.050</b> 1 7/13/22	
enzo[a]anthracene <b>0.031</b> 1 7/13/22 0.1	.0031
hrysene <b>0.032</b> 1 7/13/22 0.001	.000032
enzo[b]fluoranthene <b>0.052</b> 1 7/13/22 0.1	.0052
enzo[k]fluoranthene <b>0.017</b> 1 7/13/22 0.01	.00017
enzo[a]pyrene <b>0.041</b> 1 7/13/22 1	.041
deno[1,2,3-cd]pyrene <b>0.034</b> 1 7/13/22 0.1	.0034
benz[a,h]anthracene < 0.008 1 7/13/22 1	< .008
enzo[g,h,i]perylene	
p-Terphenyl-D14 (surr) 67 %R 7/13/22	

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene



EAI ID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

lient Sample ID:	SB10-I				
ab Sample ID:	245635.17				
atrix:	soil				
ite Sampled:	7/6/22				
ate Received:	7/8/22				
te Prepared:	7/12/22				
its	mg/kg				
ethod	8270D				
nalyst	JMR	<b></b>			
	Results	Dilution Factor	Date Analyzed	TEF	TEQ
phthalene	0.18	6	7/13/22		
			7/13/22 7/13/22		
ethylnaphthalene	0.047	6			
lethylnaphthalene	< 0.04	6	7/13/22		
naphthylene	0.56	6	7/13/22		
naphthene	0.062	6	7/13/22		
prene	0.13	6	7/13/22		
nanthrene	2.1	6	7/13/22		
racene	0.47	6	7/13/22		
ranthene	4.4	6	7/13/22		
ne	3.9	6	7/13/22	0.4	0.4
zo[a]anthracene	2.4	6	7/13/22	0.1	.24
/sene	2.6	6	7/13/22	0.001	.0026
zo[b]fluoranthene	3.4	6	7/13/22	0.1	.34
zo[k]fluoranthene	1.1	6	7/13/22	0.01	.011
co[a]pyrene	2.9	6	7/13/22	1	2.9
no[1,2,3-cd]pyrene	2.0	6	7/13/22	0.1	.2
nz[a,h]anthracene	0.42	6	7/13/22	1	.42
zo[g,h,i]perylene	1.6	6	7/13/22		
erphenyl-D14 (surr)	79 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

The TEF factors set forth in this report are taken from the following EPA document: "Mid- Atlantic Risk Assessment User's Guide: November 2013". This guidance document sets forth a recommended, but not mandatory approach based upon currently available information with respect to risk assessment for response actions at CERCLA sites. This document does not establish binding rules. This document contains the most current TEF values per VT IROCP.



EAI ID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

			A-11-14-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-		
Client Sample ID:	SB11-I				
Lab Sample ID:	245635.18				
Matrix:	soil				
Date Sampled:	7/6/22				
Pate Received:	7/8/22				
ate Prepared:	7/12/22				
nits	mg/kg				
/lethod	8270D				
nalyst	JMR	<b></b>			
	Results	Dilution Factor	Date Analyzed	TEF	TEQ
phthalene	< 0.008	1	7/13/22		
Methylnaphthalene	< 0.008	1	7/13/22		
Methylnaphthalene	< 0.008	1	7/13/22		
enaphthylene	< 0.008	1	7/13/22		
enaphthene	< 0.008	1	7/13/22		
orene	< 0.008	1	7/13/22		
enanthrene	< 0.008	1	7/13/22		
hracene	< 0.008	1	7/13/22		
oranthene	< 0.008	1	7/13/22		
rene	< 0.008	1	7/13/22		
nzo[a]anthracene	< 0.008	1	7/13/22	0.1	< .0008
rysene	< 0.008	1	7/13/22	0.001	< .00000
nzo[b]fluoranthene	< 0.008	1	7/13/22	0.1	< .0008
nzo[k]fluoranthene	< 0.008	1	7/13/22	0.01	< .00008
zo[a]pyrene	< 0.008	1	7/13/22	1	< .008
eno[1,2,3-cd]pyrene	< 0.008	1	7/13/22	0.1	< .0008
enz[a,h]anthracene	< 0.008	1	7/13/22	1	< .008
nzo[g,h,i]perylene	< 0.008	1	7/13/22		
Terphenyl-D14 (surr)	70 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene



EAI ID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

b Sample ID:   245635.19						
trix: soil tite Sampled: 7/6/22 tite Received: 7/8/22 tite Prepared: 7/12/22 tite Prepared:	Client Sample ID:	SB12-I				
te Sampled: 7/6/22 te Received: 7/8/22 te Prepared: 7/12/22 te Prepared:	Lab Sample ID:	245635.19				
tite Received: 7/8/22 tite Prepared: 7/12/22	Matrix:	soil				
Trip	Date Sampled:	7/6/22				
nits         mg/kg           ethod         8270D           nalyst         JMR Results         Dilution Factor         Date Analyzed         TEF         TEQ           phthalene         < 0.008         1         7/13/22	Date Received:	7/8/22				
Seminaria	Date Prepared:	7/12/22				
JMR   Pactor   Date Analyzed   TEF   TEQ	Units	mg/kg				
Dilution   Results   Factor   Date Analyzed   TEF   TEQ     Phthalene	Method	8270D				
Results   Factor   Date Analyzed   TEF   TEQ     Phthalene	Analyst	JMR				
Methylnaphthalene       < 0.008		Results		Date Analyzed	TEF	TEQ
Methylnaphthalene       < 0.008	laphthalene	< 0.008	1	7/13/22		
Methylnaphthalene       < 0.008	· -Methylnaphthalene	< 0.008	1	7/13/22		
enaphthene	Methylnaphthalene	< 0.008	1	7/13/22		
orene       < 0.008	cenaphthylene	< 0.008	1	7/13/22		
cenanthrene	cenaphthene	< 0.008	1	7/13/22		
thracene < 0.008 1 7/13/22 oranthene	uorene	< 0.008	1	7/13/22		
oranthene         0.018         1         7/13/22           rene         0.019         1         7/13/22           nzo[a]anthracene         0.014         1         7/13/22         0.1         .0014           rysene         0.014         1         7/13/22         0.001         .000014           nzo[b]fluoranthene         0.028         1         7/13/22         0.1         .0028           nzo[a]pyrene         0.0098         1         7/13/22         0.01         .000098           nzo[a]pyrene         0.022         1         7/13/22         1         .022           leno[1,2,3-cd]pyrene         0.022         1         7/13/22         0.1         .0022           penz[a,h]anthracene         < 0.008         1         7/13/22         1         < 0.008	nenanthrene	< 0.008	1	7/13/22		
rene         0.019         1         7/13/22           nzo[a]anthracene         0.014         1         7/13/22         0.1         .0014           rysene         0.014         1         7/13/22         0.001         .000014           nzo[b]fluoranthene         0.028         1         7/13/22         0.1         .0028           nzo[k]fluoranthene         0.0098         1         7/13/22         0.01         .000098           nzo[a]pyrene         0.022         1         7/13/22         1         .022           leno[1,2,3-cd]pyrene         0.022         1         7/13/22         0.1         .0022           penz[a,h]anthracene         < 0.008         1         7/13/22         1         < .008	thracene	< 0.008	1	7/13/22		
nzo[a]anthracene         0.014         1         7/13/22         0.1         .0014           rysene         0.014         1         7/13/22         0.001         .000014           nzo[b]fluoranthene         0.028         1         7/13/22         0.1         .0028           nzo[k]fluoranthene         0.0098         1         7/13/22         0.01         .000098           nzo[a]pyrene         0.022         1         7/13/22         1         .022           leno[1,2,3-cd]pyrene         0.022         1         7/13/22         0.1         .0022           penz[a,h]anthracene         < 0.008         1         7/13/22         1         < .008	uoranthene	0.018	1	7/13/22		
rysene         0.014         1         7/13/22         0.001         .000014           nzo[b]fluoranthene         0.028         1         7/13/22         0.1         .0028           nzo[k]fluoranthene         0.0098         1         7/13/22         0.01         .000098           nzo[a]pyrene         0.022         1         7/13/22         1         .022           leno[1,2,3-cd]pyrene         0.022         1         7/13/22         0.1         .0022           penz[a,h]anthracene         < 0.008         1         7/13/22         1         < .008	/rene	0.019	1			
nzo[b]fluoranthene         0.028         1         7/13/22         0.1         .0028           nzo[k]fluoranthene         0.0098         1         7/13/22         0.01         .000098           nzo[a]pyrene         0.022         1         7/13/22         1         .022           leno[1,2,3-cd]pyrene         0.022         1         7/13/22         0.1         .0022           penz[a,h]anthracene         < 0.008         1         7/13/22         1         < .008	enzo[a]anthracene	0.014	1	7/13/22		
nzo[k]fluoranthene     0.0098     1     7/13/22     0.01     .000098       nzo[a]pyrene     0.022     1     7/13/22     1     .022       leno[1,2,3-cd]pyrene     0.022     1     7/13/22     0.1     .0022       penz[a,h]anthracene     < 0.008	hrysene		1			
nzo[a]pyrene     0.022     1     7/13/22     1     .022       leno[1,2,3-cd]pyrene     0.022     1     7/13/22     0.1     .0022       penz[a,h]anthracene     < 0.008	enzo[b]fluoranthene		1			
leno[1,2,3-cd]pyrene	nzo[k]fluoranthene	0.0098	1		0.01	
penz[a,h]anthracene < 0.008 1 7/13/22 1 < .008	nzo[a]pyrene		1	7/13/22	•	
	deno[1,2,3-cd]pyrene		1		0.1	
nzola h ilnervlene 0.021 1 7/13/22	benz[a,h]anthracene		1		1	< .008
107 731 73	enzo[g,h,i]perylene	0.021	1	7/13/22		
Terphenyl-D14 (surr) 73 %R 7/13/22	-Terphenyl-D14 (surr)	73 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene



EAI ID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Client Sample ID:	SB13-l				
Lab Sample ID:	245635.2				
Matrix:	soil				
Date Sampled:	7/6/22				
Date Received:	7/8/22				
Date Prepared:	7/12/22				
Jnits	mg/kg				
Method	8270D				
Analyst	JMR				
		Dilution			
	Results	Factor	Date Analyzed	TEF	TEQ
laphthalene	0.038	1	7/13/22		
Methylnaphthalene	0.014	1	7/13/22		
Methylnaphthalene	0.016	1	7/13/22		
cenaphthylene	0.10	1	7/13/22		
cenaphthene	0.026	1	7/13/22		
uorene	0.054	1	7/13/22		
henanthrene	0.80	1	7/13/22		
nthracene	0.18	1	7/13/22		
luoranthene	1.1	1	7/13/22		
yrene	1.1	1	7/13/22		
enzo[a]anthracene	0.59	1	7/13/22	0.1	.059
hrysene	0.63	1	7/13/22	0.001	.00063
enzo[b]fluoranthene	0.80	1	7/13/22	0.1	.08
enzo[k]fluoranthene	0.26	1	7/13/22	0.01	.0026
enzo[a]pyrene	0.67	1	7/13/22	1	.67
deno[1,2,3-cd]pyrene	0.46	1	7/13/22	0.1	.046
ibenz[a,h]anthracene	0.095	1	7/13/22	1	.095
enzo[g,h,i]perylene	0.39	1	7/13/22		
-Terphenyl-D14 (surr)	64 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene



EAI ID#: **245635** 

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Client Sample ID:	SB14-I				
ab Sample ID:	245635.21				
latrix:	soil				
ate Sampled:	7/6/22				
ate Received:	7/8/22				
ate Prepared:	7/12/22				
nits	mg/kg				
lethod	8270D				
nalyst	JMR	Dilution			
	Results	Factor	Date Analyzed	TEF	TEQ
ohthalene	< 0.008	1	7/13/22		
ethylnaphthalene	< 0.008	1	7/13/22		
Methylnaphthalene	< 0.008	1	7/13/22		
enaphthylene	< 0.008	1	7/13/22		
enaphthene	< 0.008	1	7/13/22		
orene	< 0.008	1	7/13/22		
nanthrene	< 0.008	1	7/13/22		
hracene	< 0.008	1	7/13/22		
oranthene	< 0.008	1	7/13/22		
ene	< 0.008	1	7/13/22		
nzo[a]anthracene	< 0.008	1	7/13/22	0.1	< .0008
rysene	< 0.008	1	7/13/22	0.001	< .00000
nzo[b]fluoranthene	< 0.008	1	7/13/22	0.1	< .0008
nzo[k]fluoranthene	< 0.008	1	7/13/22	0.01	< .00008
nzo[a]pyrene	< 0.008	1	7/13/22	1	< .008
eno[1,2,3-cd]pyrene	< 0.008	1	7/13/22	0.1	< .0008
enz[a,h]anthracene	< 0.008	1	7/13/22	1	< .008
nzo[g,h,i]perylene	< 0.008	1	7/13/22		
erphenyl-D14 (surr)	65 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene



EAI ID#: **245635** 

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

ple ID: 245635.22   soil   npled: 7/6/22   served: 7/8/22   pared: 7/12/22   mg/kg   8270D     Marked   Marked		, the same transfer of the sam				
Soil   Property   Pr	lient Sample ID:	SB15-I				
npled: 7/6/22 pared: 7/8/22 pared: 7/12/22  mg/kg 8270D  JMR Dilution Results Factor Date Analyzed TEF TEQ  aphthalene 4 0.009 1 7/13/22 aphthalene 4 0.009 1 7/1	ab Sample ID:	245635.22				
pared: 7/8/22  pared: 7/12/22  mg/kg 8270D  JMR Pesults Factor Date Analyzed TEF TEQ  anh	atrix:	soil				
mg/kg 8270D	ate Sampled:	7/6/22				
Mag/kg   8270D     Sexuits   Factor   Date Analyzed   TEF   TEQ   Series	ate Received:	7/8/22				
Second   S	ate Prepared:	7/12/22				
Dilution   Results   Factor   Date Analyzed   TEF   TEQ	nits	mg/kg				
Results   Factor   Date Analyzed   TEF   TEQ	ethod	8270D				
Results Factor Date Analyzed TEF TEQ ene aphthalene aph	nalyst	JMR	D941			
aphthalene		Results		Date Analyzed	TEF	TEQ
aphthalene	ohthalene	< 0.009	1	7/13/22		
hylene	1ethylnaphthalene	< 0.009	1	7/13/22		
hene < 0.009 1 7/13/22 rene	ethylnaphthalene	< 0.009	1	7/13/22		
< 0.009       1       7/13/22         rene       0.085       1       7/13/22         ne       0.018       1       7/13/22         ene       0.29       1       7/13/22         enthracene       0.26       1       7/13/22       0.1       .015         enthracene       0.15       1       7/13/22       0.01       .0015         duoranthene       0.22       1       7/13/22       0.1       .022         duoranthene       0.076       1       7/13/22       0.01       .00076         oyrene       0.18       1       7/13/22       1       .18         2,3-cd]pyrene       0.13       1       7/13/22       0.1       .013         h]anthracene       0.025       1       7/13/22       1       .025         n,i]perylene       0.11       1       7/13/22       1       .025	naphthylene	0.015	1	7/13/22		
rene 0.085 1 7/13/22 ne 0.018 1 7/13/22 ene 0.29 1 7/13/22 anthracene 0.15 1 7/13/22 anthracene 0.15 1 7/13/22 0.1 .015 aluoranthene 0.22 1 7/13/22 0.1 .0021 aluoranthene 0.076 1 7/13/22 0.01 .00076 aluoranthene 0.18 1 7/13/22 1 .18 2,3-cd]pyrene 0.13 1 7/13/22 1 .18 2,3-cd]pyrene 0.025 1 7/13/22 1 .025 aluoranthene 0.025 1 7/13/22 1 .025	naphthene	< 0.009	1	7/13/22		
ne     0.018     1     7/13/22       ene     0.29     1     7/13/22       anthracene     0.26     1     7/13/22       anthracene     0.15     1     7/13/22     0.01     .0015       luoranthene     0.22     1     7/13/22     0.01     .00015       luoranthene     0.076     1     7/13/22     0.01     .00076       byrene     0.18     1     7/13/22     1     .18       2,3-cd]pyrene     0.13     1     7/13/22     0.1     .013       h]anthracene     0.025     1     7/13/22     1     .025       n,i]perylene     0.11     1     7/13/22     1     .025	orene	< 0.009	1	7/13/22		
ene 0.29 1 7/13/22  anthracene 0.15 1 7/13/22  anthracene 0.15 1 7/13/22 0.1 .015  luoranthene 0.22 1 7/13/22 0.1 .0021  luoranthene 0.076 1 7/13/22 0.01 .00076  byrene 0.18 1 7/13/22 1 .18  2,3-cd]pyrene 0.13 1 7/13/22 0.1 .013  h]anthracene 0.025 1 7/13/22 1 .025  n,i]perylene 0.11 1 7/13/22	nanthrene	0.085	1	7/13/22		
Inthracene         0.26         1         7/13/22         0.1         .015           Inthracene         0.15         1         7/13/22         0.01         .00015           Iluoranthene         0.22         1         7/13/22         0.1         .022           Iluoranthene         0.076         1         7/13/22         0.01         .00076           Oyrene         0.18         1         7/13/22         1         .18           2,3-cd]pyrene         0.13         1         7/13/22         0.1         .013           h]anthracene         0.025         1         7/13/22         1         .025           n,i]perylene         0.11         1         7/13/22	racene	0.018	1	7/13/22		
anthracene         0.15         1         7/13/22         0.1         .015           luoranthene         0.22         1         7/13/22         0.001         .00015           luoranthene         0.22         1         7/13/22         0.1         .022           luoranthene         0.076         1         7/13/22         0.01         .00076           oyrene         0.18         1         7/13/22         1         .18           2,3-cd]pyrene         0.13         1         7/13/22         0.1         .013           h]anthracene         0.025         1         7/13/22         1         .025           n,i]perylene         0.11         1         7/13/22	pranthene	0.29	1	7/13/22		
0.15         1         7/13/22         0.001         .00015           luoranthene         0.22         1         7/13/22         0.1         .022           luoranthene         0.076         1         7/13/22         0.01         .00076           byrene         0.18         1         7/13/22         1         .18           2,3-cd]pyrene         0.13         1         7/13/22         0.1         .013           h]anthracene         0.025         1         7/13/22         1         .025           n,i]perylene         0.11         1         7/13/22         1         .025	ene	0.26	1	7/13/22		
luoranthene 0.22 1 7/13/22 0.1 .022 luoranthene 0.076 1 7/13/22 0.01 .00076 byrene 0.18 1 7/13/22 1 .18 2,3-cd]pyrene 0.13 1 7/13/22 0.1 .013 h]anthracene 0.025 1 7/13/22 1 .025 n,i]perylene 0.11 1 7/13/22	zo[a]anthracene	0.15	1	7/13/22	0.1	.015
luoranthene 0.076 1 7/13/22 0.01 .00076 pyrene 0.18 1 7/13/22 1 .18 2,3-cd]pyrene 0.13 1 7/13/22 0.1 .013 h]anthracene 0.025 1 7/13/22 1 .025 n,i]perylene 0.11 1 7/13/22	ysene	0.15	1	7/13/22	0.001	.00015
oyrene         0.18         1         7/13/22         1         .18           2,3-cd]pyrene         0.13         1         7/13/22         0.1         .013           h]anthracene         0.025         1         7/13/22         1         .025           n,i]perylene         0.11         1         7/13/22         1         .025	zo[b]fluoranthene	0.22	1	7/13/22	0.1	.022
2,3-cd]pyrene       0.13       1       7/13/22       0.1       .013         h]anthracene       0.025       1       7/13/22       1       .025         n,i]perylene       0.11       1       7/13/22       1       .025	zo[k]fluoranthene	0.076	1	7/13/22	0.01	.00076
h]anthracene	o[a]pyrene	0.18	1	7/13/22	1	.18
<b>0.11</b> 1 7/13/22	no[1,2,3-cd]pyrene	0.13	1	7/13/22	0.1	.013
	enz[a,h]anthracene	0.025	1	7/13/22	1	.025
nyl-D14 (surr) 61 %R 7/13/22	nzo[g,h,i]perylene	0.11	1	7/13/22		
	erphenyl-D14 (surr)	61 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene



EAI ID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Client Sample ID:	SB16-I				
₋ab Sample ID:	245635.23				
latrix:	soil				
ate Sampled:	7/6/22				
eate Received:	7/8/22				
ate Prepared:	7/12/22				
nits	mg/kg				
ethod	8270D				
nalyst	JMR				
umiy w	JIVIN	Dilution			
	Results	Factor	Date Analyzed	TEF	TEQ
phthalene	< 0.008	1	7/13/22		
/lethylnaphthalene	< 0.008	1	7/13/22		
/lethylnaphthalene	< 0.008	1	7/13/22		
enaphthylene	0.014	1	7/13/22		
enaphthene	< 0.008	1	7/13/22		
orene	< 0.008	1	7/13/22		
enanthrene	0.068	1	7/13/22		
thracene	0.0098	1	7/13/22		
oranthene	0.15	1	7/13/22		
rene	0.13	1	7/13/22		
nzo[a]anthracene	0.072	1	7/13/22	0.1	.0072
rysene	0.081	1	7/13/22	0.001	.000081
nzo[b]fluoranthene	0.12	1	7/13/22	0.1	.012
nzo[k]fluoranthene	0.041	1	7/13/22	0.01	.00041
nzo[a]pyrene	0.095	1	7/13/22	1	.095
eno[1,2,3-cd]pyrene	0.072	1	7/13/22	0.1	.0072
penz[a,h]anthracene	0.014	1	7/13/22	1	.014
nzo[g,h,i]perylene	0.063	1	7/13/22		
Terphenyl-D14 (surr)	56 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene



EAI ID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Client Sample ID:	SB17-I				
ab Sample ID:	245635.24				
latrix:	soil				
ate Sampled:	7/6/22				
ate Received:	7/8/22				
ate Prepared:	7/12/22				
nits	mg/kg				
ethod	8270D				
nalyst	JMR	<b></b>			
	Results	Dilution Factor	Date Analyzed	TEF	TEQ
unhth a land	0.019	1	7/13/22		
hthalene	< 0.008	•	7/13/22 7/13/22		
ethylnaphthalene		1	7/13/22 7/13/22		
ethylnaphthalene	< 0.008	1	7/13/22 7/13/22		
naphthylene	<b>0.059</b> < 0.008	1	7/13/22 7/13/22		
naphthene		1	7/13/22 7/13/22		
rene	0.016	1 1	7/13/22 7/13/22		
nanthrene	0.28		7/13/22 7/13/22		
racene	0.030	1 1	7/13/22 7/13/22		
pranthene	0.49	1	7/13/22		
ene	0.40	1	7/13/22	0.1	.019
nzo[a]anthracene	0.19	1	7/13/22 7/13/22	0.001	.00026
/sene	0.26	1	7/13/22 7/13/22	0.001	.00028
zo[b]fluoranthene	0.37	1			
zo[k]fluoranthene	0.14	1	7/13/22	0.01	.0014
zo[a]pyrene	0.27	1	7/13/22	1	.27
no[1,2,3-cd]pyrene	0.24	1	7/13/22	0.1	.024
enz[a,h]anthracene	0.048	1	7/13/22	1	.048
nzo[g,h,i]perylene	0.21	1	7/13/22		
erphenyl-D14 (surr)	62 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene



EAI ID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Client Sample ID:	SB7-N				
Lab Sample ID:	245635.25				
Matrix:	soil				
Date Sampled:	7/6/22				
Date Received:	7/8/22				
Date Prepared:	7/12/22				
Units	mg/kg				
Method	8270D				
Analyst	JMR				
		Dilution	Data Analyzad	TEF	TEQ
	Results	Factor	Date Analyzed	IEF	IEW
laphthalene	< 0.008	1	7/13/22		
-Methylnaphthalene	< 0.008	1	7/13/22		
-Methylnaphthalene	< 0.008	1	7/13/22		
cenaphthylene	< 0.008	1	7/13/22		
Acenaphthene	< 0.008	1	7/13/22		
luorene	< 0.008	1	7/13/22		
henanthrene	< 0.008	1	7/13/22		
nthracene	< 0.008	1	7/13/22		
luoranthene	< 0.008	1	7/13/22		
Pyrene	< 0.008	1	7/13/22		
Benzo[a]anthracene	< 0.008	1	7/13/22	0.1	< .0008
Chrysene	< 0.008	1	7/13/22	0.001	< .00000
enzo[b]fluoranthene	< 0.008	1	7/13/22	0.1	< .0008
enzo[k]fluoranthene	< 0.008	1	7/13/22	0.01	< .00008
enzo[a]pyrene	< 0.008	1	7/13/22	1	< .008
ndeno[1,2,3-cd]pyrene	< 0.008	1	7/13/22	0.1	< .0008
Dibenz[a,h]anthracene	< 0.008	1	7/13/22	1	800, >
Benzo[g,h,i]perylene	< 0.008	1	7/13/22		
p-Terphenyl-D14 (surr)	72 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene



EALID#: **245635** 

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

ient Sample ID:         SB11-N           ab Sample ID:         245635.26           atrix:         soil           ate Sampled:         7/6/22           ate Received:         7/8/22           ate Prepared:         7/12/22           nits         mg/kg           lethod         8270D           nalyst         JMR           Dilution	
atrix:       soil         ate Sampled:       7/6/22         ate Received:       7/8/22         ate Prepared:       7/12/22         nits       mg/kg         lethod       8270D         nalyst       JMR	
ate Sampled:       7/6/22         ate Received:       7/8/22         ate Prepared:       7/12/22         nits       mg/kg         lethod       8270D         nalyst       JMR	
ate Received:       7/8/22         ate Prepared:       7/12/22         nits       mg/kg         lethod       8270D         nalyst       JMR	
ate Prepared: 7/12/22  nits mg/kg lethod 8270D  nalyst JMR	
nits mg/kg lethod 8270D nalyst JMR	
lethod 8270D nalyst JMR	
nalyst JMR	
nalyst JMR	
	TEQ
ohthalene < 0.008 1 7/13/22	
lethylnaphthalene < 0.008 1 7/13/22	
lethylnaphthalene < 0.008 1 7/13/22	
naphthylene < 0.008 1 7/13/22	
naphthene < 0.008 1 7/13/22	
orene < 0.008 1 7/13/22	
nanthrene < 0.008 1 7/13/22	
hracene < 0.008 1 7/13/22	
oranthene < 0.008 1 7/13/22	
rene < 0.008 1 7/13/22	
nzo[a]anthracene < 0.008 1 7/13/22 0.1 <	8000.
rysene < 0.008 1 7/13/22 0.001 < .0	.00000
nzo[b]fluoranthene < 0.008 1 7/13/22 0.1 <	8000.
zo[k]fluoranthene < 0.008 1 7/13/22 0.01 < .0	80000.
zo[a]pyrene < 0.008 1 7/13/22 1 <	800. >
eno[1,2,3-cd]pyrene < 0.008 1 7/13/22 0.1 <	8000.
enz[a,h]anthracene < 0.008 1 7/13/22 1 <	< .008
nzo[g,h,i]perylene < 0.008 1 7/13/22	
Terphenyl-D14 (surr) 76 %R 7/13/22	

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene



EAIID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Sample ID:						
rix: e Sampled: 7/6/22 e Received: 7/8/22 ts mg/kg thod 8270D alyst  JMR Results Factor Date Analyzed T/13/22 athylnaphthalene 40.008 athylnaphthalene 40.008 athylnaphthene 40.008 athylnaphthene 40.008 athylnaphthene 40.008 athylnaphthene 40.008 athylnaphthene 40.008 athylnaphthene 40.008 athylnaphthalene 40.008 athylnaphthalene 40.008 athylnaphthene	Client Sample ID:	SB12-N				
e Sampled: 7/6/22 e Received: 7/8/22 ts mg/kg thod 8270D allyst JMR Results Factor Date Analyzed TEF TEQ hthalene <0.008 1 7/13/22 ethylnaphthalene <0.008 1 7/13/22 enaphthylene <0.008 1 7/13/22 enaphthylene <0.008 1 7/13/22 enaphthene <0.008 1 7/13/22 enaphthylene <0.008 1 7/13/22 enaphthene <0.008 1 7/13/22 enaphthene <0.008 1 7/13/22 enaphthene <0.008 1 7/13/22 enaphthene <0.008 1 7/13/22 enaphthylene <0.008 1 7/13/22 enaphthylene <0.008 1 7/13/22 enaphthene enaphthen	ab Sample ID:	245635,27				
e Received: 7/8/22 e Prepared: 7/12/22 ts mg/kg tthod 8270D aliyst  JMR Results Factor Date Analyzed TEF TEQ hthalene <0.008 1 7/13/22 ethylnaphthalene <0.008 1 7/13/22 ethylnaphthalene <0.008 1 7/13/22 enaphthylene <0.008 1 7/13/22 enaphthylene <0.008 1 7/13/22 enaphthene en	atrix:	soil				
e Received: 7/8/22 ts mg/kg tthod 8270D alyst    JMR	ate Sampled:	7/6/22				
ts mg/kg thod 8270D allyst Dilution Results Factor Date Analyzed TEF TEQ hthalene < 0.008 1 7/13/22 athylnaphthalene < 0.008 athylnaphthalene < 0.008 1 7/13/22 athylnaphthalene < 0.008 athylnaphthalene < 0.008 1 7/13/22 athylnaphthalene < 0.008 athylnaphth	ate Received:	7/8/22				
tis thod 8270D	ate Prepared:					
Majest   JMR   Dilution   Results   Factor   Date Analyzed   TEF   TEQ	nits	mg/kg				
Semilar   Semi	ethod					
Results   Factor   Date Analyzed   TEF   TEQ     Inthalene	nalyst					
Anthalene		Poeulte		Date Analyzed	TEE	TEO
ethylnaphthalene				-	1 1	i L Q
ethylnaphthalene			1			
Table   Tabl	= *		1			
Table   Tabl	= .		1	.,		
rene       < 0.008	enaphthylene	< 0.008	1			
Total content	naphthene	< 0.008	1	7/13/22		
racene < 0.008 1 7/13/22 ranthene < 0.008 1 7/13/22 ranthene < 0.008 1 7/13/22 ranthene < 0.008 1 7/13/22 rzo[a]anthracene < 0.008 1 7/13/22 rzo[b]fluoranthene < 0.008 1 7/13/22 0.001 < .00000 rzo[b]fluoranthene < 0.008 1 7/13/22 0.1 < .0008 rzo[k]fluoranthene < 0.008 1 7/13/22 0.1 < .0008 rzo[k]fluoranthene < 0.008 1 7/13/22 0.1 < .0008 rzo[a]pyrene < 0.008 1 7/13/22 1 < .008 rzo[a]pyrene < 0.008 1 7/13/22 1 < .008 rzo[a]pyrene < 0.008 1 7/13/22 1 < .008 rzo[a,h]anthracene < 0.008 1 7/13/22 1 < .008 rzo[g,h,i]perylene < 0.008 1 7/13/22	prene	< 0.008	1	7/13/22		
ranthene < 0.008 1 7/13/22 ene < 0.008 1 7/13/22 ene < 0.008 1 7/13/22 ene < 0.008 1 7/13/22 0.1 < .0008 ene < 0.008 1 7/13/22 0.1 < .0008 ene < 0.008 1 7/13/22 0.001 < .00000 ene < 0.008 1 7/13/22 0.1 < .0008 ene < 0.008 1 7/13/22 1 < .008 ene < 0.008 1 7/13/22 1 < .008 ene < 0.008 1 7/13/22 1 < .008 ene < 0.008 ene < 0.008 1 7/13/22 1 < .008 ene < 0.008 ene < 0.008 1 7/13/22 1 < .008 ene < 0.008 ene < 0.008 1 7/13/22 1 < .008 ene < 0.008 ene < 0.008 1 7/13/22 1 < .008 ene < 0.008 ene < 0.008 1 7/13/22 1 < .008 ene < 0.008	nanthrene	< 0.008	1	7/13/22		
ene       < 0.008	nracene	< 0.008	1	7/13/22		
zo[a]anthracene       < 0.008	oranthene	< 0.008	1	7/13/22		
vsene       < 0.008	ene	< 0.008	1	7/13/22		
zo[b]fluoranthene       < 0.008	zo[a]anthracene	< 0.008	1	7/13/22	0.1	< .0008
zo[k]fluoranthene       < 0.008	ysene	< 0.008	1	7/13/22	0.001	< .00000
zo[k]fluoranthene       < 0.008	zo[b]fluoranthene	< 0.008	1	7/13/22	0.1	< .0008
zo[a]pyrene       < 0.008		< 0.008	1	7/13/22	0.01	< .00008
eno[1,2,3-cd]pyrene       < 0.008	_	< 0.008	1	7/13/22	1	< .008
enz[a,h]anthracene < 0.008 1 7/13/22 1 < .008 zo[g,h,i]perylene < 0.008 1 7/13/22		< 0.008	1	7/13/22	0.1	< .0008
zo[g,h,i]perylene < 0.008 1 7/13/22		< 0.008	1	7/13/22	1	< .008
	zo[g,h,i]perylene	< 0.008	1	7/13/22		
	erphenyl-D14 (surr)	75 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

EAI ID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

ient Sample ID:	SB15-N				
ab Sample ID:	245635.28				
atrix:	soil				
ate Sampled:	7/6/22				
ate Received:	7/8/22				
ate Prepared:	7/12/22				
nits	mg/kg				
ethod	8270D				
nalyst	JMR	Dilution			
	Results	Factor	Date Analyzed	TEF	TEQ
ohthalene	< 0.007	1	7/13/22		
ethylnaphthalene	< 0.007	1	7/13/22		
ethylnaphthalene	< 0.007	1	7/13/22		
naphthylene	< 0.007	1	7/13/22		
naphthene	< 0.007	1	7/13/22		
orene	< 0.007	1	7/13/22		
nanthrene	< 0.007	1	7/13/22		
hracene	< 0.007	1	7/13/22		
ranthene	< 0.007	1	7/13/22		
ene	< 0.007	1	7/13/22		
zo[a]anthracene	< 0.007	1	7/13/22	. 0.1	< .0007
ysene	< 0.007	1	7/13/22	0.001	< .00000
nzo[b]fluoranthene	< 0.007	1	7/13/22	0.1	< .0007
nzo[k]fluoranthene	< 0.007	1	7/13/22	0.01	< .00007
zo[a]pyrene	< 0.007	1	7/13/22	1	< .007
eno[1,2,3-cd]pyrene	< 0.007	1	7/13/22	0.1	< .0007
enz[a,h]anthracene	< 0.007	1	7/13/22	1	< .007
nzo[g,h,i]perylene	< 0.007	1	7/13/22		
erphenyl-D14 (surr)	78 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene



EAI ID#: **245635** 

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

		<del></del>			
Client Sample ID:	Duplicate 3				
ıb Sample ID:	245635.29				
atrix:	soil				
ate Sampled:	7/6/22				
ate Received:	7/8/22				
ate Prepared:	7/12/22				
Inits	mg/kg				
flethod	8270D				
nalyst	JMR	D!!4!			
	Results	Dilution Factor	Date Analyzed	TEF	TEQ
phthalene	0.023	1	7/13/22		
⁄lethylnaphthalene	0.0083	1	7/13/22		
/lethylnaphthalene	< 0.007	1	7/13/22		
enaphthylene	0.089	1	7/13/22		
enaphthene	0.0095	1	7/13/22		
orene	0.020	1	7/13/22		
enanthrene	0.32	1	7/13/22		
hracene	0.084	1	7/13/22		
oranthene	0.67	1	7/13/22		
ene	0.60	1	7/13/22		
nzo[a]anthracene	0.38	1	7/13/22	0.1	.038
rysene	0.45	1	7/13/22	0.001	.00045
nzo[b]fluoranthene	0.63	1	7/13/22	0.1	.063
nzo[k]fluoranthene	0.20	1	7/13/22	0.01	.002
nzo[a]pyrene	0.50	1	7/13/22	1	.5
eno[1,2,3-cd]pyrene	0.39	1	7/13/22	0.1	.039
enz[a,h]anthracene	0.083	1	7/13/22	1	.083
nzo[g,h,i]perylene	0.33	1	7/13/22		
「erphenyl-D14 (surr)	65 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene



EAIID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

ample ID: 245635.3 :: soil Sampled: 7/6/22 Received: 7/8/22 Prepared: 7/12/22 mg/kg od 8270D st JMR Mesults Factor Date Analyzed TEF TEQ malene 0.077 5 7/13/22 ylnaphthalene 0.04 5 7/13/22 ylnaphthalene 0.04 5 7/13/22 ohthylene 0.24 5 7/13/22 ohthylene 0.04 5 7/13/22 ohthene 0.067 5 7/13/22 ohthene 0.067 5 7/13/22 cene 0.06 5 7/13/22 cene 0.06 5 7/13/22 ohthene 0.07 5 7/13/22 ohthene 0.08 5 7/13/22 ohthene 0.09 5 7/13/22 ohthene 0.0						
Sampled:   7/6/22   7/8/22	Client Sample ID:	Duplicate 4				
Received: 7/8/22 Prepared: 7/12/22  Prepared: 7/12/22  mg/kg  od 8270D  st JMR  Mesults Factor Date Analyzed TEF TEQ  nalene 0.077 5 7/13/22  ylnaphthalene 0.04 5 7/13/22  ohthylene 0.04 5 7/13/22  ohthylene 0.04 5 7/13/22  ohthrene 0.04 5 7/13/22  ohthrene 0.067 5 7/13/22  ne 0.067 5 7/13/22  cene 0.06 5 7/13/22  ohthrene 0.16 5 7/13/22  ohthrene 0.18 5 7/13/22  ohthr	∟ab Sample ID:	245635.3				
Received: 7/8/22 Prepared: 7/12/22 mg/kg  od 8270D  st	Matrix:	soil				
Prepared: 7/12/22 mg/kg od 8270D st	Date Sampled:	7/6/22				
bd 8270D st JMR JIMR bilution Results Pactor Date Analyzed TEF TEQ nalene 9.0077 5 7/13/22 9/10/13/24 9/10/13/	Date Received:	7/8/22				
old         8270D         JMR         Dilution Factor         Date Analyzed         TEF         TEQ           nalene         0.077         5         7/13/22	ate Prepared:	7/12/22				
Section   Sect	Inits	mg/kg				
Results   Factor   Date Analyzed   TEF   TEQ	/lethod	8270D				
Results         Factor         Date Analyzed         TEF         TEQ           ralene         0.077         5         7/13/22	nalyst	JMR	D'11-41			
ylnaphthalene		Results		Date Analyzed	TEF	TEQ
ylnaphthalene	aphthalene	0.077	5	7/13/22		
ohthylene         0.24         5         7/13/22           ohthene         < 0.04         5         7/13/22           ne         < 0.04         5         7/13/22           nthrene         0.67         5         7/13/22           cene         0.16         5         7/13/22           nthene         2.4         5         7/13/22           galanthracene         1.8         5         7/13/22         0.1         .18           ene         2.4         5         7/13/22         0.01         .0024           lbifluoranthene         3.9         5         7/13/22         0.1         .39           lkifluoranthene         1.3         5         7/13/22         0.01         .013           galpyrene         2.8         5         7/13/22         0.1         .28           [1,2,3-cd]pyrene         2.2         5         7/13/22         0.1         .22           [a,h,i]perylene         2.1         5         7/13/22         1         .5	Methylnaphthalene	< 0.04	5	7/13/22		
ohthene       < 0.04	1ethylnaphthalene	< 0.04	5	7/13/22		
No.	enaphthylene	0.24	5	7/13/22		
Inthrene     0.67     5     7/13/22       cene     0.16     5     7/13/22       inthene     2.4     5     7/13/22       ia]anthracene     1.8     5     7/13/22     0.1     .18       ene     2.4     5     7/13/22     0.01     .0024       [b]fluoranthene     3.9     5     7/13/22     0.1     .39       [k]fluoranthene     1.3     5     7/13/22     0.01     .013       [a]pyrene     2.8     5     7/13/22     1     2.8       [1,2,3-cd]pyrene     2.2     5     7/13/22     0.1     .22       [a,h]anthracene     0.50     5     7/13/22     1     .5       [g,h,i]perylene     2.1     5     7/13/22     1     .5	enaphthene	< 0.04	5	7/13/22		
cene       0.16       5       7/13/22         inthene       2.4       5       7/13/22         gajanthracene       1.8       5       7/13/22       0.1       .18         ene       2.4       5       7/13/22       0.01       .0024         [b]fluoranthene       3.9       5       7/13/22       0.1       .39         [k]fluoranthene       1.3       5       7/13/22       0.1       .013         [a]pyrene       2.8       5       7/13/22       1       2.8         [1,2,3-cd]pyrene       2.2       5       7/13/22       0.1       .22         [a,h]anthracene       0.50       5       7/13/22       1       .5         [g,h,i]perylene       2.1       5       7/13/22       1       .5	orene	< 0.04	5	7/13/22		
Inthene       2.4       5       7/13/22         Inthene       2.3       5       7/13/22         Interest (a)       1.8       5       7/13/22       0.1       .18         Interest (a)       2.4       5       7/13/22       0.01       .0024         Interest (a)       3.9       5       7/13/22       0.1       .39         Interest (a)       1.3       5       7/13/22       0.1       .013         Interest (a)       2.8       5       7/13/22       1       2.8         Interest (a)       2.2       5       7/13/22       0.1       .22         Interest (a)       3.9       5       7/13/22       0.1       .013         Interest (a)       3.9       5       7/13/22	enanthrene	0.67	5	7/13/22		
2.3     5     7/13/22       [a]anthracene     1.8     5     7/13/22     0.1     .18       [b]fluoranthene     2.4     5     7/13/22     0.001     .0024       [b]fluoranthene     3.9     5     7/13/22     0.1     .39       [k]fluoranthene     1.3     5     7/13/22     0.01     .013       [a]pyrene     2.8     5     7/13/22     1     2.8       [1,2,3-cd]pyrene     2.2     5     7/13/22     0.1     .22       [a,h]anthracene     0.50     5     7/13/22     1     .5       [g,h,i]perylene     2.1     5     7/13/22	hracene	0.16	5	7/13/22		
[a] anthracene       1.8       5       7/13/22       0.1       .18         ene       2.4       5       7/13/22       0.001       .0024         [b] fluoranthene       3.9       5       7/13/22       0.1       .39         [k] fluoranthene       1.3       5       7/13/22       0.01       .013         [a] pyrene       2.8       5       7/13/22       1       2.8         [1,2,3-cd] pyrene       2.2       5       7/13/22       0.1       .22         [a, h] anthracene       0.50       5       7/13/22       1       .5         [g, h, i] perylene       2.1       5       7/13/22       1       .5	oranthene	2.4	5	7/13/22		
ene       2.4       5       7/13/22       0.001       .0024         [b]fluoranthene       3.9       5       7/13/22       0.1       .39         [k]fluoranthene       1.3       5       7/13/22       0.01       .013         [a]pyrene       2.8       5       7/13/22       1       2.8         [1,2,3-cd]pyrene       2.2       5       7/13/22       0.1       .22         (a,h)anthracene       0.50       5       7/13/22       1       .5         [g,h,i]perylene       2.1       5       7/13/22	ene	2.3	5	7/13/22		
[b]fluoranthene       3.9       5       7/13/22       0.1       .39         [k]fluoranthene       1.3       5       7/13/22       0.01       .013         [a]pyrene       2.8       5       7/13/22       1       2.8         [1,2,3-cd]pyrene       2.2       5       7/13/22       0.1       .22         [a,h]anthracene       0.50       5       7/13/22       1       .5         [a,h,i]perylene       2.1       5       7/13/22       1       .5	nzo[a]anthracene	1.8	5	7/13/22	0.1	.18
[k]fluoranthene       1.3       5       7/13/22       0.01       .013         [a]pyrene       2.8       5       7/13/22       1       2.8         [1,2,3-cd]pyrene       2.2       5       7/13/22       0.1       .22         [a],h]anthracene       0.50       5       7/13/22       1       .5         [a],h,i]perylene       2.1       5       7/13/22	rysene	2.4	5	7/13/22	0.001	.0024
[a]pyrene       2.8       5       7/13/22       1       2.8         [1,2,3-cd]pyrene       2.2       5       7/13/22       0.1       .22         [a,h]anthracene       0.50       5       7/13/22       1       .5         [g,h,i]perylene       2.1       5       7/13/22	nzo[b]fluoranthene	3.9	5	7/13/22	0.1	.39
[1,2,3-cd]pyrene	nzo[k]fluoranthene	1.3	5	7/13/22	0.01	.013
L[a,h]anthracene       0.50       5       7/13/22       1       .5         [g,h,i]perylene       2.1       5       7/13/22	zo[a]pyrene		5	7/13/22	•	
[g,h,i]perylene <b>2.1</b> 5 7/13/22	eno[1,2,3-cd]pyrene	2.2	5	7/13/22	0.1	
tal 3	enz[a,h]anthracene				1	.5
henyl-D14 (surr) 80 %R 7/13/22	nzo[g,h,i]perylene		5			
	Terphenyl-D14 (surr)	80 %R		7/13/22		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

The TEF factors set forth in this report are taken from the following EPA document: "Mid- Atlantic Risk Assessment User's Guide: November 2013". This guidance document sets forth a recommended, but not mandatory approach based upon currently available information with respect to risk assessment for response actions at CERCLA sites. This document does not establish binding rules. This document contains the most current TEF values per VT IROCP.



Batch ID: 637932-07797/S071222PAH1

EAI ID#: 245635

Client: **KAS, Inc.**Client Designation:

**Windsor Housing Lot #1 | 507210630** 

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Naphthalene	< 0.007	1.2 (74 %R)	1.3 (77 %R) (4 RPD	) 7/12/2022	mg/kg	40 - 140	30	8270D
2-Methylnaphthalene	< 0.007	1.4 (81 %R)	1.4 (84 %R) (4 RPD	) 7/12/2022	mg/kg	40 - 140	30	8270D
1-Methylnaphthalene	< 0.007	1.3 (78 %R)	1.3 (80 %R) (3 RPD	) 7/12/2022	mg/kg	40 - 140	30	8270D
Acenaphthylene	< 0.007	1.3 (77 %R)	1.3 (80 %R) (3 RPD	) 7/12/2022	mg/kg	40 - 140	30	8270D
Acenaphthene	< 0.007	1.2 (73 %R)	1.2 (75 %R) (2 RPD	) 7/12/2022	mg/kg	40 - 140	30	8270D
Fluorene	< 0.007	1.4 (84 %R)	1.4 (86 %R) (3 RPD	) 7/12/2022	mg/kg	40 - 140	30	8270D
Phenanthrene	< 0.007	1.3 (78 %R)	1.3 (80 %R) (2 RPD	) 7/12/2022	mg/kg	40 - 140	30	8270D
Anthracene	< 0.007	1.4 (84 %R)	1.4 (86 %R) (3 RPD	) 7/12/2022	mg/kg	40 - 140	30	8270D
Fluoranthene	< 0.007	1.4 (81 %R)	1.4 (83 %R) (2 RPD	) 7/12/2022	mg/kg	40 - 140	30	8270D
Pyrene	< 0.007	1.4 (82 %R)	1.4 (84 %R) (2 RPD	) 7/12/2022	mg/kg	40 - 140	30	8270D
Benzo[a]anthracene	< 0.007	1.3 (78 %R)	1.3 (80 %R) (3 RPD	) 7/12/2022	mg/kg	40 - 140	30	8270D
Chrysene	< 0.007	1.4 (84 %R)	1.4 (84 %R) (1 RPD	) 7/12/2022	mg/kg	40 - 140	30	8270D
Benzo[b]fluoranthene	< 0.007	1.4 (85 %R)	1.4 (82 %R) (4 RPD	) 7/12/2022	mg/kg	40 - 140	30	8270D
Benzo[k]fluoranthene	< 0.007	1.3 (79 %R)	1.4 (83 %R) (5 RPD	) 7/12/2022	mg/kg	40 - 140	30	8270D
Benzo[a]pyrene	< 0.007	1.3 (81 %R)	1.4 (82 %R) (1 RPD	) 7/12/2022	mg/kg	40 - 140	30	8270D
Indeno[1,2,3-cd]pyrene	< 0.007	1.4 (84 %R)	1.4 (83 %R) (1 RPD	) 7/12/2022	mg/kg	40 - 140	30	8270D
Dibenz[a,h]anthracene	< 0.007	1.4 (81 %R)	1.4 (82 %R) (0 RPD	) 7/12/2022	mg/kg	40 - 140	30	8270D
Benzo[g,h,i]perylene	< 0.007	1.3 (80 %R)	1.3 (80 %R) (1 RPD	) 7/12/2022	mg/kg	40 - 140	30	8270D
p-Terphenyl-D14 (surr)	79 %R	80 %R	82 %F	R 7/12/2022	mg/kg	30 - 130	ı	8270D

<sup>\*/!</sup> Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

## QC REPORT



Client: KAS, Inc. EAI ID#: 245635

Batch ID: 637932-08120/S071222PAH2

Client Designation: Windsor Housing Lot #1 | 507210630

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Naphthalene	< 0.007	1.3 (76 %R)	1.2 (74 %R) (4 RPD	) 7/13/2022	m <b>g</b> /kg	40 - 140	30	8270D
2-Methylnaphthalene	< 0.007	1.4 (82 %R)	1.3 (79 %R) (4 RPD	) 7/13/2022	mg/kg	40 - 140	30	8270D
1-Methylnaphthalene	< 0.007	1.3 (79 %R)	1.3 (76 %R) (4 RPD	) 7/13/2022	mg/kg	40 - 140	30	8270D
Acenaphthylene	< 0.007	1.3 (81 %R)	1.3 (77 %R) (4 RPD	) 7/13/2022	mg/kg	40 - 140	30	8270D
Acenaphthene	< 0.007	1.3 (78 %R)	1.2 (74 %R) (5 RPD	) 7/13/2022	mg/kg	40 - 140	30	8270D
Fluorene	< 0.007	1.4 (85 %R)	1.4 (84 %R) (1 RPD	) 7/13/2022	mg/kg	40 - 140	30	8270D
Phenanthrene	< 0.007	1.4 (81 %R)	1.4 (83 %R) (2 RPD	) 7/13/2022	mg/kg	40 - 140	30	8270D
Anthracene	< 0.007	1.4 (83 %R)	1.4 (85 %R) (2 RPD	) 7/13/2022	mg/k <b>g</b>	40 - 140	30	8270D
Fluoranthene	< 0.007	1.3 (81 %R)	1.4 (84 %R) (4 RPD	) 7/13/2022	mg/kg	40 - 140	30	8270D
Pyrene	< 0.007	1.3 (79 %R)	1.4 (83 %R) (5 RPD	) 7/13/2022	mg/kg	40 - 140	30	8270D
Benzo[a]anthracene	< 0.007	1.3 (79 %R)	1.4 (83 %R) (5 RPD	) 7/13/2022	mg/kg	40 - 140	30	8270D
Chrysene	< 0.007	1.4 (83 %R)	1.4 (86 %R) (3 RPD	) 7/13/2022	mg/kg	40 - 140	30	8270D
Benzo[b]fluoranthene	< 0.007	1.4 (83 %R)	1.5 (88 %R) (6 RPD	7/13/2022	mg/kg	40 - 140	30	8270D
Benzo[k]fluoranthene	< 0.007	1.4 (83 %R)	1.4 (86 %R) (3 RPD	7/13/2022	mg/kg	40 - 140	30	8270D
Benzo[a]pyrene	< 0.007	1.4 (81 %R)	1.4 (84 %R) (4 RPD	7/13/2022	mg/kg	40 - 140	30	8270D
Indeno[1,2,3-cd]pyrene	< 0.007	1.4 (83 %R)	1.5 (87 %R) (5 RPD	7/13/2022	mg/kg	40 - 140	30	8270D
Dibenz[a,h]anthracene	< 0.007	1.4 (83 %R)	1.5 (89 %R) (7 RPD	) 7/13/2022	mg/kg	40 - 140	30	8270D
Benzo[g,h,i]perylene	< 0.007	1.3 (79 %R)	1.4 (82 %R) (3 RPD	) 7/13/2022	mg/kg	40 - 140	30	8270D
p-Terphenyl-D14 (surr)	82 %R	81 %R	84 %F	7/13/2022	mg/kg	30 - 130		8270D

<sup>\*/!</sup> Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.



EAI ID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Sample ID:	SB18-S	SB15-S	SB18-I	SB9-I					
Lab Sample ID:	245635.01	245635.1	245635.13	245635.16					
Matrix:	soil	soil	soil	soil					
Date Sampled:	7/6/22	7/6/22	7/6/22	7/6/22	Analytical		Date of		
Date Received:	7/8/22	7/8/22	7/8/22	7/8/22	Matrix	Units	Analysis	Method	Analyst
Arsenic Lead	4.4 22	5.0 73	3.3 4.8	3.9 12	SolTotDry SolTotDry	mg/kg mg/kg	7/13/22 7/13/22	6020A 6020A	DS DS

Sample ID:	SB12-I	SB15-I	SB7-N	SB11-N					
Lab Sample ID:	245635.19	245635.22	245635.25	245635.26					
Matrix:	soil	soil	soil	soil					
Date Sampled:	7/6/22	7/6/22	7/6/22	7/6/22	Analytical		Date of		
Date Received:	7/8/22	7/8/22	7/8/22	7/8/22	Matrix	Units	Analysis	Method	Analyst
Arsenic	4.5	4.5	3.7	3.6	SolTotDry	mg/kg	7/13/22	6020A	DS
Lead	9.8	41	5.4	5.6	SolTotDry	mg/kg	7/13/22	6020A	DS

# M

## LABORATORY REPORT

EAI ID#: 245635

Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

Sample ID:	SB12-N	SB15-N	Duplicate 5					
Lab Sample ID:	245635,27	245635.28	245635.31					
Matrix:	soil	soil	soil					
Date Sampled:	7/6/22	7/6/22	7/6/22	Analytical		Date of		
Date Received:	7/8/22	7/8/22	7/8/22	Matrix	Units	Analysis	Method	Analyst
Arsenic Lead	3.6 7.0	3.7 4.2	2.6 3.4	SolTotDry SolTotDry	mg/kg mg/kg	7/13/22 7/13/22	6020A 6020A	DS DS

Sample ID:	SB9-S	SB12-S					
Lab Sample ID:	245635.04	245635.07					
Matrix:	soil	soil					
Date Sampled:	7/6/22	7/6/22	Analytical		Date of		
Date Received:	7/8/22	7/8/22	Matrix	Units	Analysis	Method	Analyst
Arsenic	5.3	4.7	SolTotDry	mg/kg	7/13/22	6020A	DS
Lead	410	98	SolTotDry	mg/kg	7/13/22	6020A	DS
Lead	< 0.5	< 0.5	TCLPsolid	mg/L	7/18/22	6020A	DS

# QC REPORT



Client: KAS, Inc.

Client Designation: Windsor Housing Lot #1 | 507210630

	Date of								
Parameter Name	Blank	LCS	LCSD	Units Anal		Limits	RPD	Method	
Arsenic	< 0.5	39 (97 %R)	N	A mg/kg	7/13/22	80 - 120	20	6020A	
Lead	< 0.5	40 (99 %R)	N.	A mg/kg	7/13/22	80 - 120	20	6020A	
Lead	< 0.5	1.0 (98 %R)	N	A mg/L	7/18/22	80 - 120	20	6020A	

EAI ID#: 245635

<sup>\*/!</sup> Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

Page	/	of	4
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#### CHAIN-OF-CUSTODY RECORD

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

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				Y	<b>O</b> O			XE	96	SECTION S.	TCLF		I	OR	GA						ME	TALS			JER			30	
	SAMPLING	NO.	SITE	VIIC			DBCP	7]	7	TPH 1664	i ∃		200			D00	196	SULFIDE	יינ		(w)							Suc	
	DATE/TIME	3 3 3 3	)MPC			MAVPH	88	MAFPH	PCB 608 PCB 8082	=	IBN ' METALS Herb		NO,N	를 뜻	LORINE T. ALK.	707	otal Sul	REACTIVE TABILITY	щ С	COUNT	ST BELC	ELOW)							
	*If Composite, Indicate Both	X (S	ů *	ONLY 624		15	~\ :			1664	ABN	9 21	т "	- G	ES. E	101.5	_	DE IGNI	E E	PLATE	TALS (LI	(LIST B				ERS			
Sample I.D.	Start & Finish Date / Time		GRAB/*COMPOSITE	524.2 524.2 MTBE ONLY 8260 624	1, 4 DIOXANE 8021	8015 GRO		IPHSIOU BOIS DRO	PEST 608 PEST 8081	OIL & GREASE	TCLP 1311 VOC PES	BOD CBOD TS TSS TDS	BR CI NO <sub>2</sub>	TKN T. PHOS.	PH T. I SPEC. CON.	COD PHEN	Total Cyanide	Reactive Cyani Flashpoint	TOTAL COLIFORM E. COLI FECAL COLIFORM	Enterococci Heterotrophic Plate Count	DISSOLVED METALS (LIST BELOW)	TOTAL METALS (LIST BELOW)				# OF CONTAINERS	MeOH VIAL #	#	
SB18-5	7/6/22 1225	S	G				X															χ				2			
	1237						χ																			1			
5B7-S 5B8-S	1255						X																			1			
589-5	1320						χ										****					Χ				2			
589-5 SB10-5	1340						χ																			1			
5811-5	1350						χ																			1			
5312-5	1403						χ															χ				2	· · · · · · · · · · · · · · · · · · ·		
SB13-5	1470						χ																			1			
SB14-S SB15-S Matrix: A-Air; S-Soil; GW-Ground Water;	1432						χ																			1			
5B15-5	V 1446	A	V				χ															χ				2			
MATRIX: A-AIR; S-SOIL; GW-GROUND WATER; WW-WASTE WATER	SW-SURFACE WATER; DW-DRINA	ING WA	NTER;																										
Preservative: H-HCL; N-HNO <sub>3</sub> ; S-H <sub>2</sub> SO <sub>4</sub> ; Na	a-NaOH; M-MEOH																												
Project Manager: <u>Jec</u> en	nu Roberts				0	A/Q(	REP	ORTIN	IG			ING (		<u> </u>	1	Turn	Arc	DUND	Time	:	MET	ALS:	8	RCRA	13 P	P F	E. MN PB) (	Cu	
COMPANY: - KAS, Znc.	<u></u>				A B C					Prelims: Yes or 70					24hr* 48hr*						METALS: 8 RCRA 13 PP FE, MN PB CU OTHER METALS: AVSENCE								
IDDRESS: 589 Aven	ve D Sute	10			-		IA MC			ELECTRONIC OPTIONS PDE EXCEL							3-4	Days*		1					,			_	
in: Laillistan	STATE:	ZIP:	05	495	-   _		_		,							5 Day 7 Day						SAMPLES FIELD FILTERED? YES NO							
PHONE: 902-38	3-0406 POKOC-CAN	Ехт.: • Н	.00	45 A.	-     1	TEMP. J-Z °C					Equis ("							10 Day'				Notes: (IE: Special Detection Limits, Billing Info, If Different)							
COMPANY: KAS, JOC.  IDDRESS: 589 Avenue D Sunte 10  ITY: Williston STATE: VT IIP: 05495  PHONE: 802-383-0486 Ext.:  ITE NAME: Windsor Housing Lot #1  ROJECT #: 50721 0630				-	ICE? YES NO OTHER *Pre-approval Required																								
ROJECT #: 50721 Dla30						SAMPLER(S): Alec Moloznik My																							
TATE: NH MA ME	OTHER:				-   SAMI	,FFK(7):		111	4C /					.//	V 1		./	1 1		$\geq$									
EGULATORY PROGRAM: NPDES: RGP					REJ	RELINQUISHED BY: DATE: TIME: RECEIVED BY:									_	-													
GWP, OIL FUND, BROWNFIE						رمر مدا	ks &	alle	7/	5/R	4	14!:	05	•		1//				_	SITE H	listory	<u>/:</u>	Re	Side	strat	Jurban	_	
UOTE #:	P0 #:				TRIP	INQUI	SHÆD	БY:	;	ØATE:		H	YE:	D	ZKECEI	IÆD R	Y:				Suspe	CTED C	ONTAMI	NATION:			/brban	_	
							SHED	By-		DATE:		Tir	MF:		RECEI	IVED B	γ.			{	FIELD								

# Page 2 of 4

#### CHAIN-OF-CUSTODY RECORD

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

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FOR LAB THE CHILD
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				) <b>G</b>		57.75		TC			OR	GAN	(CE		Mic	RO	ĬΞ	ALS	Oil	HER			Š	
	SAMPLING	MATRIX (SEE BELOW) GRAB/*COMPOSITE	524.2 524.2 MTBE онгу 8260 624 VTICS 1, 4 Dioxane		DBCP			1664				)0G	"	ULFIDE	E. Coll			:						
	DATE/TIME	BEL	٨	MAVPH		Z   ¥	808 8082	TPH METAL	9	504 103N02	اند _	S ALK	SUED	KCTIVE S	Coll	E	DISSOLVED METALS (LIST BELOW)	<u>§</u>					6	
	*If Composite.	SE	_ 4	AM.	80	MAE	PG 82	64 3N		3 4	E 8 8		Total	RE		ENTEROCOCCI HETEROTROPHIC PLATE COUNT	(LIST	OTAL METALS (LIST BELOW)						
	Indicate Both	) *	E ONLY 62.		绝			tse 160	800	NO.	¥ 0	. KES.	<u></u>	SMIDE	ORM ORM	IIC PLA	METALS	s (Lis			CONTAINERS	Notes		
Sample I.D.	Start & Finish	RAE	2 MTE DroxA	- 8 8	NBN SELECTION OF THE PERSON OF	8100 S DRO	808	& GRE				- SO -	CAMIL	REACTIVE CYANIDE FLASHPOINT	SEE	ROCOCCI	OLVED	L META			CONT	MeOH VIAL #		
	DATE/TIME	Συ	524 524 1, 4	8021	(2) AB	M 108	PEST	OIL & GREASE 1664 TPH 1664 TCLP 1311 ABN METALS		8 8°	7 - A	8 Kg	ToT	REAC	FECAL	量量	DISS(	TOTA			#			
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SB17-5	1527				$ \chi $											İ					1			
5B18-I	1230				χ													χ			2			
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5B10-I	1344				Х				-												/			
SBIL-I	135b				X								ļ	ļ							1			
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SB13-Z Matrix: A-Air; S-Soil; GW-Ground Water;	V 1423	A A			X																1			
MATRIX: A-AIR; S-SOIL; GW-GROUND WATER; WW-WASTE WATER	SW-Surface Water; DW-Drink	ING WATER;																					ĺ	
Preservative: H-HCL; N-HNO3; S-H2SO4; Na	n-NaOH; M-MEOH																							
PROJECT MANAGER	w. Pohort			OA/0	C REP	ORTIN	G	REPOI	RTING	OPTIC	ons	Tur	RN A	ROUND	TIME		M		0 0004	13.00	۲.	M. (2) C.		
COMPANY.	TO SEE 15							or/N	24hr* 48hr*					METALS: 8 RCRA 13 PP FE, MN PB CU										
Project Manager: Josephany: XXS, Doress: 589 Augustus Lity: Lity Lity Lity Lity Lity Lity Lity Lity	ave.	10		,	4 В	С		3-4 Day								1	OTHER METALS: Arsenia							
ITY: 1 36 11 vtro	CTATE: V	11P. 054	95		MA MC	CP		ELECTI				5 Day 7 Day					SAMPLES FIELD FILTERED? YES NO							
HANE 402 - 40	37 <i>-0</i> 966	<u>- 77</u>		T	0:-	7		PD		EXCEL	)	10 Day					NOTES: (IE: SPECIAL DETECTION LIMITS, BILLING INFO, IF DIFFERENT)							
-MAIL: Sesemu	RAD Kas-60154	thre. a	2M	[					Equis	5	l	*Dro	$\overline{}$	-	- anirad									
-Mail: Serenny P. @ Kas-consulting.com  TE NAME: Lendsor Housing Let #1				ICE? YES NO OTHER *Pre-approval Required																				
ROJECT #: 50721 0630				SAMPLER(S	<b>-</b> \	Δla	- 11	1/12	~'//			. /1		/	/	İ								
TATE: NH MA ME (VT) OTHER:				SAMPLEK(	s):	11/0	em	<u> </u>	1114			M		1/	11	-								
EGULATORY PROGRAM: NPDES: RGP				REMNQ	OKHED!	Вуи			8/2	L d [IME:	14/	KECEWED.	BY			-								
GWP, OIL FUND, BROWNFIE	eld or Other:			1/1/26	bIL.	י גלא א	7/2	122	-14	1:03							int U	ICTABV-	Pos	det	1	Juchan		
UOTE #:	P0 #:		1	RELING	UKHED	Ву:	100	ATE:		IME: Z	U	RECEIVED	Ву:			_   ,	מונסבר.	ואוטונו:		л 54 С <b>7/</b> /	* /	_		
		RELINO	ווונטבה	Rv.	<u>n</u>	IATE.	1	Гімс.		RECEIVED	Rv.			_   [	SITE HISTORY: Resident of urban  Suspected Contamination:									

### CHAIN-OF-CUSTODY RECORD

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS

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				Ve	C		S	Ve	C		CLP		NO.	RG/	M					M	TALS	0	ufil	₹	eren Este		7
Sample I.D.	Sampling Date/Time  *If Composite, Indicate Both Start & Finish Date/Time	MATRIX (SEE BELOW)	GRAB/*COMPOSITE	2.24.2 524.2 MTBE ONLY 8260 624 VTICS 1, 4 DIOXANE	21 15 GRO MAVPH	ARIN PART FOR DRCP			B 60	OIL & GREASE 1664 TPH 1664	C PEST HERB	By Cl F 504	2 NU3 NU3NU3 N NH3 TN PHOS O PHOS	pH T. RES. CHLORINE SPEC. CON. T. ALK.	D PHENOLS TOC DOC	TOTAL CYANIDE TOTAL SULFIDE	ICTIVE CYANIDE REACTIVE SULFIDE SHPOINT IGNITABILITY	TOTAL COLIFORM E. COLI FECAL COLIFORM	ENTEROCOCCI HETEROTROPHIC PLATE COUNT	DISSOLVED METALS (LIST BELOW)	TOTAL METALS (LIST BELOW)				OF CONTAINERS	<b>N</b> otes MeOH Vial #	Dogo
SRUL-T	7		G	, 82 22 2	8 8	A.		8	문문	8 5	288	2 Z 2	2 1 1	<u> </u>	8	Tor	RE/ Fua	Tor Fec	물모	SIQ	<u> </u>		+	-+	#		-
5814-I	7/6/22 1441		9			$+\Sigma$				$\dashv$											1/		+		1	<u> </u>	-
51315-I	1454		+			X					-	_	-								Λ		+		2		-
SB16-I	1515		+			X				_			-	-									$\perp$	_		i	1
5B17-1	1530		+			χ					$\dashv$		-											_			-
SB17-I SB17-N SB11-N SB12-N SB15-N Duplicate 3 Duplicate 4 MATRIX: A-Air: S-Soll: GW-GROUND WATER	1245		$\bot$		-	X					$\perp$		-				-				X				2		
5B11-N	1358		_ _			X					_										Х			-	2		
5B12-N,	1412					<u>  X</u>					$\perp$		-	ļ							X				ス		
5B15-N	1458					X															χ				2		
Duplicate 3	1255					X																			1		
Duplicate 4	Ngo	$\forall$	<b>V</b>			X																			1		
MATRIX: A-Air; S-Soil; GW-Ground Water; WW-Waste water Preservative: H-HCL; N-HNO3; S-H2SO4; N2	SW-SURFACE WATER; DW-DRINK	ING WA	ATER;																								
PROJECT MANAGER:  COMPANY:  ADDRESS:  DESTRUCTOR  PHONE:  E-MAIL:  SITE NAME:  PROJECT #:  STATE:  NH MA ME	remy Roberts Venue D Su	ite IP: EXT:	10 050	195 Yan		QC R A E MA I	3 C MCP	°C	1	Pre Elec	LIMS: T <b>BQH</b> DE E	VES OF EXCE	No)		Turn 24h 5 D *Pre-a	ar* 3-4   ay	48 Days* Day	Day		OTHE SAM	r Meta PLES	LS:	FILTERE	} }?	(n(		-
PROJECT #: 50 FUCK STATE: NH MA ME C REGULATORY PROGRAM: NPDES: RGP GWP, OIL FUND, BROWNFIE	POTW STORMWATER OR ELD OR OTHER:				SAMPLER RELYIC RELINC	enishi	JO JBY		7/8	Mo 7/8 1976: 1 8/82 Arte:	loz  22  2	Time:	25	M. M.	ELVED B	/_	H	H	5	SITE F	History cted C	. <u>L</u>	<u>S.&amp;a.</u>	bal	_	urben	
					RELING	UISHE	D BY	<u>':</u>	D/	ATE:		TIME:		REC	EIVED B	Y:			-	FIELD	READI	IGS:			_		

## Page 4 of 4

### CHAIN-OF-CUSTODY RECORD

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

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Sample I.D.	SAMPLING DATE/TIME *IF COMPOSITE, INDICATE BOTH START & FINISH DATE/TIME 7/b/22 1458	MATRIX (SEE BELOW)	\$24.2 MTBE ONLY \$254.2 MTBE ONLY \$254.2 MTBG ONLY \$254.2 MTBG ONLY \$256.0 624 VTICs \$4.2 MTBG ONLY \$4.2 MTBG ON	I, 4 Dioxane 8021				PEST 608 PCB 608 PEST 808 PCB 8082		TCLP 1311 ABN METALS TO VOC PEST HERB				SPEC CON. T. ALK.			TOTAL COLFORM E. COLI	FINTEROCOCCI HETEROTROPHIC PLATE COUNT	( <u>)</u>	TOTAL METALS (LIST BELOW) S-Z-				# ог Сомтания	Notes MeOH Vial #
MATRIX: A-Air; S-Soil; GW-Ground Water;  WW-Waste water  PRESERVATIVE: H-HCL; N-HNO3; S-H2SO4; N.  PROJECT MANAGER:  COMPANY:  ADDRESS:  PHONE:  SON-3:  THE NAME:  CITY:   a-NaOH; M-MEOH  my Roberts  FIC.  OVE D Suite  STATE: VT  STATE: VT  A3-0466  MY ROB Kes-CO  THOUSING LOT  THOUSING LOT  POTW STORMWATER OR  JELD OR OTHER:  LED OR OTHER:		495	REI	A M.  EMP  CE?  PLER(S):	REPO B (A MCF	2°C 10 9/e	3   2 / 1   1   1   1   1   1   1   1   1   1	PI ELE OT	RELIMS: PDE PDE	15/22 TIM	PEHON KCEL	is supply	2 <sup>2</sup> 5	Day 10 -appro	Days* Day Day val Re	Bhr*  Day  quired	2	SAM! Notes	PLES 5: (IE: SA	<b>FIELD</b> PECIAL DI	<b>FILTE</b> I	RED? v Limits,	BILLING	YES NO	
polit ir.	10 π			l.		SHED B			DATE:	·-	Timi	E:		RECEIVED				_	Suspec Field	CTED CO READIN	ANIMATAC	TION:_		_	



Appendix E

**Photographs** 



Photographic Documentation Site Investigation Lot #1 133 - 137 Main Street Windsor, Vermont KAS # 507210630

Photograph ID: 001

Date: July 6, 2022

Location: Property

Direction: Facing north

Comments:

View during the advancement of soil boring SB-7.



Photograph ID: 002

Date: July 6, 2022

Location: Property

Direction:

Facing northwest

Comments:

View during the advancement of soil boring SB-16 along the northern portion of the property.





Photographic Documentation Site Investigation Lot #1 133 - 137 Main Street Windsor, Vermont KAS # 507210630

Photograph ID: 003

Date: July 6, 2022

Location: Property

Direction: Facing north

Comments:

View during the advancement of soil boring SB-17 along the northeast corner of the property.



Photograph ID: 004

Date: July 6, 2022

Location: Property

Direction: Facing south

Comments:

View during the advancement of soil boring SB-18 along the southern portion of the property.





Appendix F

**Field Notes** 

Proposed Housing Development 133 - 139 Main St, Windsor, VT Project #507210630 Personnel:
Arrival:
Departure:
Weather:

Equipment:

(

PID GPS Hand Auger Sample Kits

Gloves

Ice

#### SPECIAL INSTRUCTIONS:

1. KAS to advance twelve (12) soil borings on Lot #1 and six (6) soil borings on Lot #2 using a hand auger and Geoprobe for soil sampling down to native soil depths. The native sandy soil was previously found at depths ranging from 2 - 5 feet below grade. Label the borings SB22-1, etc. It is preferred that a hand auger is used for the shallow samples 0-18" so that a clear representative sample is collected from that depth. After the shallow sample is collected, the Geoprobe should be used to advance the boring further.

- 2. KAS to provide oversight during drilling to collect soil samples for laboratory analysis and screen samples for VOCs. Separate your time and materials for each lot
- 3. Collect soil samples in accordance with the approved work scope (see attached work plans) and submit for analysis of 8270-PAHs, lead and arsenic, as appropriate.
- 4. Please log the soils on the attached boring logs, note the depth all samples are obtained, screen the soils with a PID and mark the location of the the site plan. Samples to be sent to Eastern Analytical.
- 5. Collect one duplicate every 15 samples at each project lot.

#### LOT #1 Shallow 0 - 18"

Sample ID	Boring Location	Sample Time Analysis		
51318-5	SR 418	12:25 82704	60 7.0	
5378-5	587	12:37		
SB 8-5	538	12.7455		
539-5	539	13:20	(020	
51310 -2	500	13:40		
7.11.7	78 ()	15:50		
31317~3	50 12	14:16	6070	
71/11/2	38 3	11.20		
2014-7	1 2 1	14:46	(1)	
5816-9	70 17	15 17	60210	
SB17-5	SB 17	15227		

LOT #1 Intermediate Depth

Sample ID	Boring Location	Sample Depth	Sample Time	Analysis		
1-8185	5818	3-4	17:30	8270A	6070	
5BX-1	537	<b>医加州 5 3</b>	12 42			
538-1	588	3	13:10			
539-1	539	- ソーレ	13131		050)	
51310-I	58 10	3~4	13:44			
3B11-I	5B 11	- 7	13:56			
2015 - I	SB 12	2	14711		6050	
ZB13 - 1	SB 13	3-4	14:23			
SB 14 - L	58 14	3-4	14-41			
313-1	50 13	3-4	19754		6050	
11314-1	513 16	3.11	5 15			
111/7-2	5817	24	5 50	V		

Proposed Housing Development 133 - 139 Main St, Windsor, VT Project #507210630

	F10Ject #507210650				
	LOT #1 Native Soil Depth				
	Sample ID	Boring Location	Sample Depth	Sample Time	Analysis
	SB7-N	SB 7	3-4	12.45	822017 6060
	SBII-IV	SRII	3-4	13:58	
	SB12-N	SRIZ	3-4	14:12	
	5B15-N	SRIS	4-8	14.54	<u> </u>
	LOT #1 Duplicate Samples				
	Sample ID	Boring Location	Sample Depth	Sample Time	Analysis
584-5	- Dholicate 3	588-5	0-18	12:55	42·10 D
	Duplicate 4	SB13-5	19-12	14:50	4
	Pholicate 5	SBIS -N	4-8	14.58	6010
	LOT #2 Shallow 0 - 18"				
	Sample ID	Boring Location	Sample Time	Analysis	
	SR1-5	(B)	8=213	87	270 D + 6020
	5132-5	5372	9:30		- 1
	583-5	\$B3	10:02		
	584-5	<u>८</u> ८५ ८ <u>८</u> ५	10:37	-	
	566-5	3R-6	1149		N.
	207 3	20.6			
Ag British and completely an artist of the second	LOT #2 Intermediate Dept	h			
	Sample ID	Boring Location	Sample Depth	Sample Time	Analysis
	SBI-I	581	18-48	900	8270D+6070
	532-1	SB-Z	19-49	9.34	E270D
	SB3-I	SB-3		10:19	82700 4
	204-I	SB-4		11:03	8270 0 + 6020
	5B5-I 5B6-I	SD-5	4	11 53	82 70 D
	300 4	304		اردناا	8619
	LOT #2 Native Soil Depth				
	Sample ID	Boring Location	Sample Depth	Sample Time	Analysis
	SBI-N	513-1	4,	9.23	82700+6020
.00	582-N	53-5	100	9:48	
535-N +	S1389-N	513-3	7'	11:38	· ·
	LOT #2 Duplicate Samples	quelicate			
	Sample ID	Boring Location	Sample Depth	Sample Time	Analysis
(5133-K)	5B1- W	531		4:53	8500D + COSO
(5133-I)	Duplicate 2	SBZ	14-44	11:03	8270 D
4	Commenter				
	Comments:	hand a	my mina	Jone	in 10+ 42 or 10+ 41
			9 0		
	Time: -lot	7 8-12			

JR

No.: 1	507	715	5454			
					Log of Soil Bo	a _az 1
					Main S. Logged by: AM	Site sketch (required):
7/6	-		-+-	Time:	2-30 Checked by:	N->
		,		Metho		
	_	): -				
			<b>&gt;</b>	_		
		2	, O	논음	MATERIAL	
Coun	ecove Inche	SAMP	F	불용	DESCRIPTION	
$\rightarrow$		-	-	-		-
AW	14	X-	<		GW GP GM SW SP SM SC ML CL OL CH O	1
	•	-	ر	1 -		5)
-	-	اسا	=	2		н
		X	I	14	Moisture: DM W S; Angularity: R SR SA A	WELL
e	14			2	Odor (N DV M S	COMPLETION
	_ '	70	14	רו	Other: line sand silt Some	INFORMATION
		A	-17	4	lurge gravel	Top of Casing:
				1		
				5-		Screen Length:
				_		Screen Type/Size
				6-		Casing Diameter:
				_,	Plastic: NP SP P VP EH; Grading: W M P	Casing Length:
				17	Other: Shale a 7 fb SAA	Casing Type:
		-		0	3	Sand Size:
				87	Depth 36-48 ID	Sand Interval:  Bentonite Interval:
				9-	% G (gravel) 10 6 % 5 (sand (line, med, coarse) % F (fines	
				اها	Density: (sand/grave) VL L MD_OVD (sill-clay) VS S MST ST VST	Road Box 🗆
						Monument Box □
				11 -		GROUNDWATER
					Other:	INFORMATION
				12+	Denth In	Water Level (Initial):
					GW GP GM SW SP SM SC ML CL OL CH OF	Water Level (static):
	1			-		Sheen/Product
						Odor: N W M S
					Moisture: D M W S; Angularity: R SR SA A	Color:
	1	- 1		-	Oder: N W M S	Other:
					Other:	
				+	Denth ' ID	-
				- 1	GW GP GM SW SP SM SC ML CL OL CH OF	
					Moisture: D M W S; Angularity: R SR SA A Plastic: NP SP P VP EH; Grading: W M P Odor: N W M S	
					Other:	
e	weiger type: MPLES MPLES MPLES MPLES	er weight/droper type: MPLES MPLES MOBILITY MOBI	MPLES Count (inches) A A X	Per weight/drop: In type:  MPLES  MOBIO  Wall  Wesconshi  Wall  Washing  WA  WA  WA  WA  WA  WA  WA  WA  WA  W	Per weight/drop:  If type:  MPLES  MORE  M	### Boring diameter: Z  #### Boring diameter: Z  #### Boring diameter: Z  #### Boring diameter: Z  ##### Boring diameter: Z  ###################################

		DJECT		•				Log of Soil Boria	ng SBS PAGE_ OF_
	Site		: lot:	#1	133		12:50	Logged by: AM	Site sketch (required):
	Drillin	ng Co.: mer we	ka	5	-	Method		Checked by:	
	-			ρ.			Total depth:	Boring diameter: 7	
		pler type SAMPLE		Т					8
	-		_	- ա <u>լ</u>	8	Fa	_ M	IATERIAL	@
	MVO (ppm)	Blow	Recovery (inches)	SAMPLE	LITHOLOGY	DEPTH (feet)	Ground Surfa	SCRIPTION feet	
	0.0	M	13	X-	50	1 -	Color: 0 Y 13	SM SC ML CL OL CH OH S (sandf (fine) med, coarse) 2 % F (fines)	
			100	45		2-	Density: (sandigravel) VL L MS Moisture: D M W S; Ar Plastic: NK SP P VP E		WELL
	0,0	NA	18	九	I	3-	Odor: W M S Other: Sch	& w large grave)	COMPLETION INFORMATION
43KGG			-	-	-	4-	Depth 18-48 ID		Top of Casing:
- ((						_	GW GP GM SW SP	SM SC ML CL OL CH OH- s (sand) (fine)med,coarse) 1/10 % F (fines)	Screen Diameter:
						5-	70 % G (gravel) 10 % 5	6 (sand) (fine)med, coarse) <u>YW</u> % F (fines)	Screen Length:
						1	Density: (sand/gravel) VL L MD	DVD (silvelay) VS S MST ST VST H	Screen Type/Size:
						6 -	Moisture: DOM W S. Ar Plastic: NP SPCE VP EI	egularity: R SR SA A	Casing Diameter: Casing Length:
25.						7			Casing Type:
					1	′	Other: grey stair	ing at 3.5 Fby	Sand Size:
						8		nt some clay	Sand Interval:
						١	Depth ID	SM SC ML CL OL CH OH	Bentonite Interval:
						9+	% G (gravel) % S	6 (sand) (line, med, coarse) % F (finals)	Grout Interval:
						10-	Density: (sand/gravel) VL L MD Moisture: D M W S; An	DVD (sittley) VS S MST ST VST Higularity: R SR SA A	Road Box 🖂 Monument Box 🖸
						11-	Plastic: NP SP P VP EH Odor: N W M S	f; Grading: W M P	GROUNDWATER
						اما	Other:		INFORMATION
						12-	Depth ID		Water Level (Initial):
							GW GP GM SW SP	SM SC ML CL OL CH OH	Water Level (static):
							Color:	(sand) (fine,med,coarse) % F (fines)	Sheen/Product:
								D VD (statelay) VS S MST ST VST H	Odor: N W M S
							Moisture: D M W S; An Plastic: NP SP P VP EH	* *	Color:
						-	Odor: N W M S		Other:
Pid.									
g din the f							Depth         ID           GW GP GM SW SP         SP           % G(gravel)         % S	SM SC ML CL OL CH OH (sand)(fine,med,coarse)%F(fines)	Other notes:
complek								D VD (atticitary) VS S MST ST VST H	moved after firtly comple of fee firtly
sections <u>must</u> be completed in the field							Moisture: D M W S; An Plastic: NP SP P VP EH Odor: N W M S Other:		
l sectio									

		JECT		~				Log of Soil Borin	Ig SB9 PAGE_OF_
		ct No.:					1 40 (		I
- 1							10.1.	Logged by:	Site sketch (required):
-		71			-			Checked by:	
- 1		ng Co.:		_	_	Method			
-		mer wei		p:	_		Hammer type:		
-		oler type		_	1	_	Total depth:	Boring diameter: 7	
-		SAMPLE		lui l	ò	F	M	IATERIAL	
	(modd)	Blow	Recovery (inches)	SAMPLE	гиногову	DEPTH (feet)	DES	SCRIPTION	
-		-0	\$=	Ŋ	2	_	Ground Surfa	ce Elevation: feet	<u> </u>
	0.0	NA	12	X-	5	1 -		SM SC ML CL OL CH OH Sean (Fine) MF (fines)	
- 1						2-		D VD (strictley) VS S MST ST VST H	6.20
				_		ر ا	Moisture: D M W S; Ar		WELL
	20	M	11	X-	I	3-	Odor: DW M S	king-012 bricks	COMPLETION INFORMATION
						4-			
4				<b>-</b>	1	47	Depth 8-48 ID		Top of Casing:
						5-	GW GP GM SW SP	SM SC ML CL OL CH OH- S (sand) (fine, med, coarse)	Screen Length:
- 1						12	Color: DYB		Screen Type/Size:
						16-1	Density: (sand/grave) VL L MD Moisture: D M W S; An	DVD (sillclay) VS S MST ST VST H	Casing Diameter.
						_	Plastic: NP SP P VP EI	t; Grading: W M P	Casing Length:
						7-	Odor: N W M S	Inst colored modeling	Casing Type:
						[ <sub>c</sub> , ]	and transit	(on to notive sol)	Sand Size:
- 1						8-	Depth ID		Sand Interval:
						9	GW GP GM SW SP	SM SC ML CL OL CH OH S (sand) (line,med,coarse) % F (lines)	Grout Interval:
							Color:		Road Box 🗆
						10	Density: (sand/grave) VL L MD Moisture: D M W S; An	DVD (situlary) VS S MST ST VST H	Monument Box □
						l I	Plastic: NP SP P VP El-		
							Odor: N W M S Other:		GROUNDWATER INFORMATION
						12-			Water Level (Initial):
						' -	Depth ID	SM SC ML CL OL CH OH	Water Level (static):
						_		SM SC ML CL OL CH OA  Grand) (fine, med, coarse) % F (fines)	Sheen/Product:
							Color:	D VD (stuctor) VS S MST ST VST H	Odor: N W M S
						-	Moisture: D M W S; An		Color:
							Plastic: NP SP P VP E	i; Grading: W M P	
						-	Oder: N W M S Other:		Other:
Petd.									
the							Depth ID	SM SC ML CL OL CH OH	Other notes:
sections <u>nuist</u> be completed in the field.						-	% G (gravel) % S	G (sand) (fine,med,coarse) % F (fines)	refuser @ 18, moved
Admir							Color: Density: (sand/gravel) VL L MD	D VD (sillicitar) VS S MST ST VST H	1016 -11
\$ eq						-	Moisture: D M W S; Ar	igularity: R SR SA A	D-y
ZIKIST							Plastic: NP SP P VP El- Odor: N W M S	i; Grading: W M P	
lons !							Other:		1
sect									
₹L									

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			W:	-	_		L	og of Soil Borin	PAGE _ OF _
	Site le	cation		£1	133		12 . 25	gged by:	Site sketch (required):
	Drillin	g Co.:	Ke.	5	_	Method		isoned by.	
	-	ler type					Total depth:	Boring diameter:	
	-	AMPLE			Ł	_		TERIAL	
	(mdd)	Blow	Recovery (Inches)	SAMPLE	ПТНОСОВУ	DEPTH (feet)	DESCI Ground Surface	RIPTION	6
			E -		_		Depth 0- 5 fD	Licyation. ICCL	
	0	NA	16	I-	5	4 -	GW GP GM SW SP SI 10 % G(gravel) 70 % S(SI	M SC ML CL OL CH OH od (fine,med,coarse) W F (fines)  VD (stiking) VS S MST ST VST H	
		0.0				2-	Moisture: (1) M W S; Angula		
	$\mathcal{O}_{\mathcal{Q}}$	14	8				Plastic: NP SP P VP EH;		WELL
5>		-	O	_	7	3-	Odor: N W M S		COMPLETION
5/2 90 -			<u></u>	X-	I		Other:	<del></del>	INFORMATION
/ \					_	Ч-	Depth 18-48 ID		Top of Casing:
								M SC ML CL OL CH OH.	Screen Diameter:
						5-		ind) (fine,med,coarse) % F (fines)	Screen Length:
						_	Color: Density: (sand/aravel) VL L MD D	VD (situday) VS S MST ST VST H	Screen Type/Size:
						6 -	Moisture: D M W S Angula		Casing Diameter:
	- 1					-, l	Plastic: NP SP P VP EH; (	Grading: W M P	Casing Length:
						7-	Odor: N W M S Other: 54	A	Casing Type:
						c.	Value.		Sand Size:
- 1						8-	Depth ID		Sand Interval:
						9		M SC ML CL OL CH OH	Bentonite Interval:
- 1							Color:	nd) (line,med,coarse)% F (linas)	Grout Interval:
						าง 🗆	Density: (sand/grave) VL L MD D	VD (situcley) VS S MST ST VST H	Road Box 🖂
1						רעי	Moisture: D M W S; Angula	*	Monument Box O
						11	Plastic: NP SP P VP EH; C Odor: N W M S	Grading: W M P	GROUNDWATER
- 1						' -	Other:		INFORMATION
1						12-			Water Level (Initial):
1							Depth ID		Water Level (static):
1						_		of the med consol BI E (fond)	Sheen/Product
- 1							Color:		Odor: N W M S
						_		AD INVOISING A COLUMN OF ACT IN	
- 1							Moisture: D M W S; Angula Plastic: NP SP P VP EH; C		Color:
1						-	Odor: N W M S		Other:
							Other:		
Betd						-	Depth ID		
#							GW GP GM SW SP SM		Other notes:
fed (i						-	% G (gravel) % S (san	nd) (line,med,coarse) % F (fines)	
ejdu							Color: Density: (sand/araya) VI   MD D	VD (uttotay) VS S MST ST VST H	
8						-	Moisture: D M W S; Angula		
ist b				1			Plastic: NP SP P VP EH; (	Grading: W M P	
TI SU						-	Odor: N W M S Other:		
sections <u>nust</u> be completed in the field.									
				_					

				_				
	PRC	JECT	· W	wy	50	$\boldsymbol{c}$	Law of Oall Day	PAGE _ OF _
				•	_		Log of Soil Bo	ring <u>SRII</u>
		ct No.:						
	Site le	ocation	101 4	#1	33	\$ 8 13	Masa St. Logged by: AM	Site sketch (required):
		71				Time:	13:45 Checked by:	N ←
		g Co.:			$\neg$	Method		
				_		MEGIO		
	Hamr	mer wei	ght/dro	p:			Hammer type:	
	Samp	er type	<b>)</b> :				Total depth: 4 Boring diameter: 7	
	S	SAMPLE	s		\ <u>\</u>	-	MATERIAL	
		_ 41	È 🙃	삘	١ğ	E &	DESCRIPTION	(2)
	MVQ (mqq)	Blow	Recovery (Inches)	SAMPLE	LITHOLOGY	DEPTH (feet)	DESCRIPTION	
		-	2=	- CO	3	-	Ground Surface Elevation: leet	_ (
- 1				2	_		Depth 1-18 10	
- 1	வை	NH	17	A	5		GW GP GM SW SP SM SC ML CL OL CH O	H ,
- 1	Ui	AN				1	Color: DYB	~,
- 1		-		-	-	1	Density: (specifyrevel) VL L (AD D VD (stitutes) VS S MST ST VST	н
			8	7	I	12-	Moisture: D M W S; Angularity: R SR SA A	
- 1				1	احد	-	Plastic; NE SP P VP EH; Grading: W M P	WELL
	A n					3	Odor:(N)W M S	COMPLETION
	0.0			k.		ر	Other:	INFORMATION
- 1				X-	N	$ \Omega_{-} $	·	Top of Copins:
- 1	-	-			-	+47	Depth 18-48 ID	Top of Casing:
, [	- 1					-	GIN GP GM SW SP SN SC MI CI OI CH O	Screen Diameter:
- 1	- 1					15-	% G (grave) % S (sano (finamed, coarse) % F (fine	
- 1	1			1		_	Density: (sandkaravel) VL L MD D VD (salkelay) VS S MST ST VST	Screen Type/Size:
						16 -	Moisture: D. M. W. S. Angularity: R. SR. SA. A.	Casing Diameter.
1							Plastic: NP SP P VP EH: Grading: W M P	Casing Length:
- 1						174	Odor: N W M S7 \ )/-/	Casing Type:
- 1						'	Odor: N W M S Fine consistent sand/sil	Sand Size:
- 1	- 1					8	(a) 3'	Sand Interval:
- 1						٥	Depth	Bentonite Interval:
- 1		1				9	GW GP GM SW SP SM SC ML CL OL CH O	
- 1		- 1					% G (gravel) % S (sand) (line,med,coarse) % F (final	Grout Interval:
- 1	- 1					l. l	Density: (sand/grave) VL L MD D VD (sit/clay) VS S MST ST VST	Road Box 🗆
- 1	1	- 1				10-	Moisture: D M W S; Angularity: R SR SA A	Monument Box □
-1							Plastic: NP SP P VP EH; Grading: W M P	
	- 1	- 1				Ш	Odor: N W M S	GROUNDWATER
							Other:	INFORMATION
						12-		Maken Levisl Metter.
						147	Depth ID	Water Level (Initial):
							GW GP GM SW SP SM SC ML CL OL CH OL	
						_	% G (gravel) % S (sand) (fine,med,coarse) % F (fine	Sheen/Product
							Density: (sand/gravel) VL L MD D VD (sithclay) VS S MST ST VST	H Odor: N W M S
						-	Moisture: D M W S; Angularity: R SR SA A	Color:
							Plastie: NP SP P VP EH; Grading: W M P	
		- 1				-	Odor: N W M S	Other:
- 1	- 1						Other,	_
34							4	_
je #	. 1						Depth ID	
(2) #							GW GP GM SW SP SM SC ML CL OL CH OI	Other notes:
B						-	% G (gravel) % S (send) (fine,med,coarse) % F (fine	5)
							Color: Density: (sand/gravel) VL L MD D VD (sill/ctay) VS S MST ST VST	н
8						-	Moisture: D M W S; Angularity: R SR SA A	**
100							Plastic: NP SP P VP EH; Grading: W M P	
							Odor: N W M S	
Sho							Other:	_ [
sections <u>nust</u> be completed in the fistd,								
\$								

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	OJECT ject No.:		•	_			Log of Soil Borin	ng SB/Z PAGE_ OF _
						Maja St.	Logged by:	Site sketch (required):
	e: 7/				Time:		Checked by:	\/ <del>&gt;</del>
Drilli	ing Co.:	Ka	<		Method	d:		
Нап	nmer we	ight/dro	p:			Hammer type:		1-1-
Sam	npler typ	e:				Total depth: 4	Boring diameter: 2	
	SAMPLI			6	E.	N	IATERIAL	
≥€	Blow	7 (e)	SAMPLE	тногову	DEPTH (feet)	DE	SCRIPTION	
Myo (mqq)	8 8	Recovery (Inches)	SS S	Ē	` ₫	Ground Surfa	ce Elevation: feet	
- ^		1	- A			Depth 0-13 10		
0.0	NH	22	X-	S	li –	70 % G(gravel) 10 %	SM SC ML CL OL CH OH S (sand) (fine,med,coarse) 45 % F (fines)	11
+ -	+	-	_			Color: DYB		
			t	T	7 -	Density: (sand/gravel) VL (MI Moisture: () M W S; A	D D VD (stillclay) VS S MST ST VST H	
		a. 1	-		L	Plastic; NP SP P VP E		WELL
1		24			۱ ۲ –	/ \		COMPLETION
1		'	V	۸.		Other: Denser o	ind darker toward 1819	INFORMATION
-	-	-	1	1	14-	Depth \%-4866 ID		Top of Casing:
							SM SC ML CL OL CH OH- S (sand) (fine,med,coarse) % F (fines)	Screen Diameter:
1					5-	% G(grave) 4/0 %.	S (sand) (fine,med,coarse) ( % F (fines)	Screen Length:
1					6		ODVO (silvelay) VS S MST ST VST H	Screen Type/Size:
1					6 -	Moisture: D ( ) S; A	ngularity: R SR SA A	Casing Diameter.
1					7	Plastic: NP SP P VP E	H; Grading: W M P	Casing Length:
1					'	Other: Sandy de	nse SILT layer	Sand Size:
1			i		4-	- Ne		Sand Interval:
					١	Depth 36-48 ID	SM) SC ML CL OL CH OH	Bentonite Interval:
					9-	% G(gravel) 106 %	S (seed) (ine, med, coarse) % F (iines)	Grout Interval:
						Color:	D D VD (situbley) VS S MST ST VST H	Road Box 🗆
1					เภ -	Moisture: D W S; A		Monument Box □
1						Plastic: NP SP P VP EI	H; Grading: W M P	GROUNDWATER
1					-	Odor: N W M S Other:	2 s	INFORMATION
					12			
					12-	Depth ID		Water Level (Initial):
					_	GW GP GM SW SP	SM SC ML CL OL CH OH S (sand) (fine,med,coarse) % F (fines)	Water Level (static):
						Color:		Sheen/Product Odor: N W M S
-					_	Density: (sand/gravel) VL L MI Moisture: D M W S; Al	DVD (silluting) VS S MST ST VST H	
						Plastic: NP SP P VP E		Color:
					-	Odor: N W M S		Other:
ا						Other:		
類					-	Depth ID		
<u> </u>						GW GP GM SW SP	SM SC ML CL OL CH OH	Other notes:
efec					-	Color:	S (sand) (fine,med,coarse) % F (fines)	
dimo							D VD (silliciay) VS S MST ST VST H	
2					_	Moisture: D M W S; A		
must					_	Plastic: NP SP P VP El Odor: N W M S	n, uracing: W M P	
sections <u>fiuist</u> be completed in the fisid.								
Sec								
₹								

- 1	PRO	JECT	. W.	Uq.	50	$\boldsymbol{C}$		Log of Soil Borin	PAGE _ OF _
	Proje	ct No.:	507	210	63	0		Log of Soft Born	19 <u>2012</u>
1							Main SI	Logged by:	Site sketch (required):
İ			6/27			Time:	12:15	Checked by:	
ı			Ka			Method			
			ght/drop	_			Hammer type:		
- 1	Samp	oler type	3:				Total depth:	Boring diameter:	
ı		SAMPLE			5	T	N	IATERIAL	(3)
ı	25	3 2	ğ g	SAMPLE	тногод	DEPTH (feet)	DE	SCRIPTION	
	(ppm)	Blow	Recovery (inches)	SAM	Ĕ	2 5	Ground Surfa	ce Elevation: feet	
ı			a	V-	S,D		Depth 0-19 10		
Ł	7'0	AN	9			1	GW GP GM SW SP	SM SC ML CL OL CH OH S (sand) (fine,med,coarse) \$\frac{1}{2}\sqrt{\text{\$\frac{1}{2}}}\tex	741
- 1	_					1 =	Color: PYD	a (min) (min) (min) (min)	
- 1						2		D VD (stitcing) VS S MST ST VST H	,
- 1						L-	Moisture: DM WS; A		WELL
- L	0.0	1/1				2.			COMPLETION
n	TV-C	1471		7/-	-	ֿכן	Other: Sandy	sravely tysoil	INFORMATION
				X-	7	$\lfloor u \rfloor$			Top of Casing:
7							Depth 16-VS ID		Screen Diameter:
-						5-	GVV GP GM SVV SP	SM SC ML CL OL CH OH- S (sand) (fine,med,coarse) % F (fines)	Screen Length:
						٦	Color:		Screen Type/Size:
- 1						6 -	Density: (sand/grave) VL L MC Moisture: D M W S A	D VD (situlary) VS S MST ST VST H	Casing Diameter.
							Plastic: NP SP P VP E	-	Casing Length:
						7-	Odor: N W M S	ht to 35' Nativi	Casing Type:
- 1							Other:	Sands	Sand Size:
- 1						8-	Depth ID		Sand Interval:
-						۸.	GW GP GM SW SP	SM SC ML CL OL CH OH	Bentonite Interval:
1						9-	% G (gravel)%	S (sand) (line,med,coarse) % F (lines)	Grout Interval:
								D VD (siticiay) VS S MST ST VST H	Road Box 🗆
-						เม -	Moisture: D M W S; Ai		Monument Box
						1 1	Plastic: NP SP P VP E	f; Grading: W M P	GROUNDWATER
1							Odor: N W M S Other:		INFORMATION
			Ï			12			
						12-	Depth ID		Water Level (Initial):
							GW GP GM SW SP	SM SC ML CL OL CH OH S (sand) (fine,med,coarse)% F (fines)	Water Level (static):
			l l				Color:	a famina) funahunahannah — sa - futan)	Sheen/Product:
- 1							•	D VD (situriary) VS S MST ST VST H	Odor: N W M S
-1							Moisture: D M W S; At Plastic: NP SP P VP EI		Color:
							Odor: N W M S	i, Glading, vi m r	Other:
-									Outor.
fletd.						-			
<u>a</u>							Depth ID	SM SC ML CL OL CH OH	Other notes:
<u>ş</u>						=		S (send) (fine, med, coarse) % F (fines)	WEIGH HISTORY.
plek							Color:		
200						=	Density: (sand/gravel) VL I. MI Moisture: D M W S; A	D VD (sillutary) VS S MST ST VST H	
क्य मुख							Plastic: NP SP P VP E		
sections <u>nuist</u> be completed in the						-	Odor: N W M S		
Ston							Other:		
200					_			WALL STATE OF THE	

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	- 1		W	•	-			Log of Soil Boring SRIS PAGE_ OF _			
			507								
							Main S. Logged by: AM		Site sketch (required):		
	-		6/22		-	Time:	Les	N			
			Ka.			Method					
			ight/drop	o: 			Hammer type: Total depth:				
		oler type			<b>&gt;</b>	_					
				Ä	0	DEPTH (feet)	DE:	IATERIAL SCRIPTION			
	M/VO (mqq)	Slow	Slow Count Recovery (Indhes)	SAMPLE	LITHOLOGY	E S	Ground Suria	ce Elevation: feet			
	00	NA -	17	X	5	1 -	Color: DYB	SM_SC ML CL OL CH OH S (seed) (fine, med, coarse) 46 % F (fines)			
		N/A				2-	Moisture: (D) M W S; Ar				
	00	NA	20	X	I	3-	Plastic: NR SP P VP EH; Grading: W M P Odor: W M S Other: Brick Stain Pieces	WELL COMPLETION INFORMATION			
		_	-			4-	Depth 15-48 ID		Top of Casing:		
				<u>X</u> -	ΝÞ		GW GP GM SW SP	SC ML CL OL CH OH-	Screen Diameter:		
		V 3V	28			5-	Color:	S (stane) (line, med, coarse)	Screen Length:		
	Dio	10.14				6-	Density: (sand/gravef) VL L MC	OVD (MINUS) VS S MST ST VST H	Screen Type/Size: Casing Diameter:		
						٦ م	Moisture: D M W S; Ar Plastie: NP SP P VP E		Casing Length:		
	4					7-	Odor: (N) W M S	a, Gracing. W m	Casing Type:		
				(F)			Odor: N W M S Other:	311+	Sand Size:		
٨		,				18-	11001		Sand Interval:		
× 200 =	+						Depth 48-96 ID GW GP GM SW SP	SM SC ML CL OL CH OH	Bentonite Interval:		
/						9-	Color: BANK	SM SC ML CL OL CH OH 6 (sand) fine(med,coarse) % F (fines)	Grout Interval:		
						10 -	Density: (sand/gravel) VL L MD Moisture: D M W S; An	D VD (sit/clay) VS S MST ST VST H	Road Box □ Monument Box □		
							Plastic: NP SP P VP E	d; Grading: W M P	GROUNDWATER		
						·	Odor: N W M S V	ativi si-els	INFORMATION		
	1 1					12-	DepthID		Water Level (Initial):		
							GW GP GM SW SP	SM SC ML CL OL CH OH S (sand) (fine,med,coarse) % F (fines)	Water Level (static): Sheen/Product		
							Color:	D VD (stilletay) VS S MST ST VST H	Odor: N W M S		
							Moisture: D M W S; An	ngularity: R SR SA A	Color:		
						-	Odor: N W M S		Other:		
sections must be completed in the field.	2						Other:				
	Ē D						Depth ID				
at of person	Disposition of the Inches of t					-	GW GP GM SW SP % S G(gravel) % S	SM SC ML CL OL CH OH S (sand) (fine,med,coarse)	Other notes:		
2						_	Density: (sand/gravel) VL L MD Moisture: D M W S; Ar	-			
de service de	SINT CL					-	Plastic: NP SP P VP El- Odor: N W M S Other:	H; Grading: W M P			
Clares of	Diose II										

	DJECT	,	•	_		Lo	195316 PAGE_ OF_			
	ect No.:							19 5.7 .0 .		
				133	8 13	Main S. Logg	Site sketch (required):			
-	: 7/			-	Time:		ked by:	$N\rightarrow$		
1	ng Co.:		_		Method					
	mer we		p:			Hammer type:	TOMO			
	pler typ		1	1.	_	Total depth:				
	SAMPLE	-	- Line	60	DEPTH (feet)	MATE		(A)		
WAY (Edd)	Blow	Recovery (Inches)	SAMPLE	LITHOLOGY		DESCRI Ground Surface E				
			X-	0		Depth ONIG ID				
00	AVA	4	4	2	1-	GW GP GM SW SP SM TO % S (sand) Color: YB	(fine,med,coarse) 10 % F (fines)	4)		
-	_			) (stilutely) VS S MST ST VST H by: R SR SA A	Н					
0,0	Atr.	4	X-	I		Plastic: NP SP P VP EH; Gra	ding: W M P	WELL		
					3-	Odor: (N) W M S Other: Sandy standy	top soil	COMPLETION INFORMATION		
+					14-			Top of Casing:		
					١,١	Depth 18-48 ID SA	Screen Diameter:			
					15-	GW GP GM SW SP SM % S (sand)	(fine,med,coarse) 30 % F (fines)	Screen Length:		
					-	Color: DY 3 Density: (sand/gravel) VL (MD D VD	Colliderary VS S MST ST VST H	Screen (ype/Size:		
					16 -	Moisture: M W S; Angularit	y: R·SR SA A	Casing Diameter:		
	Plastic: NP SP P					Plastic: NP SP P VP EH; Gra	iding: W M P	Casing Length:		
	Odor: (N) Other:				/ =	Odor: (N) W M S Other:				
1					C		Sand Size: Sand Interval:			
1					9-	Depth ID	Bentonite Interval:			
						GW GP GM SW SP SM% G (gravel)% S (sand)	Grout Interval:			
					10-	Cotor:  Density: (sand/gravel) VL L MD D VD  Moisture: D M W S; Angularity	Road Box   Monument Box			
					11 -	Plastic: NP SP P VP EH; Gra Odor: N W M S Other:	ding: W M P	GROUNDWATER INFORMATION		
					12-			Water Level (Initial):		
					, ,	Depth ID GW GP GM SW SP SM	SC MI CI OI ON ON	Water Level (static):		
					-	% G (gravel) % S (sand)	(fine,med,coarse) % F (fines)	Sheen/Product:		
						Density: (sand/gravel) VL L MD D VD		Odor. N W M S		
						Moisture: D M W S; Angularity Plastic: NP SP P VP EH; Gra	-	Color:		
					-	Odor: N W M S Other:		Other:		
						Depth ID	00 14 01 01 011 011	Other notes:		
					-	GW GP GM SW SP SM % G(gravel) % S (sand)		low recovery so		
						Color:_ Density: (sand/gravel) VL L MD D VD	(allitriay) VS S MST ST VST H	rebored next to		
5						Moisture: D M W S; Angularity Plastic: NP SP P VP EH; Gra	-	to FIN sample		
ספטוניקים <u>ונוופו</u> גים כענוקוופוסט ווי נוופי ופונזי					-	Oder: N W M S Other:	_	Jalz,		
Dae ii										

PROJECT: WINDSOC PAGE \_ OF \_ Log of Soil Boring SB17 Project No.: 507210630 Site location: 10+ 41 133 8 137 Main 5 Logged by: Site sketch (required): Date: 7/6/22 Time: Checked by: Method: Drilling Co.: Key Hammer weight/drop: Hammer type: Sampler type: Total depth: Boring diameter: SAMPLES LITHOLOGY DEPTH (feet) **MATERIAL** DESCRIPTION NO. Ground Surface Elevation: Depth 9-18 ID XS GW GP GM SW SP SM SC ML CL OL CH OH 14 ALA grey Color: Total Density: (send-gravel) VL (MD D VD (structer) VS S MST ST VST H Moisture: D M W S; Angularity: R SR SA A Plastic; NP SP P VP EH; Grading: W M P AN 20 WELL COMPLETION Odor: (N) W M S INFORMATION Top of Casing: Depth 18-48 ID GW GP GM SW SP SM SC ML CL OL CH OH-W G (gravel) % S (sand) (fine, med, coarse) % F (fines) Screen Diameter: Screen Length: Screen Type/Size: Density: (sand/gravel) VI MD D VD (saluclay) VS S MST ST VST H Casing Diameter. Moisture: D M W S; Angularity: R SR SA A Plastic: NP SP P VP EH; Grading: W M P Casing Length: Odor: N W M S Other: 5: 14 Sand Casing Type: Sand Size: Sand Interval: Bentonite Interval: GW GP GM SW SP SM SC ML CL OL CH OH \_\_\_\_ % G (gravel) \_\_\_\_\_ % S (sand) (line,med,coarse) \_\_\_\_ Grout Interval: Road Box Density: (sand/grave) VL L MD D VD (sittlelay) VS S MST ST VST H Monument Box Moisture: D M W S; Angularity: R SR SA A Plastic: NP SP P VP EH; Grading: W M P GROUNDWATER Odor: N W M S Other: INFORMATION Water Level (Initial): GW GP GM SW SP SM SC ML CL OL CH OH Water Level (static): \_\_\_ \_\_\_\_ % G (gravel) \_\_\_\_\_ % S (sand) (fine,med,coarse) \_\_\_\_ Sheen/Product Odor: N W M S Density: (sand/gravel) VL L MD D VD (sittlelay) VS S MST ST VST H Moisture: D M W S; Angularity: R SR SA A Plastic: NP SP P VP EH; Grading: W M P Odor: N W M S Other: sections <u>nust</u> be completed in the fistd GW GP GM SW SP SM SC ML CL OL CH OH Other notes: \_\_\_% G (gravel) \_\_\_\_\_% S (sand) (fine,med,coarse) \_\_\_\_\_% F (fines) Density: (sand/grave)) VL L MD D VD (sillictay) VS S MST ST VST H Moisture: D M W S; Angularity: R SR SA A Plastic: NP SP P VP EH; Grading: W M P Odor: N W M S Other:

Proje	DJECT ect No.:	507	1219		30	L	og of Soil Boriu	ng <u>31318</u>	
Site I	ocation	1017	14			Log	gged by:	Site sketch (required):	
Date:	71	6/2	7		Time:	12:30 Che	10ta)		
Drillin	g Co.:	ka	5		Method			10141	
Hamr	mer wei	ght/dro	p:			Hammer type:			
Samp	oler type	e:				Total depth:	Boring diameter: 2	10	
\$	SAMPLE	S		5	Τ.	MAT	ERIAL		
≥₽	3 5	\$ F	SAMPLE	лногоа	DEPTH (feet)	DESCR	RIPTION		
OVM (ppm)	Blow	Recovery (Inches)	SAM	ΙĔ		Ground Surface	Ground Surface Elevation: feet		
	- 40			1.	1	Depth 0- 8 ID	movation. Took		
$\mathcal{Q}_{\mathscr{L}}$	NA	115	不	15	1	GW GP GM SW SP SM	M SC ML CL OL CH OH		
<i>-,</i>			1		1.7 -	Color: DYR	nd) (fine, med, coarse) / % F (fines)		
1	- =	-	-				VD (stitutiay) VS S MST ST VST H	15	
	MΛ	5-			7-	Moisture: D M W S; Angula	arity: R SR SA A		
0,0	MA	12				Plastic: NP SP P VP EH; C	Grading: W M P	WELL	
03			X-	I	13-	Odor: N W M S	laca. lu	COMPLETION INFORMATION	
			'AL	1		ARIE! JIME DW.10	5.000	INFORMATION	
$\leq$			-	<u> </u>	14-	Depth 18- 48 10		Top of Casing:	
					'	GW GP GM SW SP 3M	SC ML CL OL CH OH .	Screen Diameter:	
	ļ .		1		15-		(fin), med, coarse) 20 % F (fines)	Screen Length:	
						Color:	VD (sill-clay) VS S MST ST VST H	Screen Type/Size:	
					6-	Moisture: D M W S; Angula		Casing Diameter.	
					1 1	Plastic: NP SP P VP EH; G		Casing Length:	
					17-	Odor: N W M S Other: Syles Fr	2 - 2 - 2 - 1	Casing Type:	
						Other: 2254 P.V.	10 3911 0 - 7.0	Sand Size:	
					18-	Depth ID		Sand Interval:	
							SC ML CL OL CH OH	Bentonite Interval:	
- 1					9-	% G (gravel)% S (san	nd) (fine,med,coarse) % F (fines)	Grout Interval:	
- 1						Color:	ID Linkland VC C NCT CT VCT U	Road Box	
1					-	Moisture: D M W S; Angular	VD (situate) VS S MST ST VST H	Monument Box	
						Plastic: NP SP P VP EH; G	•		
1					=	Odor: N W M S		GROUNDWATER	
						Other:		INFORMATION	
					-	Donth		Water Level (Initial):	
						Depth ID GW GP GM SW SP SM	A SC ML CL OL CH OH	Water Level (static):	
- 1					-	% G (gravel)% S (sand	d) (fine, med, coarse)% F (fines)	Sheen/Product.	
						Color:		Odor: N W M S	
					-	Density: (sand/grave) VL L MD D V Moisture: D M W S; Angular	/D (stitutiay) VS S MST ST VST H		
						Plastic: NP SP P VP EH; G	-	Color:	
					-	Odor: N W M S		Other:	
- 1						Other:			
						Depth ID	SC ML CL OL CH OH	Other notes:	
						SVV GF GIVI SVV SF SIVI	d) (fine, med, coarse)% F (fines)		
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1							/D (solution) VS S MIST ST VST H		
- 1						Moisture: D M W S; Angular Plastic: NP SP P VP EH; G	_		
						Odor: N W M S	रक्तकाराश्चक्त दर वशः ह		
- 1	.					Other:	×		
- 1	- 1				1 1				



# Appendix G I-Rule Site Investigation Checklist

# Vermont Department of Environmental Conservation Waste Management and Prevention Division Sites Management Section I-Rule SITE INVESTIGATION Report Checklist

Site Number: 2022-5087

Site Name: Windsor Housing Project – Lot #1

Site Address: 133 & 137 Main Street

Site City/Town: Windsor

Report Title: Site Investigation Report

Report Date: September 29, 2022

Consultant: KAS, Inc.

Report Author: Jeremy Roberts, P.G.

Deliverable			Comments	WMPD Use Only		
	YES	N/A		Adequate	Inadequate	
Subchapter 3. Site Investigation						
§35-305. Site Investigation Report						
Executive Summary	YES					
Site Information. Table of names, addresses, email addresses, and phone numbers	YES					
Current use of property and adjacent properties	YES					
Site Description	YES					
Lat/Long of the site	YES					
Property history	YES					
Site Contaminant background	YES					
Work Plan deviations	YES					
Sample collection documentation	YES					
Contaminated media characterization (tabulated and compared to standard or site-specific risk assessment)	YES					
Maps: Vicinity Map Site Map Groundwater Flow Direction Map Contaminant Distribution Map	YES YES YES	N/A				
Discussion	YES					
Data presentation	YES					
QA/QC sample results	YES					

Deliverable		N/A	Comments	WMPD Use Only		
	YES			Adequate	Inadequate	
Subchapter 3. Site Investigation						
§35-305. Site Investigation Report						
IDW		N/A				
Conclusions and Recommendations	YES					
Signature and Certification	YES					
List of SOPs used during investigation	YES					
Appendices:  Monitoring well and soil boring logs Photographic documentation Field notes Laboratory results Calculations Risk Assessment calculations Hydrogeologic cross sections	YES YES YES YES	N/A N/A N/A				