

Site Characterization Report Addendum No. 2

SMUD 59th Street Corporation Yard

Final

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PREFACE

This site characterization report addendum was prepared by AECOM Technical Services, Inc. (AECOM) for the Sacramento Municipal Utility District (SMUD) under Master Contract 4600001299, Task Contract 4500121576, Task Number 576-003. The work was initiated by SMUD in accordance with the requirements of the Corrective Action Consent Agreement, Docket Number HWCA P1-13/14-007 between SMUD and the California Department of Toxic Substances Control (DTSC). The work partially relies on information provided by SMUD and information in reports available on the DTSC EnviroStor website. Assumptions based on this data, although believed reasonable and appropriate based on the data provided herein, may not prove to be true in the future as new data are collected.

Approved:



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List of Acronyms and Abbreviations

°	degree
µg/m ³	micrograms per cubic meter
'	minute (in the context of latitude and longitude)
#	number
®	registered trademark
”	second (in the context of latitude and longitude)
™	trademark
AECOM	AECOM Technical Services, Inc.
AF	attenuation factor
APN	Assessor's Parcel Number
ASTM	ASTM International
B&B	B&B Locating, Inc.
BDCM	bromodichloromethane
Beacon	Beacon Environmental
bgs	below ground surface
C _{IA}	concentration in indoor air
C _{SG}	concentration in soil gas
CACA	Corrective Action Consent Agreement
CalEPA	California Environmental Protection Agency
cDCE	<i>cis</i> -1,2-dichloroethene
COC	chemical of concern
Confluence	Confluence Environmental, Inc.
DBE	dibromoethane
DFA	difluoroethane
DCP	dichloropropane
DPT	direct push technology
DQO	data quality objective
DTSC	California Department of Toxic Substances Control
e.g.	<i>exempli gratia</i> , for example
et al.	<i>et alia</i> , and others
Eurofins	Eurofins Air Toxics, LLC
HERO	Human and Ecological Risk Office
HHRA	Human Health Risk Assessment
i.e.	<i>id est</i> , that is
IASL	indoor air screening level
IDW	investigation-derived waste
LOE	line of evidence
MDL	method detection limit
MEK	methyl ethyl ketone
MIBK	methyl isobutyl ketone (4-methyl-2-pentanone)
MTBE	methyl <i>tert</i> -butyl ether
No.	number
PCE	tetrachloroethene
QA	quality assurance
QC	quality control
RL	reporting limit

List of Acronyms and Abbreviations (continued)

SAP	Sampling and Analysis Plan
SCEMD	Sacramento County Environmental Management Department
SCR	Site Characterization Report
Site	59th Street Corporation Yard
SL	screening level
SMUD	Sacramento Municipal Utility District
SVSL	soil vapor screening level
SWRCB	California State Water Resources Control Board
TCE	trichloroethene
TO	Toxic Organics
TPH _g	total petroleum hydrocarbons as gasoline
U.S.	United States
USA North 811	Underground Service Alert of Northern California and Nevada
USEPA	United States Environmental Protection Agency
VI	vapor intrusion
VOC	volatile organic compound

Executive Summary

The Sacramento Municipal Utility District (SMUD) conducted a supplemental site investigation at the SMUD 59th Street Corporation Yard (Site) in accordance with the *Scope of Work for Phase II* within the *First Amendment to Corrective Action Consent Agreement*, Docket HWCA P1-13/14-007 (California Department of Toxic Substances Control [DTSC], 2018). SMUD conducted soil gas, sub-slab vapor, and sewer gas sampling in support of selecting and implementing a corrective action for the Site. This Site Characterization Report (SCR) Addendum Number (No.) 2 was prepared by AECOM Technical Services, Inc. (AECOM) on behalf of SMUD to document the work performed and the results from the investigation activities conducted at the Site from July through August 2021. This SCR Addendum No. 2 is a companion document to the SCR (AECOM, 2019) and SCR Addendum (AECOM, 2021), which documented the work performed and the results from investigation activities conducted at the Site from December 2018 through March 2021.

The Site encompasses 19.74 acres in an area of varied land use. Residential neighborhoods are situated to the west, commercial developments are situated to the north, and United States Highway 50 is located south of the Site. A California Department of Transportation laboratory is located east of the Site. The SMUD headquarters and other buildings of the SMUD campus are located southeast of the Site. The yard is bisected by a Sacramento Regional Transit light rail line and a petroleum product pipeline beneath the light rail right-of-way.

Investigation Purpose

The purpose of the current Site investigation was to complete the following:

- Evaluate seasonal and temporal variations in soil gas concentrations.
- Further characterize the lateral and vertical extent of volatile organic compounds (VOCs) in soil gas.
- Utilize sub-slab vapor data to further develop lines of evidence (LOEs) regarding soil vapor attenuation at the Site.
- Utilize sewer gas data to assess sewer lines as a potential preferential pathway for vapor intrusion (VI).

Investigation Objectives and Results

Soil Gas. The SCR Addendum recommended conducting additional soil gas sampling at existing vapor monitoring wells in the summer for comparison to the fall/winter 2020/2021 sampling results to evaluate seasonal and temporal variations and support future risk management decisions (see first bullet item under Investigation Purpose). Therefore, one of the current investigation objectives was to conduct soil gas sampling in summer 2021 to obtain summer soil gas data to compare to the fall/winter 2020/2021 soil gas data reported in the SCR Addendum.

VI guidance recommends using a default AF of 0.001 for existing commercial buildings with samples collected at the contamination source, along with the maximum soil gas concentration (DTSC, 2011). California draft supplemental VI guidance (California Environmental Protection Agency, 2020) recommends using the United States Environmental Protection Agency (USEPA) empirically-derived attenuation factor (AF) of 0.03 (USEPA, 2015) for preliminary screening of VOCs detected in soil gas. Due to uncertainties in whether the 0.03 AF will ultimately be adopted for use in California, the following evaluation of the current investigation soil gas results used both the 0.03 AF and the 0.001 AF.

During the fall/winter 2020/2021 soil gas sampling event, the highest tetrachloroethene (PCE), trichloroethene (TCE), and *cis*-1,2-dichloroethene (cDCE) concentrations were detected in soil gas samples collected from vapor monitoring well SVM-1 immediately north of the Tool Issue Building, and the highest chloroform concentrations were detected in soil gas samples collected from vapor monitoring well VW30 in the parking lot between the Garage and

Warehouse buildings. After vapor monitoring well SVM-1, the next highest PCE concentrations were detected in soil gas samples collected from vapor monitoring well VW24 near the southwest corner of the Garage Building. Based on the elevated VOC concentrations detected in soil gas from these vapor monitoring wells, the chemical release source locations were likely in the vicinity of these vapor monitoring wells. Existing vapor monitoring wells at the Site are spaced approximately 100 feet apart from each other. When elevated VOC concentrations are detected in soil gas collected from one vapor monitoring well, it is possible higher VOC concentrations indicative of a chemical release source could be present between that well and the next closest vapor monitoring well (see second bullet item under Investigation Purpose). Therefore, one of the current investigation objectives was to conduct further characterization to refine where the highest PCE, TCE, cDCE, and chloroform concentrations in soil gas are to support remedial design.

The SCR Addendum also recommended conducting additional soil gas characterization to better define the vertical extent of contamination, if necessary, to support remedial design. Based on the fall/winter 2021/2021 soil gas results, additional soil gas characterization was needed to better define the vertical extent of chloroform in the vicinity of vapor monitoring well VW30 where chloroform was detected in soil gas at concentrations of 650 and 1,300 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) at depths of 5.5 and 14.5 feet below ground surface (bgs), respectively (see second bullet item under Investigation Purpose). Therefore, one of the current investigation objectives was to install a deeper vapor monitoring well in the vicinity of vapor monitoring well VW30 and collect and analyze a soil gas sample from this well.

Ten analytes (benzene, bromodichloromethane [BDCM], chloroform, cDCE, 1,2-dichloropropane [DCP], 1,4-dioxane, ethylbenzene, naphthalene, PCE, and TCE) were detected at concentrations exceeding commercial/industrial and/or residential soil vapor screening levels (SVSLs) derived using the 0.03 AF. The highest benzene, 1,4-dioxane, ethylbenzene, and naphthalene concentrations were detected in soil gas samples collected at a depth of 14.5 feet. The highest BDCM, chloroform, cDCE, 1,2-DCP, PCE, and TCE concentrations were detected in shallower soil gas samples collected from a depth of 5.5 feet or less. In comparison, only five of these analytes (chloroform, cDCE, 1,2-DCP, PCE, and TCE) were detected at concentrations exceeding commercial/industrial and/or residential SVSLs derived using the 0.001 AF.

The analytes detected in shallow soil gas (i.e., 5.5 feet or less) are of particular interest when evaluating the potential for VI to indoor air. Eight analytes (benzene, BDCM, chloroform, cDCE, 1,2-DCP, ethylbenzene, PCE, and TCE) were detected in shallow soil gas at concentrations exceeding commercial/industrial and/or residential SVSLs derived using the 0.03 AF. In comparison, only five of these analytes (chloroform, cDCE, 1,2-DCP, PCE, and TCE) were detected at concentrations exceeding commercial/industrial and/or residential SVSLs derived using the 0.001 AF.

Based on evaluation of the summer 2021 sampling results from the current investigation against the fall/winter 2020/2021 sampling results from the previous investigation, chloroform, cDCE, PCE, and TCE continue to be identified as chemicals of concern (COCs) in soil gas based on a 0.001 AF. When a more conservative 0.03 AF was applied, benzene, BDCM, and ethylbenzene also continue to be identified as COCs in soil gas. 1,2-Dibromoethane (DBE) and naphthalene, which were previously identified as COCs in soil gas, were not detected in shallow soil gas during the summer 2021 sampling event. Additionally, the maximum toluene concentration detected in shallow soil gas during the summer 2021 sampling event was two orders of magnitude lower than was detected during the fall/winter 2020/2021 sampling event ($92 \mu\text{g}/\text{m}^3$ in summer 2021 versus $9,700 \mu\text{g}/\text{m}^3$ in fall/winter 2020/2021). Therefore, 1,2-DBE, naphthalene, and toluene were not confirmed to be COCs in soil gas based on the summer 2021 sampling results.

The extent of soil gas contamination was greater based on fall/winter 2020/2021 sampling results when compared to the summer 2021 sampling results. The lateral extent of VOC concentrations in shallow soil gas exceeding the

SVSLs derived using a 0.03 AF extends beneath approximately 9.2 acres based on fall/winter 2020/2021 data compared to 8.4 acres based on the summer 2021 data. The lateral extent of fall/winter 2020/2021 VOC concentrations in shallow soil gas exceeding the SVSLs derived using a 0.001 AF is limited to two localized areas comprising approximately 0.65 acre. In comparison, the lateral extent of summer 2021 VOC concentrations in shallow soil gas exceeding the SVSLs derived using a 0.001 AF is limited to three localized areas comprising approximately 0.36 acre.

Sub-Slab Vapor. The SCR Addendum recommended sub-slab vapor sampling beneath existing buildings overlying areas where soil gas COCs were detected at concentrations exceeding their SVSLs to evaluate soil vapor conditions beneath the buildings to further develop LOEs regarding soil vapor attenuation at the Site (see third bullet item under Investigation Purpose). Therefore, one of the current investigation objectives was to collect and analyze vapor samples from immediately beneath the concrete slab foundations of the Garage Building, Shops Building, Hazardous Material Building, Salvage Building, and Tool Issue Building.

PCE was detected in sub-slab vapor beneath the Tool Issue Building at a concentration exceeding the residential SVSL derived using a 0.001 AF. No VOCs were detected in sub-slab vapor at concentrations exceeding the commercial/industrial SVSL derived using a 0.001 AF. When a more conservative 0.03 AF was applied, PCE was detected in sub-slab vapor beneath the Garage Building, Shops Building, Hazardous Material Building, Tool Issue Building, and Salvage Building at concentrations exceeding the residential SVSL. The PCE concentrations detected in sub-slab vapor beneath the Shops Building, Hazardous Material Building, and Tool Issue Building also exceeded the commercial/industrial SVSL. Additionally, TCE was detected in sub-slab vapor beneath the Tool Issue Building at a concentration exceeding the residential SVSL. TCE is a degradation product of PCE and can form where PCE is present. Therefore, PCE and TCE are considered sub-slab vapor COCs for the existing buildings at the Site.

Sewer Gas. The SCR Addendum recommended ambient air sampling of onsite subsurface pipe networks (e.g., sewers) in areas where detected VOC concentrations in soil gas exceed their SVSLs to assess preferential pathway VI potential from subsurface pipes entering buildings (see fourth bullet item under Investigation Purpose). Therefore, one of the current investigation objectives was to collect and analyze ambient air (sewer gas) samples from sewer line cleanouts within or immediately adjacent to buildings in areas where VOCs were previously detected in soil gas at concentrations exceeding their SVSLs.

No VOCs were detected in sewer gas at concentrations exceeding the screening levels (SLs) derived using a 0.001 AF. When a more conservative 0.03 AF was applied, benzene was detected in sewer gas associated with the Garage Building and Salvage Building at concentrations above the residential SL. Additionally, chloroform was detected in sewer gas associated with the Salvage Building at a concentration above the residential SL. Both of these buildings were previously used for equipment repair or dismantling, and the presence of benzene and chloroform in sewer gas may be attributable to Site use. Therefore, benzene is considered a sewer gas COC for the Garage Building and benzene and chloroform are considered sewer gas COCs for the Salvage Building.

Vapor Attenuation Factor Evaluation Findings

The findings of the vapor AF evaluation suggest the use of a 0.03 AF to establish Site-specific soil vapor cleanup goals would be overly conservative for the following reasons:

- The 0.03 AF was empirically-derived by the USEPA using VOC data primarily from single-family residences constructed with basements in states outside California with relatively cold climates, which are conditions with higher VI potential than those found at the Site.
- The 0.03 AF is a generic AF developed by USEPA for preliminary screening of VOCs detected in soil gas to identify areas or buildings that may warrant further investigation of the VI pathway. The generic 0.03 AF was

not specifically developed for determining cleanup levels. The USEPA approach to calculating cleanup levels includes use of alternative AFs based on site- or building-specific information. Draft supplemental VI guidance (California Environmental Protection Agency, 2020) also supports the use of USEPA's AFs (USEPA, 2015) for initial screening of buildings and the use of alternative approaches if supported by adequate technical and site information.

- USEPA identified the 0.03 AF for both soil gas and sub-slab vapor, which assumes no attenuation within the soil column. The calculated average attenuation factor for PCE, TCE, cDCE, and 1,2-DCP migrating from shallow soil to immediately beneath the Tool Issue Building foundation was 0.001 indicating attenuation within the soil column is occurring.
- The VOC concentrations detected in shallow soil gas indicate that SVSL exceedances are overwhelmingly attributed to SVSLs derived using the more conservative 0.03 AF. If the VOC concentrations detected in shallow soil gas were an order of magnitude higher than those detected at this Site, the extent of SVSL exceedances based on the 0.03 AF compared to the 0.001 AF would be much less pronounced. This indicates the potential need to take action across much of the Site is more heavily dependent on the generic 0.03 AF used to derive SVSLs than the magnitude of the shallow soil gas concentrations detected.
- California VI guidance (DTSC, 2011) recommends using a default AF of 0.001 for existing commercial buildings with samples collected at the contamination source, along with the maximum soil gas concentration (DTSC, 2011). For future residential and commercial buildings, California VI guidance recommends using default AFs of 0.001 and 0.0005, respectively. The California VI guidance considers the default AFs to reflect reasonably protective assumptions for conditions in California for the contamination of indoor air due to VI.
- DTSC is conducting a VI AF study to derive a California-specific AF for VI calculations (DTSC, 2021), which appears to be an acknowledgement that USEPA's generic 0.03 AF may not be applicable to California. The preliminary findings suggest an AF closer to 0.001 than 0.03, which is consistent with other California-specific VI AF studies such as that performed by Ettinger et al. (2018), which resulted in an empirical AF of 0.002 for soil gas.

Recommendations

Based on the understanding of Site conditions following the summer 2021 soil gas, sub-slab vapor, and sewer gas sampling effort and regulatory SLs in effect at the time, recommended next steps include:

- Implementing a remedial action to address VOC concentrations in soil gas that could pose an unacceptable risk to human health should the vapors migrate into indoor.
- Developing soil vapor cleanup levels using a vapor AF of 0.001. An AF of 0.001 is equal to the 0.001 AF identified for preliminary screening evaluations of future residential buildings and two times as conservative as the 0.0005 AF identified for preliminary evaluations of future commercial buildings in California VI guidance (DTSC, 2011). An AF of 0.001 is also consistent with the preliminary findings of DTSC's California-specific AF study.
- Proceeding with planned demolition of the unoccupied Tool Issue Building and removal of subsurface utility line connections to better facilitate soil gas remediation in the building vicinity.

1.0 Introduction

The Sacramento Municipal Utility District (SMUD) conducted a supplemental site investigation at the SMUD 59th Street Corporation Yard (Site) in accordance with the *Scope of Work for Phase II* within the *First Amendment to Corrective Action Consent Agreement (CACCA)*, Docket HWCA P1-13/14-007 (California Department of Toxic Substances Control [DTSC], 2018). Under the CACCA, DTSC is the lead regulatory agency and SMUD is the responsible party for corrective action at the Site. SMUD conducted soil gas, sub-slab vapor, and sewer gas sampling in support of selecting and implementing a corrective action for the Site. The laboratory analytical data produced from this effort are considered valid and usable for their intended purposes within the constraints of the final usability qualifiers assigned in data quality assessment as detailed in Section 4.2.1. In accordance with Attachment 4 of the CACCA, this Site Characterization Report (SCR) Addendum Number (No.) 2 document meets the requirements of preparing and submitting to DTSC an SCR that presents the data, summarizes the findings of the investigation, validates the data, and includes recommendations and conclusions.

This SCR Addendum No. 2 was prepared by AECOM Technical Services, Inc. (AECOM) on behalf of SMUD to document the work performed and the results from the investigation activities conducted at the Site from July through August 2021, which included:

- Installing vapor monitoring wells and Vapor Pin[®] sampling devices;
- Collecting and analyzing soil gas samples from new and existing vapor monitoring wells;
- Collecting and analyzing sub-slab vapor samples from new vapor pins; and
- Deploying and retrieving passive samplers from sewer cleanouts and analyzing sewer gas samples.

The Site investigation was performed according to the methods, protocols, and requirements specified in the *Site Characterization Sampling and Analysis Plan, SMUD 59th Street Corporation Yard (SAP)*(AECOM, 2018), except as noted in the *Site Characterization Sampling and Analysis Plan Addendum, SMUD 59th Street Corporation Yard (SAP Addendum)*(AECOM, 2020), the additional soil gas sampling notification letter in Appendix A, and SAP deviations identified in Section 3.5.

This SCR Addendum No. 2 is a companion document to the SCR (AECOM, 2019) and SCR Addendum (AECOM, 2021), which document the work performed and the results from investigation activities conducted at the Site from December 2018 through March 2021.

1.1 Site Description

The SMUD 59th Street Corporation Yard is the Site addressed in this SCR Addendum No.2 . The DTSC [EnviroStor website](#) identifies the Site as the SMUD Corporation Yard (EnviroStor Identification Number 34490015). The Site is located at 1708 59th Street in Sacramento, California, approximately 5 miles east of downtown Sacramento (Figure 1-1). The Site is located on the Sacramento East United States (U.S.) Geological Survey Quadrangle Map in Township 8 North, Range 5 East, Section 9 (Mount Diablo Baseline and Meridian). The Site's approximate coordinates are 121 degrees (°) 26 minutes (') 18 seconds (") West longitude, 38° 33' 22" North latitude.

The Site encompasses 19.74 acres in an area of varied land use. Residential neighborhoods are situated to the west, commercial developments are situated to the north, and U.S. Highway 50 is located south of the Site. A California Department of Transportation laboratory is located east of the Site. The SMUD headquarters and other buildings of the SMUD campus are located southeast of the Site. The yard is bisected by the Sacramento Regional Transit light rail Gold Line and a 10-inch diameter petroleum product pipeline beneath the light rail right-of-way (Figure 1-1).

Figure 1-2 presents Site features and the land parcels that make up the Site. The main portion of the Site is Assessor's Parcel Number (APN) 008-0010-009-0000 (12.89 acres). The wedge shaped portion of the Site situated south of the light rail line and north of U.S. Highway 50 consists of the following 10 parcels listed west to east: APN 011-0073-001-0000 (0.45 acre), APN 011-0073-002-0000 (1.11 acres), APN 011-0073-003-0000 (0.2 acre), APN 011-0073-004-0000 (0.39 acre), APN 011-0073-006-0000 (0.1 acre), APN 011-0073-008-0000 (1.79 acres), APN 011-0081-001-0000 (0.86 acre), APN 011-0081-002-0000 (0.86 acre), APN 011-0081-003-0000 (0.86 acre), APN 011-0081-008-0000 (0.23 acre). The described wedge-shaped area totals 6.85 acres.

There are eight permanent buildings located on the Site including an office building, inventory warehouse, tool issue building, vehicle maintenance garage, workshops building, hazardous materials building, vehicle storage and salvage building, and a pre-fabrication building. In addition, there are designated areas for the storage of new and refurbished electrical transformers, power poles, power cable, and hazardous wastes. However, since the relocation of SMUD's equipment yard to their East Campus Operations Center, the Site was subsequently used for office space and warehouse storage. The Site lies approximately 30 feet above mean sea level. The Site is within a reclaimed floodplain and is, therefore, flat and generally lacking in any notable natural landform relief. The majority of the Site is surfaced with a minimum of 4-inch thick asphalt or concrete (SMUD, 1989).

1.2 Purpose and Objectives

The purpose of the current Site investigation was to evaluate seasonal and temporal variations in soil gas concentrations, further characterize the lateral and vertical extent of volatile organic compounds (VOCs) in soil gas, utilize sub-slab vapor data to further develop lines of evidence (LOEs) regarding soil vapor attenuation at the Site, and utilize sewer gas data to assess sewer lines as a potential preferential pathway for vapor intrusion (VI). The media-specific objectives are described in Sections 1.2.1 through 1.2.3.

1.2.1 Soil Gas

The SCR Addendum recommended conducting additional soil gas sampling at existing vapor monitoring wells in the summer for comparison to the fall/winter 2020/2021 sampling results to evaluate seasonal and temporal variations and support future risk management decisions. Therefore, one of the current investigation objectives was to conduct soil gas sampling in summer 2021 to obtain summer soil gas data to compare to the fall/winter 2020/2021 soil gas data reported in the SCR Addendum.

During the fall/winter 2020/2021 soil gas sampling event, the highest tetrachloroethene (PCE), trichloroethene (TCE), and *cis*-1,2-dichloroethene (cDCE) concentrations were detected in soil gas samples collected from vapor monitoring well SVM-1 immediately north of the Tool Issue Building, and the highest chloroform concentrations were detected in soil gas samples collected from vapor monitoring well VW30 in the parking lot between the Garage and Warehouse buildings. After vapor monitoring well SVM-1, the next highest PCE concentrations were detected in soil gas samples collected from vapor monitoring well VW24 near the southwest corner of the Garage Building. Based on the elevated VOC concentrations detected in soil gas from these vapor monitoring wells, the chemical release source locations were likely in the vicinity of these vapor monitoring wells. Existing vapor monitoring wells at the Site are spaced approximately 100 feet apart from each other. When elevated VOC concentrations are detected in soil gas collected from one vapor monitoring well, it is possible higher VOC concentrations indicative of a chemical release source could be present between that well and the next closest vapor monitoring well. Therefore, one of the current investigation objectives was to conduct further characterization to refine where the highest PCE, TCE, cDCE, and chloroform concentrations in soil gas are to support remedial design.

The SCR Addendum also recommended conducting additional soil gas characterization to better define the vertical extent of contamination, if necessary, to support remedial design. Based on the fall/winter 2021/2021 soil gas results, additional soil gas characterization was needed to better define the vertical extent of chloroform in the

vicinity of vapor monitoring well VW30 where chloroform was detected in soil gas at concentrations of 650 and 1,300 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) at depths of 5.5 and 14.5 feet below ground surface (bgs), respectively. Therefore, one of the current investigation objectives was to install a deeper vapor monitoring well in the vicinity of vapor monitoring well VW30 and collect and analyze a soil gas sample from this well.

1.2.2 Sub-Slab Vapor

The SCR Addendum recommended sub-slab vapor sampling beneath existing buildings overlying areas where soil gas chemical of concerns (COCs) were detected at concentrations exceeding their soil vapor screening levels (SVSLs) to evaluate soil vapor conditions beneath the buildings to further develop LOEs regarding soil vapor attenuation at the Site. Therefore, one of the current investigation objectives was to collect and analyze vapor samples from immediately beneath the concrete slab foundations of the Garage Building, Shops Building, Hazardous Material Building, Salvage Building, and Tool Issue Building.

1.2.3 Sewer Gas

Sewer lines are potential preferential pathways for VI. VOCs at the Site may enter sewer pipes that intersect contaminated soil. VOCs that enter the sewer pipe can be transported beneath or directly into buildings. Although sewer plumbing systems inside buildings are designed to prevent sewer gases from entering the building, sewer system components may leak or become compromised (California Environmental Protection Agency [CalEPA], 2020). The SCR Addendum recommended ambient air sampling of onsite subsurface pipe networks (e.g., sewers) in areas where detected VOC concentrations in soil gas exceed their SVSLs to assess preferential pathway VI potential from subsurface pipes entering buildings. Therefore, one of the current investigation objectives was to collect and analyze ambient air (sewer gas) samples from sewer line cleanouts within or immediately adjacent to buildings in areas where VOCs were previously detected in soil gas at concentrations exceeding their SVSLs.

2.0 Background

Site background information, including Site history, a summary of previous Site investigations, a description of the local geology and hydrogeology, and identification of potential exposure pathways for human and ecological receptors is provided in Section 2.0 of the SCR Addendum (AECOM, 2021). The most recent previous investigation is documented in Sections 3.0 through 6.0 of the SCR Addendum.

3.0 Site Investigation Scope, Approach, and Methods

The following subsections describe the Site investigation scope and approach, field and analytical methods, quality assurance (QA)/quality control (QC) measures, and SAP deviations.

3.1 Scope and Approach

The Site investigation activities conducted in July and August 2021 included soil gas, sub-slab vapor, and sewer gas sampling (hereinafter referred to as the current investigation). The current investigation scope and approach for soil gas, sub-slab vapor, and sewer gas sampling are described in Sections 3.1.1 through 3.1.3, respectively.

3.1.1 Soil Gas Investigation

As discussed in Section 1.2.1, additional soil gas characterization was conducted to (1) obtain summer soil gas data to compare to fall/winter 2020/2021 soil gas data; (2) refine where the highest PCE, TCE, cDCE, and chloroform concentrations in soil gas are to support remedial design; and (3) better define the vertical extent of chloroform in the vicinity of vapor monitoring well VW30 to support remedial design. Table 3-1 lists soil gas samples collected during the current investigation, their respective sample depths, and analyses performed. Soil gas sampling locations are shown on Figure 3-1.

The current investigation soil gas sampling approach was to collect soil gas samples from 44 existing permanent vapor monitoring well locations (VW14 through VW57) that were previously sampled during the fall/winter 2020/2021 sampling event. New vapor monitoring wells VW58 through VW61 and VW63 through VW66 were proposed as dual-completion wells with sampling probes placed at 5.5 and 14.5 feet bgs. These new vapor monitoring wells were proposed as step-out locations approximately 20 to 35 feet from vapor monitoring wells SVM-1, VW24, and VW30. Vapor monitoring well VW62 was proposed as single-completion well with a sampling probe placed at 25.5 feet bgs immediately adjacent to vapor monitoring well VW30. A single round of soil gas sampling was planned with the sample analysis for VOCs at a fixed laboratory using United States Environmental Protection Agency (USEPA) Method Toxic Organics (TO)-15.

3.1.2 Sub-Slab Vapor Investigation

As discussed in Section 1.2.2, sub-slab vapor sampling was conducted to evaluate soil vapor conditions beneath buildings to further develop LOEs regarding soil vapor attenuation at the Site. Table 3-2 lists the sub-slab vapor samples collected during the current investigation and analyses performed. Sub-slab vapor sampling locations are shown on Figure 3-1.

3.1.3 Sewer Gas Sampling

As discussed in Section 1.2.3, sewer gas sampling was conducted in sewer line cleanouts within and immediately adjacent to buildings in areas where VOCs were previously detected in soil gas at concentrations exceeding their SVSLs to assess preferential pathway VI potential from sewer lines entering the buildings. Table 3-3 lists the sewer gas samples collected during the current investigation and the analysis performed. Sewer gas sampling locations are shown on Figure 3-1.

3.2 Field Methods

This section provides an overview of the field methods used to conduct the current investigation. Detailed procedures associated with vapor monitoring well installation and sampling are presented in the SAP (AECOM, 2018) and SAP Addendum (AECOM, 2020). The field investigation was performed by AECOM with support from B&B Locating, Inc. (B&B) and Confluence Environmental, Inc. (Confluence) (C-57 License #913194). B&B provided

subsurface utility locating services. Confluence provided pavement coring, hand augering, vapor well installation, and soil gas/sub-slab vapor sampling services.

3.2.1 Site Reconnaissance and Proposed Sample Location Marking

In preparation for the field investigation, AECOM marked the asphalt or pavement using white paint to indicate the proposed vapor monitoring well and sub-slab vapor sampling locations. Prior to marking the locations, reconnaissance was performed in the area surrounding each proposed vapor monitoring well or sub-slab vapor sampling location to look for surface evidence of subsurface utilities (e.g., utility vaults, manholes, light poles) or other possible hazards such as overhead utility lines. If a potential hazard was identified, the affected proposed vapor monitoring well or sub-slab vapor sampling location was adjusted to avoid the hazard.

3.2.2 Subsurface Utility Clearance

AECOM contacted Underground Service Alert of Northern California and Nevada (USA North 811) at least 2 working days prior to initiation of subsurface activities to notify utility service providers of the work to be performed and allow them to mark any utility lines that may be present on Site. USA North 811 Ticket Number X118001561 (valid July 1 through 27, 2021) was issued for intrusive activities associated with the current investigation. B&B conducted subsurface utility clearances at proposed vapor monitoring well and sub-slab vapor sampling locations. If a subsurface utility line or unknown subsurface hazard was identified during the subsurface utility clearance, the affected proposed vapor monitoring well or sub-slab vapor sampling location was adjusted to avoid the hazard.

3.2.3 Permitting

AECOM obtained Permits 62027 through 62056 from the Sacramento County Environmental Management Department (SCEMD) for vapor monitoring wells installed as part of the previous investigation in November and December 2020. Permit 62056 applied to step-out/contingency vapor monitoring wells. AECOM coordinated with SCEMD, who determined that Permit 62056 was still valid and could be applied to the vapor monitoring wells proposed as part of the current investigation. AECOM provided SCEMD with daily status updates while work covered by the permit was being performed.

3.2.4 Borehole Advancement and Soil Logging

Boreholes intended for vapor monitoring well installation (VW58 through VW66) were initially advanced by Confluence to 5 feet bgs using a 3.5-inch diameter hand auger. Soil lithology for the initial 5 feet was logged by the field geologist using the soil cuttings removed from the borehole. Beyond 5 feet bgs, the boreholes were advanced by Confluence using a direct push technology (DPT) rig. Continuous soil cores were collected in acetate liners from 5 feet bgs to the total borehole depth for lithologic description, except at deeper borehole VW66, where continuous soil cores were collected from 15 feet bgs to the total borehole depth. A photoionization detector was used to screen the hand auger soil cuttings and DPT soil cores for VOCs.

3.2.5 Vapor Monitoring Well Installation and Soil Gas Sampling

Confluence constructed vapor monitoring wells VW58A/B through VW61A/B, VW62, VW63A/B, and VW64A/B from on July 6 and 7, 2020 and vapor monitoring wells VW65A/B and VW66A/B on July 14, 2021. All vapor monitoring wells were installed in areas paved with asphalt or concrete of varying thicknesses ranging from 3 to 6 inches. To ensure that the shallowest vapor probes were installed at least 5 feet below the top of the soil, all vapor monitoring well construction specification depths were referenced to the bottom of pavement/top of soil (i.e., the bottom of pavement/top of soil = 0 feet bgs). Vapor monitoring well VW62 was constructed by placing the vapor probe at a depth of 25.5 feet bgs within a 1-foot sand pack (interval of 25 to 26 feet bgs). Vapor monitoring wells VW58A/B through VW61A/B and VW63A/B through VW66A/B were constructed by placing vapor probes at depths of 5.5 and 14.5 feet bgs within a 1-foot thick sand pack (intervals of 5 to 6 and 14 to 15 feet bgs). Vapor monitoring well

designation “A” was assigned to probes at 5.5 feet bgs, and vapor monitoring well designation “B” was assigned to probes at 14.5 feet bgs.

Approximately 1 foot of dry granular bentonite was placed above each sand pack. Additional dry granular bentonite was placed in 1-foot lifts and hydrated to form a seal between the lower sampling depth and the upper sampling depth and between the upper sampling depth and the ground surface. Each probe had 1/4-inch diameter Teflon™ tubing extending to the ground surface to enable sample collection from the target depths. A dedicated gas-tight three-way valve was attached to the end of the exposed tubing to facilitate connection of sampling equipment and to seal the tubing when not in use. A flush-mount well box was installed at the surface to protect the exposed tubing and valve.

New vapor monitoring wells were allowed to equilibrate for a minimum of 48 hours prior to soil gas sampling. Soil gas sampling was not performed unless at least 5 days had passed following a significant rain event (i.e., 1/2 inch or greater of rainfall during a 24-hour period). On July 6, 2021, a SMUD contractor flushed the water lines at the Site by releasing water from fire hydrants in the central portion of the Site. This activity was treated as a significant rain event; therefore, soil gas sampling at vapor monitoring wells in the areas where the water releases occurred was delayed until at least 5 days had passed. Additionally, the soil vapor extraction system located at outside the Tool Issue Building was temporarily shut down at least 2 days prior to soil gas sampling.

A shut-in test was conducted prior to purging/sampling to check for leaks in the aboveground sampling system. In order to remove stagnant air from the sampling system, three volumes of air corresponding to the void space in the sample tubing and pore space of the sand pack were purged prior to sample collection. A leak test was conducted each time a sample was collected to evaluate whether an adequate seal was established in the sampling train and at the soil vapor probe interface with the ground surface. Helium and 1,1-DFA were used to test for ambient air leaks. A helium detector was used to monitor for leaks during the leak test. 1,1-DFA was included in the USEPA Method TO-15 analyte list to identify any leaks that may have occurred during sample collection, except for six samples for which only helium was used for the leak test. These six samples were analyzed for helium by ASTM International (ASTM) Method D-1946 in addition to USEPA Method TO-15.

AECOM and Confluence collected soil gas samples from vapor monitoring wells VW14, VW15, VW16A/B through VW61A/B, VW62, VW63A/B through VW66A/B, and SVM-1A/B through SVM-3A/B in July 2020. Confluence re-sampled vapor monitoring wells VW17A, VW20A, VW21A, VW24A, VW29A, VW35A, VW44A, VW55A, VW58A/B through VW60A/B, VW61A, VW62, VW63A/B, and VW64A in August 2020 because elevated concentrations of the leak-check compound (1,1-difluoroethane [DFA]) were detected in the July 2021 soil gas samples collected from these wells. All soil gas samples were collected using 1-liter passivated stainless steel canisters.

3.2.6 Vapor Pin® Installation and Sub-Slab Vapor Sampling

Vapor Pin® sampling devices were utilized to facilitate sub-slab vapor sampling beneath the Garage Building (Building F), Shops Building (Building G), Hazardous Material Building, Salvage Building (Building J), and Tool Issue Building (Building H). Confluence installed Vapor Pin® sampling devices at two locations each within the Garage Building (F-SS01 and F-SS02) and Shops Building (G-SS01 and G-SS02) and one location each within the Hazardous Material Building (HMB-SS01), Salvage Building (J-SS01), and Tool Issue Building (H-SS01). Vapor Pin® sampling devices were installed in accordance with the Vapor Pin® installation standard operating procedure (Vapor Pin Enterprises, Inc., 2021). Sub-slab vapor sampling followed the same approach as for vapor monitoring well sampling described in Section 3.2.5.

AECOM and Confluence collected sub-slab vapor samples from locations FSS01, FSS01, GSS01, GSS02, HMBSS01, HSS01, and JSS01 in July 2020. Confluence re-sampled locations FSS01, FSS01, GSS01, GSS02,

HMBSS01, and JSS01 in August 2020 because elevated concentrations of the leak-check compound (1,1- DFA) were detected in the July 2021 sub-slab vapor samples collected from these locations. All sub-slab vapor samples were collected using 1-liter passivated stainless steel canisters.

3.2.7 Sewer Gas Sampling

Beacon Environmental (Beacon) passive air sampling devices were utilized to collect sewer gas samples from sewer cleanout locations within the Garage Building, adjacent to the Salvage Building, and within and adjacent to the Tool Issue Building. AECOM deployed and retrieved the passive sampling devices in accordance with the instructions included with the Beacon Field Kit for Passive Air Sampling (Beacon, 2021). AECOM deployed the passive air sampling devices on July 8, 2021 and retrieved the samplers on July 15, 2021 for a 7-day sampling duration.

3.2.8 Land Surveying

Vapor monitoring well and sub-slab vapor sampling locations were determined by measuring distances from previously surveyed boreholes and other previously mapped Site features.

3.2.9 Investigative-Derived Waste Management and Disposal

Investigative-derived waste (IDW) included hand auger cuttings (e.g., soil) and soil cores from vapor monitoring well installation, acetate liners, disposable personal protective equipment (e.g., nitrile gloves, ear plugs, Tyvek® coveralls), and paper towels. The soil IDW will be characterized and disposed of at an appropriate off-site disposal facility. All other IDW was disposed of as general refuse in a garbage dumpster located on Site.

3.3 Analytical Methods

Soil gas and sub-slab vapor samples collected for laboratory analysis were submitted to Eurofins Air Toxics, LLC (Eurofins) in Folsom, California, following chain-of-custody protocol. Soil gas and sub-slab vapor samples were analyzed for VOCs by USEPA Method TO-15. Additionally, soil gas samples from vapor monitoring wells VW43A/B, VW45A/B, and VW46A/B were analyzed for helium by ASTM Method D-1946.

Sewer gas samples collected for laboratory analysis were submitted to Beacon in Forest Hill, Maryland, following chain-of-custody protocol. Sewer gas samples were analyzed for VOCs by USEPA Method TO-17.

3.4 Quality Assurance/Quality Control

QA/QC samples collected in the field included field duplicates and field replicates analyzed for VOCs. Eleven field duplicate samples and one field replicate were collected for 107 normal soil gas samples (11 percent frequency), not counting 20 soil gas samples that were replaced as discussed below. The field duplicate samples were collected from vapor monitoring wells VW15, VW27B, VW34A, VW36B, VW37B, VW38A, VW42A, VW47A, VW57B, VW63B, and VW66B. The field replicate sample was collected from well VW21A. The soil gas field duplicate and field replicate sample pairs are listed below.

- SG-VW15-02 and SG-VW15-03
- SG-VW21A-05 and SG-VW21A-06 (field replicate pair)
- SG-VW27B-02 and SG-VW27B-03
- SG-VW34A-02 and SG-VW34A-03
- SG-VW36B-02 and SG-VW36B-03
- SG-VW37B-03 and SG-VW37B-04
- SG-VW38A-02 and SG-VW38A-03

- SG-VW42A-03 and SG-VW42A-04
- SG-VW47A-02 and SG-VW47A-03
- SG-VW57B-04 and SG-VW57B-05
- SG-VW63B-02 and SG-VW63B-03
- SG-VW66B-01 and SG-VW66B-02

One field duplicate sample was collected for seven normal sub-slab vapor samples (14 percent frequency), not counting sub-slab vapor samples that were rejected as discussed below. The field duplicate sample pair (SSV-F-SS01-02 and SSV-F-SS01-03) was collected from sub-slab vapor location SSV-F-SS01 inside the Garage Building.

One field duplicate sample was collected for four normal sewer gas samples (25 percent frequency). The field duplicate sample pair (H-SEW-01P and H-SEW-02P) was collected from a sewer cleanout adjacent to the Tool Issue Building.

Leak-check compound 1,1-DFA was detected in many July 2021 soil gas and sub-slab vapor samples. If the detected concentration of the leak check compound is greater than or equal to 10 times the laboratory reporting limit (RL) for the target analyte(s), then corrective action is necessary according to the *Advisory – Active Soil Gas Investigations* (CalEPA, 2015). The 1,1-DFA concentrations detected in the following 31 soil gas samples and 6 sub-slab vapor samples collected in July 2021 exceeded 10 times the lowest laboratory RL for the target analytes in their respective samples. Replacement samples were collected for the samples identified in bold font.

Soil Gas Samples

- **SG-VW17A-02** and SG-VW17B-03
- SG-VW19B-02
- **SG-VW20A-02** and SG-VW20B-02
- **SG-VW21A-03**
- SG-VW22B-02
- **SG-VW24A-04**
- SG-VW28B-02
- **SG-VW29A-02**
- SG-VW30B-03
- SG-VW31B-02
- SG-VW32B-02
- **SG-VW35A-02** and SG-VW35B-02
- **SG-VW44A-02**
- SG-VW47B-02
- SG-VW50B-02
- SG-VW53B-02
- **SG-VW55A-02**
- **SG-VW58A-01** and **SG-VW58B-01**
- **SG-VW59A-01** and **SG-VW59B-01**
- **SG-VW60A-01** and **SG-VW60B-01**
- **SG-VW61A-01**
- **SG-VW62-01**
- **SG-VW63A-01** and **SG-VW63B-01**
- **SG-VW64A-01**

Sub-Slab Vapor Samples

- **SSV-F-SS01-01**
- **SSV-F-SS02-01**
- **SSV-G-SS01-01**
- **SSV-G-SS02-01**
- **SSV-HMB-SS01-01**
- **SSV-J-SS01-01**

Although the leak tests conducted in the field using helium during well purging did not indicate leakage, it was believed the sampling manifolds were the source of the leaks because there were multiple connections which increased the leak potential. As discussed in Sections 3.2.5 and 3.2.6, Confluence re-sampled vapor monitoring wells VW17A, VW20A, VW21A, VW24A, VW29A, VW35A, VW44A, VW55A, VW58A/B through VW60A/B, VW61A, VW62, VW63A/B, and VW64A and sub-slab vapor locations FSS01, FSS02, GSS01, GSS02, HMBSS01, and JSS01 in August 2020. For the re-sampling effort, simple flow controllers were used instead of the more complex sampling manifolds which minimized the number of sampling train connections. This corrective action resolved the issue, except at vapor well VW21A, so two additional replacement samples (field replicates) were collected from this well in late August 2021. The 1,1-DFA concentrations detected in the vapor well VW21A replacement soil gas samples slightly exceeded 10 times the lowest laboratory RL for the target analytes; no additional replacement soil gas samples were collected from this well.

Replacement soil gas samples were not collected for the other samples that had 1,1-DFA detections at concentrations exceeding 10 times the lowest laboratory RL for the target analytes because these samples were collected from 14.5 feet bgs, which are less important for evaluating VI potential than the samples collected from 5.5 feet bgs. Additionally, the corresponding vapor monitoring wells were previously sampled and not new wells being sampled for the first time.

3.5 Sampling and Analysis Plan Deviations

Deviations from the SAP (AECOM, 2018), SAP Addendum (AECOM, 2019), and soil gas sampling notification letter (Appendix A) are described in the bullets below.

- **Soil gas samples were not collected at 5.5 feet bgs from vapor monitoring wells VW23 and VW54.** On July 14, 2021, attempts to purge stagnant air from vapor monitoring wells VW23 and VW54 prior to sample collection at 5.5 feet bgs were unsuccessful due to low-flow conditions. After well purging was initiated, vacuum pressure in the wells gradually increased until it reached equilibrium with the maximum pressure of the vacuum pump causing air flow to stop before the required three purge volumes of air could be removed from the wells. On July 15, 2021, a second attempt at purging vapor monitoring wells VW23 and VW54 was successful using a larger vacuum pump. However, the attempt to collect soil gas samples from these wells after purging was unsuccessful because vacuum pressure in the wells eventually reached equilibrium with the vacuum pressure within the sample collection canisters causing air flow to stop before the entire 1 liter sample volume could be collected. The lack of summer 2021 soil gas data for these wells is not considered to have affected the project data quality objectives in a negative way because new vapor monitoring well VW58 was installed approximately 35 feet from vapor monitoring well VW23 and the soil gas data from 5.5 feet bgs at this well provides the necessary information for this part of the Site. Likewise, new vapor monitoring well VW63 was installed approximately 70 feet from vapor monitoring well VW54 and the soil gas data from 5.5 feet bgs at this well provides the necessary information for this part of the Site.
- **A replacement soil gas sample was not collected from vapor monitoring well VW62.** An initial soil gas sample (SG-VW62-01) was collected from vapor monitoring well VW62 on July 15, 2021 and analyzed for VOCs. The leak check compound 1,1-DFA was detected at a concentration greater than 10 times the RL for the target analytes indicating leakage occurred during sample collection. No other analytes were detected in the sample, which could be due to dilution with ambient air. Therefore, the analytical results for this sample were rejected during data validation. An attempt to collect a replacement soil gas sample was made on August 16, 2021. During well purging, water was encountered in the well tubing, which prevented sample collection from proceeding. Vapor monitoring well VW62 was installed during the current investigation to help define the vertical extent of chloroform in the vicinity of vapor monitoring well VW30 where chloroform was detected at the highest concentration in the soil gas sample collected at 14.5 feet bgs during the previous investigation. However, during the current investigation, the highest chloroform concentration

detected in soil gas was in the sample collected from 5.5 feet bgs at vapor monitoring well VW30. Although the vertical extent of chloroform was not defined by the soil gas sample collected at 14.5 feet bgs at vapor monitoring well, there does not appear to be a deeper source of chloroform; therefore, the lack of soil gas data from deep vapor monitoring well VW62 does not significantly affect the project DQOs in a negative way.

4.0 Investigation Results

This section presents the results of the current investigation conducted in July and August 2021.

4.1 Geology and Hydrogeology

Based on lithologic logging of boreholes VW58 through VW66, the Site soil consists of a heterogeneous combination of coarse-grained and fine-grained material throughout the areas and depths that were sampled consistent with previous boreholes advanced at the Site. The coarse-grained soil is predominantly comprised of poorly-graded sand and silty sand. The fine-grained soil is predominantly comprised of inorganic silts and clays and very fine sands. Neither bedrock nor groundwater was encountered in any of the boreholes, the deepest of which was advanced to 26 feet bgs. Appendix B contains the lithologic logs of the vapor well boreholes.

4.2 Analytical Results

4.2.1 Data Validation and Data Usability

Laboratory analytical data for the soil gas and sub-slab vapor samples collected during the current investigation were validated by the AECOM project chemist. The laboratory analytical data for the passive sewer gas samples collected during the current investigation are considered screening-level data and therefore were not validated.

The data validation results and data quality assessment are documented in the data validation summary contained within Appendix C. Laboratory analytical reports from Eurofins and Beacon are contained within Appendix D. Validation is performed to ensure the quality of collected data and to assess limitation on usability, as well as to evaluate laboratory compliance with specified methods and protocols. The data are considered valid and usable for their intended purposes within the constraints of the final usability qualifiers assigned in data quality assessment. Data qualified with the "J" qualifier are considered estimated and usable with acceptable quantitative uncertainty. Data qualified with the "U" qualifier are considered non-detected. Non-detected results are reported at the laboratory method detection limit (MDL), except for blank-qualified data, which are reported at the measured value. Data qualified with the "R" qualifier are considered rejected and unusable.

For VOCs by USEPA Method TO-15, leak check compound 1,1-DFA was detected at concentrations that exceeded 10 times the lowest RL of the target analytes in 38 samples. Replacement samples were collected for 24 of these 38 samples along with two field duplicate samples and analyzed for VOCs. 1,1-DFA was detected at an elevated concentration in 1 of the 24 replacement samples, and two additional replacement samples (field replicates) were collected for this sample. Samples with detections of 1,1-DFA at elevated concentrations were excluded from the validated data set if replacement samples were collected. All results from the 12 samples that were not recollected and the two field replicate replacement samples were qualified for potential low bias (J-), having estimated RLs (UJ) with potential false negative results, or rejected (R) due to possible dilution with ambient air. In addition, the laboratory noted that the USEPA released a document outlining possible data quality concerns for the measurement of acrolein by Method TO-15. Acrolein was not detected in any samples and these results were qualified for estimated RLs (UJ) due to potential measurement issues.

4.2.2 Soil Gas

In order to evaluate VI using subsurface data (e.g., soil gas), a vapor attenuation factor (AF) was applied to the ambient air (e.g., indoor air) screening level (SL) to estimate a corresponding SVSL. Vapor attenuation refers to the reduction in VOC concentrations that occurs during vapor migration in the subsurface, coupled with the dilution that can occur when the vapors enter a building and mix with indoor air (Johnson and Ettinger, 1991). The vapor AF represents the ratio between the indoor air concentration for a given VOC and its soil gas concentration. California

VI guidance recommends using a default AF of 0.001 for existing commercial buildings with samples collected at the contamination source, along with the maximum soil gas concentration (DTSC, 2011). California draft supplemental VI guidance (CalEPA, 2020) recommends using the USEPA empirically-derived AF of 0.03 (USEPA, 2015) for preliminary screening of VOCs detected in soil gas. Due to uncertainties in whether the 0.03 AF will ultimately be adopted for use in California, the following evaluation of the current investigation soil gas results used both the 0.03 AF and the 0.001 AF.

Tables 4-1 and 4-2 present the current investigation maximum analyte concentrations detected in soil gas compared to SVSLs. The SVSLs for all analytes except total petroleum hydrocarbons as gasoline (TPH_g) were derived by dividing the DTSC Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note 3 residential and commercial/industrial ambient air SLs (DTSC 2020) by either the 0.03 AF (CalEPA, 2020) in Table 4-1 or the 0.001 AF (DTSC, 2011) in Table 4-2. TPH_g does not have established DTSC SLs; therefore, the TPH_g SVSLs were derived by dividing the San Francisco Bay Regional Water Quality Control Board residential and commercial/industrial indoor air Environmental Screening Levels (California State Water Resources Control Board [SWRCB], 2019) by either the 0.03 AF in Table 4-1 or the 0.001 AF in Table 4-2. Ten analytes (benzene, bromodichloromethane [BDCM], chloroform, cDCE, 1,2-dichloropropane [DCP], 1,4-dioxane, ethylbenzene, naphthalene, PCE, and TCE) were detected at concentrations exceeding commercial/industrial and/or residential SVSLs derived using the 0.03 AF. The highest benzene, 1,4-dioxane, ethylbenzene, and naphthalene concentrations were detected in soil gas samples collected at a depth of 14.5 feet. The highest BDCM, chloroform, cDCE, 1,2-DCP, PCE, and TCE concentrations were detected in shallower soil gas samples collected from a depth of 5.5 feet or less. In comparison, only five of these analytes (chloroform, cDCE, 1,2-DCP, PCE, and TCE) were detected at concentrations exceeding commercial/industrial and/or residential SVSLs derived using the 0.001 AF.

The analytes detected in shallow soil gas (i.e., 5.5 feet or less) are of particular interest when evaluating the potential for VI to indoor air. Tables 4-3 and 4-4 present the current investigation analyte concentrations detected in shallow soil gas compared to residential and commercial/industrial SVSLs derived using the 0.03 and 0.001 AFs, respectively. Eight analytes (benzene, BDCM, chloroform, cDCE, 1,2-DCP, ethylbenzene, PCE, and TCE) were detected in shallow soil gas at concentrations exceeding commercial/industrial and/or residential SVSLs derived using the 0.03 AF. In comparison, only five of these analytes (chloroform, cDCE, 1,2-DCP, PCE, and TCE) were detected at concentrations exceeding commercial/industrial and/or residential SVSLs derived using the 0.001 AF.

Benzene and ethylbenzene concentrations detected in soil gas samples and the lateral extent of benzene and ethylbenzene concentrations in shallow soil gas exceeding SVSLs derived using 0.03 and 0.001 AFs are presented on Figures 4-1 and 4-2, respectively.

BDCM and chloroform concentrations detected in soil gas samples and the lateral extent of BDCM and chloroform concentrations in shallow soil gas exceeding SVSLs derived using 0.03 and 0.001 AFs are presented on Figures 4-3 and 4-4, respectively.

PCE, TCE, and cDCE concentrations detected in soil gas samples and the lateral extent of PCE, TCE, and cDCE concentrations in shallow soil gas exceeding SVSLs derived using 0.03 and 0.001 AFs are presented on Figures 4-5 and 4-6, respectively.

4.2.3 Sub-Slab Vapor

Tables 4-5 and 4-6 present the current investigation analyte concentrations detected in sub-slab vapor compared to residential and commercial/industrial SVSLs derived using the 0.03 and 0.001 AFs, respectively. When using the 0.03 AF, two analytes (PCE and TCE) were detected at concentrations exceeding residential SVSLs and only PCE was detected at a concentration exceeding commercial/industrial SVSLs. The maximum PCE and TCE concentrations were detected in the sub-slab vapor sample collected beneath the Tool Issue Building. In

comparison, when using the 0.001 AF, only PCE was detected at a concentration exceeding residential SVSLs and no analytes were detected above commercial/industrial SVSLs. PCE and TCE concentrations detected in sub-slab vapor are presented on Figure 4-7.

4.2.4 Sewer Gas

Tables 4-7 and 4-8 present the current investigation analyte concentrations detected in sewer soil gas compared to residential and commercial/industrial SLs derived using the 0.03 and 0.001 AFs, respectively. When using the 0.03 AF, two analytes (benzene and chloroform) were detected in sewer gas at concentrations exceeding residential SLs, and no analytes were detected at concentrations exceeding commercial/industrial SLs. No analytes were detected above residential and commercial/industrial SLs derived using the 0.001 AF. Benzene and chloroform concentrations detected in sewer gas are presented on Figure 4-7.

5.0 Evaluation of Vapor Attenuation Factors

The vapor AF is a unitless number defined as the ratio between the indoor air concentration (C_{IA}) for a given VOC and its subsurface concentration as follows, using soil gas concentrations (C_{SG}) as an example:

$$AF = \frac{C_{IA}}{C_{SG}}$$

The vapor AF is an inverse measure of the overall decrease in concentration due to attenuation mechanisms that occur as vapors migrate from the subsurface into a building. The greater the attenuation, the smaller the AF value. As discussed in Section 4.2.2, a vapor AF was applied to the indoor air screening level (IASL) to estimate a corresponding SVSL in order to evaluate VI using soil gas data. This was done by rearranging the equation above where the SVSL is the concentration in soil gas (C_{SG}) and the IASL is the concentration in indoor air (C_{IA}).

$$SVSL = \frac{IASL}{AF}$$

In the future, the same equation will be used to establish Site-specific soil gas cleanup goals where the calculated SVSL will be the cleanup goal.

California VI guidance previously recommended using a default AF of 0.001 for existing commercial buildings with samples collected at the contamination source, along with the maximum soil gas concentration (DTSC, 2011). For future residential and commercial buildings, California VI guidance previously recommended using default AFs of 0.001 and 0.0005, respectively. The California VI guidance considered the default AFs to reflect reasonably protective assumptions for conditions in California for the contamination of indoor air due to VI. The default AFs were based on the following assumptions:

- The subsurface is reasonably homogenous (uniform).
- No fractures exist in the subsurface.
- Fluctuations of the groundwater surface are minimal.
- Preferential pathways (utility corridors) do not exist.
- Biodegradation of vapor is not occurring.
- Contaminants are homogeneously distributed.
- Contaminant vapors enter a building primarily through cracks or seams in the foundation and walls.
- Building ventilation rates and the indoor-outdoor pressure differentials are constant.
- VI model assumptions are representative of site conditions.

California draft supplemental VI guidance (CalEPA, 2020) recommends using the USEPA empirically-derived AF of 0.03 (USEPA, 2015) for preliminary screening of VOCs detected in soil gas. However, USEPA derived the 0.03 AF using VOC data primarily from single-family residences constructed with basements in states outside California with relatively cold climates. Basement construction and building heating are factors that can increase VI potential. Therefore, the 0.03 AF may overpredict VI for buildings without basements in warmer climates that are more typical in California and for larger commercial/industrial buildings with greater dilution potential when vapors entering the building mix with indoor air.

For most buildings in the USEPA VI Database, only one indoor air and one subsurface sample were collected per building. The SWRCB has updated its GeoTracker database to facilitate reporting of vapor data and building-specific

information. Once sufficient data has been compiled, CalEPA will evaluate the data to determine if there is sufficient justification to support California-specific AFs (CalEPA, 2020). Compiled data will be evaluated to assess whether building-type AFs can be derived. California data can be used to identify how AFs vary by climate throughout the state. Data from multiple sampling locations at a given building and from multiple rounds of sampling will help quantify the spatial and temporal variability, so that VI can be more effectively understood.

Although the draft supplemental VI guidance (CalEPA, 2020) supports the use of USEPA's AFs (USEPA, 2015) for initial screening of buildings, the guidance also supports the use of alternative approaches if supported by adequate technical and site information. An alternative approach should evaluate the spatial and temporal variability of VOC concentrations in various media; be based on multiple LOEs; account for potentially affected building types, and current and future site and building conditions (CalEPA, 2020). DTSC is conducting a VI AF study to derive a California-specific AF for VI calculations (DTSC, 2021), which when complete, will provide the redevelopment sector with an additional tool to facilitate the land revitalization process. Although the study is under peer review and the associated report has not been released to the public, the study investigators have presented preliminary findings at industry conferences (Bosan et al., 2020 and Abbasi et al. 2021). The preliminary findings suggest an AF closer to 0.001 than 0.03, which is consistent with other California-specific VI AF studies such as that performed by Ettinger et al. (2018), which resulted in an empirical AF of 0.002 for soil gas.

5.1 Site-Specific Lines of Evidence

Multiple LOEs are used to provide a more comprehensive understanding of VI and to increase confidence in making site management decisions regarding VI. LOEs may be weighted differently for each site and building, depending on their characteristics and quality. All LOEs should be considered when estimating human exposure. Some LOEs may be conflicting. Therefore, a reasonable risk management decision should be made as compelled by the interpretation of all the data (CalEPA, 2020). Site-specific LOEs evaluated in Sections 5.1.1 through 5.1.3 include proximity to subsurface VOC source(s), soil gas concentrations, and temporal variability.

5.1.1 Proximity to Subsurface VOC Source(s)

According to the draft supplemental VI guidance (CalEPA, 2020), buildings closest to the greatest subsurface contaminant concentrations should be prioritized for VI evaluations. The closer a building is laterally and vertically to subsurface VOC contamination, the greater the potential for VI. Groundwater sampling performed as part of previous investigations did not identify any VOC contaminant plumes (AECOM, 2019). Therefore, groundwater contamination is not considered to be a source for VI potential.

Soil gas analytical results from the fall/winter 2020/2021 and summer 2021 sampling events indicate the highest PCE, TCE, cDCE, and 1,2-DCP concentrations were detected in shallow soil gas at vapor monitoring well SVM-1, which is located immediately adjacent to the north side of the Tool Issue Building. PCE, TCE, and cDCE were detected at concentrations several orders of magnitude higher in the sample collected at 4 feet bgs compared to the sample collected at 14 feet bgs. For example, PCE, TCE, and cDCE were detected at concentrations of 330,000, 18,000, 53,000, and 820 $\mu\text{g}/\text{m}^3$, respectively, in the soil gas sample collected at 4 feet bgs compared to 460, 85, and 63 $\mu\text{g}/\text{m}^3$ for PCE, TCE, and cDCE, respectively, in the soil gas sample collected from 14 feet bgs during the summer 2021 sampling event. 1,2-DCP was not detected above the 1.2 $\mu\text{g}/\text{m}^3$ MDL in the sample collected from 14 feet bgs. This suggests a relatively shallow chemical release occurred in the vicinity of vapor monitoring well SVM-1.

Tool Issue Building sub-slab vapor sampling location H-SS01 is approximately 15 feet from vapor monitoring well SVM-1. PCE and TCE were detected at concentrations of 750 and 21 $\mu\text{g}/\text{m}^3$, respectively, in the HSS01 sub-slab vapor sample and cDCE and 1,2-DCP were not detected. The attenuation in PCE and TCE concentrations from vapor monitoring well SVM-1 at 4 feet bgs to just below the Tool Issue Building foundation at sub-slab vapor sampling location H-SS01 was calculated by dividing the PCE and TCE concentrations detected at H-SS01 by the

PCE and TCE concentrations detected at SVM-1. The calculated attenuation factors for PCE and TCE migrating from shallow soil to immediately beneath the Tool Issue Building foundation were 0.002 and 0.001, respectively. Because cDCE and 1,2-DCP were not detected in the sub-slab vapor sample collected from sampling location H-SS01, the attenuation in cDCE and 1,2-DCP concentrations from vapor monitoring well SVM-1 at 4 feet bgs to just below the Tool Issue Building foundation at sub-slab vapor sampling location H-SS01 was calculated by dividing the cDCE and 1,2-DCP MDL concentrations for the samples collected at H-SS01 by the cDCE and 1,2-DCP concentrations detected at SVM-1. The calculated attenuation factors for cDCE and 1,2-DCP migrating from shallow soil to immediately beneath the Tool Issue Building foundation were less than 0.001 (0.00003) and 0.001, respectively. The average AF for these four VOCs is 0.001. This is notable because the draft supplemental VI guidance (CalEPA, 2020) specifies an AF of 0.03 for both sub-slab vapor to indoor air and soil gas to indoor air, which assumes no attenuation for VOCs migrating from shallow soil to immediately below the building foundation. This suggests the 0.03 AF may be overly conservative for the subsurface conditions beneath the Tool Issue Building.

Indoor air sampling was performed at six locations within the Tool Issue Building in 2019 (AECOM, 2019). PCE was detected at two of six locations at concentrations of 0.29 and 0.32 $\mu\text{g}/\text{m}^3$, which did not exceed the 0.46 $\mu\text{g}/\text{m}^3$ residential IASL. TCE was not detected in any of the indoor air samples. cDCE was detected in one indoor air sample at a concentration of 0.18 $\mu\text{g}/\text{m}^3$, which did not exceed the 8.3 $\mu\text{g}/\text{m}^3$, residential IASL. PCE, TCE, and cDCE were not detected in the indoor air sample collected from the room closest to vapor monitoring well SVM-1, which is where sub-slab vapor sample location H-SS01 is located. This suggests the 0.03 AF may be overly conservative for the Tool Issue Building and other buildings of similar construction.

5.1.2 Soil Gas Concentrations

Subsurface concentration data are the preferred LOE to evaluate long-term future VI risk to building occupants of existing and future buildings. Current indoor air concentration data will not necessarily predict long-term indoor air quality as a building changes over time. In addition, indoor air data are not available for potential future buildings (CalEPA, 2020). The soil gas samples collected during the current investigation are considered representative because they were collected from permanent vapor monitoring wells near potential contaminant sources (i.e., buildings where industrial activities took place) and represent steady-state conditions.

As discussed in Section 4.2.2, eight analytes (benzene, BDCM, chloroform, cDCE, 1,2-DCP, ethylbenzene, PCE, and TCE) were detected in shallow soil gas at concentrations exceeding commercial/industrial and/or residential SVSLs derived using the 0.03 AF. In comparison, only five of these analytes (chloroform, cDCE, 1,2-DCP, PCE, and TCE) were detected at concentrations exceeding commercial/industrial and/or residential SVSLs derived using the 0.001 AF. The frequency and magnitude of detection of these analytes are described below.

- **Benzene.** Benzene concentrations detected in soil gas samples collected during the current investigation and the lateral extent of benzene concentrations in shallow soil gas exceeding SVSLs derived using 0.03 and 0.001 AFs are presented on Figures 4-1 and 4-2, respectively. Benzene was detected in 8 of 56 shallow soil gas samples at a maximum concentration of 16 $\mu\text{g}/\text{m}^3$ (vapor monitoring well VW65). The benzene concentrations detected in five of these samples exceeded the 3.2 $\mu\text{g}/\text{m}^3$ residential SVSL derived using the 0.03 AF, and the benzene concentrations detected in one of these samples also exceeded the corresponding 14 $\mu\text{g}/\text{m}^3$ commercial/industrial SVSL. In comparison, none of the benzene concentrations detected in shallow soil gas exceeded the 97 and 420 $\mu\text{g}/\text{m}^3$ residential and commercial/industrial SVSLs, respectively, derived using the 0.001 AF.
- **BDCM.** BDCM concentrations detected in soil gas samples collected during the current investigation and the lateral extent of BDCM concentrations in shallow soil gas exceeding SVSLs derived using 0.03 and 0.001 AFs are presented on Figures 4-3 and 4-4, respectively. BDCM was detected in 3 of 56 shallow soil

gas samples at a maximum concentration of 43 $\mu\text{g}/\text{m}^3$ (vapor monitoring well VW30). The BDCM concentrations detected in all three of these samples exceeded the 2.5 $\mu\text{g}/\text{m}^3$ residential SVSL derived using the 0.03 AF, and the BDCM concentrations in two of these samples also exceeded the corresponding 11 $\mu\text{g}/\text{m}^3$ commercial/industrial SVSL. In comparison, none of the BDCM concentrations detected in shallow soil gas exceeded the 76 and 330 $\mu\text{g}/\text{m}^3$ residential and commercial/industrial SVSLs, respectively, derived using the 0.001 AF.

- **Chloroform.** Chloroform concentrations detected in soil gas samples collected in July and August 2021 and the lateral extent of chloroform concentrations in shallow soil gas exceeding SVSLs derived using 0.03 and 0.001 AFs are presented on Figures 4-3 and 4-4, respectively. Chloroform was detected in 14 of 56 shallow soil gas samples at a maximum concentration of 1,500 $\mu\text{g}/\text{m}^3$ (vapor monitoring well VW30). The chloroform concentrations detected in all 14 of these samples exceeded the 4.0 $\mu\text{g}/\text{m}^3$ residential SVSL derived using the 0.03 AF, and the chloroform concentrations detected in 6 of these samples also exceeded the corresponding 18 $\mu\text{g}/\text{m}^3$ commercial/ industrial SVSL. In comparison, only four of the chloroform concentrations detected in shallow soil gas exceeded the 120 $\mu\text{g}/\text{m}^3$ residential derived using the 0.001 AF, and only one of these chloroform concentrations exceeded the corresponding 530 $\mu\text{g}/\text{m}^3$ commercial/industrial SVSL.
- ***cis*-1,2-DCE.** *cis*-1,2-DCE concentrations detected in soil gas samples collected during the current investigation and the lateral extent of *cis*-1,2-DCE concentrations in shallow soil gas exceeding SVSLs derived using 0.03 and 0.001 AFs are presented on Figures 4-5 and 4-6, respectively. *cis*-1,2-DCE was detected in 2 of 56 shallow soil gas samples at a maximum concentration of 53,000 $\mu\text{g}/\text{m}^3$ (vapor monitoring well SVM-1). Only the maximum *c*DCE concentration detected exceeded the 280 and 1,200 $\mu\text{g}/\text{m}^3$ residential and commercial/industrial SVSLs, respectively, derived using the 0.03 AF. In comparison, the maximum *cis*-1,2-DCE concentration detected in shallow soil gas also exceeded the 8,300 and 35,000 $\mu\text{g}/\text{m}^3$ residential and commercial/industrial SVSLs, respectively, derived using the 0.001 AF.
- **1,2-DCP.** 1,2-DCP was detected in 1 of 56 shallow soil gas samples at a concentration of 820 $\mu\text{g}/\text{m}^3$ (vapor monitoring well SVM-1). The detected 1,2-DCP concentration exceeded the 25 and 110 $\mu\text{g}/\text{m}^3$ residential and commercial/industrial SVSLs, respectively, derived using the 0.03 AF. In comparison, the 1,2-DCP concentration detected in shallow soil gas exceeded the 760 residential SVSL derived using the 0.001 AF but did not exceed the corresponding 3,300 $\mu\text{g}/\text{m}^3$ commercial/industrial SVSL.
- **Ethylbenzene.** Ethylbenzene concentrations detected in soil gas samples collected during the current investigation and the lateral extent of ethylbenzene concentrations in shallow soil gas exceeding SVSLs derived using 0.03 and 0.001 AFs are presented on Figures 4-1 and 4-2, respectively. Ethylbenzene was detected in 17 of 56 shallow soil gas samples at a maximum concentration of 49 $\mu\text{g}/\text{m}^3$ (vapor monitoring well VW37). Only the maximum detected ethylbenzene concentration in shallow soil gas exceeded the 37 $\mu\text{g}/\text{m}^3$ residential SVSL derived using the 0.03 AF. None of the ethylbenzene concentrations detected in shallow soil gas exceeded the corresponding 14 $\mu\text{g}/\text{m}^3$ commercial/industrial SVSL. In comparison, none of the ethylbenzene concentrations detected in shallow soil gas exceeded the 1,100 and 4,900 $\mu\text{g}/\text{m}^3$ residential and commercial/industrial SVSLs, respectively, derived using the 0.001 AF.
- **PCE.** PCE concentrations detected in soil gas samples collected during the current investigation and the lateral extent of PCE concentrations in shallow soil gas exceeding SVSLs derived using 0.03 and 0.001 AFs are presented on Figures 4-5 and 4-6, respectively. PCE was detected in 53 of 56 shallow soil gas samples at a maximum concentration of 330,000 $\mu\text{g}/\text{m}^3$ (vapor monitoring well SVM-1). The PCE concentrations detected in 47 of these samples exceeded the 15 $\mu\text{g}/\text{m}^3$ residential SVSL derived using the 0.03 AF, and the PCE concentrations detected in 33 of these samples also exceeded the corresponding 67 $\mu\text{g}/\text{m}^3$ commercial/industrial SVSL. In comparison, three of the PCE concentrations detected in shallow soil gas exceeded the 460 $\mu\text{g}/\text{m}^3$ residential SVSL derived using the 0.001 AF, and only the maximum PCE concentration detected in shallow soil gas exceeded the corresponding 2,000 $\mu\text{g}/\text{m}^3$ commercial/industrial SVSL.

- **TCE.** TCE concentrations detected in soil gas samples collected during the current investigation and the lateral extent of TCE concentrations in shallow soil gas exceeding SVSLs derived using 0.03 and 0.001 AFs are presented on Figures 4-5 and 4-6, respectively. TCE was detected in 6 of 56 shallow soil gas samples at a maximum concentration of 18,000 $\mu\text{g}/\text{m}^3$ (vapor monitoring well SVM-1). The TCE concentrations detected in three of these samples exceeded the 16 $\mu\text{g}/\text{m}^3$ residential SVSL derived using the 0.03 AF, and only the maximum concentration exceeded the corresponding 100 $\mu\text{g}/\text{m}^3$ commercial/industrial SVSL. In comparison, only the maximum TCE concentration exceeded the 480 and 3,000 $\mu\text{g}/\text{m}^3$ residential and commercial/industrial SVSLs, respectively, derived using the 0.001 AF.

The VOC concentrations detected in shallow soil gas described above indicate that SVSL exceedances are overwhelmingly attributed to SVSLs derived using the more conservative 0.03 AF. When SVSLs derived using the 0.001 AF are used, residential SVSL exceedances are limited to shallow soil gas samples from vapor monitoring wells VW17, VW18, VW30, VW61, VW64, SVM-1, and SVM-3, and commercial/industrial SVSL exceedances are limited to shallow soil gas samples collected from vapor monitoring wells VW30 and SVM-1. If the VOC concentrations detected in shallow soil gas were an order of magnitude higher than those detected at this Site, the extent of SVSL exceedances based on the 0.03 AF compared to the 0.001 AF would be much less pronounced. This indicates the potential need to take action across much of the Site is more heavily dependent on the AF used to derive SVSLs than the shallow soil gas concentrations detected. Therefore, careful consideration is needed when considering the applicability of an AF to this Site.

5.1.3 Temporal Variability

Contaminant plume migration and seasonal factors, including but not limited to, weather conditions, groundwater levels, soil temperature, and soil moisture, can cause significant temporal variability in soil gas concentration (CalEPA, 2020). Therefore, one of the current investigation objectives was to conduct soil gas sampling in summer 2021 to obtain summer soil gas data to compare to the fall/winter 2020/2021 soil gas data reported in the SCR Addendum (AECOM, 2021).

Table 5-1 presents the fall/winter 2020/2021 and summer 2021 maximum analyte concentrations detected in soil gas, locations and depths of the maximum detected concentrations, and frequency of analyte detections. Approximately one-third of the analytes detected had maximum concentrations that varied significantly (i.e., one order of magnitude difference or greater) between sampling events. These analytes are primarily petroleum hydrocarbons (TPH₉), petroleum hydrocarbon constituents (benzene, chlorobenzene, cyclohexane, ethylbenzene, heptane, hexane, propylene, toluene, and 1,2,4-trimethylbenzene), and gasoline oxygenates (ethanol and methyl *tert*-butyl ether [MTBE]). Other analytes with significant maximum concentration variances between sampling events include 2-hexanone, methyl ethyl ketone (MEK), methyl isobutyl ketone (MIBK), PCE, and tetrahydrofuran. Except for PCE, it is not clear why the maximum concentrations of these analytes varied significantly from fall/winter 2020/2021 to summer 2021. The variance in the maximum detected PCE concentrations (1,200,000 $\mu\text{g}/\text{m}^3$ in fall/winter versus 330,000 $\mu\text{g}/\text{m}^3$ in summer at vapor monitoring well SVM-1) is most likely attributed to continued operation of the SVE system adjacent to the Tool Issue Building. The analytes with the greatest maximum concentration variances are cyclohexane (120,000 $\mu\text{g}/\text{m}^3$ in fall/winter versus 34 $\mu\text{g}/\text{m}^3$ in summer), heptane (16,000 $\mu\text{g}/\text{m}^3$ in fall/winter versus 34 $\mu\text{g}/\text{m}^3$ in summer), and TPH₉ (1,900,000 $\mu\text{g}/\text{m}^3$ in fall/winter versus 7,800 $\mu\text{g}/\text{m}^3$ in summer). Of the analytes with maximum concentrations that varied by an order of magnitude or greater, the higher concentration was detected in soil gas samples collected during fall/winter 2020/2021, except for MIBK and MTBE.

The maximum concentrations of chlorobenzene, heptane, and hexane detected during the fall/winter 2020/2021 sampling event exceeded the residential SVSLs derived using the 0.03 AF but the maximum concentrations of these analytes did not exceed the same residential SVSLs during the summer 2021 sampling event. The maximum TPH₉ concentration detected during the fall/winter 2020/2021 sampling event exceeded the residential and

commercial/industrial SVSLs derived using the 0.03 AF but the maximum TPHg concentration detected during the summer 2021 sampling event did not exceed either of these SVSLs. The maximum concentrations of cyclohexane, 2-hexanone, MEK, MIBK, MTBE, propylene, tetrahydrofuran, and 1,2,4-trimethylbenzene detected during both sampling events did not exceed their residential SVSLs derived using the 0.03 AF. Of the analytes with maximum concentrations that varied by an order of magnitude of greater, only benzene, ethylbenzene, toluene, and PCE were identified as COCs.

Thirteen analytes were detected in soil gas samples collected during the fall/winter 2020/2021 sampling event that were not detected during the summer 2021 sampling event. These analytes include *tert*-amyl methyl ether, chloromethane, 1,2-dibromoethane (DBE), dibromomethane, 1,4-dichlorobenzene, 1,2-dichloroethane, *trans*-1,2-dichloroethene, ethyl *tert*-butyl ether, styrene, and 1,1,1,2-tetrafluoroethane, 1,2,3-trichloropropane, 1,1,2-trichloro-1,2,2-trifluoroethane, and vinyl acetate. Four analytes were detected in soil gas samples collected during the summer 2021 sampling event that were not detected during the fall/winter 2020/2021 sampling event. These analytes include cumene, 1,4-dioxane, ethyl acetate, and propylbenzene. Of the 17 analytes detected during one of the two sampling events, only 1,2-DBE was detected in shallow soil gas at a concentration exceeding SVSLs. Detections of 1,2-DBE during the fall/winter 2020/2021 sampling event were infrequent (8 of 110 samples). Therefore, the variability in the analytes detected during one sampling event and not during the other sampling event is not considered significant as it relates to determining a Site-specific AF.

Tables 5-2 and 5-3 present COC concentrations detected in shallow soil gas during the fall/winter 2020/2021 and summer 2021 sampling events compared to residential and commercial/industrial SVSLs derived using the 0.03 and 0.001 AFs, respectively. The lateral extents of analytes in shallow soil gas during the fall/winter 2020/2021 and summer 2021 sampling events based on SVSLs derived using the 0.03 and 0.001 AFs are presented on Figure 5-1 (benzene, ethylbenzene, and naphthalene), Figure 5-2 (1,2-DBE, BDCM, and chloroform), and Figure 5-3 (PCE, TCE, and cDCE). The greatest temporal variability in lateral extent of analyte concentrations exceeding SVSLs was observed for benzene, ethylbenzene, and naphthalene (Figure 5-1).

During the fall/winter 2020/2021 sampling event, 11 analytes (benzene, BDCM, chloroform, 1,2-DBE, cDCE, 1,2-DCP, ethylbenzene, naphthalene, PCE, TCE, and TPH_g) were detected at concentrations exceeding residential SVSLs derived using the 0.03 AF compared to eight analytes (benzene, BDCM, chloroform, cDCE, 1,2-DCP, ethylbenzene, PCE, and TCE) during the summer 2021 sampling event. Residential SVSL exceedances for BDCM, 1,2-DBE, cDCE, 1,2-DCP, TCE, and TPH_g were limited to three or fewer locations each during both sampling events.

During the fall/winter 2020/2021 sampling event, 10 analytes (benzene, BDCM, chloroform, 1,2-DBE, cDCE, 1,2-DCP, naphthalene, PCE, TCE, and TPH_g) were detected at concentrations exceeding commercial/industrial SVSLs derived using the 0.03 AF compared to seven analytes (benzene, BDCM, chloroform, cDCE, 1,2-DCP, PCE, and TCE) during the summer 2021 sampling event. Commercial/industrial SVSL exceedances for BDCM, 1,2-DBE, cDCE, 1,2-DCP, naphthalene, TCE, and TPH_g were limited to three or fewer locations each during both sampling events.

During the fall/winter 2020/2021 sampling event, five analytes (chloroform, 1,2-DBE, cDCE, PCE, and TCE) were detected at concentrations exceeding residential SVSLs derived using the 0.001 AF compared to five analytes (chloroform, cDCE, 1,2-DCP, PCE, and TCE) during the summer 2021 sampling event. Residential SVSL exceedances for all analytes were limited to four or fewer locations each during both sampling events.

During the fall/winter 2020/2021 sampling event, three analytes (chloroform, PCE, and TCE) were detected at concentrations exceeding commercial/industrial SVSLs derived using the 0.001 AF compared to four analytes

(chloroform, cDCE, PCE, and TCE) during the summer 2021 sampling event. Commercial/industrial SVSL exceedances for all analytes were limited to two or fewer locations each during both sampling events.

Temporal variability was most evident in petroleum-related analytes. Most of these analytes were detected at concentrations below SVSLs during both sampling events, except benzene, ethylbenzene, and naphthalene, which were detected at concentrations exceeding SVSLs during one or both sampling events. In shallow soil gas, the greatest temporal variability for analytes detected at concentrations exceeding SVSLs during one or both sampling events was observed in analytes detected less frequently (i.e., 20 percent or less of the locations sampled). In shallow soil gas, temporal variability was less significant for the non-petroleum-related COCs, including PCE. PCE is the most prevalent COC detected above SVSLs in shallow soil gas and its lateral extent generally encompasses that of the other COCs.

5.2 Redevelopment/Future Building Design

Future redevelopment of the Site is anticipated to reduce building susceptibility to VI compared to the current scenario. Currently, almost the entire Site is covered by buildings or pavement. Buildings and pavement can have a capping effect that limits natural venting of subsurface VOCs to the ambient air. As part of redevelopment, the existing buildings will be demolished and the existing pavement will be removed. Exposing the soil should increase natural venting of subsurface VOCs thereby reducing VOC concentrations in soil vapor. Additionally, grading and other soil disturbance during construction may also increase natural venting of subsurface VOCs while these activities are taking place.

Future building design will also factor into the VI potential. In areas where new buildings will be constructed, the physical character of the subsurface may be altered through soil compaction to provide a more stable base for building foundations. Soil compaction reduces permeability, which will reduce vapor migration beneath buildings compared to surrounding areas with higher soil permeability. For buildings to be constructed with a slab foundation, a thicker, denser slab can reduce VI potential. To further reduce VI potential, buildings can be designed with a raised foundation (e.g., crawl space beneath building) or one with an unoccupied ground floor (e.g., vehicle parking).

Following redevelopment, the percentage of the Site covered by buildings and pavement is anticipated to be comparatively less than the current scenario consistent with City of Sacramento zoning requirements. These "uncapped" areas have the potential to promote natural venting of subsurface VOCs to outdoor air and decrease VOC concentrations in soil vapor over time. Additionally, studies have demonstrated vapor-phase exchange of PCE between soil and plants (Struckhoff and Burken, 2005); therefore, landscaped areas may also reduce VOCs in soil vapor through plant uptake of VOCs from the subsurface.

6.0 Conclusions and Recommendations

Section 6.1 provides conclusions regarding the COCs identified for soil gas, sub-slab vapor and sewer gas. Section 6.2 provided conclusions regarding the extent of soil gas contamination. Section 6.3 provides conclusions for the vapor gas attenuation factor evaluation. Recommendations for the path forward are presented in Section 6.4

6.1 Chemicals of Concern

6.1.1 Soil Gas

Following evaluation of the fall/winter 2020/2021 sampling results from the previous investigation, chloroform, 1,2-DBE, cDCE, PCE, and TCE were identified as COCs in soil gas based on a 0.001 AF. When a more conservative 0.03 AF was applied, benzene, BDCM, 1,2-DCP, ethylbenzene, naphthalene, and toluene were also identified as COCs in soil gas (AECOM, 2021). Based on evaluation of the summer 2021 sampling results from the current investigation, chloroform, cDCE, PCE, and TCE continue to be identified as COCs in soil gas based on a 0.001 AF. When a more conservative 0.03 AF was applied, benzene, BDCM, and ethylbenzene also continue to be identified as COCs in soil gas. 1,2-DBE and naphthalene, which were previously identified as COCs in soil gas, were not detected in shallow soil gas during the summer 2021 sampling event. Additionally, the maximum toluene concentration detected in shallow soil gas during the summer 2021 sampling event was two orders of magnitude lower than was detected during the fall/winter 2020/2021 sampling event ($92 \mu\text{g}/\text{m}^3$ in summer 2021 versus $9,700 \mu\text{g}/\text{m}^3$ in fall/winter 2020/2021). Therefore, 1,2-DBE, naphthalene, and toluene were not confirmed to be COCs in soil gas based on the summer 2021 sampling results.

6.1.2 Sub-Slab Vapor

The sub-slab vapor data obtained from the current investigation indicate that PCE was detected beneath the Tool Issue Building at a concentration exceeding the residential SVSL derived using a 0.001 AF. No VOCs were detected in sub-slab vapor at concentrations exceeding the commercial/industrial SVSL derived using a 0.001 AF. When a more conservative 0.03 AF was applied, PCE was detected in sub-slab vapor beneath the Garage Building, Shops Building, Hazardous Material Building, Tool Issue Building, and Salvage Building at concentrations exceeding the residential SVSL. The PCE concentrations detected in sub-slab vapor beneath the Shops Building, Hazardous Material Building, and Tool Issue Building also exceeded the commercial/industrial SVSL. Additionally, TCE was detected in sub-slab vapor beneath the Tool Issue Building at a concentration exceeding the residential SVSL. TCE is a degradation product of PCE and can form where PCE is present. Therefore, PCE and TCE are considered sub-slab vapor COCs for the existing buildings at the Site.

6.1.3 Sewer Gas

The sewer gas data obtained from the current investigation indicate that no VOCs were detected at concentrations exceeding the SLs derived using a 0.001 AF. When a more conservative 0.03 AF was applied, benzene was detected in sewer gas associated with the Garage Building and Salvage Building at concentrations above the residential SL. Additionally, chloroform was detected in sewer gas associated with the Salvage Building at a concentration above the residential SL. Both of these buildings were previously used for equipment repair or dismantling, and the presence of benzene and chloroform in sewer gas may be attributable to Site use. Therefore, benzene is considered a sewer gas COC for the Garage Building and benzene and chloroform are considered sewer gas COCs for the Salvage Building.

6.2 Extent of Soil Gas Contamination

The extent of soil gas contamination was greater based on fall/winter 2020/2021 sampling results when compared to the summer 2021 sampling results. The lateral extents of VOC concentrations in soil gas exceeding their respective

residential and commercial/ industrial SVSLs based on fall/winter 2020/2021 and summer 2021 shallow soil gas data (i.e., from 4 to 5.5 feet bgs) are shown on Figures 5-1 through 5-3. The lateral extent of VOC concentrations in shallow soil gas exceeding the SVSLs derived using a 0.03 AF extends beneath approximately 9.2 acres based on fall/winter 2020/2021 data compared to 8.4 acres based on the summer 2021 data. In both cases, the lateral extent of VOC concentrations in shallow soil gas exceeding SVSLs extends across the western two-thirds of the North Corporation Yard and may extend beyond the property boundary to the north, west and south. The lateral extent of fall/winter 2020/2021 VOC concentrations in shallow soil gas exceeding the SVSLs derived using a 0.001 AF is limited to two localized areas: in the vicinity of vapor monitoring wells SVM-1 and VW14 at the north side of the Tool Issue Building and an area encompassing vapor monitoring wells VW19, VW24, and VW30, including the area beneath the western portion of the Garage Building. These two areas comprise approximately 0.65 acre. In comparison, the lateral extent of summer 2021 VOC concentrations in shallow soil gas exceeding the SVSLs derived using a 0.001 AF is limited to three localized areas: in the vicinity of vapor monitoring wells SVM-1, SVM-3, and VW14 at the north side of the Tool Issue Building; an area encompassing vapor monitoring wells VW30, VW61, and VW64 south of the Garage Building; and an area encompassing vapor monitoring wells VW17 and VW18 along the northern property boundary. These three areas comprise approximately 0.36 acre.

The maximum summer 2021 concentrations of six soil gas COCs (BDCM, chloroform, 1,2-DCP, PCE, TCE, and cDCE) were detected in shallow soil gas samples collected from 4 to 5.5 feet bgs. This is consistent with the results of the fall/winter sampling event, except the maximum BDCM concentration was previously detected at 14.5 feet bgs. The maximum summer 2021 concentrations of two soil gas COCs (benzene and ethylbenzene) were detected in samples collected from 14.5 feet bgs consistent with the results of the fall/winter 2020/2021 sampling event. The vertical extent of these COCs beyond 14.5 feet bgs is not known, except at deep vapor monitoring wells VW14 and VW15, which were installed to depths of 25.5 and 23.5 feet bgs, respectively. Three soil gas COCs (chloroform, PCE, and TCE) were detected in the summer 2021 soil gas sample collected from vapor monitoring well VW14. Only chloroform and PCE were detected at concentrations exceeding their respective SVSLs based on a 0.03 AF, and no COCs were detected at concentration exceeding its SVSL based on a 0.001 AF at this location. Only one soil gas COC (ethylbenzene) was detected in the duplicate summer 2021 soil gas samples collected from vapor monitoring well VW15. The detected ethylbenzene concentration did not exceed its SVSLs based on a 0.03 AF or a 0.001 AF at this location.

6.3 Attenuation Factor

Based on the evaluation of vapor AFs included in Section 5.0, it appears that the use of a 0.03 AF to establish Site-specific soil vapor cleanup goals would be overly conservative for the following reasons:

- The 0.03 AF was empirically-derived by USEPA using VOC data primarily from single-family residences constructed with basements in states outside California with relatively cold climates, which are conditions with higher VI potential than those found at the Site.
- The 0.03 AF is a generic AF developed by USEPA for preliminary screening of VOCs detected in soil gas to identify areas or buildings that may warrant further investigation of the VI pathway. The generic 0.03 AF was not specifically developed for determining cleanup levels. The USEPA approach to calculating cleanup levels includes use of alternative AFs based on site- or building-specific information. Draft supplemental VI guidance (CalEPA, 2020) also supports the use of USEPA's AFs (USEPA, 2015) for initial screening of buildings and the use of alternative approaches if supported by adequate technical and site information.
- USEPA identified the 0.03 AF for both soil gas and sub-slab vapor, which assumes no attenuation within the soil column. The calculated average attenuation factor for PCE, TCE, cDCE, and 1,2-DCP migrating from shallow soil to immediately beneath the Tool Issue Building foundation was 0.001 indicating attenuation within the soil column is occurring.

- The VOC concentrations detected in shallow soil gas indicate that SVSL exceedances are overwhelmingly attributed to SVSLs derived using the more conservative 0.03 AF. If the VOC concentrations detected in shallow soil gas were an order of magnitude higher than those detected at this Site, the extent of SVSL exceedances based on the 0.03 AF compared to the 0.001 AF would be much less pronounced. This indicates the potential need to take action across much of the Site is more heavily dependent on the generic 0.03 AF used to derive SVSLs than the magnitude of the shallow soil gas concentrations detected.
- California VI guidance recommends using a default AF of 0.001 for existing commercial buildings with samples collected at the contamination source, along with the maximum soil gas concentration (DTSC, 2011). For future residential and commercial buildings, California VI guidance recommends using default AFs of 0.001 and 0.0005, respectively. The California VI guidance considers the default AFs to reflect reasonably protective assumptions for conditions in California for the contamination of indoor air due to VI.
- DTSC is conducting a VI AF study to derive a California-specific AF for VI calculations (DTSC, 2021), which appears to be an acknowledgement that USEPA's generic 0.03 AF may not be applicable to California. The preliminary findings suggest an AF closer to 0.001 than 0.03, which is consistent with other California-specific VI AF studies such as that performed by Ettinger et al. (2018), which resulted in an empirical AF of 0.002 for soil gas.

6.4 Recommendations

Based on the understanding of Site conditions following the summer 2021 soil gas, sub-slab vapor, and sewer gas sampling effort and regulatory SLs in effect at the time, recommended next steps include:

- Implementing a remedial action to address VOC concentrations in soil gas that could pose an unacceptable risk to human health should the vapors migrate into indoor.
- Developing soil vapor cleanup levels using a vapor AF of 0.001. An AF of 0.001 is equal to the 0.001 AF identified for preliminary screening evaluations of future residential buildings and two times as conservative as the 0.0005 AF identified for preliminary evaluations of future commercial buildings in California VI guidance (DTSC, 2011). An AF of 0.001 is also consistent with the preliminary findings of DTSC's California-specific AF study.
- Proceeding with planned demolition of the unoccupied Tool Issue Building and removal of subsurface utility line connections to better facilitate soil gas remediation in the building vicinity.

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Tables

TABLE 3-1. CURRENT INVESTIGATION SOIL GAS SAMPLE SUMMARY
(Page 1 of 5)

Location ID	Sampling Date	Field Sample ID	Sample Type	Depth (feet bgs)	Pavement Thickness (feet)	Depth Below Pavement (feet)	Laboratory Sample ID	Laboratory Analyses	
								VOCs (USEPA TO-15)	Helium (ASTM D-1946)
VW14	7/15/2021	SG-VW14-02	N	26.33	0.33	26	2107361-13A	X	
VW15	7/14/2021	SG-VW15-02	N	23.83	0.33	23.5	2107284-09A	X	
VW15	7/14/2021	SG-VW15-03	FD	23.83	0.33	23.5	2107284-10A	X	
VW16A	7/15/2021	SG-VW16A-02	N	5.83	0.33	5.5	2107361-06A	X	
VW16B	7/12/2021	SG-VW16B-02	N	14.83	0.33	14.5	2107282-01A	X	
VW17A	7/12/2021	SG-VW17A-02	N	5.75	0.25	5.5	2107282-02A	X	
VW17A	8/16/2011	SG-VW17A-03	N	5.75	0.25	5.5	2108390-03A	X	
VW17B	7/12/2021	SG-VW17B-03	N	14.75	0.25	14.5	2107282-03A	X	
VW18A	7/15/2021	SG-VW18A-02	N	5.71	0.21	5.5	2107361-07A	X	
VW18B	7/12/2021	SG-VW18B-02	N	14.71	0.21	14.5	2107282-04A	X	
VW19A	7/13/2021	SG-VW19A-02	N	5.83	0.33	5.5	2107282-05A	X	
VW19B	7/13/2021	SG-VW19B-02	N	14.83	0.33	14.5	2107282-06A	X	
VW20A	7/14/2021	SG-VW20A-02	N	5.67	0.17	5.5	2107284-26A	X	
VW20A	8/17/2021	SG-VW20A-03	N	5.67	0.17	5.5	2108390-13A	X	
VW20B	7/15/2021	SG-VW20B-02	N	14.67	0.17	14.5	2107361-08A	X	
VW21A	7/15/2021	SG-VW21A-03	N	5.83	0.33	5.5	2107361-10A	X	
VW21A	8/17/2021	SG-VW21A-04	N	5.83	0.33	5.5	2108390-14A	X	
VW21A	8/30/2021	SG-VW21A-05	N	5.83	0.33	5.5	2108676A-01A	X	
VW21A	8/30/2021	SG-VW21A-06	FR	5.83	0.33	5.5	2108676B-02A	X	
VW21B	7/15/2021	SG-VW21B-02	N	14.83	0.33	14.5	2107361-11A	X	
VW22A	7/14/2021	SG-VW22A-02	N	5.79	0.29	5.5	2107284-24A	X	
VW22B	7/14/2021	SG-VW22B-02	N	14.79	0.29	14.5	2107284-25A	X	
VW23B	7/14/2021	SG-VW23B-02	N	14.83	0.33	14.5	2107284-23A	X	
VW24A	7/15/2021	SG-VW24A-04	N	6.04	0.54	5.5	2107361-09A	X	
VW24A	8/17/2021	SG-VW24A-05	N	6.04	0.54	5.5	2108390-15A	X	
VW24B	7/14/2021	SG-VW24B-02	N	15.04	0.54	14.5	2107284-20A	X	
VW25A	7/13/2021	SG-VW25A-02	N	5.75	0.25	5.5	2107282-11A	X	
VW25B	7/13/2021	SG-VW25B-02	N	14.75	0.25	14.5	2107282-12A	X	
VW26A	7/9/2021	SG-VW26A-02	N	6.25	0.75	5.5	2107241A-21A	X	
VW26B	7/15/2021	SG-VW26B-02	N	15.25	0.75	14.5	2107361-05A	X	
VW27A	7/15/2021	SG-VW27A-02	N	5.92	0.42	5.5	2107361-02A	X	
VW27B	7/15/2021	SG-VW27B-02	N	14.92	0.42	14.5	2107361-03A	X	
VW27B	7/15/2021	SG-VW27B-03	FD	14.92	0.42	14.5	2107361-04A	X	

TABLE 3-1. CURRENT INVESTIGATION SOIL GAS SAMPLE SUMMARY
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Location ID	Sampling Date	Field Sample ID	Sample Type	Depth (feet bgs)	Pavement Thickness (feet)	Depth Below Pavement (feet)	Laboratory Sample ID	Laboratory Analyses	
								VOCs (USEPA TO-15)	Helium (ASTM D-1946)
VW28A	7/15/2021	SG-VW28A-02	N	5.83	0.33	5.5	2107361-12A	X	
VW28B	7/15/2021	SG-VW28B-02	N	14.83	0.33	14.5	2107362A-12A	X	
VW29A	7/15/2021	SG-VW29A-02	N	5.83	0.33	5.5	2107362A-10A	X	
VW29A	8/17/2021	SG-VW29A-03	N	5.83	0.33	5.5	2108390-16A	X	
VW29B	7/15/2021	SG-VW29B-02	N	14.83	0.33	14.5	2107362A-11A	X	
VW30A	7/15/2021	SG-VW30A-03	N	5.75	0.25	5.5	2107362A-04A	X	
VW30B	7/15/2021	SG-VW30B-03	N	14.75	0.25	14.5	2107362A-05A	X	
VW31A	7/9/2021	SG-VW31A-02	N	5.75	0.25	5.5	2107241A-18A	X	
VW31B	7/9/2021	SG-VW31B-02	N	14.75	0.25	14.5	2107241A-19A	X	
VW31B	7/9/2021	SG-VW31B-03	FD	14.75	0.25	14.5	2107241A-20A	X	
VW32A	7/12/2021	SG-VW32A-03	N	6.04	0.54	5.5	2107260A-02A	X	
VW32B	7/12/2021	SG-VW32B-02	N	15.04	0.54	14.5	2107260A-01A	X	
VW33A	7/14/2021	SG-VW33A-02	N	5.83	0.33	5.5	2107284-11A	X	
VW33B	7/14/2021	SG-VW33B-02	N	14.83	0.33	14.5	2107284-12A	X	
VW34A	7/14/2021	SG-VW34A-02	N	6.25	0.75	5.5	2107284-13A	X	
VW34A	7/14/2021	SG-VW34A-03	FD	6.25	0.75	5.5	2107284-14A	X	
VW34B	7/14/2021	SG-VW34B-02	N	15.25	0.75	14.5	2107284-15A	X	
VW35A	7/9/2021	SG-VW35A-02	N	6.17	0.67	5.5	2107241A-22A	X	
VW35A	8/16/2021	SG-VW35A-03	N	6.17	0.67	5.5	2108390-01A	X	
VW35B	7/9/2021	SG-VW35B-02	N	15.17	0.67	14.5	2107241A-23A	X	
VW36A	7/12/2021	SG-VW36A-02	N	5.79	0.29	5.5	2107260A-05A	X	
VW36B	7/12/2021	SG-VW36B-02	N	14.79	0.29	14.5	2107260A-03A	X	
VW36B	7/12/2021	SG-VW36B-03	FD	14.79	0.29	14.5	2107260A-04A	X	
VW37A	7/13/2021	SG-VW37A-02	N	6.17	0.67	5.5	2107260A-17A	X	
VW37B	7/13/2021	SG-VW37B-03	N	15.17	0.67	14.5	2107260A-15A	X	
VW37B	7/13/2021	SG-VW37B-04	FD	15.17	0.67	14.5	2107260A-16A	X	
VW38A	7/14/2021	SG-VW38A-02	N	5.88	0.38	5.5	2107284-07A	X	
VW38A	7/14/2021	SG-VW38A-03	FD	5.88	0.38	5.5	2107284-08A	X	
VW38B	7/14/2021	SG-VW38B-03	N	14.88	0.38	14.5	2107284-06A	X	
VW39A	7/14/2021	SG-VW39A-02	N	6.08	0.58	5.5	2107284-05A	X	
VW39B	7/14/2021	SG-VW39B-02	N	15.08	0.58	14.5	2107284-04A	X	
VW40A	7/13/2021	SG-VW40A-02	N	5.75	0.25	5.5	2107260A-14A	X	
VW40B	7/13/2021	SG-VW40B-02	N	14.75	0.25	14.5	2107260A-13A	X	

TABLE 3-1. CURRENT INVESTIGATION SOIL GAS SAMPLE SUMMARY
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Location ID	Sampling Date	Field Sample ID	Sample Type	Depth (feet bgs)	Pavement Thickness (feet)	Depth Below Pavement (feet)	Laboratory Sample ID	Laboratory Analyses	
								VOCs (USEPA TO-15)	Helium (ASTM D-1946)
VW41A	7/13/2021	SG-VW41A-03	N	6.13	0.63	5.5	2107260A-19A	X	
VW41B	7/13/2021	SG-VW41B-02	N	15.13	0.63	14.5	2107260A-18A	X	
VW42A	7/13/2021	SG-VW42A-03	N	6.17	0.67	5.5	2107260A-21A	X	
VW42A	7/13/2021	SG-VW42A-04	FD	6.17	0.67	5.5	2107260A-22A	X	
VW42B	7/13/2021	SG-VW42B-02	N	15.17	0.67	14.5	2107260A-20A	X	
VW43A	7/8/2021	SG-VW43A-02	N	5.75	0.25	5.5	2107241A-01A 2107241B-01A	X	X
VW43B	7/8/2021	SG-VW43B-02	N	14.75	0.25	14.5	2107241A-02A 2107241B-02A	X	X
VW44A	7/8/2021	SG-VW44A-02	N	5.83	0.33	5.5	2107241A-07A	X	
VW44A	8/16/2021	SG-VW44A-03	N	5.83	0.33	5.5	2108390-02A	X	
VW44B	7/8/2021	SG-VW44B-02	N	14.83	0.33	14.5	2107241A-08A	X	
VW45A	7/8/2021	SG-VW45A-03	N	6.17	0.67	5.5	2107241A-03A 2107241B-03A	X	X
VW45B	7/8/2021	SG-VW45B-02	N	15.17	0.67	14.5	2107241A-04A 2107241B-04A	X	X
VW46A	7/8/2021	SG-VW46A-02	N	6.25	0.75	5.5	2107241A-05A 2107241B-05A	X	X
VW46B	7/8/2021	SG-VW46B-02	N	15.25	0.75	14.5	2107241A-06A 2107241B-06A	X	X
VW47A	7/8/2021	SG-VW47A-02	N	6.17	0.67	5.5	2107241A-09A	X	
VW47A	7/8/2021	SG-VW47A-03	FD	6.17	0.67	5.5	2107241A-10A	X	
VW47B	7/8/2021	SG-VW47B-02	N	15.17	0.67	14.5	2107241A-11A	X	
VW48A	7/9/2021	SG-VW48A-03	N	6.25	0.75	5.5	2107241A-12A	X	
VW48B	7/9/2021	SG-VW48B-02	N	15.25	0.75	14.5	2107241A-13A	X	
VW49A	7/9/2021	SG-VW49A-03	N	6.25	0.75	5.5	2107241A-14A	X	
VW49B	7/9/2021	SG-VW49B-02	N	15.25	0.75	14.5	2107241A-15A	X	
VW50A	7/9/2021	SG-VW50A-03	N	6.17	0.67	5.5	2107241A-16A	X	
VW50B	7/9/2021	SG-VW50B-02	N	15.17	0.67	14.5	2107241A-17A	X	
VW51A	7/12/2021	SG-VW51A-02	N	5.83	0.33	5.5	2107260A-07A	X	
VW51B	7/12/2021	SG-VW51B-02	N	14.83	0.33	14.5	2107260A-06A	X	
VW52A	7/13/2021	SG-VW52A-02	N	5.83	0.33	5.5	2107282-07A	X	
VW52B	7/13/2021	SG-VW52B-02	N	14.83	0.33	14.5	2107282-08A	X	

TABLE 3-1. CURRENT INVESTIGATION SOIL GAS SAMPLE SUMMARY
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Location ID	Sampling Date	Field Sample ID	Sample Type	Depth (feet bgs)	Pavement Thickness (feet)	Depth Below Pavement (feet)	Laboratory Sample ID	Laboratory Analyses	
								VOCs (USEPA TO-15)	Helium (ASTM D-1946)
VW53A	7/13/2021	SG-VW53A-03	N	5.75	0.25	5.5	2107282-09A	X	
VW53B	7/13/2021	SG-VW53B-02	N	14.75	0.25	14.5	2107282-10A	X	
VW54B	7/14/2021	SG-VW54B-02	N	14.75	0.25	14.5	2107284-19A	X	
VW55A	7/14/2021	SG-VW55A-02	N	5.92	0.42	5.5	2107361-01A	X	
VW55A	8/17/2021	SG-VW55A-03	N	5.92	0.42	5.5	2108390-12A	X	
VW55B	7/14/2021	SG-VW55B-01	N	14.92	0.42	14.5	2107284-16A	X	
VW56A	7/14/2021	SG-VW56A-02	N	6.17	0.67	5.5	2107284-03A	X	
VW56B	7/14/2021	SG-VW56B-02	N	15.17	0.67	14.5	2107284-02A	X	
VW57A	7/14/2021	SG-VW57A-02	N	6.08	0.58	5.5	2107284-01A	X	
VW57B	7/13/2021	SG-VW57B-04	N	15.08	0.58	14.5	2107260A-23A	X	
VW57B	7/13/2021	SG-VW57B-05	FD	15.08	0.58	14.5	2107260A-24A	X	
VW58A	7/14/2021	SG-VW58A-01	N	5.92	0.42	5.5	2107284-21A	X	
VW58A	8/16/2021	SG-VW58A-02	N	5.92	0.42	5.5	2108390-04A	X	
VW58B	7/14/2021	SG-VW58B-01	N	14.92	0.42	14.5	2107284-22A	X	
VW58B	8/16/2021	SG-VW58B-02	N	14.92	0.42	14.5	2108390-05A	X	
VW59A	7/15/2021	SG-VW59A-01	N	5.92	0.42	5.5	2107361-15A	X	
VW59A	8/17/2021	SG-VW59A-02	N	5.92	0.42	5.5	2108390-18A	X	
VW59B	7/15/2021	SG-VW59B-01	N	14.92	0.42	14.5	2107361-14A	X	
VW59B	8/17/2021	SG-VW59B-02	N	14.92	0.42	14.5	2108390-19A	X	
VW60A	7/14/2021	SG-VW60A-01	N	5.75	0.25	5.5	2107284-17A	X	
VW60A	8/16/2021	SG-VW60A-02	N	5.75	0.25	5.5	2108390-07A	X	
VW60B	7/14/2021	SG-VW60B-01	N	14.75	0.25	14.5	2107284-18A	X	
VW60B	8/16/2021	SG-VW60B-02	N	14.75	0.25	14.5	2108390-06A	X	
VW61A	7/15/2021	SG-VW61A-01	N	5.75	0.25	5.5	2107362A-01A	X	
VW61A	8/16/2021	SG-VW61A-02	N	5.75	0.25	5.5	2108390-08A	X	
VW61B	7/15/2021	SG-VW61B-01	N	14.75	0.25	14.5	2107362A-02A	X	
VW62	7/15/2021	SG-VW62-01	N	25.75	0.25	25.5	2107362A-03A	X	
VW63A	7/15/2021	SG-VW63A-01	N	5.75	0.25	5.5	2107362A-06A	X	
VW63A	8/16/2021	SG-VW63A-02	N	5.75	0.25	5.5	2108390-09A	X	
VW63B	7/15/2021	SG-VW63B-01	N	14.75	0.25	14.5	2107362A-07A	X	
VW63B	8/16/2021	SG-VW63B-02	N	14.75	0.25	14.5	2108390-10A	X	
VW63B	8/16/2021	SG-VW63B-03	FD	14.75	0.25	14.5	2108390-11A	X	
VW64A	7/15/2021	SG-VW64A-01	N	5.75	0.25	5.5	2107362A-08A	X	

TABLE 3-1. CURRENT INVESTIGATION SOIL GAS SAMPLE SUMMARY
(Page 5 of 5)

Location ID	Sampling Date	Field Sample ID	Sample Type	Depth (feet bgs)	Pavement Thickness (feet)	Depth Below Pavement (feet)	Laboratory Sample ID	Laboratory Analyses	
								VOCs (USEPA TO-15)	Helium (ASTM D-1946)
VW64A	8/17/2021	SG-VW64A-02	N	5.75	0.25	5.5	2108390-17A	X	
VW64B	7/15/2021	SG-VW64B-01	N	14.75	0.25	14.5	2107362A-09A	X	
VW65A	7/30/2021	SG-VW65A-01	N	6.00	0.5	5.5	2107684-07A	X	
VW65B	7/30/2021	SG-VW65B-01	N	15.00	0.5	14.5	2107684-08A	X	
VW66A	7/30/2021	SG-VW66A-01	N	5.83	0.33	5.5	2107684-09A	X	
VW66B	7/30/2021	SG-VW66B-01	N	14.83	0.33	14.5	2107684-10A	X	
VW66B	7/30/2021	SG-VW66B-02	FD	14.83	0.33	14.5	2107684-11A	X	
SVM-1A	7/30/2021	SG-SVM1A-01	N	4.5	0.5	4	2107684-01A	X	
SVM-1B	7/30/2021	SG-SVM1B-01	N	14.5	0.5	14	2107684-02A	X	
SVM-2A	7/29/2021	SG-SVM2A-01	N	5.42	0.42	5	2107684-03A	X	
SVM-2B	7/29/2021	SG-SVM2B-01	N	14.42	0.42	14	2107684-04A	X	
SVM-3A	7/29/2021	SG-SVM3A-01	N	4.42	0.42	4	2107684-05A	X	
SVM-3B	7/29/2021	SG-SVM3B-01	N	14.42	0.42	14	2107684-06A	X	

Notes:

Samples were collected using 1-liter passivated stainless steel canisters and analyzed by Eurofins Air Toxics of Folsom, California.

ASTM = ASTM International

bgs = below ground surface

FD = field duplicate sample

FR = field replicate sample

ID = identification

N = normal sample

TO = Toxic Organics

USEPA = United States Environmental Protection Agency

VOC = volatile organic compound

TABLE 3-2. CURRENT INVESTIGATION SUB-SLAB VAPOR SAMPLE SUMMARY
(Page 1 of 1)

Location	Location ID	Sampling Date	Field Sample ID	Sample Type	Laboratory Sample ID	Laboratory Analyses
						VOCs (USEPA TO-15)
Garage Building	F-SS01	7/15/2021	SSV-F-SS01-01	N	2107362B-19A	X
Garage Building	F-SS01	8/17/2021	SSV-F-SS01-02	N	2108390-20A	X
Garage Building	F-SS01	8/17/2021	SSV-F-SS01-03	FD	2108390-21A	X
Garage Building	F-SS02	7/15/2021	SSV-F-SS02-01	N	2107362B-18A	X
Garage Building	F-SS02	8/17/2021	SSV-F-SS02-02	N	2108390-22A	X
Shops Building	G-SS01	7/15/2021	SSV-G-SS01-01	N	2107362B-16A	X
Shops Building	G-SS01	8/17/2021	SSV-G-SS01-02	N	2108390-23A	X
Shops Building	G-SS02	7/15/2021	SSV-G-SS02-01	N	2107362B-17A	X
Shops Building	G-SS02	8/17/2021	SSV-G-SS02-02	N	2108390-24A	X
Tool Issue Building	H-SS01	7/15/2021	SSV-H-SS01-01	N	2107362B-14A	X
HazMat Building	HMB-SS01	7/15/2021	SSV-HMB-SS01-01	N	2107362B-15A	X
HazMat Building	HMB-SS01	8/17/2021	SSV-HMB-SS01-02	N	2108390-25A	X
Salvage Building	J-SS01	7/15/2021	SSV-J-SS01-01	N	2107362B-13A	X
Salvage Building	J-SS01	8/17/2021	SSV-J-SS01-02	N	2108390-26A	X

Notes:

Samples were collected using 1-liter passivated stainless steel canisters and analyzed by Eurofins Air Toxics of Folsom, California.

FD = field duplicate sample

HazMat = Hazardous Material

ID = identification

N = normal sample

TO = Toxic Organics

USEPA = United States Environmental Protection Agency

VOC = volatile organic compound

TABLE 3-3. CURRENT INVESTIGATION SEWER GAS SAMPLE SUMMARY
(Page 1 of 1)

Location	Sampling Date		Field Sample ID	Sample Type	Laboratory Sample ID	Laboratory Analyses
	Begin	End				VOCs (USEPA TO-17)
Garage Building Interior Sewer Cleanout	7/8/2021	7/15/2021	F-SEW-01P	N	0005847-02	X
Tool Issue Building Exterior Sewer Cleanout	7/8/2021	7/15/2021	H-SEW-01P	N	0005847-03	X
Tool Issue Building Exterior Sewer Cleanout	7/8/2021	7/15/2021	H-SEW-02P	FD	0005847-04	X
Tool Issue Building Interior Sewer Cleanout	7/8/2021	7/15/2021	H-SEW-03P	N	0005847-06	X
Salvage Building Exterior Sewer Cleanout	7/8/2021	7/15/2021	J-SEW-01P	N	0005847-05	X
NA	NA	NA	TB-01	TB	0005847-01	X

Notes:

Samples were collected using passive samplers provided and analyzed by Beacon Environmental of Forest Hill, Maryland.

FD = field duplicate sample

ID = identification

N = normal sample

NA = not applicable

TB = trip blank

TO = Toxic Organics

USEPA = United States Environmental Protection Agency

VOC = volatile organic compound

TABLE 4-1. CURRENT INVESTIGATION MAXIMUM ANALYTE CONCENTRATIONS DETECTED IN SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.03 ATTENUATION FACTOR)
(Page 1 of 1)

Analyte	Maximum Concentration (µg/m ³)	Sample ID of Maximum Concentration	Location ID of Maximum Concentration	Sampling Date of Maximum Concentration	Sample Depth (feet)	No. Detections/ Total No. Samples	No. Locations with Detections/ Total No. Locations Sampled	Residential SVSL ^(a) (µg/m ³)	No. Samples Exceeding Goal/		Commercial/ Industrial SVSL ^(a) (µg/m ³)	No. Samples Exceeding Goal/	
									Total No. Samples	No. Locations Exceeding Goal/ Total No. Locations Sampled		Total No. Samples	No. Locations Exceeding Goal/ Total No. Locations Sampled
Acetone	260	SG-VW48B-02	VW48	7/9/2021	14.5	51/117	37/55	1,100,000	0/117	0/55	4,700,000	0/117	0/55
Benzene	22 J-	SG-VW32B-02	VW32	7/12/2021	14.5	12/117	10/55	3.2	9/117	8/55	14	2/117	2/55
Bromodichloromethane (BDCM)	43	SG-VW30A-03	VW30	7/15/2021	5.5	7/117	4/55	2.5	7/117	4/55	11	4/117	4/55
<i>tert</i> -Butyl Alcohol (TBA)	38 J	SG-VW47A-02	VW47	7/8/2021	5.5	5/117	5/55	NE	NA	NA	NE	NA	NA
Carbon Disulfide	150	SG-VW46B-02	VW46	7/8/2021	14.5	12/117	11/55	24,000	0/117	0/55	100,000	0/117	0/55
Carbon Tetrachloride	9.1 J-	SG-VW17A-03	VW17	8/16/2021	14.5	1/117	1/55	16	0/117	0/55	67	0/117	0/55
Chlorobenzene (Benzyl Chloride)	340 J-	SG-VW47B-02	VW47	7/8/2021	14.5	1/117	1/55	1,700	0/117	0/55	7,300	0/117	0/55
Chloroform	1,500	SG-VW30A-03	VW30	7/15/2021	5.5	40/117	22/55	4.0	40/117	22/55	18	24/117	17/55
Cumene (Isopropylbenzene)	14	SG-VW49B-02	VW49	7/9/2021	14.5	2/117	1/55	14,000	0/117	0/55	60,000	0/117	0/55
Cyclohexane	34	SG-VW37A-02	VW37	7/13/2021	5.5	12/117	11/55	210,000	0/117	0/55	870,000	0/117	0/55
Dichlorodifluoromethane (Freon 12)	67 J-	SG-VW19B-02	VW19	7/13/2021	14.5	31/117	19/55	3,300	0/117	0/55	15,000	0/117	0/55
<i>cis</i>-1,2-Dichloroethene (cDCE)	53,000	SG-SVM1A-01	SVM-1	7/30/2021	4	3/117	2/55	280	1/117	1/55	1,200	1/117	1/55
1,2-Dichloropropane	820	SG-SVM1A-01	SVM-1	7/30/2021	4	1/117	1/55	25	1/117	1/55	110	1/117	1/55
1,4-Dioxane	80	SG-VW46B-02	VW46	7/8/2021	14.5	1/117	1/55	19	1/117	1/55	83	0/117	0/55
Ethanol	62	SG-VW16B-02	VW16	7/12/2021	14.5	20/117	17/55	NE	NA	NA	NE	NA	NA
Ethyl Acetate	41	SG-VW26B-02	VW26	7/15/2021	14.5	1/117	1/55	2,400	0/117	0/55	10,000	0/117	0/55
Ethylbenzene	65 J-	SG-VW32B-02	VW32	7/12/2021	14.5	21/117	19/55	37	2/117	2/55	160	0/117	0/55
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	80 J-	SG-VW32B-02	VW32	7/12/2021	14.5	18/117	16/55	NE	NA	NA	NE	NA	NA
n-Heptane	34	SG-VW37A-02	VW37	7/13/2021	5.5	5/117	4/55	14,000	0/117	0/55	60,000	0/117	0/55
Hexane	4,300 J	SG-VW35A-03	VW35	8/16/2021	5.5	37/117	24/55	24,000	0/117	0/55	100,000	0/117	0/55
2-Hexanone	0.72 J-	SG-VW21A-05	VW21	8/30/2021	5.5	1/117	1/55	1,000	0/117	0/55	4,300	0/117	0/55
Isooctane (2,2,4-Trimethylpentane)	100	SG-VW65A-01	VW65	7/30/2021	5.5	8/117	5/55	NE	NA	NA	NE	NA	NA
Isopropyl Alcohol (2-Propanol)	92	SG-VW43A-02	VW43	7/8/2021	5.5	48/117	35/55	7,000	0/117	0/55	29,000	0/117	0/55
Methyl Ethyl Ketone (2-Butanone)	26	SG-VW53A-03	VW53	7/13/2021	5.5	3/117	2/55	170,000	0/117	0/55	730,000	0/117	0/55
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	790 J-	SG-VW20B-02	VW20	7/15/2021	14.5	5/117	5/55	100,000	0/117	0/55	430,000	0/117	0/55
Methyl <i>tert</i> -Butyl Ether (MTBE)	38	SG-VW37A-02	VW37	7/13/2021	5.5	1/117	1/55	370	0/117	0/55	1,600	0/117	0/55
Naphthalene	11 J-	SG-VW56B-02	VW56	7/14/2021	14.5	1/117	1/55	2.8	0/117	1/55	12	0/117	0/55
Propylbenzene	17 J-	SG-VW32B-02	VW32	7/12/2021	14.5	5/117	4/55	33,000	0/117	0/55	150,000	0/117	0/55
Propylene	69	SG-VW48B-02	VW48	7/9/2021	14.5	7/117	7/55	100,000	0/117	0/55	430,000	0/117	0/55
Tetrachloroethene (PCE)	330,000	SG-SVM1A-01	SVM-1	7/30/2021	4	108/117	53/55	15	95/117	49/55	67	63/117	35/55
Tetrahydrofuran	9.6 J	SG-VW15-02	VW15	7/14/2021	23.5	3/117	3/55	70,000	0/117	0/55	290,000	0/117	0/55
Toluene	110	SG-VW26B-02	VW26	7/15/2021	14.5	39/117	29/55	10,000	0/117	0/55	43,000	0/117	0/55
1,1,1-Trichloroethane	6.0 J-	SG-VW21A-05	VW21	8/30/2021	5.5	2/117	1/55	33,000	0/117	0/55	150,000	0/117	0/55
Trichloroethene (TCE)	18,000	SG-SVM1A-01	SVM-1	7/30/2021	4	13/117	9/55	16	5/117	2/55	100	1/117	1/55
Trichlorofluoromethane (Freon 11)	14 J-	SG-VW19B-02	VW19	7/13/2021	14.5	6/117	3/55	43,000	0/117	0/55	180,000	0/117	0/55
1,2,4-Trimethylbenzene	66 J-	SG-VW32B-02	VW32	7/12/2021	14.5	19/117	17/55	2,100	0/117	0/55	8,700	0/117	0/55
1,3,5-Trimethylbenzene	29 J-	SG-VW32B-02	VW32	7/12/2021	14.5	6/117	5/55	2,100	0/117	0/55	8,700	0/117	0/55
<i>m</i> - & <i>p</i> -Xylenes	200 J-	SG-VW32B-02	VW32	7/12/2021	14.5	30/117	24/55	3,300	0/117	0/55	15,000	0/117	0/55
<i>o</i> -Xylene	64 J-	SG-VW32B-02	VW32	7/12/2021	14.5	24/117	20/55	3,300	0/117	0/55	15,000	0/117	0/55
TPH - Gasoline	7,800	SG-VW35A-03	VW35	8/16/2021	5.5	24/117	19/55	20,000 ^(b)	0/117	0/55	83,000 ^(b)	0/117	0/55

Notes:

Bold indicates analyte exceeds one or more SVSLs.
 Sample depths are referenced to the top of soil (bottom of pavement).
 µg/m³ = micrograms per cubic meter
 CalEPA = California Environmental Protection Agency
 DTSC = Department of Toxic Substances Control
 ESL = Environmental Screening Level
 ID = identification
 HERO = Human and Ecological Risk Office
 HHRA = human health risk assessment

J = estimated concentration
 J- = estimated concentration; potential low bias
 NA = not applicable
 NE = not established
 No. = number
 SF RWQCB = San Francisco Bay Regional Water Quality Control Board
 SVSL = soil vapor screening level
 SWRCB = California State Water Resources Control Board
 TPH = total petroleum hydrocarbons

Goal Compliance:

^(a) Unless noted otherwise, SVSLs were derived by dividing the HERO HHRA Note 3 residential and commercial/industrial ambient air screening levels (DTSC, 2020) by a 0.03 soil vapor attenuation factor (CalEPA, 2020).
^(b) SVSL derived by dividing the SF RWQCB residential or commercial/industrial indoor air ESLs (SWRCB, 2019) by a 0.03 soil vapor attenuation factor (CalEPA, 2020).

TABLE 4-2. CURRENT INVESTIGATION MAXIMUM ANALYTE CONCENTRATIONS DETECTED IN SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.001 ATTENUATION FACTOR)
(Page 1 of 1)

Analyte	Maximum Concentration (µg/m ³)	Sample ID of Maximum Concentration	Location ID of Maximum Concentration	Sampling Date of Maximum Concentration	Sample Depth (feet)	No. Detections/ Total No. Samples	No. Locations with Detections/ Total No. Locations Sampled	Residential SVSL ^(a) (µg/m ³)	No. Samples Exceeding Goal/		Commercial/ Industrial SVSL ^(a) (µg/m ³)	No. Samples Exceeding Goal/	
									Total No. Samples	No. Locations Exceeding Goal/ Total No. Locations Sampled		Total No. Samples	No. Locations Exceeding Goal/ Total No. Locations Sampled
Acetone	260	SG-VW48B-02	VW48	7/9/2021	14.5	51/117	37/55	32,000,000	0/117	0/55	140,000,000	0/117	0/55
Benzene	22 J-	SG-VW32B-02	VW32	7/12/2021	14.5	12/117	10/55	97	0/117	0/55	420	0/117	0/55
Bromodichloromethane (BDCM)	43	SG-VW30A-03	VW30	7/15/2021	5.5	7/117	4/55	76	0/117	0/55	330	0/117	0/55
tert-Butyl Alcohol (TBA)	38 J	SG-VW47A-02	VW47	7/8/2021	5.5	5/117	5/55	NE	NA	NA	NE	NA	NA
Carbon Disulfide	150	SG-VW46B-02	VW46	7/8/2021	14.5	12/117	11/55	730,000	0/117	0/55	3,100,000	0/117	0/55
Carbon Tetrachloride	9.1 J-	SG-VW17A-03	VW17	8/16/2021	14.5	1/117	1/55	470	0/117	0/55	2,000	0/117	0/55
Chlorobenzene (Benzyl Chloride)	340 J-	SG-VW47B-02	VW47	7/8/2021	14.5	1/117	1/55	52,000	0/117	0/55	220,000	0/117	0/55
Chloroform	1,500	SG-VW30A-03	VW30	7/15/2021	5.5	40/117	22/55	120	12/117	7/55	530	3/117	2/55
Cumene (Isopropylbenzene)	14	SG-VW49B-02	VW49	7/9/2021	14.5	2/117	1/55	420,000	0/117	0/55	1,800,000	0/117	0/55
Cyclohexane	34	SG-VW37A-02	VW37	7/13/2021	5.5	12/117	11/55	6,300,000	0/117	0/55	26,000,000	0/117	0/55
Dichlorodifluoromethane (Freon 12)	67 J-	SG-VW19B-02	VW19	7/13/2021	14.5	31/117	19/55	100,000	0/117	0/55	440,000	0/117	0/55
cis-1,2-Dichloroethene (cDCE)	53,000	SG-SVM1A-01	SVM-1	7/30/2021	4	3/117	2/55	8,300	1/117	1/55	35,000	1/117	1/55
1,2-Dichloropropane	820	SG-SVM1A-01	SVM-1	7/30/2021	4	1/117	1/55	760	1/117	1/55	3,300	1/117	1/55
1,4-Dioxane	80	SG-VW46B-02	VW46	7/8/2021	14.5	1/117	1/55	560	0/117	0/55	2,500	0/117	0/55
Ethanol	62	SG-VW16B-02	VW16	7/12/2021	14.5	20/117	17/55	NE	NA	NA	NE	NA	NA
Ethyl Acetate	41	SG-VW26B-02	VW26	7/15/2021	14.5	1/117	1/55	73,000	0/117	0/55	310,000	0/117	0/55
Ethylbenzene	65 J-	SG-VW32B-02	VW32	7/12/2021	14.5	21/117	19/55	1,100	0/117	0/55	4,900	0/117	0/55
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	80 J-	SG-VW32B-02	VW32	7/12/2021	14.5	18/117	16/55	NE	NA	NA	NE	NA	NA
n-Heptane	34	SG-VW37A-02	VW37	7/13/2021	5.5	5/117	4/55	420,000	0/117	0/55	1,800,000	0/117	0/55
Hexane	4,300 J	SG-VW35A-03	VW35	8/16/2021	5.5	37/117	24/55	730,000	0/117	0/55	3,100,000	0/117	0/55
2-Hexanone	0.72 J-	SG-VW21A-05	VW21	8/30/2021	5.5	1/117	1/55	31,000	0/117	0/55	130,000	0/117	0/55
Isooctane (2,2,4-Trimethylpentane)	100	SG-VW65A-01	VW65	7/30/2021	5.5	8/117	5/55	NE	NA	NA	NE	NA	NA
Isopropyl Alcohol (2-Propanol)	92	SG-VW43A-02	VW43	7/8/2021	5.5	48/117	35/55	210,000	0/117	0/55	880,000	0/117	0/55
Methyl Ethyl Ketone (2-Butanone)	26	SG-VW53A-03	VW53	7/13/2021	5.5	3/117	2/55	5,200,000	0/117	0/55	22,000,000	0/117	0/55
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	790 J-	SG-VW20B-02	VW20	7/15/2021	14.5	5/117	5/55	3,100,000	0/117	0/55	13,000,000	0/117	0/55
Methyl tert-Butyl Ether (MTBE)	38	SG-VW37A-02	VW37	7/13/2021	5.5	1/117	1/55	11,000	0/117	0/55	47,000	0/117	0/55
Naphthalene	11 J-	SG-VW56B-02	VW56	7/14/2021	14.5	1/117	1/55	83	0/117	0/55	360	0/117	0/55
Propylbenzene	17 J-	SG-VW32B-02	VW32	7/12/2021	14.5	5/117	4/55	1,000,000	0/117	0/55	4,400,000	0/117	0/55
Propylene	69	SG-VW48B-02	VW48	7/9/2021	14.5	7/117	7/55	3,100,000	0/117	0/55	13,000,000	0/117	0/55
Tetrachloroethene (PCE)	330,000	SG-SVM1A-01	SVM-1	7/30/2021	4	108/117	53/55	460	3/117	3/55	2,000	1/117	1/55
Tetrahydrofuran	9.6 J	SG-VW15-02	VW15	7/14/2021	23.5	3/117	3/55	2,100,000	0/117	0/55	8,800,000	0/117	0/55
Toluene	110	SG-VW26B-02	VW26	7/15/2021	14.5	39/117	29/55	310,000	0/117	0/55	1,300,000	0/117	0/55
1,1,1-Trichloroethane	6.0 J-	SG-VW21A-05	VW21	8/30/2021	5.5	2/117	1/55	1,000,000	0/117	0/55	4,400,000	0/117	0/55
Trichloroethene (TCE)	18,000	SG-SVM1A-01	SVM-1	7/30/2021	4	13/117	9/55	480	1/117	1/55	3,000	1/117	1/55
Trichlorofluoromethane (Freon 11)	14 J-	SG-VW19B-02	VW19	7/13/2021	14.5	6/117	3/55	1,300,000	0/117	0/55	5,300,000	0/117	0/55
1,2,4-Trimethylbenzene	66 J-	SG-VW32B-02	VW32	7/12/2021	14.5	19/117	17/55	63,000	0/117	0/55	260,000	0/117	0/55
1,3,5-Trimethylbenzene	29 J-	SG-VW32B-02	VW32	7/12/2021	14.5	6/117	5/55	63,000	0/117	0/55	260,000	0/117	0/55
<i>m</i> - & <i>p</i> -Xylenes	200 J-	SG-VW32B-02	VW32	7/12/2021	14.5	30/117	24/55	100,000	0/117	0/55	440,000	0/117	0/55
<i>o</i> -Xylene	64 J-	SG-VW32B-02	VW32	7/12/2021	14.5	24/117	20/55	100,000	0/117	0/55	440,000	0/117	0/55
TPH - Gasoline	7,800	SG-VW35A-03	VW35	8/16/2021	5.5	24/117	19/55	600,000 ^(b)	0/117	0/55	2,500,000 ^(b)	0/117	0/55

Notes:

Bold indicates analyte exceeds one or more SVSLs.
 Sample depths are referenced to the top of soil (bottom of pavement).
 µg/m³ = micrograms per cubic meter
 DTSC = Department of Toxic Substances Control
 ESL = Environmental Screening Level
 ID = identification
 HERO = Human and Ecological Risk Office
 HHRA = human health risk assessment
 J = estimated concentration

J- = estimated concentration; potential low bias
 NA = not applicable
 NE = not established
 No. = number
 SF RWQCB = San Francisco Bay Regional Water Quality Control Board
 SVSL = soil vapor screening level
 SWRCB = California State Water Resources Control Board
 TPH = total petroleum hydrocarbons

Goal Compliance:

^(a) Unless noted otherwise, SVSLs were derived by dividing the HERO HHRA Note 3 residential and commercial/industrial ambient air screening levels (DTSC, 2020) by a 0.001 soil vapor attenuation factor (DTSC, 2011).
^(b) SVSL derived by dividing the SF RWQCB residential or commercial/industrial indoor air ESLs (SWRCB, 2019) by a 0.001 soil vapor attenuation factor (DTSC, 2011).

TABLE 4-3. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.03 ATTENUATION FACTOR)
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Analyte	Location ID			VW16A			VW17A			VW18A			VW19A			VW20A			VW21A		
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason
Acetone	1,100,000	4,700,000	µg/m ³	37			ND (<2.4)			27			ND (<2.4)			ND (<2.3)			32	J-	4D,3E
Benzene	3.2	14	µg/m ³	ND (<0.63)			ND (<0.61)			ND (<0.63)			ND (<0.61)			ND (<0.60)			3.1	J-	4D,6G
Bromodichloromethane (BDCM)	2.5	11	µg/m ³	ND (<1.0)			ND (<1.0)			ND (<1.0)			ND (<1.0)			ND (<0.99)			ND (<1.1)	UJ	4D
<i>tert</i> -Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<0.88)			ND (<0.85)			ND (<0.88)			ND (<0.85)			ND (<0.83)			ND (<0.92)	UJ	4D
Carbon Disulfide	24,000	100,000	µg/m ³	ND (<1.3)			ND (<1.2)			ND (<1.3)			ND (<1.2)			ND (<1.2)			2.9	J-	4D,6G
Chloroform	4.0	18	µg/m ³	17			190			ND (<0.44)			28			ND (<0.41)			9.1	J-	4D
Cumene (Isopropylbenzene)	14,000	60,000	µg/m ³	ND (<0.65)			ND (<0.62)			ND (<0.65)			ND (<0.62)			ND (<0.61)			ND (<0.68)	UJ	4D
Cyclohexane	210,000	870,000	µg/m ³	ND (<0.59)			9.2			ND (<0.59)			ND (<0.57)			3.4			ND (<0.62)	UJ	4D
Dichlorodifluoromethane (Freon 12)	3,300	15,000	µg/m ³	ND (<0.82)			ND (<0.79)			ND (<0.82)			54			ND (<0.77)			ND (<0.86)	UJ	4D,3E
cis -1,2-Dichloroethene (cDCE)	280	1,200	µg/m ³	ND (<1.5)			ND (<1.4)			ND (<1.5)			ND (<1.4)			ND (<1.4)			ND (<1.6)	UJ	4D
1,2-Dichloropropane	25	110	µg/m ³	ND (<1.2)			ND (<1.1)			ND (<1.2)			ND (<1.1)			ND (<1.1)			ND (<1.2)	UJ	4D
Ethanol	NE	NE	µg/m ³	ND (<2.4)			ND (<2.4)			22			ND (<2.4)			22			7.1	J-	4D,6G
Ethylbenzene	37	160	µg/m ³	ND (<1.2)			9.1			ND (<1.2)			ND (<1.1)			7.0			2.4	J-	4D,6G
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	ND (<1.0)			5.3			ND (<1.0)			ND (<1.0)			7.3			7.2	J-	4D
n-Heptane	14,000	60,000	µg/m ³	ND (<1.0)			ND (<0.99)			ND (<1.0)			ND (<0.99)			ND (<0.97)			ND (<1.1)	UJ	4D
Hexane	24,000	100,000	µg/m ³	ND (<0.68)			2,400	J 6E		ND (<0.68)			ND (<0.65)			350			52	J-	4D,3E
2-Hexanone	1,000	4,300	µg/m ³	ND (<0.41)			ND (<0.40)			ND (<0.41)			ND (<0.40)			ND (<0.39)			0.72	J-	4D,6G
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.58)			ND (<0.55)			ND (<0.58)			ND (<0.55)			ND (<0.54)			ND (<0.60)	UJ	4D
Isopropyl Alcohol (2-Propanol)	7,000	29,000	µg/m ³	ND (<0.77)			13			ND (<0.77)			ND (<0.74)			ND (<0.73)			16	J-	4D,3E
Methyl Ethyl Ketone (2-Butanone)	170,000	730,000	µg/m ³	ND (<1.9)			ND (<1.8)			ND (<1.9)			ND (<1.8)			ND (<1.8)			7.6	J-	4D,6G
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	100,000	430,000	µg/m ³	ND (<1.0)			5.4			ND (<1.0)			ND (<0.98)			ND (<0.96)			ND (<1.1)	UJ	4D
Methyl <i>tert</i> -Butyl Ether (MTBE)	370	1,600	µg/m ³	ND (<0.81)			ND (<0.78)			ND (<0.81)			ND (<0.78)			ND (<0.76)			ND (<0.85)	UJ	4D
Propylbenzene	33,000	150,000	µg/m ³	ND (<0.86)			ND (<0.82)			ND (<0.86)			ND (<0.82)			ND (<0.81)			1.5	J-	4D,6G
Propylene	100,000	430,000	µg/m ³	ND (<0.53)			ND (<0.51)			ND (<0.53)			ND (<0.51)			ND (<0.50)			ND (<0.56)	UJ	4D
Tetrachloroethene (PCE)	15	67	µg/m ³	35			110			490			380			33			170	J-	4D
Tetrahydrofuran	70,000	290,000	µg/m ³	ND (<0.63)			ND (<0.60)			ND (<0.63)			ND (<0.60)			ND (<0.59)			1.6	J-	4D,6G
Toluene	10,000	43,000	µg/m ³	ND (<0.41)			5.0			4.8			ND (<0.39)			20			13	J-	4D
1,1,1-Trichloroethane	33,000	150,000	µg/m ³	ND (<0.45)			ND (<0.43)			ND (<0.45)			ND (<0.43)			ND (<0.42)			6.0	J-	4D
Trichloroethene (TCE)	16	100	µg/m ³	ND (<0.81)			ND (<0.78)			ND (<0.81)			ND (<0.78)			ND (<0.77)			23	J-	4D,6G
Trichlorofluoromethane (Freon 11)	43,000	180,000	µg/m ³	ND (<1.3)			ND (<1.2)			ND (<1.3)			9.2			ND (<1.2)			1.8	J-	4D
1,2,4-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<0.60)			7.7			ND (<0.60)			ND (<0.57)			7.7			8.5	J-	4D,2A+
1,3,5-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<1.1)			ND (<1.0)			ND (<1.1)			ND (<1.0)			ND (<1.0)			3.8	J-	4D,6G
<i>m</i> - & <i>p</i> -Xylenes	3,300	15,000	µg/m ³	ND (<1.0)			38			ND (<1.0)			ND (<1.0)			28			6.5	J-	4D
<i>o</i> -Xylene	3,300	15,000	µg/m ³	ND (<1.1)			15			ND (<1.1)			ND (<1.1)			9.7			3.1	J-	4D,6G
TPH - Gasoline	20,000 ^(b)	83,000 ^(b)	µg/m ³	ND (<430)			4,100			ND (<430)			ND (<410)			740			ND (<450)	UJ	4D,3E

TABLE 4-3. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.03 ATTENUATION FACTOR)
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Analyte	Location ID			VW21A			VW22A			VW24A			VW25A			VW26A			VW27A		
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason
Acetone	1,100,000	4,700,000	µg/m ³	18	J-	4D,6G,3E	ND (<1.9)			25			34			ND (<2.5)			ND (<2.5)		
Benzene	3.2	14	µg/m ³	2.6	J-	4D,6G	ND (<0.26)			ND (<0.61)			ND (<0.74)			ND (<0.63)			ND (<0.64)		
Bromodichloromethane (BDCM)	2.5	11	µg/m ³	ND (<1.4)	UJ	4D	ND (<1.4)			ND (<1.0)			ND (<1.2)			ND (<1.0)			ND (<1.1)		
<i>tert</i> -Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<1.2)	UJ	4D	ND (<1.2)			ND (<0.85)			ND (<1.0)			ND (<0.88)			ND (<0.90)		
Carbon Disulfide	24,000	100,000	µg/m ³	6.1	J-	4D,6G	ND (<3.2)			15			ND (<1.5)			ND (<1.3)			ND (<1.3)		
Chloroform	4.0	18	µg/m ³	8.6	J-	4D	12			ND (<0.42)			ND (<0.51)			ND (<0.44)			ND (<0.45)		
Cumene (Isopropylbenzene)	14,000	60,000	µg/m ³	ND (<0.70)	UJ	4D	ND (<0.68)			ND (<0.62)			ND (<0.76)			ND (<0.65)			ND (<0.66)		
Cyclohexane	210,000	870,000	µg/m ³	ND (<0.82)	UJ	4D	ND (<0.80)			3.7			ND (<0.69)			ND (<0.59)			ND (<0.61)		
Dichlorodifluoromethane (Freon 12)	3,300	15,000	µg/m ³	17	J-	4D,3E	ND (<0.97)			7.8			8.8			ND (<0.82)			ND (<0.84)		
cis -1,2-Dichloroethene (cDCE)	280	1,200	µg/m ³	ND (<0.79)	UJ	4D	ND (<0.78)			ND (<1.4)			ND (<1.8)			ND (<1.5)			ND (<1.5)		
1,2-Dichloropropane	25	110	µg/m ³	ND (<1.7)	UJ	4D	ND (<1.7)	UJ 5A		ND (<1.1)			ND (<1.4)			ND (<1.2)	UJ 5A		ND (<1.2)		
Ethanol	NE	NE	µg/m ³	4.6	J-	4D,6G	ND (<2.2)			22			ND (<2.8)			ND (<2.4)			ND (<2.5)		
Ethylbenzene	37	160	µg/m ³	1.9	J-	4D,6G	6.5			6.9			15			ND (<1.2)			ND (<1.2)		
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	7.1	J-	4D	13			7.1			18			5.7			ND (<1.1)		
n-Heptane	14,000	60,000	µg/m ³	ND (<0.81)	UJ	4D	ND (<0.80)			ND (<0.99)			ND (<1.2)			ND (<1.0)			ND (<1.0)		
Hexane	24,000	100,000	µg/m ³	31	J-	4D,3E	ND (<0.71)			270			ND (<0.79)			ND (<0.68)			8.7		
2-Hexanone	1,000	4,300	µg/m ³	ND (<1.5)	UJ	4D	ND (<1.5)			ND (<0.40)			ND (<0.48)			ND (<0.41)			ND (<0.42)		
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.40)	UJ	4D	ND (<0.39)			ND (<0.55)			ND (<0.67)			ND (<0.58)			ND (<0.59)		
Isopropyl Alcohol (2-Propanol)	7,000	29,000	µg/m ³	8.7	J-	4D,6G,3E	11	J 6G		13			ND (<0.90)			12			ND (<0.79)		
Methyl Ethyl Ketone (2-Butanone)	170,000	730,000	µg/m ³	4.9	J-	4D,6G	ND (<2.3)			ND (<1.8)			ND (<2.2)			ND (<1.9)			ND (<1.9)		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	100,000	430,000	µg/m ³	ND (<0.68)	UJ	4D	ND (<0.67)			ND (<0.98)			ND (<1.2)			ND (<1.0)			ND (<1.0)		
Methyl <i>tert</i> -Butyl Ether (MTBE)	370	1,600	µg/m ³	ND (<0.98)	UJ	4D	ND (<0.96)			ND (<0.78)			ND (<0.95)			ND (<0.81)			ND (<0.83)		
Propylbenzene	33,000	150,000	µg/m ³	1.6	J-	4D,6G	ND (<0.30)			ND (<0.82)			ND (<1.0)			ND (<0.86)			ND (<0.87)		
Propylene	100,000	430,000	µg/m ³	ND (<1.4)	UJ	4D	ND (<1.4)			ND (<0.51)			ND (<0.62)			ND (<0.53)			ND (<0.54)		
Tetrachloroethene (PCE)	15	67	µg/m ³	150	J-	4D	110			260			130			55			23		
Tetrahydrofuran	70,000	290,000	µg/m ³	ND (<0.71)	UJ	4D	ND (<0.70)			ND (<0.60)			ND (<0.73)			ND (<0.63)			ND (<0.64)		
Toluene	10,000	43,000	µg/m ³	12	J-	4D	26			16			49			15			7.0		
1,1,1-Trichloroethane	33,000	150,000	µg/m ³	5.2	J-	4D,6G	ND (<0.72)			ND (<0.43)			ND (<0.52)			ND (<0.45)			ND (<0.46)		
Trichloroethene (TCE)	16	100	µg/m ³	20	J-	4D	6.7			10			ND (<0.95)			ND (<0.81)			ND (<0.83)		
Trichlorofluoromethane (Freon 11)	43,000	180,000	µg/m ³	1.4	J-	4D,6G	ND (<0.70)			ND (<1.2)			ND (<1.5)			ND (<1.3)			ND (<1.3)		
1,2,4-Trimethylbenzene	2,100	8,700	µg/m ³	9.2	J-	4D	16			7.1			14			ND (<0.60)			ND (<0.61)		
1,3,5-Trimethylbenzene	2,100	8,700	µg/m ³	3.7	J-	4D,6G	ND (<0.83)			ND (<1.0)			ND (<1.2)			ND (<1.1)			ND (<1.1)		
<i>m</i> - & <i>p</i> -Xylenes	3,300	15,000	µg/m ³	7.4	J-	4D	18			26			56			8.2			ND (<1.1)		
<i>o</i> -Xylene	3,300	15,000	µg/m ³	3.6	J-	4D,6G	10			9.2			19			5.9			ND (<1.2)		
TPH - Gasoline	20,000 ^(b)	83,000 ^(b)	µg/m ³	530	J-	4D,3E	ND (<440)			650			ND (<500)			ND (<430)			ND (<440)		

TABLE 4-3. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.03 ATTENUATION FACTOR)
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Analyte	Location ID			VW28A			VW29A			VW30A			VW31A			VW32A			VW33A		
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason
Acetone	1,100,000	4,700,000	µg/m ³	33			ND (<2.5)			37			36			ND (<2.4)			35		
Benzene	3.2	14	µg/m ³	ND (<0.71)			ND (<0.64)			ND (<0.37)			ND (<0.66)			ND (<0.34)			ND (<0.30)		
Bromodichloromethane (BDCM)	2.5	11	µg/m ³	ND (<1.2)			ND (<1.1)			43			ND (<1.1)			ND (<1.8)			ND (<1.6)		
<i>tert</i> -Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<0.98)			ND (<0.90)			ND (<1.7)			ND (<0.92)			ND (<1.6)			ND (<1.4)		
Carbon Disulfide	24,000	100,000	µg/m ³	ND (<1.4)			ND (<1.3)			ND (<4.5)			ND (<1.3)			ND (<4.2)			21		
Chloroform	4.0	18	µg/m ³	ND (<0.49)			ND (<0.45)			1,500			ND (<0.46)			ND (<0.83)			ND (<0.73)		
Cumene (Isopropylbenzene)	14,000	60,000	µg/m ³	ND (<0.72)			ND (<0.66)			ND (<0.97)			ND (<0.68)			ND (<0.90)			ND (<0.80)		
Cyclohexane	210,000	870,000	µg/m ³	ND (<0.66)			ND (<0.61)			ND (<1.1)			ND (<0.62)			ND (<1.1)			ND (<0.94)		
Dichlorodifluoromethane (Freon 12)	3,300	15,000	µg/m ³	ND (<0.91)			5.7			11			ND (<0.86)			ND (<1.3)			ND (<1.1)		
cis-1,2-Dichloroethene (cDCE)	280	1,200	µg/m ³	ND (<1.7)			ND (<1.5)			ND (<1.1)			ND (<1.6)			ND (<1.0)			ND (<0.91)		
1,2-Dichloropropane	25	110	µg/m ³	ND (<1.3)			ND (<1.2)			ND (<2.4)	UJ 5A		ND (<1.2)	UJ 5A		ND (<2.2)	UJ 5A		ND (<2.0)	UJ 5A	
Ethanol	NE	NE	µg/m ³	ND (<2.7)			25			ND (<3.2)			ND (<2.6)			ND (<2.9)			ND (<2.6)	UJ 2A-	
Ethylbenzene	37	160	µg/m ³	ND (<1.3)			5.7			ND (<1.1)			ND (<1.2)			ND (<1.0)			ND (<0.92)		
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	ND (<1.2)			6.9			ND (<1.9)			ND (<1.1)			ND (<1.8)			ND (<1.6)		
n-Heptane	14,000	60,000	µg/m ³	ND (<1.1)			ND (<1.0)			ND (<1.1)			ND (<1.1)			ND (<1.0)			ND (<0.93)		
Hexane	24,000	100,000	µg/m ³	4.7			240			ND (<1.0)			ND (<0.70)			16			ND (<0.83)		
2-Hexanone	1,000	4,300	µg/m ³	ND (<0.46)			ND (<0.42)			ND (<2.1)			ND (<0.43)			ND (<2.0)			ND (<1.8)		
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.64)			ND (<0.59)			ND (<0.56)			ND (<0.60)			ND (<0.52)			ND (<0.46)		
Isopropyl Alcohol (2-Propanol)	7,000	29,000	µg/m ³	13			19			ND (<1.0)			ND (<0.81)			ND (<0.95)			ND (<0.84)		
Methyl Ethyl Ketone (2-Butanone)	170,000	730,000	µg/m ³	ND (<2.1)			ND (<1.9)			ND (<3.2)			ND (<2.0)			ND (<3.0)			ND (<2.6)		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	100,000	430,000	µg/m ³	ND (<1.1)			ND (<1.0)			ND (<0.95)			ND (<1.1)			ND (<0.88)			ND (<0.78)		
Methyl <i>tert</i> -Butyl Ether (MTBE)	370	1,600	µg/m ³	ND (<0.90)			ND (<0.83)			ND (<1.4)			ND (<0.85)			ND (<1.3)			ND (<1.1)		
Propylbenzene	33,000	150,000	µg/m ³	ND (<0.95)			ND (<0.87)			ND (<0.42)			ND (<0.89)			ND (<0.39)			ND (<0.35)		
Propylene	100,000	430,000	µg/m ³	ND (<0.60)			ND (<0.54)			ND (<2.0)			ND (<0.56)			ND (<1.9)			ND (<1.6)		
Tetrachloroethene (PCE)	15	67	µg/m ³	ND (<1.3)			140			250			170			130			15		
Tetrahydrofuran	70,000	290,000	µg/m ³	ND (<0.70)			ND (<0.64)			ND (<0.98)			ND (<0.65)			ND (<0.92)			ND (<0.81)		
Toluene	10,000	43,000	µg/m ³	8.2			13			ND (<1.4)			ND (<0.42)			ND (<1.3)			7.5		
1,1,1-Trichloroethane	33,000	150,000	µg/m ³	ND (<0.50)			ND (<0.46)			ND (<1.0)			ND (<0.47)			ND (<0.95)			ND (<0.84)		
Trichloroethene (TCE)	16	100	µg/m ³	ND (<0.91)			ND (<0.83)			ND (<1.0)			ND (<0.85)			ND (<0.97)			ND (<0.86)		
Trichlorofluoromethane (Freon 11)	43,000	180,000	µg/m ³	ND (<1.4)			ND (<1.3)			ND (<0.99)			ND (<1.3)			ND (<0.92)			ND (<0.82)		
1,2,4-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<0.66)			8.1			ND (<2.8)			ND (<0.62)			ND (<2.6)			ND (<2.3)		
1,3,5-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<1.2)			ND (<1.1)			ND (<1.2)			ND (<1.1)			ND (<1.1)			ND (<0.97)		
<i>m</i> - & <i>p</i> -Xylenes	3,300	15,000	µg/m ³	ND (<1.2)			21			ND (<3.6)			ND (<1.1)			ND (<3.4)			ND (<3.0)		
<i>o</i> -Xylene	3,300	15,000	µg/m ³	ND (<1.3)			7.8			ND (<1.8)			ND (<1.2)			ND (<1.7)			ND (<1.5)		
TPH - Gasoline	20,000 ^(b)	83,000 ^(b)	µg/m ³	ND (<480)			490			ND (<630)			ND (<450)			ND (<590)			ND (<520)		

TABLE 4-3. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.03 ATTENUATION FACTOR)
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Analyte	Location ID			VW34A			VW34A			VW35A			VW36A			VW37A			VW38A		
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason
Acetone	1,100,000	4,700,000	µg/m ³	ND (<1.9)			ND (<2.0)			ND (<2.5)			27			ND (<1.8)			ND (<2.0)		
Benzene	3.2	14	µg/m ³	ND (<0.27)			ND (<0.28)			ND (<0.63)			ND (<0.27)			12			ND (<0.28)		
Bromodichloromethane (BDCM)	2.5	11	µg/m ³	ND (<1.4)			ND (<1.5)			ND (<1.0)			ND (<1.5)			ND (<1.3)			ND (<1.5)		
<i>tert</i> -Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<1.2)			ND (<1.3)			ND (<0.88)			ND (<1.2)			ND (<1.1)			ND (<1.3)		
Carbon Disulfide	24,000	100,000	µg/m ³	ND (<3.3)			ND (<3.4)			ND (<1.3)			37			ND (<3.0)			ND (<3.4)		
Chloroform	4.0	18	µg/m ³	ND (<0.65)			ND (<0.67)			ND (<0.44)			ND (<0.66)			ND (<0.60)			ND (<0.68)		
Cumene (Isopropylbenzene)	14,000	60,000	µg/m ³	ND (<0.71)			ND (<0.73)			ND (<0.65)			ND (<0.72)			ND (<0.65)			ND (<0.73)		
Cyclohexane	210,000	870,000	µg/m ³	ND (<0.83)			ND (<0.86)			24			ND (<0.84)			34			ND (<0.86)		
Dichlorodifluoromethane (Freon 12)	3,300	15,000	µg/m ³	ND (<1.0)			ND (<1.0)			ND (<0.82)			ND (<1.0)			ND (<0.92)			ND (<1.0)		
cis -1,2-Dichloroethene (cDCE)	280	1,200	µg/m ³	ND (<0.81)			ND (<0.83)			ND (<1.5)			ND (<0.82)			ND (<0.74)			ND (<0.84)		
1,2-Dichloropropane	25	110	µg/m ³	ND (<1.8)	UJ 5A		ND (<1.8)	UJ 5A		ND (<1.2)			ND (<1.8)	UJ 5A		ND (<1.6)	UJ 5A		ND (<1.8)	UJ 5A	
Ethanol	NE	NE	µg/m ³	ND (<2.3)	UJ 2A-		ND (<2.4)			ND (<2.4)			ND (<2.3)			ND (<2.1)			ND (<2.4)	UJ 2A-	
Ethylbenzene	37	160	µg/m ³	ND (<0.82)			ND (<0.84)			13			ND (<0.83)			49			ND (<0.85)		
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	ND (<1.4)			ND (<1.4)			ND (<1.0)			ND (<1.4)			43			ND (<1.5)		
n-Heptane	14,000	60,000	µg/m ³	ND (<0.83)			ND (<0.85)			ND (<1.0)			ND (<0.83)			34			ND (<0.86)		
Hexane	24,000	100,000	µg/m ³	ND (<0.74)			ND (<0.76)			4,300	J 6E		ND (<0.74)			26			ND (<0.76)		
2-Hexanone	1,000	4,300	µg/m ³	ND (<1.6)			ND (<1.6)			ND (<0.41)			ND (<1.6)			ND (<1.4)			ND (<1.6)		
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.41)			ND (<0.42)			ND (<0.58)			ND (<0.41)			73			ND (<0.42)		
Isopropyl Alcohol (2-Propanol)	7,000	29,000	µg/m ³	ND (<0.74)			ND (<0.76)			ND (<0.77)			ND (<0.75)			ND (<0.68)			ND (<0.77)		
Methyl Ethyl Ketone (2-Butanone)	170,000	730,000	µg/m ³	ND (<2.3)			ND (<2.4)			ND (<1.9)			ND (<2.4)			ND (<2.1)			ND (<2.4)		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	100,000	430,000	µg/m ³	ND (<0.70)			ND (<0.71)			5.1			ND (<0.70)			ND (<0.63)			ND (<0.72)		
Methyl <i>tert</i> -Butyl Ether (MTBE)	370	1,600	µg/m ³	ND (<1.0)			ND (<1.0)			ND (<0.81)			ND (<1.0)			38			ND (<1.0)		
Propylbenzene	33,000	150,000	µg/m ³	ND (<0.31)			ND (<0.32)			ND (<0.86)			ND (<0.31)			8.8			ND (<0.32)		
Propylene	100,000	430,000	µg/m ³	ND (<1.5)			ND (<1.5)			ND (<0.53)			ND (<1.5)			ND (<1.3)			ND (<1.5)		
Tetrachloroethene (PCE)	15	67	µg/m ³	21			21			400			230			ND (<1.2)			130		
Tetrahydrofuran	70,000	290,000	µg/m ³	ND (<0.72)			ND (<0.74)			ND (<0.63)			ND (<0.73)			ND (<0.66)			ND (<0.75)		
Toluene	10,000	43,000	µg/m ³	ND (<1.0)			ND (<1.0)			5.2			ND (<1.0)			92			ND (<1.1)		
1,1,1-Trichloroethane	33,000	150,000	µg/m ³	ND (<0.74)			ND (<0.76)			ND (<0.45)			ND (<0.75)			ND (<0.68)			ND (<0.77)		
Trichloroethene (TCE)	16	100	µg/m ³	ND (<0.76)			ND (<0.78)			ND (<0.81)			ND (<0.77)			ND (<0.70)			ND (<0.79)		
Trichlorofluoromethane (Freon 11)	43,000	180,000	µg/m ³	ND (<0.73)			ND (<0.75)			ND (<1.3)			ND (<0.74)			ND (<0.66)			ND (<0.75)		
1,2,4-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<2.0)			ND (<2.1)			7.0			ND (<2.1)			30			ND (<2.1)		
1,3,5-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<0.86)			ND (<0.88)			ND (<1.1)			ND (<0.87)			12			ND (<0.89)		
<i>m</i> - & <i>p</i> -Xylenes	3,300	15,000	µg/m ³	ND (<2.7)			ND (<2.8)			53			ND (<2.7)			170			ND (<2.8)		
<i>o</i> -Xylene	3,300	15,000	µg/m ³	ND (<1.3)			ND (<1.3)			18			ND (<1.3)			49			ND (<1.4)		
TPH - Gasoline	20,000 ^(b)	83,000 ^(b)	µg/m ³	ND (<460)			ND (<470)			7,800			ND (<470)			3,100			ND (<480)		

TABLE 4-3. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.03 ATTENUATION FACTOR)
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Analyte	Location ID			VW38A			VW39A			VW40A			VW41A			VW42A			VW42A		
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason
Acetone	1,100,000	4,700,000	µg/m ³	31			ND (<1.8)			ND (<1.7)			ND (<1.7)			ND (<1.8)			ND (<1.8)		
Benzene	3.2	14	µg/m ³	ND (<0.28)			ND (<0.25)			ND (<0.24)			ND (<0.24)			ND (<0.26)			ND (<0.25)		
Bromodichloromethane (BDCM)	2.5	11	µg/m ³	ND (<1.5)			ND (<1.3)			ND (<1.3)			ND (<1.3)			ND (<1.4)			ND (<1.4)		
<i>tert</i> -Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<1.3)			ND (<1.1)			ND (<1.1)			ND (<1.1)			ND (<1.2)			ND (<1.2)		
Carbon Disulfide	24,000	100,000	µg/m ³	ND (<3.4)			ND (<3.0)			ND (<2.9)			ND (<3.0)			ND (<3.1)			ND (<3.1)		
Chloroform	4.0	18	µg/m ³	ND (<0.67)			ND (<0.60)			ND (<0.58)			ND (<0.58)			ND (<0.62)			ND (<0.61)		
Cumene (Isopropylbenzene)	14,000	60,000	µg/m ³	ND (<0.73)			ND (<0.65)			ND (<0.63)			ND (<0.63)			ND (<0.67)			ND (<0.66)		
Cyclohexane	210,000	870,000	µg/m ³	ND (<0.86)			ND (<0.76)			ND (<0.74)			ND (<0.75)			ND (<0.79)			ND (<0.78)		
Dichlorodifluoromethane (Freon 12)	3,300	15,000	µg/m ³	ND (<1.0)			ND (<0.92)			ND (<0.90)			ND (<0.90)			ND (<0.95)			ND (<0.95)		
cis -1,2-Dichloroethene (cDCE)	280	1,200	µg/m ³	ND (<0.83)			ND (<0.74)			ND (<0.72)			ND (<0.72)			ND (<0.76)			ND (<0.76)		
1,2-Dichloropropane	25	110	µg/m ³	ND (<1.8)	UJ 5A		ND (<1.6)	UJ 5A		ND (<1.6)	UJ 5A		ND (<1.6)	UJ 5A		ND (<1.6)	UJ 5A		ND (<1.6)	UJ 5A	
Ethanol	NE	NE	µg/m ³	ND (<2.4)	UJ 2A-		ND (<2.1)	UJ 2A-		ND (<2.0)			ND (<2.1)			23			ND (<2.2)		
Ethylbenzene	37	160	µg/m ³	ND (<0.84)			ND (<0.75)			ND (<0.73)			ND (<0.73)			ND (<0.77)			ND (<0.77)		
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	ND (<1.4)			ND (<1.3)			ND (<1.2)			ND (<1.3)			ND (<1.3)			ND (<1.3)		
n-Heptane	14,000	60,000	µg/m ³	ND (<0.85)			ND (<0.75)			ND (<0.74)			ND (<0.74)			ND (<0.78)			ND (<0.78)		
Hexane	24,000	100,000	µg/m ³	ND (<0.76)			ND (<0.67)			ND (<0.66)			ND (<0.66)			4.0			ND (<0.69)		
2-Hexanone	1,000	4,300	µg/m ³	ND (<1.6)			ND (<1.4)			ND (<1.4)			ND (<1.4)			ND (<1.5)			ND (<1.5)		
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.42)			ND (<0.37)			ND (<0.36)			ND (<0.36)			ND (<0.38)			ND (<0.38)		
Isopropyl Alcohol (2-Propanol)	7,000	29,000	µg/m ³	11			ND (<0.68)			ND (<0.66)			ND (<0.66)			ND (<0.70)			ND (<0.70)		
Methyl Ethyl Ketone (2-Butanone)	170,000	730,000	µg/m ³	ND (<2.4)			ND (<2.1)			ND (<2.1)			ND (<2.1)			ND (<2.2)			ND (<2.2)		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	100,000	430,000	µg/m ³	ND (<0.71)			ND (<0.63)			ND (<0.62)			ND (<0.62)			ND (<0.66)			ND (<0.65)		
Methyl <i>tert</i> -Butyl Ether (MTBE)	370	1,600	µg/m ³	ND (<1.0)			ND (<0.91)			ND (<0.89)			ND (<0.89)			ND (<0.94)			ND (<0.94)		
Propylbenzene	33,000	150,000	µg/m ³	ND (<0.32)			ND (<0.28)			ND (<0.28)			ND (<0.28)			ND (<0.29)			ND (<0.29)		
Propylene	100,000	430,000	µg/m ³	ND (<1.5)			ND (<1.3)			ND (<1.3)			ND (<1.3)			ND (<1.4)			ND (<1.4)		
Tetrachloroethene (PCE)	15	67	µg/m ³	120			22			14			37			31			31		
Tetrahydrofuran	70,000	290,000	µg/m ³	ND (<0.74)			ND (<0.66)			ND (<0.64)			ND (<0.64)			ND (<0.68)			ND (<0.68)		
Toluene	10,000	43,000	µg/m ³	ND (<1.0)			ND (<0.94)			ND (<0.92)			ND (<0.92)			ND (<0.97)			ND (<0.97)		
1,1,1-Trichloroethane	33,000	150,000	µg/m ³	ND (<0.76)			ND (<0.68)			ND (<0.66)			ND (<0.67)			ND (<0.70)			ND (<0.70)		
Trichloroethene (TCE)	16	100	µg/m ³	ND (<0.78)			ND (<0.70)			ND (<0.68)			ND (<0.68)			ND (<0.72)			ND (<0.72)		
Trichlorofluoromethane (Freon 11)	43,000	180,000	µg/m ³	ND (<0.75)			ND (<0.66)			ND (<0.65)			ND (<0.65)			ND (<0.69)			ND (<0.68)		
1,2,4-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<2.1)			ND (<1.9)			ND (<1.8)			ND (<1.8)			ND (<1.9)			ND (<1.9)		
1,3,5-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<0.88)			ND (<0.79)			ND (<0.77)			ND (<0.77)			ND (<0.81)			ND (<0.81)		
<i>m</i> - & <i>p</i> -Xylenes	3,300	15,000	µg/m ³	ND (<2.8)			ND (<2.4)			ND (<2.4)			ND (<2.4)			ND (<2.5)			ND (<2.5)		
<i>o</i> -Xylene	3,300	15,000	µg/m ³	ND (<1.3)			ND (<1.2)			ND (<1.2)			ND (<1.2)			ND (<1.2)			ND (<1.2)		
TPH - Gasoline	20,000 ^(b)	83,000 ^(b)	µg/m ³	ND (<470)			ND (<420)			ND (<410)			ND (<410)			ND (<440)			ND (<430)		

TABLE 4-3. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.03 ATTENUATION FACTOR)
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Analyte	Location ID			VW43A			VW44A			VW45A			VW46A			VW47A			VW47A		
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason
Acetone	1,100,000	4,700,000	µg/m ³	130			ND (<2.5)			69			52			46			35		
Benzene	3.2	14	µg/m ³	ND (<0.74)			ND (<0.64)			ND (<0.68)			ND (<0.26)			ND (<0.26)			ND (<0.26)		
Bromodichloromethane (BDCM)	2.5	11	µg/m ³	ND (<1.2)			ND (<1.1)			ND (<1.1)			ND (<1.4)			ND (<1.4)			ND (<1.4)		
<i>tert</i> -Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<1.0)			ND (<0.90)			ND (<0.94)			ND (<1.2)			38	J 3D		ND (<1.2)		UJ 3D
Carbon Disulfide	24,000	100,000	µg/m ³	ND (<1.5)			ND (<1.3)			ND (<1.4)			ND (<3.2)			ND (<3.2)			ND (<3.2)		
Chloroform	4.0	18	µg/m ³	ND (<0.52)			35			ND (<0.47)			ND (<0.64)			ND (<0.63)			ND (<0.63)		
Cumene (Isopropylbenzene)	14,000	60,000	µg/m ³	ND (<0.76)			ND (<0.66)			ND (<0.69)			ND (<0.69)			ND (<0.68)			ND (<0.68)		
Cyclohexane	210,000	870,000	µg/m ³	ND (<0.70)			3.9			ND (<0.63)			ND (<0.81)			ND (<0.96)			ND (<0.96)		
Dichlorodifluoromethane (Freon 12)	3,300	15,000	µg/m ³	ND (<0.96)			ND (<0.84)			ND (<0.88)			ND (<0.98)			ND (<0.97)			ND (<0.97)		
cis -1,2-Dichloroethene (cDCE)	280	1,200	µg/m ³	ND (<1.8)			ND (<1.5)			ND (<1.6)			ND (<0.79)			ND (<0.78)			ND (<0.78)		
1,2-Dichloropropane	25	110	µg/m ³	ND (<1.4)			ND (<1.2)			ND (<1.2)			ND (<1.7)	UJ 5A		ND (<1.7)	UJ 5A		ND (<1.7)	UJ 5A	
Ethanol	NE	NE	µg/m ³	24			ND (<2.5)			ND (<2.6)			ND (<2.2)			ND (<2.2)			ND (<2.2)		
Ethylbenzene	37	160	µg/m ³	ND (<1.4)			16			ND (<1.3)			ND (<0.80)			ND (<0.79)			ND (<0.79)		
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	ND (<1.2)			5.7			ND (<1.1)			ND (<1.4)			ND (<1.4)			ND (<1.4)		
n-Heptane	14,000	60,000	µg/m ³	ND (<1.2)			ND (<1.0)			ND (<1.1)			ND (<0.96)			ND (<0.96)			ND (<0.96)		
Hexane	24,000	100,000	µg/m ³	ND (<0.96)			890			ND (<0.72)			ND (<0.72)			ND (<0.71)			ND (<0.71)		
2-Hexanone	1,000	4,300	µg/m ³	ND (<0.48)			ND (<0.42)			ND (<0.44)			ND (<1.5)			ND (<1.5)			ND (<1.5)		
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.68)			ND (<0.59)			ND (<0.61)			ND (<0.40)			ND (<0.39)			ND (<0.39)		
Isopropyl Alcohol (2-Propanol)	7,000	29,000	µg/m ³	92			ND (<0.79)			25			14			27	J 3D		ND (<0.72)		UJ 3D
Methyl Ethyl Ketone (2-Butanone)	170,000	730,000	µg/m ³	ND (<2.2)			ND (<1.9)			ND (<2.0)			ND (<2.3)			ND (<2.3)			ND (<2.3)		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	100,000	430,000	µg/m ³	ND (<1.2)			7.2			ND (<1.1)			ND (<0.68)			ND (<0.67)			ND (<0.67)		
Methyl <i>tert</i> -Butyl Ether (MTBE)	370	1,600	µg/m ³	ND (<0.96)			ND (<0.83)			ND (<0.87)			ND (<0.97)			ND (<0.96)			ND (<0.96)		
Propylbenzene	33,000	150,000	µg/m ³	ND (<1.0)			ND (<0.87)			ND (<0.91)			ND (<0.30)			ND (<0.30)			ND (<0.30)		
Propylene	100,000	430,000	µg/m ³	10			ND (<0.54)			9.8			ND (<1.4)			ND (<1.4)			ND (<1.4)		
Tetrachloroethene (PCE)	15	67	µg/m ³	11			11			11			20			27			27		
Tetrahydrofuran	70,000	290,000	µg/m ³	ND (<0.74)			ND (<0.64)			ND (<0.67)			ND (<0.70)			ND (<0.70)			ND (<0.70)		
Toluene	10,000	43,000	µg/m ³	ND (<0.48)			6.7			ND (<0.44)			ND (<1.0)			ND (<0.99)			ND (<0.99)		
1,1,1-Trichloroethane	33,000	150,000	µg/m ³	ND (<0.53)			ND (<0.46)			ND (<0.48)			ND (<0.72)			ND (<0.72)			ND (<0.72)		
Trichloroethene (TCE)	16	100	µg/m ³	ND (<0.96)			ND (<0.83)			7.8			ND (<0.74)			ND (<0.74)			ND (<0.73)		
Trichlorofluoromethane (Freon 11)	43,000	180,000	µg/m ³	ND (<1.5)			ND (<1.3)			ND (<1.3)			ND (<0.71)			ND (<0.70)			ND (<0.70)		
1,2,4-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<0.70)			8.7			ND (<0.64)			ND (<2.0)			ND (<2.0)			ND (<2.0)		
1,3,5-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<1.3)			ND (<1.1)			ND (<1.1)			ND (<0.84)			ND (<0.83)			ND (<0.83)		
<i>m</i> - & <i>p</i> -Xylenes	3,300	15,000	µg/m ³	ND (<1.2)			56			ND (<1.1)			ND (<2.6)			6.2			ND (<2.6)		
<i>o</i> -Xylene	3,300	15,000	µg/m ³	ND (<1.3)			20			ND (<1.2)			ND (<1.3)			ND (<1.3)			ND (<1.2)		
TPH - Gasoline	20,000 ^(b)	83,000 ^(b)	µg/m ³	ND (<500)			1,900			ND (<460)			ND (<450)			ND (<440)			ND (<440)		

TABLE 4-3. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.03 ATTENUATION FACTOR)
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Analyte	Location ID			VW48A			VW49A			VW50A			VW51A			VW52A			VW53A		
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason
Acetone	1,100,000	4,700,000	µg/m ³	64			54			ND (<2.5)			ND (<2.0)			53			160		
Benzene	3.2	14	µg/m ³	ND (<0.25)			ND (<0.61)			ND (<0.64)			ND (<0.28)			ND (<0.65)			7.4		
Bromodichloromethane (BDCM)	2.5	11	µg/m ³	ND (<1.3)			ND (<1.0)			ND (<1.0)			ND (<1.5)			ND (<1.1)			ND (<1.1)		
<i>tert</i> -Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<1.2)			ND (<0.85)			ND (<0.88)			ND (<1.3)			ND (<0.91)			26		
Carbon Disulfide	24,000	100,000	µg/m ³	ND (<3.0)			ND (<1.2)			ND (<1.3)			ND (<3.4)			ND (<1.3)			ND (<1.3)		
Chloroform	4.0	18	µg/m ³	6.8			6.3			ND (<0.44)			ND (<0.67)			18			ND (<0.46)		
Cumene (Isopropylbenzene)	14,000	60,000	µg/m ³	ND (<0.66)			5.5			ND (<0.65)			ND (<0.73)			ND (<0.67)			ND (<0.68)		
Cyclohexane	210,000	870,000	µg/m ³	ND (<0.77)			ND (<0.58)			ND (<0.60)			ND (<0.86)			ND (<0.61)			ND (<0.62)		
Dichlorodifluoromethane (Freon 12)	3,300	15,000	µg/m ³	ND (<0.93)			ND (<0.79)			ND (<0.82)			ND (<1.0)			45			24		
cis -1,2-Dichloroethene (cDCE)	280	1,200	µg/m ³	ND (<0.75)			ND (<1.4)			ND (<1.5)			ND (<0.83)			ND (<1.6)			ND (<1.6)		
1,2-Dichloropropane	25	110	µg/m ³	ND (<1.6)	UJ	5A	ND (<1.1)	UJ	5A	ND (<1.2)	UJ	5A	ND (<1.8)	UJ	5A	ND (<1.2)			ND (<1.2)		
Ethanol	NE	NE	µg/m ³	ND (<2.1)			ND (<2.4)			ND (<2.5)			ND (<2.4)			ND (<2.5)			ND (<2.6)		
Ethylbenzene	37	160	µg/m ³	ND (<0.76)			ND (<1.2)			ND (<1.2)			ND (<0.84)			ND (<1.2)			ND (<1.2)		
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	ND (<1.3)			ND (<1.0)			ND (<1.0)			ND (<1.4)			ND (<1.1)			ND (<1.1)		
n-Heptane	14,000	60,000	µg/m ³	ND (<0.76)			ND (<1.0)			ND (<1.0)			ND (<0.85)			ND (<1.1)			ND (<1.1)		
Hexane	24,000	100,000	µg/m ³	ND (<0.68)			ND (<0.65)			ND (<0.68)			ND (<0.76)			ND (<0.70)			ND (<0.70)		
2-Hexanone	1,000	4,300	µg/m ³	ND (<1.4)			ND (<0.40)			ND (<0.42)			ND (<1.6)			ND (<0.43)			ND (<0.43)		
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.38)			ND (<0.56)			ND (<0.58)			ND (<0.42)			ND (<0.60)			ND (<0.60)		
Isopropyl Alcohol (2-Propanol)	7,000	29,000	µg/m ³	57			22			ND (<0.78)			12			ND (<0.80)			ND (<0.81)		
Methyl Ethyl Ketone (2-Butanone)	170,000	730,000	µg/m ³	ND (<2.2)			ND (<1.8)			ND (<1.9)			ND (<2.4)			ND (<1.9)			26		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	100,000	430,000	µg/m ³	ND (<0.64)			ND (<0.99)			ND (<1.0)			ND (<0.71)			ND (<1.0)			ND (<1.1)		
Methyl <i>tert</i> -Butyl Ether (MTBE)	370	1,600	µg/m ³	ND (<0.92)			ND (<0.78)			ND (<0.82)			ND (<1.0)			ND (<0.84)			ND (<0.85)		
Propylbenzene	33,000	150,000	µg/m ³	ND (<0.29)			ND (<0.83)			ND (<0.86)			ND (<0.32)			ND (<0.88)			ND (<0.89)		
Propylene	100,000	430,000	µg/m ³	ND (<1.4)			ND (<0.52)			ND (<0.54)			ND (<1.5)			ND (<0.55)			ND (<0.56)		
Tetrachloroethene (PCE)	15	67	µg/m ³	95			140			310			120			240			91		
Tetrahydrofuran	70,000	290,000	µg/m ³	ND (<0.67)			ND (<0.60)			ND (<0.63)			ND (<0.74)			ND (<0.65)			ND (<0.65)		
Toluene	10,000	43,000	µg/m ³	ND (<0.95)			ND (<0.39)			ND (<0.41)			ND (<1.0)			ND (<0.42)			ND (<0.42)		
1,1,1-Trichloroethane	33,000	150,000	µg/m ³	ND (<0.69)			ND (<0.43)			ND (<0.45)			ND (<0.76)			ND (<0.46)			ND (<0.47)		
Trichloroethene (TCE)	16	100	µg/m ³	ND (<0.71)			ND (<0.79)			ND (<0.82)			ND (<0.78)			ND (<0.84)			ND (<0.85)		
Trichlorofluoromethane (Freon 11)	43,000	180,000	µg/m ³	ND (<0.67)			ND (<1.2)			ND (<1.3)			ND (<0.75)			7.8			ND (<1.3)		
1,2,4-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<1.9)			ND (<0.58)			ND (<0.60)			ND (<2.1)			ND (<0.62)			ND (<0.62)		
1,3,5-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<0.80)			ND (<1.0)			ND (<1.1)			ND (<0.88)			ND (<1.1)			ND (<1.1)		
<i>m</i> - & <i>p</i> -Xylenes	3,300	15,000	µg/m ³	ND (<2.5)			ND (<1.0)			ND (<1.0)			ND (<2.8)			ND (<1.1)			ND (<1.1)		
<i>o</i> -Xylene	3,300	15,000	µg/m ³	ND (<1.2)			ND (<1.1)			ND (<1.1)			ND (<1.3)			ND (<1.2)			ND (<1.2)		
TPH - Gasoline	20,000 ^(b)	83,000 ^(b)	µg/m ³	ND (<430)			ND (<420)			ND (<430)			ND (<470)			ND (<440)			ND (<450)		

TABLE 4-3. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.03 ATTENUATION FACTOR)
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Analyte	Location ID			VW55A			VW56A			VW57A			VW58A			VW59A			VW60A		
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason
Acetone	1,100,000	4,700,000	µg/m ³	ND (<2.4)			ND (<1.8)			ND (<1.8)			27			ND (<2.4)			ND (<2.4)		
Benzene	3.2	14	µg/m ³	3.2			ND (<0.25)			ND (<0.25)			ND (<0.66)			ND (<0.61)			4.7		
Bromodichloromethane (BDCM)	2.5	11	µg/m ³	ND (<1.0)			ND (<1.4)			ND (<1.3)			ND (<1.1)			ND (<1.0)			ND (<1.0)		
<i>tert</i> -Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<0.85)			ND (<1.2)			ND (<1.1)			ND (<0.92)			ND (<0.85)			ND (<0.85)		
Carbon Disulfide	24,000	100,000	µg/m ³	ND (<1.2)			ND (<3.1)			ND (<3.0)			ND (<1.3)			ND (<1.2)			ND (<1.2)		
Chloroform	4.0	18	µg/m ³	ND (<0.42)			ND (<0.61)			ND (<0.60)			ND (<0.46)			ND (<0.42)			ND (<0.42)		
Cumene (Isopropylbenzene)	14,000	60,000	µg/m ³	ND (<0.62)			ND (<0.66)			ND (<0.65)			ND (<0.68)			ND (<0.62)			ND (<0.62)		
Cyclohexane	210,000	870,000	µg/m ³	5.4			ND (<0.78)			ND (<0.76)			ND (<0.62)			ND (<0.57)			ND (<0.57)		
Dichlorodifluoromethane (Freon 12)	3,300	15,000	µg/m ³	ND (<0.79)			ND (<0.94)			ND (<0.92)			7.0			7.5			7.7		
cis-1,2-Dichloroethene (cDCE)	280	1,200	µg/m ³	ND (<1.4)			ND (<0.75)			ND (<0.74)			ND (<1.6)			ND (<1.4)			ND (<1.4)		
1,2-Dichloropropane	25	110	µg/m ³	ND (<1.1)			ND (<1.6)	UJ 5A		ND (<1.6)	UJ 5A		ND (<1.2)			ND (<1.1)			ND (<1.1)		
Ethanol	NE	NE	µg/m ³	36			ND (<2.2)	UJ 2A-		ND (<2.1)	UJ 2A-		ND (<2.6)			22			ND (<2.4)		
Ethylbenzene	37	160	µg/m ³	10			ND (<0.77)			ND (<0.75)			6.9			4.4			ND (<1.1)		
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	10			ND (<1.3)			ND (<1.3)			ND (<1.1)			ND (<1.0)			ND (<1.0)		
n-Heptane	14,000	60,000	µg/m ³	ND (<0.99)			ND (<0.77)			ND (<0.76)			ND (<1.1)			ND (<0.99)			ND (<0.99)		
Hexane	24,000	100,000	µg/m ³	670			ND (<0.69)			9.5			700			150			420		
2-Hexanone	1,000	4,300	µg/m ³	ND (<0.40)			ND (<1.5)			ND (<1.4)			ND (<0.43)			ND (<0.40)			ND (<0.40)		
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.55)			ND (<0.38)			ND (<0.37)			ND (<0.60)			ND (<0.55)			ND (<0.55)		
Isopropyl Alcohol (2-Propanol)	7,000	29,000	µg/m ³	ND (<0.74)			ND (<0.70)			12			ND (<0.81)			ND (<0.74)			ND (<0.74)		
Methyl Ethyl Ketone (2-Butanone)	170,000	730,000	µg/m ³	ND (<1.8)			ND (<2.2)			ND (<2.2)			ND (<2.0)			ND (<1.8)			ND (<1.8)		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	100,000	430,000	µg/m ³	ND (<0.98)			ND (<0.65)			ND (<0.64)			4.7			ND (<0.98)			ND (<0.98)		
Methyl <i>tert</i> -Butyl Ether (MTBE)	370	1,600	µg/m ³	ND (<0.78)			ND (<0.93)			ND (<0.91)			ND (<0.85)			ND (<0.78)			ND (<0.78)		
Propylbenzene	33,000	150,000	µg/m ³	ND (<0.82)			ND (<0.29)			ND (<0.28)			ND (<0.89)			ND (<0.82)			ND (<0.82)		
Propylene	100,000	430,000	µg/m ³	ND (<0.82)			ND (<1.4)			ND (<1.3)			ND (<0.56)			ND (<0.82)			ND (<0.51)		
Tetrachloroethene (PCE)	15	67	µg/m ³	ND (<1.1)			31			92			160			100			96		
Tetrahydrofuran	70,000	290,000	µg/m ³	ND (<0.60)			ND (<0.67)			ND (<0.66)			ND (<0.65)			ND (<0.60)			ND (<0.60)		
Toluene	10,000	43,000	µg/m ³	32			ND (<0.96)			ND (<0.94)			9.4			14			7.0		
1,1,1-Trichloroethane	33,000	150,000	µg/m ³	ND (<0.43)			ND (<0.70)			ND (<0.68)			ND (<0.47)			ND (<0.43)			ND (<0.43)		
Trichloroethene (TCE)	16	100	µg/m ³	ND (<0.78)			ND (<0.71)			ND (<0.70)			ND (<0.85)			ND (<0.78)			ND (<0.78)		
Trichlorofluoromethane (Freon 11)	43,000	180,000	µg/m ³	ND (<1.2)			ND (<0.68)			ND (<0.67)			ND (<1.3)			ND (<1.2)			ND (<1.2)		
1,2,4-Trimethylbenzene	2,100	8,700	µg/m ³	10			ND (<1.9)			ND (<1.9)			ND (<0.62)			ND (<0.57)			ND (<0.57)		
1,3,5-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<1.0)			ND (<0.80)			ND (<0.79)			ND (<1.1)			ND (<1.0)			ND (<1.0)		
<i>m</i> - & <i>p</i> -Xylenes	3,300	15,000	µg/m ³	40			ND (<2.5)			ND (<2.4)			24			16			9.8		
<i>o</i> -Xylene	3,300	15,000	µg/m ³	14			ND (<1.2)			ND (<1.2)			10			6.1			4.6		
TPH - Gasoline	20,000 ^(b)	83,000 ^(b)	µg/m ³	1,300			ND (<430)			ND (<420)			1,200			ND (<410)			940		

TABLE 4-3. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.03 ATTENUATION FACTOR)
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Analyte	Location ID			VW61A			VW63A			VW64A			VW65A			VW66A			SVM-1		
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason
Acetone	1,100,000	4,700,000	µg/m ³	40			34			ND (<2.4)			54			ND (<2.5)			ND (<410)		
Benzene	3.2	14	µg/m ³	ND (<0.66)			ND (<0.63)			ND (<0.62)			16			8.1			ND (<100)		
Bromodichloromethane (BDCM)	2.5	11	µg/m ³	15			ND (<1.0)			10			ND (<1.1)			ND (<1.1)			ND (<170)		
<i>tert</i> -Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<0.92)			ND (<0.88)			ND (<0.86)			ND (<0.90)			ND (<0.89)			ND (<150)		
Carbon Disulfide	24,000	100,000	µg/m ³	ND (<1.3)			ND (<1.3)			ND (<1.2)			15			14			ND (<210)		
Chloroform	4.0	18	µg/m ³	240			13			220			ND (<0.45)			ND (<0.44)			ND (<73)		
Cumene (Isopropylbenzene)	14,000	60,000	µg/m ³	ND (<0.68)			ND (<0.65)			ND (<0.64)			ND (<0.67)			ND (<0.66)			ND (<110)		
Cyclohexane	210,000	870,000	µg/m ³	ND (<0.62)			ND (<0.59)			ND (<0.58)			9.8			ND (<0.60)			ND (<99)		
Dichlorodifluoromethane (Freon 12)	3,300	15,000	µg/m ³	6.3			11			12			ND (<0.84)			ND (<0.83)			ND (<140)		
<i>cis</i>-1,2-Dichloroethene (cDCE)	280	1,200	µg/m ³	ND (<1.6)			ND (<1.5)			ND (<1.5)			ND (<1.5)			5.0			53,000		
1,2-Dichloropropane	25	110	µg/m ³	ND (<1.2)			ND (<1.2)			ND (<1.1)			ND (<1.2)			ND (<1.2)			820		
Ethanol	NE	NE	µg/m ³	ND (<2.6)			ND (<2.4)			20			ND (<2.5)			ND (<2.5)			ND (<410)		
Ethylbenzene	37	160	µg/m ³	7.7			ND (<1.2)			5.8			4.8			ND (<1.2)			ND (<200)		
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	ND (<1.1)			ND (<1.0)			5.6			ND (<1.1)			ND (<1.1)			ND (<170)		
n-Heptane	14,000	60,000	µg/m ³	ND (<1.1)			ND (<1.0)			ND (<1.0)			19			ND (<1.0)			ND (<170)		
Hexane	24,000	100,000	µg/m ³	300			190			170			190			100			ND (<110)		
2-Hexanone	1,000	4,300	µg/m ³	ND (<0.43)			ND (<0.41)			ND (<0.40)			ND (<0.42)			ND (<0.42)			ND (<69)		
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.60)			ND (<0.58)			ND (<0.56)			100			42			ND (<96)		
Isopropyl Alcohol (2-Propanol)	7,000	29,000	µg/m ³	ND (<0.81)			22			9.9	J 6G		12			ND (<0.78)			ND (<130)		
Methyl Ethyl Ketone (2-Butanone)	170,000	730,000	µg/m ³	ND (<2.0)			ND (<1.9)			ND (<1.8)			ND (<1.9)			ND (<1.9)			ND (<310)		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	100,000	430,000	µg/m ³	ND (<1.1)			ND (<1.0)			ND (<1.0)			ND (<1.0)			ND (<1.0)			ND (<170)		
Methyl <i>tert</i> -Butyl Ether (MTBE)	370	1,600	µg/m ³	ND (<0.85)			ND (<0.81)			ND (<0.80)			ND (<0.83)			ND (<0.82)			ND (<140)		
Propylbenzene	33,000	150,000	µg/m ³	ND (<0.89)			ND (<0.86)			ND (<0.84)			ND (<0.88)			ND (<0.87)			ND (<140)		
Propylene	100,000	430,000	µg/m ³	ND (<0.56)			ND (<0.53)			ND (<0.52)			15			ND (<0.54)			ND (<89)		
Tetrachloroethene (PCE)	15	67	µg/m ³	120			14			300			96			190			330,000		
Tetrahydrofuran	70,000	290,000	µg/m ³	ND (<0.65)			ND (<0.63)			ND (<0.61)			ND (<0.64)			3.4			ND (<100)		
Toluene	10,000	43,000	µg/m ³	11			ND (<0.41)			16			37			10			ND (<68)		
1,1,1-Trichloroethane	33,000	150,000	µg/m ³	ND (<0.47)			ND (<0.45)			ND (<0.44)			ND (<0.46)			ND (<0.45)			ND (<75)		
Trichloroethene (TCE)	16	100	µg/m ³	ND (<0.85)			ND (<0.81)			ND (<0.80)			ND (<0.83)			ND (<0.82)			18,000		
Trichlorofluoromethane (Freon 11)	43,000	180,000	µg/m ³	ND (<1.3)			ND (<1.3)			ND (<1.2)			ND (<1.3)			ND (<1.3)			ND (<210)		
1,2,4-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<0.62)			ND (<0.60)			6.4			ND (<0.61)			ND (<0.60)			ND (<99)		
1,3,5-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<1.1)			ND (<1.1)			ND (<1.0)			ND (<1.1)			ND (<1.1)			ND (<180)		
<i>m</i> - & <i>p</i> -Xylenes	3,300	15,000	µg/m ³	19			5.5			18			10			ND (<1.1)			ND (<180)		
<i>o</i> -Xylene	3,300	15,000	µg/m ³	9.4			ND (<1.1)			7.4			4.7			ND (<1.2)			ND (<190)		
TPH - Gasoline	20,000 ^(b)	83,000 ^(b)	µg/m ³	860			570			570			2,000			610			ND (<72,000)		

TABLE 4-3. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.03 ATTENUATION FACTOR)
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Analyte	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	SVM-2			SVM-3		
				Result	QA	Reason	Result	QA	Reason
				Location ID SVM-2			SVM-3		
				07/29/2021 14:12			07/29/2021 12:55		
				5			4		
				N			N		
				SG-SVM2A-01			SG-SVM3A-01		
				2107684-03A			2107684-05A		
				Validated			Validated		
Acetone	1,100,000	4,700,000	µg/m ³	160			ND (<2.5)		
Benzene	3.2	14	µg/m ³	ND (<0.66)			ND (<0.63)		
Bromodichloromethane (BDCM)	2.5	11	µg/m ³	ND (<1.1)			ND (<1.0)		
<i>tert</i> -Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<0.92)			ND (<0.88)		
Carbon Disulfide	24,000	100,000	µg/m ³	ND (<1.3)			ND (<1.3)		
Chloroform	4.0	18	µg/m ³	ND (<0.46)			ND (<0.44)		
Cumene (Isopropylbenzene)	14,000	60,000	µg/m ³	ND (<0.68)			ND (<0.65)		
Cyclohexane	210,000	870,000	µg/m ³	ND (<0.62)			ND (<0.59)		
Dichlorodifluoromethane (Freon 12)	3,300	15,000	µg/m ³	ND (<0.86)			ND (<0.82)		
cis -1,2-Dichloroethene (cDCE)	280	1,200	µg/m ³	ND (<1.6)			ND (<1.5)		
1,2-Dichloropropane	25	110	µg/m ³	ND (<1.2)			ND (<1.2)		
Ethanol	NE	NE	µg/m ³	ND (<2.6)			ND (<2.4)		
Ethylbenzene	37	160	µg/m ³	ND (<1.2)			ND (<1.2)		
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	ND (<1.1)			ND (<1.0)		
n-Heptane	14,000	60,000	µg/m ³	ND (<1.1)			ND (<1.0)		
Hexane	24,000	100,000	µg/m ³	ND (<0.70)			ND (<0.68)		
2-Hexanone	1,000	4,300	µg/m ³	ND (<0.43)			ND (<0.41)		
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.60)			ND (<0.58)		
Isopropyl Alcohol (2-Propanol)	7,000	29,000	µg/m ³	29			ND (<0.77)		
Methyl Ethyl Ketone (2-Butanone)	170,000	730,000	µg/m ³	ND (<2.0)			ND (<1.9)		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	100,000	430,000	µg/m ³	ND (<1.1)			ND (<1.0)		
Methyl <i>tert</i> -Butyl Ether (MTBE)	370	1,600	µg/m ³	ND (<0.85)			ND (<0.81)		
Propylbenzene	33,000	150,000	µg/m ³	ND (<0.89)			ND (<0.86)		
Propylene	100,000	430,000	µg/m ³	40			ND (<0.53)		
Tetrachloroethene (PCE)	15	67	µg/m ³	96			590		
Tetrahydrofuran	70,000	290,000	µg/m ³	ND (<0.65)			ND (<0.63)		
Toluene	10,000	43,000	µg/m ³	ND (<0.42)			ND (<0.41)		
1,1,1-Trichloroethane	33,000	150,000	µg/m ³	ND (<0.47)			ND (<0.45)		
Trichloroethene (TCE)	16	100	µg/m ³	ND (<0.85)			ND (<0.81)		
Trichlorofluoromethane (Freon 11)	43,000	180,000	µg/m ³	ND (<1.3)			ND (<1.3)		
1,2,4-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<0.62)			ND (<0.60)		
1,3,5-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<1.1)			ND (<1.1)		
<i>m</i> - & <i>p</i> -Xylenes	3,300	15,000	µg/m ³	ND (<1.1)			ND (<1.0)		
<i>o</i> -Xylene	3,300	15,000	µg/m ³	ND (<1.2)			ND (<1.1)		
TPH - Gasoline	20,000 ^(b)	83,000 ^(b)	µg/m ³	ND (<450)			ND (<430)		

TABLE 4-3. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.03 ATTENUATION FACTOR)
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Notes:

Only analytes detected in one or more samples are shown. Results for leak-check compound 1,1-difluoroethane are presented in Appendix C.

Analytes detected above one or both SVSLs are shown in **bold**.

Concentrations detected above the laboratory MDL are shown in **bold**.

For non-detects, the value in parentheses corresponds to the laboratory MDL.

Sample depths are referenced to the top of soil (bottom of pavement).

 Concentration exceeds residential SVSL.

 Concentration exceeds residential and commercial/industrial SVSL.

 **ND (<MDL)** Black inversed cell indicates a non-detect with a laboratory MDL exceeding the commercial/industrial SVSL and/or residential SVSL.

^(a) Unless noted otherwise, SVSLs were derived by dividing the HERO HHRA Note 3 residential and commercial/industrial ambient air screening levels (DTSC 2020) by a 0.03 soil vapor attenuation factor (CalEPA, 2020).

^(b) SVSL derived by dividing the SF RWQCB residential or commercial/industrial indoor air screening levels (SWRCB, 2019) by a 0.03 soil vapor attenuation factor (CalEPA, 2020).

< = less than

µg/m³ = micrograms per cubic meter

CalEPA = California Environmental Protection Agency

DTSC = California Department of Toxic Substances Control

FD = field duplicate sample

FR = field replicate sample

HERO = Human and Ecological Risk Office

HHRA = human health risk assessment

ID = identification

MDL = method detection limit

N = normal sample

ND = not detected above the laboratory MDL

QA = quality assurance data validation qualifier

RL = reporting limit

SF RWQCB = San Francisco Bay Regional Water Quality Control Board

SVSL = soil vapor screening level

SWRCB = California State Water Resources Control Board

TPH = total petroleum hydrocarbons

Data Validation Qualifier Definitions:

J = estimated result

J- = estimated result; potential low bias

UJ = estimated result; analyte not detected at the indicated value

Data Validation Reason Code Definitions:

2A- = Low laboratory control sample recovery

2A+ = High laboratory control sample recovery

3D = Field duplicate imprecision

3E = Field replicate imprecision

4D = Leak check compound greater than 10 times the lowest RL; potential leak

5A = Initial calibration did not meet method requirement

5B- = Low continuing calibration recovery

5F = Estimated concentration. Potential concerns for the measurement of acrolein using Method TO-15.

6E = Detected above the calibration range

6G = Reported between the laboratory MDL and RL

TABLE 4-4. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.001 ATTENUATION FACTOR)
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Analyte	Location ID			VW16A			VW17A			VW18A			VW19A			VW20A			VW21A		
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason
Acetone	32,000,000	140,000,000	µg/m ³	37			ND (<2.4)			27			ND (<2.4)			ND (<2.3)			32	J-	4D,3E
Benzene	97	420	µg/m ³	ND (<0.63)			ND (<0.61)			ND (<0.63)			ND (<0.61)			ND (<0.60)			3.1	J-	4D,6G
Bromodichloromethane (BDCM)	76	330	µg/m ³	ND (<1.0)			ND (<1.0)			ND (<1.0)			ND (<1.0)			ND (<0.99)			ND (<1.1)	UJ	4D
tert-Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<0.88)			ND (<0.85)			ND (<0.88)			ND (<0.85)			ND (<0.83)			ND (<0.92)	UJ	4D
Carbon Disulfide	730,000	3,100,000	µg/m ³	ND (<1.3)			ND (<1.2)			ND (<1.3)			ND (<1.2)			ND (<1.2)			2.9	J-	4D,6G
Chloroform	120	530	µg/m ³	17			190			ND (<0.44)			28			ND (<0.41)			9.1	J-	4D
Cumene (Isopropylbenzene)	420,000	1,800,000	µg/m ³	ND (<0.65)			ND (<0.62)			ND (<0.65)			ND (<0.62)			ND (<0.61)			ND (<0.68)	UJ	4D
Cyclohexane	6,300,000	26,000,000	µg/m ³	ND (<0.59)			9.2			ND (<0.59)			ND (<0.57)			3.4			ND (<0.62)	UJ	4D
Dichlorodifluoromethane (Freon 12)	100,000	440,000	µg/m ³	ND (<0.82)			ND (<0.79)			ND (<0.82)			54			ND (<0.77)			ND (<0.86)	UJ	4D,3E
cis-1,2-Dichloroethene (cDCE)	8,300	35,000	µg/m ³	ND (<1.5)			ND (<1.4)			ND (<1.5)			ND (<1.4)			ND (<1.4)			ND (<1.6)	UJ	4D
1,2-Dichloropropane	760	3,300	µg/m ³	ND (<1.2)			ND (<1.1)			ND (<1.2)			ND (<1.1)			ND (<1.1)			ND (<1.2)	UJ	4D
Ethanol	NE	NE	µg/m ³	ND (<2.4)			ND (<2.4)			22			ND (<2.4)			22			7.1	J-	4D,6G
Ethylbenzene	1,100	4,900	µg/m ³	ND (<1.2)			9.1			ND (<1.2)			ND (<1.1)			7.0			2.4	J-	4D,6G
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	ND (<1.0)			5.3			ND (<1.0)			ND (<1.0)			7.3			7.2	J-	4D
n-Heptane	420,000	1,800,000	µg/m ³	ND (<1.0)			ND (<0.99)			ND (<1.0)			ND (<0.99)			ND (<0.97)			ND (<1.1)	UJ	4D
Hexane	730,000	3,100,000	µg/m ³	ND (<0.68)			2,400	J 6E		ND (<0.68)			ND (<0.65)			350			52	J-	4D,3E
2-Hexanone	31,000	130,000	µg/m ³	ND (<0.41)			ND (<0.40)			ND (<0.41)			ND (<0.40)			ND (<0.39)			0.72	J-	4D,6G
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.58)			ND (<0.55)			ND (<0.58)			ND (<0.55)			ND (<0.54)			ND (<0.60)	UJ	4D
Isopropyl Alcohol (2-Propanol)	210,000	880,000	µg/m ³	ND (<0.77)			13			ND (<0.77)			ND (<0.74)			ND (<0.73)			16	J-	4D,3E
Methyl Ethyl Ketone (2-Butanone)	5,200,000	22,000,000	µg/m ³	ND (<1.9)			ND (<1.8)			ND (<1.9)			ND (<1.8)			ND (<1.8)			7.6	J-	4D,6G
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	3,100,000	13,000,000	µg/m ³	ND (<1.0)			5.4			ND (<1.0)			ND (<0.98)			ND (<0.96)			ND (<1.1)	UJ	4D
Methyl tert-Butyl Ether (MTBE)	11,000	47,000	µg/m ³	ND (<0.81)			ND (<0.78)			ND (<0.81)			ND (<0.78)			ND (<0.76)			ND (<0.85)	UJ	4D
Propylbenzene	990,000	4,500,000	µg/m ³	ND (<0.86)			ND (<0.82)			ND (<0.86)			ND (<0.82)			ND (<0.81)			1.5	J-	4D,6G
Propylene	3,100,000	13,000,000	µg/m ³	ND (<0.53)			ND (<0.51)			ND (<0.53)			ND (<0.51)			ND (<0.50)			ND (<0.56)	UJ	4D
Tetrachloroethene (PCE)	460	2,000	µg/m ³	35			110			490			380			33			170	J-	4D
Tetrahydrofuran	2,100,000	8,800,000	µg/m ³	ND (<0.63)			ND (<0.60)			ND (<0.63)			ND (<0.60)			ND (<0.59)			1.6	J-	4D,6G
Toluene	310,000	1,300,000	µg/m ³	ND (<0.41)			5.0			4.8			ND (<0.39)			20			13	J-	4D
1,1,1-Trichloroethane	1,000,000	4,400,000	µg/m ³	ND (<0.45)			ND (<0.43)			ND (<0.45)			ND (<0.43)			ND (<0.42)			6.0	J-	4D
Trichloroethene (TCE)	480	3,000	µg/m ³	ND (<0.81)			ND (<0.78)			ND (<0.81)			ND (<0.78)			ND (<0.77)			23	J-	4D,6G
Trichlorofluoromethane (Freon 11)	1,300,000	5,300,000	µg/m ³	ND (<1.3)			ND (<1.2)			ND (<1.3)			9.2			ND (<1.2)			1.8	J-	4D
1,2,4-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<0.60)			7.7			ND (<0.60)			ND (<0.57)			7.7			8.5	J-	4D,2A+
1,3,5-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<1.1)			ND (<1.0)			ND (<1.1)			ND (<1.0)			ND (<1.0)			3.8	J-	4D,6G
m- & p-Xylenes	100,000	440,000	µg/m ³	ND (<1.0)			38			ND (<1.0)			ND (<1.0)			28			6.5	J-	4D
o-Xylene	100,000	440,000	µg/m ³	ND (<1.1)			15			ND (<1.1)			ND (<1.1)			9.7			3.1	J-	4D,6G
TPH - Gasoline	600,000 ^(b)	2,500,000 ^(b)	µg/m ³	ND (<430)			4,100			ND (<430)			ND (<410)			740			ND (<450)	UJ	4D,3E

TABLE 4-4. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.001 ATTENUATION FACTOR)
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Analyte	Location ID			VW21A			VW22A			VW24A			VW25A			VW26A			VW27A		
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason
Acetone	32,000,000	140,000,000	µg/m ³	18	J-	4D,6G,3E	ND (<1.9)			25			34			ND (<2.5)			ND (<2.5)		
Benzene	97	420	µg/m ³	2.6	J-	4D,6G	ND (<0.26)			ND (<0.61)			ND (<0.74)			ND (<0.63)			ND (<0.64)		
Bromodichloromethane (BDCM)	76	330	µg/m ³	ND (<1.4)	UJ	4D	ND (<1.4)			ND (<1.0)			ND (<1.2)			ND (<1.0)			ND (<1.1)		
tert-Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<1.2)	UJ	4D	ND (<1.2)			ND (<0.85)			ND (<1.0)			ND (<0.88)			ND (<0.90)		
Carbon Disulfide	730,000	3,100,000	µg/m ³	6.1	J-	4D,6G	ND (<3.2)			15			ND (<1.5)			ND (<1.3)			ND (<1.3)		
Chloroform	120	530	µg/m ³	8.6	J-	4D				12			ND (<0.42)			ND (<0.44)			ND (<0.45)		
Cumene (Isopropylbenzene)	420,000	1,800,000	µg/m ³	ND (<0.70)	UJ	4D	ND (<0.68)			ND (<0.62)			ND (<0.76)			ND (<0.65)			ND (<0.66)		
Cyclohexane	6,300,000	26,000,000	µg/m ³	ND (<0.82)	UJ	4D	ND (<0.80)			3.7			ND (<0.69)			ND (<0.59)			ND (<0.61)		
Dichlorodifluoromethane (Freon 12)	100,000	440,000	µg/m ³	17	J-	4D,3E	ND (<0.97)			7.8			8.8			ND (<0.82)			ND (<0.84)		
cis-1,2-Dichloroethene (cDCE)	8,300	35,000	µg/m ³	ND (<0.79)	UJ	4D	ND (<0.78)			ND (<1.4)			ND (<1.8)			ND (<1.5)			ND (<1.5)		
1,2-Dichloropropane	760	3,300	µg/m ³	ND (<1.7)	UJ	4D	ND (<1.7)	UJ 5A		ND (<1.1)			ND (<1.4)			ND (<1.2)	UJ 5A		ND (<1.2)		
Ethanol	NE	NE	µg/m ³	4.6	J-	4D,6G	ND (<2.2)			22			ND (<2.8)			ND (<2.4)			ND (<2.5)		
Ethylbenzene	1,100	4,900	µg/m ³	1.9	J-	4D,6G				6.5			6.9			15			ND (<1.2)		
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	7.1	J-	4D				13			7.1			18			5.7		
n-Heptane	420,000	1,800,000	µg/m ³	ND (<0.81)	UJ	4D	ND (<0.80)			ND (<0.99)			ND (<1.2)			ND (<1.0)			ND (<1.0)		
Hexane	730,000	3,100,000	µg/m ³	31	J-	4D,3E	ND (<0.71)			270			ND (<0.79)			ND (<0.68)			8.7		
2-Hexanone	31,000	130,000	µg/m ³	ND (<1.5)	UJ	4D	ND (<1.5)			ND (<0.40)			ND (<0.48)			ND (<0.41)			ND (<0.42)		
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.40)	UJ	4D	ND (<0.39)			ND (<0.55)			ND (<0.67)			ND (<0.58)			ND (<0.59)		
Isopropyl Alcohol (2-Propanol)	210,000	880,000	µg/m ³	8.7	J-	4D,6G,3E		J 6G		11			13			ND (<0.90)			12		
Methyl Ethyl Ketone (2-Butanone)	5,200,000	22,000,000	µg/m ³	4.9	J-	4D,6G	ND (<2.3)			ND (<1.8)			ND (<2.2)			ND (<1.9)			ND (<1.9)		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	3,100,000	13,000,000	µg/m ³	ND (<0.68)	UJ	4D	ND (<0.67)			ND (<0.98)			ND (<1.2)			ND (<1.0)			ND (<1.0)		
Methyl tert-Butyl Ether (MTBE)	11,000	47,000	µg/m ³	ND (<0.98)	UJ	4D	ND (<0.96)			ND (<0.78)			ND (<0.95)			ND (<0.81)			ND (<0.83)		
Propylbenzene	990,000	4,500,000	µg/m ³	1.6	J-	4D,6G	ND (<0.30)			ND (<0.82)			ND (<1.0)			ND (<0.86)			ND (<0.87)		
Propylene	3,100,000	13,000,000	µg/m ³	ND (<1.4)	UJ	4D	ND (<1.4)			ND (<0.51)			ND (<0.62)			ND (<0.53)			ND (<0.54)		
Tetrachloroethene (PCE)	460	2,000	µg/m ³	150	J-	4D				110			260			130			55		
Tetrahydrofuran	2,100,000	8,800,000	µg/m ³	ND (<0.71)	UJ	4D	ND (<0.70)			ND (<0.60)			ND (<0.73)			ND (<0.63)			ND (<0.64)		
Toluene	310,000	1,300,000	µg/m ³	12	J-	4D				26			16			49			15		
1,1,1-Trichloroethane	1,000,000	4,400,000	µg/m ³	5.2	J-	4D,6G	ND (<0.72)			ND (<0.43)			ND (<0.52)			ND (<0.45)			ND (<0.46)		
Trichloroethene (TCE)	480	3,000	µg/m ³	20	J-	4D				6.7			10			ND (<0.95)			ND (<0.81)		
Trichlorofluoromethane (Freon 11)	1,300,000	5,300,000	µg/m ³	1.4	J-	4D,6G	ND (<0.70)			ND (<1.2)			ND (<1.5)			ND (<1.3)			ND (<1.3)		
1,2,4-Trimethylbenzene	63,000	260,000	µg/m ³	9.2	J-	4D				16			7.1			14			ND (<0.60)		
1,3,5-Trimethylbenzene	63,000	260,000	µg/m ³	3.7	J-	4D,6G	ND (<0.83)			ND (<1.0)			ND (<1.2)			ND (<1.1)			ND (<1.1)		
m- & p-Xylenes	100,000	440,000	µg/m ³	7.4	J-	4D				18			26			56			8.2		
o-Xylene	100,000	440,000	µg/m ³	3.6	J-	4D,6G				10			9.2			19			5.9		
TPH - Gasoline	600,000 ^(b)	2,500,000 ^(b)	µg/m ³	530	J-	4D,3E	ND (<440)			650			ND (<500)			ND (<430)			ND (<440)		

TABLE 4-4. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.001 ATTENUATION FACTOR)
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Analyte	Location ID			VW28A			VW29A			VW30A			VW31A			VW32A			VW33A		
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason
Acetone	32,000,000	140,000,000	µg/m ³	33			ND (<2.5)			37			36			ND (<2.4)			35		
Benzene	97	420	µg/m ³	ND (<0.71)			ND (<0.64)			ND (<0.37)			ND (<0.66)			ND (<0.34)			ND (<0.30)		
Bromodichloromethane (BDCM)	76	330	µg/m ³	ND (<1.2)			ND (<1.1)			43			ND (<1.1)			ND (<1.8)			ND (<1.6)		
tert-Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<0.98)			ND (<0.90)			ND (<1.7)			ND (<0.92)			ND (<1.6)			ND (<1.4)		
Carbon Disulfide	730,000	3,100,000	µg/m ³	ND (<1.4)			ND (<1.3)			ND (<4.5)			ND (<1.3)			ND (<4.2)			21		
Chloroform	120	530	µg/m ³	ND (<0.49)			ND (<0.45)			1,500			ND (<0.46)			ND (<0.83)			ND (<0.73)		
Cumene (Isopropylbenzene)	420,000	1,800,000	µg/m ³	ND (<0.72)			ND (<0.66)			ND (<0.97)			ND (<0.68)			ND (<0.90)			ND (<0.80)		
Cyclohexane	6,300,000	26,000,000	µg/m ³	ND (<0.66)			ND (<0.61)			ND (<1.1)			ND (<0.62)			ND (<1.1)			ND (<0.94)		
Dichlorodifluoromethane (Freon 12)	100,000	440,000	µg/m ³	ND (<0.91)			5.7			11			ND (<0.86)			ND (<1.3)			ND (<1.1)		
cis-1,2-Dichloroethene (cDCE)	8,300	35,000	µg/m ³	ND (<1.7)			ND (<1.5)			ND (<1.1)			ND (<1.6)			ND (<1.0)			ND (<0.91)		
1,2-Dichloropropane	760	3,300	µg/m ³	ND (<1.3)			ND (<1.2)			ND (<2.4)	UJ 5A		ND (<1.2)	UJ 5A		ND (<2.2)	UJ 5A		ND (<2.0)	UJ 5A	
Ethanol	NE	NE	µg/m ³	ND (<2.7)			25			ND (<3.2)			ND (<2.6)			ND (<2.9)			ND (<2.6)	UJ 2A-	
Ethylbenzene	1,100	4,900	µg/m ³	ND (<1.3)			5.7			ND (<1.1)			ND (<1.2)			ND (<1.0)			ND (<0.92)		
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	ND (<1.2)			6.9			ND (<1.9)			ND (<1.1)			ND (<1.8)			ND (<1.6)		
n-Heptane	420,000	1,800,000	µg/m ³	ND (<1.1)			ND (<1.0)			ND (<1.1)			ND (<1.1)			ND (<1.0)			ND (<0.93)		
Hexane	730,000	3,100,000	µg/m ³	4.7			240			ND (<1.0)			ND (<0.70)			16			ND (<0.83)		
2-Hexanone	31,000	130,000	µg/m ³	ND (<0.46)			ND (<0.42)			ND (<2.1)			ND (<0.43)			ND (<2.0)			ND (<1.8)		
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.64)			ND (<0.59)			ND (<0.56)			ND (<0.60)			ND (<0.52)			ND (<0.46)		
Isopropyl Alcohol (2-Propanol)	210,000	880,000	µg/m ³	13			19			ND (<1.0)			ND (<0.81)			ND (<0.95)			ND (<0.84)		
Methyl Ethyl Ketone (2-Butanone)	5,200,000	22,000,000	µg/m ³	ND (<2.1)			ND (<1.9)			ND (<3.2)			ND (<2.0)			ND (<3.0)			ND (<2.6)		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	3,100,000	13,000,000	µg/m ³	ND (<1.1)			ND (<1.0)			ND (<0.95)			ND (<1.1)			ND (<0.88)			ND (<0.78)		
Methyl tert-Butyl Ether (MTBE)	11,000	47,000	µg/m ³	ND (<0.90)			ND (<0.83)			ND (<1.4)			ND (<0.85)			ND (<1.3)			ND (<1.1)		
Propylbenzene	990,000	4,500,000	µg/m ³	ND (<0.95)			ND (<0.87)			ND (<0.42)			ND (<0.89)			ND (<0.39)			ND (<0.35)		
Propylene	3,100,000	13,000,000	µg/m ³	ND (<0.60)			ND (<0.54)			ND (<2.0)			ND (<0.56)			ND (<1.9)			ND (<1.6)		
Tetrachloroethene (PCE)	460	2,000	µg/m ³	ND (<1.3)			140			250			170			130			15		
Tetrahydrofuran	2,100,000	8,800,000	µg/m ³	ND (<0.70)			ND (<0.64)			ND (<0.98)			ND (<0.65)			ND (<0.92)			ND (<0.81)		
Toluene	310,000	1,300,000	µg/m ³	8.2			13			ND (<1.4)			ND (<0.42)			ND (<1.3)			7.5		
1,1,1-Trichloroethane	1,000,000	4,400,000	µg/m ³	ND (<0.50)			ND (<0.46)			ND (<1.0)			ND (<0.47)			ND (<0.95)			ND (<0.84)		
Trichloroethene (TCE)	480	3,000	µg/m ³	ND (<0.91)			ND (<0.83)			ND (<1.0)			ND (<0.85)			ND (<0.97)			ND (<0.86)		
Trichlorofluoromethane (Freon 11)	1,300,000	5,300,000	µg/m ³	ND (<1.4)			ND (<1.3)			ND (<0.99)			ND (<1.3)			ND (<0.92)			ND (<0.82)		
1,2,4-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<0.66)			8.1			ND (<2.8)			ND (<0.62)			ND (<2.6)			ND (<2.3)		
1,3,5-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<1.2)			ND (<1.1)			ND (<1.2)			ND (<1.1)			ND (<1.1)			ND (<0.97)		
m- & p-Xylenes	100,000	440,000	µg/m ³	ND (<1.2)			21			ND (<3.6)			ND (<1.1)			ND (<3.4)			ND (<3.0)		
o-Xylene	100,000	440,000	µg/m ³	ND (<1.3)			7.8			ND (<1.8)			ND (<1.2)			ND (<1.7)			ND (<1.5)		
TPH - Gasoline	600,000 ^(b)	2,500,000 ^(b)	µg/m ³	ND (<480)			490			ND (<630)			ND (<450)			ND (<590)			ND (<520)		

TABLE 4-4. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.001 ATTENUATION FACTOR)
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Analyte	Location ID			VW34A			VW34A			VW35A			VW36A			VW37A			VW38A		
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason
Acetone	32,000,000	140,000,000	µg/m ³	ND (<1.9)			ND (<2.0)			ND (<2.5)			27			ND (<1.8)			ND (<2.0)		
Benzene	97	420	µg/m ³	ND (<0.27)			ND (<0.28)			ND (<0.63)			ND (<0.27)			12			ND (<0.28)		
Bromodichloromethane (BDCM)	76	330	µg/m ³	ND (<1.4)			ND (<1.5)			ND (<1.0)			ND (<1.5)			ND (<1.3)			ND (<1.5)		
tert-Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<1.2)			ND (<1.3)			ND (<0.88)			ND (<1.2)			ND (<1.1)			ND (<1.3)		
Carbon Disulfide	730,000	3,100,000	µg/m ³	ND (<3.3)			ND (<3.4)			ND (<1.3)			37			ND (<3.0)			ND (<3.4)		
Chloroform	120	530	µg/m ³	ND (<0.65)			ND (<0.67)			ND (<0.44)			ND (<0.66)			ND (<0.60)			ND (<0.68)		
Cumene (Isopropylbenzene)	420,000	1,800,000	µg/m ³	ND (<0.71)			ND (<0.73)			ND (<0.65)			ND (<0.72)			ND (<0.65)			ND (<0.73)		
Cyclohexane	6,300,000	26,000,000	µg/m ³	ND (<0.83)			ND (<0.86)			24			ND (<0.84)			34			ND (<0.86)		
Dichlorodifluoromethane (Freon 12)	100,000	440,000	µg/m ³	ND (<1.0)			ND (<1.0)			ND (<0.82)			ND (<1.0)			ND (<0.92)			ND (<1.0)		
cis-1,2-Dichloroethene (cDCE)	8,300	35,000	µg/m ³	ND (<0.81)			ND (<0.83)			ND (<1.5)			ND (<0.82)			ND (<0.74)			ND (<0.84)		
1,2-Dichloropropane	760	3,300	µg/m ³	ND (<1.8)	UJ 5A		ND (<1.8)	UJ 5A		ND (<1.2)			ND (<1.8)	UJ 5A		ND (<1.6)	UJ 5A		ND (<1.8)	UJ 5A	
Ethanol	NE	NE	µg/m ³	ND (<2.3)	UJ 2A-		ND (<2.4)			ND (<2.4)			ND (<2.3)			ND (<2.1)			ND (<2.4)	UJ 2A-	
Ethylbenzene	1,100	4,900	µg/m ³	ND (<0.82)			ND (<0.84)			13			ND (<0.83)			49			ND (<0.85)		
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	ND (<1.4)			ND (<1.4)			ND (<1.0)			ND (<1.4)			43			ND (<1.5)		
n-Heptane	420,000	1,800,000	µg/m ³	ND (<0.83)			ND (<0.85)			ND (<1.0)			ND (<0.83)			34			ND (<0.86)		
Hexane	730,000	3,100,000	µg/m ³	ND (<0.74)			ND (<0.76)			4,300	J 6E		ND (<0.74)			26			ND (<0.76)		
2-Hexanone	31,000	130,000	µg/m ³	ND (<1.6)			ND (<1.6)			ND (<0.41)			ND (<1.6)			ND (<1.4)			ND (<1.6)		
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.41)			ND (<0.42)			ND (<0.58)			ND (<0.41)			73			ND (<0.42)		
Isopropyl Alcohol (2-Propanol)	210,000	880,000	µg/m ³	ND (<0.74)			ND (<0.76)			ND (<0.77)			ND (<0.75)			ND (<0.68)			ND (<0.77)		
Methyl Ethyl Ketone (2-Butanone)	5,200,000	22,000,000	µg/m ³	ND (<2.3)			ND (<2.4)			ND (<1.9)			ND (<2.4)			ND (<2.1)			ND (<2.4)		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	3,100,000	13,000,000	µg/m ³	ND (<0.70)			ND (<0.71)			5.1			ND (<0.70)			ND (<0.63)			ND (<0.72)		
Methyl tert-Butyl Ether (MTBE)	11,000	47,000	µg/m ³	ND (<1.0)			ND (<1.0)			ND (<0.81)			ND (<1.0)			38			ND (<1.0)		
Propylbenzene	990,000	4,500,000	µg/m ³	ND (<0.31)			ND (<0.32)			ND (<0.86)			ND (<0.31)			8.8			ND (<0.32)		
Propylene	3,100,000	13,000,000	µg/m ³	ND (<1.5)			ND (<1.5)			ND (<0.53)			ND (<1.5)			ND (<1.3)			ND (<1.5)		
Tetrachloroethene (PCE)	460	2,000	µg/m ³	21			21			400			230			ND (<1.2)			130		
Tetrahydrofuran	2,100,000	8,800,000	µg/m ³	ND (<0.72)			ND (<0.74)			ND (<0.63)			ND (<0.73)			ND (<0.66)			ND (<0.75)		
Toluene	310,000	1,300,000	µg/m ³	ND (<1.0)			ND (<1.0)			5.2			ND (<1.0)			92			ND (<1.1)		
1,1,1-Trichloroethane	1,000,000	4,400,000	µg/m ³	ND (<0.74)			ND (<0.76)			ND (<0.45)			ND (<0.75)			ND (<0.68)			ND (<0.77)		
Trichloroethene (TCE)	480	3,000	µg/m ³	ND (<0.76)			ND (<0.78)			ND (<0.81)			ND (<0.77)			ND (<0.70)			ND (<0.79)		
Trichlorofluoromethane (Freon 11)	1,300,000	5,300,000	µg/m ³	ND (<0.73)			ND (<0.75)			ND (<1.3)			ND (<0.74)			ND (<0.66)			ND (<0.75)		
1,2,4-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<2.0)			ND (<2.1)			7.0			ND (<2.1)			30			ND (<2.1)		
1,3,5-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<0.86)			ND (<0.88)			ND (<1.1)			ND (<0.87)			12			ND (<0.89)		
<i>m</i> - & <i>p</i> -Xylenes	100,000	440,000	µg/m ³	ND (<2.7)			ND (<2.8)			53			ND (<2.7)			170			ND (<2.8)		
<i>o</i> -Xylene	100,000	440,000	µg/m ³	ND (<1.3)			ND (<1.3)			18			ND (<1.3)			49			ND (<1.4)		
TPH - Gasoline	600,000 ^(b)	2,500,000 ^(b)	µg/m ³	ND (<460)			ND (<470)			7,800			ND (<470)			3,100			ND (<480)		

TABLE 4-4. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.001 ATTENUATION FACTOR)
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Analyte	Location ID			VW38A			VW39A			VW40A			VW41A			VW42A			VW42A		
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason
Acetone	32,000,000	140,000,000	µg/m ³	31			ND (<1.8)			ND (<1.7)			ND (<1.7)			ND (<1.8)			ND (<1.8)		
Benzene	97	420	µg/m ³	ND (<0.28)			ND (<0.25)			ND (<0.24)			ND (<0.24)			ND (<0.26)			ND (<0.25)		
Bromodichloromethane (BDCM)	76	330	µg/m ³	ND (<1.5)			ND (<1.3)			ND (<1.3)			ND (<1.3)			ND (<1.4)			ND (<1.4)		
tert-Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<1.3)			ND (<1.1)			ND (<1.1)			ND (<1.1)			ND (<1.2)			ND (<1.2)		
Carbon Disulfide	730,000	3,100,000	µg/m ³	ND (<3.4)			ND (<3.0)			ND (<2.9)			ND (<3.0)			ND (<3.1)			ND (<3.1)		
Chloroform	120	530	µg/m ³	ND (<0.67)			ND (<0.60)			ND (<0.58)			ND (<0.58)			ND (<0.62)			ND (<0.61)		
Cumene (Isopropylbenzene)	420,000	1,800,000	µg/m ³	ND (<0.73)			ND (<0.65)			ND (<0.63)			ND (<0.63)			ND (<0.67)			ND (<0.66)		
Cyclohexane	6,300,000	26,000,000	µg/m ³	ND (<0.86)			ND (<0.76)			ND (<0.74)			ND (<0.75)			ND (<0.79)			ND (<0.78)		
Dichlorodifluoromethane (Freon 12)	100,000	440,000	µg/m ³	ND (<1.0)			ND (<0.92)			ND (<0.90)			ND (<0.90)			ND (<0.95)			ND (<0.95)		
cis-1,2-Dichloroethene (cDCE)	8,300	35,000	µg/m ³	ND (<0.83)			ND (<0.74)			ND (<0.72)			ND (<0.72)			ND (<0.76)			ND (<0.76)		
1,2-Dichloropropane	760	3,300	µg/m ³	ND (<1.8)	UJ 5A		ND (<1.6)	UJ 5A		ND (<1.6)	UJ 5A		ND (<1.6)	UJ 5A		ND (<1.6)	UJ 5A		ND (<1.6)	UJ 5A	
Ethanol	NE	NE	µg/m ³	ND (<2.4)	UJ 2A-		ND (<2.1)	UJ 2A-		ND (<2.0)			ND (<2.1)			23			ND (<2.2)		
Ethylbenzene	1,100	4,900	µg/m ³	ND (<0.84)			ND (<0.75)			ND (<0.73)			ND (<0.73)			ND (<0.77)			ND (<0.77)		
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	ND (<1.4)			ND (<1.3)			ND (<1.2)			ND (<1.3)			ND (<1.3)			ND (<1.3)		
n-Heptane	420,000	1,800,000	µg/m ³	ND (<0.85)			ND (<0.75)			ND (<0.74)			ND (<0.74)			ND (<0.78)			ND (<0.78)		
Hexane	730,000	3,100,000	µg/m ³	ND (<0.76)			ND (<0.67)			ND (<0.66)			ND (<0.66)			4.0			ND (<0.69)		
2-Hexanone	31,000	130,000	µg/m ³	ND (<1.6)			ND (<1.4)			ND (<1.4)			ND (<1.4)			ND (<1.5)			ND (<1.5)		
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.42)			ND (<0.37)			ND (<0.36)			ND (<0.36)			ND (<0.38)			ND (<0.38)		
Isopropyl Alcohol (2-Propanol)	210,000	880,000	µg/m ³	11			ND (<0.68)			ND (<0.66)			ND (<0.66)			ND (<0.70)			ND (<0.70)		
Methyl Ethyl Ketone (2-Butanone)	5,200,000	22,000,000	µg/m ³	ND (<2.4)			ND (<2.1)			ND (<2.1)			ND (<2.1)			ND (<2.2)			ND (<2.2)		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	3,100,000	13,000,000	µg/m ³	ND (<0.71)			ND (<0.63)			ND (<0.62)			ND (<0.62)			ND (<0.66)			ND (<0.65)		
Methyl tert-Butyl Ether (MTBE)	11,000	47,000	µg/m ³	ND (<1.0)			ND (<0.91)			ND (<0.89)			ND (<0.89)			ND (<0.94)			ND (<0.94)		
Propylbenzene	990,000	4,500,000	µg/m ³	ND (<0.32)			ND (<0.28)			ND (<0.28)			ND (<0.28)			ND (<0.29)			ND (<0.29)		
Propylene	3,100,000	13,000,000	µg/m ³	ND (<1.5)			ND (<1.3)			ND (<1.3)			ND (<1.3)			ND (<1.4)			ND (<1.4)		
Tetrachloroethene (PCE)	460	2,000	µg/m ³	120			22			14			37			31			31		
Tetrahydrofuran	2,100,000	8,800,000	µg/m ³	ND (<0.74)			ND (<0.66)			ND (<0.64)			ND (<0.64)			ND (<0.68)			ND (<0.68)		
Toluene	310,000	1,300,000	µg/m ³	ND (<1.0)			ND (<0.94)			ND (<0.92)			ND (<0.92)			ND (<0.97)			ND (<0.97)		
1,1,1-Trichloroethane	1,000,000	4,400,000	µg/m ³	ND (<0.76)			ND (<0.68)			ND (<0.66)			ND (<0.67)			ND (<0.70)			ND (<0.70)		
Trichloroethene (TCE)	480	3,000	µg/m ³	ND (<0.78)			ND (<0.70)			ND (<0.68)			ND (<0.68)			ND (<0.72)			ND (<0.72)		
Trichlorofluoromethane (Freon 11)	1,300,000	5,300,000	µg/m ³	ND (<0.75)			ND (<0.66)			ND (<0.65)			ND (<0.65)			ND (<0.69)			ND (<0.68)		
1,2,4-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<2.1)			ND (<1.9)			ND (<1.8)			ND (<1.8)			ND (<1.9)			ND (<1.9)		
1,3,5-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<0.88)			ND (<0.79)			ND (<0.77)			ND (<0.77)			ND (<0.81)			ND (<0.81)		
m- & p-Xylenes	100,000	440,000	µg/m ³	ND (<2.8)			ND (<2.4)			ND (<2.4)			ND (<2.4)			ND (<2.5)			ND (<2.5)		
o-Xylene	100,000	440,000	µg/m ³	ND (<1.3)			ND (<1.2)			ND (<1.2)			ND (<1.2)			ND (<1.2)			ND (<1.2)		
TPH - Gasoline	600,000 ^(b)	2,500,000 ^(b)	µg/m ³	ND (<470)			ND (<420)			ND (<410)			ND (<410)			ND (<440)			ND (<430)		

TABLE 4-4. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.001 ATTENUATION FACTOR)
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Analyte	Location ID			VW43A			VW44A			VW45A			VW46A			VW47A			VW47A		
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason
Acetone	32,000,000	140,000,000	µg/m ³	130			ND (<2.5)			69			52			46			35		
Benzene	97	420	µg/m ³	ND (<0.74)			ND (<0.64)			ND (<0.68)			ND (<0.26)			ND (<0.26)			ND (<0.26)		
Bromodichloromethane (BDCM)	76	330	µg/m ³	ND (<1.2)			ND (<1.1)			ND (<1.1)			ND (<1.4)			ND (<1.4)			ND (<1.4)		
<i>tert</i> -Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<1.0)			ND (<0.90)			ND (<0.94)			ND (<1.2)			38	J 3D		ND (<1.2)		UJ 3D
Carbon Disulfide	730,000	3,100,000	µg/m ³	ND (<1.5)			ND (<1.3)			ND (<1.4)			ND (<3.2)			ND (<3.2)			ND (<3.2)		
Chloroform	120	530	µg/m ³	ND (<0.52)			35			ND (<0.47)			ND (<0.64)			ND (<0.63)			ND (<0.63)		
Cumene (Isopropylbenzene)	420,000	1,800,000	µg/m ³	ND (<0.76)			ND (<0.66)			ND (<0.69)			ND (<0.69)			ND (<0.68)			ND (<0.68)		
Cyclohexane	6,300,000	26,000,000	µg/m ³	ND (<0.70)			3.9			ND (<0.63)			ND (<0.81)			ND (<0.96)			ND (<0.96)		
Dichlorodifluoromethane (Freon 12)	100,000	440,000	µg/m ³	ND (<0.96)			ND (<0.84)			ND (<0.88)			ND (<0.98)			ND (<0.97)			ND (<0.97)		
<i>cis</i>-1,2-Dichloroethene (cDCE)	8,300	35,000	µg/m ³	ND (<1.8)			ND (<1.5)			ND (<1.6)			ND (<0.79)			ND (<0.78)			ND (<0.78)		
1,2-Dichloropropane	760	3,300	µg/m ³	ND (<1.4)			ND (<1.2)			ND (<1.2)			ND (<1.7)	UJ 5A		ND (<1.7)	UJ 5A		ND (<1.7)	UJ 5A	
Ethanol	NE	NE	µg/m ³	24			ND (<2.5)			ND (<2.6)			ND (<2.2)			ND (<2.2)			ND (<2.2)		
Ethylbenzene	1,100	4,900	µg/m ³	ND (<1.4)			16			ND (<1.3)			ND (<0.80)			ND (<0.79)			ND (<0.79)		
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	ND (<1.2)			5.7			ND (<1.1)			ND (<1.4)			ND (<1.4)			ND (<1.4)		
n-Heptane	420,000	1,800,000	µg/m ³	ND (<1.2)			ND (<1.0)			ND (<1.1)			ND (<0.96)			ND (<0.96)			ND (<0.96)		
Hexane	730,000	3,100,000	µg/m ³	ND (<0.96)			890			ND (<0.72)			ND (<0.72)			ND (<0.71)			ND (<0.71)		
2-Hexanone	31,000	130,000	µg/m ³	ND (<0.48)			ND (<0.42)			ND (<0.44)			ND (<1.5)			ND (<1.5)			ND (<1.5)		
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.68)			ND (<0.59)			ND (<0.61)			ND (<0.40)			ND (<0.39)			ND (<0.39)		
Isopropyl Alcohol (2-Propanol)	210,000	880,000	µg/m ³	92			ND (<0.79)			25			14			27	J 3D		ND (<0.72)		UJ 3D
Methyl Ethyl Ketone (2-Butanone)	5,200,000	22,000,000	µg/m ³	ND (<2.2)			ND (<1.9)			ND (<2.0)			ND (<2.3)			ND (<2.3)			ND (<2.3)		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	3,100,000	13,000,000	µg/m ³	ND (<1.2)			7.2			ND (<1.1)			ND (<0.68)			ND (<0.67)			ND (<0.67)		
Methyl <i>tert</i> -Butyl Ether (MTBE)	11,000	47,000	µg/m ³	ND (<0.96)			ND (<0.83)			ND (<0.87)			ND (<0.97)			ND (<0.96)			ND (<0.96)		
Propylbenzene	990,000	4,500,000	µg/m ³	ND (<1.0)			ND (<0.87)			ND (<0.91)			ND (<0.30)			ND (<0.30)			ND (<0.30)		
Propylene	3,100,000	13,000,000	µg/m ³	10			ND (<0.54)			9.8			ND (<1.4)			ND (<1.4)			ND (<1.4)		
Tetrachloroethene (PCE)	460	2,000	µg/m ³	11			11			11			20			27			27		
Tetrahydrofuran	2,100,000	8,800,000	µg/m ³	ND (<0.74)			ND (<0.64)			ND (<0.67)			ND (<0.70)			ND (<0.70)			ND (<0.70)		
Toluene	310,000	1,300,000	µg/m ³	ND (<0.48)			6.7			ND (<0.44)			ND (<1.0)			ND (<0.99)			ND (<0.99)		
1,1,1-Trichloroethane	1,000,000	4,400,000	µg/m ³	ND (<0.53)			ND (<0.46)			ND (<0.48)			ND (<0.72)			ND (<0.72)			ND (<0.72)		
Trichloroethene (TCE)	480	3,000	µg/m ³	ND (<0.96)			ND (<0.83)			7.8			ND (<0.74)			ND (<0.74)			ND (<0.73)		
Trichlorofluoromethane (Freon 11)	1,300,000	5,300,000	µg/m ³	ND (<1.5)			ND (<1.3)			ND (<1.3)			ND (<0.71)			ND (<0.70)			ND (<0.70)		
1,2,4-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<0.70)			8.7			ND (<0.64)			ND (<2.0)			ND (<2.0)			ND (<2.0)		
1,3,5-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<1.3)			ND (<1.1)			ND (<1.1)			ND (<0.84)			ND (<0.83)			ND (<0.83)		
<i>m</i> - & <i>p</i> -Xylenes	100,000	440,000	µg/m ³	ND (<1.2)			56			ND (<1.1)			ND (<2.6)			6.2			ND (<2.6)		
<i>o</i> -Xylene	100,000	440,000	µg/m ³	ND (<1.3)			20			ND (<1.2)			ND (<1.3)			ND (<1.3)			ND (<1.2)		
TPH - Gasoline	600,000 ^(b)	2,500,000 ^(b)	µg/m ³	ND (<500)			1,900			ND (<460)			ND (<450)			ND (<440)			ND (<440)		

TABLE 4-4. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.001 ATTENUATION FACTOR)
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Analyte	Location ID			VW48A			VW49A			VW50A			VW51A			VW52A			VW53A		
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason
Acetone	32,000,000	140,000,000	µg/m ³	64			54			ND (<2.5)			ND (<2.0)			53			160		
Benzene	97	420	µg/m ³	ND (<0.25)			ND (<0.61)			ND (<0.64)			ND (<0.28)			ND (<0.65)			7.4		
Bromodichloromethane (BDCM)	76	330	µg/m ³	ND (<1.3)			ND (<1.0)			ND (<1.0)			ND (<1.5)			ND (<1.1)			ND (<1.1)		
<i>tert</i> -Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<1.2)			ND (<0.85)			ND (<0.88)			ND (<1.3)			ND (<0.91)			26		
Carbon Disulfide	730,000	3,100,000	µg/m ³	ND (<3.0)			ND (<1.2)			ND (<1.3)			ND (<3.4)			ND (<1.3)			ND (<1.3)		
Chloroform	120	530	µg/m ³	6.8			6.3			ND (<0.44)			ND (<0.67)			18			ND (<0.46)		
Cumene (Isopropylbenzene)	420,000	1,800,000	µg/m ³	ND (<0.66)			5.5			ND (<0.65)			ND (<0.73)			ND (<0.67)			ND (<0.68)		
Cyclohexane	6,300,000	26,000,000	µg/m ³	ND (<0.77)			ND (<0.58)			ND (<0.60)			ND (<0.86)			ND (<0.61)			ND (<0.62)		
Dichlorodifluoromethane (Freon 12)	100,000	440,000	µg/m ³	ND (<0.93)			ND (<0.79)			ND (<0.82)			ND (<1.0)			45			24		
<i>cis</i>-1,2-Dichloroethene (cDCE)	8,300	35,000	µg/m ³	ND (<0.75)			ND (<1.4)			ND (<1.5)			ND (<0.83)			ND (<1.6)			ND (<1.6)		
1,2-Dichloropropane	760	3,300	µg/m ³	ND (<1.6)	UJ 5A		ND (<1.1)	UJ 5A		ND (<1.2)	UJ 5A		ND (<1.8)	UJ 5A		ND (<1.2)			ND (<1.2)		
Ethanol	NE	NE	µg/m ³	ND (<2.1)			ND (<2.4)			ND (<2.5)			ND (<2.4)			ND (<2.5)			ND (<2.6)		
Ethylbenzene	1,100	4,900	µg/m ³	ND (<0.76)			ND (<1.2)			ND (<1.2)			ND (<0.84)			ND (<1.2)			ND (<1.2)		
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	ND (<1.3)			ND (<1.0)			ND (<1.0)			ND (<1.4)			ND (<1.1)			ND (<1.1)		
n-Heptane	420,000	1,800,000	µg/m ³	ND (<0.76)			ND (<1.0)			ND (<1.0)			ND (<0.85)			ND (<1.1)			ND (<1.1)		
Hexane	730,000	3,100,000	µg/m ³	ND (<0.68)			ND (<0.65)			ND (<0.68)			ND (<0.76)			ND (<0.70)			ND (<0.70)		
2-Hexanone	31,000	130,000	µg/m ³	ND (<1.4)			ND (<0.40)			ND (<0.42)			ND (<1.6)			ND (<0.43)			ND (<0.43)		
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.38)			ND (<0.56)			ND (<0.58)			ND (<0.42)			ND (<0.60)			ND (<0.60)		
Isopropyl Alcohol (2-Propanol)	210,000	880,000	µg/m ³	57			22			ND (<0.78)			12			ND (<0.80)			ND (<0.81)		
Methyl Ethyl Ketone (2-Butanone)	5,200,000	22,000,000	µg/m ³	ND (<2.2)			ND (<1.8)			ND (<1.9)			ND (<2.4)			ND (<1.9)			26		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	3,100,000	13,000,000	µg/m ³	ND (<0.64)			ND (<0.99)			ND (<1.0)			ND (<0.71)			ND (<1.0)			ND (<1.1)		
Methyl <i>tert</i> -Butyl Ether (MTBE)	11,000	47,000	µg/m ³	ND (<0.92)			ND (<0.78)			ND (<0.82)			ND (<1.0)			ND (<0.84)			ND (<0.85)		
Propylbenzene	990,000	4,500,000	µg/m ³	ND (<0.29)			ND (<0.83)			ND (<0.86)			ND (<0.32)			ND (<0.88)			ND (<0.89)		
Propylene	3,100,000	13,000,000	µg/m ³	ND (<1.4)			ND (<0.52)			ND (<0.54)			ND (<1.5)			ND (<0.55)			ND (<0.56)		
Tetrachloroethene (PCE)	460	2,000	µg/m ³	95			140			310			120			240			91		
Tetrahydrofuran	2,100,000	8,800,000	µg/m ³	ND (<0.67)			ND (<0.60)			ND (<0.63)			ND (<0.74)			ND (<0.65)			ND (<0.65)		
Toluene	310,000	1,300,000	µg/m ³	ND (<0.95)			ND (<0.39)			ND (<0.41)			ND (<1.0)			ND (<0.42)			ND (<0.42)		
1,1,1-Trichloroethane	1,000,000	4,400,000	µg/m ³	ND (<0.69)			ND (<0.43)			ND (<0.45)			ND (<0.76)			ND (<0.46)			ND (<0.47)		
Trichloroethene (TCE)	480	3,000	µg/m ³	ND (<0.71)			ND (<0.79)			ND (<0.82)			ND (<0.78)			ND (<0.84)			ND (<0.85)		
Trichlorofluoromethane (Freon 11)	1,300,000	5,300,000	µg/m ³	ND (<0.67)			ND (<1.2)			ND (<1.3)			ND (<0.75)			7.8			ND (<1.3)		
1,2,4-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<1.9)			ND (<0.58)			ND (<0.60)			ND (<2.1)			ND (<0.62)			ND (<0.62)		
1,3,5-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<0.80)			ND (<1.0)			ND (<1.1)			ND (<0.88)			ND (<1.1)			ND (<1.1)		
<i>m</i> - & <i>p</i> -Xylenes	100,000	440,000	µg/m ³	ND (<2.5)			ND (<1.0)			ND (<1.0)			ND (<2.8)			ND (<1.1)			ND (<1.1)		
<i>o</i> -Xylene	100,000	440,000	µg/m ³	ND (<1.2)			ND (<1.1)			ND (<1.1)			ND (<1.3)			ND (<1.2)			ND (<1.2)		
TPH - Gasoline	600,000 ^(b)	2,500,000 ^(b)	µg/m ³	ND (<430)			ND (<420)			ND (<430)			ND (<470)			ND (<440)			ND (<450)		

TABLE 4-4. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.001 ATTENUATION FACTOR)
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Analyte	Location ID			VW55A			VW56A			VW57A			VW58A			VW59A			VW60A		
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason
Acetone	32,000,000	140,000,000	µg/m ³	ND (<2.4)			ND (<1.8)			ND (<1.8)			27			ND (<2.4)			ND (<2.4)		
Benzene	97	420	µg/m ³	3.2			ND (<0.25)			ND (<0.25)			ND (<0.66)			ND (<0.61)			4.7		
Bromodichloromethane (BDCM)	76	330	µg/m ³	ND (<1.0)			ND (<1.4)			ND (<1.3)			ND (<1.1)			ND (<1.0)			ND (<1.0)		
tert-Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<0.85)			ND (<1.2)			ND (<1.1)			ND (<0.92)			ND (<0.85)			ND (<0.85)		
Carbon Disulfide	730,000	3,100,000	µg/m ³	ND (<1.2)			ND (<3.1)			ND (<3.0)			ND (<1.3)			ND (<1.2)			ND (<1.2)		
Chloroform	120	530	µg/m ³	ND (<0.42)			ND (<0.61)			ND (<0.60)			ND (<0.46)			ND (<0.42)			ND (<0.42)		
Cumene (Isopropylbenzene)	420,000	1,800,000	µg/m ³	ND (<0.62)			ND (<0.66)			ND (<0.65)			ND (<0.68)			ND (<0.62)			ND (<0.62)		
Cyclohexane	6,300,000	26,000,000	µg/m ³	5.4			ND (<0.78)			ND (<0.76)			ND (<0.62)			ND (<0.57)			ND (<0.57)		
Dichlorodifluoromethane (Freon 12)	100,000	440,000	µg/m ³	ND (<0.79)			ND (<0.94)			ND (<0.92)			7.0			7.5			7.7		
cis-1,2-Dichloroethene (cDCE)	8,300	35,000	µg/m ³	ND (<1.4)			ND (<0.75)			ND (<0.74)			ND (<1.6)			ND (<1.4)			ND (<1.4)		
1,2-Dichloropropane	760	3,300	µg/m ³	ND (<1.1)			ND (<1.6)	UJ 5A		ND (<1.6)	UJ 5A		ND (<1.2)			ND (<1.1)			ND (<1.1)		
Ethanol	NE	NE	µg/m ³	36			ND (<2.2)	UJ 2A-		ND (<2.1)	UJ 2A-		ND (<2.6)			22			ND (<2.4)		
Ethylbenzene	1,100	4,900	µg/m ³	10			ND (<0.77)			ND (<0.75)			6.9			4.4			ND (<1.1)		
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	10			ND (<1.3)			ND (<1.3)			ND (<1.1)			ND (<1.0)			ND (<1.0)		
n-Heptane	420,000	1,800,000	µg/m ³	ND (<0.99)			ND (<0.77)			ND (<0.76)			ND (<1.1)			ND (<0.99)			ND (<0.99)		
Hexane	730,000	3,100,000	µg/m ³	670			ND (<0.69)			9.5			700			150			420		
2-Hexanone	31,000	130,000	µg/m ³	ND (<0.40)			ND (<1.5)			ND (<1.4)			ND (<0.43)			ND (<0.40)			ND (<0.40)		
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.55)			ND (<0.38)			ND (<0.37)			ND (<0.60)			ND (<0.55)			ND (<0.55)		
Isopropyl Alcohol (2-Propanol)	210,000	880,000	µg/m ³	ND (<0.74)			ND (<0.70)			12			ND (<0.81)			ND (<0.74)			ND (<0.74)		
Methyl Ethyl Ketone (2-Butanone)	5,200,000	22,000,000	µg/m ³	ND (<1.8)			ND (<2.2)			ND (<2.2)			ND (<2.0)			ND (<1.8)			ND (<1.8)		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	3,100,000	13,000,000	µg/m ³	ND (<0.98)			ND (<0.65)			ND (<0.64)			4.7			ND (<0.98)			ND (<0.98)		
Methyl tert-Butyl Ether (MTBE)	11,000	47,000	µg/m ³	ND (<0.78)			ND (<0.93)			ND (<0.91)			ND (<0.85)			ND (<0.78)			ND (<0.78)		
Propylbenzene	990,000	4,500,000	µg/m ³	ND (<0.82)			ND (<0.29)			ND (<0.28)			ND (<0.89)			ND (<0.82)			ND (<0.82)		
Propylene	3,100,000	13,000,000	µg/m ³	ND (<0.82)			ND (<1.4)			ND (<1.3)			ND (<0.56)			ND (<0.82)			ND (<0.51)		
Tetrachloroethene (PCE)	460	2,000	µg/m ³	ND (<1.1)			31			92			160			100			96		
Tetrahydrofuran	2,100,000	8,800,000	µg/m ³	ND (<0.60)			ND (<0.67)			ND (<0.66)			ND (<0.65)			ND (<0.60)			ND (<0.60)		
Toluene	310,000	1,300,000	µg/m ³	32			ND (<0.96)			ND (<0.94)			9.4			14			7.0		
1,1,1-Trichloroethane	1,000,000	4,400,000	µg/m ³	ND (<0.43)			ND (<0.70)			ND (<0.68)			ND (<0.47)			ND (<0.43)			ND (<0.43)		
Trichloroethene (TCE)	480	3,000	µg/m ³	ND (<0.78)			ND (<0.71)			ND (<0.70)			ND (<0.85)			ND (<0.78)			ND (<0.78)		
Trichlorofluoromethane (Freon 11)	1,300,000	5,300,000	µg/m ³	ND (<1.2)			ND (<0.68)			ND (<0.67)			ND (<1.3)			ND (<1.2)			ND (<1.2)		
1,2,4-Trimethylbenzene	63,000	260,000	µg/m ³	10			ND (<1.9)			ND (<1.9)			ND (<0.62)			ND (<0.57)			ND (<0.57)		
1,3,5-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<1.0)			ND (<0.80)			ND (<0.79)			ND (<1.1)			ND (<1.0)			ND (<1.0)		
m- & p-Xylenes	100,000	440,000	µg/m ³	40			ND (<2.5)			ND (<2.4)			24			16			9.8		
o-Xylene	100,000	440,000	µg/m ³	14			ND (<1.2)			ND (<1.2)			10			6.1			4.6		
TPH - Gasoline	600,000 ^(b)	2,500,000 ^(b)	µg/m ³	1,300			ND (<430)			ND (<420)			1,200			ND (<410)			940		

TABLE 4-4. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.001 ATTENUATION FACTOR)
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Analyte	Location ID			VW61A			VW63A			VW64A			VW65A			VW66A			SVM-1		
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason	Result	QA	Reason
Acetone	32,000,000	140,000,000	µg/m ³	40			34			ND (<2.4)			54			ND (<2.5)			ND (<410)		
Benzene	97	420	µg/m ³	ND (<0.66)			ND (<0.63)			ND (<0.62)			16			8.1			ND (<100)		
Bromodichloromethane (BDCM)	76	330	µg/m ³	15			ND (<1.0)			10			ND (<1.1)			ND (<1.1)			ND (<170)		
tert-Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<0.92)			ND (<0.88)			ND (<0.86)			ND (<0.90)			ND (<0.89)			ND (<150)		
Carbon Disulfide	730,000	3,100,000	µg/m ³	ND (<1.3)			ND (<1.3)			ND (<1.2)			15			14			ND (<210)		
Chloroform	120	530	µg/m ³	240			13			220			ND (<0.45)			ND (<0.44)			ND (<73)		
Cumene (Isopropylbenzene)	420,000	1,800,000	µg/m ³	ND (<0.68)			ND (<0.65)			ND (<0.64)			ND (<0.67)			ND (<0.66)			ND (<110)		
Cyclohexane	6,300,000	26,000,000	µg/m ³	ND (<0.62)			ND (<0.59)			ND (<0.58)			9.8			ND (<0.60)			ND (<99)		
Dichlorodifluoromethane (Freon 12)	100,000	440,000	µg/m ³	6.3			11			12			ND (<0.84)			ND (<0.83)			ND (<140)		
cis-1,2-Dichloroethene (cDCE)	8,300	35,000	µg/m ³	ND (<1.6)			ND (<1.5)			ND (<1.5)			ND (<1.5)			5.0			53,000		
1,2-Dichloropropane	760	3,300	µg/m ³	ND (<1.2)			ND (<1.2)			ND (<1.1)			ND (<1.2)			ND (<1.2)			820		
Ethanol	NE	NE	µg/m ³	ND (<2.6)			ND (<2.4)			20			ND (<2.5)			ND (<2.5)			ND (<410)		
Ethylbenzene	1,100	4,900	µg/m ³	7.7			ND (<1.2)			5.8			4.8			ND (<1.2)			ND (<200)		
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	ND (<1.1)			ND (<1.0)			5.6			ND (<1.1)			ND (<1.1)			ND (<170)		
n-Heptane	420,000	1,800,000	µg/m ³	ND (<1.1)			ND (<1.0)			ND (<1.0)			19			ND (<1.0)			ND (<170)		
Hexane	730,000	3,100,000	µg/m ³	300			190			170			190			100			ND (<110)		
2-Hexanone	31,000	130,000	µg/m ³	ND (<0.43)			ND (<0.41)			ND (<0.40)			ND (<0.42)			ND (<0.42)			ND (<69)		
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.60)			ND (<0.58)			ND (<0.56)			100			42			ND (<96)		
Isopropyl Alcohol (2-Propanol)	210,000	880,000	µg/m ³	ND (<0.81)			22			9.9	J 6G		12			ND (<0.78)			ND (<130)		
Methyl Ethyl Ketone (2-Butanone)	5,200,000	22,000,000	µg/m ³	ND (<2.0)			ND (<1.9)			ND (<1.8)			ND (<1.9)			ND (<1.9)			ND (<310)		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	3,100,000	13,000,000	µg/m ³	ND (<1.1)			ND (<1.0)			ND (<1.0)			ND (<1.0)			ND (<1.0)			ND (<170)		
Methyl tert-Butyl Ether (MTBE)	11,000	47,000	µg/m ³	ND (<0.85)			ND (<0.81)			ND (<0.80)			ND (<0.83)			ND (<0.82)			ND (<140)		
Propylbenzene	990,000	4,500,000	µg/m ³	ND (<0.89)			ND (<0.86)			ND (<0.84)			ND (<0.88)			ND (<0.87)			ND (<140)		
Propylene	3,100,000	13,000,000	µg/m ³	ND (<0.56)			ND (<0.53)			ND (<0.52)			15			ND (<0.54)			ND (<89)		
Tetrachloroethene (PCE)	460	2,000	µg/m ³	120			14			300			96			190			330,000		
Tetrahydrofuran	2,100,000	8,800,000	µg/m ³	ND (<0.65)			ND (<0.63)			ND (<0.61)			ND (<0.64)			3.4			ND (<100)		
Toluene	310,000	1,300,000	µg/m ³	11			ND (<0.41)			16			37			10			ND (<68)		
1,1,1-Trichloroethane	1,000,000	4,400,000	µg/m ³	ND (<0.47)			ND (<0.45)			ND (<0.44)			ND (<0.46)			ND (<0.45)			ND (<75)		
Trichloroethene (TCE)	480	3,000	µg/m ³	ND (<0.85)			ND (<0.81)			ND (<0.80)			ND (<0.83)			ND (<0.82)			18,000		
Trichlorofluoromethane (Freon 11)	1,300,000	5,300,000	µg/m ³	ND (<1.3)			ND (<1.3)			ND (<1.2)			ND (<1.3)			ND (<1.3)			ND (<210)		
1,2,4-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<0.62)			ND (<0.60)			6.4			ND (<0.61)			ND (<0.60)			ND (<99)		
1,3,5-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<1.1)			ND (<1.1)			ND (<1.0)			ND (<1.1)			ND (<1.1)			ND (<180)		
m- & p-Xylenes	100,000	440,000	µg/m ³	19			5.5			18			10			ND (<1.1)			ND (<180)		
o-Xylene	100,000	440,000	µg/m ³	9.4			ND (<1.1)			7.4			4.7			ND (<1.2)			ND (<190)		
TPH - Gasoline	600,000 ^(b)	2,500,000 ^(b)	µg/m ³	860			570			570			2,000			610			ND (<72,000)		

TABLE 4-4. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.001 ATTENUATION FACTOR)
(Page 10 of 11)

Analyte	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	SVM-2			SVM-3		
				Result	QA	Reason	Result	QA	Reason
Location ID				SVM-2			SVM-3		
Sampling Date/Time				07/29/2021 14:12			07/29/2021 12:55		
Sample Depth (feet)				5			4		
Sample Type				N			N		
Field Sample ID				SG-SVM2A-01			SG-SVM3A-01		
Lab Sample ID				2107684-03A			2107684-05A		
Status				Validated			Validated		
Acetone	32,000,000	140,000,000	µg/m ³	160			ND (<2.5)		
Benzene	97	420	µg/m ³	ND (<0.66)			ND (<0.63)		
Bromodichloromethane (BDCM)	76	330	µg/m ³	ND (<1.1)			ND (<1.0)		
<i>tert</i> -Butyl Alcohol (TBA)	NE	NE	µg/m ³	ND (<0.92)			ND (<0.88)		
Carbon Disulfide	730,000	3,100,000	µg/m ³	ND (<1.3)			ND (<1.3)		
Chloroform	120	530	µg/m ³	ND (<0.46)			ND (<0.44)		
Cumene (Isopropylbenzene)	420,000	1,800,000	µg/m ³	ND (<0.68)			ND (<0.65)		
Cyclohexane	6,300,000	26,000,000	µg/m ³	ND (<0.62)			ND (<0.59)		
Dichlorodifluoromethane (Freon 12)	100,000	440,000	µg/m ³	ND (<0.86)			ND (<0.82)		
<i>cis</i>-1,2-Dichloroethene (cDCE)	8,300	35,000	µg/m ³	ND (<1.6)			ND (<1.5)		
1,2-Dichloropropane	760	3,300	µg/m ³	ND (<1.2)			ND (<1.2)		
Ethanol	NE	NE	µg/m ³	ND (<2.6)			ND (<2.4)		
Ethylbenzene	1,100	4,900	µg/m ³	ND (<1.2)			ND (<1.2)		
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	ND (<1.1)			ND (<1.0)		
n-Heptane	420,000	1,800,000	µg/m ³	ND (<1.1)			ND (<1.0)		
Hexane	730,000	3,100,000	µg/m ³	ND (<0.70)			ND (<0.68)		
2-Hexanone	31,000	130,000	µg/m ³	ND (<0.43)			ND (<0.41)		
Isooctane (2,2,4-Trimethylpentane)	NE	NE	µg/m ³	ND (<0.60)			ND (<0.58)		
Isopropyl Alcohol (2-Propanol)	210,000	880,000	µg/m ³	29			ND (<0.77)		
Methyl Ethyl Ketone (2-Butanone)	5,200,000	22,000,000	µg/m ³	ND (<2.0)			ND (<1.9)		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	3,100,000	13,000,000	µg/m ³	ND (<1.1)			ND (<1.0)		
Methyl <i>tert</i> -Butyl Ether (MTBE)	11,000	47,000	µg/m ³	ND (<0.85)			ND (<0.81)		
Propylbenzene	990,000	4,500,000	µg/m ³	ND (<0.89)			ND (<0.86)		
Propylene	3,100,000	13,000,000	µg/m ³	40			ND (<0.53)		
Tetrachloroethene (PCE)	460	2,000	µg/m ³	96			590		
Tetrahydrofuran	2,100,000	8,800,000	µg/m ³	ND (<0.65)			ND (<0.63)		
Toluene	310,000	1,300,000	µg/m ³	ND (<0.42)			ND (<0.41)		
1,1,1-Trichloroethane	1,000,000	4,400,000	µg/m ³	ND (<0.47)			ND (<0.45)		
Trichloroethene (TCE)	480	3,000	µg/m ³	ND (<0.85)			ND (<0.81)		
Trichlorofluoromethane (Freon 11)	1,300,000	5,300,000	µg/m ³	ND (<1.3)			ND (<1.3)		
1,2,4-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<0.62)			ND (<0.60)		
1,3,5-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<1.1)			ND (<1.1)		
<i>m</i> - & <i>p</i> -Xylenes	100,000	440,000	µg/m ³	ND (<1.1)			ND (<1.0)		
<i>o</i> -Xylene	100,000	440,000	µg/m ³	ND (<1.2)			ND (<1.1)		
TPH - Gasoline	600,000 ^(b)	2,500,000 ^(b)	µg/m ³	ND (<450)			ND (<430)		

TABLE 4-4. CURRENT INVESTIGATION ANALYTES DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.001 ATTENUATION FACTOR)
(Page 11 of 11)

Notes:

Only analytes detected in one or more samples are shown. Results for leak-check compound 1,1-difluoroethane are presented in Appendix C.

Analytes detected above one or both SVSLs are shown in **bold**.

Concentrations detected above the laboratory MDL are shown in **bold**.

For non-detects, the value in parentheses corresponds to the laboratory MDL.

Sample depths are referenced to the top of soil (bottom of pavement).

 Concentration exceeds residential SVSL.

 Concentration exceeds residential and commercial/industrial SVSL.

 **ND (<MDL)** Black inversed cell indicates a non-detect with a laboratory MDL exceeding the commercial/industrial SVSL and/or residential SVSL.

^(a) Unless noted otherwise, SVSLs were derived by dividing the HERO HHRA Note 3 residential and commercial/industrial ambient air screening levels (DTSC 2020) by a 0.001 soil vapor attenuation factor (DTSC, 2011).

^(b) SVSL derived by dividing the SF RWQCB residential or commercial/industrial indoor air screening levels (SWRCB, 2019) by a 0.001 soil vapor attenuation factor (DTSC, 2011).

< = less than

µg/m³ = micrograms per cubic meter

DTSC = California Department of Toxic Substances Control

FD = field duplicate sample

FR = field replicate sample

HERO = Human and Ecological Risk Office

HHRA = human health risk assessment

ID = identification

MDL = method detection limit

N = normal sample

ND = not detected above the laboratory MDL

QA = quality assurance data validation qualifier

RL = reporting limit

SF RWQCB = San Francisco Bay Regional Water Quality Control Board

SVSL = soil vapor screening level

SWRCB = California State Water Resources Control Board

TPH = total petroleum hydrocarbons

Data Validation Qualifier Definitions:

J = estimated result

J- = estimated result; potential low bias

UJ = estimated result; analyte not detected at the indicated value

Data Validation Reason Code Definitions:

2A- = Low laboratory control sample recovery

2A+ = High laboratory control sample recovery

3D = Field duplicate imprecision

3E = Field replicate imprecision

4D = Leak check compound greater than 10 times the lowest RL; potential leak

5A = Initial calibration did not meet method requirement

5B- = Low continuing calibration recovery

5F = Estimated concentration. Potential concerns for the measurement of acrolein using Method TO-15.

6E = Detected above the calibration range

6G = Reported between the laboratory MDL and RL

TABLE 4-5. CURRENT INVESTIGATION ANALYTES DETECTED IN SUB-SLAB VAPOR COMPARED TO SOIL VAPOR SCREENING LEVELS (0.03 ATTENUATION FACTOR)
(Page 1 of 2)

Analyte	Location			Garage Building		Garage Building		Garage Building		Shops Building		Shops Building		HazMat Building		Tool Issue Building		Salvage Building	
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA Reason	Result	QA Reason	Result	QA Reason	Result	QA Reason	Result	QA Reason	Result	QA Reason	Result	QA Reason	Result	QA Reason
Acetone	1,100,000	4,700,000	µg/m ³	ND (<2.4)		ND (<2.4)		ND (<2.4)		ND (<2.4)		ND (<2.5)		ND (<2.4)		56		ND (<2.5)	
Carbon Disulfide	24,000	100,000	µg/m ³	ND (<1.2)		ND (<1.2)		ND (<1.2)		ND (<1.2)		ND (<1.3)		ND (<1.2)		ND (<1.2)		32	
Ethanol	NE	NE	µg/m ³	ND (<2.4)		ND (<2.4)		22		ND (<2.4)		30		ND (<2.4)		ND (<2.4)		44	
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	ND (<1.0)		ND (<1.0)		8.3		ND (<1.0)		ND (<1.1)		ND (<1.0)		ND (<1.0)		ND (<1.0)	
Hexane	24,000	100,000	µg/m ³	77	J 3D	54	J 3D	97		50		75		58		ND (<0.65)		120	
Isopropyl Alcohol (2-Propanol)	7,000	29,000	µg/m ³	ND (<0.76)		ND (<0.76)		ND (<0.74)		ND (<0.76)		31		13		26		20	
Propylene	100,000	430,000	µg/m ³	ND (<0.52)		ND (<0.52)		8.2		ND (<0.52)		ND (<0.54)		ND (<0.52)		6.8	J 6G	ND (<0.53)	
Tetrachloroethene (PCE)	15	67	µg/m ³	9.4		9.7		63		ND (<1.1)		300		72		750		23	
Tetrahydrofuran	70,000	290,000	µg/m ³	ND (<0.61)		ND (<0.61)		ND (<0.60)		ND (<0.61)		4.6		ND (<0.61)		ND (<0.60)		ND (<0.63)	
Toluene	10,000	43,000	µg/m ³	ND (<0.40)		ND (<0.40)		7.7		ND (<0.40)		4.3		ND (<0.40)		4.2		5.2	
Trichloroethene (TCE)	16	100	µg/m ³	ND (<0.80)		ND (<0.80)		ND (<0.78)		ND (<0.80)		ND (<0.83)		ND (<0.80)		21		ND (<0.81)	
Trichlorofluoromethane (Freon 11)	43,000	180,000	µg/m ³	ND (<1.2)		ND (<1.2)		ND (<1.2)		ND (<1.2)		ND (<1.3)		ND (<1.2)		33		ND (<1.3)	
1,2,4-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<0.58)		ND (<0.58)		10		ND (<0.58)		ND (<0.61)		ND (<0.58)		ND (<0.57)		ND (<0.60)	
<i>m</i> - & <i>p</i> -Xylenes	3,300	15,000	µg/m ³	4.8		5.5		15		5.5		7.5		6.7		5.8		9.5	
<i>o</i> -Xylene	3,300	15,000	µg/m ³	ND (<1.1)		ND (<1.1)		7.1		ND (<1.1)		ND (<1.2)		ND (<1.1)		ND (<1.1)		ND (<1.1)	
TPH - Gasoline	20,000 ^(b)	83,000 ^(b)	µg/m ³	ND (<420)		ND (<420)		530		ND (<420)		490		ND (<420)		ND (<410)		490	

TABLE 4-5. CURRENT INVESTIGATION ANALYTES DETECTED IN SUB-SLAB VAPOR COMPARED TO SOIL VAPOR SCREENING LEVELS (0.03 ATTENUATION FACTOR)
(Page 2 of 2)

Notes:

Only analytes detected in one or more samples are shown. Results for leak check compound 1,1-difluoroethane are presented in Appendix C.

Analytes detected above one or both SVSLs are shown in **bold**.

Concentrations detected above the laboratory MDL are shown in **bold**.

For non-detects, the value in parentheses corresponds to the laboratory MDL.

 Concentration exceeds residential SVSL.

 Concentration exceeds residential and commercial/industrial SVSL.

^(a) Unless noted otherwise, SVSLs were derived by dividing the HERO HHRA Note 3 residential and commercial/industrial ambient air screening levels (DTSC 2020) by a 0.03 soil vapor attenuation factor (CalEPA, 2020).

^(b) SVSL derived by dividing the SF RWQCB residential or commercial/industrial indoor air screening levels (SWRCB, 2019) by a 0.03 soil vapor attenuation factor (CalEPA, 2020).

< = less than

µg/m³ = micrograms per cubic meter

CalEPA = California Environmental Protection Agency

DTSC = California Department of Toxic Substances Control

FD = field duplicate sample

HERO = Human and Ecological Risk Office

HHRA = human health risk assessment

ID = identification

MDL = method detection limit

N = normal sample

ND = not detected above the laboratory MDL

QA = quality assurance data validation qualifier

RL = reporting limit

SF RWQCB = San Francisco Bay Regional Water Quality Control Board

SVSL = soil vapor screening level

SWRCB = California State Water Resources Control Board

TPH = total petroleum hydrocarbons

Data Validation Qualifier Definitions:

J = estimated result

Data Validation Reason Code Definitions:

3D = field duplicate imprecision

6G = reported between the laboratory MDL and RL

TABLE 4-6. CURRENT INVESTIGATION ANALYTES DETECTED IN SUB-SLAB VAPOR COMPARED TO SOIL VAPOR SCREENING LEVELS (0.001 ATTENUATION FACTOR)
(Page 1 of 2)

Analyte	Location			Garage Building		Garage Building		Garage Building		Shops Building		Shops Building		HazMat Building		Tool Issue Building		Salvage Building	
	Residential SVSL ^(a)	Commercial/ Industrial SVSL ^(a)	Units	Result	QA Reason	Result	QA Reason	Result	QA Reason	Result	QA Reason	Result	QA Reason	Result	QA Reason	Result	QA Reason	Result	QA Reason
Acetone	32,000,000	140,000,000	µg/m ³	ND (<2.4)		ND (<2.4)		ND (<2.4)		ND (<2.4)		ND (<2.5)		ND (<2.4)		56		ND (<2.5)	
Carbon Disulfide	730,000	3,100,000	µg/m ³	ND (<1.2)		ND (<1.2)		ND (<1.2)		ND (<1.2)		ND (<1.3)		ND (<1.2)		ND (<1.2)		32	
Ethanol	NE	NE	µg/m ³	ND (<2.4)		ND (<2.4)		22		ND (<2.4)		30		ND (<2.4)		ND (<2.4)		44	
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	NE	NE	µg/m ³	ND (<1.0)		ND (<1.0)		8.3		ND (<1.0)		ND (<1.1)		ND (<1.0)		ND (<1.0)		ND (<1.0)	
Hexane	730,000	3,100,000	µg/m ³	77	J 3D	54	J 3D	97		50		75		58		ND (<0.65)		120	
Isopropyl Alcohol (2-Propanol)	210,000	880,000	µg/m ³	ND (<0.76)		ND (<0.76)		ND (<0.74)		ND (<0.76)		31		13		26		20	
Propylene	3,100,000	13,000,000	µg/m ³	ND (<0.52)		ND (<0.52)		8.2		ND (<0.52)		ND (<0.54)		ND (<0.52)		6.8	J 6G	ND (<0.53)	
Tetrachloroethene (PCE)	460	2,000	µg/m ³	9.4		9.7		63		ND (<1.1)		300		72		750		23	
Tetrahydrofuran	2,100,000	8,800,000	µg/m ³	ND (<0.61)		ND (<0.61)		ND (<0.60)		ND (<0.61)		4.6		ND (<0.61)		ND (<0.60)		ND (<0.63)	
Toluene	310,000	1,300,000	µg/m ³	ND (<0.40)		ND (<0.40)		7.7		ND (<0.40)		4.3		ND (<0.40)		4.2		5.2	
Trichloroethene (TCE)	480	3,000	µg/m ³	ND (<0.80)		ND (<0.80)		ND (<0.78)		ND (<0.80)		ND (<0.83)		ND (<0.80)		21		ND (<0.81)	
Trichlorofluoromethane (Freon 11)	1,300,000	5,300,000	µg/m ³	ND (<1.2)		ND (<1.2)		ND (<1.2)		ND (<1.2)		ND (<1.3)		ND (<1.2)		33		ND (<1.3)	
1,2,4-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<0.58)		ND (<0.58)		10		ND (<0.58)		ND (<0.61)		ND (<0.58)		ND (<0.57)		ND (<0.60)	
<i>m</i> - & <i>p</i> -Xylenes	100,000	440,000	µg/m ³	4.8		5.5		15		5.5		7.5		6.7		5.8		9.5	
<i>o</i> -Xylene	100,000	440,000	µg/m ³	ND (<1.1)		ND (<1.1)		7.1		ND (<1.1)		ND (<1.2)		ND (<1.1)		ND (<1.1)		ND (<1.1)	
TPH - Gasoline	600,000 ^(b)	2,500,000 ^(b)	µg/m ³	ND (<420)		ND (<420)		530		ND (<420)		490		ND (<420)		ND (<410)		490	

TABLE 4-6. CURRENT INVESTIGATION ANALYTES DETECTED IN SUB-SLAB VAPOR COMPARED TO SOIL VAPOR SCREENING LEVELS (0.001 ATTENUATION FACTOR)
(Page 2 of 2)

Notes:

Only analytes detected in one or more samples are shown. Results for leak check compound 1,1-difluoroethane are presented in Appendix C.

Analytes detected above one or both SVSLs are shown in **bold**.

Concentrations detected above the laboratory MDL are shown in **bold**.

For non-detects, the value in parentheses corresponds to the laboratory MDL.

 Concentration exceeds residential SVSL.

 Concentration exceeds residential and commercial/industrial SVSL.

^(a) Unless noted otherwise, SVSLs were derived by dividing the HERO HHRA Note 3 residential and commercial/industrial ambient air screening levels (DTSC 2020) by a 0.001 soil vapor attenuation factor (DTSC, 2011).

^(b) SVSL derived by dividing the SF RWQCB residential or commercial/industrial indoor air screening levels (SWRCB, 2019) by a 0.001 soil vapor attenuation factor (DTSC, 2011).

< = less than

µg/m³ = micrograms per cubic meter

DTSC = California Department of Toxic Substances Control

FD = field duplicate sample

HERO = Human and Ecological Risk Office

HHRA = human health risk assessment

ID = identification

MDL = method detection limit

N = normal sample

ND = not detected above the laboratory MDL

QA = quality assurance data validation qualifier

RL = reporting limit

SF RWQCB = San Francisco Bay Regional Water Quality Control Board

SVSL = soil vapor screening level

SWRCB = California State Water Resources Control Board

TPH = total petroleum hydrocarbons

Data Validation Qualifier Definitions:

J = estimated result

Data Validation Reason Code Definitions:

3D = field duplicate imprecision

6G = reported between the laboratory MDL and RL

TABLE 4-7. CURRENT INVESTIGATION ANALYTES DETECTED IN SEWER GAS COMPARED TO SCREENING LEVELS (0.03 ATTENUATION FACTOR)
(Page 1 of 2)

		Location ID	Building F (Inside)	Building H (Outside)	Building H (Outside)	Building H (Inside)	Building J (Outside)						
		Sampling Date/Time	7/15/2021 10:31	7/15/2021 9:32	7/15/2021 9:32	7/15/2021 10:20	7/15/2021 10:44						
		Sample Type	N	N	FD	N	N						
		Field Sample ID	F-SEW-01P	H-SEW-01P	H-SEW-02P	H-SEW-03P	J-SEW-01P						
		Lab Sample ID	0005847-02	0005847-03	0005847-04	0005847-06	0005847-05						
		Status	<i>Not Validated</i>	<i>Not Validated</i>	<i>Not Validated</i>	<i>Not Validated</i>	<i>Not Validated</i>						
Analyte	Residential SL ^(a)	Commercial/ Industrial SL ^(a)	Units	Result	QA Reason	Result	QA Reason	Result	QA Reason	Result	QA Reason	Result	QA Reason
Benzene	3.2	14	µg/m ³	5.06		2.02	J	2.57	J	2.22	J	3.32	J
Chloroform	4.0	18	µg/m ³	ND (<1.39)		ND (<1.41)		ND (<1.41)		1.54	J	9.81	
Ethylbenzene	37	160	µg/m ³	ND (<1.15)		ND (<1.16)		ND (<1.16)		1.41	J	ND (<1.15)	
Tetrachloroethene (PCE)	15	67	µg/m ³	ND (<1.19)		1.28	J	1.74	J	ND (<1.20)		ND (<1.20)	
Toluene	10,000	43,000	µg/m ³	ND (<2.44)		ND (<2.46)		3.06	J	21.1		ND (<2.45)	
1,2,4-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<1.18)		3.62		4.72		1.22	J	ND (<1.18)	
1,3,5-Trimethylbenzene	2,100	8,700	µg/m ³	ND (<1.18)		2.46	J	3.10		ND (<1.19)		ND (<1.18)	
<i>m</i> - & <i>p</i> -Xylenes	3,300	15,000	µg/m ³	ND (<1.11)		1.16	J	1.67	J	5.75		ND (<1.11)	
<i>o</i> -Xylene	3,300	15,000	µg/m ³	ND (<1.11)		ND (<1.12)		1.32	J	4.91		ND (<1.11)	

TABLE 4-7. CURRENT INVESTIGATION ANALYTES DETECTED IN SEWER GAS COMPARED TO SCREENING LEVELS (0.03 ATTENUATION FACTOR)
(Page 2 of 2)

Notes:

Only analytes detected in one or more samples are shown.

Analytes detected above one or both SLs are shown in **bold**.

Concentrations detected above the laboratory LOD are shown in **bold**.

For non-detects, the value in parentheses corresponds to the laboratory LOD.

Sample dates and times are the passive sampler retrieval dates and times.

 Concentration exceeds residential SL.

 Concentration exceeds residential and commercial/industrial SL.

^(a) SLs were derived by dividing the HERO HHRA Note 3 residential and commercial/industrial ambient air screening levels (DTSC 2020) by a 0.03 attenuation factor (CalEPA, 2020).

< = less than

µg/m³ = micrograms per cubic meter

CalEPA = California Environmental Protection Agency

DTSC = California Department of Toxic Substances Control

FD = field duplicate sample

HERO = Human and Ecological Risk Office

HHRA = human health risk assessment

ID = identification

LOD = limit of detection

N = normal sample

ND = not detected above the laboratory LOD

QA = quality assurance data validation qualifier

SL = screening level

Laboratory Qualifier Definitions:

J = estimated concentration

TABLE 4-8. CURRENT INVESTIGATION ANALYTES DETECTED IN SEWER GAS COMPARED TO SCREENING LEVELS (0.001 ATTENUATION FACTOR)
(Page 1 of 2)

		Location ID	Building F (Inside)	Building H (Outside)	Building H (Outside)	Building H (Inside)	Building J (Outside)						
		Sampling Date/Time	7/15/2021 10:31	7/15/2021 9:32	7/15/2021 9:32	7/15/2021 10:20	7/15/2021 10:44						
		Sample Type	N	N	FD	N	N						
		Field Sample ID	F-SEW-01P	H-SEW-01P	H-SEW-02P	H-SEW-03P	J-SEW-01P						
		Lab Sample ID	0005847-02	0005847-03	0005847-04	0005847-06	0005847-05						
		Status	<i>Not Validated</i>	<i>Not Validated</i>	<i>Not Validated</i>	<i>Not Validated</i>	<i>Not Validated</i>						
Analyte	Residential SL ^(a)	Commercial/ Industrial SL ^(a)	Units	Result	QA Reason	Result	QA Reason	Result	QA Reason	Result	QA Reason	Result	QA Reason
Benzene	97	420	µg/m ³	5.06		2.02	J	2.57	J	2.22	J	3.32	J
Chloroform	120	530	µg/m ³	ND (<1.39)		ND (<1.41)		ND (<1.41)		1.54	J	9.81	
Ethylbenzene	1,100	4,900	µg/m ³	ND (<1.15)		ND (<1.16)		ND (<1.16)		1.41	J	ND (<1.15)	
Tetrachloroethene (PCE)	460	2,000	µg/m ³	ND (<1.19)		1.28	J	1.74	J	ND (<1.20)		ND (<1.20)	
Toluene	310,000	1,300,000	µg/m ³	ND (<2.44)		ND (<2.46)		3.06	J	21.1		ND (<2.45)	
1,2,4-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<1.18)		3.62		4.72		1.22	J	ND (<1.18)	
1,3,5-Trimethylbenzene	63,000	260,000	µg/m ³	ND (<1.18)		2.46	J	3.10		ND (<1.19)		ND (<1.18)	
<i>m</i> - & <i>p</i> -Xylenes	100,000	440,000	µg/m ³	ND (<1.11)		1.16	J	1.67	J	5.75		ND (<1.11)	
<i>o</i> -Xylene	100,000	440,000	µg/m ³	ND (<1.11)		ND (<1.12)		1.32	J	4.91		ND (<1.11)	

TABLE 4-8. CURRENT INVESTIGATION ANALYTES DETECTED IN SEWER GAS COMPARED TO SCREENING LEVELS (0.001 ATTENUATION FACTOR)
(Page 2 of 2)

Notes:

Only analytes detected in one or more samples are shown.

No analytes were detected above SLs.

Concentrations detected above the laboratory LOD are shown in **bold**.

For non-detects, the value in parentheses corresponds to the laboratory LOD.

Sample dates and times are the passive sampler retrieval dates and times.

^(a) SLs were derived by dividing the HERO HHRA Note 3 residential and commercial/industrial ambient air screening levels (DTSC 2020) by a 0.001 attenuation factor (DTSC, 2011).

< = less than

µg/m³ = micrograms per cubic meter

DTSC = California Department of Toxic Substances Control

FD = field duplicate sample

HERO = Human and Ecological Risk Office

HHRA = human health risk assessment

ID = identification

LOD = limit of detection

N = normal sample

ND = not detected above the laboratory LOD

QA = quality assurance data validation qualifier

SL = screening level

Laboratory Qualifier Definitions:

J = estimated concentration

TABLE 5-1. FALL/WINTER 2020/2021 AND SUMMER 2021 MAXIMUM ANALYTE CONCENTRATIONS DETECTED IN SOIL GAS
(Page 1 of 2)

Analyte	Maximum Concentration (µg/m ³)		Location ID of Maximum Concentration		Sample Depth of Maximum Concentration (feet)		No. Detections/ Total No. of Samples		No. Locations/ Total No. Locations Sampled	
	Fall/Winter 2020/2021	Summer 2021	Fall/Winter 2020/2021	Summer 2021	Fall/Winter 2020/2021	Summer 2021	Fall/Winter 2020/2021	Summer 2021	Fall/Winter 2020/2021	Summer 2021
Acetone	460	260	VW26	VW48	5.5	14.5	98/110	51/117	45/47	37/55
<i>tert</i> -Amyl Methyl Ether (TAME)	7.9	ND	VW34	NA	14.5	NA	1/110	0/117	1/47	0/55
Benzene	2,500	22 J-	VW57	VW32	14.5	14.5	53/110	12/117	36/47	10/55
Bromodichloromethane (BDCM)	60	43	VW30	VW30	14.5	5.5	9/110	7/117	5/47	4/55
<i>tert</i> -Butyl Alcohol (TBA)	13	38 J	VW34	VW47	14.5	5.5	17/110	5/117	11/47	5/55
Carbon Disulfide	300	150	VW34	VW46	5.5	14.5	89/110	12/117	45/47	11/55
Carbon Tetrachloride	9.4	9.1 J-	VW17	VW17	14.5	14.5	5/110	1/117	3/47	1/55
Chlorobenzene (Benzyl Chloride)	6.1	340 J-	VW32	VW47	14.5	14.5	1/110	1/117	1/47	1/55
Chloroform	1,400	1,500	VW30	VW30	5.5	5.5	67/110	40/117	40/47	22/55
Chloromethane	1.5	ND	SVM-3	NA	14	NA	3/110	NA	2/47	NA
Cumene (Isopropylbenzene)	ND	14	NA	VW49	NA	14.5	NA	2/117	NA	1/55
Cyclohexane	120,000	34	VW57	VW37	14.5	5.5	7/110	12/117	5/47	11/55
1,2-Dibromoethane (Ethylene Dibromide)	24	ND	VW24	NA	14.5	NA	8/110	NA	8/47	NA
Dibromomethane	13	ND	VW30	NA	14.5	NA	2/110	NA	2/47	NA
1,4-Dichlorobenzene	2.6	ND	VW46, VW56	NA	14.5	NA	2/110	NA	2/47	NA
Dichlorodifluoromethane (Freon 12)	57	67 J-	VW52	VW19	14.5	14.5	84/110	31/117	40/47	19/55
1,2-Dichloroethane	7.9	ND	VW34	NA	14.5	NA	6/115	NA	6/47	NA
<i>cis</i> -1,2-Dichloroethene (cDCE)	47,000	53,000	SVM-1	SVM-1	4	4	7/115	3/117	4/47	2/55
<i>trans</i> -1,2-Dichloroethene	200	ND	SVM-1	NA	4	NA	2/115	NA	1/47	NA
1,2-Dichloropropane	600	820	SVM-1	SVM-1	4	4	1/110	1/117	1/47	1/55
1,1-Difluoroethane	11	LC	VW50	NA	5.5	NA	2/110	NA	1/47	NA
1,4-Dioxane	ND	80	NA	VW46	NA	14.5	NA	1/117	NA	1/55
Ethanol	160	62	VW56	VW16	14.5	14.5	69/110	20/117	39/47	17/55
Ethyl Acetate	ND	41	NA	VW26	NA	14.5	NA	1/117	NA	1/55
Ethylbenzene	220	65 J-	VW57	VW32	14.5	14.5	76/110	21/117	44/47	19/55
1-Ethyl-4-Methylbenzene (4-Ethyltoluene)	53	80 J-	VW16	VW32	5.5	14.5	63/110	18/117	41/47	16/55
Ethyl <i>tert</i> -Butyl Ether (ETBE)	7.3	ND	VW34	NA	14.5	NA	1/110	NA	1/47	NA
n-Heptane	16,000	34	VW57	VW37	14.5	5.5	24/110	5/117	20/47	4/55
Hexane	76,000	4,300 J	VW57	VW35	14.5	5.5	11/110	37/117	8/47	24/55
2-Hexanone	3.9	0.72 J-	VW50	VW21	14.5	5.5	2/110	1/117	2/47	1/55
Isooctane (2,2,4-Trimethylpentane)	89	100	VW20	VW65	14.5	5.5	24/110	8/117	20/47	5/55
Isopropyl Alcohol (2-Propanol)	LC	92	NA	VW43	NA	5.5	NA	48/117	NA	35/55
Methyl Ethyl Ketone (2-Butanone)	180	26	VW26	VW53	5.5	5.5	73/110	3/117	41/47	2/55
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	95	790 J-	VW26	VW20	5.5	14.5	44/110	5/117	35/47	5/55
Methyl <i>tert</i> -Butyl Ether (MTBE)	4.4	38	VW34	VW37	14.5	5.5	3/110	1/117	3/47	1/55
Naphthalene	70	11 J-	VW48	VW56	5.5	14.5	18/110	1/117	12/47	1/55
Propylbenzene	ND	17 J-	NA	VW32	NA	14.5	NA	5/117	NA	4/55
Propylene	110	69	VW18	VW48	5.5	14.5	3/110	7/117	3/47	7/55
Styrene	310	ND	VW42	NA	5.5	NA	11/110	NA	10/47	NA
Tetrachloroethene (PCE)	1,200,000	330,000	SVM-1	SVM-1	4	4	107/115	108/117	46/47	53/55
1,1,1,2-Tetrafluoroethane	23	ND	VW17	NA	5.5	NA	2/110	NA	2/47	NA
Tetrahydrofuran	64	9.6 J	VW26	VW15	5.5	23.5	60/110	3/117	41/47	3/55
Toluene	11,000	110	VW57	VW26	14.5	14.5	103/110	39/117	46/47	29/55
1,1,1-Trichloroethane	9.4	6.0 J-	VW21	VW21	14.5	5.5	12/115	2/117	8/47	1/55
Trichloroethene (TCE)	16,000	18,000	SVM-1	SVM-1	4	4	35/115	13/117	21/47	9/55
Trichlorofluoromethane (Freon 11)	10	14 J-	VW52	VW19	14.5	14.5	61/110	6/117	33/47	3/55
1,2,3-Trichloropropane	5.3	ND	VW17	NA	14.5	NA	2/110	NA	2/47	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	3.1	ND	VW34	NA	5.5	NA	5/110	NA	3/47	NA

TABLE 5-1. FALL/WINTER 2020/2021 AND SUMMER 2021 MAXIMUM ANALYTE CONCENTRATIONS DETECTED IN SOIL GAS
(Page 2 of 2)

Analyte	Maximum Concentration ($\mu\text{g}/\text{m}^3$)		Location ID of Maximum Concentration		Sample Depth of Maximum Concentration (feet)		No. Detections/ Total No. of Samples		No. Locations/ Total No. Locations Sampled	
	Fall/Winter 2020/2021	Summer 2021	Fall/Winter 2020/2021	Summer 2021	Fall/Winter 2020/2021	Summer 2021	Fall/Winter 2020/2021	Summer 2021	Fall/Winter 2020/2021	Summer 2021
1,2,4-Trimethylbenzene	160	66 J-	VW48	VW32	5.5	14.5	77/110	19/117	43/47	17/55
1,3,5-Trimethylbenzene	32	29 J-	VW48	VW32	5.5	14.5	58/110	6/117	35/47	5/55
Vinyl Acetate	4.8	ND	VW24	NA	14.5	NA	2/110	NA	2/47	NA
<i>m</i> - & <i>p</i> -Xylenes	420	200 J-	VW57	VW32	14.5	14.5	91/110	30/117	45/47	24/55
<i>o</i> -Xylene	75	64 J-	VW16	VW32	5.5	14.5	81/110	24/117	44/47	20/55
TPH - Gasoline	1,900,000	7,800	VW57	VW35	14.5	5.5	110/110	24/117	47/47	19/55

Notes:

Sample depths are referenced to the top of soil (bottom of pavement).

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

ID = identification

J = estimated concentration

J- = estimated concentration; potential low bias

NA = not applicable

ND = not detected

No. = number

TPH = total petroleum hydrocarbons

TABLE 5-2. FALL/WINTER 2020/2021 AND SUMMER 2021 MAXIMUM COC CONCENTRATIONS DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.03 ATTENUATION FACTOR)
 (Page 1 of 1)

Analyte	Maximum Concentration (µg/m ³)		Location ID of Maximum Concentration		Residential SVSL ^(a) (µg/m ³)	Comparison to Residential SVSLs				Commercial/Industrial SVSL ^(a) (µg/m ³)	Comparison to Commercial/Industrial SVSLs			
	Fall/Winter 2020/2021	Summer 2021	Fall/Winter 2020/2021	Summer 2021		No. Samples Exceeding Goal/ Total No. of Samples		No. Locations Exceeding Goal/ Total No. Locations Sampled			No. Samples Exceeding Goal/ Total No. of Samples		No. Locations Exceeding Goal/ Total No. Locations Sampled	
						Fall/Winter 2020/2021	Summer 2021	Fall/Winter 2020/2021	Summer 2021		Fall/Winter 2020/2021	Summer 2021	Fall/Winter 2020/2021	Summer 2021
Benzene	39	16	VW27	VW65	3.2	23/57	5/56	22/45	5/51	14	7/57	1/56	7/45	1/51
Bromodichloromethane (BDCM)	24	43	VW30	VW30	2.5	2/57	3/56	2/45	3/51	11	2/57	2/56	2/45	2/51
Chloroform	1,400	1,500	VW30	VW30	4.0	18/57	14/56	15/45	13/51	18	4/57	6/56	3/45	6/51
1,2-Dibromoethane (Ethylene Dibromide)	5.1 J	ND	VW19	NA	0.16	3/57	0/56	3/45	0/51	0.67	3/57	0/56	3/45	0/51
cis-1,2-Dichloroethene (cDCE)	35,000	53,000	SVM-1	SVM-1	280	1/57	1/56	1/45	1/51	1,200	1/57	1/56	1/45	1/51
1,2-Dichloropropane	600 J	820	SVM-1	SVM-1	25	1/57	1/56	1/45	1/51	110	1/57	1/56	1/45	1/51
Ethylbenzene	66	49	VW16	VW37	37	6/57	1/56	6/45	1/51	160	0/57	0/56	0/45	0/51
Naphthalene	70	ND	VW48	NA	2.8	11/57	0/56	8/45	0/51	12	2/57	0/56	2/45	0/51
Tetrachloroethene (PCE)	320,000	330,000	SVM-1	SVM-1	15	40/57	47/56	31/45	43/51	67	18/57	33/56	13/45	31/51
Toluene	9,700	92	VW32	VW37	10,000	0/57	0/56	0/45	0/51	43,000	0/57	0/56	0/45	0/51
Trichloroethene (TCE)	15,000	18,000	SVM-1	SVM-1	16	1/57	3/56	1/45	2/51	100	1/57	1/56	1/45	1/51

Notes:

Shallow soil gas samples collected from a depth of 5.5 feet, except samples from vapor wells SVM-1 through SVM-3, which were collected at a depth of 4 to 5 feet.

µg/m³ = micrograms per cubic meter

CalEPA = California Environmental Protection Agency

COC = chemical of concern

DTSC = Department of Toxic Substances Control

HERO = Human and Ecological Risk Office

HHRA = human health risk assessment

J = estimated concentration

NA = not applicable

ND = not detected

No. = number

SVSL = soil vapor screening level



One or more samples with analyte concentration exceeding residential SVSL with the number of samples in **bold**.

One or more samples with analyte concentration exceeding commercial/industrial SVSL with the number of samples in **bold**.

Goal Compliance:

^(a) Unless noted otherwise, SVSLs were derived by dividing the HERO HHRA Note 3 residential and commercial/industrial ambient air screening levels (DTSC, 2020) by a 0.03 soil vapor attenuation factor (CalEPA, 2020).

TABLE 5-3. FALL/WINTER 2020/2021 AND SUMMER 2021 MAXIMUM COC CONCENTRATIONS DETECTED IN SHALLOW SOIL GAS COMPARED TO SOIL VAPOR SCREENING LEVELS (0.001 ATTENUATION FACTOR)
 (Page 1 of 1)

Analyte	Maximum Concentration (µg/m ³)		Location ID of Maximum Concentration		Residential SVSL ^(a) (µg/m ³)	Comparison to Residential SVSLs				Commercial/Industrial SVSL ^(a) (µg/m ³)	Comparison to Commercial/Industrial SVSLs			
	Fall/Winter 2020/2021	Summer 2021	Fall/Winter 2020/2021	Summer 2021		No. Samples Exceeding Goal/ Total No. of Samples		No. Locations Exceeding Goal/ Total No. Locations Sampled			No. Samples Exceeding Goal/ Total No. of Samples		No. Locations Exceeding Goal/ Total No. Locations Sampled	
						Fall/Winter 2020/2021	Summer 2021	Fall/Winter 2020/2021	Summer 2021		Fall/Winter 2020/2021	Summer 2021	Fall/Winter 2020/2021	Summer 2021
Benzene	39	16	VW27	VW65	97	0/57	0/56	0/45	0/51	420	0/57	0/56	0/45	0/51
Bromodichloromethane (BDCM)	24	43	VW30	VW30	76	0/57	0/56	0/45	0/51	330	0/57	0/56	0/45	0/51
Chloroform	1,400	1,500	VW30	VW30	120	2/57	4/56	1/45	4/51	530	2/57	1/56	1/45	1/51
1,2-Dibromoethane (Ethylene Dibromide)	5.1 J	ND	VW19	NA	4.7	1/57	0/56	1/45	0/51	20	0/57	0/56	0/45	0/51
cis-1,2-Dichloroethene (cDCE)	35,000	53,000	SVM-1	SVM-1	8,300	1/57	1/56	1/45	1/51	35,000	0/57	1/56	0/45	1/51
1,2-Dichloropropane	600 J	820	SVM-1	SVM-1	760	0/57	1/56	0/45	1/51	3,300	0/57	0/56	0/45	0/51
Ethylbenzene	66	49	VW16	VW37	1,100	0/57	0/56	0/45	0/51	4,900	0/57	0/56	0/45	0/51
Naphthalene	70	ND	VW48	NA	83	0/57	0/56	0/45	0/51	360	0/57	0/56	0/45	0/51
Tetrachloroethene (PCE)	320,000	330,000	SVM-1	SVM-1	460	2/57	3/56	2/45	3/51	2,000	1/57	1/56	1/45	1/51
Toluene	9,700	92	VW32	VW37	310,000	0/57	0/56	0/45	0/51	1,300,000	0/57	0/56	0/45	0/51
Trichloroethene (TCE)	15,000	18,000	SVM-1	SVM-1	480	1/57	1/56	1/45	1/51	3,000	1/57	1/56	1/45	1/51

Notes:

Shallow soil gas samples collected from a depth of 5.5 feet, except samples from vapor wells SVM-1 through SVM-3, which were collected at a depth of 4 to 5 feet.

µg/m³ = micrograms per cubic meter

COC = chemical of concern

DTSC = Department of Toxic Substances Control

HERO = Human and Ecological Risk Office

HHRA = human health risk assessment

J = estimated concentration

NA = not applicable

ND = not detected

No. = number

SVSL = soil vapor screening level



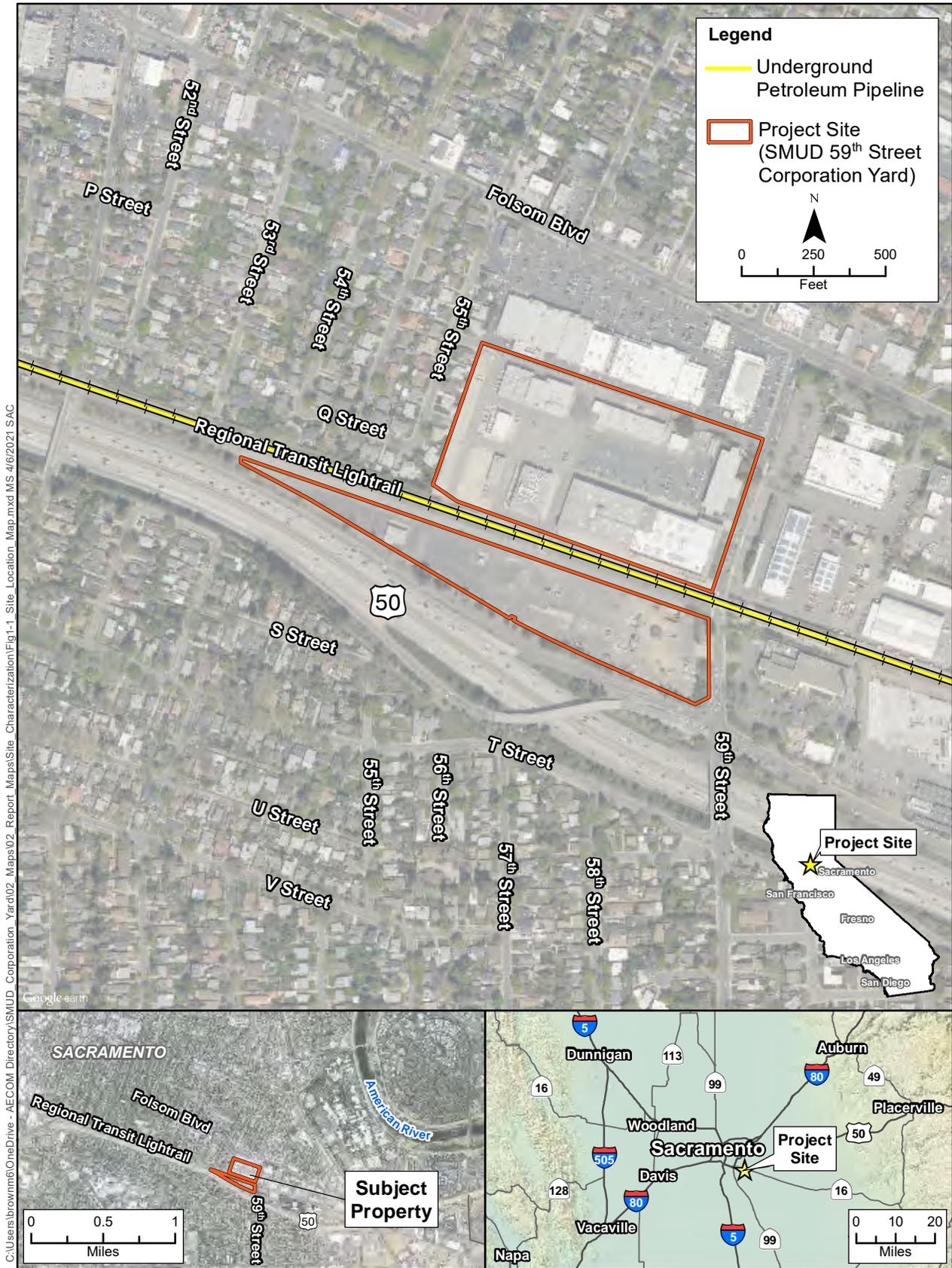
One or more samples with analyte concentration exceeding residential SVSL with the number of samples in **bold**.

One or more samples with analyte concentration exceeding commercial/industrial SVSL with the number of samples in **bold**.

Goal Compliance:

^(a) Unless noted otherwise, SVSLs were derived by dividing the HERO HHRA Note 3 residential and commercial/industrial ambient air screening levels (DTSC, 2020) by a 0.001 soil vapor attenuation factor (DTSC, 2011).

Figures



C:\Users\browmm6\OneDrive - AECOM\Directory\SMUD_Corporation_Yard\02_Maps\02_Report_Maps\Site_Characterization\Fig-1-1_Site_Location_Map.mxd MS 4/6/2021 SAC

Figure 1-1
Site Location Map



Legend

- Underground Petroleum Pipeline
- Site Boundary
- Assessor Parcel Boundary

008-0010-009 Assessor Parcel Number

Note:
 1. Only the first 10 digits of the 14-digit Assessor Parcel numbers are shown. The last four digits of each parcel are "-0000".

0 75 150
 Feet

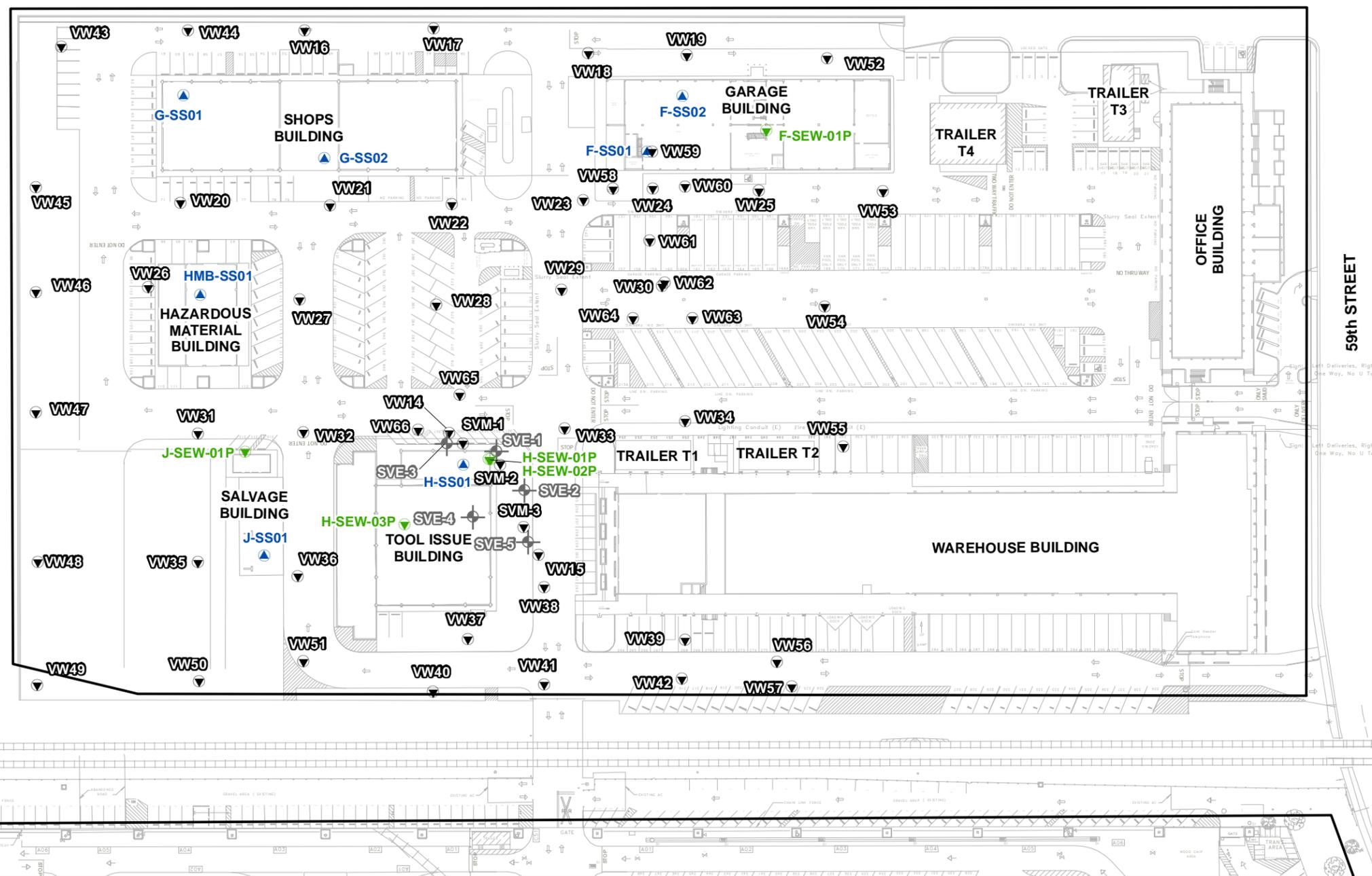
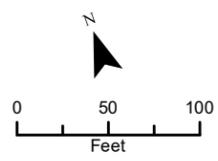
N

C:\Users\brownm6\OneDrive - AECOM\Directory\SMUD_Corporation_Yard\02_Maps\02_Report_Maps\Site_Characterization\Figure1-2_SMUD_SiteFeatures_Map.mxd MSB 5/4/2021 SAC

C:\Users\brownm6\OneDrive - AECOM\OneDrive - AECOM\Directory\SMUD_Corporation_Yard\02_Maps\02_Report_Maps\Site_Characterization\Adendum 2\Figure3-1_Current_Investigation_Sample_Locations.mxd MSB.9/7/2021_SAC

- Legend**
- ▼ Active Soil Gas Sample Location
 - ▲ Active Sub-Slab Vapor Sample Location
 - ▼ Passive Sewer Gas Sample Location (Approximate)
 - ⊕ Existing Soil Vapor Extraction Well (Not Sampled)
 - ▭ Site Boundary

- Notes:**
1. Vapor wells VW58 through VW66 were installed in 2021 as part of the current investigation. All other vapor wells were previously installed.
 2. All sub-slab vapor locations consist of vapor pins installed in 2021 as part of the current investigation.
 3. Passive sewer gas samples were collected from sewer cleanouts.
 4. "VW" active soil gas sample locations are dual-completion vapor wells with probes at 5.5 and 14.5 feet bgs, except VW14, VW15, and VW62.
 5. VW14, VW15, and VW62 are single-completion vapor wells with probes at 26, 23.5, and 25.5 feet bgs, respectively.
 6. SVM-1 and SVM-3 are dual-completion vapor wells with probes at 4 and 14 feet bgs.
 7. SVM-2 is a dual-completion vapor well with probes at 5 and 14 feet bgs.



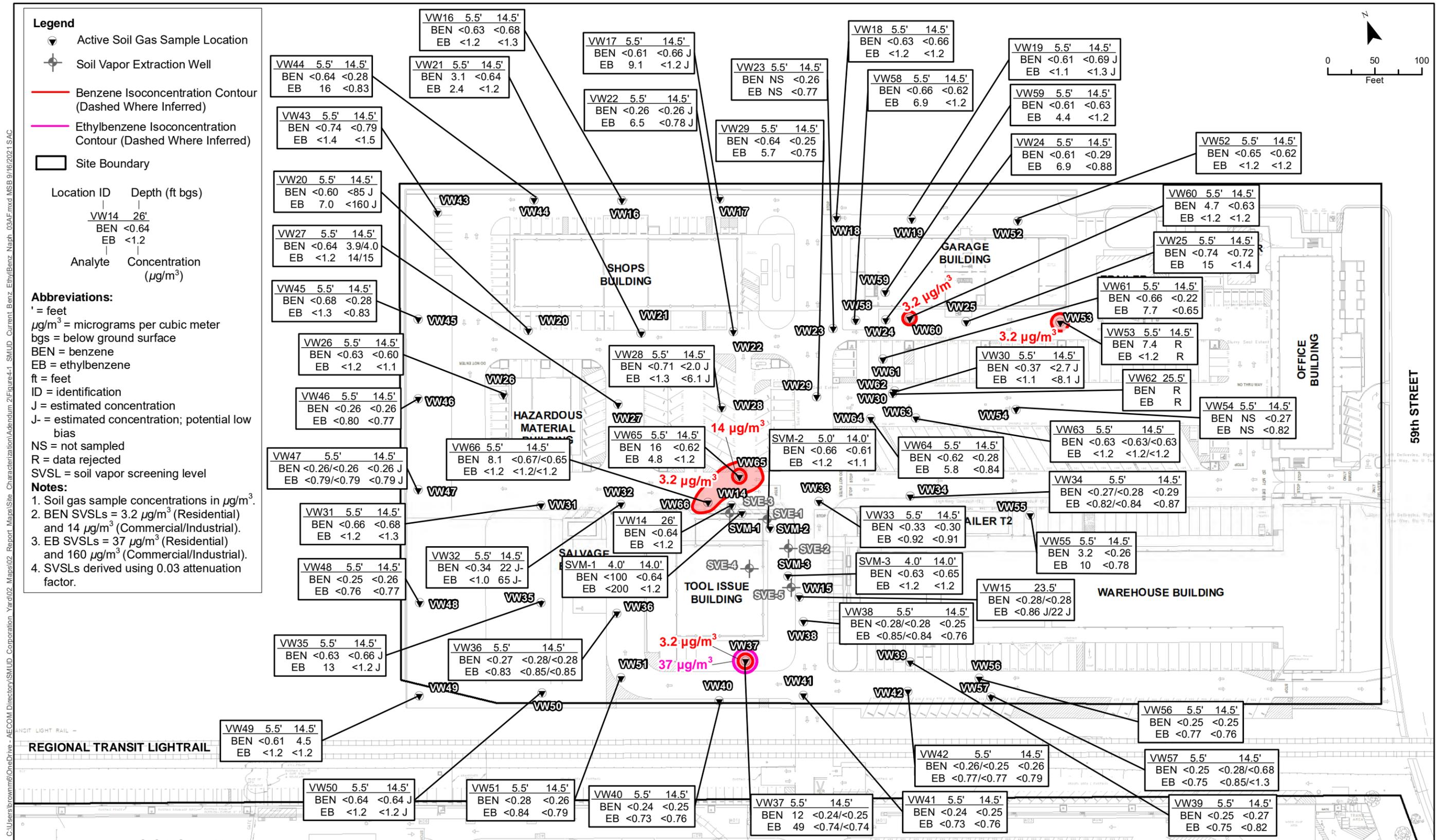


Figure 4-1
 Current Investigation Benzene and Ethylbenzene
 Concentrations in Soil Gas (0.03 Attenuation Factor)

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Legend

- ▼ Active Soil Gas Sample Location
- ⊕ Soil Vapor Extraction Well
- ▭ Site Boundary

Location ID	Depth (ft bgs)	Analyte	Concentration ($\mu\text{g}/\text{m}^3$)
VW14	26'	BEN	<0.64
		EB	<1.2
		BEN	<0.64
		EB	<1.2

Abbreviations:

- ' = feet
- $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
- bgs = below ground surface
- BEN = benzene
- EB = ethylbenzene
- ft = feet
- ID = identification
- J = estimated concentration
- = estimated concentration; potential low bias
- NS = not sampled
- R = data rejected
- SVSL = soil vapor screening level

Notes:

- Soil gas sample concentrations in $\mu\text{g}/\text{m}^3$.
- BEN SVSLs = 97 $\mu\text{g}/\text{m}^3$ (Residential) and 420 $\mu\text{g}/\text{m}^3$ (Commercial/Industrial).
- EB SVSLs = 1,100 $\mu\text{g}/\text{m}^3$ (Residential) and 4,900 $\mu\text{g}/\text{m}^3$ (Commercial/Industrial).
- SVSLs derived using 0.001 attenuation factor.
- BEN and EB were not detected in shallow soil gas (4.0'-5.5') at concentrations above SVSLs.

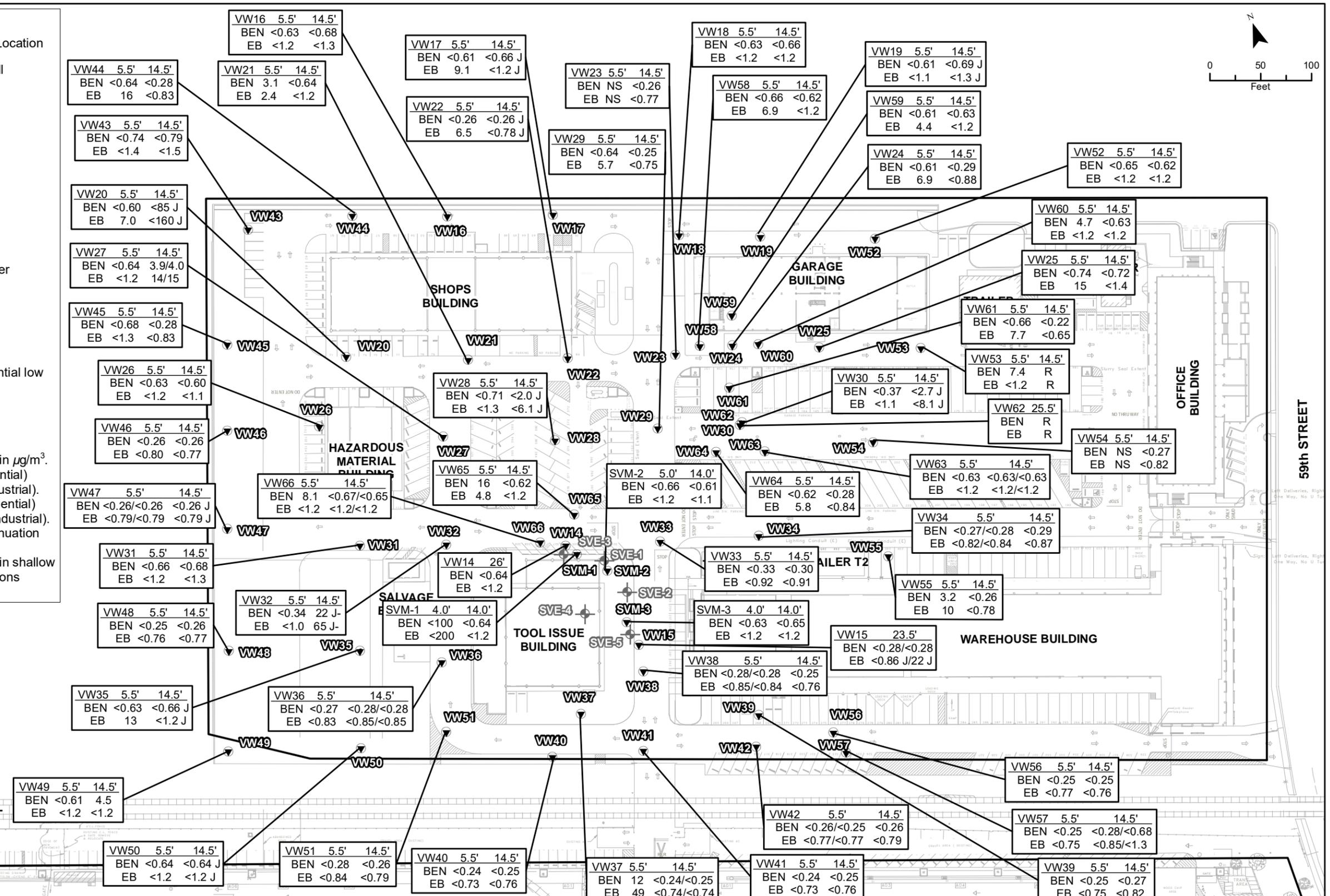
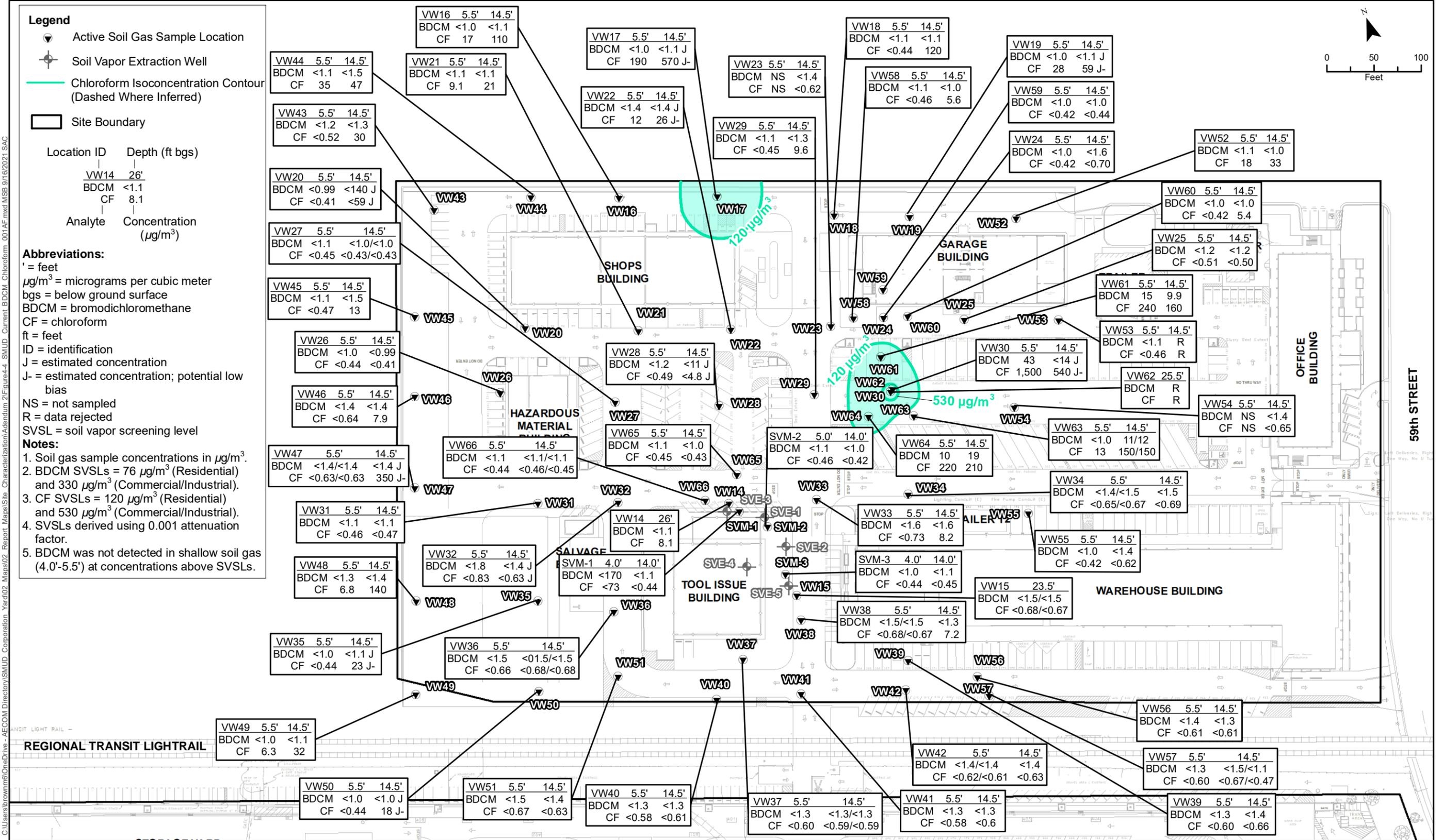


Figure 4-2
Current Investigation Benzene and Ethylbenzene
Concentrations in Soil Gas (0.001 Attenuation Factor)



C:\Users\brovm6\OneDrive - AECOM\Desktop\SMUD Corporation Yard\02_Maps\Site Characterization\Adendum 2\Figure 4-4 SMUD Current BDCM Chloroform_001AF.mxd MSB 9/16/2021.SAC

Legend

- Active Soil Gas Sample Location
- Soil Vapor Extraction Well
- Chloroform Isoconcentration Contour (Dashed Where Inferred)
- Site Boundary

Location ID	Depth (ft bgs)	Analyte	Concentration (µg/m³)
VW14	26'	BDCM	<1.1
		CF	8.1

Abbreviations:
 ' = feet
 µg/m³ = micrograms per cubic meter
 bgs = below ground surface
 BDCM = bromodichloromethane
 CF = chloroform
 ft = feet
 ID = identification
 J = estimated concentration
 J- = estimated concentration; potential low bias
 NS = not sampled
 R = data rejected
 SVSL = soil vapor screening level

Notes:
 1. Soil gas sample concentrations in µg/m³.
 2. BDCM SVSLs = 76 µg/m³ (Residential) and 330 µg/m³ (Commercial/Industrial).
 3. CF SVSLs = 120 µg/m³ (Residential) and 530 µg/m³ (Commercial/Industrial).
 4. SVSLs derived using 0.001 attenuation factor.
 5. BDCM was not detected in shallow soil gas (4.0'-5.5') at concentrations above SVSLs.

Legend

- Active Soil Gas Sample Location
- Soil Vapor Extraction Well
- cDCE Isoconcentration Contour
- PCE Isoconcentration Contour
- TCE Isoconcentration Contour
- Site Boundary

Location ID Depth (ft bgs)

VW14	26'
PCE	370
TCE	12
cDCE	<1.5

Analyte Concentration ($\mu\text{g}/\text{m}^3$)

Abbreviations:

- ' = feet
- $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
- bgs = below ground surface
- cDCE = cis-1,2-dichloroethene
- ft = feet
- ID = identification
- J = estimated concentration
- J- = estimated concentration; potential low bias
- NS = not sampled
- PCE = tetrachloroethene
- R = data rejected
- SVSL = soil vapor screening level
- TCE = trichloroethene

Notes:

- Soil gas sample concentrations in $\mu\text{g}/\text{m}^3$.
- PCE SVSLs = $15 \mu\text{g}/\text{m}^3$ (Residential) and $67 \mu\text{g}/\text{m}^3$ (Commercial/Industrial).
- TCE SVSLs = $16 \mu\text{g}/\text{m}^3$ (Residential) and $100 \mu\text{g}/\text{m}^3$ (Commercial/Industrial).
- cDCE SVSLs = $280 \mu\text{g}/\text{m}^3$ (Residential) and $1,200 \mu\text{g}/\text{m}^3$ (Commercial/Industrial).
- SVSLs derived using 0.03 attenuation factor.

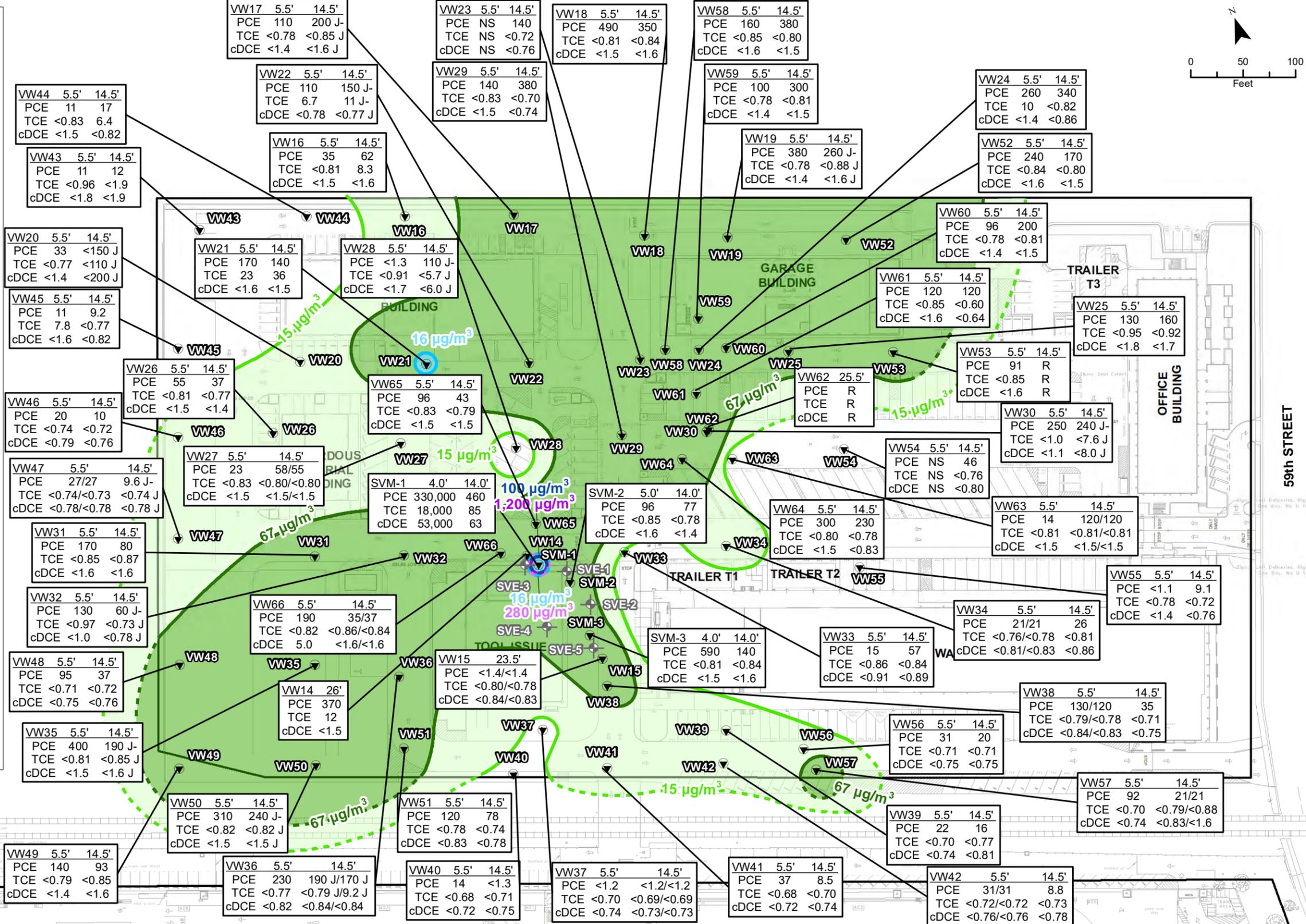


Figure 4-5
Current Investigation PCE, TCE, and cDCE
Concentrations in Soil Gas (0.03 Attenuation Factor)

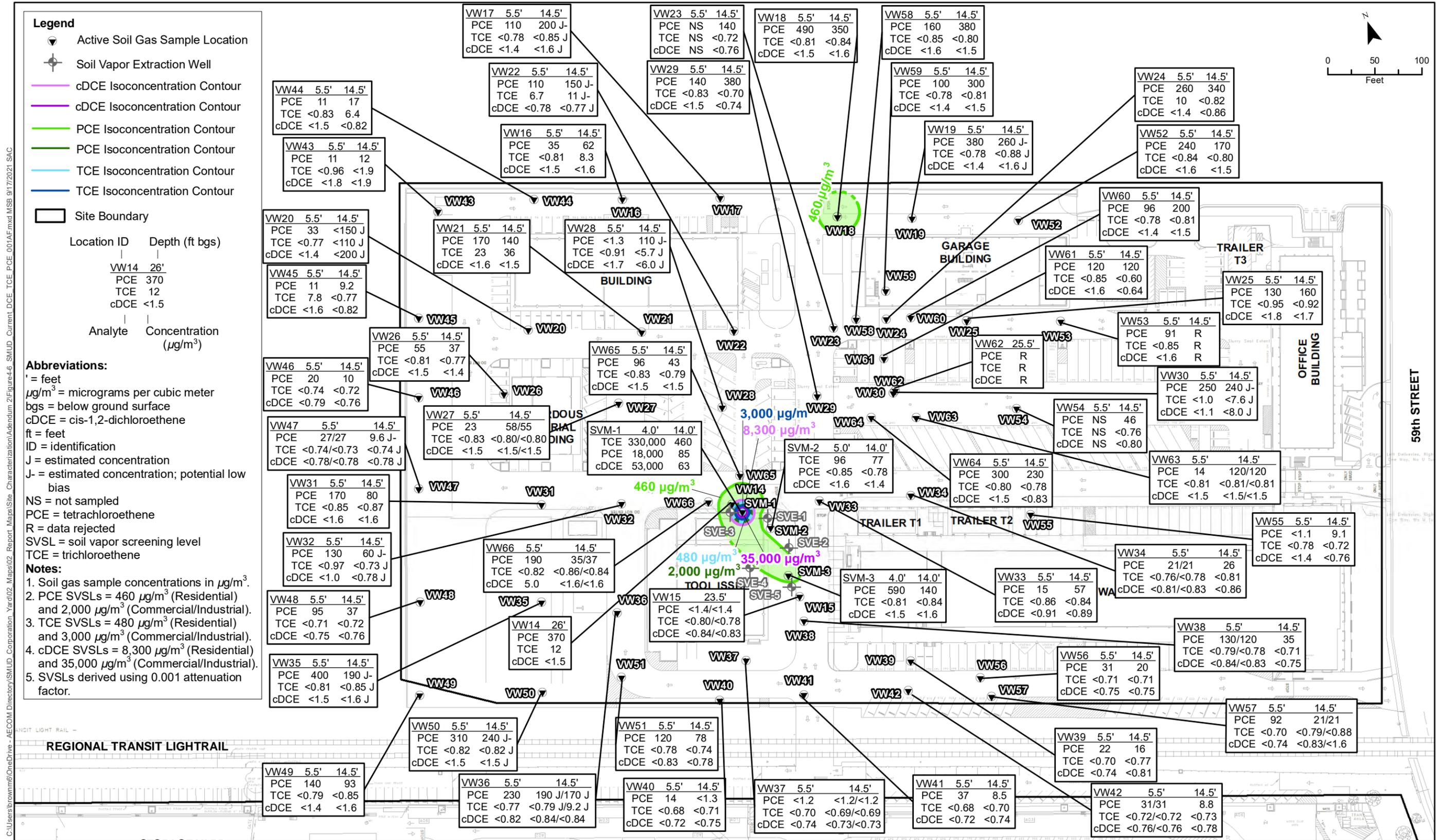


Figure 4-6
Current Investigation PCE, TCE, and cDCE Concentrations in Soil Gas (0.001 Attenuation Factor)

Legend

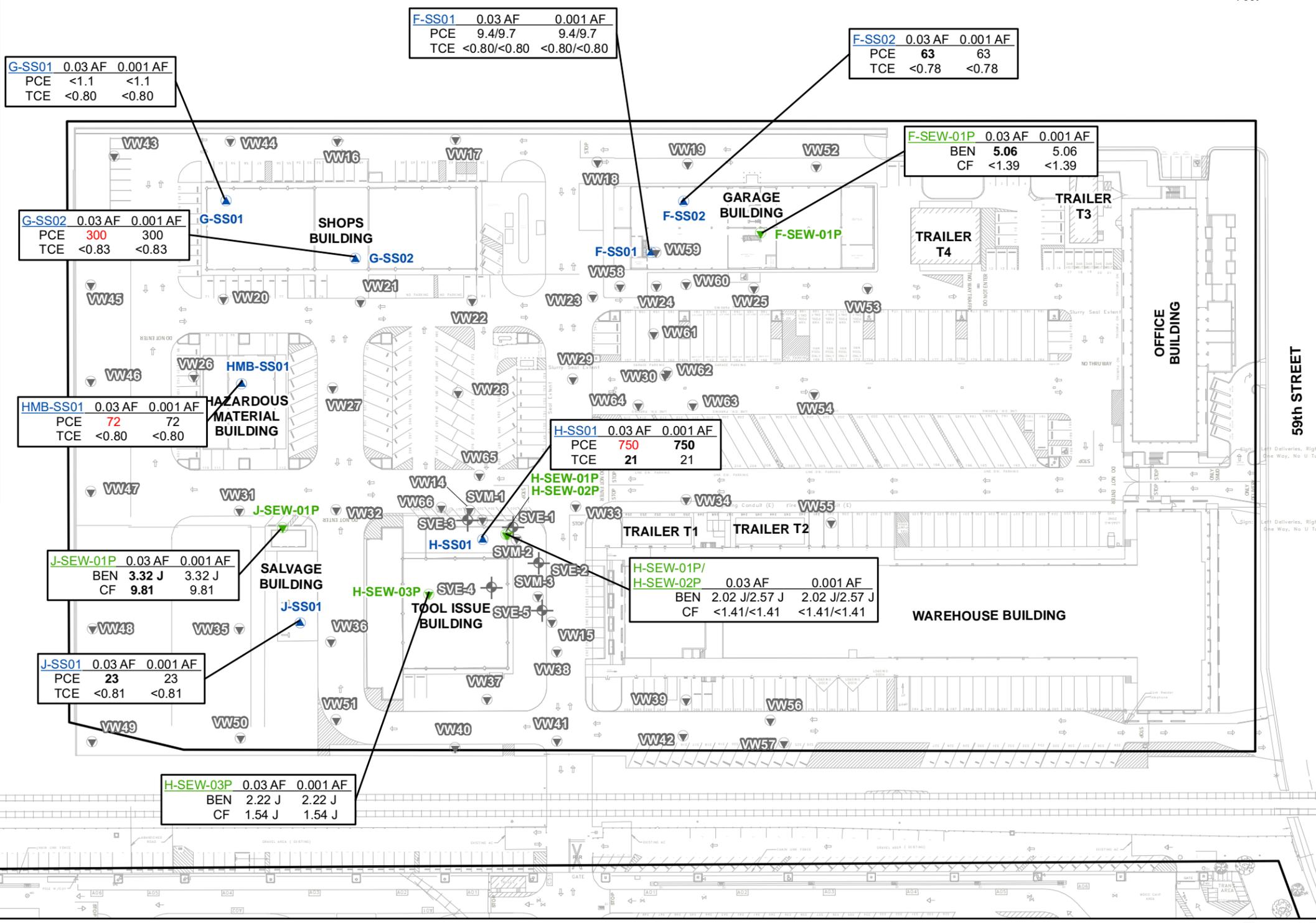
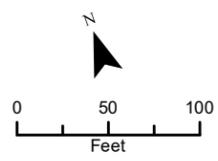
- ▲ Active Sub-Slab Vapor Sample Location
- ▼ Passive Sewer Gas Sample Location (Approximate)
- ▽ Active Soil Gas Sample Location
- ⊕ Soil Vapor Extraction Well
- Site Boundary

SLs for Sub-Slab Vapor and Sewer Gas

	0.03 AF		0.001 AF	
	Residential SVSL	Commercial/Industrial SVSL	Residential SVSL	Commercial/Industrial SVSL
BEN	3.2	14	97	420
CF	4.0	18	120	530
PCE	15	67	460	2,000
TCE	16	100	480	3,000

- Abbreviations:**
- $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 - AF = attenuation factor
 - BEN = benzene
 - CF = chloroform
 - J = estimated concentration
 - PCE = tetrachloroethene
 - SL = screening level
 - TCE = trichloroethene
 - VOC = volatile organic compound

- Notes:**
- Sub-slab vapor and sewer gas sample concentrations in $\mu\text{g}/\text{m}^3$.
 - Only analytes detected above one or more SLs are shown.
 - Concentrations in **bold** exceed residential SL.
 - Concentrations in **red** exceed commercial/industrial SL.



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Figure 4-7
Current Investigation VOC Concentrations Detected in Sub-Slab Vapor and Sewer Gas

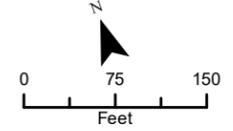
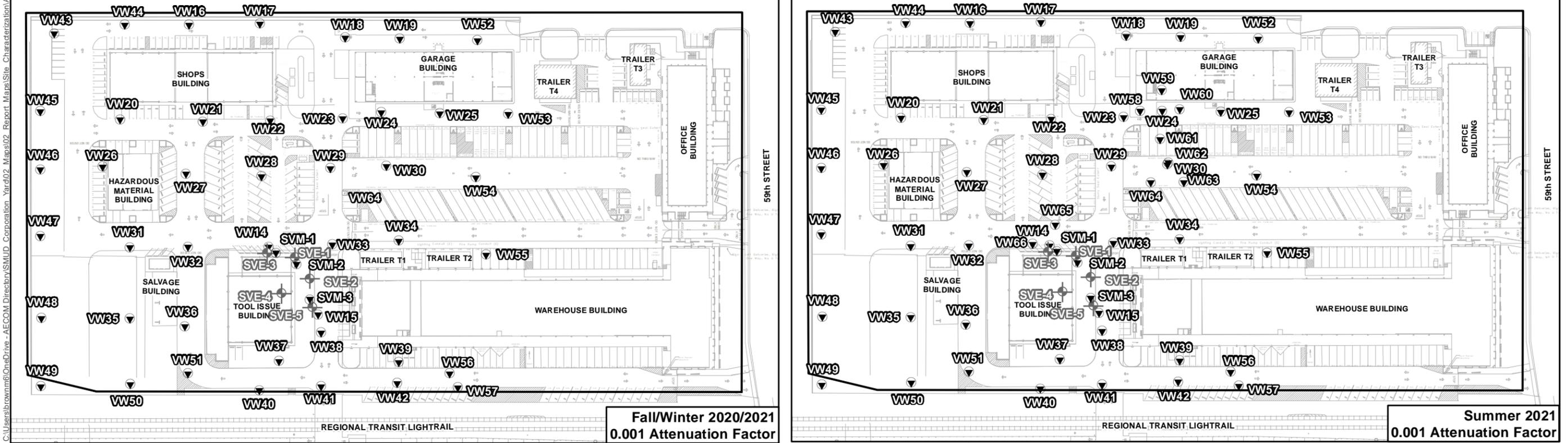
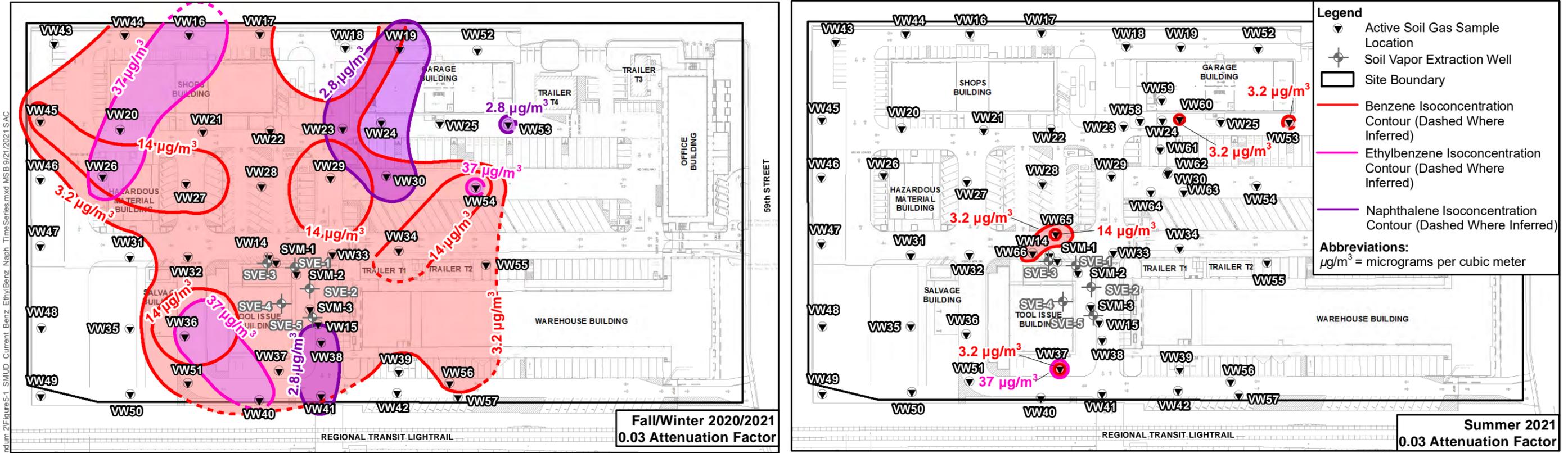
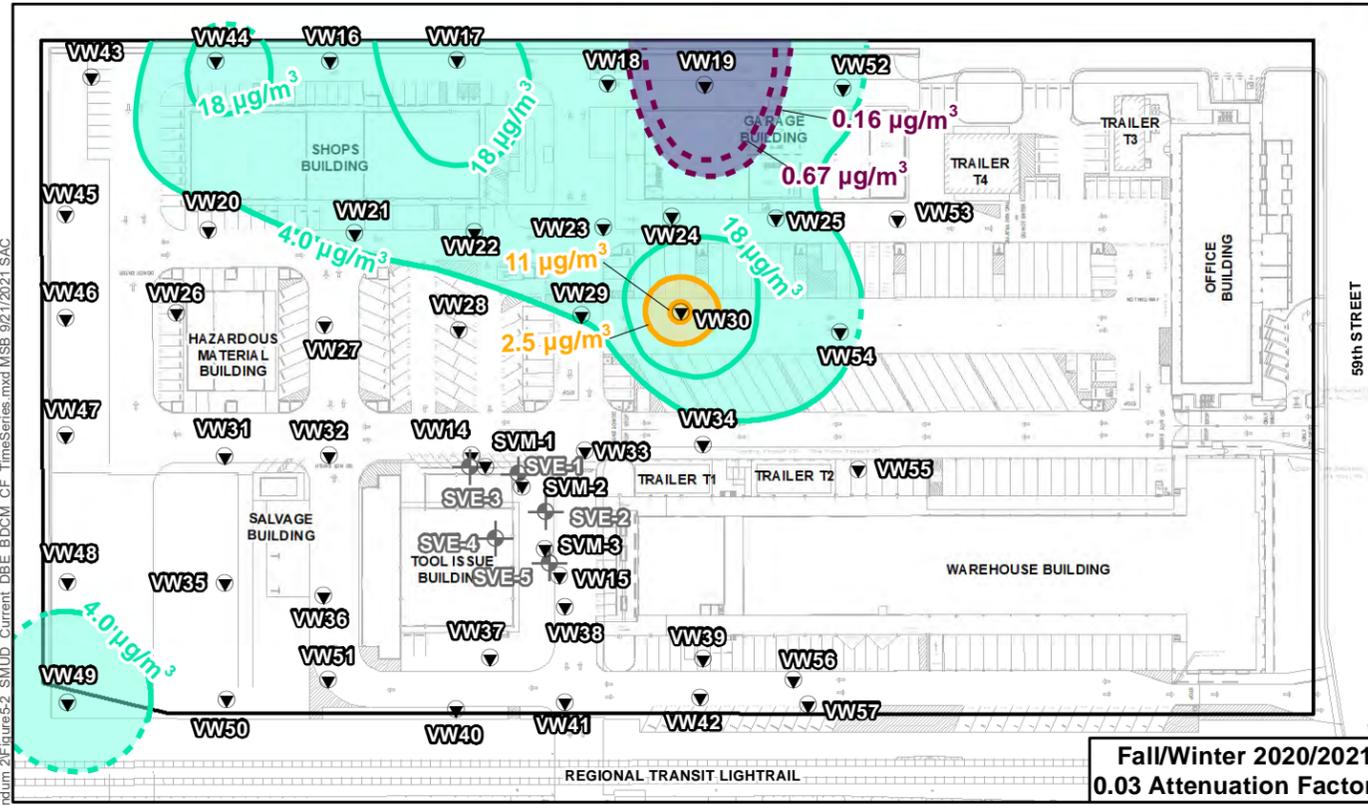
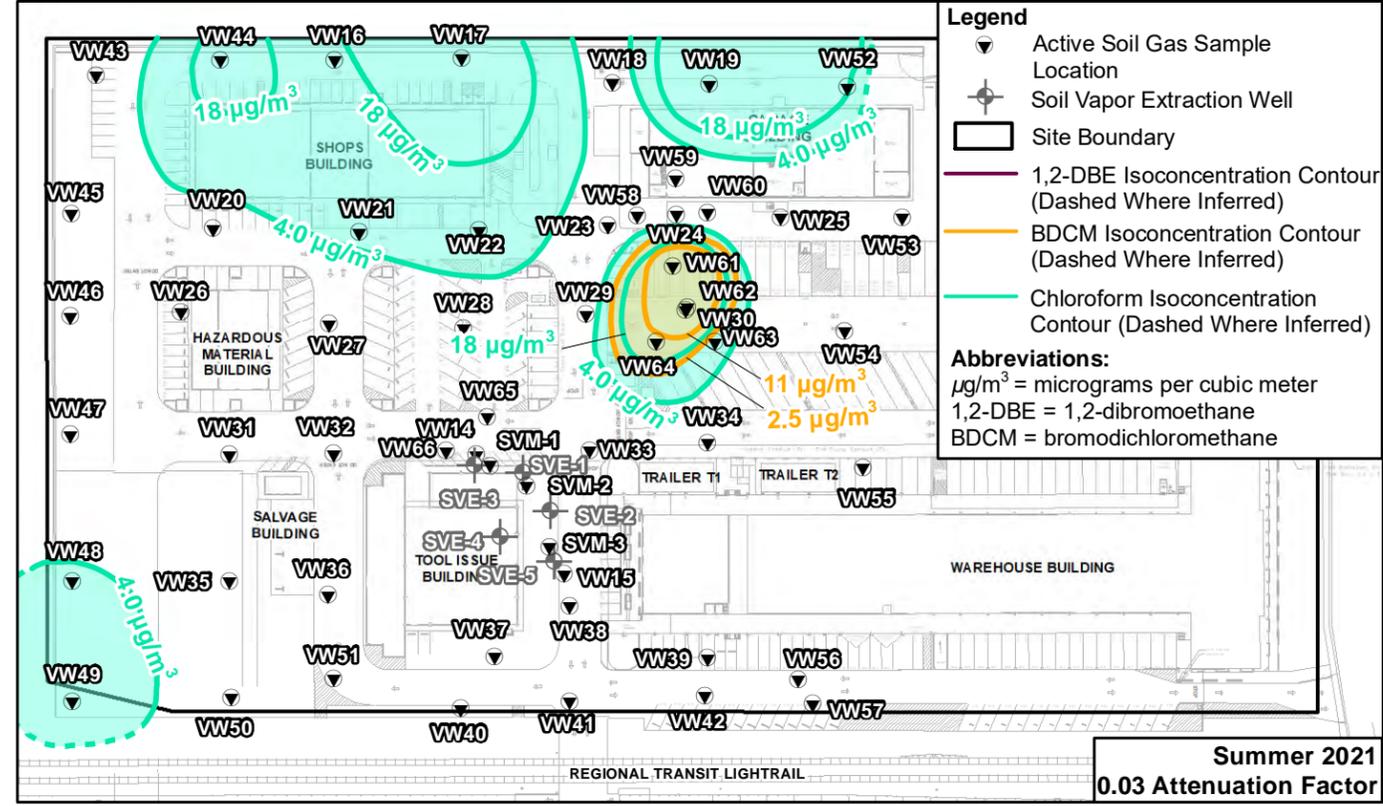


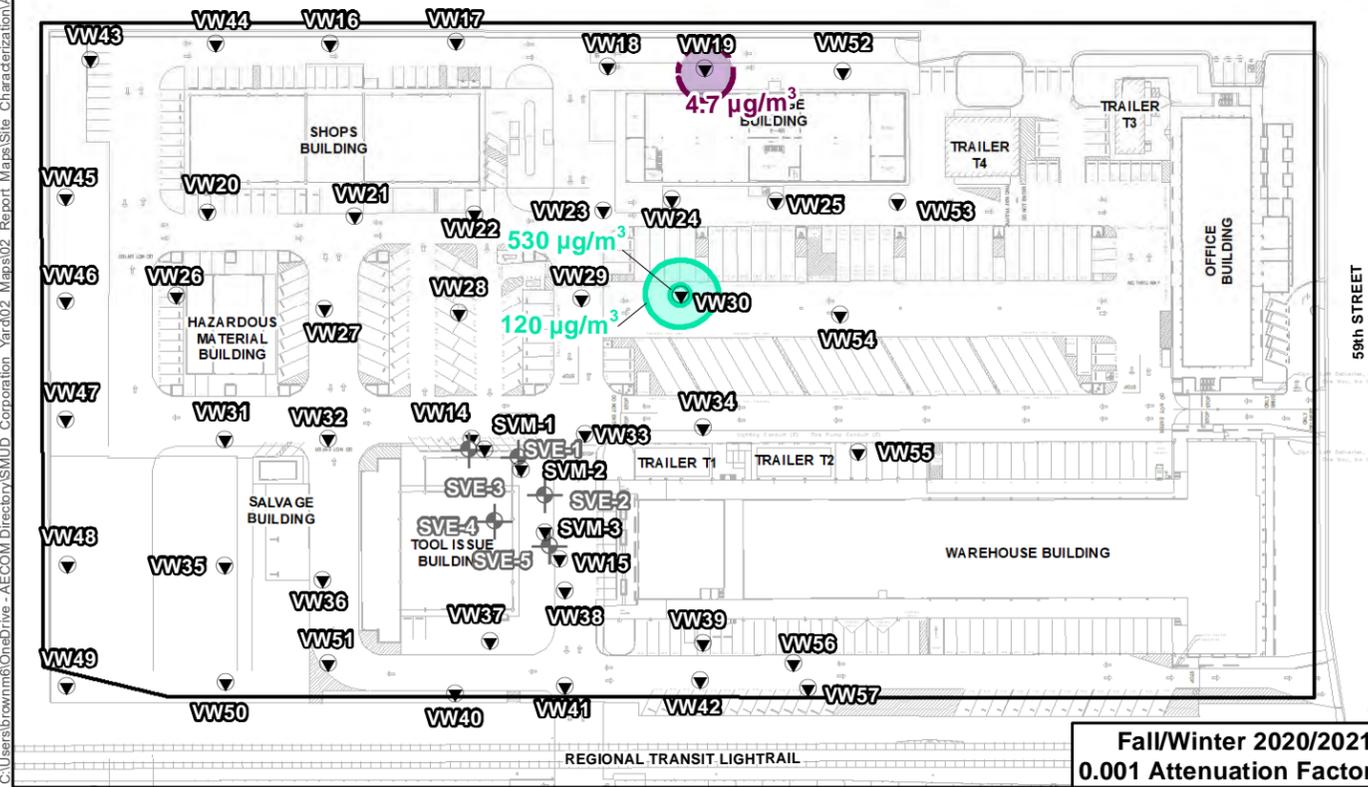
Figure 5-1
 Benzene, Ethylbenzene, and Naphthalene Lateral Extents in Shallow Soil Gas
 Fall/Winter 2020/2021 and Summer 2021



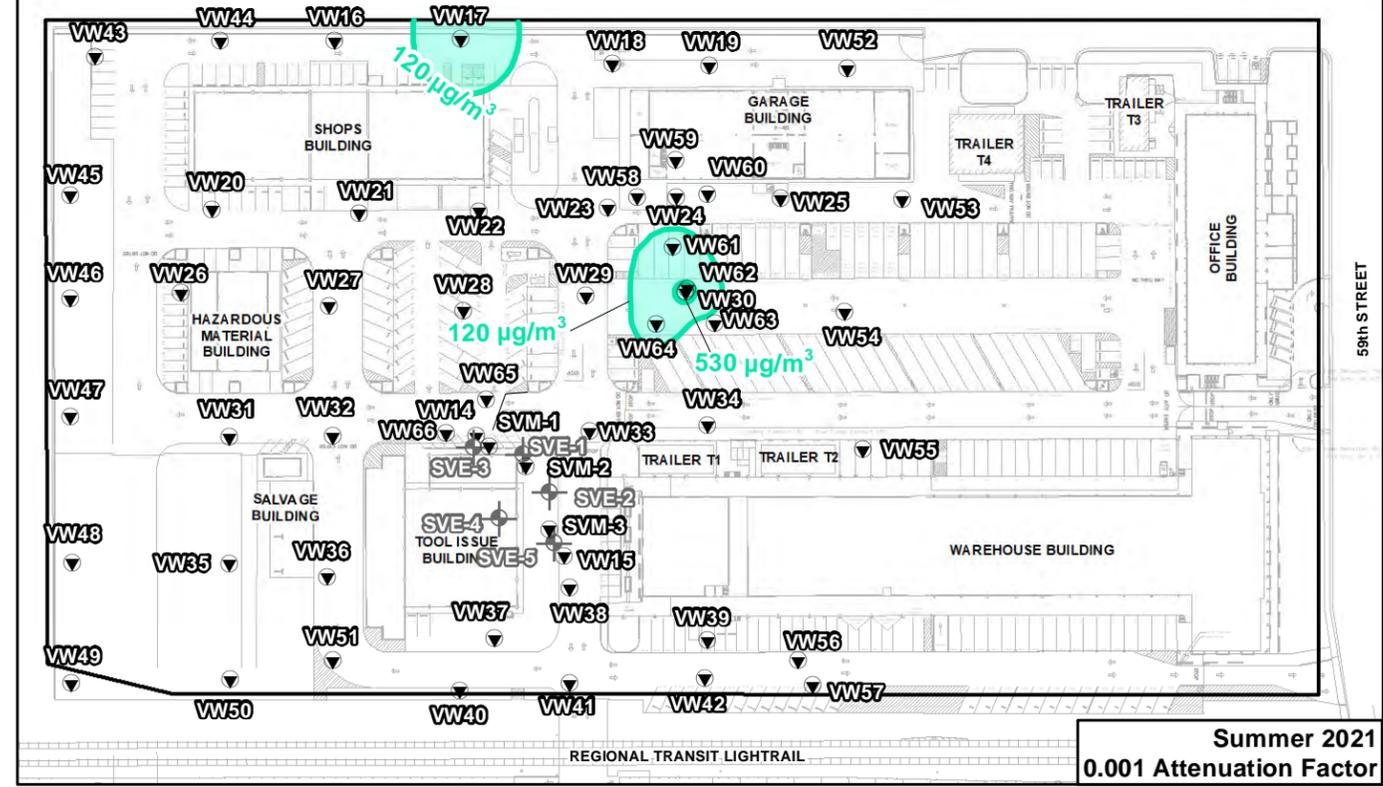
Fall/Winter 2020/2021
0.03 Attenuation Factor



Summer 2021
0.03 Attenuation Factor



Fall/Winter 2020/2021
0.001 Attenuation Factor



Summer 2021
0.001 Attenuation Factor

Legend

- ▼ Active Soil Gas Sample Location
- ⊕ Soil Vapor Extraction Well
- ▭ Site Boundary
- 1,2-DBE Isoconcentration Contour (Dashed Where Inferred)
- BDCM Isoconcentration Contour (Dashed Where Inferred)
- Chloroform Isoconcentration Contour (Dashed Where Inferred)

Abbreviations:
 µg/m³ = micrograms per cubic meter
 1,2-DBE = 1,2-dibromoethane
 BDCM = bromodichloromethane

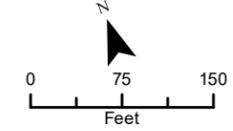


Figure 5-2
1,2-DBE, BDCM, and Chloroform Lateral Extents in Shallow Soil Gas
Fall/Winter 2020/2021 and Summer 2021

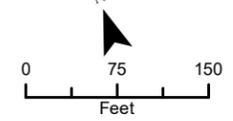
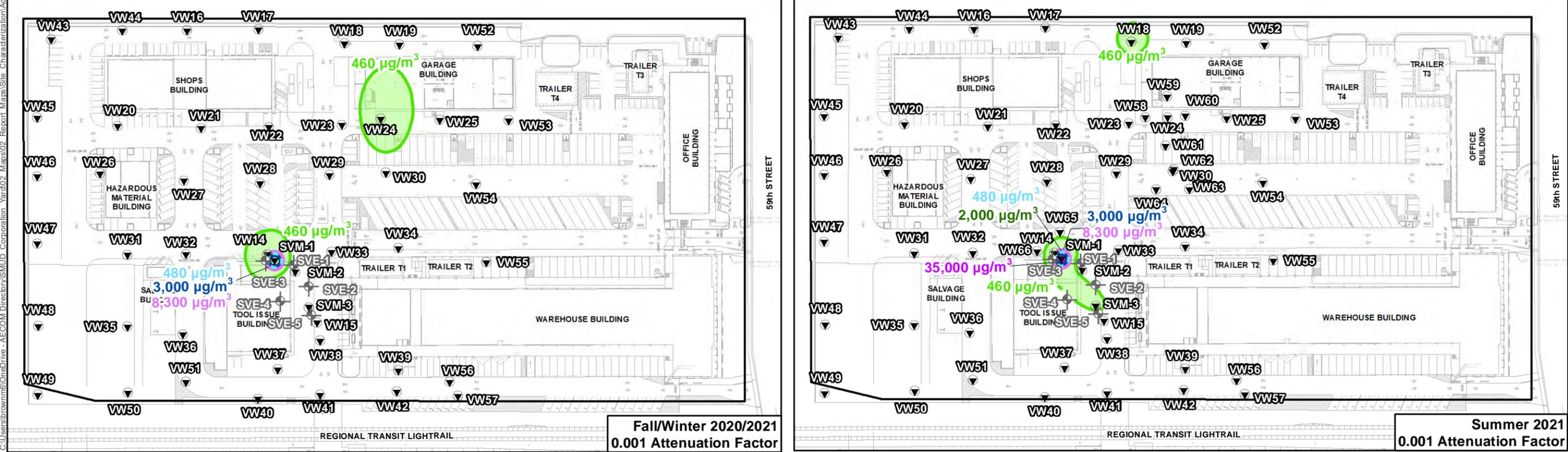
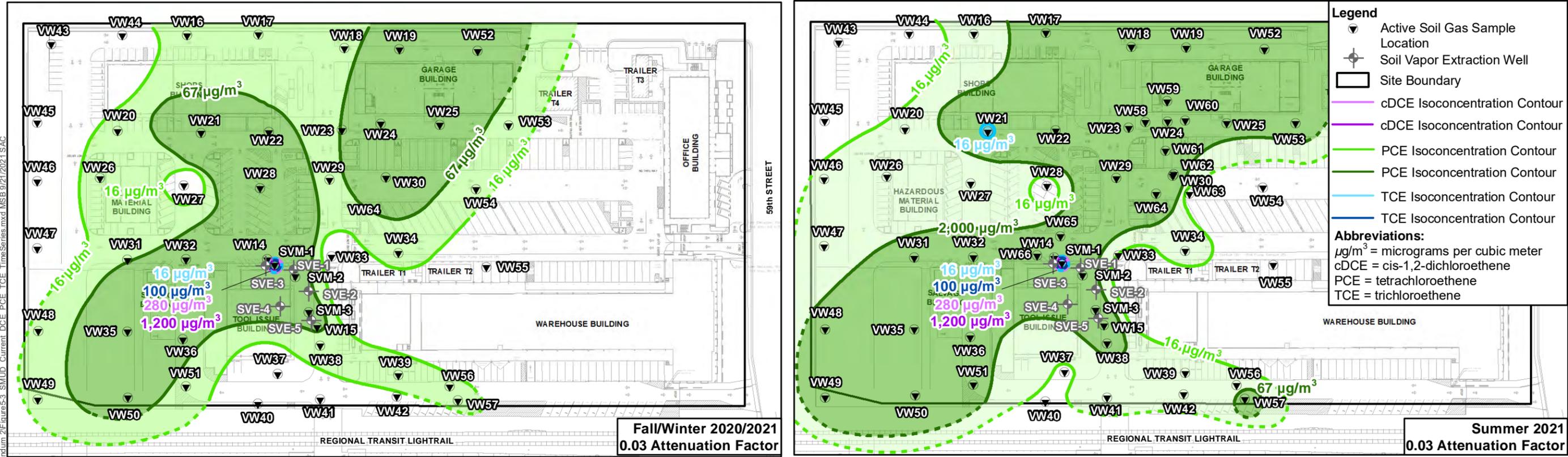


Figure 5-3
 PCE, TCE, and cDCE Lateral Extents in Shallow Soil Gas
 Fall/Winter 2020/2021 and Summer 2021

Appendix A

SMUD and DTSC Correspondence

SACRAMENTO MUNICIPAL UTILITY DISTRICT

Date: June 15, 2021

ES 21-007

To: Mr. Jose Salcedo, P.E., Chief Northern California Schools Unit

From: Keegan George, P.E., SMUD Environmental Services

Subject: Notification of Additional Soil Gas Sampling, SMUD 59th Street Corporation Yard

Sent for your Review

For Your Files

For Your Signature

For Distribution

Other:

For Processing

Dear Mr. Salcedo,

This Letter is to inform you of SMUD's plans to conduct additional soil gas sampling at the 59th Street Corporation Yard in Sacramento, California. The purpose of the additional soil gas sampling is to evaluate seasonal variability in volatile organic compound (VOC) concentrations across the site, and provide DTSC with lines of evidence that could potentially be used to determine the appropriate attenuation factor for site remediation. Below I have outlined SMUD's proposed scope of work:

SMUD plans to collect soil gas samples from existing vapor monitoring wells (VW14 through VW57 and SVM-1 through SVM-3) in July 2021. The summer soil gas data will be compared to the November-December 2020 (fall/winter) soil gas data to evaluate potential seasonal variability in VOC concentrations. Additional vapor monitoring wells will be installed and soil gas samples collected to refine the extent of VOC impacts in areas where higher VOCs concentrations were detected during the November-December 2020 soil gas investigation (in the vicinity of vapor wells VW14, VW24, and VW30). SMUD also plans to conduct sub-slab vapor sampling beneath the Garage, Shops, Hazardous Material, Salvage, and Tool Issue buildings. The sub-slab vapor data combined with shallow soil gas data from nearby vapor monitoring wells will be used as a line of evidence for attenuation of subsurface VOC concentrations. Figure 1 (attached) shows the proposed soil gas and sub-slab vapor sampling locations. Additionally, SMUD plans to collect ambient air samples from select sewer line cleanout locations to evaluate the sewer lines as a potential preferential vapor intrusion pathway.

The proposed vapor well locations depicted using orange symbols on Figure 1 will be dual-completion wells with probes installed at 5.5 and 14.5 feet below ground surface (bgs). The proposed vapor well location depicted using a purple symbol on Figure 1 will be a single-completion well with a probe installed at 26 feet bgs. Vapor well installation, soil gas sampling, and analysis procedures will be the same as those described in the *Site Characterization and Analysis Plan Addendum, SMUD 59th Street Corporation Yard* (AECOM 2020). Sub-slab vapor probes will be installed and sampled in accordance with the *Advisory – Active Soil Gas Investigations* (DTSC 2015). Sub-slab vapor samples will be analyzed by the same method as the soil gas samples collected from vapor monitoring wells (i.e., United States Environmental Protection Agency [USEPA] Method TO-15).

Beacon Environmental (Beacon) passive air samplers will be used to collect ambient air samples from sewer line cleanout locations. The samplers will be deployed for 7 days to minimize temporal effects and achieve lower detection limits than if deployed for a shorter duration. Beacon will analyze the passive samples using USEPA Method TO-17. Beacon's in-house laboratory is accredited for USEPA Method TO-17 through the National Environmental Laboratory Accreditation Program (EPA Number MD01091). The laboratory reporting limits are attached.

The soil gas, sub-slab vapor, and sewer ambient air sampling results will be presented in a forthcoming technical memorandum. The sampling event is planned to take place from July 6-16, 2020. If DTSC would like to be present during sampling, please contact me in advance to coordinate your visit. If you have any questions or concerns regarding the content of this Letter, please contact me at (916) 847-3086 or by email at keegan.george@smud.org.

Keegan George

Keegan George, P.E.
Associate Civil Engineer, Environmental Services

Attachments:

Figure 1 – Proposed Additional Characterization Sample Locations
Beacon Passive Air Sampler Reporting Limits

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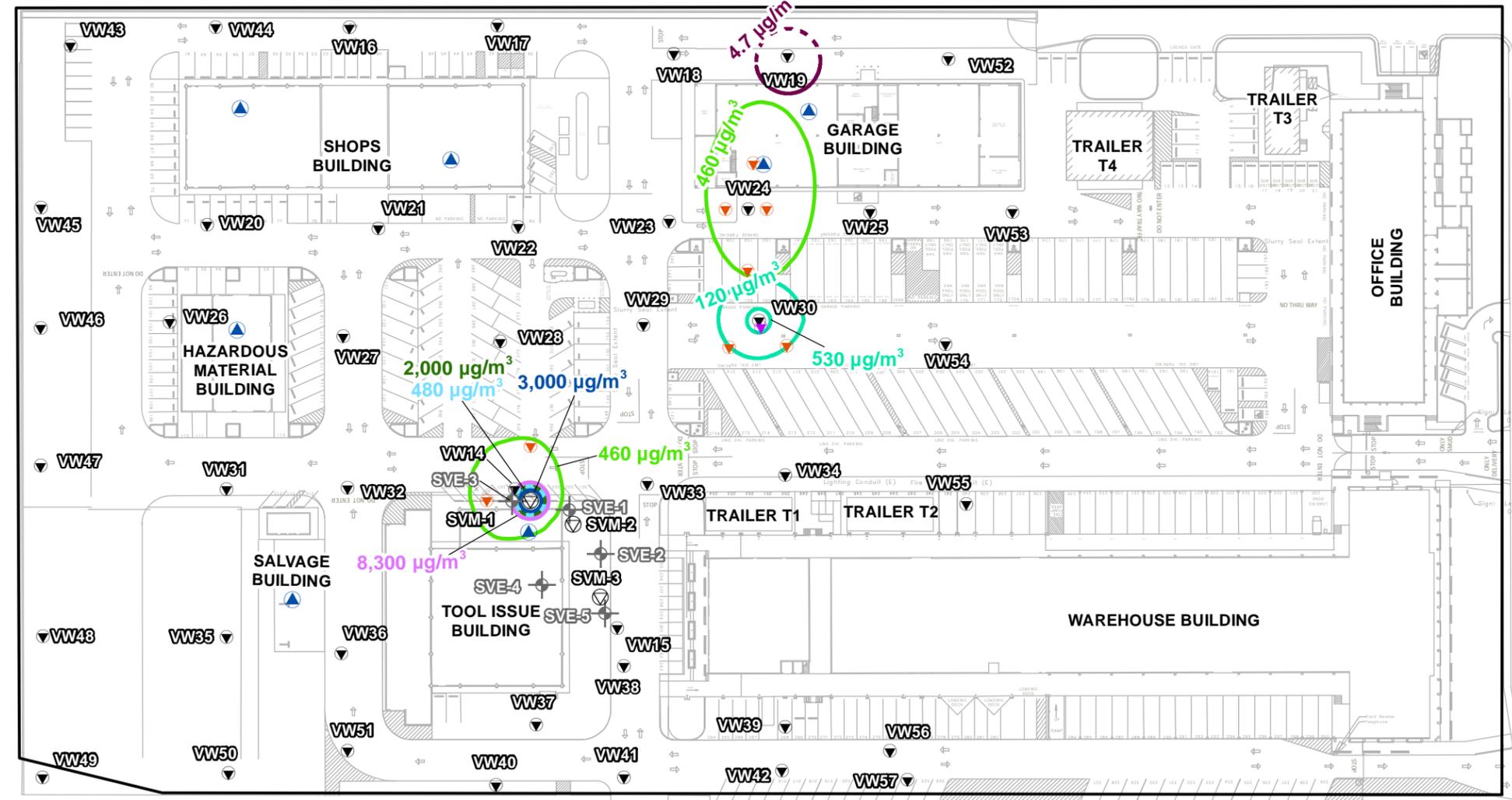
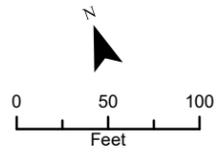
Legend

- Proposed Soil Gas Step-Out Sample Location (2021)
- Proposed Deep Soil Gas Step-Out Sample Location (2021)
- Proposed Sub-Slab Vapor Location
- Active Soil Gas Sample Location (2020)
- Existing Soil Vapor Extraction Well
- Existing Soil Vapor Monitoring Well (2021)
- cDCE Isoconcentration Contour
- PCE Isoconcentration Contour
- TCE Isoconcentration Contour
- 1,2-DBE Isoconcentration Contour (Dashed Where Inferred)
- Chloroform Isoconcentration Contour (Dashed Where Inferred)
- Site Boundary

Abbreviations:
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 1,2-DBE = 1,2-dibromoethane
 BDCM = bromodichloromethane
 CF = chloroform
 cDCE = cis-1,2-dichloroethene
 PCE = tetrachloroethene
 TCE = trichloroethene
 SVSL = soil vapor screening level

Notes:

1. Soil gas sample concentrations in $\mu\text{g}/\text{m}^3$.
2. PCE SVSLs = $460 \mu\text{g}/\text{m}^3$ (Residential) and $2,000 \mu\text{g}/\text{m}^3$ (Commercial/Industrial).
3. TCE SVSLs = $480 \mu\text{g}/\text{m}^3$ (Residential) and $3,000 \mu\text{g}/\text{m}^3$ (Commercial/Industrial).
4. cDCE SVSLs = $8,300 \mu\text{g}/\text{m}^3$ (Residential) and $35,000 \mu\text{g}/\text{m}^3$ (Commercial/Industrial).
5. 1,2-DBE SVSLs = $4.7 \mu\text{g}/\text{m}^3$ (Residential) and $20 \mu\text{g}/\text{m}^3$ (Commercial/Industrial).
6. BDCM SVSLs = $76 \mu\text{g}/\text{m}^3$ (Residential) and $330 \mu\text{g}/\text{m}^3$ (Commercial/Industrial).
7. CF SVSLs = $120 \mu\text{g}/\text{m}^3$ (Residential) and $530 \mu\text{g}/\text{m}^3$ (Commercial/Industrial).
8. SVSLs derived using 0.001 attenuation factor.



REGIONAL TRANSIT LIGHTRAIL

Figure 1
 Proposed Additional Characterization Sample Locations



BEACON PASSIVE AIR SAMPLER REPORTING LIMITS



Limits of Detection (LODs) based on Exposure Periods.
When required, lower detection limits can be reported.

COMPOUND	CAS	Uptake Rate (ml/min)	1 Day	3 Days	7 Days	14 Days
			LOD (ug/m3)	LOD (ug/m3)	LOD (ug/m3)	LOD (ug/m3)
Vinyl Chloride	75-01-4	0.81	4.29	1.43	0.61	0.31
1,1-Dichloroethene	75-35-4	0.33	10.52	3.51	1.50	0.75
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	0.89	3.90	1.30	0.56	0.28
trans-1,2-Dichloroethene	156-60-5	0.44	7.89	2.63	1.13	0.56
Methyl-t-butyl ether	1634-04-4	0.50	13.89	4.63	1.98	0.99
1,1-Dichloroethane	75-34-3	0.85	4.08	1.36	0.58	0.29
cis-1,2-Dichloroethene	156-59-2	0.53	6.55	2.18	0.94	0.47
Chloroform	67-66-3	0.35	9.92	3.31	1.42	0.71
1,2-Dichloroethane	107-06-2	0.56	6.20	2.07	0.89	0.44
1,1,1-Trichloroethane	71-55-6	1.05	3.31	1.10	0.47	0.24
Carbon Tetrachloride	56-23-5	0.43	8.16	2.72	1.17	0.58
Benzene	71-43-2	0.53	13.10	4.37	1.87	0.94
Trichloroethene	79-01-6	0.33	10.52	3.51	1.50	0.75
1,4-Dioxane	123-91-1	0.41	8.47	2.82	1.21	0.60
1,1,2-Trichloroethane	79-00-5	0.33	10.52	3.51	1.50	0.75
Toluene	108-88-3	0.40	17.36	5.79	2.48	1.24
1,2-Dibromoethane (EDB)	106-93-4	0.39	9.02	3.01	1.29	0.64
Tetrachloroethene	127-18-4	0.41	8.47	2.82	1.21	0.60
1,1,1,2-Tetrachloroethane	630-20-6	0.41	8.52	2.84	1.22	0.61
Chlorobenzene	108-90-7	0.85	4.08	1.36	0.58	0.29
Ethylbenzene	100-41-4	0.85	8.17	2.72	1.17	0.58
p & m-Xylene	108-38-3	0.88	7.89	2.63	1.13	0.56
1,1,2,2-Tetrachloroethane	79-34-5	0.41	8.52	2.84	1.22	0.61
o-Xylene	95-47-6	0.88	7.89	2.63	1.13	0.56
1,2,3-Trichloropropane	96-18-4	0.75	4.63	1.54	0.66	0.33
Isopropylbenzene	98-82-8	0.83	8.37	2.79	1.20	0.60
1,3,5-Trimethylbenzene	108-67-8	0.83	8.37	2.79	1.20	0.60
1,2,4-Trimethylbenzene	95-63-6	0.83	8.37	2.79	1.20	0.60
1,3-Dichlorobenzene	541-73-1	0.75	4.63	1.54	0.66	0.33
1,4-Dichlorobenzene	106-46-7	0.75	4.63	1.54	0.66	0.33
1,2-Dichlorobenzene	95-50-1	0.75	4.63	1.54	0.66	0.33
1,2,4-Trichlorobenzene	120-82-1	0.39	8.86	2.95	1.27	0.63
Naphthalene	91-20-3	0.80	4.34	1.45	0.62	0.31
1,2,3-Trichlorobenzene	87-61-6	0.39	8.86	2.95	1.27	0.63
2-Methylnaphthalene	91-57-6	0.76	4.57	1.52	0.65	0.33
TPH C4-C9		0.59	5,874	1,958	839	420
TPH C10-C15		0.69	5,032	1,677	719	359

From: [Salcedo, Jose@DTSC](mailto:Salcedo_Jose@DTSC)
To: [Keegan George](mailto:Keegan.George@smud.org)
Cc: [Shepard, Andy \(Sacramento\)](mailto:Shepard.Andy@Sacramento); [Kohlhardt, Robert](mailto:Kohlhardt.Robert); [René Toledo](mailto:René.Toledo); [Emily Bacchini](mailto:Emily.Bacchini); [Patrick Durham](mailto:Patrick.Durham); brake@geoconinc.com; [Marisa Kolokotronis](mailto:Marisa.Kolokotronis); [Josh Ewert](mailto:Josh.Ewert)
Subject: [EXTERNAL] RE: 59th Street - Notification of Additional Soil Gas Sampling
Date: Wednesday, June 30, 2021 12:11:58 PM

Good afternoon Keegan,

DTSC has reviewed SMUD's approach for additional soil gas sampling at the project site. DTSC concurs that the proposed work will fill in data gaps for seasonality assessment and establish more lines of evidence for soil gas characterization. DTSC concurs with the approach outlined in this submittal. During the 6/30 status meeting, SMUD indicated that there could be a change in the analytical lab providing the passive air samplers. Please provide an update of any deviations from this submittal once confirmed.

Please contact me if you have any questions.

Jose Salcedo

From: Keegan George <Keegan.George@smud.org>
Sent: Tuesday, June 15, 2021 4:17 PM
To: Salcedo, Jose@DTSC <Jose.Salcedo@dtsc.ca.gov>
Cc: Shepard, Andy (Sacramento) <Andy.Shepard@aecom.com>; Kohlhardt, Robert <Robert.Kohlhardt@aecom.com>; René Toledo <Rene.Toledo@smud.org>; Emily Bacchini <Emily.Bacchini@smud.org>; Patrick Durham <Patrick.Durham@smud.org>; brake@geoconinc.com; [Marisa Kolokotronis](mailto:Marisa@skkdevelopments.com) <Marisa@skkdevelopments.com>; [Josh Ewert](mailto:ewert@geoconinc.com) <ewert@geoconinc.com>
Subject: 59th Street - Notification of Additional Soil Gas Sampling

EXTERNAL:

Good Afternoon Jose,

Attached for your review is a Letter that outlines SMUD's approach for additional soil gas sampling at 59th Street,. The purpose of the additional soil gas sampling is to provide DTSC with lines of evidence that could be potentially used to determine the appropriate attenuation factor for site remediation.

Please let me know at your earliest convenience if you have any concerns with our approach. SMUD currently has a private utility locator scheduled for June 30th and drilling scheduled to start on July 6th.

Thank you,

Keegan George, P.E.
Associate Civil Engineer, Environmental Services

w.916-732-5548 | c.916-847-3086 (Preferred) | Keegan.George@smud.org

SMUD | Powering forward. Together.
6201 S Street, Mail Stop B209, Sacramento, CA 95817
P.O. Box 15830, Sacramento, CA 95852-0830

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From: [Keegan George](#)
To: [Salcedo, Jose@DTSC](mailto:Salcedo_Jose@DTSC)
Cc: [Shepard, Andy \(Sacramento\)](#); [Kohlhardt, Robert](#); [René Toledo](#); [Emily Bacchini](#); [Patrick Durham](#); brake@geoconinc.com; [Marisa Kolokotronis](#); [Josh Ewert](#)
Subject: [EXTERNAL] RE: RE: 59th Street - Notification of Additional Soil Gas Sampling
Date: Wednesday, June 30, 2021 12:45:10 PM

Hi Jose,

Thank you for the approval to proceed with the additional soil gas sampling to fill in data gaps for a seasonality assessment and to establish more lines of evidence for soil gas characterization. For clarification on your email below, AECOM still plans to use the Beacon Passive Air Samplers (analyzed by USEPA Method TO-17) as proposed in our original notification letter. The only deviation is the lab who will be analyzing the active soil gas samples. AECOM will now be working with Eurofins Air Toxics rather than BC Labs due to the availability of Summa canisters and flow control valves. The active samples will still be analyzed by USEPA Method TO-15 as well.

I will work with AECOM to provide you a comparison of the method detection limits and reporting limits from each lab.

Thank you again for your expedited approval.

Keegan George, P.E.
Senior Civil Engineer, Environmental Services
w.916-732-5548 | c.916-847-3086 (Preferred) | Keegan.George@smud.org

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From: Salcedo, Jose@DTSC <Jose.Salcedo@dtsc.ca.gov>
Sent: Wednesday, June 30, 2021 12:12 PM
To: Keegan George <Keegan.George@smud.org>
Cc: Shepard, Andy (Sacramento) <Andy.Shepard@aecom.com>; Kohlhardt, Robert <Robert.Kohlhardt@aecom.com>; René Toledo <Rene.Toledo@smud.org>; Emily Bacchini <Emily.Bacchini@smud.org>; Patrick Durham <Patrick.Durham@smud.org>; brake@geoconinc.com; Marisa Kolokotronis <Marisa@skkdevelopments.com>; Josh Ewert <ewert@geoconinc.com>
Subject: [EXTERNAL] RE: 59th Street - Notification of Additional Soil Gas Sampling

CAUTION: This email originated from outside of SMUD. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon Keegan,

DTSC has reviewed SMUD's approach for additional soil gas sampling at the project site. DTSC concurs that the proposed work will fill in data gaps for seasonality assessment and establish more lines of evidence for soil gas characterization. DTSC concurs with the approach outlined in this submittal. During the 6/30 status meeting, SMUD indicated that there could be a change in the analytical lab providing the passive air samplers. Please provide an update of any deviations from this submittal once confirmed.

Please contact me if you have any questions.

José Salcedo

From: Keegan George <Keegan.George@smud.org>
Sent: Tuesday, June 15, 2021 4:17 PM
To: Salcedo, Jose@DTSC <Jose.Salcedo@dtsc.ca.gov>
Cc: Shepard, Andy (Sacramento) <Andy.Shepard@aecom.com>; Kohlhardt, Robert <Robert.Kohlhardt@aecom.com>; René Toledo <Rene.Toledo@smud.org>; Emily Bacchini <Emily.Bacchini@smud.org>; Patrick Durham <Patrick.Durham@smud.org>; brake@geoconinc.com; Marisa Kolokotronis <Marisa@skkdevelopments.com>; Josh Ewert <ewert@geoconinc.com>
Subject: 59th Street - Notification of Additional Soil Gas Sampling

EXTERNAL:

Good Afternoon Jose,

Attached for your review is a Letter that outlines SMUD's approach for additional soil gas sampling at 59th Street,. The purpose of the additional soil gas sampling is to provide DTSC with lines of evidence that could be potentially used to determine the appropriate attenuation factor for site remediation.

Please let me know at your earliest convenience if you have any concerns with our approach. SMUD currently has a private utility locator scheduled for June 30th and drilling scheduled to start on July 6th.

Thank you,

Keegan George, P.E.
Associate Civil Engineer, Environmental Services
w.916-732-5548 | c.916-847-3086 (Preferred) | Keegan.George@smud.org

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Appendix B

Vapor Well Borehole Logs

PROJECT NAME: Additional Soil Vapor Investigation					BORING LOGS					
SITE ADDRESS: 1708 59th Street Sacramento, California					BORING DIAMETER: 3.5-inch from 0' to 5' 2.25-inch from 5' to total depth					
DRILLING METHOD: 0 to 5 feet bgs Hand Auger, Remainder advanced using 2.25" Geoprobe 6600 DPT, 1.25" DT22 plastic inner sleeve					DRILLER/COMPANY: Confluence Environmental C57# 913194					
					GEOLOGIST/ENGINEER: J. Rayl					
Date Installed			7/6/2021		7/7/2021			7/6/2021		
Total Depth			15' 0"		15' 0"			15' 0"		
DEPTH (Feet)	Sample Interval		VW58		VW59			VW60		DEPTH (Feet)
0	HAND AUGER		5" Concrete		5" Concrete			3" Asphalt		0
			Road Base		Road Base			Road Base		
			ML		SM (w/ minor gravel and cobbles)			SM		
			ML (w/sand)		ML (w/sand and gravel)			ML		
5	DIRECT PUSH PROBE							CL		5
			SM		ML			ML (w/sand)		
								SM		
10			SP/SM		ML (w/sand)					10
								SP (w/silt)		
15										15

PROJECT NAME: Additional Soil Vapor Investigation					BORING LOGS				
SITE ADDRESS: 1708 59th Street Sacramento, California					BORING DIAMETER: 3.5-inch from 0' to 5' 2.25-inch from 5' to total depth				
DRILLING METHOD: 0 to 5 feet bgs Hand Auger, Remainder advanced using 2.25" Geoprobe 6600 DPT, 1.25" DT22 plastic inner sleeve					DRILLER/COMPANY: Confluence Environmental C57# 913194				
					GEOLOGIST/ENGINEER: J. Rayl				
Date Installed			7/6/2021		7/7/2021				
Total Depth			15' 0"		15' 0"				
DEPTH (Feet)	Sample Interval		VW61		VW63		VW64		DEPTH (Feet)
0	HAND AUGER		3" Asphalt Road Base		3" Asphalt Road Base		3" Asphalt Road Base		0
5	DIRECT PUSH PROBE		ML (w/sand)		ML (w/ minor gravel and cobbles)		ML (w/ minor gravel and cobbles)		5
10			SM		ML (w/sand)		ML (w/sand)		10
15			SP/SM		SP/SM		ML		15
					ML		SP		
					SP		SP		
					SP/SM				

PROJECT NAME: Additional Soil Vapor Investigation				BORING LOGS			
SITE ADDRESS: 1708 59th Street Sacramento, California				BORING DIAMETER: 3.5-inch from 0' to 5' 2.25-inch from 5' to total depth			
DRILLING METHOD: 0 to 5 feet bgs Hand Auger, Remainder advanced using 2.25" Geoprobe 6600 DPT, 1.25" DT22 plastic inner sleeve				DRILLER/COMPANY: Confluence Environmental C57# 913194			
Date Installed				7/7/2021			
Total Depth				26' 0"			
DEPTH (Feet)	Sample Interval		VW62				DEPTH (Feet)
Unified Soil Classification System (USCS) GROUP SYMBOL							
0	HAND AUGER	3" Asphalt				0	
		Road Base					
	DIRECT PUSH PROBE	ML				5	
		CL					
5		ML				5	
10		SM				10	
15		SP				15	
		CL					
20		SP/SM				20	
25	SP				25		

PROJECT NAME: Additional Soil Vapor Investigation					BORING LOGS				
SITE ADDRESS: 1708 59th Street Sacramento, California					BORING DIAMETER: 3.5-inch from 0' to 5' 2.25-inch from 5' to total depth				
DRILLING METHOD: 0 to 5 feet bgs Hand Auger, Remainder advanced using 2.25" Geoprobe 6600 DPT, 1.25" DT22 plastic inner sleeve					DRILLER/COMPANY: Confluence Environmental C57# 913194				
Date Installed					7/14/2021				
Total Depth					15' 0"				
DEPTH (Feet)	Sample Interval			VW65		VW66			DEPTH (Feet)
Unified Soil Classification System (USCS) GROUP SYMBOL									
6" Asphalt									
4" Asphalt									
0	HAND AUGER			ML (w/ sand)		ML			0
				CL		CL			
				SP		CL			
5	DIRECT PUSH PROBE			SC		SP			5
				ML		CL			
				CL		CL			10
				SP		CL			
15						CL (w/sand)			15

Appendix C

Data Validation Summary and Validated Data Sets

SMUD 59TH STREET CORPORATION YARD SOIL GAS DATA VALIDATION SUMMARY

A total of 114 field soil gas samples, 12 field duplicate (FD) samples, and one field replicate (FR) sample were evaluated and are reported for the samples collected at the 59th Street SMUD site in Sacramento, California. All samples were analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Toxic Organics (TO)-15 by Eurofins/Air Toxics in Folsom, California. Six of these samples were analyzed for helium by ASTM D-1946. The following samples were collected.

- **July 8 and 9, 2021.** 21 field samples and two field duplicate (FD) samples analyzed under work order (WO) 2107241A. Six of these samples were also submitted for analysis of helium as a leak check tracer compound under WO 2107241B. Elevated concentrations of leak check compound 1,1-difluoroethane (1,1-DFA) were detected in seven of these samples. Two of these samples were re-collected and analyzed under WO 2108930. Elevated concentrations of 1,1-DFA were detected in the normal sample of the VW31B FD pair. The normal field sample was not evaluated or included but its FD is included as part of the data set.
- **July 12 and 13, 2021.** 15 samples and four FD samples analyzed under WO 2107260A. An elevated concentration of 1,1-DFA was detected in one sample but this sample was not re-collected and analyzed under WO 2108930.
- **July 12 and 13, 2021.** 12 samples were analyzed under WO 2107282. Elevated concentrations of 1,1-DFA were detected in four samples; one of these four samples was re-collected and analyzed under WO 2108930.
- **July 14, 2021.** 23 samples and three FD samples analyzed under WO 2107284. Elevated concentrations of 1,1-DFA were detected in six samples; five of the six samples were re-collected and analyzed under WO 2108930.
- **July 15, 2021.** 14 samples and one FD sample analyzed under WO 2107361. Elevated concentrations of 1,1-DFA were detected in six samples; five of the six samples were re-collected and analyzed under WO 2108930.
- **July 15, 2021.** 12 samples analyzed under WO 2107362A. Elevated concentrations of 1,1-DFA were detected in eight samples; five of these eight samples were re-collected and analyzed under WO 2108930.
- **July 15, 2021.** Seven samples analyzed under WO 2107362B. Elevated concentrations of 1,1-DFA were detected in six samples; five of the six samples were re-collected and analyzed under WO 2108930.
- **July 29 and 30, 2021.** 10 samples and one FD sample analyzed under WO 2107684.
- **August 16 and 17, 2021.** 24 samples and two FD samples were re-collected and re-analyzed under WO 2108390 due to high leak check compound concentrations detected in the original samples collected in July 2021. An elevated concentration of 1,1-DFA was detected in one of these 26 samples; two replacement samples (a normal sample and FR) were collected to replace this sample and analyzed under WOs 2108676A and 2108676B.
- **August 30, 2021.** Two samples from VW21A were re-collected sequentially (a normal sample and FR) and analyzed under WO 2108676A and 2108676B due to a high leak check compound concentration detected in the August 17, 2021 sample. 1,1-DFA was detected at elevated concentrations in both samples.

The quality control (QC) samples analyzed to assess contamination, precision, and accuracy for the data sets include method blanks, spikes (laboratory control samples [LCSs] and surrogate spikes) and duplicates (FD and LCS duplicates). In addition, initial and continuing calibration recoveries were also reviewed.

The analytical results were validated against laboratory accuracy and precision limits in accordance with the approved methods. No systematic analytical problems were indicated by the validation process. However, during the validation process, any analytes (detected or not detected) associated with laboratory or field QC samples that do not meet the accuracy or precision limits were flagged by AECOM's project chemist. Non-detect results with estimated reporting limits (RLs) and potential false negative results are flagged "UJ," detected results that are determined to be from external contamination are flagged as not-detected (U), detected results that are determined to be estimated results are flagged "J" (a "+" or "-" would indicate a potential high or low bias, respectively), and any results (detected or not) that are associated with extreme QC issues are rejected (R) and

should not be used per USEPA guidance. For this data set, there are no estimated results with potential high bias (J+) or blank contamination (U) flagged data results.

Thirty-eight original samples had elevated concentrations of 1,1-DFA which was used as one of the leak check compounds (the detections exceeded 10 times the lowest RL of the reported analytes). Twenty-four of these 38 samples along with two FD samples were recollected and analyzed. Of the 24 samples that were re-collected, one sample had an elevated concentration of 1,1-DFA. All results that did not have leak check compound above ten times the RL from the re-analyses are reported. Additionally, two samples from VW21A were re-collected again and had detections of elevated 1,1-DFA concentrations. All results from the 12 samples that were not recollected and two samples (from the samples recollected on August 30, 2021) are qualified as potential low bias (J-), having potential false negative results at the RL (UJ), or rejected (R) due to possible dilution with ambient air. In addition, the laboratory noted that the United States Environmental Protection Agency released a document outlining possible data quality concerns for the measurement of acrolein by TO-15. All acrolein results are non-detect and are qualified as having potential false negative results (UJ) due to potential measurement issues.

From a total of 10,420 possible results (127 samples for TO-15 and 6 samples for ASTM D-1946), 1,415 results are qualified. The following bullets summarize the qualified results and Table 1 lists all qualified results.

- One hundred sixty-two results from two samples (SG-VW53B-02 and SG-VW62-01) are rejected (R). The leak check compound was detected at elevated concentrations and no target analytes were detected. The non-detect results for target analytes from these two samples should not be used as an indication of site characterization.
- nine hundred eighty-six results are qualified as estimated concentrations with potential low bias for detected results (J-) or potential for false negative results at the RL(UJ) because they are associated with potential leaks during sampling. Of these 986 qualified results, 53 results (31 detected results and 22 non-detect results) are qualified for additional issues. These issues include low and high laboratory control sample recoveries, initial calibration recoveries that did not meet the method requirements, FR imprecision, analytes detected above the calibration range, analytes detected below the RL and/or acrolein which was cited by EPA to have measurement issues when using Method TO-15 (see qualified data table for individual qualified results).
- One hundred thirteen non-detect acrolein results are only qualified for potential false negative results at the RLs (UJ) due to issues with the measurement of this analyte. Fourteen acrolein results are also qualified for elevated leak check compound detections.
- One hundred and one non-detect results are only qualified for potential false negative results at the RL (UJ) because the initial calibration did not meet method requirements.
- Twenty-two results (14 detected and 8 non-detect results) are qualified as estimated results (J) or potential for false negative results at the RL (UJ) due to FD imprecision.
- Thirteen results (12 non-detect and one detect result) are qualified for potential false negative results at the RL (UJ) or an estimated concentration with potential low bias (J-) because of low continuing calibration recoveries, respectively.
- Thirteen non-detect results (ethanol) are qualified as having estimated RLs due low LCS recoveries.
- Two results are qualified as estimated concentrations (J) only because they were detected above the calibration range.
- Three results are qualified as estimated concentrations (J) only because they were detected below the RL.

Samples qualified as estimated (J) because they were detected below the RL or above the calibration range are not indicative of analytical quality control issues. These results are also flagged by the laboratory. The below table provides all qualified data results.

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 ($\mu\text{g}/\text{m}^3$)							
SG-SVM1A-01	07/29/2021 08:10	Acrolein	ND	240	1,600	UJ	5F
		Iodomethane	ND	130	10,000	UJ	5A
SG-SVM1B-01	07/29/2021 08:37	Acrolein	ND	1.5	9.8	UJ	5F
		Iodomethane	ND	0.80	62	UJ	5A
SG-SVM2A-01	07/29/2021 14:12	Acrolein	ND	1.5	10	UJ	5F
		Iodomethane	ND	0.83	64	UJ	5A
SG-SVM2B-01	07/29/2021 14:50	Acrolein	ND	1.4	9.3	UJ	5F
		Iodomethane	ND	0.76	59	UJ	5A
SG-SVM3A-01	07/29/2021 12:55	Acrolein	ND	1.4	9.6	UJ	5F
		Iodomethane	ND	0.79	61	UJ	5A
SG-SVM3B-01	07/29/2021 13:21	Acrolein	ND	1.5	9.9	UJ	5F
		Iodomethane	ND	0.82	63	UJ	5A
SG-VW14-02	07/15/2021 15:58	Acrolein	ND	1.5	9.8	UJ	5F
		Iodomethane	ND	0.81	62	UJ	5A
SG-VW15-02	07/14/2021 11:34	1,2,4-Trimethylbenzene	ND	2.1	5.8	UJ	3D
		1,2-Dichloropropane	ND	1.8	5.4	UJ	5A
		4-Ethyltoluene	ND	1.5	5.8	UJ	3D
		Acrolein	ND	3.2	11	UJ	5F
		Carbon Disulfide	ND	3.4	15	UJ	3D
		Ethanol	ND	2.4	22	UJ	2A-
		Ethyl Benzene	ND	0.86	5.1	UJ	3D
		m,p-Xylene	ND	2.8	5.1	UJ	3D
		Naphthalene	ND	0.81	12	UJ	5B-
Tetrahydrofuran	9.6	0.75	3.5	J	3D		
SG-VW15-03	07/14/2021 11:34	1,2,4-Trimethylbenzene	50	2.1	5.7	J	3D
		1,2-Dichloropropane	ND	1.8	5.3	UJ	5A
		4-Ethyltoluene	17	1.4	5.7	J	3D
		Acrolein	ND	3.2	10	UJ	5F
		Carbon Disulfide	46	3.4	14	J	3D
		Ethanol	ND	2.4	22	UJ	2A-
		Ethyl Benzene	22	0.84	5.0	J	3D
		m,p-Xylene	14	2.7	5.0	J	3D
		Naphthalene	ND	0.79	12	UJ	5B-
Tetrahydrofuran	ND	0.74	3.4	UJ	3D		
SG-VW16A-02	07/15/2021 08:30	Acrolein	ND	1.4	9.6	UJ	5F
		Iodomethane	ND	0.79	61	UJ	5A
SG-VW16B-02	07/12/2021 13:11	Acrolein	ND	1.6	10	UJ	5F
SG-VW17A-03	08/16/2021 10:31	Acrolein	ND	1.4	9.3	UJ	5F
		Hexane	2,400	0.65	3.6	J	6E
		Iodomethane	ND	0.76	59	UJ	5A
SG-VW17B-03	07/12/2021 14:39	1,1,1,2-Tetrachloroethane	ND	1.5	30	UJ	4D
		1,1,1-Trichloroethane	ND	0.47	6.0	UJ	4D
		1,1,2,2-Tetrachloroethane	ND	0.71	7.6	UJ	4D
		1,1,2-Trichloroethane	ND	0.96	6.0	UJ	4D
		1,1-Dichloroethane	ND	0.93	4.4	UJ	4D
		1,1-Dichloroethene	ND	1.4	4.4	UJ	4D
		1,1-Difluoroethane	170	2.6	12	J-	4D

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 ($\mu\text{g}/\text{m}^3$) (continued)							
SG-VW17B-03 (continued)	07/12/2021 14:39	1,2,3-Trichloropropane	ND	1.7	26	UJ	4D
		1,2,4-Trichlorobenzene	ND	2.9	33	UJ	4D
		1,2,4-Trimethylbenzene	ND	0.62	5.4	UJ	4D
		1,2-Dibromo-3-chloropropane	ND	1.4	42	UJ	4D
		1,2-Dibromoethane (EDB)	ND	1.6	8.4	UJ	4D
		1,2-Dichlorobenzene	ND	0.75	6.6	UJ	4D
		1,2-Dichloroethane	ND	0.73	4.4	UJ	4D
		1,2-Dichloropropane	ND	1.2	5.1	UJ	4D
		1,3,5-Trimethylbenzene	ND	1.1	5.4	UJ	4D
		1,3-Butadiene	ND	0.70	2.4	UJ	4D
		1,3-Dichlorobenzene	ND	0.76	6.6	UJ	4D
		1,4-Dichlorobenzene	ND	0.78	6.6	UJ	4D
		1,4-Dioxane	ND	2.3	16	UJ	4D
		2,2,4-Trimethylpentane	ND	0.60	5.1	UJ	4D
		2-Butanone (Methyl Ethyl Ketone)	ND	2.0	13	UJ	4D
		2-Hexanone	ND	0.43	18	UJ	4D
		2-Propanol	ND	0.81	11	UJ	4D
		3-Chloropropene	ND	3.0	14	UJ	4D
		4-Ethyltoluene	ND	1.1	5.4	UJ	4D
		4-Methyl-2-pentanone	ND	1.1	4.5	UJ	4D
		Acetone	33	2.6	26	J-	4D
		Acrolein	ND	1.5	10	UJ	4D,5F
		Acrylonitrile	ND	0.58	9.5	UJ	4D
		alpha-Chlorotoluene	ND	0.51	5.7	UJ	4D
		Benzene	ND	0.66	3.5	UJ	4D
		Bromodichloromethane	ND	1.1	7.4	UJ	4D
		Bromoform	ND	1.2	11	UJ	4D
		Bromomethane	ND	1.8	43	UJ	4D
		Carbon Disulfide	ND	1.3	14	UJ	4D
		Carbon Tetrachloride	9.1	1.8	6.9	J-	4D
		Chlorobenzene	ND	0.46	5.1	UJ	4D
		Chloroethane	ND	3.0	12	UJ	4D
		Chloroform	570	0.46	5.4	J-	4D
		Chloromethane	ND	1.6	23	UJ	4D
		<i>cis</i> -1,2-Dichloroethene	ND	1.6	4.4	UJ	4D
		<i>cis</i> -1,3-Dichloropropene	ND	0.96	5.0	UJ	4D
		Cumene	ND	0.68	5.4	UJ	4D
		Cyclohexane	ND	0.62	3.8	UJ	4D
		Dibromochloromethane	ND	1.6	9.4	UJ	4D
		Dibromomethane	ND	1.2	31	UJ	4D
		Ethanol	ND	2.6	21	UJ	4D
		Ethyl Acetate	ND	0.93	16	UJ	4D
		Ethyl Benzene	ND	1.2	4.8	UJ	4D
		Ethyl- <i>tert</i> -butyl ether	ND	0.97	18	UJ	4D
		Freon 11	ND	1.3	6.2	UJ	4D
		Freon 12	ND	0.86	5.4	UJ	4D
		Freon 113	ND	1.3	8.4	UJ	4D

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 (µg/m³) (continued)							
SG-VW17B-03 (continued)	07/12/2021 14:39	Freon 114	ND	1.4	7.7	UJ	4D
		Freon 134a	ND	2.3	18	UJ	4D
		Heptane	ND	1.1	4.5	UJ	4D
		Hexachlorobutadiene	ND	4.3	47	UJ	4D
		Hexachloroethane	ND	43	43	UJ	4D
		Hexane	ND	0.71	3.9	UJ	4D
		Iodomethane	ND	0.83	64	UJ	4D
		Isopropyl ether	ND	0.54	18	UJ	4D
		m,p-Xylene	ND	1.1	4.8	UJ	4D
		Methyl <i>tert</i> -butyl ether	ND	0.85	16	UJ	4D
		Methylene Chloride	ND	0.79	38	UJ	4D
		Naphthalene	ND	4.4	12	UJ	4D
		o-Xylene	ND	1.2	4.8	UJ	4D
		Propylbenzene	ND	0.90	5.4	UJ	4D
		Propylene	ND	0.56	7.6	UJ	4D
		Styrene	ND	0.61	4.7	UJ	4D
		<i>tert</i> -Amyl methyl ether	ND	1.9	18	UJ	4D
		<i>tert</i> -Butyl alcohol	ND	0.92	13	UJ	4D
		Tetrachloroethene	200	1.2	7.5	J-	4D
		Tetrahydrofuran	ND	0.66	3.2	UJ	4D
		Toluene	ND	0.43	4.1	UJ	4D
		TPH - Gasoline	ND	450	450	UJ	4D
		<i>trans</i> -1,2-Dichloroethene	ND	1.1	4.4	UJ	4D
		<i>trans</i> -1,3-Dichloropropene	ND	0.87	5.0	UJ	4D
		Trichloroethene	ND	0.85	5.9	UJ	4D
		Vinyl Acetate	ND	4.2	15	UJ	4D
		Vinyl Bromide	ND	1.3	19	UJ	4D
		Vinyl Chloride	ND	0.71	2.8	UJ	4D
SG-VW18A-02	07/15/2021 09:12	Acrolein	ND	1.4	9.6	UJ	5F
		Iodomethane	ND	0.79	61	UJ	5A
SG-VW18B-02	07/12/2021 15:32	Acrolein	ND	1.5	10	UJ	5F
SG-VW19A-02	07/13/2021 07:23	Acrolein	ND	1.4	9.3	UJ	5F
SG-VW19B-02	07/13/2021 08:11	1,1,1,2-Tetrachloroethane	ND	1.6	31	UJ	4D
		1,1,1-Trichloroethane	ND	0.49	6.2	UJ	4D
		1,1,2,2-Tetrachloroethane	ND	0.73	7.8	UJ	4D
		1,1,2-Trichloroethane	ND	1.0	6.2	UJ	4D
		1,1-Dichloroethane	ND	0.96	4.6	UJ	4D
		1,1-Dichloroethene	ND	1.5	4.5	UJ	4D
		1,1-Difluoroethane	1,200	2.7	12	J-	4D
		1,2,3-Trichloropropane	ND	1.7	27	UJ	4D
		1,2,4-Trichlorobenzene	ND	3.0	34	UJ	4D
		1,2,4-Trimethylbenzene	ND	0.65	5.6	UJ	4D
		1,2-Dibromo-3-chloropropane	ND	1.4	44	UJ	4D
		1,2-Dibromoethane (EDB)	ND	1.7	8.8	UJ	4D
		1,2-Dichlorobenzene	ND	0.77	6.8	UJ	4D
		1,2-Dichloroethane	ND	0.76	4.6	UJ	4D

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 ($\mu\text{g}/\text{m}^3$) (continued)							
SG-VW19B-02 (continued)	07/13/2021 08:11	1,2-Dichloropropane	ND	1.2	5.3	UJ	4D
		1,3,5-Trimethylbenzene	ND	1.2	5.6	UJ	4D
		1,3-Butadiene	ND	0.73	2.5	UJ	4D
		1,3-Dichlorobenzene	ND	0.78	6.8	UJ	4D
		1,4-Dichlorobenzene	ND	0.81	6.8	UJ	4D
		1,4-Dioxane	ND	2.4	16	UJ	4D
		2,2,4-Trimethylpentane	ND	0.62	5.3	UJ	4D
		2-Butanone (Methyl Ethyl Ketone)	ND	2.0	13	UJ	4D
		2-Hexanone	ND	0.45	19	UJ	4D
		2-Propanol	ND	0.84	11	UJ	4D
		3-Chloropropene	ND	3.1	14	UJ	4D
		4-Ethyltoluene	ND	1.1	5.6	UJ	4D
		4-Methyl-2-pentanone	ND	1.1	4.7	UJ	4D
		Acetone	31	2.7	27	J-	4D
		Acrolein	ND	1.6	10	UJ	4D,5F
		Acrylonitrile	ND	0.60	9.9	UJ	4D
		alpha-Chlorotoluene	ND	0.53	5.9	UJ	4D
		Benzene	ND	0.69	3.6	UJ	4D
		Bromodichloromethane	ND	1.1	7.6	UJ	4D
		Bromoform	ND	1.2	12	UJ	4D
		Bromomethane	ND	1.9	44	UJ	4D
		Carbon Disulfide	ND	1.4	14	UJ	4D
		Carbon Tetrachloride	ND	1.9	7.2	UJ	4D
		Chlorobenzene	ND	0.48	5.2	UJ	4D
		Chloroethane	ND	3.1	12	UJ	4D
		Chloroform	59	0.48	5.6	J-	4D
		Chloromethane	ND	1.6	24	UJ	4D
		<i>cis</i> -1,2-Dichloroethene	ND	1.6	4.5	UJ	4D
		<i>cis</i> -1,3-Dichloropropene	ND	1.0	5.2	UJ	4D
		Cumene	ND	0.71	5.6	UJ	4D
		Cyclohexane	ND	0.64	3.9	UJ	4D
		Dibromochloromethane	ND	1.6	9.7	UJ	4D
		Dibromomethane	ND	1.2	32	UJ	4D
		Ethanol	ND	2.6	21	UJ	4D
		Ethyl Acetate	ND	0.96	16	UJ	4D
		Ethyl Benzene	ND	1.3	4.9	UJ	4D
		Ethyl- <i>tert</i> -butyl ether	ND	1.0	19	UJ	4D
		Freon 11	14	1.4	6.4	J-	4D
		Freon 12	67	0.89	5.6	J-	4D
		Freon 113	ND	1.4	8.7	UJ	4D
		Freon 114	ND	1.4	8.0	UJ	4D
		Freon 134a	ND	2.3	19	UJ	4D
		Heptane	ND	1.1	4.7	UJ	4D
Hexachlorobutadiene	ND	4.5	49	UJ	4D		
Hexachloroethane	ND	44	44	UJ	4D		
Hexane	ND	0.73	4.0	UJ	4D		
Iodomethane	ND	0.86	66	UJ	4D		

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 ($\mu\text{g}/\text{m}^3$) (continued)							
SG-VW19B-02 (continued)	07/13/2021 08:11	Isopropyl ether	ND	0.56	19	UJ	4D
		m,p-Xylene	ND	1.1	5.0	UJ	4D
		Methyl <i>tert</i> -butyl ether	ND	0.88	16	UJ	4D
		Methylene Chloride	ND	0.81	40	UJ	4D
		Naphthalene	ND	4.6	12	UJ	4D
		o-Xylene	ND	1.2	5.0	UJ	4D
		Propylbenzene	ND	0.93	5.6	UJ	4D
		Propylene	ND	0.58	7.8	UJ	4D
		Styrene	ND	0.63	4.8	UJ	4D
		<i>tert</i> -Amyl methyl ether	ND	2.0	19	UJ	4D
		<i>tert</i> -Butyl alcohol	ND	0.96	14	UJ	4D
		Tetrachloroethene	260	1.2	7.7	J-	4D
		Tetrahydrofuran	ND	0.68	3.4	UJ	4D
		Toluene	ND	0.44	4.3	UJ	4D
		TPH - Gasoline	ND	470	470	UJ	4D
		<i>trans</i> -1,2-Dichloroethene	ND	1.2	4.5	UJ	4D
		<i>trans</i> -1,3-Dichloropropene	ND	0.90	5.2	UJ	4D
		Trichloroethene	ND	0.88	6.1	UJ	4D
		Vinyl Acetate	ND	4.3	16	UJ	4D
		Vinyl Bromide	ND	1.4	20	UJ	4D
Vinyl Chloride	ND	0.74	2.9	UJ	4D		
SG-VW20A-03	08/17/2021 07:07	Acrolein	ND	1.4	9.1	UJ	5F
		Iodomethane	ND	0.75	57	UJ	5A
SG-VW20B-02	07/15/2021 09:47	1,1,1,2-Tetrachloroethane	ND	200	3,900	UJ	4D
		1,1,1-Trichloroethane	ND	60	770	UJ	4D
		1,1,2,2-Tetrachloroethane	ND	91	970	UJ	4D
		1,1,2-Trichloroethane	ND	120	770	UJ	4D
		1,1-Dichloroethane	ND	120	570	UJ	4D
		1,1-Dichloroethene	ND	180	560	UJ	4D
		1,1-Difluoroethane	98,000	330	1,500	J-	4D
		1,2,3-Trichloropropane	ND	210	3,400	UJ	4D
		1,2,4-Trichlorobenzene	ND	370	4,200	UJ	4D
		1,2,4-Trimethylbenzene	ND	80	690	UJ	4D
		1,2-Dibromo-3-chloropropane	ND	180	5,400	UJ	4D
		1,2-Dibromoethane (EDB)	ND	210	1,100	UJ	4D
		1,2-Dichlorobenzene	ND	96	850	UJ	4D
		1,2-Dichloroethane	ND	94	570	UJ	4D
		1,2-Dichloropropane	ND	160	650	UJ	4D
		1,3,5-Trimethylbenzene	ND	140	690	UJ	4D
		1,3-Butadiene	ND	90	310	UJ	4D
		1,3-Dichlorobenzene	ND	97	850	UJ	4D
		1,4-Dichlorobenzene	ND	100	850	UJ	4D
		1,4-Dioxane	ND	300	2,000	UJ	4D
2,2,4-Trimethylpentane	ND	77	660	UJ	4D		
2-Butanone (Methyl Ethyl Ketone)	ND	250	1,700	UJ	4D		
2-Hexanone	ND	55	2,300	UJ	4D		
2-Propanol	ND	100	1,400	UJ	4D		

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 (µg/m³) (continued)							
SG-VW20B-02 (continued)	07/15/2021 09:47	3-Chloropropene	ND	380	1,800	UJ	4D
		4-Ethyltoluene	ND	140	690	UJ	4D
		4-Methyl-2-pentanone	790	140	580	J-	4D
		Acetone	ND	330	3,300	UJ	4D
		Acrolein	ND	190	1,300	UJ	4D,5F
		Acrylonitrile	ND	75	1,200	UJ	4D
		alpha-Chlorotoluene	ND	66	730	UJ	4D
		Benzene	ND	85	450	UJ	4D
		Bromodichloromethane	ND	140	940	UJ	4D
		Bromoform	ND	150	1,400	UJ	4D
		Bromomethane	ND	240	5,500	UJ	4D
		Carbon Disulfide	ND	170	1,800	UJ	4D
		Carbon Tetrachloride	ND	230	890	UJ	4D
		Chlorobenzene	ND	59	650	UJ	4D
		Chloroethane	ND	380	1,500	UJ	4D
		Chloroform	ND	59	690	UJ	4D
		Chloromethane	ND	200	2,900	UJ	4D
		<i>cis</i> -1,2-Dichloroethene	ND	200	560	UJ	4D
		<i>cis</i> -1,3-Dichloropropene	ND	120	640	UJ	4D
		Cumene	ND	87	690	UJ	4D
		Cyclohexane	ND	80	480	UJ	4D
		Dibromochloromethane	ND	200	1,200	UJ	4D
		Dibromomethane	ND	150	4,000	UJ	4D
		Ethanol	ND	330	2,600	UJ	4D
		Ethyl Acetate	ND	120	2,000	UJ	4D
		Ethyl Benzene	ND	160	610	UJ	4D
		Ethyl- <i>tert</i> -butyl ether	ND	120	2,400	UJ	4D
		Freon 11	ND	170	790	UJ	4D
		Freon 12	ND	110	700	UJ	4D
		Freon 113	ND	170	1,100	UJ	4D
		Freon 114	ND	180	980	UJ	4D
		Freon 134a	ND	290	2,400	UJ	4D
		Heptane	ND	140	580	UJ	4D
		Hexachlorobutadiene	ND	550	6,000	UJ	4D
		Hexachloroethane	ND	5,500	5,500	UJ	4D
		Hexane	ND	91	500	UJ	4D
		Iodomethane	ND	110	8,200	UJ	4D,5A
		Isopropyl ether	ND	70	2,400	UJ	4D
		<i>m,p</i> -Xylene	ND	140	610	UJ	4D
		Methyl <i>tert</i> -butyl ether	ND	110	2,000	UJ	4D
		Methylene Chloride	ND	100	4,900	UJ	4D
		Naphthalene	ND	570	1,500	UJ	4D
		<i>o</i> -Xylene	ND	150	610	UJ	4D
		Propylbenzene	ND	120	690	UJ	4D
		Propylene	ND	72	970	UJ	4D
		Styrene	ND	78	600	UJ	4D
		<i>tert</i> -Amyl methyl ether	ND	250	2,400	UJ	4D

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 (µg/m³) (continued)							
SG-VW20B-02 (continued)	07/15/2021 09:47	<i>tert</i> -Butyl alcohol	ND	120	1,700	UJ	4D
		Tetrachloroethene	ND	150	960	UJ	4D
		Tetrahydrofuran	ND	84	420	UJ	4D
		Toluene	ND	55	530	UJ	4D
		TPH - Gasoline	ND	58,000	58,000	UJ	4D
		<i>trans</i> -1,2-Dichloroethene	ND	140	560	UJ	4D
		<i>trans</i> -1,3-Dichloropropene	ND	110	640	UJ	4D
		Trichloroethene	ND	110	760	UJ	4D
		Vinyl Acetate	ND	540	2,000	UJ	4D
		Vinyl Bromide	ND	170	2,500	UJ	4D
		Vinyl Chloride	ND	91	360	UJ	4D
SG-VW21A-05	08/30/2021 10:59	1,1,1,2-Tetrachloroethane	ND	1.5	30	UJ	4D
		1,1,1-Trichloroethane	6.0	0.47	6.0	J-	4D
		1,1,2,2-Tetrachloroethane	ND	0.70	7.5	UJ	4D
		1,1,2-Trichloroethane	ND	0.96	6.0	UJ	4D
		1,1-Dichloroethane	ND	0.92	4.4	UJ	4D
		1,1-Dichloroethene	ND	1.4	4.3	UJ	4D
		1,1-Difluoroethane	49	2.6	12	J-	4D
		1,2,3-Trichloropropane	ND	1.6	26	UJ	4D
		1,2,4-Trichlorobenzene	ND	2.9	32	UJ	4D
		1,2,4-Trimethylbenzene	8.5	0.62	5.4	J-	4D,2A+
		1,2-Dibromo-3-chloropropane	ND	1.4	42	UJ	4D
		1,2-Dibromoethane (EDB)	ND	1.6	8.4	UJ	4D
		1,2-Dichlorobenzene	ND	0.74	6.6	UJ	4D
		1,2-Dichloroethane	ND	0.73	4.4	UJ	4D
		1,2-Dichloropropane	ND	1.2	5.1	UJ	4D
		1,3,5-Trimethylbenzene	3.8	1.1	5.4	J-	4D,6G
		1,3-Butadiene	ND	0.70	2.4	UJ	4D
		1,3-Dichlorobenzene	ND	0.75	6.6	UJ	4D
		1,4-Dichlorobenzene	ND	0.78	6.6	UJ	4D
		1,4-Dioxane	ND	2.3	16	UJ	4D
		2,2,4-Trimethylpentane	ND	0.60	5.1	UJ	4D
		2-Butanone (Methyl Ethyl Ketone)	7.6	2.0	13	J-	4D,6G
		2-Hexanone	0.72	0.43	18	J-	4D,6G
		2-Propanol	16	0.81	11	J-	4D,3E
		3-Chloropropene	ND	3.0	14	UJ	4D
		4-Ethyltoluene	7.2	1.1	5.4	J-	4D
		4-Methyl-2-pentanone	ND	1.1	4.5	UJ	4D
		Acetone	32	2.6	26	J-	4D,3E
		Acrolein	ND	1.5	10	UJ	4D,5F
		Acrylonitrile	ND	0.58	9.5	UJ	4D
		alpha-Chlorotoluene	ND	0.51	5.7	UJ	4D
		Benzene	3.1	0.66	3.5	J-	4D,6G
		Bromodichloromethane	ND	1.1	7.3	UJ	4D
Bromoform	ND	1.2	11	UJ	4D		
Bromomethane	ND	1.8	42	UJ	4D		
Carbon Disulfide	2.9	1.3	14	J-	4D,6G		

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 ($\mu\text{g}/\text{m}^3$) (continued)							
SG-VW21A-05 (continued)	08/30/2021 10:59	Carbon Tetrachloride	ND	1.8	6.9	UJ	4D
		Chlorobenzene	ND	0.46	5.0	UJ	4D
		Chloroethane	ND	3.0	12	UJ	4D
		Chloroform	9.1	0.46	5.3	J-	4D
		Chloromethane	ND	1.6	23	UJ	4D
		<i>cis</i> -1,2-Dichloroethene	ND	1.6	4.3	UJ	4D
		<i>cis</i> -1,3-Dichloropropene	ND	0.96	5.0	UJ	4D
		Cumene	ND	0.68	5.4	UJ	4D
		Cyclohexane	ND	0.62	3.8	UJ	4D
		Dibromochloromethane	ND	1.6	9.3	UJ	4D
		Dibromomethane	ND	1.2	31	UJ	4D
		Ethanol	7.1	2.6	21	J-	4D,6G
		Ethyl Acetate	ND	0.92	16	UJ	4D
		Ethyl Benzene	2.4	1.2	4.8	J-	4D,6G
		Ethyl- <i>tert</i> -butyl ether	ND	0.96	18	UJ	4D
		Freon 11	1.8	1.3	6.2	J-	4D,6G
		Freon 12	ND	0.86	5.4	UJ	4D,3E
		Freon 113	ND	1.3	8.4	UJ	4D
		Freon 114	ND	1.4	7.6	UJ	4D
		Freon 134a	ND	2.2	18	UJ	4D
		Heptane	ND	1.1	4.5	UJ	4D
		Hexachlorobutadiene	ND	4.3	47	UJ	4D
		Hexachloroethane	ND	42	42	UJ	4D
		Hexane	52	0.70	3.8	J-	4D,3E
		Iodomethane	ND	0.83	64	UJ	4D,5A
		Isopropyl ether	ND	0.54	18	UJ	4D
		<i>m,p</i> -Xylene	6.5	1.1	4.8	J-	4D
		Methyl <i>tert</i> -butyl ether	ND	0.85	16	UJ	4D
		Methylene Chloride	ND	0.78	38	UJ	4D
		Naphthalene	ND	4.4	11	UJ	4D
		<i>o</i> -Xylene	3.1	1.2	4.8	J-	4D,6G
		Propylbenzene	1.5	0.89	5.4	J-	4D,6G
		Propylene	ND	0.56	7.5	UJ	4D
		Styrene	ND	0.60	4.7	UJ	4D
		<i>tert</i> -Amyl methyl ether	ND	1.9	18	UJ	4D
		<i>tert</i> -Butyl alcohol	ND	0.92	13	UJ	4D
		Tetrachloroethene	170	1.2	7.4	J-	4D
		Tetrahydrofuran	1.6	0.65	3.2	J-	4D,6G
		Toluene	13	0.42	4.1	J-	4D
		TPH - Gasoline	ND	450	450	UJ	4D,3E
		<i>trans</i> -1,2-Dichloroethene	ND	1.1	4.3	UJ	4D
		<i>trans</i> -1,3-Dichloropropene	ND	0.86	5.0	UJ	4D
		Trichloroethene	23	0.85	5.9	J-	4D
		Vinyl Acetate	ND	4.2	15	UJ	4D
		Vinyl Bromide	ND	1.3	19	UJ	4D
		Vinyl Chloride	ND	0.71	2.8	UJ	4D

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 ($\mu\text{g}/\text{m}^3$) (continued)							
SG-VW21A-06	08/30/2021 11:25	1,1,1,2-Tetrachloroethane	ND	1.1	30	UJ	4D
		1,1,1-Trichloroethane	5.2	0.73	6.0	J-	4D,6G
		1,1,2,2-Tetrachloroethane	ND	0.59	7.6	UJ	4D
		1,1,2-Trichloroethane	ND	0.82	6.0	UJ	4D
		1,1-Dichloroethane	ND	0.59	4.5	UJ	4D
		1,1-Dichloroethene	ND	0.92	4.4	UJ	4D
		1,1-Difluoroethane	48	2.3	12	J-	4D
		1,2,3-Trichloropropane	ND	2.0	27	UJ	4D
		1,2,4-Trichlorobenzene	ND	3.7	33	UJ	4D
		1,2,4-Trimethylbenzene	9.2	2.0	5.4	J-	4D
		1,2-Dibromo-3-chloropropane	ND	4.1	43	UJ	4D
		1,2-Dibromoethane (EDB)	ND	0.72	8.5	UJ	4D
		1,2-Dichlorobenzene	ND	0.57	6.7	UJ	4D
		1,2-Dichloroethane	ND	0.90	4.5	UJ	4D
		1,2-Dichloropropane	ND	1.7	5.1	UJ	4D
		1,3,5-Trimethylbenzene	3.7	0.85	5.4	J-	4D,6G
		1,3-Butadiene	ND	0.81	2.4	UJ	4D,2A,-,5A
		1,3-Dichlorobenzene	ND	0.85	6.7	UJ	4D
		1,4-Dichlorobenzene	ND	0.43	6.7	UJ	4D
		1,4-Dioxane	ND	0.79	16	UJ	4D
		2,2,4-Trimethylpentane	ND	0.40	5.2	UJ	4D
		2-Butanone (Methyl Ethyl Ketone)	4.9	2.3	13	J-	4D,6G
		2-Hexanone	ND	1.5	18	UJ	4D
		2-Propanol	8.7	0.73	11	J-	4D,6G,3E
		3-Chloropropene	ND	1.4	14	UJ	4D
		4-Ethyltoluene	7.1	1.4	5.4	J-	4D
		4-Methyl-2-pentanone	ND	0.68	4.5	UJ	4D
		Acetone	18	1.9	26	J-	4D,6G,3E
		Acrolein	ND	3.1	10	UJ	4D,5F
		Acrylonitrile	ND	0.91	9.6	UJ	4D
		alpha-Chlorotoluene	ND	0.46	5.7	UJ	4D
		Benzene	2.6	0.27	3.5	J-	4D,6G
		Bromodichloromethane	ND	1.4	7.4	UJ	4D
		Bromoform	ND	0.99	11	UJ	4D
		Bromomethane	ND	1.9	43	UJ	4D
		Carbon Disulfide	6.1	3.2	14	J-	4D,6G
		Carbon Tetrachloride	ND	1.1	7.0	UJ	4D
		Chlorobenzene	ND	0.45	5.1	UJ	4D
		Chloroethane	ND	2.4	12	UJ	4D
		Chloroform	8.6	0.64	5.4	J-	4D
		Chloromethane	ND	2.4	23	UJ	4D
		cis-1,2-Dichloroethene	ND	0.79	4.4	UJ	4D
		cis-1,3-Dichloropropene	ND	0.73	5.0	UJ	4D
		Cumene	ND	0.70	5.4	UJ	4D
		Cyclohexane	ND	0.82	3.8	UJ	4D
		Dibromochloromethane	ND	1.3	9.4	UJ	4D
		Dibromomethane	ND	1.5	32	UJ	4D

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 ($\mu\text{g}/\text{m}^3$) (continued)							
SG-VW21A-06 (continued)	08/30/2021 11:25	Ethanol	4.6	2.3	21	J-	4D,6G
		Ethyl Acetate	ND	4.6	16	UJ	4D
		Ethyl Benzene	1.9	0.81	4.8	J-	4D,6G
		Ethyl- <i>tert</i> -butyl ether	ND	1.4	18	UJ	4D
		Freon 11	1.4	0.72	6.2	J-	4D,6G
		Freon 12	17	0.99	5.5	J-	4D,3E
		Freon 113	ND	1.3	8.5	UJ	4D
		Freon 114	ND	1.1	7.8	UJ	4D
		Freon 134a	ND	2.5	18	UJ	4D
		Heptane	ND	0.81	4.5	UJ	4D
		Hexachlorobutadiene	ND	5.2	47	UJ	4D
		Hexachloroethane	ND	43	43	UJ	4D
		Hexane	31	0.72	3.9	J-	4D,3E
		Iodomethane	ND	3.5	64	UJ	4D
		Isopropyl ether	ND	1.2	18	UJ	4D
		m,p-Xylene	7.4	2.6	4.8	J-	4D
		Methyl <i>tert</i> -butyl ether	ND	0.98	16	UJ	4D
		Methylene Chloride	ND	2.2	38	UJ	4D
		Naphthalene	ND	0.76	12	UJ	4D
		o-Xylene	3.6	1.3	4.8	J-	4D,6G
		Propylbenzene	1.6	0.89	5.4	J-	4D,6G
		Propylene	ND	1.4	7.6	UJ	4D
		Styrene	ND	0.55	4.7	UJ	4D
		<i>tert</i> -Amyl methyl ether	ND	2.7	18	UJ	4D
		<i>tert</i> -Butyl alcohol	ND	1.2	13	UJ	4D
		Tetrachloroethene	150	1.3	7.5	J-	4D
		Tetrahydrofuran	ND	0.71	3.3	UJ	4D
		Toluene	12	1.0	4.2	J-	4D
		TPH - Gasoline	530	450	450	J-	4D,3E
		<i>trans</i> -1,2-Dichloroethene	ND	1.8	4.4	UJ	4D
<i>trans</i> -1,3-Dichloropropene	ND	0.69	5.0	UJ	4D		
Trichloroethene	20	0.75	6.0	J-	4D		
Vinyl Acetate	ND	3.1	16	UJ	4D		
Vinyl Bromide	ND	1.6	19	UJ	4D		
Vinyl Chloride	ND	1.1	2.8	UJ	4D		
SG-VW21B-02	07/15/2021 14:55	Acrolein	ND	1.5	9.8	UJ	5F
		Iodomethane	ND	0.81	62	UJ	5A
SG-VW22A-02	07/14/2021 12:40	1,2-Dichloropropane	ND	1.7	5.0	UJ	5A
		2-Propanol	11	0.72	11	J	6G
		Acrolein	ND	3.0	10	UJ	5F
SG-VW22B-02	07/14/2021 13:10	1,1,1,2-Tetrachloroethane	ND	1.1	30	UJ	4D
		1,1,1-Trichloroethane	ND	0.71	5.9	UJ	4D
		1,1,2,2-Tetrachloroethane	ND	0.58	7.4	UJ	4D
		1,1,2-Trichloroethane	ND	0.80	5.9	UJ	4D
		1,1-Dichloroethane	ND	0.57	4.4	UJ	4D
		1,1-Dichloroethene	ND	0.89	4.3	UJ	4D
		1,1-Difluoroethane	48	2.2	12	J-	4D

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 (µg/m³) (continued)							
SG-VW22B-02 (continued)	07/14/2021 13:10	1,2,3-Trichloropropane	ND	2.0	26	UJ	4D
		1,2,4-Trichlorobenzene	ND	3.6	32	UJ	4D
		1,2,4-Trimethylbenzene	ND	2.0	5.3	UJ	4D
		1,2-Dibromo-3-chloropropane	ND	4.0	42	UJ	4D
		1,2-Dibromoethane (EDB)	ND	0.70	8.3	UJ	4D
		1,2-Dichlorobenzene	ND	0.55	6.5	UJ	4D
		1,2-Dichloroethane	ND	0.87	4.4	UJ	4D
		1,2-Dichloropropane	ND	1.7	5.0	UJ	4D,5A
		1,3,5-Trimethylbenzene	ND	0.82	5.3	UJ	4D
		1,3-Butadiene	ND	0.78	2.4	UJ	4D
		1,3-Dichlorobenzene	ND	0.83	6.5	UJ	4D
		1,4-Dichlorobenzene	ND	0.42	6.5	UJ	4D
		1,4-Dioxane	ND	0.77	15	UJ	4D
		2,2,4-Trimethylpentane	ND	0.39	5.0	UJ	4D
		2-Butanone (Methyl Ethyl Ketone)	ND	2.2	13	UJ	4D
		2-Hexanone	ND	1.5	18	UJ	4D
		2-Propanol	12	0.71	10	J-	4D
		3-Chloropropene	ND	1.4	13	UJ	4D
		4-Ethyltoluene	ND	1.3	5.3	UJ	4D
		4-Methyl-2-pentanone	ND	0.66	4.4	UJ	4D
		Acetone	46	1.8	26	J-	4D
		Acrolein	ND	3.0	9.8	UJ	4D,5F
		Acrylonitrile	ND	0.88	9.3	UJ	4D
		alpha-Chlorotoluene	ND	0.45	5.6	UJ	4D
		Benzene	ND	0.26	3.4	UJ	4D
		Bromodichloromethane	ND	1.4	7.2	UJ	4D
		Bromoform	ND	0.96	11	UJ	4D
		Bromomethane	ND	1.9	42	UJ	4D
		Carbon Disulfide	ND	3.1	13	UJ	4D
		Carbon Tetrachloride	ND	1.1	6.8	UJ	4D
		Chlorobenzene	ND	0.43	4.9	UJ	4D
		Chloroethane	ND	2.3	11	UJ	4D
		Chloroform	26	0.62	5.2	J-	4D
		Chloromethane	ND	2.4	22	UJ	4D
		<i>cis</i> -1,2-Dichloroethene	ND	0.77	4.3	UJ	4D
		<i>cis</i> -1,3-Dichloropropene	ND	0.71	4.9	UJ	4D
		Cumene	ND	0.67	5.3	UJ	4D
		Cyclohexane	ND	0.79	3.7	UJ	4D
		Dibromochloromethane	ND	1.3	9.2	UJ	4D
		Dibromomethane	ND	1.5	30	UJ	4D
		Ethanol	39	2.2	20	J-	4D
		Ethyl Acetate	ND	4.4	15	UJ	4D
		Ethyl Benzene	ND	0.78	4.7	UJ	4D
Ethyl- <i>tert</i> -butyl ether	ND	1.3	18	UJ	4D		
Freon 11	ND	0.69	6.0	UJ	4D		
Freon 12	ND	0.96	5.3	UJ	4D		
Freon 113	ND	1.3	8.2	UJ	4D		

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 ($\mu\text{g}/\text{m}^3$) (continued)							
SG-VW22B-02 (continued)	07/14/2021 13:10	Freon 134a	ND	2.4	18	UJ	4D
		Heptane	ND	0.79	4.4	UJ	4D
		Hexachlorobutadiene	ND	5.1	46	UJ	4D
		Hexachloroethane	ND	42	42	UJ	4D
		Hexane	ND	0.70	3.8	UJ	4D
		Iodomethane	ND	3.4	62	UJ	4D
		Isopropyl ether	ND	1.2	18	UJ	4D
		m,p-Xylene	ND	2.6	4.7	UJ	4D
		Methyl <i>tert</i> -butyl ether	ND	0.95	16	UJ	4D
		Methylene Chloride	ND	2.1	37	UJ	4D
		Naphthalene	ND	0.73	11	UJ	4D
		o-Xylene	ND	1.2	4.7	UJ	4D
		Propylbenzene	ND	0.29	5.3	UJ	4D
		Propylene	ND	1.4	7.4	UJ	4D
		Styrene	ND	0.53	4.6	UJ	4D
		<i>tert</i> -Amyl methyl ether	ND	2.6	18	UJ	4D
		<i>tert</i> -Butyl alcohol	ND	1.2	13	UJ	4D
		Tetrachloroethene	150	1.3	7.3	J-	4D
		Tetrahydrofuran	ND	0.68	3.2	UJ	4D
		Toluene	23	0.98	4.0	J-	4D
		TPH - Gasoline	ND	440	440	UJ	4D
		<i>trans</i> -1,2-Dichloroethene	ND	1.8	4.3	UJ	4D
		<i>trans</i> -1,3-Dichloropropene	ND	0.67	4.9	UJ	4D
		Trichloroethene	11	0.73	5.8	J-	4D
		Vinyl Acetate	ND	3.0	15	UJ	4D
		Vinyl Bromide	ND	1.5	19	UJ	4D
		Vinyl Chloride	ND	1.1	2.7	UJ	4D
SG-VW23B-02	07/14/2021 11:37	1,2-Dichloropropane	ND	1.6	4.9	UJ	5A
		Acrolein	ND	2.9	9.8	UJ	5F
SG-VW24A-05	08/17/2021 08:25	Acrolein	ND	1.4	9.3	UJ	5F
		Iodomethane	ND	0.76	59	UJ	5A
SG-VW24B-02	07/14/2021 09:47	1,2-Dichloropropane	ND	1.9	5.6	UJ	5A
		Acrolein	ND	3.3	11	UJ	5F
SG-VW25A-02	07/13/2021 12:50	Acrolein	ND	1.7	11	UJ	5F
SG-VW25B-02	07/13/2021 13:18	Acrolein	ND	1.6	11	UJ	5F
SG-VW26A-02	07/09/2021 15:03	1,2-Dichloropropane	ND	1.2	4.8	UJ	5A
		Acrolein	ND	1.4	9.6	UJ	5F
SG-VW26B-02	07/15/2021 07:48	Acrolein	ND	1.4	9.1	UJ	5F
		Iodomethane	ND	0.75	57	UJ	5A
SG-VW27A-02	07/15/2021 06:03	Acrolein	ND	1.5	9.8	UJ	5F
		Iodomethane	ND	0.81	62	UJ	5A
SG-VW27B-02	07/15/2021 06:44	Acrolein	ND	1.4	9.4	UJ	5F
		Iodomethane	ND	0.78	60	UJ	5A
SG-VW27B-03	07/15/2021 06:44	Acrolein	ND	1.4	9.4	UJ	5F
		Iodomethane	ND	0.78	60	UJ	5A
SG-VW28A-02	07/15/2021 15:31	Acrolein	ND	1.6	11	UJ	5F
		Iodomethane	ND	0.88	68	UJ	5A

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 ($\mu\text{g}/\text{m}^3$) (continued)							
SG-VW28B-02	07/15/2021 13:50	1,1,1,2-Tetrachloroethane	ND	8.5	230	UJ	4D
		1,1,1-Trichloroethane	ND	5.5	46	UJ	4D
		1,1,2,2-Tetrachloroethane	ND	4.5	58	UJ	4D
		1,1,2-Trichloroethane	ND	6.2	46	UJ	4D
		1,1-Dichloroethane	ND	4.4	34	UJ	4D
		1,1-Dichloroethene	ND	6.9	33	UJ	4D
		1,1-Difluoroethane	6,300	17	91	J-	4D
		1,2,3-Trichloropropane	ND	15	200	UJ	4D
		1,2,4-Trichlorobenzene	ND	28	250	UJ	4D
		1,2,4-Trimethylbenzene	ND	15	41	UJ	4D
		1,2-Dibromo-3-chloropropane	ND	31	320	UJ	4D
		1,2-Dibromoethane (EDB)	ND	5.4	64	UJ	4D
		1,2-Dichlorobenzene	ND	4.3	50	UJ	4D
		1,2-Dichloroethane	ND	6.8	34	UJ	4D
		1,2-Dichloropropane	ND	13	39	UJ	4D,5A
		1,3,5-Trimethylbenzene	ND	6.4	41	UJ	4D
		1,3-Butadiene	ND	6.1	18	UJ	4D
		1,3-Dichlorobenzene	ND	6.5	50	UJ	4D
		1,4-Dichlorobenzene	ND	3.3	50	UJ	4D
		1,4-Dioxane	ND	6.0	120	UJ	4D
		2,2,4-Trimethylpentane	ND	3.0	39	UJ	4D
		2-Butanone (Methyl Ethyl Ketone)	ND	17	99	UJ	4D
		2-Hexanone	ND	12	140	UJ	4D
		2-Propanol	ND	5.5	82	UJ	4D
		3-Chloropropene	ND	11	100	UJ	4D
		4-Ethyltoluene	ND	10	41	UJ	4D
		4-Methyl-2-pentanone	ND	5.2	34	UJ	4D
		Acetone	ND	14	200	UJ	4D
		Acrolein	ND	23	77	UJ	4D,5F
		Acrylonitrile	ND	6.9	73	UJ	4D
		alpha-Chlorotoluene	ND	3.5	43	UJ	4D
		Benzene	ND	2.0	27	UJ	4D
		Bromodichloromethane	ND	11	56	UJ	4D
		Bromoform	ND	7.5	87	UJ	4D
		Bromomethane	ND	15	330	UJ	4D
		Carbon Disulfide	ND	24	100	UJ	4D
		Carbon Tetrachloride	ND	8.6	53	UJ	4D
		Chlorobenzene	ND	3.4	39	UJ	4D
		Chloroethane	ND	18	89	UJ	4D
		Chloroform	ND	4.8	41	UJ	4D
		Chloromethane	ND	18	170	UJ	4D
		<i>cis</i> -1,2-Dichloroethene	ND	6.0	33	UJ	4D
		<i>cis</i> -1,3-Dichloropropene	ND	5.5	38	UJ	4D
		Cumene	ND	5.3	41	UJ	4D
		Cyclohexane	ND	6.2	29	UJ	4D
		Dibromochloromethane	ND	10	72	UJ	4D
		Dibromomethane	ND	12	240	UJ	4D

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 ($\mu\text{g}/\text{m}^3$) (continued)							
SG-VW28B-02 (continued)	07/15/2021 13:50	Ethanol	ND	17	160	UJ	4D
		Ethyl Acetate	ND	35	120	UJ	4D
		Ethyl Benzene	ND	6.1	36	UJ	4D
		Ethyl- <i>tert</i> -butyl ether	ND	10	140	UJ	4D
		Freon 11	ND	5.4	47	UJ	4D
		Freon 12	ND	7.5	42	UJ	4D
		Freon 113	ND	10	64	UJ	4D
		Freon 114	ND	8.1	59	UJ	4D
		Freon 134a	ND	19	140	UJ	4D
		Heptane	ND	6.2	34	UJ	4D
		Hexachlorobutadiene	ND	40	360	UJ	4D
		Hexachloroethane	ND	320	320	UJ	4D
		Hexane	ND	5.5	30	UJ	4D
		Iodomethane	ND	27	490	UJ	4D
		Isopropyl ether	ND	9.4	140	UJ	4D
		m,p-Xylene	ND	20	36	UJ	4D
		Methyl <i>tert</i> -butyl ether	ND	7.4	120	UJ	4D
		Methylene Chloride	ND	16	290	UJ	4D
		Naphthalene	ND	5.7	88	UJ	4D
		o-Xylene	ND	9.8	36	UJ	4D
		Propylbenzene	ND	2.3	41	UJ	4D
		Propylene	ND	11	58	UJ	4D
		Styrene	ND	4.2	36	UJ	4D
		<i>tert</i> -Amyl methyl ether	ND	20	140	UJ	4D
		<i>tert</i> -Butyl alcohol	ND	9.3	100	UJ	4D
		Tetrachloroethene	110	10	57	J-	4D
		Tetrahydrofuran	ND	5.4	25	UJ	4D
		Toluene	ND	7.6	32	UJ	4D
		TPH - Gasoline	ND	3,400	3,400	UJ	4D
		<i>trans</i> -1,2-Dichloroethene	ND	14	33	UJ	4D
		<i>trans</i> -1,3-Dichloropropene	ND	5.2	38	UJ	4D
		Trichloroethene	ND	5.7	45	UJ	4D
		Vinyl Acetate	ND	23	120	UJ	4D
Vinyl Bromide	ND	12	150	UJ	4D		
Vinyl Chloride	ND	8.5	21	UJ	4D		
SG-VW29A-03	08/17/2021 09:04	Acrolein	ND	1.5	9.8	UJ	5F
		Iodomethane	ND	0.81	62	UJ	5A
SG-VW29B-02	07/15/2021 13:05	1,2-Dichloropropane	ND	1.6	4.8	UJ	5A
		Acrolein	ND	2.8	9.5	UJ	5F
SG-VW30A-03	07/15/2021 08:17	1,2-Dichloropropane	ND	2.4	7.1	UJ	5A
		Acrolein	ND	4.2	14	UJ	5F
SG-VW30B-03	07/15/2021 09:01	1,1,1,2-Tetrachloroethane	ND	11	310	UJ	4D
		1,1,1-Trichloroethane	ND	7.4	61	UJ	4D
		1,1,2,2-Tetrachloroethane	ND	6.0	77	UJ	4D
		1,1,2-Trichloroethane	ND	8.3	61	UJ	4D
		1,1-Dichloroethane	ND	5.9	45	UJ	4D
		1,1-Dichloroethene	ND	9.3	44	UJ	4D

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 ($\mu\text{g}/\text{m}^3$) (continued)							
SG-VW30B-03 (continued)	07/15/2021 09:01	1,1-Difluoroethane	9,600	23	120	J-	4D
		1,2,3-Trichloropropane	ND	20	270	UJ	4D
		1,2,4-Trichlorobenzene	ND	37	330	UJ	4D
		1,2,4-Trimethylbenzene	ND	20	55	UJ	4D
		1,2-Dibromo-3-chloropropane	ND	42	430	UJ	4D
		1,2-Dibromoethane (EDB)	ND	7.2	86	UJ	4D
		1,2-Dichlorobenzene	ND	5.8	67	UJ	4D
		1,2-Dichloroethane	ND	9.1	45	UJ	4D
		1,2-Dichloropropane	ND	17	52	UJ	4D,5A
		1,3,5-Trimethylbenzene	ND	8.5	55	UJ	4D
		1,3-Butadiene	ND	8.2	25	UJ	4D
		1,3-Dichlorobenzene	ND	8.6	67	UJ	4D
		1,4-Dichlorobenzene	ND	4.4	67	UJ	4D
		1,4-Dioxane	ND	8.0	160	UJ	4D
		2,2,4-Trimethylpentane	ND	4.0	52	UJ	4D
		2-Butanone (Methyl Ethyl Ketone)	ND	23	130	UJ	4D
		2-Hexanone	ND	16	180	UJ	4D
		2-Propanol	ND	7.4	110	UJ	4D
		3-Chloropropene	ND	14	140	UJ	4D
		4-Ethyltoluene	ND	14	55	UJ	4D
		4-Methyl-2-pentanone	ND	6.9	46	UJ	4D
		Acetone	ND	19	270	UJ	4D
		Acrolein	ND	31	100	UJ	4D,5F
		Acrylonitrile	ND	9.2	97	UJ	4D
		alpha-Chlorotoluene	ND	4.7	58	UJ	4D
		Benzene	ND	2.7	36	UJ	4D
		Bromodichloromethane	ND	14	75	UJ	4D
		Bromoform	ND	10	120	UJ	4D
		Bromomethane	ND	20	430	UJ	4D
		Carbon Disulfide	ND	33	140	UJ	4D
		Carbon Tetrachloride	ND	11	70	UJ	4D
		Chlorobenzene	ND	4.5	52	UJ	4D
		Chloroethane	ND	24	120	UJ	4D
		Chloroform	540	6.5	55	J-	4D
		Chloromethane	ND	24	230	UJ	4D
		<i>cis</i> -1,2-Dichloroethene	ND	8.0	44	UJ	4D
		<i>cis</i> -1,3-Dichloropropene	ND	7.4	51	UJ	4D
		Cumene	ND	7.0	55	UJ	4D
		Cyclohexane	ND	8.3	38	UJ	4D
		Dibromochloromethane	ND	13	95	UJ	4D
		Dibromomethane	ND	15	320	UJ	4D
		Ethanol	ND	23	210	UJ	4D
		Ethyl Acetate	ND	46	160	UJ	4D
		Ethyl Benzene	ND	8.1	49	UJ	4D
		Ethyl- <i>tert</i> -butyl ether	ND	14	190	UJ	4D
		Freon 11	ND	7.2	63	UJ	4D
		Freon 12	ND	10	55	UJ	4D

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 (µg/m³) (continued)							
SG-VW30B-03 (continued)	07/15/2021 09:01	Freon 113	ND	14	86	UJ	4D
		Freon 114	ND	11	78	UJ	4D
		Freon 134a	ND	25	190	UJ	4D
		Heptane	ND	8.2	46	UJ	4D
		Hexachlorobutadiene	ND	53	480	UJ	4D
		Hexachloroethane	ND	430	430	UJ	4D
		Hexane	ND	7.3	39	UJ	4D
		Iodomethane	ND	36	650	UJ	4D
		Isopropyl ether	ND	12	190	UJ	4D
		m,p-Xylene	ND	26	49	UJ	4D
		Methyl <i>tert</i> -butyl ether	ND	9.9	160	UJ	4D
		Methylene Chloride	ND	22	390	UJ	4D
		Naphthalene	ND	7.6	120	UJ	4D
		o-Xylene	ND	13	49	UJ	4D
		Propylbenzene	ND	3.1	55	UJ	4D
		Propylene	ND	14	77	UJ	4D
		Styrene	ND	5.6	48	UJ	4D
		<i>tert</i> -Amyl methyl ether	ND	27	190	UJ	4D
		<i>tert</i> -Butyl alcohol	ND	12	140	UJ	4D
		Tetrachloroethene	240	13	76	J-	4D
		Tetrahydrofuran	ND	7.1	33	UJ	4D
		Toluene	ND	10	42	UJ	4D
		TPH - Gasoline	ND	4,600	4,600	UJ	4D
		<i>trans</i> -1,2-Dichloroethene	ND	18	44	UJ	4D
		<i>trans</i> -1,3-Dichloropropene	ND	7.0	51	UJ	4D
		Trichloroethene	ND	7.6	60	UJ	4D
		Vinyl Acetate	ND	31	160	UJ	4D
		Vinyl Bromide	ND	16	200	UJ	4D
		Vinyl Chloride	ND	11	29	UJ	4D
		SG-VW31A-02	07/09/2021 13:34	1,2-Dichloropropane	ND	1.2	5.1
Acrolein	ND			1.5	10	UJ	5F
SG-VW31B-03	07/09/2021 14:06	1,2-Dichloropropane	ND	1.2	5.2	UJ	5A
		Acrolein	ND	1.5	10	UJ	5F
SG-VW32A-03	07/12/2021 11:26	1,2-Dichloropropane	ND	2.2	6.6	UJ	5A
		Acrolein	ND	4.0	13	UJ	5F
SG-VW32B-02	07/12/2021 10:31	1,1,1,2-Tetrachloroethane	ND	1.1	30	UJ	4D
		1,1,1-Trichloroethane	ND	0.72	5.9	UJ	4D
		1,1,2,2-Tetrachloroethane	ND	0.58	7.4	UJ	4D
		1,1,2-Trichloroethane	ND	0.81	5.9	UJ	4D
		1,1-Dichloroethane	ND	0.57	4.4	UJ	4D
		1,1-Dichloroethene	ND	0.90	4.3	UJ	4D
		1,1-Difluoroethane	140	2.2	12	J-	4D
		1,2,3-Trichloropropane	ND	2.0	26	UJ	4D
		1,2,4-Trichlorobenzene	ND	3.6	32	UJ	4D
		1,2,4-Trimethylbenzene	66	2.0	5.3	J-	4D
		1,2-Dibromo-3-chloropropane	ND	4.0	42	UJ	4D
		1,2-Dibromoethane (EDB)	ND	0.70	8.3	UJ	4D

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 (µg/m³) (continued)							
SG-VW32B-02 (continued)	07/12/2021 10:31	1,2-Dichlorobenzene	ND	0.56	6.5	UJ	4D
		1,2-Dichloroethane	ND	0.88	4.4	UJ	4D
		1,2-Dichloropropane	ND	1.7	5.0	UJ	4D,5A
		1,3,5-Trimethylbenzene	29	0.83	5.3	J-	4D
		1,3-Butadiene	ND	0.79	2.4	UJ	4D
		1,3-Dichlorobenzene	ND	0.83	6.5	UJ	4D
		1,4-Dichlorobenzene	ND	0.42	6.5	UJ	4D
		1,4-Dioxane	ND	0.77	16	UJ	4D
		2,2,4-Trimethylpentane	20	0.39	5.1	J-	4D
		2-Butanone (Methyl Ethyl Ketone)	ND	2.2	13	UJ	4D
		2-Hexanone	ND	1.5	18	UJ	4D
		2-Propanol	18	0.72	11	J-	4D
		3-Chloropropene	ND	1.4	14	UJ	4D
		4-Ethyltoluene	80	1.4	5.3	J-	4D
		4-Methyl-2-pentanone	ND	0.67	4.4	UJ	4D
		Acetone	50	1.8	26	J-	4D
		Acrolein	ND	3.0	10	UJ	4D,5F
		Acrylonitrile	ND	0.89	9.4	UJ	4D
		alpha-Chlorotoluene	ND	0.45	5.6	UJ	4D
		Benzene	22	0.26	3.5	J-	4D
		Bromodichloromethane	ND	1.4	7.3	UJ	4D
		Bromoform	ND	0.97	11	UJ	4D
		Bromomethane	ND	1.9	42	UJ	4D
		Carbon Disulfide	ND	3.2	14	UJ	4D
		Carbon Tetrachloride	ND	1.1	6.8	UJ	4D
		Chlorobenzene	ND	0.44	5.0	UJ	4D
		Chloroethane	ND	2.3	11	UJ	4D
		Chloroform	ND	0.63	5.3	UJ	4D
		Chloromethane	ND	2.4	22	UJ	4D
		cis-1,2-Dichloroethene	ND	0.78	4.3	UJ	4D
		cis-1,3-Dichloropropene	ND	0.72	4.9	UJ	4D
		Cumene	ND	0.68	5.3	UJ	4D
		Cyclohexane	7.7	0.80	3.7	J-	4D
		Dibromochloromethane	ND	1.3	9.2	UJ	4D
		Dibromomethane	ND	1.5	31	UJ	4D
		Ethanol	ND	2.2	20	UJ	4D
		Ethyl Acetate	ND	4.5	16	UJ	4D
		Ethyl Benzene	65	0.79	4.7	J-	4D
Ethyl- <i>tert</i> -butyl ether	ND	1.4	18	UJ	4D		
Freon 11	ND	0.70	6.1	UJ	4D		
Freon 12	ND	0.97	5.4	UJ	4D		
Freon 113	ND	1.3	8.3	UJ	4D		
Freon 114	ND	1.0	7.6	UJ	4D		
Freon 134a	ND	2.4	18	UJ	4D		
Heptane	16	0.79	4.4	J-	4D		
Hexachlorobutadiene	ND	5.1	46	UJ	4D		
Hexachloroethane	ND	42	42	UJ	4D		

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 (µg/m³) (continued)							
SG-VW32B-02 (continued)	07/12/2021 10:31	Hexane	19	0.71	3.8	J-	4D
		Iodomethane	ND	3.4	63	UJ	4D
		Isopropyl ether	ND	1.2	18	UJ	4D
		m,p-Xylene	200	2.6	4.7	J-	4D
		Methyl <i>tert</i> -butyl ether	ND	0.96	16	UJ	4D
		Methylene Chloride	ND	2.1	38	UJ	4D
		Naphthalene	ND	0.74	11	UJ	4D
		o-Xylene	64	1.2	4.7	J-	4D
		Propylbenzene	17	0.30	5.3	J-	4D
		Propylene	ND	1.4	7.5	UJ	4D
		Styrene	ND	0.54	4.6	UJ	4D
		<i>tert</i> -Amyl methyl ether	ND	2.6	18	UJ	4D
		<i>tert</i> -Butyl alcohol	ND	1.2	13	UJ	4D
		Tetrachloroethene	60	1.3	7.4	J-	4D
		Tetrahydrofuran	ND	0.69	3.2	UJ	4D
		Toluene	51	0.99	4.1	J-	4D
		TPH - Gasoline	4,500	440	440	J-	4D
		<i>trans</i> -1,2-Dichloroethene	ND	1.8	4.3	UJ	4D
		<i>trans</i> -1,3-Dichloropropene	ND	0.68	4.9	UJ	4D
		Trichloroethene	ND	0.73	5.8	UJ	4D
Vinyl Acetate	ND	3.0	15	UJ	4D		
Vinyl Bromide	ND	1.5	19	UJ	4D		
Vinyl Chloride	ND	1.1	2.8	UJ	4D		
SG-VW33A-02	07/14/2021 12:18	1,2-Dichloropropane	ND	2.0	5.9	UJ	5A
		Acrolein	ND	3.5	12	UJ	5F
		Ethanol	ND	2.6	24	UJ	2A-
		Naphthalene	ND	0.87	13	UJ	5B-
SG-VW33B-02	07/14/2021 12:41	1,2-Dichloropropane	ND	1.9	5.8	UJ	5A
		Acrolein	ND	3.4	11	UJ	5F
		Ethanol	ND	2.6	24	UJ	2A-
		Naphthalene	ND	0.85	13	UJ	5B-
SG-VW34A-02	07/14/2021 13:30	1,2-Dichloropropane	ND	1.8	5.2	UJ	5A
		Acrolein	ND	3.1	10	UJ	5F
		Ethanol	ND	2.3	21	UJ	2A-
		Naphthalene	ND	0.77	12	UJ	5B-
SG-VW34A-03	07/14/2021 13:30	1,2-Dichloropropane	ND	1.8	5.4	UJ	5A
		Acrolein	ND	3.2	11	UJ	5F
SG-VW34B-02	07/14/2021 14:11	1,2-Dichloropropane	ND	1.9	5.5	UJ	5A
		Acrolein	ND	3.3	11	UJ	5F
SG-VW35A-03	08/16/2021 09:01	Acrolein	ND	1.4	9.6	UJ	5F
		Hexane	4,300	0.68	3.7	J	6E
		Iodomethane	ND	0.79	61	UJ	5A
SG-VW35B-02	07/09/2021 12:17	1,1,1,2-Tetrachloroethane	ND	1.5	30	UJ	4D
		1,1,1-Trichloroethane	ND	0.47	6.0	UJ	4D
		1,1,2,2-Tetrachloroethane	ND	0.71	7.6	UJ	4D
		1,1,2-Trichloroethane	ND	0.96	6.0	UJ	4D

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 (µg/m³) (continued)							
SG-VW35B-02 (continued)	07/09/2021 12:17	1,1-Dichloroethane	ND	0.93	4.4	UJ	4D
		1,1-Dichloroethene	ND	1.4	4.4	UJ	4D
		1,1-Difluoroethane	50	2.6	12	J-	4D
		1,2,3-Trichloropropane	ND	1.7	26	UJ	4D
		1,2,4-Trichlorobenzene	ND	2.9	33	UJ	4D
		1,2,4-Trimethylbenzene	ND	0.62	5.4	UJ	4D
		1,2-Dibromo-3-chloropropane	ND	1.4	42	UJ	4D
		1,2-Dibromoethane (EDB)	ND	1.6	8.4	UJ	4D
		1,2-Dichlorobenzene	ND	0.75	6.6	UJ	4D
		1,2-Dichloroethane	ND	0.73	4.4	UJ	4D
		1,2-Dichloropropane	ND	1.2	5.1	UJ	4D
		1,3,5-Trimethylbenzene	ND	1.1	5.4	UJ	4D
		1,3-Butadiene	ND	0.70	2.4	UJ	4D
		1,3-Dichlorobenzene	ND	0.76	6.6	UJ	4D
		1,4-Dichlorobenzene	ND	0.78	6.6	UJ	4D
		1,4-Dioxane	ND	2.3	16	UJ	4D
		2,2,4-Trimethylpentane	ND	0.60	5.1	UJ	4D
		2-Butanone (Methyl Ethyl Ketone)	ND	2.0	13	UJ	4D
		2-Hexanone	ND	0.43	18	UJ	4D
		2-Propanol	15	0.81	11	J-	4D
		3-Chloropropene	ND	3.0	14	UJ	4D
		4-Ethyltoluene	ND	1.1	5.4	UJ	4D
		4-Methyl-2-pentanone	ND	1.1	4.5	UJ	4D
		Acetone	60	2.6	26	J-	4D
		Acrolein	ND	1.5	10	UJ	4D,5F
		Acrylonitrile	ND	0.58	9.5	UJ	4D
		alpha-Chlorotoluene	ND	0.51	5.7	UJ	4D
		Benzene	ND	0.66	3.5	UJ	4D
		Bromodichloromethane	ND	1.1	7.4	UJ	4D
		Bromoform	ND	1.2	11	UJ	4D
		Bromomethane	ND	1.8	43	UJ	4D
		Carbon Disulfide	ND	1.3	14	UJ	4D
		Carbon Tetrachloride	ND	1.8	6.9	UJ	4D
		Chlorobenzene	ND	0.46	5.1	UJ	4D
		Chloroethane	ND	3.0	12	UJ	4D
		Chloroform	23	0.46	5.4	J-	4D
		Chloromethane	ND	1.6	23	UJ	4D
		<i>cis</i> -1,2-Dichloroethene	ND	1.6	4.4	UJ	4D
		<i>cis</i> -1,3-Dichloropropene	ND	0.96	5.0	UJ	4D
		Cumene	ND	0.68	5.4	UJ	4D
Cyclohexane	ND	0.62	3.8	UJ	4D		
Dibromochloromethane	ND	1.6	9.4	UJ	4D		
Dibromomethane	ND	1.2	31	UJ	4D		
Ethanol	24	2.6	21	J-	4D		
Ethyl Acetate	ND	0.93	16	UJ	4D		
Ethyl Benzene	ND	1.2	4.8	UJ	4D		
Ethyl- <i>tert</i> -butyl ether	ND	0.97	18	UJ	4D		

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code		
TO-15 ($\mu\text{g}/\text{m}^3$) (continued)									
SG-VW35B-02 (continued)	07/09/2021 12:17	Freon 11	ND	1.3	6.2	UJ	4D		
		Freon 12	ND	0.86	5.4	UJ	4D		
		Freon 113	ND	1.3	8.4	UJ	4D		
		Freon 114	ND	1.4	7.7	UJ	4D		
		Freon 134a	ND	2.3	18	UJ	4D		
		Heptane	ND	1.1	4.5	UJ	4D		
		Hexachlorobutadiene	ND	4.3	47	UJ	4D		
		Hexachloroethane	ND	43	43	UJ	4D		
		Hexane	ND	0.71	3.9	UJ	4D		
		Iodomethane	ND	0.83	64	UJ	4D		
		Isopropyl ether	ND	0.54	18	UJ	4D		
		m,p-Xylene	ND	1.1	4.8	UJ	4D		
		Methyl <i>tert</i> -butyl ether	ND	0.85	16	UJ	4D		
		Methylene Chloride	ND	0.79	38	UJ	4D		
		Naphthalene	ND	4.4	12	UJ	4D		
		o-Xylene	ND	1.2	4.8	UJ	4D		
		Propylbenzene	ND	0.90	5.4	UJ	4D		
		Propylene	ND	0.56	7.6	UJ	4D		
		Styrene	ND	0.61	4.7	UJ	4D		
		<i>tert</i> -Amyl methyl ether	ND	1.9	18	UJ	4D		
		<i>tert</i> -Butyl alcohol	34	0.92	13	J-	4D		
		Tetrachloroethene	190	1.2	7.5	J-	4D		
		Tetrahydrofuran	ND	0.66	3.2	UJ	4D		
		Toluene	ND	0.43	4.1	UJ	4D		
		TPH - Gasoline	ND	450	450	UJ	4D		
		<i>trans</i> -1,2-Dichloroethene	ND	1.1	4.4	UJ	4D		
		<i>trans</i> -1,3-Dichloropropene	ND	0.87	5.0	UJ	4D		
		Trichloroethene	ND	0.85	5.9	UJ	4D		
		Vinyl Acetate	ND	4.2	15	UJ	4D		
		Vinyl Bromide	ND	1.3	19	UJ	4D		
		Vinyl Chloride	ND	0.71	2.8	UJ	4D		
		SG-VW36A-02	07/12/2021 13:03	1,2-Dichloropropane	ND	1.8	5.3	UJ	5A
				Acrolein	ND	3.1	10	UJ	5F
SG-VW36B-02	07/12/2021 12:18	1,2-Dichloropropane	ND	1.8	5.4	UJ	5A		
		Acrolein	ND	3.2	11	UJ	5F		
SG-VW36B-03	07/12/2021 12:18	1,2-Dichloropropane	ND	1.8	5.4	UJ	5A		
		Acrolein	ND	3.2	11	UJ	5F		
SG-VW37A-02	07/13/2021 09:12	1,2-Dichloropropane	ND	1.6	4.8	UJ	5A		
		Acrolein	ND	2.8	9.4	UJ	5F		
SG-VW37B-03	07/13/2021 08:26	1,2-Dichloropropane	ND	1.6	4.7	UJ	5A		
		Acrolein	ND	2.8	9.3	UJ	5F		
SG-VW37B-04	07/13/2021 08:26	1,2-Dichloropropane	ND	1.6	4.7	UJ	5A		
		Acrolein	ND	2.8	9.4	UJ	5F		
SG-VW38A-02	07/14/2021 10:24	1,2-Dichloropropane	ND	1.8	5.4	UJ	5A		
		Acrolein	ND	3.2	11	UJ	5F		
		Ethanol	ND	2.4	22	UJ	2A-		
		Naphthalene	ND	0.80	12	UJ	5B-		

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 ($\mu\text{g}/\text{m}^3$) (continued)							
SG-VW38A-03	07/14/2021 10:24	1,2-Dichloropropane	ND	1.8	5.4	UJ	5A
		Acrolein	ND	3.2	11	UJ	5F
		Ethanol	ND	2.4	22	UJ	2A-
		Naphthalene	ND	0.79	12	UJ	5B-
SG-VW38B-03	07/14/2021 09:42	1,2-Dichloropropane	ND	1.6	4.8	UJ	5A
		Acrolein	ND	2.9	9.6	UJ	5F
		Ethanol	ND	2.1	20	UJ	2A-
		Naphthalene	ND	0.71	11	UJ	5B-
SG-VW39A-02	07/14/2021 09:16	1,2-Dichloropropane	ND	1.6	4.8	UJ	5A
		Acrolein	ND	2.8	9.4	UJ	5F
		Ethanol	ND	2.1	19	UJ	2A-
		Naphthalene	ND	0.70	11	UJ	5B-
SG-VW39B-02	07/14/2021 08:41	1,2-Dichloropropane	ND	1.8	5.2	UJ	5A
		Acrolein	ND	3.1	10	UJ	5F
		Ethanol	ND	2.3	21	UJ	2A-
		Naphthalene	ND	0.78	12	UJ	5B-
SG-VW40A-02	07/13/2021 07:46	1,2-Dichloropropane	ND	1.6	4.6	UJ	5A
		Acrolein	ND	2.8	9.2	UJ	5F
SG-VW40B-02	07/13/2021 07:05	1,2-Dichloropropane	ND	1.6	4.8	UJ	5A
		Acrolein	ND	2.9	9.6	UJ	5F
SG-VW41A-03	07/13/2021 10:30	1,2-Dichloropropane	ND	1.6	4.7	UJ	5A
		Acrolein	ND	2.8	9.3	UJ	5F
SG-VW41B-02	07/13/2021 09:45	1,2-Dichloropropane	ND	1.6	4.8	UJ	5A
		Acrolein	ND	2.9	9.5	UJ	5F
SG-VW42A-03	07/13/2021 11:56	1,2-Dichloropropane	ND	1.6	4.9	UJ	5A
		Acrolein	ND	2.9	9.8	UJ	5F
SG-VW42A-04	07/13/2021 11:56	1,2-Dichloropropane	ND	1.6	4.9	UJ	5A
		Acrolein	ND	2.9	9.7	UJ	5F
SG-VW42B-02	07/13/2021 11:03	1,2-Dichloropropane	ND	1.7	5.0	UJ	5A
		Acrolein	ND	3.0	10	UJ	5F
SG-VW43A-02	07/08/2021 12:10	Acrolein	ND	1.7	11	UJ	5F
SG-VW43B-02	07/08/2021 12:45	Acrolein	ND	1.8	12	UJ	5F
SG-VW44A-03	08/16/2021 09:53	Acrolein	ND	1.5	9.8	UJ	5F
		Iodomethane	ND	0.81	62	UJ	5A
SG-VW44B-02	07/08/2021 17:46	1,2-Dichloropropane	ND	1.8	5.3	UJ	5A
		Acrolein	ND	3.2	10	UJ	5F
SG-VW45A-03	07/08/2021 13:58	Acrolein	ND	1.5	10	UJ	5F
SG-VW45B-02	07/08/2021 14:38	1,2-Dichloropropane	ND	1.8	5.3	UJ	5A
		Acrolein	ND	3.2	10	UJ	5F
SG-VW46A-02	07/08/2021 15:38	1,2-Dichloropropane	ND	1.7	5.1	UJ	5A
		Acrolein	ND	3.0	10	UJ	5F
SG-VW46B-02	07/08/2021 16:08	1,2-Dichloropropane	ND	1.6	4.9	UJ	5A
		Acrolein	ND	2.9	9.8	UJ	5F
SG-VW47A-02	07/08/2021 18:54	2-Propanol	27	1.7	11	J	3D
		1,2-Dichloropropane	ND	0.72	5.0	UJ	5A
		Acrolein	ND	3.0	10	UJ	5F
		<i>tert</i> -Butyl alcohol	38	1.2	13	J	3D

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 (µg/m³) (continued)							
SG-VW47A-03	07/08/2021 18:54	2-Propanol	ND	1.7	11	UJ	3D
		1,2-Dichloropropane	ND	0.72	5.0	UJ	5A
		Acrolein	ND	3.0	10	UJ	5F
		<i>tert</i> -Butyl alcohol	ND	1.2	13	UJ	3D
SG-VW47B-02	07/08/2021 19:27	1,1,1,2-Tetrachloroethane	ND	1.1	30	UJ	4D
		1,1,1-Trichloroethane	ND	0.72	5.9	UJ	4D
		1,1,2,2-Tetrachloroethane	ND	0.58	7.5	UJ	4D
		1,1,2-Trichloroethane	ND	0.81	5.9	UJ	4D
		1,1-Dichloroethane	ND	0.58	4.4	UJ	4D
		1,1-Dichloroethene	ND	0.90	4.3	UJ	4D
		1,1-Difluoroethane	150	2.2	12	J-	4D
		1,2,3-Trichloropropane	ND	2.0	26	UJ	4D
		1,2,4-Trichlorobenzene	ND	3.6	32	UJ	4D
		1,2,4-Trimethylbenzene	ND	2.0	5.4	UJ	4D
		1,2-Dibromo-3-chloropropane	ND	4.0	42	UJ	4D
		1,2-Dibromoethane (EDB)	ND	0.70	8.4	UJ	4D
		1,2-Dichlorobenzene	ND	0.56	6.6	UJ	4D
		1,2-Dichloroethane	ND	0.89	4.4	UJ	4D
		1,2-Dichloropropane	ND	1.7	5.0	UJ	4D,5A
		1,3,5-Trimethylbenzene	ND	0.83	5.4	UJ	4D
		1,3-Butadiene	ND	0.80	2.4	UJ	4D
		1,3-Dichlorobenzene	ND	0.84	6.6	UJ	4D
		1,4-Dichlorobenzene	ND	0.42	6.6	UJ	4D
		1,4-Dioxane	ND	0.78	16	UJ	4D
		2,2,4-Trimethylpentane	ND	0.39	5.1	UJ	4D
		2-Butanone (Methyl Ethyl Ketone)	ND	2.3	13	UJ	4D
		2-Hexanone	ND	1.5	18	UJ	4D
		2-Propanol	18	0.72	11	J-	4D
		3-Chloropropene	ND	1.4	14	UJ	4D
		4-Ethyltoluene	ND	1.4	5.4	UJ	4D
		4-Methyl-2-pentanone	ND	0.67	4.5	UJ	4D
		Acetone	29	1.9	26	J-	4D
		Acrolein	ND	3.0	10	UJ	4D,5F
		Acrylonitrile	ND	0.90	9.5	UJ	4D
		alpha-Chlorotoluene	ND	0.45	5.6	UJ	4D
		Benzene	ND	0.26	3.5	UJ	4D
		Bromodichloromethane	ND	1.4	7.3	UJ	4D
		Bromoform	ND	0.97	11	UJ	4D
		Bromomethane	ND	1.9	42	UJ	4D
		Carbon Disulfide	ND	3.2	14	UJ	4D
Carbon Tetrachloride	ND	1.1	6.8	UJ	4D		
Chlorobenzene	340	0.44	5.0	J-	4D		
Chloroethane	ND	2.3	12	UJ	4D		
Chloroform	350	0.63	5.3	J-	4D		
Chloromethane	ND	2.4	22	UJ	4D		
<i>cis</i> -1,2-Dichloroethene	ND	0.78	4.3	UJ	4D		
<i>cis</i> -1,3-Dichloropropene	ND	0.72	4.9	UJ	4D		

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 ($\mu\text{g}/\text{m}^3$) (continued)							
SG-VW47B-02 (continued)	07/08/2021 19:27	Cumene	ND	0.68	5.4	UJ	4D
		Cyclohexane	ND	0.80	3.8	UJ	4D
		Dibromochloromethane	ND	1.3	9.3	UJ	4D
		Dibromomethane	ND	1.5	31	UJ	4D
		Ethanol	ND	2.2	20	UJ	4D
		Ethyl Acetate	ND	4.5	16	UJ	4D
		Ethyl Benzene	ND	0.79	4.7	UJ	4D
		Ethyl- <i>tert</i> -butyl ether	ND	1.4	18	UJ	4D
		Freon 11	ND	0.70	6.1	UJ	4D
		Freon 12	ND	0.97	5.4	UJ	4D
		Freon 113	ND	1.3	8.4	UJ	4D
		Freon 114	ND	1.0	7.6	UJ	4D
		Freon 134a	ND	2.4	18	UJ	4D
		Heptane	ND	0.80	4.5	UJ	4D
		Hexachlorobutadiene	ND	5.1	46	UJ	4D
		Hexachloroethane	ND	42	42	UJ	4D
		Hexane	ND	0.71	3.8	UJ	4D
		Iodomethane	ND	3.4	63	UJ	4D
		Isopropyl ether	ND	1.2	18	UJ	4D
		m,p-Xylene	ND	2.6	4.7	UJ	4D
		Methyl <i>tert</i> -butyl ether	ND	0.96	16	UJ	4D
		Methylene Chloride	ND	2.2	38	UJ	4D
		Naphthalene	ND	0.74	11	UJ	4D
		o-Xylene	ND	1.3	4.7	UJ	4D
		Propylbenzene	ND	0.30	5.4	UJ	4D
		Propylene	ND	1.4	7.5	UJ	4D
		Styrene	ND	0.54	4.6	UJ	4D
		<i>tert</i> -Amyl methyl ether	ND	2.6	18	UJ	4D
		<i>tert</i> -Butyl alcohol	ND	1.2	13	UJ	4D
		Tetrachloroethene	9.6	1.3	7.4	J-	4D
		Tetrahydrofuran	ND	0.70	3.2	UJ	4D
		Toluene	ND	0.99	4.1	UJ	4D
		TPH - Gasoline	ND	440	440	UJ	4D
		<i>trans</i> -1,2-Dichloroethene	ND	1.8	4.3	UJ	4D
<i>trans</i> -1,3-Dichloropropene	ND	0.68	4.9	UJ	4D		
Trichloroethene	ND	0.74	5.8	UJ	4D		
Vinyl Acetate	ND	3.0	15	UJ	4D		
Vinyl Bromide	ND	1.5	19	UJ	4D		
Vinyl Chloride	ND	1.1	2.8	UJ	4D		
SG-VW48A-03	07/09/2021 07:19	1,2-Dichloropropane	ND	1.6	4.8	UJ	5A
		Acrolein	ND	2.9	9.6	UJ	5F
SG-VW48B-02	07/09/2021 07:45	1,2-Dichloropropane	ND	1.6	4.9	UJ	5A
		Acrolein	ND	2.9	9.8	UJ	5F
SG-VW49A-03	07/09/2021 08:43	1,2-Dichloropropane	ND	1.1	4.7	UJ	5A
		Acrolein	ND	1.4	9.3	UJ	5F
SG-VW49B-02	07/09/2021 09:09	1,2-Dichloropropane	ND	1.2	5.1	UJ	5A
		Acrolein	ND	1.5	10	UJ	5F

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 (µg/m³) (continued)							
SG-VW50A-03	07/09/2021 10:19	1,2-Dichloropropane	ND	1.2	4.9	UJ	5A
		Acrolein	ND	1.4	9.7	UJ	5F
SG-VW50B-02	07/09/2021 10:47	1,1,1,2-Tetrachloroethane	ND	1.5	29	UJ	4D
		1,1,1-Trichloroethane	ND	0.45	5.8	UJ	4D
		1,1,2,2-Tetrachloroethane	ND	0.68	7.3	UJ	4D
		1,1,2-Trichloroethane	ND	0.93	5.8	UJ	4D
		1,1-Dichloroethane	ND	0.89	4.3	UJ	4D
		1,1-Dichloroethene	ND	1.4	4.2	UJ	4D
		1,1-Difluoroethane	530	2.5	11	J-	4D
		1,2,3-Trichloropropane	ND	1.6	26	UJ	4D
		1,2,4-Trichlorobenzene	ND	2.8	31	UJ	4D
		1,2,4-Trimethylbenzene	ND	0.60	5.2	UJ	4D
		1,2-Dibromo-3-chloropropane	ND	1.3	41	UJ	4D
		1,2-Dibromoethane (EDB)	ND	1.6	8.1	UJ	4D
		1,2-Dichlorobenzene	ND	0.72	6.4	UJ	4D
		1,2-Dichloroethane	ND	0.70	4.3	UJ	4D
		1,2-Dichloropropane	ND	1.2	4.9	UJ	4D
		1,3,5-Trimethylbenzene	ND	1.1	5.2	UJ	4D
		1,3-Butadiene	ND	0.68	2.3	UJ	4D
		1,3-Dichlorobenzene	ND	0.73	6.4	UJ	4D
		1,4-Dichlorobenzene	ND	0.76	6.4	UJ	4D
		1,4-Dioxane	ND	2.2	15	UJ	4D
		2,2,4-Trimethylpentane	ND	0.58	5.0	UJ	4D
		2-Butanone (Methyl Ethyl Ketone)	ND	1.9	12	UJ	4D
		2-Hexanone	ND	0.42	17	UJ	4D
		2-Propanol	ND	0.78	10	UJ	4D
		3-Chloropropene	ND	2.9	13	UJ	4D
		4-Ethyltoluene	ND	1.0	5.2	UJ	4D
		4-Methyl-2-pentanone	ND	1.0	4.3	UJ	4D
		Acetone	ND	2.5	25	UJ	4D
		Acrolein	ND	1.4	9.7	UJ	4D,5F
		Acrylonitrile	ND	0.56	9.2	UJ	4D
		alpha-Chlorotoluene	ND	0.49	5.5	UJ	4D
		Benzene	ND	0.64	3.4	UJ	4D
		Bromodichloromethane	ND	1.0	7.1	UJ	4D
		Bromoform	ND	1.2	11	UJ	4D
		Bromomethane	ND	1.8	41	UJ	4D
		Carbon Disulfide	ND	1.3	13	UJ	4D
		Carbon Tetrachloride	ND	1.8	6.7	UJ	4D
		Chlorobenzene	ND	0.44	4.9	UJ	4D
		Chloroethane	ND	2.9	11	UJ	4D
		Chloroform	18	0.44	5.2	J-	4D
		Chloromethane	ND	1.5	22	UJ	4D
		cis-1,2-Dichloroethene	ND	1.5	4.2	UJ	4D
		cis-1,3-Dichloropropene	ND	0.93	4.8	UJ	4D
		Cumene	ND	0.66	5.2	UJ	4D
		Cyclohexane	ND	0.60	3.6	UJ	4D

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 ($\mu\text{g}/\text{m}^3$) (continued)							
SG-VW50B-02 (continued)	07/09/2021 10:47	Dibromochloromethane	ND	1.5	9.0	UJ	4D
		Dibromomethane	ND	1.1	30	UJ	4D
		Ethanol	ND	2.5	20	UJ	4D
		Ethyl Acetate	ND	0.89	15	UJ	4D
		Ethyl Benzene	ND	1.2	4.6	UJ	4D
		Ethyl- <i>tert</i> -butyl ether	ND	0.93	18	UJ	4D
		Freon 11	ND	1.3	6.0	UJ	4D
		Freon 12	ND	0.83	5.2	UJ	4D
		Freon 113	ND	1.3	8.1	UJ	4D
		Freon 114	ND	1.3	7.4	UJ	4D
		Freon 134a	ND	2.2	18	UJ	4D
		Heptane	ND	1.0	4.3	UJ	4D
		Hexachlorobutadiene	ND	4.1	45	UJ	4D
		Hexachloroethane	ND	41	41	UJ	4D
		Hexane	ND	0.68	3.7	UJ	4D
		Iodomethane	ND	0.80	62	UJ	4D
		Isopropyl ether	ND	0.52	18	UJ	4D
		m,p-Xylene	ND	1.1	4.6	UJ	4D
		Methyl <i>tert</i> -butyl ether	ND	0.82	15	UJ	4D
		Methylene Chloride	ND	0.76	37	UJ	4D
		Naphthalene	ND	4.3	11	UJ	4D
		o-Xylene	ND	1.1	4.6	UJ	4D
		Propylbenzene	ND	0.86	5.2	UJ	4D
		Propylene	ND	0.54	7.3	UJ	4D
		Styrene	ND	0.59	4.5	UJ	4D
		<i>tert</i> -Amyl methyl ether	ND	1.8	18	UJ	4D
		<i>tert</i> -Butyl alcohol	ND	0.89	13	UJ	4D
		Tetrachloroethene	240	1.2	7.2	J-	4D
		Tetrahydrofuran	ND	0.63	3.1	UJ	4D
		Toluene	ND	0.41	4.0	UJ	4D
		TPH - Gasoline	ND	430	430	UJ	4D
		<i>trans</i> -1,2-Dichloroethene	ND	1.1	4.2	UJ	4D
		<i>trans</i> -1,3-Dichloropropene	ND	0.84	4.8	UJ	4D
Trichloroethene	ND	0.82	5.7	UJ	4D		
Vinyl Acetate	ND	4.0	15	UJ	4D		
Vinyl Bromide	ND	1.3	18	UJ	4D		
Vinyl Chloride	ND	0.68	2.7	UJ	4D		
SG-VW51A-02	07/12/2021 14:28	1,2-Dichloropropane	ND	1.8	5.4	UJ	5A
		Acrolein	ND	3.2	11	UJ	5F
SG-VW51B-02	07/12/2021 13:42	1,2-Dichloropropane	ND	1.7	5.0	UJ	5A
		Acrolein	ND	3.0	10	UJ	5F
SG-VW52A-02	07/13/2021 09:04	Acrolein	ND	1.5	10	UJ	5F
SG-VW52B-02	07/13/2021 09:34	Acrolein	ND	1.4	9.4	UJ	5F
SG-VW53A-03	07/13/2021 10:53	Acrolein	ND	1.5	10	UJ	5F
SG-VW53B-02	07/13/2021 11:30	1,1,1,2-Tetrachloroethane	ND	29	570	R	4D
		1,1,1-Trichloroethane	ND	8.9	110	R	4D
		1,1,2,2-Tetrachloroethane	ND	13	140	R	4D

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 ($\mu\text{g}/\text{m}^3$) (continued)							
SG-VW53B-02 (continued)	07/13/2021 11:30	1,1,2-Trichloroethane	ND	18	110	R	4D
		1,1-Dichloroethane	ND	18	85	R	4D
		1,1-Dichloroethene	ND	27	83	R	4D
		1,1-Difluoroethane	21,000	50	220	J-	4D
		1,2,3-Trichloropropane	ND	32	500	R	4D
		1,2,4-Trichlorobenzene	ND	55	620	R	4D
		1,2,4-Trimethylbenzene	ND	12	100	R	4D
		1,2-Dibromo-3-chloropropane	ND	26	810	R	4D
		1,2-Dibromoethane (EDB)	ND	31	160	R	4D
		1,2-Dichlorobenzene	ND	14	120	R	4D
		1,2-Dichloroethane	ND	14	84	R	4D
		1,2-Dichloropropane	ND	23	96	R	4D
		1,3,5-Trimethylbenzene	ND	21	100	R	4D
		1,3-Butadiene	ND	13	46	R	4D
		1,3-Dichlorobenzene	ND	14	120	R	4D
		1,4-Dichlorobenzene	ND	15	120	R	4D
		1,4-Dioxane	ND	44	300	R	4D
		2,2,4-Trimethylpentane	ND	11	98	R	4D
		2-Butanone (Methyl Ethyl Ketone)	ND	37	250	R	4D
		2-Hexanone	ND	8.2	340	R	4D
		2-Propanol	ND	15	200	R	4D
		3-Chloropropene	ND	57	260	R	4D
		4-Ethyltoluene	ND	21	100	R	4D
		4-Methyl-2-pentanone	ND	20	86	R	4D
		Acetone	ND	49	500	R	4D
		Acrolein	ND	29	190	R	4D,5F
		Acrylonitrile	ND	11	180	R	4D
		alpha-Chlorotoluene	ND	9.7	110	R	4D
		Benzene	ND	13	67	R	4D
		Bromodichloromethane	ND	21	140	R	4D
		Bromoform	ND	23	220	R	4D
		Bromomethane	ND	35	810	R	4D
		Carbon Disulfide	ND	25	260	R	4D
		Carbon Tetrachloride	ND	35	130	R	4D
		Chlorobenzene	ND	8.7	96	R	4D
		Chloroethane	ND	57	220	R	4D
		Chloroform	ND	8.7	100	R	4D
		Chloromethane	ND	30	430	R	4D
		<i>cis</i> -1,2-Dichloroethene	ND	30	83	R	4D
		<i>cis</i> -1,3-Dichloropropene	ND	18	95	R	4D
		Cumene	ND	13	100	R	4D
		Cyclohexane	ND	12	72	R	4D
		Dibromochloromethane	ND	30	180	R	4D
		Dibromomethane	ND	23	590	R	4D
		Ethanol	ND	49	390	R	4D
		Ethyl Acetate	ND	18	300	R	4D
		Ethyl Benzene	ND	24	91	R	4D

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 ($\mu\text{g}/\text{m}^3$) (continued)							
SG-VW53B-02 (continued)	07/13/2021 11:30	Ethyl- <i>tert</i> -butyl ether	ND	18	350	R	4D
		Freon 11	ND	25	120	R	4D
		Freon 12	ND	16	100	R	4D
		Freon 113	ND	26	160	R	4D
		Freon 114	ND	26	150	R	4D
		Freon 134a	ND	43	350	R	4D
		Heptane	ND	20	86	R	4D
		Hexachlorobutadiene	ND	82	890	R	4D
		Hexachloroethane	ND	810	810	R	4D
		Hexane	ND	13	74	R	4D
		Iodomethane	ND	16	1,200	R	4D
		Isopropyl ether	ND	10	350	R	4D
		m,p-Xylene	ND	21	91	R	4D
		Methyl <i>tert</i> -butyl ether	ND	16	300	R	4D
		Methylene Chloride	ND	15	730	R	4D
		Naphthalene	ND	84	220	R	4D
		o-Xylene	ND	23	91	R	4D
		Propylbenzene	ND	17	100	R	4D
		Propylene	ND	11	140	R	4D
		Styrene	ND	12	89	R	4D
		<i>tert</i> -Amyl methyl ether	ND	37	350	R	4D
		<i>tert</i> -Butyl alcohol	ND	18	250	R	4D
		Tetrachloroethene	ND	23	140	R	4D
		Tetrahydrofuran	ND	12	62	R	4D
		Toluene	ND	8.1	79	R	4D
		TPH - Gasoline	ND	8,500	8,500	R	4D
		<i>trans</i> -1,2-Dichloroethene	ND	21	83	R	4D
		<i>trans</i> -1,3-Dichloropropene	ND	16	95	R	4D
		Trichloroethene	ND	16	110	R	4D
		Vinyl Acetate	ND	80	290	R	4D
Vinyl Bromide	ND	25	360	R	4D		
Vinyl Chloride	ND	13	53	R	4D		
SG-VW54B-02	07/14/2021 08:58	1,2-Dichloropropane	ND	1.7	5.2	UJ	5A
		Acrolein	ND	3.1	10	UJ	5F
SG-VW55A-03	08/17/2021 06:34	Acrolein	ND	1.4	9.3	UJ	5F
		Iodomethane	ND	0.76	59	UJ	5A
SG-VW55B-02	07/14/2021 14:40	1,2-Dichloropropane	ND	1.7	4.9	UJ	5A
		Acrolein	ND	3.0	9.8	UJ	5F
SG-VW56A-02	07/14/2021 08:13	1,2-Dichloropropane	ND	1.6	4.9	UJ	5A
		Acrolein	ND	2.9	9.7	UJ	5F
		Ethanol	ND	2.2	20	UJ	2A-
		Naphthalene	ND	0.72	11	UJ	5B-
SG-VW56B-02	07/14/2021 07:42	1,2-Dichloropropane	ND	1.6	4.8	UJ	5A
		Acrolein	ND	2.9	9.6	UJ	5F
		Ethanol	ND	2.1	20	UJ	2A-
		Naphthalene	11	0.72	11	J-	5B-

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 (µg/m³) (continued)							
SG-VW57A-02	07/14/2021 07:07	1,2-Dichloropropane	ND	1.6	4.8	UJ	5A
		Acrolein	ND	2.8	9.5	UJ	5F
		Ethanol	ND	2.1	20	UJ	2A-
		Naphthalene	ND	0.71	11	UJ	5B-
SG-VW57B-04	07/13/2021 12:52	1,2-Dichloropropane	ND	1.8	5.4	UJ	5A
		Acrolein	ND	3.2	11	UJ	5F
SG-VW57B-05	07/13/2021 12:52	Acrolein	ND	1.6	10	UJ	5F
SG-VW58A-02	08/16/2021 11:13	Acrolein	ND	1.5	10	UJ	5F
		Iodomethane	ND	0.83	64	UJ	5A
SG-VW58B-02	08/16/2021 11:38	Acrolein	ND	1.4	9.4	UJ	5F
		Iodomethane	ND	0.78	60	UJ	5A
SG-VW59A-02	08/17/2021 10:16	Acrolein	ND	1.4	9.3	UJ	5F
		Iodomethane	ND	0.76	59	UJ	5A
SG-VW59B-02	08/17/2021 10:43	Acrolein	ND	1.4	9.6	UJ	5F
		Iodomethane	ND	0.79	61	UJ	5A
SG-VW60A-02	08/16/2021 12:53	Acrolein	ND	1.4	9.3	UJ	5F
		Iodomethane	ND	0.76	59	UJ	5A
SG-VW60B-02	08/16/2021 12:08	Acrolein	ND	1.4	9.6	UJ	5F
		Iodomethane	ND	0.79	61	UJ	5A
SG-VW61A-02	08/16/2021 13:26	Acrolein	ND	1.5	10	UJ	5F
		Iodomethane	ND	0.83	64	UJ	5A
SG-VW61B-01	07/15/2021 06:58	1,2-Dichloropropane	ND	1.4	4.1	UJ	5A
		Acrolein	ND	2.5	8.2	UJ	5F
SG-VW62-01	07/15/2021 07:34	1,1,1,2-Tetrachloroethane	ND	4,400	120,000	R	4D
		1,1,1-Trichloroethane	ND	2,800	24,000	R	4D
		1,1,2,2-Tetrachloroethane	ND	2,300	30,000	R	4D
		1,1,2-Trichloroethane	ND	3,200	24,000	R	4D
		1,1-Dichloroethane	ND	2,300	17,000	R	4D
		1,1-Dichloroethene	ND	3,600	17,000	R	4D
		1,1-Difluoroethane	5,300,000	8,800	46,000	J-	4D,6E
		1,2,3-Trichloropropane	ND	7,900	100,000	R	4D
		1,2,4-Trichlorobenzene	ND	14,000	130,000	R	4D
		1,2,4-Trimethylbenzene	ND	7,800	21,000	R	4D
		1,2-Dibromo-3-chloropropane	ND	16,000	170,000	R	4D
		1,2-Dibromoethane (EDB)	ND	2,800	33,000	R	4D
		1,2-Dichlorobenzene	ND	2,200	26,000	R	4D
		1,2-Dichloroethane	ND	3,500	17,000	R	4D
		1,2-Dichloropropane	ND	6,700	20,000	R	4D,5A
		1,3,5-Trimethylbenzene	ND	3,300	21,000	R	4D
		1,3-Butadiene	ND	3,100	9,500	R	4D
		1,3-Dichlorobenzene	ND	3,300	26,000	R	4D
		1,4-Dichlorobenzene	ND	1,700	26,000	R	4D
		1,4-Dioxane	ND	3,100	62,000	R	4D
		2,2,4-Trimethylpentane	ND	1,600	20,000	R	4D
		2-Butanone (Methyl Ethyl Ketone)	ND	9,000	51,000	R	4D
		2-Hexanone	ND	6,000	71,000	R	4D

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 ($\mu\text{g}/\text{m}^3$) (continued)							
SG-VW62-01 (continued)	07/15/2021 07:34	2-Propanol	ND	2,800	42,000	R	4D
		3-Chloropropene	ND	5,500	54,000	R	4D
		4-Ethyltoluene	ND	5,400	21,000	R	4D
		4-Methyl-2-pentanone	ND	2,600	18,000	R	4D
		Acetone	ND	7,400	100,000	R	4D
		Acrolein	ND	12,000	40,000	R	4D,5F
		Acrylonitrile	ND	3,500	37,000	R	4D
		alpha-Chlorotoluene	ND	1,800	22,000	R	4D
		Benzene	ND	1,000	14,000	R	4D
		Bromodichloromethane	ND	5,500	29,000	R	4D
		Bromoform	ND	3,800	44,000	R	4D
		Bromomethane	ND	7,500	170,000	R	4D
		Carbon Disulfide	ND	12,000	54,000	R	4D
		Carbon Tetrachloride	ND	4,400	27,000	R	4D
		Chlorobenzene	ND	1,700	20,000	R	4D
		Chloroethane	ND	9,200	45,000	R	4D
		Chloroform	ND	2,500	21,000	R	4D
		Chloromethane	ND	9,400	89,000	R	4D
		<i>cis</i> -1,2-Dichloroethene	ND	3,100	17,000	R	4D
		<i>cis</i> -1,3-Dichloropropene	ND	2,800	20,000	R	4D
		Cumene	ND	2,700	21,000	R	4D
		Cyclohexane	ND	3,200	15,000	R	4D
		Dibromochloromethane	ND	5,100	37,000	R	4D
		Dibromomethane	ND	5,900	120,000	R	4D
		Ethanol	ND	8,800	81,000	R	4D
		Ethyl Acetate	ND	18,000	62,000	R	4D
		Ethyl Benzene	ND	3,100	19,000	R	4D
		Ethyl- <i>tert</i> -butyl ether	ND	5,400	72,000	R	4D
		Freon 11	ND	2,800	24,000	R	4D
		Freon 12	ND	3,800	21,000	R	4D
		Freon 113	ND	5,200	33,000	R	4D
		Freon 114	ND	4,200	30,000	R	4D
		Freon 134a	ND	9,700	72,000	R	4D
		Heptane	ND	3,200	18,000	R	4D
		Hexachlorobutadiene	ND	20,000	180,000	R	4D
		Hexachloroethane	ND	170,000	170,000	R	4D
		Hexane	ND	2,800	15,000	R	4D
		Iodomethane	ND	14,000	250,000	R	4D
		Isopropyl ether	ND	4,800	72,000	R	4D
		<i>m,p</i> -Xylene	ND	10,000	19,000	R	4D
		Methyl <i>tert</i> -butyl ether	ND	3,800	62,000	R	4D
		Methylene Chloride	ND	8,500	150,000	R	4D
		Naphthalene	ND	2,900	45,000	R	4D
		<i>o</i> -Xylene	ND	5,000	19,000	R	4D
		Propylbenzene	ND	1,200	21,000	R	4D
		Propylene	ND	5,600	30,000	R	4D
		Styrene	ND	2,100	18,000	R	4D

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 (µg/m³) (continued)							
SG-VW62-01 (continued)	07/15/2021 07:34	<i>tert</i> -Amyl methyl ether	ND	10,000	72,000	R	4D
		<i>tert</i> -Butyl alcohol	ND	4,800	52,000	R	4D
		Tetrachloroethene	ND	5,200	29,000	R	4D
		Tetrahydrofuran	ND	2,700	13,000	R	4D
		Toluene	ND	3,900	16,000	R	4D
		TPH - Gasoline	ND	1,800,000	1,800,000	R	4D
		<i>trans</i> -1,2-Dichloroethene	ND	7,100	17,000	R	4D
		<i>trans</i> -1,3-Dichloropropene	ND	2,700	20,000	R	4D
		Trichloroethene	ND	2,900	23,000	R	4D
		Vinyl Acetate	ND	12,000	61,000	R	4D
		Vinyl Bromide	ND	6,100	75,000	R	4D
		Vinyl Chloride	ND	4,300	11,000	R	4D
		SG-VW63A-02	08/16/2021 14:42	Acrolein	ND	1.4	9.6
Iodomethane	ND			0.79	61	UJ	5A
SG-VW63B-02	08/16/2021 15:18	Acrolein	ND	1.4	9.6	UJ	5F
		Hexane	530	0.68	3.7	J	3D
		Iodomethane	ND	0.79	61	UJ	5A
		TPH – Gasoline	980	430	430	J	3D
SG-VW63B-03	08/16/2021 15:18	Acrolein	ND	1.4	9.6	UJ	5F
		Hexane	200	0.68	3.7	J	3D
		Iodomethane	ND	0.79	61	UJ	5A
		TPH – Gasoline	450	430	430	J	3D
SG-VW64A-02	08/17/2021 09:38	2-Propanol	9.9	0.76	10	J	6G
		Acrolein	ND	1.4	9.4	UJ	5F
		Iodomethane	ND	0.78	60	UJ	5A
SG-VW64B-01	07/15/2021 11:41	1,2-Dichloropropane	ND	1.8	5.4	UJ	5A
		Acrolein	ND	3.2	11	UJ	5F
SG-VM65A-01	07/30/2021 09:36	Acrolein	ND	1.5	9.8	UJ	5F
		Iodomethane	ND	0.81	62	UJ	5A
SG-VM65B-01	07/30/2021 10:06	Acrolein	ND	1.4	9.4	UJ	5F
		Iodomethane	ND	0.77	59	UJ	5A
SG-VM66A-01	07/30/2021 11:14	Acrolein	ND	1.5	9.8	UJ	5F
		Iodomethane	ND	0.80	62	UJ	5A
SG-VM66B-01	07/30/2021 12:06	Acrolein	ND	1.5	10	UJ	5F
		Iodomethane	ND	0.84	64	UJ	5A
SG-VM66B-02	07/30/2021 12:06	Acrolein	ND	1.5	9.9	UJ	5F
		Iodomethane	ND	0.82	63	UJ	5A
SSV-FSS01-02	08/17/2021 11:22	Acrolein	ND	1.4	9.4	UJ	5F
		Hexane	77	0.66	3.6	J	3D
		Iodomethane	ND	0.78	60	UJ	5A
SSV-FSS01-03	08/17/2021 11:22	Acrolein	ND	1.4	9.4	UJ	5F
		Hexane	54	0.66	3.6	J	3D
		Iodomethane	ND	0.78	60	UJ	5A
SSV-FSS02-02	08/17/2021 11:40	Acrolein	ND	1.4	9.3	UJ	5F
		Iodomethane	ND	0.76	59	UJ	5A
SSV-GSS01-02	08/17/2021 12:23	Acrolein	ND	1.4	9.4	UJ	5F
		Iodomethane	ND	0.78	60	UJ	5A

TABLE 1. QUALIFIED RESULTS

Sample Name	Sample Date/Time	Analyte	Result	MDL	RL	EPA Flag	Reason Code
TO-15 ($\mu\text{g}/\text{m}^3$) (continued)							
SSV-GSS02-02	08/17/2021 12:50	Acrolein	ND	1.5	9.8	UJ	5F
		Iodomethane	ND	0.81	62	UJ	5A
SSV-HMBSS01-02	08/17/2021 13:22	Acrolein	ND	1.4	9.4	UJ	5F
		Iodomethane	ND	0.78	60	UJ	5A
SSV-HSS01-01	07/15/2021 15:13	Acrolein	ND	1.4	9.3	UJ	5F
		Iodomethane	ND	0.76	59	UJ	5A
		Propylene	6.8	0.51	7.0	J	6G
SSV-JSS01-02	08/17/2021 13:45	Acrolein	ND	1.4	9.6	UJ	5F
		Iodomethane	ND	0.79	61	UJ	5A

Notes:

$\mu\text{g}/\text{m}^3$	=	micrograms per cubic meter
<DL	=	less than the detection limit
EPA	=	United States Environmental Protection Agency
MDL	=	method detection limit
ND	=	not detected above the MDL
RL	=	reporting limit
TO	=	toxic organics
TPH	=	total petroleum hydrocarbons

EPA Flags:

J	=	Estimated concentration
J-	=	Estimated concentration; potential low bias
R	=	Rejected result; the data should not be used for site evaluation
UJ	=	Estimated RL; analyte not detected; potential for false negative result at the RL

Reason Codes:

2A-	=	Low laboratory control sample recovery
2A+	=	High laboratory control sample recovery
3D	=	Field duplicate imprecision
3E	=	Field replicate imprecision
4D	=	Leak check compound greater than ten times the lowest RL; potential leak
5A	=	Initial calibration did not meet method requirement
5B-	=	Low continuing calibration recovery
5F	=	Estimated concentration. Potential concerns for the measurement of acrolein using TO-15 (USEPA)
6E	=	Detected above the calibration range
6G	=	Reported below the RL

CURRENT INVESTIGATION VALIDATED SOIL GAS ANALYTICAL RESULTS
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Location ID			SVM-3				
Sampling Date/Time			07/29/2021 13:21				
Sample Depth (feet)			14				
Sample Type			N				
Field Sample ID			SG-SVM3B-01				
Lab Sample ID			2107684-06A				
Status			Validated				
Analyte	Method	Units	Result	QA	Reason	MDL	RL
1,1,1,2-Tetrachloroethane	TO-15	µg/m ³	ND			1.5	30
1,1,1-Trichloroethane	TO-15	µg/m ³	ND			0.46	5.9
1,1,2,2-Tetrachloroethane	TO-15	µg/m ³	ND			0.70	7.4
1,1,2-Trichloroethane	TO-15	µg/m ³	ND			0.94	5.9
1,1-Dichloroethane	TO-15	µg/m ³	ND			0.91	4.4
1,1-Dichloroethene	TO-15	µg/m ³	ND			1.4	4.3
1,1-Difluoroethane	TO-15	µg/m ³	ND			2.6	12
1,2,3-Trichloropropane	TO-15	µg/m ³	ND			1.6	26
1,2,4-Trichlorobenzene	TO-15	µg/m ³	ND			2.8	32
1,2,4-Trimethylbenzene	TO-15	µg/m ³	ND			0.61	5.3
1,2-Dibromo-3-chloropropane	TO-15	µg/m ³	ND			1.4	42
1,2-Dibromoethane (EDB)	TO-15	µg/m ³	ND			1.6	8.3
1,2-Dichlorobenzene	TO-15	µg/m ³	ND			0.73	6.5
1,2-Dichloroethane	TO-15	µg/m ³	ND			0.72	4.4
1,2-Dichloropropane	TO-15	µg/m ³	ND			1.2	5.0
1,3,5-Trimethylbenzene	TO-15	µg/m ³	ND			1.1	5.3
1,3-Butadiene	TO-15	µg/m ³	ND			0.69	2.4
1,3-Dichlorobenzene	TO-15	µg/m ³	ND			0.74	6.5
1,4-Dichlorobenzene	TO-15	µg/m ³	ND			0.77	6.5
1,4-Dioxane	TO-15	µg/m ³	ND			2.3	16
2,2,4-Trimethylpentane	TO-15	µg/m ³	ND			0.59	5.0
2-Butanone (Methyl Ethyl Ketone)	TO-15	µg/m ³	ND			1.9	13
2-Hexanone	TO-15	µg/m ³	ND			0.42	18
2-Propanol	TO-15	µg/m ³	ND			0.80	11
3-Chloropropene	TO-15	µg/m ³	ND			2.9	14
4-Ethyltoluene	TO-15	µg/m ³	ND			1.1	5.3
4-Methyl-2-pentanone	TO-15	µg/m ³	ND			1.0	4.4
Acetone	TO-15	µg/m ³	ND			2.6	26
Acrolein	TO-15	µg/m ³	ND	UJ	5F	1.5	9.9
Acrylonitrile	TO-15	µg/m ³	ND			0.57	9.4
alpha-Chlorotoluene	TO-15	µg/m ³	ND			0.50	5.6
Benzene	TO-15	µg/m ³	ND			0.65	3.4
Bromodichloromethane	TO-15	µg/m ³	ND			1.1	7.2
Bromoform	TO-15	µg/m ³	ND			1.2	11
Bromomethane	TO-15	µg/m ³	ND			1.8	42
Carbon Disulfide	TO-15	µg/m ³	ND			1.3	13
Carbon Tetrachloride	TO-15	µg/m ³	ND			1.8	6.8
Chlorobenzene	TO-15	µg/m ³	ND			0.45	5.0
Chloroethane	TO-15	µg/m ³	ND			2.9	11
Chloroform	TO-15	µg/m ³	ND			0.45	5.3
Chloromethane	TO-15	µg/m ³	ND			1.6	22
cis-1,2-Dichloroethene	TO-15	µg/m ³	ND			1.6	4.3
cis-1,3-Dichloropropene	TO-15	µg/m ³	ND			0.95	4.9

CURRENT INVESTIGATION VALIDATED SOIL GAS ANALYTICAL RESULTS
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Location ID			SVM-3				
Sampling Date/Time			07/29/2021 13:21				
Sample Depth (feet)			14				
Sample Type			N				
Field Sample ID			SG-SVM3B-01				
Lab Sample ID			2107684-06A				
Status			Validated				
Analyte	Method	Units	Result	QA	Reason	MDL	RL
Cumene	TO-15	µg/m ³	ND			0.67	5.3
Cyclohexane	TO-15	µg/m ³	ND			0.61	3.7
Dibromochloromethane	TO-15	µg/m ³	ND			1.6	9.2
Dibromomethane	TO-15	µg/m ³	ND			1.2	31
Ethanol	TO-15	µg/m ³	ND			2.5	20
Ethyl Acetate	TO-15	µg/m ³	ND			0.91	16
Ethylbenzene	TO-15	µg/m ³	ND			1.2	4.7
Ethyl-tert-butyl ether	TO-15	µg/m ³	ND			0.95	18
Freon 11	TO-15	µg/m ³	ND			1.3	6.1
Freon 12	TO-15	µg/m ³	ND			0.84	5.3
Freon 113	TO-15	µg/m ³	ND			1.3	8.3
Freon 114	TO-15	µg/m ³	ND			1.3	7.6
Freon 134a	TO-15	µg/m ³	ND			2.2	18
Heptane	TO-15	µg/m ³	ND			1.1	4.4
Hexachlorobutadiene	TO-15	µg/m ³	ND			4.2	46
Hexachloroethane	TO-15	µg/m ³	ND			42	42
Hexane	TO-15	µg/m ³	ND			0.70	3.8
Iodomethane	TO-15	µg/m ³	ND	UJ	5A	0.82	63
Isopropyl ether	TO-15	µg/m ³	ND			0.53	18
<i>m</i> - & <i>p</i> -Xylenes	TO-15	µg/m ³	ND			1.1	4.7
Methyl <i>tert</i> -butyl ether	TO-15	µg/m ³	ND			0.84	16
Methylene Chloride	TO-15	µg/m ³	ND			0.77	38
Naphthalene	TO-15	µg/m ³	ND			4.4	11
<i>o</i> -Xylene	TO-15	µg/m ³	ND			1.2	4.7
Propylbenzene	TO-15	µg/m ³	ND			0.88	5.3
Propylene	TO-15	µg/m ³	ND			0.55	7.4
Styrene	TO-15	µg/m ³	ND			0.60	4.6
<i>tert</i> -Amyl methyl ether	TO-15	µg/m ³	ND			1.9	18
<i>tert</i> -Butyl alcohol	TO-15	µg/m ³	ND			0.91	13
Tetrachloroethene	TO-15	µg/m ³	140			1.2	7.3
Tetrahydrofuran	TO-15	µg/m ³	ND			0.64	3.2
Toluene	TO-15	µg/m ³	ND			0.42	4.1
TPH - Gasoline	TO-15	µg/m ³	ND			440	440
trans-1,2-Dichloroethene	TO-15	µg/m ³	ND			1.1	4.3
trans-1,3-Dichloropropene	TO-15	µg/m ³	ND			0.85	4.9
Trichloroethene	TO-15	µg/m ³	ND			0.84	5.8
Vinyl Acetate	TO-15	µg/m ³	ND			4.1	15
Vinyl Bromide	TO-15	µg/m ³	ND			1.3	19
Vinyl Chloride	TO-15	µg/m ³	ND			0.70	2.8

CURRENT INVESTIGATION VALIDATED SOIL GAS ANALYTICAL RESULTS
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Notes:

Concentrations detected above the laboratory MDL are shown in **bold**.

Sample depths are referenced to the top of soil (bottom of pavement).

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

FD = field duplicate sample

ID = identification

MDL = method detection limit

N = normal sample

ND = not detected above the laboratory MDL

QA = quality assurance data validation qualifier

RL = reporting limit

TO = Toxic Organics

TPH = total petroleum hydrocarbons

Data Validation Qualifier Definitions:

J = Estimated concentration

J- = Estimated concentration; potential low bias

UJ = Estimated RL; analyte not detected; potential for false negative result at the RL

Data Validation Reason Code Definitions:

2A- = Low laboratory control sample recovery

2A+ = High laboratory control sample recovery

3D = Field duplicate imprecision

3E = Field replicate imprecision

4D = Leak check compound greater than 10 times the lowest RL; potential leak

5A = Initial calibration did not meet method requirement

5B- = Low continuing calibration recovery

5F = Estimated concentration. Potential concerns for the measurement of acrolein using Method TO-15.

6E = Detected above the calibration range

6G = Reported between the laboratory MDL and RL

CURRENT INVESTIGATION VALIDATED SUB-SLAB VAPOR ANALYTICAL RESULTS
(Page 1 of 5)

Location ID Sampling Date/Time Sample Type Field Sample ID Lab Sample ID Status			FSS01 08/17/2021 11:22 N SSV-FSS01-02 2108390-20A Validated				FSS01 08/17/2021 11:22 FD SSV-FSS01-03 2108390-21A Validated				FSS02 08/17/2021 11:40 N SSV-FSS02-02 2108390-22A Validated				GSS01 08/17/2021 12:23 N SSV-GSS01-02 2108390-23A Validated				GSS02 08/17/2021 12:50 N SSV-GSS02-02 2108390-24A Validated				HSS01 07/15/2021 15:13 N SSV-HSS01-01 2107362B-14A Validated			
Analyte	Method	Units	Result	QA Reason	MDL	RL	Result	QA Reason	MDL	RL	Result	QA Reason	MDL	RL	Result	QA Reason	MDL	RL	Result	QA Reason	MDL	RL	Result	QA Reason	MDL	RL
1,1,1,2-Tetrachloroethane	TO-15	µg/m ³	ND		1.4	28	ND		1.4	28	ND		1.4	28	ND		1.4	28	ND		1.5	29	ND		1.4	28
1,1,1-Trichloroethane	TO-15	µg/m ³	ND		0.44	5.6	ND		0.44	5.6	ND		0.43	5.5	ND		0.44	5.6	ND		0.46	5.8	ND		0.43	5.5
1,1,1,2-Tetrachloroethane	TO-15	µg/m ³	ND		0.66	7.1	ND		0.66	7.1	ND		0.65	6.9	ND		0.66	7.1	ND		0.69	7.3	ND		0.65	6.9
1,1,2-Trichloroethane	TO-15	µg/m ³	ND		0.90	5.6	ND		0.90	5.6	ND		0.88	5.5	ND		0.90	5.6	ND		0.94	5.8	ND		0.88	5.5
1,1-Dichloroethane	TO-15	µg/m ³	ND		0.87	4.2	ND		0.87	4.2	ND		0.85	4.1	ND		0.87	4.2	ND		0.90	4.3	ND		0.85	4.1
1,1-Dichloroethene	TO-15	µg/m ³	ND		1.3	4.1	ND		1.3	4.1	ND		1.3	4.0	ND		1.3	4.1	ND		1.4	4.2	ND		1.3	4.0
1,1-Difluoroethane	TO-15	µg/m ³	ND		2.4	11	ND		2.4	11	ND		2.4	11	ND		2.4	11	ND		2.5	12	18		2.4	11
1,2,3-Trichloropropane	TO-15	µg/m ³	ND		1.6	25	ND		1.6	25	ND		1.5	24	ND		1.6	25	ND		1.6	26	ND		1.5	24
1,2,4-Trichlorobenzene	TO-15	µg/m ³	ND		2.7	30	ND		2.7	30	ND		2.6	30	ND		2.7	30	ND		2.8	32	ND		2.6	30
1,2,4-Trimethylbenzene	TO-15	µg/m ³	ND		0.58	5.1	ND		0.58	5.1	10		0.57	5.0	ND		0.58	5.1	ND		0.61	5.2	ND		0.57	5.0
1,2-Dibromo-3-chloropropane	TO-15	µg/m ³	ND		1.3	40	ND		1.3	40	ND		1.3	39	ND		1.3	40	ND		1.3	41	ND		1.3	39
1,2-Dibromoethane (EDB)	TO-15	µg/m ³	ND		1.5	7.9	ND		1.5	7.9	ND		1.5	7.8	ND		1.5	7.9	ND		1.6	8.2	ND		1.5	7.8
1,2-Dichlorobenzene	TO-15	µg/m ³	ND		0.70	6.2	ND		0.70	6.2	ND		0.68	6.1	ND		0.70	6.2	ND		0.72	6.4	ND		0.68	6.1
1,2-Dichloroethane	TO-15	µg/m ³	ND		0.68	4.2	ND		0.68	4.2	ND		0.67	4.1	ND		0.68	4.2	ND		0.71	4.3	ND		0.67	4.1
1,2-Dichloropropane	TO-15	µg/m ³	ND		1.1	4.8	ND		1.1	4.8	ND		1.1	4.7	ND		1.1	4.8	ND		1.2	4.9	ND		1.1	4.7
1,3,5-Trimethylbenzene	TO-15	µg/m ³	ND		1.0	5.1	ND		1.0	5.1	ND		1.0	5.0	ND		1.0	5.1	ND		1.1	5.3	ND		1.0	5.0
1,3-Butadiene	TO-15	µg/m ³	ND		0.66	2.3	ND		0.66	2.3	ND		0.64	2.2	ND		0.66	2.3	ND		0.68	2.4	ND		0.64	2.2
1,3-Dichlorobenzene	TO-15	µg/m ³	ND		0.71	6.2	ND		0.71	6.2	ND		0.69	6.1	ND		0.71	6.2	ND		0.74	6.4	ND		0.69	6.1
1,4-Dichlorobenzene	TO-15	µg/m ³	ND		0.74	6.2	ND		0.74	6.2	ND		0.72	6.1	ND		0.74	6.2	ND		0.76	6.4	ND		0.72	6.1
1,4-Dioxane	TO-15	µg/m ³	ND		2.2	15	ND		2.2	15	ND		2.1	14	ND		2.2	15	ND		2.3	15	ND		2.1	14
2,2,4-Trimethylpentane	TO-15	µg/m ³	ND		0.56	4.8	ND		0.56	4.8	ND		0.55	4.7	ND		0.56	4.8	ND		0.59	5.0	ND		0.55	4.7
2-Butanone (Methyl Ethyl Ketone)	TO-15	µg/m ³	ND		1.8	12	ND		1.8	12	ND		1.8	12	ND		1.8	12	ND		1.9	13	ND		1.8	12
2-Hexanone	TO-15	µg/m ³	ND		0.40	17	ND		0.40	17	ND		0.40	16	ND		0.40	17	ND		0.42	18	ND		0.40	16
2-Propanol	TO-15	µg/m ³	ND		0.76	10	ND		0.76	10	ND		0.74	9.9	ND		0.76	10	31		0.79	10	26		0.74	9.9
3-Chloropropene	TO-15	µg/m ³	ND		2.8	13	ND		2.8	13	ND		2.8	13	ND		2.8	13	ND		2.9	13	ND		2.8	13
4-Ethyltoluene	TO-15	µg/m ³	ND		1.0	5.1	ND		1.0	5.1	8.3		1.0	5.0	ND		1.0	5.1	ND		1.1	5.3	ND		1.0	5.0
4-Methyl-2-pentanone	TO-15	µg/m ³	ND		1.0	4.2	ND		1.0	4.2	ND		0.98	4.1	ND		1.0	4.2	ND		1.0	4.4	ND		0.98	4.1
Acetone	TO-15	µg/m ³	ND		2.4	24	ND		2.4	24	ND		2.4	24	ND		2.4	24	ND		2.5	25	56		2.4	24
Acrolein	TO-15	µg/m ³	ND	UJ 5F	1.4	9.4	ND	UJ 5F	1.4	9.4	ND	UJ 5F	1.4	9.3	ND	UJ 5F	1.4	9.4	ND	UJ 5F	1.5	9.8	ND	UJ 5F	1.4	9.3
Acrylonitrile	TO-15	µg/m ³	ND		0.55	8.9	ND		0.55	8.9	ND		0.54	8.8	ND		0.55	8.9	ND		0.57	9.3	ND		0.54	8.8
alpha-Chlorotoluene	TO-15	µg/m ³	ND		0.48	5.3	ND		0.48	5.3	ND		0.47	5.2	ND		0.48	5.3	ND		0.50	5.5	ND		0.47	5.2
Benzene	TO-15	µg/m ³	ND		0.62	3.3	ND		0.62	3.3	ND		0.61	3.2	ND		0.62	3.3	ND		0.64	3.4	ND		0.61	3.2
Bromodichloromethane	TO-15	µg/m ³	ND		1.0	6.9	ND		1.0	6.9	ND		1.0	6.8	ND		1.0	6.9	ND		1.1	7.2	ND		1.0	6.8
Bromoform	TO-15	µg/m ³	ND		1.1	11	ND		1.1	11	ND		1.1	10	ND		1.1	11	ND		1.2	11	ND		1.1	10
Bromomethane	TO-15	µg/m ³	ND		1.7	40	ND		1.7	40	ND		1.7	39	ND		1.7	40	ND		1.8	42	ND		1.7	39
Carbon Disulfide	TO-15	µg/m ³	ND		1.2	13	ND		1.2	13	ND		1.2	12	ND		1.2	13	ND		1.3	13	ND		1.2	12
Carbon Tetrachloride	TO-15	µg/m ³	ND		1.7	6.5	ND		1.7	6.5	ND		1.7	6.4	ND		1.7	6.5	ND		1.8	6.7	ND		1.7	6.4
Chlorobenzene	TO-15	µg/m ³	ND		0.43	4.7	ND		0.43	4.7	ND		0.42	4.6	ND		0.43	4.7	ND		0.45	4.9	ND		0.42	4.6
Chloroethane	TO-15	µg/m ³	ND		2.8	11	ND		2.8	11	ND		2.7	11	ND		2.8	11	ND		2.9	11	ND		2.7	11
Chloroform	TO-15	µg/m ³	ND		0.43	5.0	ND		0.43	5.0	ND		0.42	4.9	ND		0.43	5.0	ND		0.45	5.2	ND		0.42	4.9
Chloromethane	TO-15	µg/m ³	ND		1.5	21	ND		1.5	21	ND		1.5	21	ND		1.5	21	ND		1.6	22	ND		1.5	21

CURRENT INVESTIGATION VALIDATED SUB-SLAB VAPOR ANALYTICAL RESULTS
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Location ID Sampling Date/Time Sample Type Field Sample ID Lab Sample ID Status			FSS01 08/17/2021 11:22 N SSV-FSS01-02 2108390-20A Validated				FSS01 08/17/2021 11:22 FD SSV-FSS01-03 2108390-21A Validated				FSS02 08/17/2021 11:40 N SSV-FSS02-02 2108390-22A Validated				GSS01 08/17/2021 12:23 N SSV-GSS01-02 2108390-23A Validated				GSS02 08/17/2021 12:50 N SSV-GSS02-02 2108390-24A Validated				HSS01 07/15/2021 15:13 N SSV-HSS01-01 2107362B-14A Validated			
Analyte	Method	Units	Result	QA Reason	MDL	RL	Result	QA Reason	MDL	RL	Result	QA Reason	MDL	RL	Result	QA Reason	MDL	RL	Result	QA Reason	MDL	RL	Result	QA Reason	MDL	RL
cis-1,2-Dichloroethene	TO-15	µg/m ³	ND		1.5	4.1	ND		1.5	4.1	ND		1.4	4.0	ND		1.5	4.1	ND		1.5	4.2	ND		1.4	4.0
cis-1,3-Dichloropropene	TO-15	µg/m ³	ND		0.90	4.7	ND		0.90	4.7	ND		0.89	4.6	ND		0.90	4.7	ND		0.94	4.8	ND		0.89	4.6
Cumene	TO-15	µg/m ³	ND		0.64	5.1	ND		0.64	5.1	ND		0.62	5.0	ND		0.64	5.1	ND		0.66	5.2	ND		0.62	5.0
Cyclohexane	TO-15	µg/m ³	ND		0.58	3.5	ND		0.58	3.5	ND		0.57	3.5	ND		0.58	3.5	ND		0.61	3.7	ND		0.57	3.5
Dibromochloromethane	TO-15	µg/m ³	ND		1.5	8.8	ND		1.5	8.8	ND		1.5	8.6	ND		1.5	8.8	ND		1.6	9.1	ND		1.5	8.6
Dibromomethane	TO-15	µg/m ³	ND		1.1	29	ND		1.1	29	ND		1.1	29	ND		1.1	29	ND		1.2	30	ND		1.1	29
Ethanol	TO-15	µg/m ³	ND		2.4	19	ND		2.4	19	22		2.4	19	ND		2.4	19	30		2.5	20	ND		2.4	19
Ethyl Acetate	TO-15	µg/m ³	ND		0.87	15	ND		0.87	15	ND		0.85	14	ND		0.87	15	ND		0.90	15	ND		0.85	14
Ethylbenzene	TO-15	µg/m ³	ND		1.2	4.5	ND		1.2	4.5	ND		1.1	4.4	ND		1.2	4.5	ND		1.2	4.6	ND		1.1	4.4
Ethyl-tert-butyl ether	TO-15	µg/m ³	ND		0.91	17	ND		0.91	17	ND		0.89	17	ND		0.91	17	ND		0.94	18	ND		0.89	17
Freon 11	TO-15	µg/m ³	ND		1.2	5.8	ND		1.2	5.8	ND		1.2	5.7	ND		1.2	5.8	ND		1.3	6.0	33		1.2	5.7
Freon 12	TO-15	µg/m ³	ND		0.80	5.1	ND		0.80	5.1	ND		0.79	5.0	ND		0.80	5.1	ND		0.84	5.3	ND		0.79	5.0
Freon 113	TO-15	µg/m ³	ND		1.2	7.9	ND		1.2	7.9	ND		1.2	7.7	ND		1.2	7.9	ND		1.3	8.2	ND		1.2	7.7
Freon 114	TO-15	µg/m ³	ND		1.3	7.2	ND		1.3	7.2	ND		1.2	7.1	ND		1.3	7.2	ND		1.3	7.5	ND		1.2	7.1
Freon 134a	TO-15	µg/m ³	ND		2.1	17	ND		2.1	17	ND		2.1	17	ND		2.1	17	ND		2.2	18	ND		2.1	17
Heptane	TO-15	µg/m ³	ND		1.0	4.2	ND		1.0	4.2	ND		0.99	4.1	ND		1.0	4.2	ND		1.0	4.4	ND		0.99	4.1
Hexachlorobutadiene	TO-15	µg/m ³	ND		4.0	44	ND		4.0	44	ND		4.0	43	ND		4.0	44	ND		4.2	46	ND		4.0	43
Hexachloroethane	TO-15	µg/m ³	ND		40	40	ND		40	40	ND		39	39	ND		40	40	ND		41	41	ND		39	39
Hexane	TO-15	µg/m ³	77	J 3D	0.66	3.6	54	J 3D	0.66	3.6	97		0.65	3.6	50		0.66	3.6	75		0.69	3.8	ND		0.65	3.6
Iodomethane	TO-15	µg/m ³	ND	UJ 5A	0.78	60	ND	UJ 5A	0.78	60	ND	UJ 5A	0.76	59	ND	UJ 5A	0.78	60	ND	UJ 5A	0.81	62	ND	UJ 5A	0.76	59
Isopropyl ether	TO-15	µg/m ³	ND		0.51	17	ND		0.51	17	ND		0.50	17	ND		0.51	17	ND		0.53	18	ND		0.50	17
m,p-Xylene	TO-15	µg/m ³	4.8		1.0	4.5	5.5		1.0	4.5	15		1.0	4.4	5.5		1.0	4.5	7.5		1.1	4.6	5.8		1.0	4.4
Methyl tert-butyl ether	TO-15	µg/m ³	ND		0.80	15	ND		0.80	15	ND		0.78	14	ND		0.80	15	ND		0.83	15	ND		0.78	14
Methylene Chloride	TO-15	µg/m ³	ND		0.74	36	ND		0.74	36	ND		0.72	35	ND		0.74	36	ND		0.76	37	ND		0.72	35
Naphthalene	TO-15	µg/m ³	ND		4.2	11	ND		4.2	11	ND		4.1	10	ND		4.2	11	ND		4.3	11	ND		4.1	10
o-Xylene	TO-15	µg/m ³	ND		1.1	4.5	ND		1.1	4.5	7.1		1.1	4.4	ND		1.1	4.5	ND		1.2	4.6	ND		1.1	4.4
Propylbenzene	TO-15	µg/m ³	ND		0.84	5.1	ND		0.84	5.1	ND		0.82	5.0	ND		0.84	5.1	ND		0.87	5.3	ND		0.82	5.0
Propylene	TO-15	µg/m ³	ND		0.52	7.1	ND		0.52	7.1	8.2		0.51	7.0	ND		0.52	7.1	ND		0.54	7.4	6.8	J 6G	0.51	7.0
Styrene	TO-15	µg/m ³	ND		0.57	4.4	ND		0.57	4.4	ND		0.56	4.3	ND		0.57	4.4	ND		0.59	4.6	ND		0.56	4.3
tert-Amyl methyl ether	TO-15	µg/m ³	ND		1.8	17	ND		1.8	17	ND		1.8	17	ND		1.8	17	ND		1.9	18	ND		1.8	17
tert-Butyl alcohol	TO-15	µg/m ³	ND		0.86	12	ND		0.86	12	ND		0.85	12	ND		0.86	12	ND		0.90	13	ND		0.85	12
Tetrachloroethene	TO-15	µg/m ³	9.4		1.1	7.0	9.7		1.1	7.0	63		1.1	6.8	ND		1.1	7.0	300		1.2	7.2	750		1.1	6.8
Tetrahydrofuran	TO-15	µg/m ³	ND		0.61	3.0	ND		0.61	3.0	ND		0.60	3.0	ND		0.61	3.0	4.6		0.64	3.2	ND		0.60	3.0
Toluene	TO-15	µg/m ³	ND		0.40	3.9	ND		0.40	3.9	7.7		0.39	3.8	ND		0.40	3.9	4.3		0.42	4.0	4.2		0.39	3.8
TPH ref. to Gasoline (MW=100)	TO-15	µg/m ³	ND		420	420	ND		420	420	530		410	410	ND		420	420	490		440	440	ND		410	410
trans-1,2-Dichloroethene	TO-15	µg/m ³	ND		1.0	4.1	ND		1.0	4.1	ND		1.0	4.0	ND		1.0	4.1	ND		1.1	4.2	ND		1.0	4.0
trans-1,3-Dichloropropene	TO-15	µg/m ³	ND		0.81	4.7	ND		0.81	4.7	ND		0.80	4.6	ND		0.81	4.7	ND		0.84	4.8	ND		0.80	4.6
Trichloroethene	TO-15	µg/m ³	ND		0.80	5.5	ND		0.80	5.5	ND		0.78	5.4	ND		0.80	5.5	ND		0.83	5.8	21		0.78	5.4
Vinyl Acetate	TO-15	µg/m ³	ND		3.9	14	ND		3.9	14	ND		3.8	14	ND		3.9	14	ND		4.1	15	ND		3.8	14
Vinyl Bromide	TO-15	µg/m ³	ND		1.2	18	ND		1.2	18	ND		1.2	18	ND		1.2	18	ND		1.3	19	ND		1.2	18
Vinyl Chloride	TO-15	µg/m ³	ND		0.66	2.6	ND		0.66	2.6	ND		0.65	2.6	ND		0.66	2.6	ND		0.69	2.7	ND		0.65	2.6

CURRENT INVESTIGATION VALIDATED SUB-SLAB VAPOR ANALYTICAL RESULTS
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Location ID Sampling Date/Time Sample Type Field Sample ID Lab Sample ID Status			HMBSS01 08/17/2021 13:22 N SSV-HMBSS01-02 2108390-25A <i>Validated</i>				JSS01 08/17/2021 13:45 N SSV-JSS01-02 2108390-26A <i>Validated</i>			
Analyte	Method	Units	Result	QA Reason	MDL	RL	Result	QA Reason	MDL	RL
1,1,1,2-Tetrachloroethane	TO-15	µg/m ³	ND		1.4	28	ND		1.4	29
1,1,1-Trichloroethane	TO-15	µg/m ³	ND		0.44	5.6	ND		0.45	5.7
1,1,2,2-Tetrachloroethane	TO-15	µg/m ³	ND		0.66	7.1	ND		0.68	7.2
1,1,2-Trichloroethane	TO-15	µg/m ³	ND		0.90	5.6	ND		0.92	5.7
1,1-Dichloroethane	TO-15	µg/m ³	ND		0.87	4.2	ND		0.89	4.2
1,1-Dichloroethene	TO-15	µg/m ³	ND		1.3	4.1	ND		1.4	4.2
1,1-Difluoroethane	TO-15	µg/m ³	ND		2.4	11	ND		2.5	11
1,2,3-Trichloropropane	TO-15	µg/m ³	ND		1.6	25	ND		1.6	25
1,2,4-Trichlorobenzene	TO-15	µg/m ³	ND		2.7	30	ND		2.7	31
1,2,4-Trimethylbenzene	TO-15	µg/m ³	ND		0.58	5.1	ND		0.60	5.2
1,2-Dibromo-3-chloropropane	TO-15	µg/m ³	ND		1.3	40	ND		1.3	40
1,2-Dibromoethane (EDB)	TO-15	µg/m ³	ND		1.5	7.9	ND		1.6	8.1
1,2-Dichlorobenzene	TO-15	µg/m ³	ND		0.70	6.2	ND		0.71	6.3
1,2-Dichloroethane	TO-15	µg/m ³	ND		0.68	4.2	ND		0.70	4.2
1,2-Dichloropropane	TO-15	µg/m ³	ND		1.1	4.8	ND		1.2	4.8
1,3,5-Trimethylbenzene	TO-15	µg/m ³	ND		1.0	5.1	ND		1.1	5.2
1,3-Butadiene	TO-15	µg/m ³	ND		0.66	2.3	ND		0.67	2.3
1,3-Dichlorobenzene	TO-15	µg/m ³	ND		0.71	6.2	ND		0.72	6.3
1,4-Dichlorobenzene	TO-15	µg/m ³	ND		0.74	6.2	ND		0.75	6.3
1,4-Dioxane	TO-15	µg/m ³	ND		2.2	15	ND		2.2	15
2,2,4-Trimethylpentane	TO-15	µg/m ³	ND		0.56	4.8	ND		0.58	4.9
2-Butanone (Methyl Ethyl Ketone)	TO-15	µg/m ³	ND		1.8	12	ND		1.9	12
2-Hexanone	TO-15	µg/m ³	ND		0.40	17	ND		0.41	17
2-Propanol	TO-15	µg/m ³	13		0.76	10	20		0.77	10
3-Chloropropene	TO-15	µg/m ³	ND		2.8	13	ND		2.9	13
4-Ethyltoluene	TO-15	µg/m ³	ND		1.0	5.1	ND		1.0	5.2
4-Methyl-2-pentanone	TO-15	µg/m ³	ND		1.0	4.2	ND		1.0	4.3
Acetone	TO-15	µg/m ³	ND		2.4	24	ND		2.5	25
Acrolein	TO-15	µg/m ³	ND	UJ 5F	1.4	9.4	ND	UJ 5F	1.4	9.6
Acrylonitrile	TO-15	µg/m ³	ND		0.55	8.9	ND		0.56	9.1
alpha-Chlorotoluene	TO-15	µg/m ³	ND		0.48	5.3	ND		0.49	5.4
Benzene	TO-15	µg/m ³	ND		0.62	3.3	ND		0.63	3.4
Bromodichloromethane	TO-15	µg/m ³	ND		1.0	6.9	ND		1.0	7.0
Bromoform	TO-15	µg/m ³	ND		1.1	11	ND		1.1	11
Bromomethane	TO-15	µg/m ³	ND		1.7	40	ND		1.8	41
Carbon Disulfide	TO-15	µg/m ³	ND		1.2	13	32		1.3	13
Carbon Tetrachloride	TO-15	µg/m ³	ND		1.7	6.5	ND		1.7	6.6
Chlorobenzene	TO-15	µg/m ³	ND		0.43	4.7	ND		0.44	4.8
Chloroethane	TO-15	µg/m ³	ND		2.8	11	ND		2.8	11
Chloroform	TO-15	µg/m ³	ND		0.43	5.0	ND		0.44	5.1
Chloromethane	TO-15	µg/m ³	ND		1.5	21	ND		1.5	22

CURRENT INVESTIGATION VALIDATED SUB-SLAB VAPOR ANALYTICAL RESULTS
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Location ID Sampling Date/Time Sample Type Field Sample ID Lab Sample ID Status			HMBSS01 08/17/2021 13:22 N SSV-HMBSS01-02 2108390-25A <i>Validated</i>				JSS01 08/17/2021 13:45 N SSV-JSS01-02 2108390-26A <i>Validated</i>			
Analyte	Method	Units	Result	QA Reason	MDL	RL	Result	QA Reason	MDL	RL
cis-1,2-Dichloroethene	TO-15	µg/m ³	ND		1.5	4.1	ND		1.5	4.2
cis-1,3-Dichloropropene	TO-15	µg/m ³	ND		0.90	4.7	ND		0.92	4.8
Cumene	TO-15	µg/m ³	ND		0.64	5.1	ND		0.65	5.2
Cyclohexane	TO-15	µg/m ³	ND		0.58	3.5	ND		0.59	3.6
Dibromochloromethane	TO-15	µg/m ³	ND		1.5	8.8	ND		1.5	8.9
Dibromomethane	TO-15	µg/m ³	ND		1.1	29	ND		1.1	30
Ethanol	TO-15	µg/m ³	ND		2.4	19	44		2.4	20
Ethyl Acetate	TO-15	µg/m ³	ND		0.87	15	ND		0.88	15
Ethylbenzene	TO-15	µg/m ³	ND		1.2	4.5	ND		1.2	4.6
Ethyl-tert-butyl ether	TO-15	µg/m ³	ND		0.91	17	ND		0.92	18
Freon 11	TO-15	µg/m ³	ND		1.2	5.8	ND		1.3	5.9
Freon 12	TO-15	µg/m ³	ND		0.80	5.1	ND		0.82	5.2
Freon 113	TO-15	µg/m ³	ND		1.2	7.9	ND		1.3	8.0
Freon 114	TO-15	µg/m ³	ND		1.3	7.2	ND		1.3	7.3
Freon 134a	TO-15	µg/m ³	ND		2.1	17	ND		2.2	18
Heptane	TO-15	µg/m ³	ND		1.0	4.2	ND		1.0	4.3
Hexachlorobutadiene	TO-15	µg/m ³	ND		4.0	44	ND		4.1	45
Hexachloroethane	TO-15	µg/m ³	ND		40	40	ND		41	41
Hexane	TO-15	µg/m ³	58		0.66	3.6	120		0.68	3.7
Iodomethane	TO-15	µg/m ³	ND	UJ 5A	0.78	60	ND	UJ 5A	0.79	61
Isopropyl ether	TO-15	µg/m ³	ND		0.51	17	ND		0.52	18
m,p-Xylene	TO-15	µg/m ³	6.7		1.0	4.5	9.5		1.0	4.6
Methyl tert-butyl ether	TO-15	µg/m ³	ND		0.80	15	ND		0.81	15
Methylene Chloride	TO-15	µg/m ³	ND		0.74	36	ND		0.75	36
Naphthalene	TO-15	µg/m ³	ND		4.2	11	ND		4.2	11
o-Xylene	TO-15	µg/m ³	ND		1.1	4.5	ND		1.1	4.6
Propylbenzene	TO-15	µg/m ³	ND		0.84	5.1	ND		0.86	5.2
Propylene	TO-15	µg/m ³	ND		0.52	7.1	ND		0.53	7.2
Styrene	TO-15	µg/m ³	ND		0.57	4.4	ND		0.58	4.5
tert-Amyl methyl ether	TO-15	µg/m ³	ND		1.8	17	ND		1.8	18
tert-Butyl alcohol	TO-15	µg/m ³	ND		0.86	12	ND		0.88	13
Tetrachloroethene	TO-15	µg/m ³	72		1.1	7.0	23		1.1	7.1
Tetrahydrofuran	TO-15	µg/m ³	ND		0.61	3.0	ND		0.63	3.1
Toluene	TO-15	µg/m ³	ND		0.40	3.9	5.2		0.41	4.0
TPH ref. to Gasoline (MW=100)	TO-15	µg/m ³	ND		420	420	490		430	430
trans-1,2-Dichloroethene	TO-15	µg/m ³	ND		1.0	4.1	ND		1.1	4.2
trans-1,3-Dichloropropene	TO-15	µg/m ³	ND		0.81	4.7	ND		0.83	4.8
Trichloroethene	TO-15	µg/m ³	ND		0.80	5.5	ND		0.81	5.6
Vinyl Acetate	TO-15	µg/m ³	ND		3.9	14	ND		4.0	15
Vinyl Bromide	TO-15	µg/m ³	ND		1.2	18	ND		1.2	18
Vinyl Chloride	TO-15	µg/m ³	ND		0.66	2.6	ND		0.68	2.7

CURRENT INVESTIGATION VALIDATED SUB-SLAB VAPOR ANALYTICAL RESULTS
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Notes:

Concentrations detected above the laboratory MDL are shown in **bold**.

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

FD = field duplicate sample

ID = identification

MDL = method detection limit

N = normal sample

ND = not detected above the laboratory MDL

QA = quality assurance data validation qualifier

RL = reporting limit

TO = Toxic Organics

TPH = total petroleum hydrocarbons

Data Validation Qualifier Definitions:

J = Estimated concentration

UJ = Estimated RL; analyte not detected; potential for false negative result at the RL

Data Validation Reason Code Definitions:

3D = Field duplicate imprecision

5A = Initial calibration did not meet method requirement

5F = Estimated concentration. Potential concerns for the measurement of acrolein using Method TO-15.

6G = Reported between the laboratory MDL and RL