## ENHANCED AEROBIC BIOREMEDIATION OF CHLORINATED SOLVENTS AT 2331 E. MARKET STREET, YORK PA

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### 1 Enhanced Aerobic Bioremediation Report

#### Introduction

According to the US EPA, halogenated volatile organic compounds, including chlorinated solvents, are the most frequently occurring type of soil and groundwater contaminants at superfund and other hazardous waste sites in the United States. The U.S. Environmental Protection Agency (EPA, 2000) estimates that, over the next several decades, site owners will spend billions of dollars to clean up these sites. Therefore, new technologies that are less costly and more effective are needed to accomplish hazardous waste site remediation. In situ treatment is increasingly being selected to remediate sites because it is usually less expensive, and does not require waste extraction or excavation.

Chlorinated solvents have historically been used for cleaning and degreasing diverse products such as aircraft engines, automobile parts, electronic components, and clothing in the military and commercial sectors. In the case of remediation of 2331 E. Market Street, it is our understanding that they have been released by a dry cleaning facility that operated several years ago. Chlorinated solvents often released in the form of dense non-aqueous phase liquids (DNAPLs) are difficult to remediate once they have migrated into groundwater aquifers.

Bioremediation of the DNAPL in groundwater by the activity of anaerobic bacteria has been documented (here). However, bioremediation of DNAPL in the literature has predominantly been focused on groundwater under anaerobic conditions and not on soil or soil-gas under *aerobic* conditions. It is proposed to establish enhanced aerobic bioremediation of Perchloroethene (PCE) and Trichloroethene (TCE) using aerobic bacterial consortium present in Vapor-Remed (aka AgroRemed).

VaporRemed is included in the (National Contingency Planning Product Schedule) NCP Product Schedule (Products Available for Use on Oil Spills) as a bioremediation agent. The approach to applying enhanced bioremediation at 2331 E. Market Street was agreed to by the PA DEP in May 2017.

#### **Enhanced Bioremediation**

Enhanced Bioremediation is defined as the bioremediation of organic contaminants by microbes supplemented by increasing the concentration of electron acceptors, electron donors, or nutrients in groundwater, surface water, and soil. After initial discussions and approvals from PADEP, it was decided to accomplish bioremediation using AgroRemed/VaporRemed. However, in the absence of an established protocol for evaluating the process of *in situ* bioremediation, the guidelines outlined in *National Research Council. 1993. In Situ Bioremediation: When Does it Work?* [1] were used as a reference. The authors list three forms of evidences for demonstrating that in situ bioremediation is working for a given project:

- 1. documented loss of contaminants from the site,
- 2. laboratory assays showing that the microorganisms in site samples have the *potential* to transform the contaminants under expected site condition, and
- 3. one or more pieces of evidence showing that the bioremediation potential is *actually realized* in the field.

Enhanced aerobic bioremediation was monitored and recorded in the following media across various locations at the site.

- 1. Soil,
- 2. Sub-slab soil gas,
- 3. Indoor air, and
- 4. Near-source sub soil gas.

#### 1.1 Objectives

- 1. To investigate and evaluate cost-effective enhanced bioremediation solutions at 2331 E. Market Street, York PA.
- 2. To reduce the impact of contamination in the indoor air for tenants at the property.
- 3. To monitor the contaminant levels *post treatment*.

#### 1.2 Enhanced Aerobic Bioremediation of Chlorinated Hydrocarbons

Since 2011 the site has been characterized multiple times with no indication of a solution. It was therefore decided to implement enhanced bioremediation for cleanup of the site; a guideline that has been proposed by the USEPA for *cost-effective* cleanup of sites contaminated with TCE and PCE.

#### 1 - Documented loss of contaminants from the site

Aerobic Degradation - It has long been thought that TCE is resistant to degradation under aerobic conditions due to its already oxidized state. Recently, a number of monooxygenases produced under aerobic conditions have been shown to degrade TCE (Nelson et al., 1987; Harker and Young, 1990). Link

# **2** - Laboratory assays showing that microorganims in the site samples have the potential

The figure 1 displays a modified version of the Hazen table, link here, highlighting that the following compounds can be broken down by cometabolic bioremediation.

	Cometabolic Bioremediation Conditions				
	Aerobic	Aerobic	Aerobic	Anaerobic	Anaerobic
Contaminants	TCE     DCE     VC     PAHs     PCBs     MTBE     Creosote     >300 other     compounds	TCE     DCE     VC     TNT	<ul> <li>TCE</li> <li>DCE</li> <li>VC</li> <li>1,1-DCE</li> <li>1,1,1-TCA</li> <li>MTBE</li> </ul>	PCE     TCE     DCE     VC     Hexachlorocyclohexane	BTEX     PCE     PAHs     Atrazine     TNT
Substrates	Methane     Methanol     Propane     Propylene	Ammonia     Nitrate	Toluene     Butane     Phenol     Citral     Cumin Aldehyde     Cumene     Limonene	Methanol	<ul> <li>Glucose</li> <li>Acetate</li> <li>Lactate</li> <li>Sulfate</li> <li>Pyruvate</li> </ul>
Microoganism(s)	Methylosinus	Nitrosomonas     Nitrobacter	Rhodococcus     Pseudomonas     Arthrobacter	<ul> <li>Pseudomonas</li> <li>Streptomyces</li> <li>Corynebacterium</li> </ul>	Dehalococcoides     Methanogens     Desulfovibrio     Clostridium     Geobacter     Clavibacter
Enzyme(s) produced	Methane monooxygenase     Methanol dehydrogenase     Alkene mono- oxygenase     Catechol dioxygenase	Ammonia monooxygenase	Toluene monooxygenase     Toluene dioxygenase	Alcohol dehydrogenases	Dehalogenase     AtzA     Dichloromethane     Dehalogenase

Modified from Hazen (2010)

#### Figure 1: Modified table from Hazen (2010)

VaporRemed is a bioremediation comprising of a consortium of bacteria listed here

- Pseudomonas alkaligenes
- Phenylobacterium immobile
- Stentrophomonas maltophilia
- Gluconobacte cerinus

• Agrobacter radiobacter

Based on the information provided in the figure 1, remediation of PCE reported to be under cometabolic bioremediation condition, in the present case the bioremediation is accomplished through enhanced aerobic conditions. This observation has been recorded multiple times after introduction of VaporRemed and is *significant*.

# 3 - One or more pieces of evidence showing that the bioremediation potential is actually being realized at 2331 E. Market Street

1. Soil-bore analysis

The table below shows the degradation observed after introducing AgroRemed to up to 10' bgs at SB 121 cluster of locations.

Date	Location	Analyte	Result
06/28/2017 10:10	SB-121	Tetrachloroethene	2680000.000000
09/11/2017 11:40	SB-121	Tetrachloroethene	73.000000
06/28/2017 10:10	SB-121	Trichloroethene	7400.000000
09/11/2017 11:40	SB-121	Trichloroethene	150.000000
06/28/2017 10:10	SB-121	"Vinyl chloride"	0.470000
09/11/2017 11:40	SB-121	"Vinyl chloride"	10700.000000
06/28/2017 10:10	SB-121	cis-12-Dichloroethene	3700.000000
09/11/2017 11:40	SB-121	cis-12-Dichloroethene	83900.000000

Table 1: Contamination levels at SB 121

The above table shows that a significant reduction in *PCE and TCE* has been recorded at SB-121. This reduction significant and also provides the first clear evidence of *aerobic* bioremediation at the site. As can be seen from the results the values of cis-1,2-Dichloroethene (cis12DCE) and Vinyl Chloride (VC) increased, further corroborating evidence of active aerobic bioremediation.

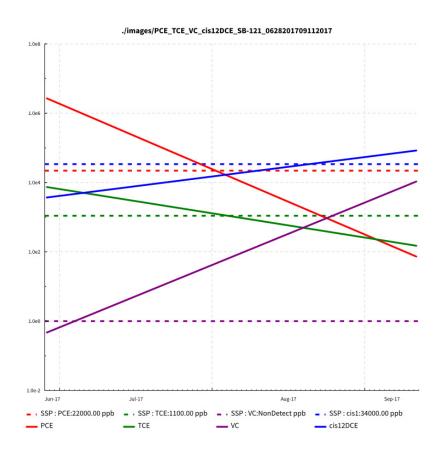


Figure 2: Contamination levels at SB 121

### First-order decay formula used throughout the report

**Definition** : A quantity is subject to exponential decay if it decreases at a rate proportional to its current value. In this report and the attached source code, we are using the following formula.

 $rate = oneDay * (\ln r2 - \ln r1)/timeInSeconds$ 

where

$$oneDay = 24 * 3600$$

seconds

where *timeInSeconds* is difference in time in seconds, r1 is the contamination level at time T1, r2 is the contamination level at time T2.

Further, as we are dealing with decay rates of PCE + TCE, we have also modeled the PCE decay by accumulating the decreased amount completely into the concentrations of TCE. The current model is not ideal because it doesnt account for "daughter" compounds such as cis12DCE and *trans* Trichloroethene. Further, the model is as approximation as the ppb values are being used instead gram molar concentrations.

Computed first order decay for SB-121

- PCE = -14.00 %
- TCE = -0.005 %

#### Some more notes about the plot

Since we are assuming a first order decay of PCE in the plot above, we can estimate the PCE levels at any point between 6/28 and 9/11. For example, it can be seen that the site specific levels for PCE were reached at the site in the first week of August, 2017.

2. Sub-slab Soil Gas Analysis

VP-003 is a strategic location as it is an important pathway for vapor intrusion. Therefore, the effectiveness of VaporRemed was tested by introducing VaporRemed directly into VP-003 and monitoring the results over very short period of time, namely, *2 hours*. VaporRemed was not injected under pressure.

Location Id	Date	Analyte	Result	ppb
VP-3 (Before)	07/25/2018 09:00	Tetrachloroethene	55600	$\rm ug/m3$
VP-3 (After)	$07/25/2018\ 11:00$	Tetrachloroethene	28400	$\rm ug/m3$
VP-3 (Before)	07/25/2018 09:00	Trichloroethene	21900	$\rm ug/m3$
VP-3 (After)	07/25/2018 11:00	Trichloroethene	11600	$\rm ug/m3$
VP-3	3/4/2016 09:00	Tetrachloroethene	110000	$\rm ug/m3$
VP-3	2/21/2018 09:00	Tetrachloroethene	107000	$\rm ug/m3$
VP-3	5/17/2018 09:00	Tetrachloroethene	110000	$\rm ug/m3$
VP-3	6/21/2018 09:00	Tetrachloroethene	32000	$\rm ug/m3$
VP-3	7/25/2018 09:00	Tetrachloroethene	55000	$\rm ug/m3$
VP-3	8/28/2018 09:00	Tetrachloroethene	15500	$\rm ug/m3$
VP-3	3/4/2016 09:00	Trichloroethene	7300	$\rm ug/m3$
VP-3	2/21/2018 09:00	Trichloroethene	7710	$\rm ug/m3$
VP-3	5/17/2018 09:00	Trichloroethene	9750	$\rm ug/m3$
VP-3	6/21/2018 09:00	Trichloroethene	15500	$\rm ug/m3$
VP-3	7/25/2018 09:00	Trichloroethene	21500	$\rm ug/m3$
VP-3	8/28/2018 09:00	Trichloroethene	11500	$\rm ug/m3$
VP-3	3/4/2016 09:00	"cis-1,2-Dichloroethene"	32000	$\rm ug/m3$
VP-3	2/21/2018 09:00	"cis-1,2-Dichloroethene"	23300	$\rm ug/m3$
VP-3	5/17/2018 09:00	"cis-1,2-Dichloroethene"	92700	$\rm ug/m3$
VP-3	6/21/2018 09:00	"cis-1,2-Dichloroethene"	434000	$\rm ug/m3$
VP-3	7/25/2018 09:00	"cis-1,2-Dichloroethene"	86500	ug/m3
VP-3	8/28/2018 09:00	"cis-1,2-Dichloroethene"	147000	ug/m3

Table 2: Computed rate of decay for PCE/TCE at VP-003

# Computed first order decay rate for PCE and TCE on 7/25/2018

- PCE = -800 %
- TCE = -762 %

Bacterial counts in VP-003 between Mar 23rd and Mar 25th 2020 Bacterial counts are an important parameter for meausuring the effectiveness of bioremediation. The fact that the bacterial population is continuing and growing indicates that the conditions in the sub-slab soil-gas location are *not* anaerobic.

- : Bacterial count after 2 hours was 14,800,000
- : Bacterial count after 72 hours was 15,300,000

The sustained population count indicates that PCE and TCE contamination levels at VP-003 are not toxic to the bacteria in Vapor-Remed.

- 3. Indoor Air Analysis Data collected at each of the sampling locations (twelve in total) is presented below. The sampling points IA 001, IA 002 and IA 003 are in the basement and are closer to VP 3 the source of vapor intrusion. The higher concentrations of PCE and TCE in these rooms is a direct result of vapor intrusion from VP 003. Application of Vapor-Remed has shown to bring the values closer to the respective site-specific levels.
  - IA 001: Basement: Just outside VP 3 sub-slab sampling point This location is an important and closely related to VP 3 and point that was measured often as can be seen from the overall plot and the associated tables.

A notable observation that can be made is that after summer 2019 the results for Vinyl Chloride were non-detect. It is believed that this degradation is a result of bioremediation of Vinyl Chloride by VaporRemed. This confirms the results of an earlier project wherein biodegradation of poly vinyl chloride (PVC) was evaluated both under laboratory and semiindustrial scale and it was observed that the bacterial consortium in VaporRemed were effective in bio-degradation of PVC.

The rebound in numbers for TCE and PCE during the second week of January is being investigated at the time of writing this report. It was observed in the previous years that the numbers rebounded because a water logged mechanical room prevented addition of VaporRemed at VP-003. In order to control the values of indoor air during the entire year, a drip based unit to add approximately 4 ml of VaporRemed per hour during the entire year is being proposed. A prototype of this approach is being tested at the time of this report.

- IA 002: Basement: the Middle room in the basement away from VP 3
- IA 003: Basement: Just below the warehouse and the loading dock
- IA 004: H Block closer to the rear parking lot away from VP 3
- IA 005: Restroom away from VP 3
- IA 006: A room identified as a Vault away from VP 3
- IA 007: Yoga room In the line of VP 3
- IA 008: WIS office in the line of VP 3
- IA 009: Ambient air on top of the warehouse away from VP 3
- IA 010: Store in the front D Block: Jewelry store away from VP 3
- IA 011: Store in the front C block away from VP 3
- IA 012: Store in Front C block away from VP 3

Date	Location	Analyte	Result(in ppb)
04/06/2018 08:35	IA-001	Tetrachloroethene	121.000000
05/17/2018 09:00	IA-001	Tetrachloroethene	288.000000
06/21/2018 09:00	IA-001	Tetrachloroethene	719.000000
07/18/2018 09:00	IA-001	Tetrachloroethene	754.000000
10/03/2018 16:15	IA-001	Tetrachloroethene	861.000000
10/23/2018 16:10	IA-001	Tetrachloroethene	262.000000
10/24/2018 16:00	IA-001	Tetrachloroethene	169.000000
12/06/2018 09:00	IA-001	Tetrachloroethene	187.000000
04/06/2018 08:35	IA-001	Trichloroethene	7.800000
05/17/2018 09:00	IA-001	Trichloroethene	21.000000
06/21/2018 09:00	IA-001	Trichloroethene	97.800000
07/18/2018 09:00	IA-001	Trichloroethene	54.100000
10/03/2018 16:15	IA-001	Trichloroethene	41.900000
10/23/2018 16:10	IA-001	Trichloroethene	13.800000
10/24/2018 16:00	IA-001	Trichloroethene	8.700000
12/06/2018 09:00	IA-001	Trichloroethene	11.200000
04/06/2018 $08:35$	IA-001	Vinyl chloride	0.470000
05/17/2018 09:00	IA-001	Vinyl chloride	0.470000
06/21/2018 09:00	IA-001	Vinyl chloride	4.500000
07/18/2018 09:00	IA-001	Vinyl chloride	0.470000
10/03/2018 16:15	IA-001	Vinyl chloride	7.000000
10/23/2018 16:10	IA-001	Vinyl chloride	3.200000
10/24/2018 16:00	IA-001	Vinyl chloride	1.900000
12/06/2018 09:00	IA-001	Vinyl chloride	0.540000
04/06/2018 08:35	IA-001	"cis-1,2-Dichloroethene"	12.500000
05/17/2018 09:00	IA-001	"cis-1,2-Dichloroethene"	61.800000
06/21/2018 09:00	IA-001	"cis-1,2-Dichloroethene"	222.000000
07/18/2018 09:00	IA-001	"cis-1,2-Dichloroethene"	97.000000
10/03/2018 16:15	IA-001	"cis-1,2-Dichloroethene"	395.000000
10/23/2018 16:10	IA-001	"cis-1,2-Dichloroethene"	72.300000
10/24/2018 16:00	IA-001	"cis-1,2-Dichloroethene"	47.000000
12/06/2018 09:00	IA-001	"cis-1,2-Dichloroethene"	45.800000

Table 3: Documented reduction of TCE/PCE in IA-001

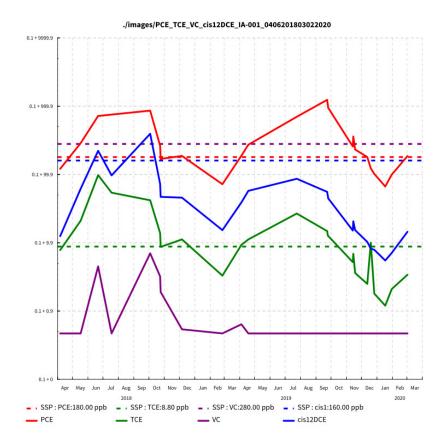


Figure 3: Recorded values and Computed Decay rate of PCE in Soil Gas sampling point SG  $101\,$ 

Date	Location	Analyte	Result(in ppb)
02/25/2019 09:00	IA-001	Tetrachloroethene	72.000000
04/04/2019 09:00	IA-001	Tetrachloroethene	188.000000
04/18/2019 09:00	IA-001	Tetrachloroethene	273.000000
07/24/2019 09:00	IA-001	Tetrachloroethene	700.000000
09/23/2019 09:00	IA-001	Tetrachloroethene	1240.000000
09/24/2019 09:00	IA-001	Tetrachloroethene	1050.000000
09/24/2019 17:00	IA-001	Tetrachloroethene	1050.000000
09/25/2019 09:00	IA-001	Tetrachloroethene	939.000000
09/25/2019 17:00	IA-001	Tetrachloroethene	939.000000
11/13/2019 16:30	IA-001	Tetrachloroethene	257.000000
11/14/2019 16:30	IA-001	Tetrachloroethene	360.000000
11/18/2019 08:30	IA-001	Tetrachloroethene	232.000000
12/12/2019 17:00	IA-001	Tetrachloroethene	180.000000
12/19/2019 17:00	IA-001	Tetrachloroethene	123.000000
12/26/2019 17:00	IA-001	Tetrachloroethene	102.000000

Table 4: PCE data in IA-001

Table 5: TCE data in 2019 at IA-001

Date	Location	Analyte	Result(in ppb)
02/25/2019 09:00	IA-001	Trichloroethene	3.300000
04/04/2019 09:00	IA-001	Trichloroethene	9.300000
04/18/2019 09:00	IA-001	Trichloroethene	11.200000
07/24/2019 09:00	IA-001	Trichloroethene	26.800000
09/23/2019 09:00	IA-001	Trichloroethene	14.800000
09/24/2019 09:00	IA-001	Trichloroethene	12.900000
09/24/2019 17:00	IA-001	Trichloroethene	12.900000
09/25/2019 09:00	IA-001	Trichloroethene	12.500000
09/25/2019 17:00	IA-001	Trichloroethene	12.500000
11/13/2019 16:30	IA-001	Trichloroethene	5.200000
11/14/2019 16:30	IA-001	Trichloroethene	6.900000
11/18/2019 08:30	IA-001	Trichloroethene	3.600000
12/12/2019 17:00	IA-001	Trichloroethene	2.500000
12/19/2019 17:00	IA-001	Trichloroethene	10.000000
12/26/2019 17:00	IA-001	Trichloroethene	1.800000

Date	Location	Analyte	Result(in ppb)
02/25/2019 09:00	IA-001	"cis-1,2-Dichloroethene"	15.300000
04/04/2019 09:00	IA-001	"cis-1,2-Dichloroethene"	38.900000
04/18/2019 09:00	IA-001	"cis-1,2-Dichloroethene"	57.600000
07/24/2019 09:00	IA-001	"cis-1,2-Dichloroethene"	86.500000
09/23/2019 09:00	IA-001	"cis-1,2-Dichloroethene"	55.600000
09/24/2019 09:00	IA-001	"cis-1,2-Dichloroethene"	49.100000
09/24/2019 17:00	IA-001	"cis-1,2-Dichloroethene"	49.100000
09/25/2019 09:00	IA-001	"cis-1,2-Dichloroethene"	44.400000
09/25/2019 17:00	IA-001	"cis-1,2-Dichloroethene"	44.400000
11/13/2019 16:30	IA-001	"cis-1,2-Dichloroethene"	15.100000
11/14/2019 16:30	IA-001	"cis-1,2-Dichloroethene"	20.600000
11/18/2019 08:30	IA-001	"cis-1,2-Dichloroethene"	15.300000
12/12/2019 17:00	IA-001	"cis-1,2-Dichloroethene"	10.300000
12/19/2019 17:00	IA-001	"cis-1,2-Dichloroethene"	8.200000
12/26/2019 17:00	IA-001	"cis-1,2-Dichloroethene"	7.900000

Table 6: cis12DCE data in 2019 at IA-001

Table 7: VC data in 2019 at IA-001

Date	Location	Analyte	Result(in ppb)
02/25/2019 09:00	IA-001	Vinyl chloride	0.470000
04/04/2019 09:00	IA-001	Vinyl chloride	0.640000
04/18/2019 09:00	IA-001	Vinyl chloride	0.470000
07/24/2019 09:00	IA-001	Vinyl chloride	0.470000
09/23/2019 09:00	IA-001	Vinyl chloride	0.470000
09/24/2019 09:00	IA-001	Vinyl chloride	0.470000
09/24/2019 17:00	IA-001	Vinyl chloride	0.470000
09/25/2019 09:00	IA-001	Vinyl chloride	0.470000
09/25/2019 17:00	IA-001	Vinyl chloride	0.470000
11/13/2019 16:30	IA-001	Vinyl chloride	0.470000
11/14/2019 16:30	IA-001	Vinyl chloride	0.470000
11/18/2019 08:30	IA-001	Vinyl chloride	0.470000
12/12/2019 17:00	IA-001	Vinyl chloride	0.470000
12/19/2019 17:00	IA-001	Vinyl chloride	0.470000
12/26/2019 17:00	IA-001	Vinyl chloride	0.470000

Table 8: TCE/PCE data in IA-001

Date	$\parallel$ Location	Analyte	Result(in ppb)
01/17/2020 16:15	IA-001	Tetrachloroethene	66.700000
01/30/2020 16:30	IA-001	Tetrachloroethene	99.500000
$03/02/2020 \ 05:15$	IA-001	Tetrachloroethene	186.000000
01/17/2020 16:15	IA-001	Trichloroethene	1.200000
01/30/2020 16:30	IA-001	Trichloroethene	2.100000
$03/02/2020 \ 05:15$	IA-001	Trichloroethene	3.400000
01/17/2020 16:15	IA-001	Vinyl chloride	0.470000
01/30/2020 16:30	IA-001	Vinyl chloride	0.470000
$03/02/2020 \ 05:15$	IA-001	Vinyl chloride	0.470000
01/17/2020 16:15	IA-001	"cis-1,2-Dichloroethene"	5.500000
01/30/2020 16:30	IA-001	"cis-1,2-Dichloroethene"	7.100000
03/02/2020 05:15	IA-001	"cis-1,2-Dichloroethene"	14.500000

Table 9: Documented reduction of TCE/PCE in IA-002

Date	$\parallel$ PCE (in ppb)	TCE (in ppb)	DCE (in ppb)
4/4/2019	190	9	38
7/24/2019	603	23.4	79
9/4/2019	858	19.5	82.7
1/20/2020	86	1.6	5.8

Table 10: Documented reduction of TCE/PCE in IA-003  $\,$ 

Date	$\mid$ PCE (in ppb) $\mid$	TCE (in ppb)	$\mid$ DCE (in ppb)
4/4/2019	188	9	40.8
7/24/2019 9/4/2019	739	27.9	92.8
9/4/2019	909	19.6	85.2

Table 11: Documented reduction of TCE/PCE in IA-004

Date	PCE (in ppb)	TCE (in ppb)	DCE (in ppb)
4/4/2019 7/24/2019 1/20/2020	160	7.8	34.6
7/24/2019	607	22.6	74.6
1/20/2020	101	2.3	6.9

Table 12: Documented reduction of TCE/PCE in IA-005  $\,$ 

Date	$\left\  \text{ PCE (in ppb)} \right\ $	$\parallel$ TCE (in ppb)	DCE (in ppb)
$ \begin{array}{c c} 4/4/2019 \\ 7/24/2019 \end{array} $	146	7.2	31.5
7/24/2019	818	18.9	61

Table 13: Documented reduction of TCE/PCE in IA-006

Date	$\ $ PCE (in ppb)	$\parallel$ TCE (in ppb)	DCE (in ppb)
4/4/2019	117	5.7	23.3
$\begin{array}{c c} 4/4/2019 \\ 7/24/2019 \end{array}$	439	19.1	61.9

Table 14: Documented reduction of TCE/PCE in IA-007

Date	$\left\  {{\rm{PCE}}\left( {{\rm{in}}\;{\rm{ppb}}} \right)} \right.$	TCE (in ppb)	DCE (in ppb)
4/4/2019	183	8.3	38.6
7/24/2019 1/20/2020	545	22.7	75.2
1/20/2020	62.4	1	5.5

Table 15: Documented reduction of TCE/PCE in IA-008  $\,$ 

Date	$\mid$ PCE (in ppb) $\mid$	TCE (in ppb)	DCE (in ppb)
4/4/2019 7/24/2019 1/20/2020	196	8.3	38.8
7/24/2019	524	22.8	76.7
1/20/2020	62.8	1.1	5.7

Table 16: Documented reduction of TCE/PCE in IA-009  $\,$ 

Date	PCE (in ppb)	TCE (in ppb)	DCE (in ppb)
4/4/2019	ND	ND	ND
4/18/2019	ND	ND	ND
7/24/2019	ND	ND	ND
1/20/2020	4.3	ND (1.1)	ND $(1/6)$

Table 17: Documented reduction of TCE/PCE in IA-010

Date	$\big\  \text{ PCE (in ppb)}$	$\parallel$ TCE (in ppb)	DCE (in ppb)
4/18/2019 1/20/2020	7.7	ND (0.86) ND (0.92)	1.4
1/20/2020	29.3	ND $(0.92)$	1.8

Table 18: Documented reduction of TCE/PCE in IA-011

Date	$\parallel$ PCE (in ppb)	$\parallel$ TCE (in ppb)	DCE (in ppb)
$\begin{array}{c c} 4/18/2019 \\ 1/20/2020 \end{array}$	39.8	1.9	7
1/20/2020	48.1	1.3	3.1

Date	PCE (in ppb)	TCE (in ppb)	DCE (in ppb)
$\frac{4/18/2019}{1/20/2020}$	31.5	1.6	6.8
1/20/2020	14.6	5.7	8.4

Table 19: Documented reduction of TCE/PCE in IA-012  $\,$ 

#### Additional analysis

The curves in this section present a strong correlation between the contamination levels in IA-001, IA-002 and IA-003, implying that the values of IA-002 and IA-003 closely follow the values of IA-001. Further, this also implies that if we control the contamination levels at IA-001, the rest of the rooms will reflect the the lower values.

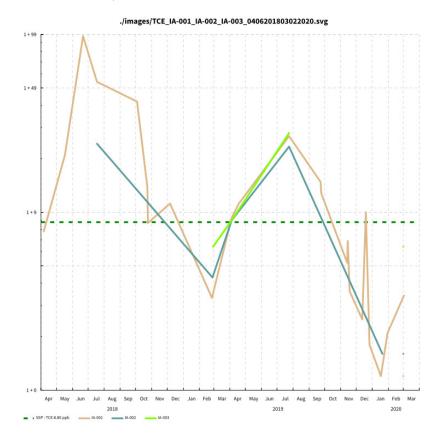


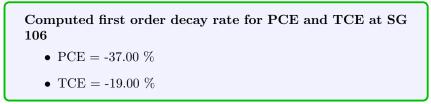
Figure 4: Comparative TCE levels in IA-001, IA-002 and IA-003



Figure 5: Comparative PCE levels in IA-001, IA-002, IA-003

4. Near-source soil-gas analysis

Reduction of TCE/PCE in near source soil gas at SG-106. The plot shown below records the decay of PCE/TCE at SG 106. shows that the initial contamination for PCE was approximately 1.5 MM ppb on the 4th Dec, 2019. Within a span of 8 days, the numbers fell to 80,000 ppb. This is a clear indication of bioremediation at SG-106.



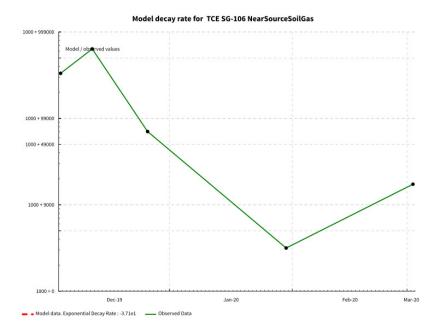


Figure 6: Recorded values and Computed Decay rate of PCE in Soil Gas sampling point SG 106

The above table shows a portion of the model. The values measured on 12/12 and the values derived from the model seem to be in agreement. However, in late February, we notice an *uptick* in the values in SG-106, that further points to a background source of TCE/PCE entering into the site.

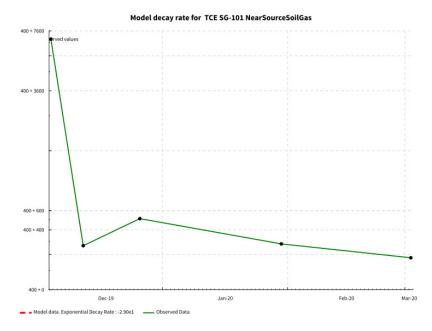


Figure 7: Recorded values and Computed Decay rate of PCE in Soil Gas sampling point SG  $101\,$ 

Computed first order decay rate for PCE and TCE at SG 101

- PCE = -28.00 %
- TCE = -29.00 %

Note : The value of TCE recorded in the field in the last week of December *agreed* with the value computed by the decay model. This is indicated by the intersection of the dashed line with the solid line in the figure.

#### 1.3 Vapor Attenuation Curve for IA-001 and VP-003

We present the vapor attenuation as a function of time to understand the impact of vapor intrusion as well as the impact of VaporRemed during the remediation process. Vapor attenuation (Johnson and Ettinger 1991) refers to the reduction in concentration of vapor-forming chemicals 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. Our treatment of the data is presented for understanding the ratio based on the data collected, rather than as a tool to model vapor intrusion at the site.

$$\alpha_v i = C_i a v i / C_s v$$

where

- $\alpha_v i$  subsurface-to-indoor air vapor intrusion attenuation factor.
- $C_i avi$  Indoor air concentration arising from vapor intrusion.
- $C_s v$  Subsurface vapor concentration at the source or a depth of interest.

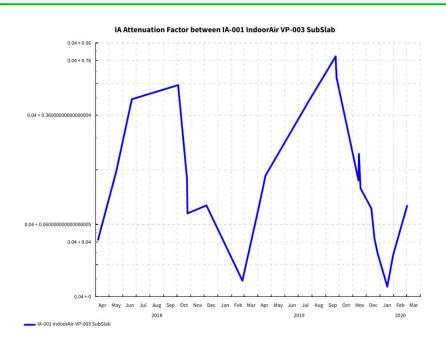


Figure 8: Vapor Intrusion Attenuation Factor at various points between 2018 - 2020.

Date	Vapor Intrusion Attenuation Factor
04/06/2018 08:35	0.082313
05/17/2018 09:00	0.195918
06/21/2018 09:00	0.489116
07/18/2018 09:00	0.512925
10/03/2018 16:15	0.585714
10/23/2018 16:10	0.178231
10/24/2018 16:00	0.114966
12/06/2018 09:00	0.127211
02/25/2019 09:00	0.048980
04/04/2019 09:00	0.127891
04/18/2019 09:00	0.185714
07/24/2019 09:00	0.476190
09/23/2019 09:00	0.843537
09/24/2019 09:00	0.714286
09/24/2019 17:00	0.714286
09/25/2019 09:00	0.638776
09/25/2019 17:00	0.638776
11/13/2019 16:30	0.174830
11/14/2019 16:30	0.244898
11/18/2019 08:30	0.157823
12/12/2019 17:00	0.122449
12/19/2019 17:00	0.083673
12/26/2019 17:00	0.069388
01/17/2020 16:15	0.045374
01/30/2020 16:30	0.067687
03/02/2020 05:15	0.126531

Table 20: Paired PCE values at IA-001 and VP-003

Figure 8 shows the changes to vapor intrusion attenuation factor between 2018 - 2020. The graph assumes the values of PCE levels at VP-003 as the latest value before a specific point in IA-001 to account for sparse measurement data points.

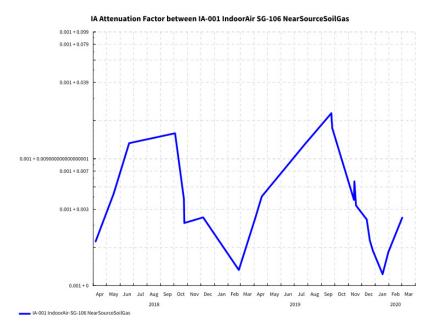
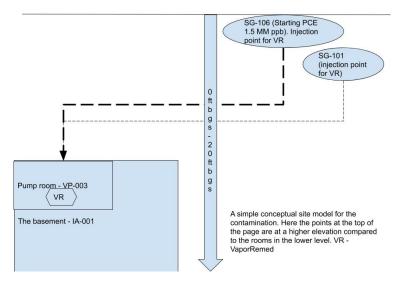


Figure 9: Vapor Intrusion Attenuation Factor at various points during bioremediation

Date	Vapor Intrusion Attenuation Factor
04/06/2018 08:35	0.002232
05/17/2018 09:00	0.005314
06/21/2018 09:00	0.013266
07/18/2018 09:00	0.013911
10/03/2018 16:15	0.015886
10/23/2018 16:10	0.004834
10/24/2018 16:00	0.003118
12/06/2018 09:00	0.003450
02/25/2019 09:00	0.001328
04/04/2019 09:00	0.003469
04/18/2019 09:00	0.005037
07/24/2019 09:00	0.012915
09/23/2019 09:00	0.022878
09/24/2019 09:00	0.019373
09/24/2019 17:00	0.019373
09/25/2019 09:00	0.017325
09/25/2019 17:00	0.017325
11/13/2019 16:30	0.004742
11/14/2019 16:30	0.006642
11/18/2019 08:30	0.004280
12/12/2019 17:00	0.003321
12/19/2019 17:00	0.002269
12/26/2019 17:00	0.001882
01/17/2020 16:15	0.001231
01/30/2020 16:30	0.001836
03/02/2020 05:15	0.003432

Table 21: Paired PCE values at IA-001 and SG-106

#### 1.4 Location site map



Conceptual Site Model Of Vapor Intrusion Through Preferential Pathways

Figure 10: A conceptual site model of vapor intrusion

A conceptual site model for pathways for vapor intrusion is presented here 10. Here, SG-106 is at an elevation of about 20' from the mechanical room creating what can be considered as a preferential pathway for transport of contaminants into the mechanical room (VP-003). These contaminants are received at VP-003 and thereby impact the contaminant levels in IA-001 and eventually travels into all of the connected rooms through the HVAC system, namely, IA-002, IA-003, IA-004, IA-005, IA-006, IA-007 and IA-008. A schematic that will help visualize the areas under is presented here ??.

- Cluster 1 Locations IA-001, IA-002, IA-003
- Cluster 2 Locations IA-004, IA-007, IA-008
- Cluster 3 Locations IA-002, IA-003, IA-004
- Cluster 4 Locations IA-002, IA-004, IA-005
- Cluster 5 Locations IA-002, IA-007, IA-008
- Cluster 6 Locations IA-001, IA-010, IA-011
- Cluster 7 Locations IA-001 and SG-106
- Cluster 8 Locations VP-003 and SG-106
- Cluster 9 Locations VP-003 and IA-001

#### 1.5 Partial report on Injection of VaporRemed by Location

Date	Sampling Point	Amount added	Units
12/11/2019	SB 122	2	Gallons
12/11/2019	SB 121	2	Gallons
12/11/2019	SG 101 A	1	Gallons
12/11/2019	SG 101 B	1	Gallons
12/11/2019	SG 101 C	0	Gallons
12/11/2019	VP 3	1	Gallons
12/12/2019	SG 106 A	1	Gallons
12/12/2019	SG 106 B	1	Gallons
12/12/2019	SG 106 C	0	Gallons
12/12/2019	SB 123	2	Gallons
12/12/2019	SB 122	2	Gallons
12/12/2019	SB 121	2	Gallons
12/12/2019	SG 101 A	1	Gallons
12/12/2019	SG 101 B	1	Gallons
12/12/2019	SG 101 C	0	Gallons
12/12/2019	VP 3	1	Gallons
12/16/2019	SG 106 A	1	Gallons
12/16/2019	SG 106 B	1	Gallons
12/16/2019	SG 106 C	0	Gallons
12/16/2019	SB 123	2	Gallons
12/16/2019	SB 122	2	Gallons
12/16/2019	SB 121	2	Gallons
12/16/2019	SG 101 A	1	Gallons
12/16/2019	SG 101 B	1	Gallons
12/16/2019	SG 101 C	0	Gallons
12/16/2019	VP 3	1	Gallons

### 2 Next Steps

As noted elsewhere in this document, it is our intention to do more of what has worked. Further, while we are waiting for access to collect sub-slab samples from down-gradient properties we plan to add VaporRemed to more points as marked up in the image below. We have identified these points based on historical analysis as well as the data collected in the last quarter of 2019.

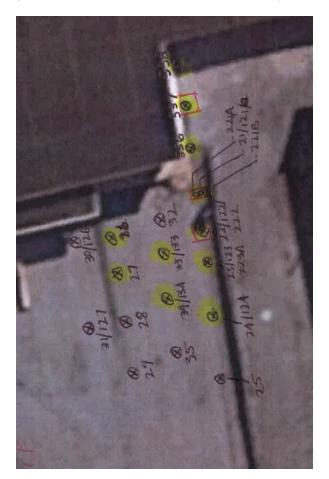


Figure 11: Soil Boring and Mapping

Our goal for the month of March 2020 is to add VaporRemed to various points to reduce the contamination levels at various points on the property while monitoring IA-001 to understand the impact of *in situ* bio-remediation. This helps us collect additional field evidence on the impact of *in situ* bio-remediation using VaporRemed.

### 3 Non-technical Challenges

We present the challenges that our group is facing in acquiring rights to access down-gradient properties for performing sub-slab sampling from their respective basements to delineate the extent of the plume. Under ideal circumstances, we would have added these sub slab samples to our routine analyses. We would also like to attach a reference to Wisconsin DNR's guidance on challenges our group has faced as we believe that the PADEP needed to be pro-active in helping remove the roadblocks that were put up by neighboring properties, thereby, jeopardizing our project.

#### 3.1 WeismanProperty

Gmail - RE: (EXTERNAL)Re: 15 N Royal



Dinkar Ganti <dinkar.ganti@gmail.com>

#### RE: (EXTERNAL)Re: 15 N Royal

#### Colby Wiesman <cwiesman@hrpharma.com>

Tue, Feb 18, 2020 at 1:13 PM

To: Steve Vedder <svedder@epsofvermont.com>, Emily Wiesman <emilycwiesman@gmail.com> Cc: "dinkar.ganti@gmail.com" <dinkar.ganti@gmail.com>, "tturnbull@rockrealestate.net" <tturnbull@rockrealestate.net>

Steve,

The building is for sale and at this point we will not agree to any testing on the premise. Once the building is sold you are more than welcome to reach out to the next owner.

Thanks,

Colby Wiesman I HR Pharmaceuticals, Inc.

Office 717.252.1110 ext 104 I Cell 717.577.6811 I Fax 717.685.2590

2600 Eastern BLVD, Suite 201, York, PA 17402 I www.HRpharma.com

From: Steve Vedder <svedder@epsofvermont.com> Sent: Tuesday, February 18, 2020 1:12 PM To: Emily Wiesman <emilycwiesman@gmail.com>; Colby Wiesman <cwiesman@hrpharma.com> Cc: dinkar.ganti@gmail.com; tturnbull@rockrealestate.net Subject: (EXTERNAL)Re: 15 N Royal

Emily,

I am following up on the access agreement. Please call me at your earliest convenience at 717-554-0121.

https://mail.google.com/mail/u/0?ik=0cc4c689da&view=pt&search=all&permmsgid=msg-f%3A1658899223558553705&simpl=msg-f%3A1658899223558553705

Gmail - RE: (EXTERNAL)Re: 15 N Royal

Thanks

Sent from my iPhone

On Feb 13, 2020, at 3:41 PM, Steve Vedder <svedder@epsofvermont.com> wrote:

Emily/Colby,

I am following up on our request for access to your property at 15 North Royal Street. It is imperative that we are able to gain access to your property to allow for the collection of a sub-slab vapor sample to determine if contaminants from the Plaza 2331 property are adversely impacting the indoor air of that apartment building. Please respond to this email at our earliest convenience but no later than Tuesday, February 18, 2020. This sampling needs to be completed as directed by the Pennsylvania Department of Environmental Protection (PADEP), and most importantly to protect the occupants of the building.

I have attached another copy of the access agreement for convenience.

Thank you in advance for your prompt response to this request.

Steven R. Vedder

Environmental Products & Services of Vermont, Inc.

1539 Bobali Drive

Harrisburg, Pennsylvania 17104

717-564-4200

From: Steve Vedder Sent: Friday, January 17, 2020 3:19 PM To: 'Emily Wiesman' <emilycwiesman@gmail.com>; Colby Wiesman <br/> <cwiesman@hrpharma.com><br/>Subject: RE: 15 N Royal

https://mail.google.com/mail/u/0?ik=0cc4c689da & view=pt & search=all & permmsgid=msg-f% 3A1658899223558553705 & simpl=msg-f% 3A1658899223558553705 & simpl=msg-f% aa1658899223558553705 & simpl=msg-f% aa16588992235585 & simpl=msg-f% aa1658899223558553705 & simpl=msg-f% aa1658899223558553705 & simpl=msg-f% aa16588935 & simpl=msg-f% aa1658585 & simpl=msg-f% aa1658585 & simpl=msg-f% aa1658585 & simpl=msg-f% aa1658585 & simpl=msg-f% aa165855 & simpl=msg-f% aa1658555 & simpl=msg-f% aa1658555 & simpl=msg-f% aa16585555 & simpl=msg-f% aa16585555 & simpl=msg-f% aa165855555 & simpl=msg-f% aa165585555 & simpl=msg-f% aa1655555 & simpl=msg-f% aa1655855555 & simpl=msg-f% aa1655855555555 % aa1655555550

Gmail - RE: (EXTERNAL)Re: 15 N Royal

Thank you for the follow up.

From: Emily Wiesman <emilycwiesman@gmail.com> Sent: Friday, January 17, 2020 2:05 PM To: Steve Vedder <svedder@epsofvermont.com>; Colby Wiesman <br/> <cwiesman@hrpharma.com><br/>Cc: Theodore Turnbull <tturnbull@rockrealestate.net>; Nate Resh <nresh@rockrealestate.net>; dinkar.ganti@gmail.com; satyaganti@sarvabioremed.com<br/>Subject: Re: 15 N Royal

Steve,

I did forward to my husband, Colby, for review. Him or myself will be in touch with any questions or concerns.

Thanks and have a great weekend.

Emily Wiesman

717-817-4691

On Fri, Jan 17, 2020 at 10:24 AM Steve Vedder <svedder@epsofvermont.com> wrote:

Emily,

Good morning, I am following up on your review of the access agreement. Do you have any questions/issues with the agreement?

We are anxious to move forward with this sampling to satisfy requirements of the Pennsylvania Department of Environmental Protection's regulations.

Thank you for your time and efforts.

https://mail.google.com/mail/u/0?ik=0cc4c689da&view=pt&search=all&permmsgid=msg-f%3A1658899223558553705&simpl=msg-f%3A1658899223558553705

3/7

Gmail - RE: (EXTERNAL)Re: 15 N Royal

Steven	R. Vedder
Enviror	nmental Products & Services of Vermont, Inc.
1539 B	obali Drive
Harrist	burg, Pennsylvania 17104
717-56	4-4200
Sent: \ To: 'En Cc: 'Th satyage	Steve Vedder Wednesday, January 15, 2020 9:56 AM nily Wiesman' <emilycwiesman@gmail.com> neodore Turnbull' <tturnbull@rockrealestate.net>; 'Nate Resh' <nresh@rockrealestate.net>; dinkar.ganti@gmail.com; anti@sarvabioremed.com xt: RE: 15 N Royal</nresh@rockrealestate.net></tturnbull@rockrealestate.net></emilycwiesman@gmail.com>
Emily,	
Thank	you for reaching out to me this morning, it was a pleasure speaking to you.
Attache	ed is a copy of the access agreement for your review/comment/signature.
We ap	preciate your attention to and cooperation in this matter.
Steven	R. Vedder
Enviror	nmental Products & Services of Vermont, Inc.
1539 B	obali Drive
Harrist	ourg, Pennsylvania 17104
	4-4200

https://mail.google.com/mail/u/0?ik=0cc4c689da&view=pt&search=all&permmsgid=msg-f%3A1658899223558553705&simpl=msg-f%3A1658899223558553705

4/7

Gmail - RE: (EXTERNAL)Re: 15 N Royal

From: Steve Vedder Sent: Wednesday, January 15, 2020 9:46 AM To: Emily Wiesman <emilycwiesman@gmail.com> Cc: Theodore Turnbull <tturnbull@rockrealestate.net>; 'Nate Resh' <nresh@rockrealestate.net> Subject: RE: 15 N Royal</nresh@rockrealestate.net></tturnbull@rockrealestate.net></emilycwiesman@gmail.com>
Emily,
I should be in most of the day. The best way to get a hold of me is via cell phone at 717-554-0121.
I look forward to hearing from you.
Enjoy your morning,
Steve
From: Nate Resh <nresh@rockrealestate.net> Sent: Tuesday, January 14, 2020 11:17 AM To: Emily Wiesman <emilycwiesman@gmail.com> Cc: Theodore Turnbull <tturnbull@rockrealestate.net>; Steve Vedder <svedder@epsofvermont.com> Subject: RE: 15 N Royal</svedder@epsofvermont.com></tturnbull@rockrealestate.net></emilycwiesman@gmail.com></nresh@rockrealestate.net>
Fantastic! Thanks, Emily.
From: Emily Wiesman <emilycwiesman@gmail.com> Sent: Tuesday, January 14, 2020 11:16 AM To: Nate Resh <nresh@rockrealestate.net> Subject: Re: 15 N Royal</nresh@rockrealestate.net></emilycwiesman@gmail.com>

https://mail.google.com/mail/u/0?ik = 0cc4c689 da & view = pt & search = all & permmsgid = msg-f% 3A1658899223558553705 & simpl = msg-f% 3A165889922355853705 & simpl = msg-f% 3A16588992355853705 & simpl = msg-f% 3A1658905 & simpl = msg-f% 3A165805 & sim

Gmail - RE: (EXTERNAL)Re: 15 N Royal

I	Gmail - RE: (EXTERNAL)RE: 15 N Royal
	We have been playing phone tag but I can reach out to him again this afternoon.
	Sent from my iPhone
	On Jan 14, 2020, at 11:04 AM, Nate Resh <nresh@rockrealestate.net> wrote:</nresh@rockrealestate.net>
	Hi Emily,
	Did you call that Steve Vedder regarding the environmental at Royal? Or can I have him call your cell?
	_
	NATE RESH
	BROKERAGE ADVISOR
	ROCK Commercial Real Estate, LLC
	O 717.854.5357 ext 137
	D 717.850.0837
	<b>C</b> 717.858.7381
	linkedin   facebook   twitter

6/7

2/21/2020

#### Gmail - RE: (EXTERNAL)Re: 15 N Royal

## RELATIONSHIPS. KNOWLEDGE. SOLUTIONS.

**DISCLAIMER:** The information transmitted via this email, including attachments and links, is intended only for the person(s) or entity/entities to which it is addressed and may contain confidential and/or privileged material. Any review, retransmission, dissemination or other use of, or taking of any action in reliance upon, this information by persons or entities other than the intended recipient(s) is prohibited. If you received this in error, please contact the sender and delete the material from any and all computers from which it has or may be accessed.

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<2331 East Market Street LLC\_Wiesman Investments LLC-PROPERTY ACCESS AGREEMENT\_15 North Royal Street\_2019-12-27.pdf>

https://mail.google.com/mail/u/0?ik=0cc4c689da&view=pt&search=all&permmsgid=msg-f%3A1658899223558553705&simpl=msg-f%3A1658899223558553705

# **PROPERTY ACCESS AGREEMENT**

# **ENVIRONMENTAL PRODUCTS & SERVICES OF VERMONT, INC. (EPSVT)**

# **PROPERTY OWNER (Wiesman Investments, LLC)**

## BACKGROUND

EPSVT has been retained by 2331 East Market Street, LLC to complete the following Environmental Services at the property located at 2331 East Market Street, Springettsbury Township, York County, Pennsylvania.

## **SCOPE OF WORK**

Sub slab vapor sampling from the basement of the residential building located at 15 North Royal Street in Springettsbury Township, York County, Pennsylvania).

To complete the Scope of Work, EPSVT personnel will require access to your property for the purpose of conducting the required Scope of Work.

## REQUEST

Property Owner, Wiesman Investments, LLC of 127 Livia Lane in Wrightsville, York County, Pennsylvania, hereby grants EPSVT, and subcontractors (collectively "EPSVT") permission to enter upon the property to engage in work as identified under 'SCOPE OF WORK'.

## PURPOSE

EPSVT and the Property Owner are entering into this Agreement to document that EPSVT obtained permission from Property Owner to perform the WORK. Without waiver of any protections pursuant to the laws of the State of Pennsylvania, EPSVT acted in accordance with all applicable statutes and regulations in conducting the WORK.

## **EPSVT COMMITMENTS**

In return for the Property Owner granting EPSVT access to the property to perform the WORK, EPSVT will comply to the following:

- a. EPSVT provided the Property Owner reasonable notice before commencing any on-site activities.
- b. EPSVT, to the greatest extent possible, performed the WORK in a way that minimized interference with any ongoing operations.
- c. The Property Owner was notified of EPSVT's schedule and was provided the opportunity to be present for any on-site activity.
- d. To the point practicable, EPSVT returned the property to the general condition that existed before EPSVT work activities.

## UNDERGROUND UTILITY PROTECTION

The Property Owner will provide all information available regarding the location of subsurface Utilities and structures located on the Property in the designated work areas. EPSVT will notify Pennsylvania One Call (PA One Call) prior to commencing any subsurface work on the Property. PA One Call is required to mark the locations of all utilities leading onto the Property; however, PA One Call responsibility ends at the property line. The Property Owner will cooperate in the identification of all subsurface utilities and structures on their Property.

### Property Access Agreement

# **INDEMNIFICATION & INSURANCE**

EPSVT and its consultants and subcontractors, agree to indemnify the Property Owner, its heirs, successors and assigns, from any and all liability, claims, damages and actions that may result from the negligent use or occupancy of the Property by EPSVT and its consultants and subcontractors, subject to the following exceptions:

- EPSVT and its consultants and subcontractors shall have no obligation to indemnify or hold harmless the Property Owner, its heirs, successors or assigns, or any of them, for any claims or damages for which EPSVT and/or its consultants and subcontractors would have no liability under the laws of the State of Pennsylvania.
- 2) The agreement of EPSVT and its consultants and subcontractors to indemnify, as set forth in this paragraph, shall not apply to any claims, actions or damages that may arise out of, be occasioned by or result from any condition existing on, or which did exist on, the Property at the time of that the WORK was completed, or at any time prior to the execution of this agreement or that was caused by the Property Owner.

## **GENERAL CONDITIONS**

This Agreement represents the entire agreement between the parties concerning site access for EPSVT and its consultants and subcontractors, and supersedes all prior access negotiations, representations, or agreements, either written or oral between the parties unless otherwise expressly stated. This Agreement may only be terminated by the mutual written agreement of the Parties. Further, any modification to this Agreement shall be in writing unless EPSVT determines circumstances allow otherwise. Where any agreed-upon modification is verbal, EPSVT will document the modification, in writing, as soon as practicable. This Agreement is being executed to demonstrate compliance with 250.312(h), and applies to and is binding upon EPSVT and its consultants and subcontractors, and the Property Owner.

## TERM

This Agreement shall take effect as of the date both parties have signed and dated it. Unless terminated sooner by mutual written agreement of the parties, this Agreement shall expire upon EPSVT and the Property Owner agreeing that Scope of Work or cleanup activities are completed.

Wiesman Investments, LLC (Property Owner)

Signature

Hor Address

Date

Signature

Date

3.2 York Eye Care

2/21/2020



Gmail - York eye associates

Dinkar Ganti <dinkar.ganti@gmail.com>

Sun, Feb 16, 2020 at 10:52 AM

### York eye associates

Tony Strouse < topy @watcourder > Reply-To: "Set topy @watcourder > Careful a set topy @watcourder > Careful a set topy @ watcourder > Careful

To: Dinkar Ganti <dinkar.ganti@gmail.com>,

As requested, here is the report of my interaction with York eye associates on Friday.

I went into their office around 12-1230 and presented the papers to the desk person while asking for whoever was in charge. She said the supervisor was busy so I waited in the lounge area for a few minutes until she came out. She asked me about the papers and I informed her I work for Sarva Bio Remed and the paper work was just us asking for permission to do some testing in their grounds. She said that she would talk with the owner and come back to me shortly so I sat down and waited another few minutes. She came back saying the doctor in charge was busy and that she didn't want to do business like that between clients, so I gave her my name and number to call when she was available. I did not get her name so I apologize for that, I will do that next time.

At 2:09 pm I received a callback from the business and he (I'm guessing the doctor who I've talked to before out back) was not happy. He asked who the paperwork was from and I stated it was from Sarva Bio Remed at the request of the DEP and he proceeded to get slightly standoffish. He stated that he had no interest in getting his slab tested and that they have talked to their attorneys in the past who also assured them that they have no need for testing. He then requested that I tell Satya to not contact their business anymore for anything related to the matter. I informed him I would tell Satya and he hung up quite abruptly.

Hope this information is sufficient.

Sent from Yahoo Mail on Android

# **PROPERTY ACCESS AGREEMENT**

# ENVIRONMENTAL PRODUCTS & SERVICES OF VERMONT, INC. (EPSVT) AND PROPERTY OWNER (George E. & Joan A. Hayes)

# BACKGROUND

EPSVT has been retained by 2331 East Market Street, LLC to complete the following Environmental Services at the property located at 2331 East Market Street, Springettsbury Township, York County, Pennsylvania.

# **SCOPE OF WORK**

Sub slab vapor sampling from the basement of the residential building located at 2321 East Market Street in Springettsbury Township, York County, Pennsylvania).

To complete the Scope of Work, EPSVT personnel will require access to your property for the purpose of conducting the required Scope of Work.

# REQUEST

Property Owner, George E. & Joan A. Hayes of 2321 East Market Street in York, York County, Pennsylvania , hereby grants EPSVT, and subcontractors (collectively "EPSVT") permission to enter upon the property to engage in work as identified under 'SCOPE OF WORK'.

# PURPOSE

EPSVT and the Property Owner are entering into this Agreement to document that EPSVT obtained permission from Property Owner to perform the WORK. Without waiver of any protections pursuant to the laws of the State of Pennsylvania, EPSVT acted in accordance with all applicable statutes and regulations in conducting the WORK.

# **EPSVT COMMITMENTS**

In return for the Property Owner granting EPSVT access to the property to perform the WORK, EPSVT will comply to the following:

- a. EPSVT provided the Property Owner reasonable notice before commencing any on-site activities.
- b. EPSVT, to the greatest extent possible, performed the WORK in a way that minimized interference with any ongoing operations.
- c. The Property Owner was notified of EPSVT's schedule and was provided the opportunity to be present for any on-site activity.
- d. To the point practicable, EPSVT returned the property to the general condition that existed before EPSVT work activities.

# UNDERGROUND UTILITY PROTECTION

The Property Owner will provide all information available regarding the location of subsurface Utilities and structures located on the Property in the designated work areas. EPSVT will notify Pennsylvania One Call (PA One Call) prior to commencing any subsurface work on the Property. PA One Call is required to mark the locations of all utilities leading onto the Property; however, PA One Call responsibility ends at the property line. The Property Owner will cooperate in the identification of all subsurface utilities and structures on their Property.

# **INDEMNIFICATION & INSURANCE**

EPSVT and its consultants and subcontractors, agree to indemnify the Property Owner, its heirs, successors and assigns, from any and all liability, claims, damages and actions that may result from the negligent use or occupancy of the Property by EPSVT and its consultants and subcontractors, subject to the following exceptions:

- 1) EPSVT and its consultants and subcontractors shall have no obligation to indemnify or hold harmless the Property Owner, its heirs, successors or assigns, or any of them, for any claims or damages for which EPSVT and/or its consultants and subcontractors would have no liability under the laws of the State of Pennsylvania.
- 2) The agreement of EPSVT and its consultants and subcontractors to indemnify, as set forth in this paragraph, shall not apply to any claims, actions or damages that may arise out of, be occasioned by or result from any condition existing on, or which did exist on, the Property at the time of that the WORK was completed, or at any time prior to the execution of this agreement or that was caused by the Property Owner.

# **GENERAL CONDITIONS**

This Agreement represents the entire agreement between the parties concerning site access for EPSVT and its consultants and subcontractors, and supersedes all prior access negotiations, representations, or agreements, either written or oral between the parties unless otherwise expressly stated. This Agreement may only be terminated by the mutual written agreement of the Parties. Further, any modification to this Agreement shall be in writing unless EPSVT determines circumstances allow otherwise. Where any agreed-upon modification is verbal, EPSVT will document the modification, in writing, as soon as practicable. This Agreement is being executed to demonstrate compliance with 250.312(h), and applies to and is binding upon EPSVT and its consultants and subcontractors, and the Property Owner.

# TERM

This Agreement shall take effect as of the date both parties have signed and dated it. Unless terminated sooner by mutual written agreement of the parties, this Agreement shall expire upon EPSVT and the Property Owner agreeing that Scope of Work or cleanup activities are completed.

George E. & Joan A. Hayes (Property Owner)	EPSVT
Signature	Signature
Name (Print)	Name (Print)
Address	Address
Date	Date

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# 3.3 Flobart and Marie Floreal

Our environmental consultant tried to reach out to the homeowner but so far has been unable to get their phone numbers.

# **PROPERTY ACCESS AGREEMENT**

# ENVIRONMENTAL PRODUCTS & SERVICES OF VERMONT, INC. (EPSVT) AND PROPERTY OWNER (Flobert & Marie Floreal)

# BACKGROUND

EPSVT has been retained by 2331 East Market Street, LLC to complete the following Environmental Services at the property located at 2331 East Market Street, Springettsbury Township, York County, Pennsylvania.

# SCOPE OF WORK

Sub slab vapor sampling from the basement of the residential building located at 21 North Royal Street in Springettsbury Township, York County, Pennsylvania).

To complete the Scope of Work, EPSVT personnel will require access to your property for the purpose of conducting the required Scope of Work.

# REQUEST

Property Owner, Flobert & Marie Floreal of 21 North Royal Street in York, York County, Pennsylvania hereby grants EPSVT, and subcontractors (collectively "EPSVT") permission to enter upon the property to engage in work as identified under 'SCOPE OF WORK'.

# PURPOSE

EPSVT and the Property Owner are entering into this Agreement to document that EPSVT obtained permission from Property Owner to perform the WORK. Without waiver of any protections pursuant to the laws of the State of Pennsylvania, EPSVT acted in accordance with all applicable statutes and regulations in conducting the WORK.

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- c. The Property Owner was notified of EPSVT's schedule and was provided the opportunity to be present for any on-site activity.
- d. To the point practicable, EPSVT returned the property to the general condition that existed before EPSVT work activities.

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- 2) The agreement of EPSVT and its consultants and subcontractors to indemnify, as set forth in this paragraph, shall not apply to any claims, actions or damages that may arise out of, be occasioned by or result from any condition existing on, or which did exist on, the Property at the time of that the WORK was completed, or at any time prior to the execution of this agreement or that was caused by the Property Owner.

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Flobert & Marie Floreal (Property Owner)	EPSVT
Signature	Signature
Name (Print)	Name (Print)
Address	Address
 Date	Date

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1539 Bobali Drive Harrisburg, Pennsylvania 17104



January 8, 2020

Mr. Flobert and Mrs. Marie Floreal 21 North Royal Street York, Pennsylvania 17402-2338

RE: Vapor Intrusion Sampling Plaza 2331 Site 2331 East Market Street Springettsbury Township, York County, Pennsylvania EPS Job No. G11990

Mr. and Mrs. Floreal:

On December 27, 2019, Environmental Products & Services of Vermont, Inc. (EPSVT) attempted to contact you to discuss the need for vapor intrusion sampling in the basement of your residence located at 21 North Royal Street. A hand-written letter requesting you to contact EPSVT to discuss the sampling and a copy of the access agreement to allow EPSVT to perform the sampling was dropped in the mail slot of the front door.

This sampling is needed to help determine if contaminants resulting from the historical presence of a dry cleaning operation at the Plaza 2331 Site are adversely impacting the indoor air within your residence. The sampling is part of remedial actions required by state regulations, and are being conducted with guidance from the Pennsylvania Department of Environmental Protection (PADEP).

Please contact me at your earliest convenience to allow me to explain the sampling process and answer any questions you may have. I can be reached via phone at 717-564-4200 or via email at <u>svedder@epsofvermont.com</u>. If you prefer to discuss this process with a representative of the PADEP, the Case Manager is Mr. Ryan Carr, P.G. who can be reached via phone at 717-705-4841 or via email at <u>rcarr@pa.gov</u>.

A copy of the access agreement has been provided as an attachment to this letter.

The PADEP has set a deadline for completion of this sampling, so your prompt attention to this matter is requested.

Respectfully Submitted,

Steven R Viden

Steven R. Vedder Senior Environmental Scientist

Attachment: Access Agreement – 21 North Royal Street

# **PROPERTY ACCESS AGREEMENT**

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# TERM

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Flobert & Marie Floreal (Property Owner)	EPSVT
Signature	Signature
Name (Print)	Name (Print)
Address	Address
Date	Date

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# 4 Laboratory Reports/Raw data

4.1 Soil bore analysis



Pace Analytical Services, LLC 1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

July 10, 2017

Steve Vedder EPSVT-Hbg 1539 Bobali Drive Harrisburg, PA 17104

RE: Project: G11788 2331 EAST MARKET STREET Pace Project No.: 30223074

Dear Steve Vedder:

Enclosed are the analytical results for sample(s) received by the laboratory on June 29, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Sugnaly allins

Jacquelyn Collins for Carin Ferris carin.ferris@pacelabs.com 724-850-5615 Project Manager

Enclosures

cc: Mr. Charlie Bisking, EPSVT-Hbg EPS Harrisburg, EPSVT-Hbg Mr. John Horner, EPSVT-Hbg Mr. Ben Logan, EPSVT-Hbg Ms. Ashley Nelson, EPSVT-Hbg Ms. Deb Sweikert, EPSVT-Hbg



# **REPORT OF LABORATORY ANALYSIS**

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Pace Analytical Services, LLC 1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

## CERTIFICATIONS

Project: G11788 2331 EAST MARKET STREET Pace Project No.: 30223074

#### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601 L-A-B DOD-ELAP Accreditation #: L2417 Alabama Certification #: 41590 Arizona Certification #: AZ0734 Arkansas Certification California Certification #: 04222CA Colorado Certification Connecticut Certification #: PH-0694 **Delaware Certification** Florida/TNI Certification #: E87683 Georgia Certification #: C040 **Guam Certification** Hawaii Certification Idaho Certification **Illinois Certification** Indiana Certification Iowa Certification #: 391 Kansas/TNI Certification #: E-10358 Kentucky Certification #: 90133 Louisiana DHH/TNI Certification #: LA140008 Louisiana DEQ/TNI Certification #: 4086 Maine Certification #: PA00091 Maryland Certification #: 308 Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification Missouri Certification #: 235

Montana Certification #: Cert 0082 Nebraska Certification #: NE-05-29-14 Nevada Certification #: PA014572015-1 New Hampshire/TNI Certification #: 2976 New Jersey/TNI Certification #: PA 051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Oregon/TNI Certification #: PA200002 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282 South Dakota Certification Tennessee Certification #: TN2867 Texas/TNI Certification #: T104704188-14-8 Utah/TNI Certification #: PA014572015-5 USDA Soil Permit #: P330-14-00213 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 460198 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C Wisconsin Certification Wyoming Certification #: 8TMS-L



## **PROJECT NARRATIVE**

Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

#### Method: EPA 8260B

Description:8260B MSV 5035 Low LevelClient:EPS of Vermont - HarrisburgDate:July 10, 2017

## **General Information:**

10 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 5035A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### QC Batch: 264331

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30222876001,30223074008

- ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.
  - MS (Lab ID: 1301905)
    - Tetrachloroethene
    - Trichloroethene
    - cis-1,2-Dichloroethene
  - MSD (Lab ID: 1301906)
    - Tetrachloroethene
    - cis-1,2-Dichloroethene

## R1: RPD value was outside control limits.

• MSD (Lab ID: 1301906)



## **PROJECT NARRATIVE**

Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

#### Method: EPA 8260B

Description:8260B MSV 5035 Low LevelClient:EPS of Vermont - HarrisburgDate:July 10, 2017

## QC Batch: 264331

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30222876001,30223074008

R1: RPD value was outside control limits.

- Tetrachloroethene
- Trichloroethene

• cis-1,2-Dichloroethene

### QC Batch: 264332

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

## QC Batch: 264493

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 264494

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

### Additional Comments:

Analyte Comments:

## QC Batch: 264332

1c: A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

- EPS-SB121@3 (Lab ID: 30223074001)
  - 1,1-Dichloroethene
  - cis-1,2-Dichloroethene
  - trans-1,2-Dichloroethene
  - Trichloroethene
  - Vinyl chloride
- EPS-SB122@5 (Lab ID: 30223074003)
  - 1,1-Dichloroethene
  - trans-1,2-Dichloroethene
  - Tetrachloroethene
  - Trichloroethene
  - Vinyl chloride

## QC Batch: 264494

- 1c: A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
  - EPS-SB133@8 (Lab ID: 30223074007)
    - 1,1-Dichloroethene
    - cis-1,2-Dichloroethene
    - trans-1,2-Dichloroethene
    - Tetrachloroethene
    - Trichloroethene
    - Vinyl chloride



## **PROJECT NARRATIVE**

Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

## Method: EPA 8260B

Description:8260B MSVClient:EPS of Vermont - HarrisburgDate:July 10, 2017

## General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### **Internal Standards:**

All internal standards were within QC limits with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.



Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

Sample: EPS-SB121@3	Lab ID: 302	23074001	Collected: 06/28/	17 10:10	Received: 06	0/29/17 23:00 N	Aatrix: Solid	
Results reported on a "dry weigh	t" basis and are adj	iusted for pe	ercent moisture, s	ample s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Meth	nod: EPA 826	0B Preparation M	ethod: E	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	0.27	50	07/07/17 11:07	07/07/17 19:24	75-35-4	1c
cis-1,2-Dichloroethene	3.7	mg/kg	0.27	50	07/07/17 11:07	07/07/17 19:24	156-59-2	1c
trans-1,2-Dichloroethene	ND	mg/kg	0.27	50	07/07/17 11:07	07/07/17 19:24	156-60-5	1c
Tetrachloroethene	2680	mg/kg	268	50000	07/07/17 11:07	07/10/17 16:04	127-18-4	
Trichloroethene	7.4	mg/kg	0.27	50	07/07/17 11:07	07/07/17 19:24	79-01-6	1c
Vinyl chloride	ND	mg/kg	0.27	50	07/07/17 11:07	07/07/17 19:24	75-01-4	1c
Surrogates								
Toluene-d8 (S)	108	%	68-135	50	07/07/17 11:07	07/07/17 19:24	2037-26-5	
4-Bromofluorobenzene (S)	101	%	65-146	50	07/07/17 11:07	07/07/17 19:24	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	69-137	50	07/07/17 11:07	07/07/17 19:24	17060-07-0	
Dibromofluoromethane (S)	107	%	70-130	50	07/07/17 11:07	07/07/17 19:24	1868-53-7	
Percent Moisture	Analytical Meth	nod: ASTM D	2974-87					
Percent Moisture	22.8	%	0.10	1		07/05/17 12:32		

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Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

Sample: EPS-SB121@10	Lab ID: 302	23074002	Collected: 06/28/1	7 11:00	Received: 06	6/29/17 23:00 N	/atrix: Solid	
Results reported on a "dry weight"	" basis and are adj	iusted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Mether	nod: EPA 82	60B Preparation Me	thod: E	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	0.0056	1	07/07/17 11:06	07/07/17 13:14	75-35-4	
cis-1,2-Dichloroethene	7.4	mg/kg	0.27	50	07/10/17 12:33	07/10/17 14:18	156-59-2	
trans-1,2-Dichloroethene	0.056	mg/kg	0.0056	1	07/07/17 11:06	07/07/17 13:14	156-60-5	
Tetrachloroethene	6.4	mg/kg	0.27	50	07/10/17 12:33	07/10/17 14:18	127-18-4	
Trichloroethene	1.6	mg/kg	0.27	50	07/10/17 12:33	07/10/17 14:18	79-01-6	
Vinyl chloride	0.043	mg/kg	0.0056	1	07/07/17 11:06	07/07/17 13:14	75-01-4	
Surrogates								
Toluene-d8 (S)	93	%	68-135	1	07/07/17 11:06	07/07/17 13:14	2037-26-5	
4-Bromofluorobenzene (S)	99	%	65-146	1	07/07/17 11:06	07/07/17 13:14	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	69-137	1	07/07/17 11:06	07/07/17 13:14	17060-07-0	
Dibromofluoromethane (S)	104	%	70-130	1	07/07/17 11:06	07/07/17 13:14	1868-53-7	
Percent Moisture	Analytical Meth	nod: ASTM I	02974-87					
Percent Moisture	22.5	%	0.10	1		07/05/17 12:32		

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Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

Sample: EPS-SB122@5	Lab ID: 302	23074003 Co	ollected: 06/28/1	7 10:30	Received: 06	6/29/17 23:00 N	1atrix: Solid	
Results reported on a "dry weigh	nt" basis and are adj	iusted for perce	ent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Mether	nod: EPA 8260B	Preparation Me	ethod: E	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	0.29	50	07/07/17 11:07	07/07/17 19:51	75-35-4	1c
cis-1,2-Dichloroethene	57.0	mg/kg	2.9	500	07/07/17 11:07	07/10/17 13:25	156-59-2	
trans-1,2-Dichloroethene	0.68	mg/kg	0.29	50	07/07/17 11:07	07/07/17 19:51	156-60-5	1c
Tetrachloroethene	17.6	mg/kg	0.29	50	07/07/17 11:07	07/07/17 19:51	127-18-4	1c
Trichloroethene	0.62	mg/kg	0.29	50	07/07/17 11:07	07/07/17 19:51	79-01-6	1c
Vinyl chloride	0.88	mg/kg	0.29	50	07/07/17 11:07	07/07/17 19:51	75-01-4	1c
Surrogates								
Toluene-d8 (S)	95	%	68-135	50	07/07/17 11:07	07/07/17 19:51	2037-26-5	
4-Bromofluorobenzene (S)	99	%	65-146	50	07/07/17 11:07	07/07/17 19:51	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	69-137	50	07/07/17 11:07	07/07/17 19:51	17060-07-0	
Dibromofluoromethane (S)	103	%	70-130	50	07/07/17 11:07	07/07/17 19:51	1868-53-7	
Percent Moisture	Analytical Meth	nod: ASTM D29	74-87					
Percent Moisture	22.7	%	0.10	1		07/05/17 12:32		

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Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

Sample: EPS-SB122@10	Lab ID: 302	23074004	Collected: 06/28/1	7 11:15	5 Received: 06	6/29/17 23:00 N	/latrix: Solid	
Results reported on a "dry weight	" basis and are adj	iusted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Meth	nod: EPA 82	60B Preparation Me	ethod: E	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	0.0054	1	07/07/17 11:06	07/07/17 13:40	75-35-4	
cis-1,2-Dichloroethene	5.0	mg/kg	0.30	50	07/10/17 12:33	07/10/17 14:45	156-59-2	
trans-1,2-Dichloroethene	0.068	mg/kg	0.0054	1	07/07/17 11:06	07/07/17 13:40	156-60-5	
Tetrachloroethene	5.6	mg/kg	0.30	50	07/10/17 12:33	07/10/17 14:45	127-18-4	
Trichloroethene	0.81	mg/kg	0.30	50	07/10/17 12:33	07/10/17 14:45	79-01-6	
Vinyl chloride	ND	mg/kg	0.0054	1	07/07/17 11:06	07/07/17 13:40	75-01-4	
Surrogates								
Toluene-d8 (S)	93	%	68-135	1	07/07/17 11:06	07/07/17 13:40	2037-26-5	
4-Bromofluorobenzene (S)	102	%	65-146	1	07/07/17 11:06	07/07/17 13:40	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	69-137	1	07/07/17 11:06	07/07/17 13:40	17060-07-0	
Dibromofluoromethane (S)	105	%	70-130	1	07/07/17 11:06	07/07/17 13:40	1868-53-7	
Percent Moisture	Analytical Meth	nod: ASTM I	02974-87					
Percent Moisture	23.6	%	0.10	1		07/05/17 12:32		

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Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

Sample: EPS-SB123@7	Lab ID: 302	23074005 Co	ollected: 06/28/1	7 11:35	5 Received: 06	5/29/17 23:00 N	1atrix: Solid	
Results reported on a "dry weigh	t" basis and are adj	iusted for perce	ent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Met	hod: EPA 8260B	Preparation Me	thod: E	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	0.0050	1	07/07/17 11:06	07/07/17 14:07	75-35-4	
cis-1,2-Dichloroethene	5.5	mg/kg	0.28	50	07/10/17 12:33	07/10/17 15:11	156-59-2	
trans-1,2-Dichloroethene	0.015	mg/kg	0.0050	1	07/07/17 11:06	07/07/17 14:07	156-60-5	
Tetrachloroethene	2.6	mg/kg	0.28	50	07/10/17 12:33	07/10/17 15:11	127-18-4	
Trichloroethene	0.15	mg/kg	0.0050	1	07/07/17 11:06	07/07/17 14:07	79-01-6	
Vinyl chloride	0.028	mg/kg	0.0050	1	07/07/17 11:06	07/07/17 14:07	75-01-4	
Surrogates								
Toluene-d8 (S)	92	%	68-135	1	07/07/17 11:06	07/07/17 14:07	2037-26-5	
4-Bromofluorobenzene (S)	98	%	65-146	1	07/07/17 11:06	07/07/17 14:07	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	69-137	1	07/07/17 11:06	07/07/17 14:07	17060-07-0	
Dibromofluoromethane (S)	105	%	70-130	1	07/07/17 11:06	07/07/17 14:07	1868-53-7	
Percent Moisture	Analytical Met	hod: ASTM D29	74-87					
Percent Moisture	17.9	%	0.10	1		07/05/17 12:32		

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Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

Sample: EPS-SB124@8	Lab ID: 302	23074006 Co	ollected: 06/28/1	7 11:50	Received: 06	6/29/17 23:00 N	latrix: Solid	
Results reported on a "dry weigh	nt" basis and are adj	iusted for perce	ent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Met	hod: EPA 8260B	Preparation Me	ethod: E	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	0.0050	1	07/07/17 11:06	07/07/17 14:33	75-35-4	
cis-1,2-Dichloroethene	2.3	mg/kg	0.28	50	07/10/17 12:33	07/10/17 15:38	156-59-2	
trans-1,2-Dichloroethene	0.019	mg/kg	0.0050	1	07/07/17 11:06	07/07/17 14:33	156-60-5	
Tetrachloroethene	21.0	mg/kg	0.28	50	07/10/17 12:33	07/10/17 15:38	127-18-4	
Trichloroethene	2.9	mg/kg	0.28	50	07/10/17 12:33	07/10/17 15:38	79-01-6	
Vinyl chloride	0.077	mg/kg	0.0050	1	07/07/17 11:06	07/07/17 14:33	75-01-4	
Surrogates		0 0						
Toluene-d8 (S)	97	%	68-135	1	07/07/17 11:06	07/07/17 14:33	2037-26-5	
4-Bromofluorobenzene (S)	102	%	65-146	1	07/07/17 11:06	07/07/17 14:33	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	69-137	1	07/07/17 11:06	07/07/17 14:33	17060-07-0	
Dibromofluoromethane (S)	103	%	70-130	1	07/07/17 11:06	07/07/17 14:33	1868-53-7	
Percent Moisture	Analytical Metl	hod: ASTM D29	74-87					
Percent Moisture	22.5	%	0.10	1		07/05/17 12:32		

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Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

Sample: EPS-SB133@8	Lab ID: 302	23074007	Collected: 06/28/	17 12:05	6 Received: 06	6/29/17 23:00 N	/latrix: Solid	
Results reported on a "dry weigh	t" basis and are adj	iusted for p	ercent moisture, sa	ample s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Met	nod: EPA 82	60B Preparation M	ethod: E	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	0.0054	1	07/10/17 12:34	07/10/17 13:52	75-35-4	1c
cis-1,2-Dichloroethene	0.062	mg/kg	0.0054	1	07/10/17 12:34	07/10/17 13:52	156-59-2	1c
trans-1,2-Dichloroethene	ND	mg/kg	0.0054	1	07/10/17 12:34	07/10/17 13:52	156-60-5	1c
Tetrachloroethene	0.12	mg/kg	0.0054	1	07/10/17 12:34	07/10/17 13:52	127-18-4	1c
Trichloroethene	0.030	mg/kg	0.0054	1	07/10/17 12:34	07/10/17 13:52	79-01-6	1c
Vinyl chloride	0.015	mg/kg	0.0054	1	07/10/17 12:34	07/10/17 13:52	75-01-4	1c
Surrogates								
Toluene-d8 (S)	95	%	68-135	1	07/10/17 12:34	07/10/17 13:52	2037-26-5	
4-Bromofluorobenzene (S)	100	%	65-146	1	07/10/17 12:34	07/10/17 13:52	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	69-137	1	07/10/17 12:34	07/10/17 13:52	17060-07-0	
Dibromofluoromethane (S)	104	%	70-130	1	07/10/17 12:34	07/10/17 13:52	1868-53-7	
Percent Moisture	Analytical Met	nod: ASTM [	02974-87					
Percent Moisture	22.0	%	0.10	1		07/05/17 12:32		

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Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

Sample: EPS-SB134@8	Lab ID: 302	23074008	Collected: 06/28/1	7 12:1	5 Received: 06	6/29/17 23:00 N	latrix: Solid	
Results reported on a "dry weigh	t" basis and are adj	usted for per	cent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Mether	nod: EPA 8260	B Preparation Me	thod: E	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	0.0050	1	07/07/17 11:06	07/07/17 15:26	75-35-4	
cis-1,2-Dichloroethene	0.14	mg/kg	0.0050	1	07/07/17 11:06	07/07/17 15:26	156-59-2	ML,R1
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	1	07/07/17 11:06	07/07/17 15:26	156-60-5	
Tetrachloroethene	0.11	mg/kg	0.0050	1	07/07/17 11:06	07/07/17 15:26	127-18-4	ML, R1
Trichloroethene	0.026	mg/kg	0.0050	1	07/07/17 11:06	07/07/17 15:26	79-01-6	ML, R1
Vinyl chloride	ND	mg/kg	0.0050	1	07/07/17 11:06	07/07/17 15:26	75-01-4	
Surrogates								
Toluene-d8 (S)	91	%	68-135	1	07/07/17 11:06	07/07/17 15:26	2037-26-5	
4-Bromofluorobenzene (S)	99	%	65-146	1	07/07/17 11:06	07/07/17 15:26	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	69-137	1	07/07/17 11:06	07/07/17 15:26	17060-07-0	
Dibromofluoromethane (S)	107	%	70-130	1	07/07/17 11:06	07/07/17 15:26	1868-53-7	
Percent Moisture	Analytical Meth	nod: ASTM D2	974-87					
Percent Moisture	15.1	%	0.10	1		07/05/17 12:31		

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Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

Sample: EPS-SB126@3	Lab ID: 302	23074009 Co	ollected: 06/28/1	7 12:45	5 Received: 06	6/29/17 23:00 N	latrix: Solid	
Results reported on a "dry weigh	nt" basis and are adj	usted for perce	ent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Meth	nod: EPA 8260B	Preparation Me	ethod: E	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	0.0049	1	07/07/17 11:06	07/07/17 16:45	75-35-4	
cis-1,2-Dichloroethene	0.053	mg/kg	0.0049	1	07/07/17 11:06	07/07/17 16:45	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0049	1	07/07/17 11:06	07/07/17 16:45	156-60-5	
Tetrachloroethene	ND	mg/kg	0.0049	1	07/07/17 11:06	07/07/17 16:45	127-18-4	
Trichloroethene	ND	mg/kg	0.0049	1	07/07/17 11:06	07/07/17 16:45	79-01-6	
Vinyl chloride	ND	mg/kg	0.0049	1	07/07/17 11:06	07/07/17 16:45	75-01-4	
Surrogates								
Toluene-d8 (S)	92	%	68-135	1	07/07/17 11:06	07/07/17 16:45	2037-26-5	
4-Bromofluorobenzene (S)	99	%	65-146	1	07/07/17 11:06	07/07/17 16:45	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	69-137	1	07/07/17 11:06	07/07/17 16:45	17060-07-0	
Dibromofluoromethane (S)	106	%	70-130	1	07/07/17 11:06	07/07/17 16:45	1868-53-7	
Percent Moisture	Analytical Meth	nod: ASTM D297	74-87					
Percent Moisture	15.6	%	0.10	1		07/05/17 12:31		

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Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

Sample: EPS-SB127@9	Lab ID: 302	23074010	Collected: 06/28/1	7 13:00	Received: 06	6/29/17 23:00 N	1atrix: Solid	
Results reported on a "dry weigh	t" basis and are adj	iusted for per	rcent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Mether	hod: EPA 8260	0B Preparation Me	thod: E	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	0.0060	1	07/07/17 11:06	07/07/17 17:12	75-35-4	
cis-1,2-Dichloroethene	0.072	mg/kg	0.0060	1	07/07/17 11:06	07/07/17 17:12	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0060	1	07/07/17 11:06	07/07/17 17:12	156-60-5	
Tetrachloroethene	0.071	mg/kg	0.0060	1	07/07/17 11:06	07/07/17 17:12	127-18-4	
Trichloroethene	0.026	mg/kg	0.0060	1	07/07/17 11:06	07/07/17 17:12	79-01-6	
Vinyl chloride	ND	mg/kg	0.0060	1	07/07/17 11:06	07/07/17 17:12	75-01-4	
Surrogates								
Toluene-d8 (S)	92	%	68-135	1	07/07/17 11:06	07/07/17 17:12	2037-26-5	
4-Bromofluorobenzene (S)	100	%	65-146	1	07/07/17 11:06	07/07/17 17:12	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	69-137	1	07/07/17 11:06	07/07/17 17:12	17060-07-0	
Dibromofluoromethane (S)	108	%	70-130	1	07/07/17 11:06	07/07/17 17:12	1868-53-7	
Percent Moisture	Analytical Meth	hod: ASTM D2	2974-87					
Percent Moisture	18.3	%	0.10	1		07/05/17 12:31		

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#### Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

Sample: TRIP BLANK-G11788	Lab ID: 30	223074011	Collected: 06/28/1	7 00:01	Received: 0	6/29/17 23:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Me	thod: EPA 82	60B					
1,1-Dichloroethene	ND	ug/L	1.0	1		07/05/17 21:46	6 75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/05/17 21:46	6 156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/05/17 21:46	6 156-60-5	
Tetrachloroethene	ND	ug/L	1.0	1		07/05/17 21:46	6 127-18-4	
Trichloroethene	ND	ug/L	1.0	1		07/05/17 21:46	6 79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/05/17 21:46	6 75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	103	%	78-117	1		07/05/17 21:46	6 460-00-4	
1,2-Dichloroethane-d4 (S)	126	%	70-128	1		07/05/17 21:46	6 17060-07-0	
Toluene-d8 (S)	94	%	59-140	1		07/05/17 21:46	6 2037-26-5	
Dibromofluoromethane (S)	112	%	66-132	1		07/05/17 21:46	8 1868-53-7	



Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

QC Batch:	264331	Analysis Method: EPA 8260B	
QC Batch Method:	EPA 5035A	Analysis Description: 8260B MSV 5035 Low	
Associated Lab Sam	ples: 30223074002, 30	3074004, 30223074005, 30223074006, 30223074008, 30223074009, 30223074	4010

 METHOD BLANK:
 1301901
 Matrix:
 Solid

 Associated Lab Samples:
 30223074002, 30223074004, 30223074006, 30223074006, 30223074008, 30223074009, 30223074010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	mg/kg	ND	0.0050	07/07/17 11:54	
cis-1,2-Dichloroethene	mg/kg	ND	0.0050	07/07/17 11:54	
Tetrachloroethene	mg/kg	ND	0.0050	07/07/17 11:54	
trans-1,2-Dichloroethene	mg/kg	ND	0.0050	07/07/17 11:54	
Trichloroethene	mg/kg	ND	0.0050	07/07/17 11:54	
Vinyl chloride	mg/kg	ND	0.0050	07/07/17 11:54	
1,2-Dichloroethane-d4 (S)	%	103	69-137	07/07/17 11:54	
4-Bromofluorobenzene (S)	%	101	65-146	07/07/17 11:54	
Dibromofluoromethane (S)	%	104	70-130	07/07/17 11:54	
Toluene-d8 (S)	%	94	68-135	07/07/17 11:54	

LABORATORY	CONTROL	SAMPLE:	1301902
LADUNATURT	CONTROL		1301902

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethene	mg/kg	.02	0.018	90	62-137	
cis-1,2-Dichloroethene	mg/kg	.02	0.017	86	64-120	
Tetrachloroethene	mg/kg	.02	0.020	100	73-135	
trans-1,2-Dichloroethene	mg/kg	.02	0.017	86	64-131	
Trichloroethene	mg/kg	.02	0.017	85	73-125	
Vinyl chloride	mg/kg	.02	0.015	76	46-138	
1,2-Dichloroethane-d4 (S)	%			100	69-137	
4-Bromofluorobenzene (S)	%			100	65-146	
Dibromofluoromethane (S)	%			106	70-130	
Toluene-d8 (S)	%			94	68-135	

MATRIX SPIKE & MATRIX SPIK	KE DUPLICAT	E: 13019	03		1301904						
			MS	MSD							
	302	22876001	Spike	Spike	MS	MSD	MS	MSD	% Rec		
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	Qual
1,1-Dichloroethene	mg/kg	ND	.02	.023	0.020	0.021	96	93	11-151	8	
cis-1,2-Dichloroethene	mg/kg	ND	.02	.023	0.019	0.020	91	88	20-126	7	
Tetrachloroethene	mg/kg	ND	.02	.023	0.020	0.021	97	92	10-155	6	
trans-1,2-Dichloroethene	mg/kg	ND	.02	.023	0.018	0.020	89	87	16-131	8	
Trichloroethene	mg/kg	ND	.02	.023	0.018	0.019	89	85	10-153	6	
Vinyl chloride	mg/kg	ND	.02	.023	0.016	0.018	77	77	21-147	11	
1,2-Dichloroethane-d4 (S)	%						113	114	69-137		
4-Bromofluorobenzene (S)	%						99	98	65-146		
Dibromofluoromethane (S)	%						109	108	70-130		

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

# **REPORT OF LABORATORY ANALYSIS**

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## Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

MATRIX SPIKE & MATRIX SPI	KE DUPLICAT	E: 13019	03 MS	MSD	1301904						
	302	22876001	Spike	Spike	MS	MSD	MS	MSD	% Rec		
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	Qua
Toluene-d8 (S)	%						91	94	68-135		
MATRIX SPIKE & MATRIX SPIŁ	KE DUPLICAT	E: 13019	05		1301906						
			MS	MSD							
	302	23074008	Spike	Spike	MS	MSD	MS	MSD	% Rec		
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	Qua
1,1-Dichloroethene	mg/kg	ND	.016	.02	0.016	0.018	94	92	11-151	17	
cis-1,2-Dichloroethene	mg/kg	0.14	.016	.02	0.065	0.13	-452	-57	20-126	66	ML,R1
Tetrachloroethene	mg/kg	0.11	.016	.02	0.056	0.096	-309	-52	10-155	54	ML,R1
trans-1,2-Dichloroethene	mg/kg	ND	.016	.02	0.015	0.019	77	83	16-131	22	
Trichloroethene	mg/kg	0.026	.016	.02	0.025	0.037	-7	59	10-153	41	ML,R1
Vinyl chloride	mg/kg	ND	.016	.02	0.012	0.015	67	68	21-147	19	
1,2-Dichloroethane-d4 (S)	%						110	105	69-137		
4-Bromofluorobenzene (S)	%						99	100	65-146		
Dibromofluoromethane (S)	%						107	106	70-130		
Toluene-d8 (S)	%						92	92	68-135		

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



Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

QC Batch:	264332
QC Batch Method:	EPA 503

Associated Lab Samples:

Method: EPA 5035A

30223074001, 30223074003

Analysis Description: 8260B MSV 5035 Low

EPA 8260B

METHOD BLANK: 1301907

Associated Lab Samples: 30223074001, 30223074003

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1-Dichloroethene		ND	0.25	07/07/17 11:28	
cis-1,2-Dichloroethene	mg/kg	ND	0.25	07/07/17 11:28	
Tetrachloroethene	mg/kg	ND	0.25	07/07/17 11:28	
trans-1,2-Dichloroethene	mg/kg	ND	0.25	07/07/17 11:28	
Trichloroethene	mg/kg	ND	0.25	07/07/17 11:28	
Vinyl chloride	mg/kg	ND	0.25	07/07/17 11:28	
1,2-Dichloroethane-d4 (S)	%	100	69-137	07/07/17 11:28	
4-Bromofluorobenzene (S)	%	98	65-146	07/07/17 11:28	
Dibromofluoromethane (S)	%	104	70-130	07/07/17 11:28	
Toluene-d8 (S)	%	96	68-135	07/07/17 11:28	

Analysis Method:

Matrix: Solid

### LABORATORY CONTROL SAMPLE: 1301908

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethene	mg/kg	.02	0.018	90	62-137	
cis-1,2-Dichloroethene	mg/kg	.02	0.017	86	64-120	
Tetrachloroethene	mg/kg	.02	0.020	100	73-135	
trans-1,2-Dichloroethene	mg/kg	.02	0.017	86	64-131	
Trichloroethene	mg/kg	.02	0.017	85	73-125	
Vinyl chloride	mg/kg	.02	0.015	76	46-138	
1,2-Dichloroethane-d4 (S)	%			100	69-137	
4-Bromofluorobenzene (S)	%			100	65-146	
Dibromofluoromethane (S)	%			106	70-130	
Toluene-d8 (S)	%			94	68-135	

Results presented on this page are in the units indicated by the "Units" of the result.



Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

QC Batch: 264493 QC Batch Method: EPA 5035A

Associated Lab Samples:

Analysis Method:

035A Analysis Description: 8260B MSV 5035 Low 30223074002, 30223074004, 30223074005, 30223074006

EPA 8260B

 METHOD BLANK:
 1302836
 Matrix:
 Solid

 Associated Lab Samples:
 30223074002, 30223074004, 30223074005, 30223074006
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Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	mg/kg	ND	0.25	07/10/17 12:06	
Tetrachloroethene	mg/kg	ND	0.25	07/10/17 12:06	
Trichloroethene	mg/kg	ND	0.25	07/10/17 12:06	
1,2-Dichloroethane-d4 (S)	%	98	69-137	07/10/17 12:06	
4-Bromofluorobenzene (S)	%	100	65-146	07/10/17 12:06	
Dibromofluoromethane (S)	%	101	70-130	07/10/17 12:06	
Toluene-d8 (S)	%	93	68-135	07/10/17 12:06	

#### LABORATORY CONTROL SAMPLE: 1302837

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
cis-1,2-Dichloroethene	mg/kg	.02	0.018	92	64-120	
Tetrachloroethene	mg/kg	.02	0.024	119	73-135	
Trichloroethene	mg/kg	.02	0.018	92	73-125	
1,2-Dichloroethane-d4 (S)	%			100	69-137	
4-Bromofluorobenzene (S)	%			101	65-146	
Dibromofluoromethane (S)	%			102	70-130	
Toluene-d8 (S)	%			95	68-135	

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



Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

QC Batch: 264494		Analysis Meth	nod: El	PA 8260B	
QC Batch Method: EPA 5035A		Analysis Des	cription: 82	260B MSV 5035 Lov	N
Associated Lab Samples: 302230	74007				
METHOD BLANK: 1302838		Matrix:	Solid		
Associated Lab Samples: 302230	74007				
		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1-Dichloroethene	mg/kg	 ND	0.0050	07/10/17 12:32	
cis-1,2-Dichloroethene	mg/kg	ND	0.0050	07/10/17 12:32	
Tetrachloroethene	mg/kg	ND	0.0050	07/10/17 12:32	
trans-1,2-Dichloroethene	mg/kg	ND	0.0050	07/10/17 12:32	
Trichloroethene	ma/ka	ND	0.0050	07/10/17 12:32	

	iiig/iig		0.0000	01/10/11 12.02	
Trichloroethene	mg/kg	ND	0.0050	07/10/17 12:32	
Vinyl chloride	mg/kg	ND	0.0050	07/10/17 12:32	
1,2-Dichloroethane-d4 (S)	%	100	69-137	07/10/17 12:32	
4-Bromofluorobenzene (S)	%	100	65-146	07/10/17 12:32	
Dibromofluoromethane (S)	%	102	70-130	07/10/17 12:32	
Toluene-d8 (S)	%	94	68-135	07/10/17 12:32	

### LABORATORY CONTROL SAMPLE: 1302839

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1.1-Dichloroethene	mg/kg	.02	0.019	93	62-137	
cis-1,2-Dichloroethene	mg/kg	.02	0.018	92	64-120	
Tetrachloroethene	mg/kg	.02	0.024	119	73-135	
trans-1,2-Dichloroethene	mg/kg	.02	0.018	88	64-131	
Trichloroethene	mg/kg	.02	0.018	92	73-125	
Vinyl chloride	mg/kg	.02	0.017	85	46-138	
1,2-Dichloroethane-d4 (S)	%			100	69-137	
4-Bromofluorobenzene (S)	%			101	65-146	
Dibromofluoromethane (S)	%			102	70-130	
Toluene-d8 (S)	%			95	68-135	

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



Project: G11788 2331 EAST MARKET STREET

Pace Project No

e Project No.:	30223074

Face Floject No 302230	(4				
QC Batch: 26408	4	Analysis Meth	nod: EF	PA 8260B	
QC Batch Method: EPA 82	260B	Analysis Des	cription: 82	60B MSV	
Associated Lab Samples:	30223074011				
METHOD BLANK: 1300962	2	Matrix:	Water		
Associated Lab Samples:	30223074011				
		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	07/05/17 13:42	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/05/17 13:42	
Tetrachloroethene	ug/L	ND	1.0	07/05/17 13:42	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/05/17 13:42	
Trichloroethene	ug/L	ND	1.0	07/05/17 13:42	
Vinyl chloride	ug/L	ND	1.0	07/05/17 13:42	
1,2-Dichloroethane-d4 (S)	%	112	70-128	07/05/17 13:42	
4-Bromofluorobenzene (S)	%	100	78-117	07/05/17 13:42	

LABORATORY CONTROL SAMPLE:	1300963

Dibromofluoromethane (S)

Toluene-d8 (S)

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethene	ug/L	20	20.0	100	74-127	
cis-1,2-Dichloroethene	ug/L	20	20.8	104	77-126	
Tetrachloroethene	ug/L	20	19.8	99	82-120	
trans-1,2-Dichloroethene	ug/L	20	19.8	99	76-125	
Trichloroethene	ug/L	20	19.3	97	84-116	
Vinyl chloride	ug/L	20	19.3	96	63-133	
1,2-Dichloroethane-d4 (S)	%			111	70-128	
4-Bromofluorobenzene (S)	%			99	78-117	
Dibromofluoromethane (S)	%			107	66-132	
Toluene-d8 (S)	%			99	59-140	

110

95

66-132 07/05/17 13:42

59-140 07/05/17 13:42

%

%

MATRIX SPIKE & MATRIX SPIK	E DUPLICAT	E: 13010	51		1301052						
Parameter	302 Units	223073019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	20	20	22.2	20.4	111	102	48-141	8	
cis-1,2-Dichloroethene	ug/L	ND	20	20	20.9	20.5	104	102	46-139	2	
Tetrachloroethene	ug/L	ND	20	20	21.0	18.8	105	94	53-125	11	
rans-1,2-Dichloroethene	ug/L	ND	20	20	20.7	18.8	103	94	52-136	9	
Trichloroethene	ug/L	ND	20	20	20.7	20.4	104	102	50-127	1	
√inyl chloride	ug/L	ND	20	20	22.5	21.9	113	110	54-149	3	
1,2-Dichloroethane-d4 (S)	%						114	118	70-128		
-Bromofluorobenzene (S)	%						96	100	78-117		
Dibromofluoromethane (S)	%						109	108	66-132		

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

### **REPORT OF LABORATORY ANALYSIS**

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Project:G11788 2331 EAST MARKET STREETPace Project No.:30223074

MATRIX SPIKE & MATRIX SP	IKE DUPLICAT	E: 13010	51		1301052						
	MS	MSD					04 B				
	302	223073019	Spike	Spike	MS	MSD	MS	MSD	% Rec		
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	Qual
Toluene-d8 (S)	%						94	94	59-140		

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



Project: Pace Project No.:	G11788 2331 EAS 30223074	ST MARKET STREE	ΞT				
QC Batch:	264052		Analysis Meth	iod:	ASTM D2974-8	7	
QC Batch Method:	ASTM D2974-87		Analysis Desc	cription:	Dry Weight/Pero	cent Moisture	
Associated Lab Sar		001, 30223074002, 008, 30223074009,		0223074004,	30223074005, 3	30223074006, 302	23074007,
SAMPLE DUPLICA	TE: 1300882						
			30222896001	Dup			
Parar	neter	Units	Result	Result	RPD	Qualifiers	
Percent Moisture		%	25.5	26.	7	5	
SAMPLE DUPLICA	TE: 1300883						
			30222896002	Dup			
Parar	neter	Units	Result	Result	RPD	Qualifiers	
Percent Moisture		%	28.3	30.	7	8	

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



### QUALIFIERS

Project: G11788 2331 EAST MARKET STREET

Pace Project No.: 30223074

#### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

#### S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

#### **BATCH QUALIFIERS**

Batch: 264332

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 264493

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 264494

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

- 1c A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
- ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.
- R1 RPD value was outside control limits.



## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:G11788 2331 EAST MARKET STREETPace Project No.:30223074

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30223074001	EPS-SB121@3	EPA 5035A	264332	EPA 8260B	264351
30223074002	EPS-SB121@10	EPA 5035A	264331	EPA 8260B	264350
30223074002	EPS-SB121@10	EPA 5035A	264493	EPA 8260B	264514
30223074003	EPS-SB122@5	EPA 5035A	264332	EPA 8260B	264351
30223074004	EPS-SB122@10	EPA 5035A	264331	EPA 8260B	264350
30223074004	EPS-SB122@10	EPA 5035A	264493	EPA 8260B	264514
30223074005	EPS-SB123@7	EPA 5035A	264331	EPA 8260B	264350
30223074005	EPS-SB123@7	EPA 5035A	264493	EPA 8260B	264514
30223074006	EPS-SB124@8	EPA 5035A	264331	EPA 8260B	264350
30223074006	EPS-SB124@8	EPA 5035A	264493	EPA 8260B	264514
30223074007	EPS-SB133@8	EPA 5035A	264494	EPA 8260B	264523
30223074008 30223074009 30223074010	EPS-SB134@8 EPS-SB126@3 EPS-SB127@9	EPA 5035A EPA 5035A EPA 5035A	264331 264331 264331	EPA 8260B EPA 8260B EPA 8260B	264350 264350 264350
30223074011	TRIP BLANK-G11788	EPA 8260B	264084		
30223074001 30223074002 30223074003 30223074004 30223074005 30223074006 30223074007 30223074008 30223074008	EPS-SB121 @3 EPS-SB121 @10 EPS-SB122 @5 EPS-SB122 @10 EPS-SB123 @7 EPS-SB124 @8 EPS-SB133 @8 EPS-SB134 @8 EPS-SB134 @8	ASTM D2974-87 ASTM D2974-87 ASTM D2974-87 ASTM D2974-87 ASTM D2974-87 ASTM D2974-87 ASTM D2974-87 ASTM D2974-87 ASTM D2974-87	264052 264052 264052 264052 264052 264052 264052 264052 264052 264052		
30223074009 30223074010	EPS-SB120@3 EPS-SB127@9	ASTM D2974-87 ASTM D2974-87	264052 264052		

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	Section B Required Project Information: Report To: OTEVE	ALV	Purchase Order No.:	Project Name: 2331	Project Number: 51		DE DE (Jaaloo	: 유고 꽃 및 C=CO										88	kelliyauished	Mattal	· Cald All	CHANNE STAN	,	ORIGINAL	J Pace's NET 30 day payment to
Pace Analytical*		1559 BOBALL DR. HEDINA DR. DA	EROGREMENTE	CO Fax:	Requested Due Date/TAT:		Section D Matrix Codes Required Client information MATRIX / CODE	ļ	SAMPLE ID Coll (A-Z, 0-9 /) Wipe Sample IDs MUST BE UNIQUE Tissue Cither	FPS-SB17103	22	3 EPS-SB 122 65	EN-8	6 E A - 013 125 (J - 1 E F - 312 17 40 X	ER-361330X	ER-SB134	1 FPS- SR127 6 9	HTRIP BLANK-CHIT	ADDITIONAL COMMENTS	*SAMPLE EPS- 3315408	RUTTENARE TO MEET	r	Pe	age 27 c	

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CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Required Client Information:     Required Project Information:       Company:     Company:       Company:     Company:       Company:     Company:       Address:     Company:       Piller:     Copy To:       H_A (2)     Clost (1)       Piller:     Copy To:       Piller:     Piller:       Piller:     Copy To:       Piller:     Cope       Piller:     Piller:       Piller:     Piller	HCI HCI HCI HCI HCI HCI HCI HCI	Methanol Methanol Marker Schuck Raugest Marker Raugest	HLORITHY (R REGULATORY AGENCY Reguested Analysis Filtered (YN)			0.0%	
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Courier: 🗍 Fed Ex 🗍 UPS 🗍 USPS 🗍 Cli Tracking #:	ent 🗌	] Comr	nercia	al 🗐 Pace Other _	
Custody Seal on Cooler/Box Present: 🌓 yes		no	Sea	ls intact: 🗍 yes [	no
Thermometer Used	Туре	ofice		Blue None	
Cooler Temperature Observed Temp	<u>ł.3</u>	- ° C	Cori	rection Factor: 10.(	C Final Temp: 4.3 °C
					Date and Inifials of person examining contents: 1997 1. 6-32
Comments:	Yes	No	N/A		
Chain of Custody Present:	$\downarrow \!$	<u> </u>		1.	
Chain of Custody Filled Out:	X			2.	
Chain of Custody Relinquished:	$ \rangle$	<b> </b>	ļ	3.	
Sampler Name & Signature on COC:	$ \Delta$		ļ	4.	
Sample Labels match COC:	ļ	$\mathbb{X}$		15 Ll on L	offles from our is
-Includes date/time/ID Matrix:		<del></del>		1 EP3-SB-1	21010
Samples Arrived within Hold Time:	X			6.	
Short Hold Time Analysis (<72hr remaining):		X		7	
Rush Turn Around Time Requested:	$\underline{X}$	Ľ		8.	
Sufficient Volume:	$ \Sigma $			9	· ·
Correct Containers Used:	$\mathbf{X}$			10.	
-Pace Containers Used:	JX.				
Containers Intact:	Х	-		11.	
Orthophosphate field filtered			X	12.	-
Organic Samples checked for dechlorination:		ļ	X	13.	
Filtered volume received for Dissolved tests			X	14.	
All containers have been checked for preservation.	i i		X	15.	
All containers needing preservation are found to be in compliance with EPA recommendation.			X		
exceptions (VOA, colliform, TOC, O&G, Phenolics			-	Initial when X TH.	Date/time of preservation
	ľ	XT	- 1	preservative	
Headspace in VOA Vials ( >6mm):	$\checkmark$			<u>16.</u>	·····
Trip Blank Present:	$\overline{\mathcal{A}}$			17.	·····
Trip Blank Custody Seals Present Rad Aqueous Samples Screened > 0.5 mrem/hr	,	>	S. 1	Initial when completed:	Date;
Client Notification/ Resolution:					
Person Contacted:			)ate/Ti	ime:	Contacted By:
Comments/ Resolution:				•	· · · · · · · · · · · · · · · · · · ·
				<u></u>	<u> </u>
A check in this box indicates that addition					
Note: Whenever there is a discrepancy affecting North Carc	lina con ut of ter	ipliance	sample rect co	ies, a copy <mark>78</mark> this form will l ontainers)	be sent to the North Carolina DEHNR

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.



Pace Analytical Services, LLC 1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

September 20, 2017

Steve Vedder EPSVT-Hbg 1539 Bobali Drive Harrisburg, PA 17104

RE: Project: G11788 2331 Plaza Pace Project No.: 30229784

Dear Steve Vedder:

Enclosed are the analytical results for sample(s) received by the laboratory on September 12, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Carino a. Ferris

Carin Ferris carin.ferris@pacelabs.com 724-850-5615 Project Manager

Enclosures

cc: Mr. Charlie Bisking, EPSVT-Hbg Ben Freels, EPSVT-Hbg EPS Harrisburg, EPSVT-Hbg Mr. John Horner, EPSVT-Hbg Mr. Ben Logan, EPSVT-Hbg Ms. Ashley Nelson, EPSVT-Hbg Ms. Deb Sweikert, EPSVT-Hbg



## **REPORT OF LABORATORY ANALYSIS**

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Pace Analytical Services, LLC 1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

### CERTIFICATIONS

Project: G11788 2331 Plaza Pace Project No.: 30229784

#### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601 L-A-B DOD-ELAP Accreditation #: L2417 Alabama Certification #: 41590 Arizona Certification #: AZ0734 Arkansas Certification California Certification #: 04222CA Colorado Certification Connecticut Certification #: PH-0694 **Delaware Certification** Florida/TNI Certification #: E87683 Georgia Certification #: C040 **Guam Certification** Hawaii Certification Idaho Certification **Illinois Certification** Indiana Certification Iowa Certification #: 391 Kansas/TNI Certification #: E-10358 Kentucky Certification #: 90133 Louisiana DHH/TNI Certification #: LA140008 Louisiana DEQ/TNI Certification #: 4086 Maine Certification #: PA00091 Maryland Certification #: 308 Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification Missouri Certification #: 235

Montana Certification #: Cert 0082 Nebraska Certification #: NE-05-29-14 Nevada Certification #: PA014572015-1 New Hampshire/TNI Certification #: 2976 New Jersey/TNI Certification #: PA 051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Oregon/TNI Certification #: PA200002 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282 South Dakota Certification Tennessee Certification #: TN2867 Texas/TNI Certification #: T104704188-14-8 Utah/TNI Certification #: PA014572015-5 USDA Soil Permit #: P330-14-00213 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 460198 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C Wisconsin Certification Wyoming Certification #: 8TMS-L



### **PROJECT NARRATIVE**

Project: G11788 2331 Plaza Pace Project No.: 30229784

#### Method: EPA 8260B

Description:8260B MSV 5035 Low LevelClient:EPS of Vermont - HarrisburgDate:September 20, 2017

### **General Information:**

9 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 5035A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### QC Batch: 271713

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30229784009

- ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.
  - MS (Lab ID: 1336724)
    - Trichloroethene
    - trans-1,2-Dichloroethene
  - MSD (Lab ID: 1336725)
    - Trichloroethene

#### Additional Comments:



### **PROJECT NARRATIVE**

Project: G11788 2331 Plaza Pace Project No.: 30229784

### Method: EPA 8260B

Description:8260B MSVClient:EPS of Vermont - HarrisburgDate:September 20, 2017

### **General Information:**

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.



Project: G11788 2331 Plaza

Pace Project No.: 30229784

Sample: SB-221A @ 3	Lab ID: 302	229784001	Collected: 09/11/1	7 11:40	Received: 09	0/12/17 23:10 N	Aatrix: Solid	
Results reported on a "dry weight	" basis and are ad	ljusted for p	ercent moisture, sa	ample s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Me	thod: EPA 82	60B Preparation Me	ethod: E	PA 5035A			
1,1-Dichloroethene	0.17	mg/kg	0.0046	1	09/14/17 13:43	09/14/17 18:03	75-35-4	
cis-1,2-Dichloroethene	83.9	mg/kg	2.4	500	09/15/17 13:56	09/18/17 19:33	156-59-2	
trans-1,2-Dichloroethene	2.8	mg/kg	0.48	100	09/15/17 13:56	09/15/17 17:24	156-60-5	
Tetrachloroethene	0.073	mg/kg	0.0046	1	09/14/17 13:43	09/14/17 18:03	127-18-4	
Trichloroethene	0.15	mg/kg	0.0046	1	09/14/17 13:43	09/14/17 18:03	79-01-6	
Vinyl chloride	10.7	mg/kg	0.48	100	09/15/17 13:56	09/15/17 17:24	75-01-4	
Surrogates								
Toluene-d8 (S)	112	%	76-124	1	09/14/17 13:43	09/14/17 18:03	2037-26-5	
4-Bromofluorobenzene (S)	115	%	70-133	1	09/14/17 13:43	09/14/17 18:03	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	74-131	1	09/14/17 13:43	09/14/17 18:03	17060-07-0	
Dibromofluoromethane (S)	89	%	71-130	1	09/14/17 13:43	09/14/17 18:03	1868-53-7	
Percent Moisture	Analytical Me	thod: ASTM [	02974-87					
Percent Moisture	20.6	%	0.10	1		09/13/17 14:20		

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Project: G11788 2331 Plaza

Pace Project No.: 30229784

Sample: SB-221A @ 5	Lab ID: 302	29784002	Collected: 09/11/1	7 11:50	Received: 09	0/12/17 23:10 N	Aatrix: Solid	
Results reported on a "dry weight	" basis and are ad	justed for p	ercent moisture, sa	ample s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Met	hod: EPA 82	60B Preparation Me	ethod: E	PA 5035A			
1,1-Dichloroethene	0.0074	mg/kg	0.0046	1	09/14/17 13:43	09/14/17 18:29	75-35-4	
cis-1,2-Dichloroethene	14.5	mg/kg	0.23	50	09/15/17 13:56	09/15/17 17:51	156-59-2	
trans-1,2-Dichloroethene	0.33	mg/kg	0.0046	1	09/14/17 13:43	09/14/17 18:29	156-60-5	
Tetrachloroethene	ND	mg/kg	0.23	50	09/15/17 13:56	09/15/17 17:51	127-18-4	
Trichloroethene	0.14	mg/kg	0.0046	1	09/14/17 13:43	09/14/17 18:29	79-01-6	
Vinyl chloride	6.0	mg/kg	0.23	50	09/15/17 13:56	09/15/17 17:51	75-01-4	
Surrogates								
Toluene-d8 (S)	100	%	76-124	1	09/14/17 13:43	09/14/17 18:29	2037-26-5	
4-Bromofluorobenzene (S)	97	%	70-133	1	09/14/17 13:43	09/14/17 18:29	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	74-131	1	09/14/17 13:43	09/14/17 18:29	17060-07-0	
Dibromofluoromethane (S)	96	%	71-130	1	09/14/17 13:43	09/14/17 18:29	1868-53-7	
Percent Moisture	Analytical Met	hod: ASTM [	02974-87					
Percent Moisture	20.1	%	0.10	1		09/13/17 14:20		

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Project: G11788 2331 Plaza

Pace Project No.: 30229784

Sample: SB-221A @ 7	Lab ID: 302	29784003	Collected: 09/11/	17 12:00	0 Received: 09	9/12/17 23:10 N	/latrix: Solid	
Results reported on a "dry weight	" basis and are adj	iusted for p	ercent moisture, s	ample s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Mether	nod: EPA 82	60B Preparation M	ethod: E	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	0.0045	1	09/14/17 13:43	09/14/17 18:55	75-35-4	
cis-1,2-Dichloroethene	11.3	mg/kg	0.23	50	09/15/17 13:56	09/15/17 18:17	156-59-2	
trans-1,2-Dichloroethene	0.14	mg/kg	0.0045	1	09/14/17 13:43	09/14/17 18:55	156-60-5	
Tetrachloroethene	2.5	mg/kg	0.23	50	09/15/17 13:56	09/15/17 18:17	127-18-4	
Trichloroethene	0.79	mg/kg	0.23	50	09/15/17 13:56	09/15/17 18:17	79-01-6	
Vinyl chloride	0.31	mg/kg	0.23	50	09/15/17 13:56	09/15/17 18:17	75-01-4	
Surrogates								
Toluene-d8 (S)	95	%	76-124	1	09/14/17 13:43	09/14/17 18:55	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-133	1	09/14/17 13:43	09/14/17 18:55	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	74-131	1	09/14/17 13:43	09/14/17 18:55	17060-07-0	
Dibromofluoromethane (S)	89	%	71-130	1	09/14/17 13:43	09/14/17 18:55	1868-53-7	
Percent Moisture	Analytical Mether	nod: ASTM [	02974-87					
Percent Moisture	16.7	%	0.10	1		09/13/17 14:20		

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Project: G11788 2331 Plaza

Pace Project No.: 30229784

Sample: SB-221A @ 10	Lab ID: 302	29784004	Collected: 09/11/1	7 12:10	Received: 09	)/12/17 23:10 N	Aatrix: Solid	
Results reported on a "dry weight	t" basis and are ad	justed for p	ercent moisture, sa	ample s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Met	hod: EPA 82	60B Preparation Me	ethod: E	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	0.0045	1	09/14/17 13:43	09/14/17 19:20	75-35-4	
cis-1,2-Dichloroethene	10.6	mg/kg	0.24	50	09/15/17 13:56	09/15/17 18:44	156-59-2	
trans-1,2-Dichloroethene	0.13	mg/kg	0.0045	1	09/14/17 13:43	09/14/17 19:20	156-60-5	
Tetrachloroethene	13.1	mg/kg	0.24	50	09/15/17 13:56	09/15/17 18:44	127-18-4	
Trichloroethene	1.1	mg/kg	0.24	50	09/15/17 13:56	09/15/17 18:44	79-01-6	
Vinyl chloride	0.16	mg/kg	0.0045	1	09/14/17 13:43	09/14/17 19:20	75-01-4	
Surrogates								
Toluene-d8 (S)	97	%	76-124	1	09/14/17 13:43	09/14/17 19:20	2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-133	1	09/14/17 13:43	09/14/17 19:20	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	74-131	1	09/14/17 13:43	09/14/17 19:20	17060-07-0	
Dibromofluoromethane (S)	90	%	71-130	1	09/14/17 13:43	09/14/17 19:20	1868-53-7	
Percent Moisture	Analytical Met	hod: ASTM I	D2974-87					
Percent Moisture	20.8	%	0.10	1		09/13/17 14:20		

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Project: G11788 2331 Plaza

Pace Project No.: 30229784

Sample: SB-221B @ 3	Lab ID: 302	29784005	Collected: 09/11/	17 12:20	Received: 09	)/12/17 23:10 N	Aatrix: Solid	
Results reported on a "dry weight	" basis and are ad	justed for p	ercent moisture, s	ample si	ze and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Met	hod: EPA 82	60B Preparation M	ethod: E	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	2.3	500	09/15/17 13:56	09/15/17 22:42	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	2.3	500	09/15/17 13:56	09/15/17 22:42	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	2.3	500	09/15/17 13:56	09/15/17 22:42	156-60-5	
Tetrachloroethene	44200	mg/kg	2350	500000	09/15/17 13:56	09/19/17 13:22	127-18-4	
Trichloroethene	ND	mg/kg	2.3	500	09/15/17 13:56	09/15/17 22:42	79-01-6	
Vinyl chloride	ND	mg/kg	2.3	500	09/15/17 13:56	09/15/17 22:42	75-01-4	
Surrogates								
Toluene-d8 (S)	107	%	76-124	500	09/15/17 13:56	09/15/17 22:42	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-133	500	09/15/17 13:56	09/15/17 22:42	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	74-131	500	09/15/17 13:56	09/15/17 22:42	17060-07-0	
Dibromofluoromethane (S)	94	%	71-130	500	09/15/17 13:56	09/15/17 22:42	1868-53-7	
Percent Moisture	Analytical Met	hod: ASTM [	02974-87					
Percent Moisture	19.5	%	0.10	1		09/13/17 14:20		

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Project: G11788 2331 Plaza

Pace Project No.: 30229784

Sample: SB-222A @ 5	Lab ID: 302	29784006	Collected: 09/11/1	7 12:35	6 Received: 09	)/12/17 23:10 N	Aatrix: Solid	
Results reported on a "dry weight	" basis and are ad	justed for p	ercent moisture, sa	ample s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Met	hod: EPA 820	60B Preparation Me	ethod: E	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	0.0046	1	09/14/17 13:43	09/14/17 20:12	75-35-4	
cis-1,2-Dichloroethene	17.9	mg/kg	0.24	50	09/15/17 13:56	09/15/17 19:10	156-59-2	
trans-1,2-Dichloroethene	0.15	mg/kg	0.0046	1	09/14/17 13:43	09/14/17 20:12	156-60-5	
Tetrachloroethene	135	mg/kg	2.4	500	09/15/17 13:56	09/15/17 19:37	127-18-4	
Trichloroethene	14.7	mg/kg	0.24	50	09/15/17 13:56	09/15/17 19:10	79-01-6	
Vinyl chloride	0.66	mg/kg	0.24	50	09/15/17 13:56	09/15/17 19:10	75-01-4	
Surrogates								
Toluene-d8 (S)	99	%	76-124	1	09/14/17 13:43	09/14/17 20:12	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-133	1	09/14/17 13:43	09/14/17 20:12	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	74-131	1	09/14/17 13:43	09/14/17 20:12	17060-07-0	
Dibromofluoromethane (S)	95	%	71-130	1	09/14/17 13:43	09/14/17 20:12	1868-53-7	
Percent Moisture	Analytical Met	hod: ASTM [	02974-87					
Percent Moisture	17.8	%	0.10	1		09/13/17 14:20		

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Project: G11788 2331 Plaza

Pace Project No.: 30229784

Sample: SB-223A @ 3	Lab ID: 302	29784007	Collected: 09/11/	17 13:00	Received: 09	9/12/17 23:10 N	/latrix: Solid	
Results reported on a "dry weight	" basis and are adj	justed for p	ercent moisture, s	ample s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Met	hod: EPA 82	60B Preparation M	ethod: E	PA 5035A			
1,1-Dichloroethene	0.018	mg/kg	0.0046	1	09/14/17 13:43	09/14/17 20:37	75-35-4	
cis-1,2-Dichloroethene	32.5	mg/kg	2.7	500	09/15/17 13:56	09/15/17 20:30	156-59-2	
trans-1,2-Dichloroethene	0.25	mg/kg	0.0046	1	09/14/17 13:43	09/14/17 20:37	156-60-5	
Tetrachloroethene	0.14	mg/kg	0.0046	1	09/14/17 13:43	09/14/17 20:37	127-18-4	
Trichloroethene	0.032	mg/kg	0.0046	1	09/14/17 13:43	09/14/17 20:37	79-01-6	
Vinyl chloride	6.0	mg/kg	0.27	50	09/15/17 13:56	09/15/17 20:03	75-01-4	
Surrogates								
Toluene-d8 (S)	96	%	76-124	1	09/14/17 13:43	09/14/17 20:37	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-133	1	09/14/17 13:43	09/14/17 20:37	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	74-131	1	09/14/17 13:43	09/14/17 20:37	17060-07-0	
Dibromofluoromethane (S)	111	%	71-130	1	09/14/17 13:43	09/14/17 20:37	1868-53-7	
Percent Moisture	Analytical Met	hod: ASTM [	02974-87					
Percent Moisture	18.5	%	0.10	1		09/13/17 14:20		

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Project: G11788 2331 Plaza

Pace Project No.: 30229784

Sample: SB-223A @ 5	Lab ID: 302	29784008	Collected: 09/11/	17 13:05	5 Received: 09	0/12/17 23:10 N	Matrix: Solid	
Results reported on a "dry weight	" basis and are ad	justed for p	ercent moisture, sa	ample s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Met	hod: EPA 82	60B Preparation M	ethod: E	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	0.0048	1	09/14/17 13:43	09/14/17 21:03	75-35-4	
cis-1,2-Dichloroethene	0.12	mg/kg	0.0048	1	09/14/17 13:43	09/14/17 21:03	156-59-2	
trans-1,2-Dichloroethene	0.017	mg/kg	0.0048	1	09/14/17 13:43	09/14/17 21:03	156-60-5	
Tetrachloroethene	0.045	mg/kg	0.0048	1	09/14/17 13:43	09/14/17 21:03	127-18-4	
Trichloroethene	ND	mg/kg	0.0048	1	09/14/17 13:43	09/14/17 21:03	79-01-6	
Vinyl chloride	1.7	mg/kg	0.23	50	09/15/17 13:56	09/15/17 20:56	75-01-4	
Surrogates								
Toluene-d8 (S)	96	%	76-124	1	09/14/17 13:43	09/14/17 21:03	2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-133	1	09/14/17 13:43	09/14/17 21:03	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	74-131	1	09/14/17 13:43	09/14/17 21:03	17060-07-0	
Dibromofluoromethane (S)	106	%	71-130	1	09/14/17 13:43	09/14/17 21:03	1868-53-7	
Percent Moisture	Analytical Met	hod: ASTM [	02974-87					
Percent Moisture	21.0	%	0.10	1		09/13/17 14:21		

90



Project: G11788 2331 Plaza

Pace Project No.: 30229784

Sample: SB-223A @ 7	Lab ID: 302	29784009	Collected: 09/11/1	7 13:10	Received: 09	)/12/17 23:10	Matrix: Solid	
Results reported on a "dry weight"	' basis and are adj	usted for p	ercent moisture, sa	ample si	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Meth	nod: EPA 82	60B Preparation Me	ethod: E	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	0.0045	1	09/14/17 13:43	09/14/17 21:29	9 75-35-4	
cis-1,2-Dichloroethene	2.0	mg/kg	0.23	50	09/15/17 13:56	09/15/17 21:22	2 156-59-2	
trans-1,2-Dichloroethene	0.017	mg/kg	0.0045	1	09/14/17 13:43	09/14/17 21:2	9 156-60-5	ML
Tetrachloroethene	1.4	mg/kg	0.23	50	09/15/17 13:56	09/15/17 21:22	2 127-18-4	
Trichloroethene	0.27	mg/kg	0.0045	1	09/14/17 13:43	09/14/17 21:2	9 79-01-6	ML
Vinyl chloride	0.26	mg/kg	0.23	50	09/15/17 13:56	09/15/17 21:22	2 75-01-4	
Surrogates								
Toluene-d8 (S)	97	%	76-124	1	09/14/17 13:43	09/14/17 21:29	9 2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-133	1	09/14/17 13:43	09/14/17 21:2	9 460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	74-131	1	09/14/17 13:43	09/14/17 21:2	9 17060-07-0	
Dibromofluoromethane (S)	93	%	71-130	1	09/14/17 13:43	09/14/17 21:2	9 1868-53-7	
Percent Moisture	Analytical Meth	nod: ASTM I	02974-87					
Percent Moisture	16.2	%	0.10	1		09/13/17 14:2	1	

91



Project: G11788 2331 Plaza

Pace Project No.: 30229784

Sample: Trip Blank	Lab ID: 302	29784010	Collected: 09/11/	7 00:01	Received: 0	9/12/17 23:10 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Met	hod: EPA 82	60B					
1,1-Dichloroethene	ND	ug/L	1.0	1		09/14/17 12:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/14/17 12:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/14/17 12:22	156-60-5	
Tetrachloroethene	ND	ug/L	1.0	1		09/14/17 12:22	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		09/14/17 12:22	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/14/17 12:22	75-01-4	
Surrogates		-						
4-Bromofluorobenzene (S)	98	%	79-129	1		09/14/17 12:22	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	80-120	1		09/14/17 12:22	17060-07-0	
Toluene-d8 (S)	98	%	80-120	1		09/14/17 12:22	2037-26-5	
Dibromofluoromethane (S)	100	%	80-120	1		09/14/17 12:22	1868-53-7	



### **QUALITY CONTROL DATA**

Pace Project No.: 30229784										
QC Batch: 271713			s Method:		PA 8260B					
QC Batch Method: EPA 5035A			is Descripti		260B MSV 5					
	29784001, 30229784 29784009	4002, 302297840	003, 30229	9784004, 30	0229784006	6, 3022978	4007, 3022	9784008,		
METHOD BLANK: 1336722		Ν	latrix: Soli	d						
	29784001, 30229784 29784009	4002, 302297840	003, 30229	9784004, 30	0229784006	6, 3022978	4007, 3022	9784008,		
_		Blank		eporting						
Parameter	Units	Result	t	Limit	Analyz	ed	Qualifiers			
1,1-Dichloroethene	mg/kg		ND	0.0050	09/14/17	13:21				
cis-1,2-Dichloroethene	mg/kg		ND	0.0050	09/14/17	13:21				
Tetrachloroethene	mg/kg		ND	0.0050	09/14/17	13:21				
rans-1,2-Dichloroethene	mg/kg		ND	0.0050						
Trichloroethene	mg/kg		ND	0.0050						
/inyl chloride	mg/kg		ND	0.0050						
I,2-Dichloroethane-d4 (S)	%		105	74-131						
4-Bromofluorobenzene (S)	%		97	70-133						
Dibromofluoromethane (S) Toluene-d8 (S)	% %		103 95	71-130 76-124						
	70		00	10 124	00/14/17	10.21				
		Spike	LCS		LCS	% Red				
ABORATORY CONTROL SAMF Parameter	PLE: 1336723	Spike Conc.	LCS Resul		LCS % Rec	% Red Limits		ualifiers		
Parameter 1,1-Dichloroethene		•	Resu			Limits		ualifiers		
Parameter 1,1-Dichloroethene cis-1,2-Dichloroethene	Units mg/kg mg/kg	.02 .02	Resul	lt 0.016 0.017	% Rec 80 83	Limits 70 70	Qu -130 -130	ualifiers		
Parameter 1,1-Dichloroethene cis-1,2-Dichloroethene Fetrachloroethene	Units mg/kg mg/kg mg/kg	Conc. .02 .02 .02	Resul	lt 0.016 0.017 0.018	% Rec 80 83 89	Limits 70 70 70	Qu -130 -130 -130	ualifiers		
Parameter 1,1-Dichloroethene cis-1,2-Dichloroethene Tetrachloroethene trans-1,2-Dichloroethene	Units mg/kg mg/kg mg/kg mg/kg	Conc. .02 .02 .02 .02 .02	Resul	lt 0.016 0.017 0.018 0.016	% Rec 80 83 89 78	Limits 70 70 70 70	Qi -130 -130 -130 -130	ualifiers		
Parameter 1,1-Dichloroethene cis-1,2-Dichloroethene Tetrachloroethene rrans-1,2-Dichloroethene Trichloroethene	Units mg/kg mg/kg mg/kg mg/kg	Conc. .02 .02 .02 .02 .02 .02	Resul	lt 0.016 0.017 0.018 0.016 0.018	% Rec 80 83 89 78 89	Limits 70 70 70 70 70 70	Qi -130 -130 -130 -130 -130	ualifiers		
Parameter 1,1-Dichloroethene cis-1,2-Dichloroethene Tetrachloroethene trans-1,2-Dichloroethene Trichloroethene Vinyl chloride	Units mg/kg mg/kg mg/kg mg/kg mg/kg	Conc. .02 .02 .02 .02 .02	Resul	lt 0.016 0.017 0.018 0.016	% Rec 80 83 89 78 89 94	Limits 70 70 70 70 70 70	Qu -130 -130 -130 -130 -130 -130 -130	Jalifiers		
Parameter 1,1-Dichloroethene cis-1,2-Dichloroethene Tetrachloroethene trans-1,2-Dichloroethene Trichloroethene Vinyl chloride 1,2-Dichloroethane-d4 (S)	Units mg/kg mg/kg mg/kg mg/kg mg/kg %	Conc. .02 .02 .02 .02 .02 .02	Resul	lt 0.016 0.017 0.018 0.016 0.018	% Rec 80 83 89 78 89 94 101	Limits 70 70 70 70 70 70 70 74	Qi -130 -130 -130 -130 -130 -130 -131	ualifiers		
Parameter 1,1-Dichloroethene cis-1,2-Dichloroethene Tetrachloroethene trans-1,2-Dichloroethene Trichloroethene Vinyl chloride 1,2-Dichloroethane-d4 (S) 4-Bromofluorobenzene (S)	Units mg/kg mg/kg mg/kg mg/kg mg/kg % %	Conc. .02 .02 .02 .02 .02 .02	Resul	lt 0.016 0.017 0.018 0.016 0.018	% Rec 80 83 89 78 89 94 101 99	Limits 70 70 70 70 70 70 70 70 70 70 74 70	Question -130 -130 -130 -130 -130 -130 -131 -131	ualifiers		
Parameter 1,1-Dichloroethene cis-1,2-Dichloroethene Tetrachloroethene trans-1,2-Dichloroethene Trichloroethene Vinyl chloride 1,2-Dichloroethane-d4 (S) 4-Bromofluorobenzene (S) Dibromofluoromethane (S)	Units mg/kg mg/kg mg/kg mg/kg mg/kg %	Conc. .02 .02 .02 .02 .02 .02	Resul	lt 0.016 0.017 0.018 0.016 0.018	% Rec 80 83 89 78 89 94 101	Limits 70 70 70 70 70 70 74 70 71	Qi -130 -130 -130 -130 -130 -130 -131	Jalifiers		
Parameter 1,1-Dichloroethene cis-1,2-Dichloroethene Tetrachloroethene trans-1,2-Dichloroethene Trichloroethene Vinyl chloride 1,2-Dichloroethane-d4 (S) 4-Bromofluorobenzene (S) Dibromofluoromethane (S) Toluene-d8 (S)	Units mg/kg mg/kg mg/kg mg/kg mg/kg % % % %	Conc. .02 .02 .02 .02 .02 .02	Resul	It 0.016 0.017 0.018 0.016 0.018 0.018 0.019	% Rec 80 83 89 78 89 94 101 99 94	Limits 70 70 70 70 70 70 74 70 71	Question of the second	ualifiers		
LABORATORY CONTROL SAMP Parameter 1,1-Dichloroethene cis-1,2-Dichloroethene Trachloroethene trans-1,2-Dichloroethene Trichloroethene Vinyl chloride 1,2-Dichloroethane-d4 (S) 4-Bromofluorobenzene (S) Dibromofluoromethane (S) Toluene-d8 (S) MATRIX SPIKE & MATRIX SPIKE	Units mg/kg mg/kg mg/kg mg/kg mg/kg % % % %	Conc. .02 .02 .02 .02 .02 .02	Resul	lt 0.016 0.017 0.018 0.016 0.018	% Rec 80 83 89 78 89 94 101 99 94	Limits 70 70 70 70 70 70 74 70 71	Question of the second	Jalifiers		
Parameter 1,1-Dichloroethene cis-1,2-Dichloroethene Tetrachloroethene trans-1,2-Dichloroethene Trichloroethene Vinyl chloride 1,2-Dichloroethane-d4 (S) 4-Bromofluorobenzene (S) Dibromofluoromethane (S) Toluene-d8 (S)	Units mg/kg mg/kg mg/kg mg/kg mg/kg % % %	Conc. .02 .02 .02 .02 .02 .02 .02	MSD	lt 0.016 0.017 0.018 0.016 0.018 0.019 1336725	% Rec 80 83 89 78 89 94 101 99 94 99	Limits 70 70 70 70 70 70 70 70 70 71 76	Question of the second			
Parameter 1,1-Dichloroethene cis-1,2-Dichloroethene Tetrachloroethene trans-1,2-Dichloroethene Trichloroethene Vinyl chloride 1,2-Dichloroethane-d4 (S) 4-Bromofluorobenzene (S) Dibromofluoromethane (S) Toluene-d8 (S) MATRIX SPIKE & MATRIX SPIKE	Units mg/kg mg/kg mg/kg mg/kg mg/kg % % % %	Conc. .02 .02 .02 .02 .02 .02 .02 .02 .02 .0	MSD Spike	lt 0.016 0.017 0.018 0.016 0.018 0.019 1336725 MS	% Rec 80 83 89 78 89 94 101 99 94 99 94 99	Limits 70 70 70 70 70 70 70 70 70 70 71 76	Que -130 -130 -130 -130 -130 -130 -131 -133 -130 -133 -130 -132 MSD	% Rec	RPD	Qua
Parameter 1,1-Dichloroethene cis-1,2-Dichloroethene Tetrachloroethene trans-1,2-Dichloroethene Trichloroethene Vinyl chloride 1,2-Dichloroethane-d4 (S) 4-Bromofluorobenzene (S) Dibromofluoromethane (S) Toluene-d8 (S) MATRIX SPIKE & MATRIX SPIKE Parameter	Units mg/kg mg/kg mg/kg mg/kg mg/kg % % % % % % % % % % % % % % % % % % %	Conc. .02 .02 .02 .02 .02 .02 .02 .02 .02 .0	MSD Spike Conc.	lt 0.016 0.017 0.018 0.016 0.018 0.018 0.019 1336725 MS Result	% Rec 80 83 89 78 89 94 101 99 94 99 94 99	Limits 70 70 70 70 70 70 70 70 70 70 70 70 70	Question of the second	% Rec Limits	RPD	Qua
Parameter 1,1-Dichloroethene cis-1,2-Dichloroethene Tetrachloroethene trans-1,2-Dichloroethene Trichloroethene Vinyl chloride 1,2-Dichloroethane-d4 (S) 4-Bromofluorobenzene (S) Dibromofluoromethane (S) Toluene-d8 (S) MATRIX SPIKE & MATRIX SPIKE Parameter 1,1-Dichloroethene	Units mg/kg mg/kg mg/kg mg/kg mg/kg % % % % % % % % % % % % % % % % % % %	Conc. .02 .02 .02 .02 .02 .02 .02 .02 .02 .0	MSD Spike Conc.	It 0.016 0.017 0.018 0.016 0.018 0.018 0.019 1336725 MS Result 0.013	% Rec 80 83 89 78 89 94 101 99 94 99 94 99 94 99 94 99	Limits 70 70 70 70 70 70 70 70 70 70 70 70 70	Que -130 -130 -130 -130 -130 -131 -133 -131 -133 -130 -124 MSD % Rec 83	% Rec Limits 45-122	13	
Parameter 1,1-Dichloroethene cis-1,2-Dichloroethene Fetrachloroethene rans-1,2-Dichloroethene Trichloroethene /inyl chloride 1,2-Dichloroethane-d4 (S) 4-Bromofluorobenzene (S) Dibromofluoromethane (S) Toluene-d8 (S) MATRIX SPIKE & MATRIX SPIKE Parameter 1,1-Dichloroethene rans-1,2-Dichloroethene	Units mg/kg mg/kg mg/kg mg/kg mg/kg % % % % % % % % % % % % % % % % % % %	Conc. .02 .02 .02 .02 .02 .02 .02 .02 .02 .0	MSD Spike Conc. .018 .018	It 0.016 0.017 0.018 0.016 0.018 0.019 1336725 MS Result 0.013 0.023	% Rec 80 83 89 78 89 94 101 99 94 99 94 99 94 99 94 99 94 99	Limits 70 70 70 70 70 70 70 70 70 70 70 70 70	A Que Control	% Rec Limits 45-122 38-117	13 5 ML	
Parameter 1,1-Dichloroethene cis-1,2-Dichloroethene Tetrachloroethene trans-1,2-Dichloroethene Trichloroethene Vinyl chloride 1,2-Dichloroethane-d4 (S) 4-Bromofluorobenzene (S) Dibromofluoromethane (S) Toluene-d8 (S) MATRIX SPIKE & MATRIX SPIKE Parameter 1,1-Dichloroethene trans-1,2-Dichloroethene Trichloroethene	Units mg/kg mg/kg mg/kg mg/kg mg/kg % % % % % % % % % % % % % % % % % % %	Conc. .02 .02 .02 .02 .02 .02 .02 .02 .02 .0	MSD Spike Conc.	It 0.016 0.017 0.018 0.016 0.018 0.018 0.019 1336725 MS Result 0.013	% Rec 80 83 89 78 89 94 101 99 94 99 94 99 94 99 94 99	Limits 70 70 70 70 70 70 70 70 70 70 70 70 70	A-130 -130 -130 -130 -130 -130 -131 -133 -130 -131 -133 -130 -124 MSD % Rec 83 40 -570	% Rec Limits 45-122 38-117 39-118	13	
Parameter 1,1-Dichloroethene cis-1,2-Dichloroethene Tetrachloroethene trans-1,2-Dichloroethene Trichloroethene Vinyl chloride 1,2-Dichloroethane-d4 (S) 4-Bromofluorobenzene (S) Dibromofluoromethane (S) Toluene-d8 (S) MATRIX SPIKE & MATRIX SPIKE Parameter 1,1-Dichloroethene trans-1,2-Dichloroethene Trichloroethene 1,2-Dichloroethene 1,2-Dichloroethene 1,2-Dichloroethene 1,2-Dichloroethane-d4 (S)	Units mg/kg mg/kg mg/kg mg/kg mg/kg % % % % % % % % % % % % % % % % % % %	Conc. .02 .02 .02 .02 .02 .02 .02 .02 .02 .0	MSD Spike Conc. .018 .018	It 0.016 0.017 0.018 0.016 0.018 0.019 1336725 MS Result 0.013 0.023	% Rec 80 83 89 78 89 94 101 99 94 99 94 99 94 99 94 99 94 99	Limits 70 70 70 70 70 70 70 70 70 70 70 70 70	MSD % Rec % Rec % Rec % Rec % 83 40 -570 95	% Rec Limits 45-122 38-117 39-118 74-131	13 5 ML	
Parameter 1,1-Dichloroethene cis-1,2-Dichloroethene Tetrachloroethene trans-1,2-Dichloroethene Trichloroethene Vinyl chloride 1,2-Dichloroethane-d4 (S) 4-Bromofluorobenzene (S) Dibromofluoromethane (S) Toluene-d8 (S) MATRIX SPIKE & MATRIX SPIKE	Units mg/kg mg/kg mg/kg mg/kg mg/kg % % % % % % % % % % % % % % % % % % %	Conc. .02 .02 .02 .02 .02 .02 .02 .02 .02 .0	MSD Spike Conc. .018 .018	It 0.016 0.017 0.018 0.016 0.018 0.019 1336725 MS Result 0.013 0.023	% Rec 80 83 89 78 89 94 101 99 94 99 94 99 94 99 94 99 94 99	Limits 70 70 70 70 70 70 70 70 70 70 70 70 70	A-130 -130 -130 -130 -130 -130 -131 -133 -130 -131 -133 -130 -124 MSD % Rec 83 40 -570	% Rec Limits 45-122 38-117 39-118	13 5 ML	

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### **REPORT OF LABORATORY ANALYSIS**

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C11700 0001 Diaza

Drainat

### **QUALITY CONTROL DATA**

Project: G1178	8 2331 Plaza										
Pace Project No.: 30229	784										
QC Batch: 2718	50		Analysi	is Method	: E	PA 8260B					
QC Batch Method: EPA	5035A		Analysi	is Descrip	tion: 8	260B MSV 5	5035 Low				
Associated Lab Samples:	30229784001, 30	0229784002	, 30229784	003, 3022	9784004, 3	022978400	5, 3022978	4006, 3022	29784007	,	
	30229784008, 30	0229784009									
METHOD BLANK: 13375	94		N	latrix: Sol	lid						
Associated Lab Samples:	30229784001, 30 30229784008, 30			003, 3022	9784004, 3	0229784005	5, 3022978	4006, 3022	29784007,	,	
			Blank	R	Reporting						
Parameter		Units	Result	t	Limit	Analyz	ed	Qualifiers			
1,1-Dichloroethene		mg/kg		ND	0.25	09/15/17	13:00				
cis-1,2-Dichloroethene		mg/kg		ND	0.25	09/15/17	13:00				
Tetrachloroethene		mg/kg		ND	0.25	09/15/17	13:00				
trans-1,2-Dichloroethene		mg/kg		ND	0.25	09/15/17	13:00				
Trichloroethene		mg/kg		ND	0.25	09/15/17	13:00				
Vinyl chloride		mg/kg		ND	0.25	09/15/17	13:00				
1,2-Dichloroethane-d4 (S)		%		95	74-131	09/15/17	13:00				
4-Bromofluorobenzene (S)		%		95	70-133	09/15/17	13:00				
Dibromofluoromethane (S)		%		92	71-130						
Toluene-d8 (S)		%		98	76-124	09/15/17	13:00				
Parameter		Units	Spike Conc.	Resu		% Rec	Limits		ualifiers	_	
1,1-Dichloroethene		mg/kg	.02 .02		0.018 0.019	88 94		-130 -130			
cis-1,2-Dichloroethene Tetrachloroethene		mg/kg mg/kg	.02		0.019	94 83		-130			
trans-1,2-Dichloroethene		mg/kg	.02		0.017	93		-130			
Trichloroethene		mg/kg	.02		0.013	85		-130			
Vinyl chloride		mg/kg	.02		0.020	101		-130			
1,2-Dichloroethane-d4 (S)		%	.02		0.020	92		-131			
4-Bromofluorobenzene (S)		%				95		-133			
Dibromofluoromethane (S)		%				96		-130			
Toluene-d8 (S)		%				97	76	-124			
		F. 40075	00		4007507						
MATRIX SPIKE & MATRIX			MS	MSD	1337597						
Parameter	302 Units	229784009 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
				CONC.			70 Rec				Qual
1,1-Dichloroethene	mg/kg	ND			0.61	0.51				17	
cis-1,2-Dichloroethene	mg/kg	2.0	.93	.93		2.8	105	88			
Tetrachloroethene	mg/kg	1.4	.93	.93	2.1	1.9	77	55	38-127		
trans-1,2-Dichloroethene	mg/kg	0.017			0.75	0.71				5	
Trichloroethene	mg/kg	0.27	~~		1.1	0.97			00.403	9	
Vinyl chloride	mg/kg	0.26	.93	.93	0.98	0.85	77	62	30-121	15	

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92

95

90

92

74-131

70-133

## **REPORT OF LABORATORY ANALYSIS**

1,2-Dichloroethane-d4 (S)

4-Bromofluorobenzene (S)

% %

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Project: G11788 2331 Plaza Pace Project No.: 30229784

MATRIX SPIKE & MATRIX SPIK	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1337596										
	302	229784009	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	Qual
Dibromofluoromethane (S)	%						95	94	71-130		
Toluene-d8 (S)	%						101	99	76-124		

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



Project: G11788 2331 Plaza

Pace Project No.: 30229784

QC Batch: 2716	66	Analysis Meth	nod: EF	A 8260B				
QC Batch Method: EPA 8	3260B	Analysis Des	Analysis Description: 82		8260B MSV			
Associated Lab Samples:	30229784010							
METHOD BLANK: 133651	12	Matrix:	Water					
Associated Lab Samples:	30229784010							
		Blank	Reporting					
Parameter	Units	Result	Limit	Analyzed	Qualifiers			
1,1-Dichloroethene	ug/L	ND	1.0	09/14/17 11:55				
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/14/17 11:55				
Tetrachloroethene	ug/L	ND	1.0	09/14/17 11:55				
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/14/17 11:55				
Trichloroethene	ug/L	ND	1.0	09/14/17 11:55				
Vinyl chloride	ug/L	ND	1.0	09/14/17 11:55				
1,2-Dichloroethane-d4 (S)	%	102	80-120	09/14/17 11:55				
4-Bromofluorobenzene (S)	%	100	79-129	09/14/17 11:55				
Dibromofluoromethane (S)	%	98	80-120	09/14/17 11:55				
Toluene-d8 (S)	%	97	80-120	09/14/17 11:55				

LABORATORY CONTROL SAMPLE:	1336513
	1000010

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Falallelei				70 Rec		Quaimers
1,1-Dichloroethene	ug/L	20	18.4	92	70-130	
cis-1,2-Dichloroethene	ug/L	20	19.1	95	70-130	
Tetrachloroethene	ug/L	20	18.5	92	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.9	95	70-130	
Trichloroethene	ug/L	20	18.9	95	70-130	
Vinyl chloride	ug/L	20	17.6	88	70-130	
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			101	79-129	
Dibromofluoromethane (S)	%			100	80-120	
Toluene-d8 (S)	%			98	80-120	

ATRIX SPIKE & MATRIX SPIK		E: 13367	MS	MSD	1336750						
	302	229836001	Spike	Spike	MS	MSD	MS	MSD	% Rec		
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	Qua
,1-Dichloroethene	ug/L	ND	20	20	19.1	19.7	96	99	63-126	3	
is-1,2-Dichloroethene	ug/L	ND	20	20	18.9	19.7	95	99	65-120	4	
etrachloroethene	ug/L	ND	20	20	18.5	19.7	93	99	77-125	6	
rans-1,2-Dichloroethene	ug/L	ND	20	20	19.0	19.8	95	99	70-119	4	
richloroethene	ug/L	ND	20	20	18.9	19.6	95	98	74-128	3	
/inyl chloride	ug/L	ND			ND	ND					
,2-Dichloroethane-d4 (S)	%						100	95	80-120		
-Bromofluorobenzene (S)	%						98	98	79-129		
Dibromofluoromethane (S)	%						100	99	80-120		

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

### **REPORT OF LABORATORY ANALYSIS**

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Project: G11788 2331 Plaza Pace Project No.: 30229784

MATRIX SPIKE & MATRIX SP	IKE DUPLICAT	E: 13367	49		1336750						
	302	229836001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	Qual
Toluene-d8 (S)	%						97	98	80-120		

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



Project:	G11788 2331 Plaza	a						
Pace Project No.:	30229784							
QC Batch:	271572		Analysis Meth	Analysis Method:				
QC Batch Method:	ASTM D2974-87		Analysis Desc	cription:	: Dry Weight/Percent Moisture			
Associated Lab Sar		001, 30229784002 008, 30229784009	, ,	)229784004,	30229784005	, 302	229784006, 30229784007,	
SAMPLE DUPLICA	TE: 1336027							
			30229804001	Dup				
Parar	neter	Units	Result	Result	RPD		Qualifiers	
Percent Moisture		%	27.7	28	.1	2		
SAMPLE DUPLICA	TE: 1336028							
			30229804002	Dup				
Parar	neter	Units	Result	Result	RPD		Qualifiers	
Percent Moisture		%	27.1	26	.9	1		

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



### QUALIFIERS

# Project: G11788 2331 Plaza

Pace Project No.: 30229784

### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

#### ANALYTE QUALIFIERS

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.



## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: G11788 2331 Plaza Pace Project No.: 30229784

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch	
30229784001	SB-221A @ 3	EPA 5035A	271713	EPA 8260B	271724	
30229784001	SB-221A @ 3	EPA 5035A	271850	EPA 8260B	271873	
30229784002	SB-221A @ 5	EPA 5035A	271713	EPA 8260B	271724	
30229784002	SB-221A @ 5	EPA 5035A	271850	EPA 8260B	271873	
30229784003	SB-221A @ 7	EPA 5035A	271713	EPA 8260B	271724	
30229784003	SB-221A @ 7	EPA 5035A	271850	EPA 8260B	271873	
30229784004	SB-221A @ 10	EPA 5035A	271713	EPA 8260B	271724	
30229784004 30229784005	SB-221A @ 10 SB-221B @ 3	EPA 5035A EPA 5035A	271850 271850	EPA 8260B EPA 8260B	271873 271873	
30229784006	SB-222A @ 5	EPA 5035A	271713	EPA 8260B	271724	
80229784006	SB-222A @ 5	EPA 5035A	271850	EPA 8260B	271873	
30229784007	SB-223A @ 3	EPA 5035A	271713	EPA 8260B	271724	
30229784007	SB-223A @ 3	EPA 5035A	271850	EPA 8260B	271873	
30229784008	SB-223A @ 5	EPA 5035A	271713	EPA 8260B	271724	
30229784008	SB-223A @ 5	EPA 5035A	271850	EPA 8260B	271873	
30229784009	SB-223A @ 7	EPA 5035A	271713	EPA 8260B	271724	
30229784009	SB-223A @ 7	EPA 5035A	271850	EPA 8260B	271873	
30229784010	Trip Blank	EPA 8260B	271666			
30229784001 30229784002 30229784003 30229784004 30229784005 30229784006 30229784007 30229784008	SB-221A @ 3 SB-221A @ 5 SB-221A @ 7 SB-221A @ 10 SB-221B @ 3 SB-222A @ 5 SB-223A @ 3 SB-223A @ 5	ASTM D2974-87 ASTM D2974-87 ASTM D2974-87 ASTM D2974-87 ASTM D2974-87 ASTM D2974-87 ASTM D2974-87 ASTM D2974-87	271572 271572 271572 271572 271572 271572 271572 271572 271572			
30229784009	SB-223A @ 7	ASTM D2974-87	271572			

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Pace Project No./ Lab I.D. Samples Intact (V/Y) DRINKING WATER F-ALL-Q-020rev.07, 15-May-2007 S SAMPLE CONDITIONS OTHER 0 Custody Sealed Cooler (Y/N) 10 2 Ś ď, Cuard L., Į (N/X) 90] Received on GROUND WATER V V --[ Residual Chlorine (Y/N) O° ni qm∋T Page: REGULATORY AGENCY RCRA  $\leq \frac{1}{2}$ Requested Analysis Filtered (Y/N) TIME 600 100 ( Site Location STATE: 404 NPDES DATE Charles UST ðÞ คน I... 2 250 Î DATE Signed (MM/DD/Y): t Va Sunna ACCEPTED BY / AFFILIATION r f Ζ nése Ahn unhi 171 22412 51 7 <u>707</u> 172 Analysis Test 1 N /A NNVORE Will Ofher Ľ voices not paid within 30 days lonedteM Preservatives <sup>c</sup>O<sup>z</sup>S<sup>z</sup>eN Chros HOBN ace Profile #: ( ) IOH ( Invoice Information <sup>E</sup>ONH Company Name NC NC ⁰OS²H Pace Quote Reference: Pace Project Section C Unpreserved TIME Attention: 2/0 Address: ent terms and agreeing to late charges of 1.5% per month for any in /lanager: d. 4 # OF CONTAINERS SAMPLER NAME AND SIGNATURE SIGNATURE of SAMPLER: PRINT Name of SAMPLER: SAMPLE TEMP AT COLLECTION DATE 712355 ましのた TIME 30 3 COMPOSITE END/GRAB \$ Å DATE COLLECTED C ð T 6 / AFFILIATION 2 TIME COMPOSITE START 0 RELINQUISHED B DATE N Required Project Information: ð, H 6 urchase Order No.: (9MOD=0 8A99=0) SAMPLE TYPE  $\mathfrak{h}$ J P 6 5 Q S 12  $\mathcal{A}$ Ìέ Project Number. (see valid codes to left) MATRIX CODE K, Project Name; М Section B Report To: Copy To: 8₽§ P AR WP OL S P Matrix Codes MATRIX / CODE Drinking Water Water Waste Water Product Solid Oil Wipe Åir Tissue Other :30229784 Con. 3 Satucher da ADDITIONAL COMMENTS (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE Pace Analytical ww.pacelabs.com SAMPLE ID Required Client Information Required Client Information: Requested Due Date/TAT: ł . #ОМ 1 30229 Section D Section A Sompany vddress: Ŕ Page 23 of 24 10 4 ŝ ശ თ 7-7-2 # WETI **~**~ 2 ŝ 5 ∞

CHAIN-OF-CUSTODY / Analytical Request Document

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

Pace Analytical Client Name: Courier: Fed Ex UPS USPS Client Tracking #: Custody Seal on Cooler/Box Present: yes Thermometer Used Cooler Temperature Observed Temp 5. Temp should be above freezing to 6°C	Ŧ	AN no	nercial N 9		Project #
Tracking #: Custody Seal on Cooler/Box Present: yes ~ Thermometer Used Cooler Temperature Observed Temp Temp should be above freezing to 6°C	Ŧ	AN no			Label CDL
Custody Seal on Cooler/Box Present: Use Thermometer Used Cooler Temperature Observed Temp Temp should be above freezing to 6°C				1511	
Thermometer Used <u>6</u> Cooler Temperature Observed Temp <u>5</u> Temp should be above freezing to 6°C			Seal	sintact: 🗍 yes	
Cooler Temperature Observed Temp	<u>, 8</u>	ofice	and Da	) Blue None	
Temp should be above freezing to 6°C	1 ()	° C		<i>1</i>	, () °C Final Temp: S₂ S °C
	-	_	000		
					Date and Initials of person examining contents:
Comments:	Yes	No	N/A	]	contents: 17112 9213 1
Chain of Custody Present:	X			1.	
Chain of Custody Filled Out:	X	1		2.	
Chain of Custody Relinquished:	ÌX	1		3.	
Sampler Name & Signature on COC:	Ń		1	4.	
Sample Labels match COC:			1	5.	
-Includes date/time/ID Matrix:	ĽÌ	IM	<u> </u>	1	
Samples Arrived within Hold Time:	X	<u>,</u>	<u> </u>	6.	· · · · · · · · · · · · · · · · · · ·
Short Hold Time Analysis (<72hr remaining):		X	+	7.	
Rush Turn Around Time Requested:	X	<u>/_`</u>		8.	
			<u> </u>	9.	
Sufficient Volume:	$\overleftrightarrow$			10.	
Correct Containers Used:	$\overline{\checkmark}$			10.	
-Pace Containers Used:	$\leftrightarrow$	[			
Containers Intact:	$\overline{\Delta}$			11.	
Orthophosphate field filtered			H�-	12.	
Hex Cr Aqueous Compliance/NPDES sample field filtered			Ŕ	13.	
Organic Samples checked for dechlorination:			$\left  \leftrightarrow \right $	14.	
Filtered volume received for Dissolved tests All containers have been checked for preservation.			ŀÀ	15.	
An containers have been checked for preservation.			ĻΆ	16.	
All containers needing preservation are found to be in compliance with EPA recommendation.			X		
-	I		L	Initial when $\Omega_{-}\Omega_{-}$	Date/time of
exceptions: (VOA) coliform, TOC, O&G, Phenolics				completed ML	preservation
$\bigcirc$				Lot # of added preservative	
Headspace in VOA Vials ( >6mm):		$\overline{\mathbf{X}}$			
Trip Blank Present:	$\mathbf{X}$	_ <u>/``</u> _		18.	
Trip Blank Custody Seals Present	$\preccurlyeq$	-			
Rad Aqueous Samples Screened > 0.5 mrem/hr			1 34 1	Initial when	Date:
			· -	completed:	Date:
Client Notification/ Resolution:			Data	ime:	Contacted By:
Person Contacted:			Date/⊺	BIIC.	
Comments/Resolution:	< .	Par	- 0,	ample (	Wa
VUTTE	<u> </u>	$\Delta 0$	<u>&gt;(</u>	aupre C	
	. <u> </u>				·····

## □ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, **409**py of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.



Pace Analytical Services, LLC 1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

December 07, 2017

Steve Vedder EPSVT-Hbg 1539 Bobali Drive Harrisburg, PA 17104

RE: Project: G11788 Plaza 2331 Pace Project No.: 30237071

Dear Steve Vedder:

Enclosed are the analytical results for sample(s) received by the laboratory on November 27, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Carino a. Ferris

Carin Ferris carin.ferris@pacelabs.com 724-850-5615 Project Manager

Enclosures

cc: Mr. Charlie Bisking, EPSVT-Hbg Ben Freels, EPSVT-Hbg EPS Harrisburg, EPSVT-Hbg Mr. John Horner, EPSVT-Hbg Mr. Ben Logan, EPSVT-Hbg Ms. Ashley Nelson, EPSVT-Hbg Ms. Deb Sweikert, EPSVT-Hbg



## **REPORT OF LABORATORY ANALYSIS**

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### CERTIFICATIONS

Project: G11788 Plaza 2331 Pace Project No.: 30237071

#### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601 L-A-B DOD-ELAP Accreditation #: L2417 Alabama Certification #: 41590 Arizona Certification #: AZ0734 Arkansas Certification California Certification #: 04222CA Colorado Certification Connecticut Certification #: PH-0694 **Delaware Certification** Florida/TNI Certification #: E87683 Georgia Certification #: C040 **Guam Certification** Hawaii Certification Idaho Certification **Illinois Certification** Indiana Certification Iowa Certification #: 391 Kansas/TNI Certification #: E-10358 Kentucky Certification #: 90133 Louisiana DHH/TNI Certification #: LA140008 Louisiana DEQ/TNI Certification #: 4086 Maine Certification #: PA00091 Maryland Certification #: 308 Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification Missouri Certification #: 235

Montana Certification #: Cert 0082 Nebraska Certification #: NE-05-29-14 Nevada Certification #: PA014572015-1 New Hampshire/TNI Certification #: 2976 New Jersey/TNI Certification #: PA 051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Oregon/TNI Certification #: PA200002 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282 South Dakota Certification Tennessee Certification #: TN2867 Texas/TNI Certification #: T104704188-14-8 Utah/TNI Certification #: PA014572015-5 USDA Soil Permit #: P330-14-00213 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 460198 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C Wisconsin Certification Wyoming Certification #: 8TMS-L

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### **PROJECT NARRATIVE**

Project: G11788 Plaza 2331 Pace Project No.: 30237071

#### Method: EPA 8260B

Description:8260B MSV 5035 Low LevelClient:EPS of Vermont - HarrisburgDate:December 07, 2017

### General Information:

6 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 5035A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### QC Batch: 281147

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

### QC Batch: 281345

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

### Additional Comments:

Analyte Comments:

### QC Batch: 281147

1c: A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

- EPS 338 @ 5 (Lab ID: 30237071007)
  - 1,1-Dichloroethene

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## **PROJECT NARRATIVE**

Project:G11788 Plaza 2331Pace Project No.:30237071

Description: Client:	EPA 8260B 8260B MSV 5035 Low Level EPS of Vermont - Harrisburg December 07, 2017					
Analyte Comments:						
QC Batch: 28						
	natrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.					
	PS 338 @ 5 (Lab ID: 30237071007) • trans-1,2-Dichloroethene					
	• Vinyl chloride					
	PS-336 @ 15 (Lab ID: 30237071003)					
	• 1,1-Dichloroethene					
	• trans-1,2-Dichloroethene					
	Vinyl chloride					
• El	PS-336@5 (Lab ID: 30237071001)					
	• 1,1-Dichloroethene					
	• trans-1,2-Dichloroethene					
	PS-336@9.5 (Lab ID: 30237071002)					
	1,1-Dichloroethene     trans-1,2-Dichloroethene					
	• Vinyl chloride					
	PS-337 @10 (Lab ID: 30237071005)					
	• 1,1-Dichloroethene					
	• trans-1,2-Dichloroethene					
	Vinyl chloride					
QC Batch: 28	1345					
1c: A i	natrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.					
• El	PS 338 @ 5 (Lab ID: 30237071007)					
	• cis-1,2-Dichloroethene					
	Tetrachloroethene					
	Trichloroethene					
	PS-336 @ 15 (Lab ID: 30237071003)					
	• cis-1,2-Dichloroethene • Tetrachloroethene					
	Trichloroethene					
	PS-336@5 (Lab ID: 30237071001)					
	• cis-1,2-Dichloroethene					
	• Tetrachloroethene					
	Trichloroethene					
	Vinyl chloride					
	PS-336@9.5 (Lab ID: 30237071002)					
	• cis-1,2-Dichloroethene					
	• Trichloroethene PS-337 @ 5 (Lab ID: 30237071004)					
	• 1,1-Dichloroethene					
	• cis-1,2-Dichloroethene					
	• trans-1,2-Dichloroethene					
	• Trichloroethene 106					



## **PROJECT NARRATIVE**

Project: G11788 Plaza 2331 Pace Project No.: 30237071

Method:	EPA 8260B
<b>Description:</b>	8260B MSV 5035 Low Level
Client:	EPS of Vermont - Harrisburg
Date:	December 07, 2017

Analyte Comments:

QC Batch: 281345

1c: A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

• EPS-337 @ 5 (Lab ID: 30237071004)

• Vinyl chloride

• EPS-337 @10 (Lab ID: 30237071005)

• cis-1,2-Dichloroethene

Trichloroethene

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## **REPORT OF LABORATORY ANALYSIS**



## **PROJECT NARRATIVE**

Project: G11788 Plaza 2331 Pace Project No.: 30237071

## -----

# Method: EPA 8260B

Description:8260B MSVClient:EPS of Vermont - HarrisburgDate:December 07, 2017

## General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### **Internal Standards:**

All internal standards were within QC limits with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.



Project: G11788 Plaza 2331

Pace Project No.: 30237071

Sample: EPS-336@5	Lab ID: 302	37071001	Collected: 11/27/1	7 09:15	Received: 11	/27/17 22:25	Matrix: Solid	
Results reported on a "dry weight	t" basis and are adj	usted for p	ercent moisture, sa	ample s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Mether	nod: EPA 82	60B Preparation Me	ethod: E	PA 5035A			
1,1-Dichloroethene	0.057	mg/kg	0.0044	1	12/05/17 08:00	12/05/17 10:50	75-35-4	1c
cis-1,2-Dichloroethene	30.7	mg/kg	2.2	500	12/06/17 08:00	12/06/17 18:20	156-59-2	1c
trans-1,2-Dichloroethene	0.32	mg/kg	0.0044	1	12/05/17 08:00	12/05/17 10:50	156-60-5	1c
Tetrachloroethene	27.8	mg/kg	2.2	500	12/06/17 08:00	12/06/17 18:20	127-18-4	1c
Trichloroethene	8.8	mg/kg	0.22	50	12/06/17 08:00	12/06/17 17:54	79-01-6	1c
Vinyl chloride	2.6	mg/kg	0.22	50	12/06/17 08:00	12/06/17 17:54	75-01-4	1c
Surrogates								
Toluene-d8 (S)	103	%	76-124	1	12/05/17 08:00	12/05/17 10:50	2037-26-5	
4-Bromofluorobenzene (S)	107	%	70-133	1	12/05/17 08:00	12/05/17 10:50	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	74-131	1	12/05/17 08:00	12/05/17 10:50	17060-07-0	
Dibromofluoromethane (S)	115	%	71-130	1	12/05/17 08:00	12/05/17 10:50	1868-53-7	
Percent Moisture	Analytical Mether	nod: ASTM I	02974-87					
Percent Moisture	18.2	%	0.10	1		12/02/17 12:52	2	

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## **REPORT OF LABORATORY ANALYSIS**



Project: G11788 Plaza 2331

Pace Project No.: 30237071

Sample: EPS-336@9.5	Lab ID: 302	37071002	Collected: 11/27/1	17 09:21	Received: 11	/27/17 22:25	Matrix: Solid	
Results reported on a "dry weight"	basis and are adj	usted for pe	rcent moisture, sa	ample si	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Meth	nod: EPA 826	0B Preparation Me	ethod: E	PA 5035A			
1,1-Dichloroethene	0.0064	mg/kg	0.0041	1	12/05/17 08:00	12/05/17 11:17	75-35-4	1c
cis-1,2-Dichloroethene	6.3	mg/kg	0.23	50	12/06/17 08:00	12/06/17 18:47	7 156-59-2	1c
trans-1,2-Dichloroethene	0.068	mg/kg	0.0041	1	12/05/17 08:00	12/05/17 11:17	7 156-60-5	1c
Tetrachloroethene	19.8	mg/kg	2.3	500	12/06/17 08:00	12/06/17 19:13	3 127-18-4	1c
Trichloroethene	2.2	mg/kg	0.23	50	12/06/17 08:00	12/06/17 18:47	7 79-01-6	1c
Vinyl chloride	0.29	mg/kg	0.0041	1	12/05/17 08:00	12/05/17 11:17	75-01-4	1c
Surrogates								
Toluene-d8 (S)	100	%	76-124	1	12/05/17 08:00	12/05/17 11:17	2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-133	1	12/05/17 08:00	12/05/17 11:17	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	74-131	1	12/05/17 08:00	12/05/17 11:17	17060-07-0	
Dibromofluoromethane (S)	94	%	71-130	1	12/05/17 08:00	12/05/17 11:17	1868-53-7	
Percent Moisture	Analytical Mether	nod: ASTM D	2974-87					
Percent Moisture	17.7	%	0.10	1		12/02/17 12:52	2	

110



Project: G11788 Plaza 2331

Pace Project No.: 30237071

Sample: EPS-336 @ 15	Lab ID: 302	37071003	Collected: 11/27/	17 09:25	Received: 11	/27/17 22:25	Matrix: Solid	
Results reported on a "dry weight	" basis and are adj	iusted for p	ercent moisture, s	ample si	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Met	hod: EPA 82	60B Preparation M	ethod: E	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	0.0040	1	12/05/17 08:00	12/05/17 11:43	3 75-35-4	1c
cis-1,2-Dichloroethene	0.97	mg/kg	0.21	50	12/06/17 08:00	12/06/17 17:0	1 156-59-2	1c
trans-1,2-Dichloroethene	0.012	mg/kg	0.0040	1	12/05/17 08:00	12/05/17 11:43	3 156-60-5	1c
Tetrachloroethene	7.5	mg/kg	0.21	50	12/06/17 08:00	12/06/17 17:0	1 127-18-4	1c
Trichloroethene	0.57	mg/kg	0.21	50	12/06/17 08:00	12/06/17 17:0	1 79-01-6	1c
Vinyl chloride	0.015	mg/kg	0.0040	1	12/05/17 08:00	12/05/17 11:43	3 75-01-4	1c
Surrogates								
Toluene-d8 (S)	101	%	76-124	1	12/05/17 08:00	12/05/17 11:43	3 2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-133	1	12/05/17 08:00	12/05/17 11:43	3 460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	74-131	1	12/05/17 08:00	12/05/17 11:43	3 17060-07-0	
Dibromofluoromethane (S)	99	%	71-130	1	12/05/17 08:00	12/05/17 11:43	3 1868-53-7	
Percent Moisture	Analytical Met	hod: ASTM I	D2974-87					
Percent Moisture	16.5	%	0.10	1		12/02/17 12:5	2	

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Project: G11788 Plaza 2331

Pace Project No.: 30237071

Sample: EPS-337 @ 5	Lab ID: 302	37071004	Collected: 11/27/	17 10:00	Received: 11	/27/17 22:25	Matrix: Solid	
Results reported on a "dry weight"	basis and are adj	usted for p	ercent moisture, s	ample si	ze and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Meth	nod: EPA 820	60B Preparation M	ethod: El	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	2.4	500	12/06/17 12:00	12/06/17 20:3	3 75-35-4	1c
cis-1,2-Dichloroethene	42.8	mg/kg	2.4	500	12/06/17 12:00	12/06/17 20:3	3 156-59-2	1c
trans-1,2-Dichloroethene	ND	mg/kg	2.4	500	12/06/17 12:00	12/06/17 20:3	3 156-60-5	1c
Tetrachloroethene	12100	mg/kg	477	100000	12/06/17 12:00	12/07/17 14:23	3 127-18-4	
Trichloroethene	279	mg/kg	23.8	5000	12/06/17 12:00	12/06/17 20:5	9 79-01-6	1c
Vinyl chloride	ND	mg/kg	2.4	500	12/06/17 12:00	12/06/17 20:3	3 75-01-4	1c
Surrogates								
Toluene-d8 (S)	101	%	76-124	500	12/06/17 12:00	12/06/17 20:3	3 2037-26-5	
4-Bromofluorobenzene (S)	102	%	70-133	500	12/06/17 12:00	12/06/17 20:3	3 460-00-4	
1,2-Dichloroethane-d4 (S)	88	%	74-131	500	12/06/17 12:00	12/06/17 20:3	3 17060-07-0	
Dibromofluoromethane (S)	98	%	71-130	500	12/06/17 12:00	12/06/17 20:3	3 1868-53-7	
Percent Moisture	Analytical Meth	nod: ASTM E	02974-87					
Percent Moisture	17.4	%	0.10	1		12/02/17 12:5	2	

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Project: G11788 Plaza 2331

Pace Project No.: 30237071

Sample: EPS-337 @10	Lab ID: 302	37071005	Collected: 11/27/	17 10:40	Received: 11	/27/17 22:25	Matrix: Solid	
Results reported on a "dry weight"	" basis and are adj	usted for p	ercent moisture, s	ample s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Meth	nod: EPA 82	60B Preparation M	ethod: E	PA 5035A			
1,1-Dichloroethene	0.0045	mg/kg	0.0041	1	12/05/17 12:00	12/05/17 12:3	6 75-35-4	1c
cis-1,2-Dichloroethene	8.5	mg/kg	0.22	50	12/06/17 12:00	12/06/17 19:4	0 156-59-2	1c
trans-1,2-Dichloroethene	0.055	mg/kg	0.0041	1	12/05/17 12:00	12/05/17 12:3	6 156-60-5	1c
Tetrachloroethene	200	mg/kg	22.5	5000	12/06/17 12:00	12/07/17 13:5	7 127-18-4	
Trichloroethene	7.4	mg/kg	0.22	50	12/06/17 12:00	12/06/17 19:4	0 79-01-6	1c
Vinyl chloride	0.32	mg/kg	0.0041	1	12/05/17 12:00	12/05/17 12:3	6 75-01-4	1c
Surrogates								
Toluene-d8 (S)	86	%	76-124	1	12/05/17 12:00	12/05/17 12:3	6 2037-26-5	
4-Bromofluorobenzene (S)	91	%	70-133	1	12/05/17 12:00	12/05/17 12:3	6 460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	74-131	1	12/05/17 12:00	12/05/17 12:3	6 17060-07-0	
Dibromofluoromethane (S)	114	%	71-130	1	12/05/17 12:00	12/05/17 12:3	6 1868-53-7	
Percent Moisture	Analytical Meth	nod: ASTM [	02974-87					
Percent Moisture	19.5	%	0.10	1		12/02/17 12:5	2	

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Project: G11788 Plaza 2331

Pace Project No.: 30237071

Sample: Trip Blank	Lab ID: 302	37071006	Collected: 11/27/1	7 08:00	Received: 1	1/27/17 22:25 N	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Met	hod: EPA 82	60B					
1,1-Dichloroethene	ND	ug/L	1.0	1		12/04/17 15:32	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		12/04/17 15:32	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/04/17 15:32	156-60-5	
Tetrachloroethene	ND	ug/L	1.0	1		12/04/17 15:32	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		12/04/17 15:32	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		12/04/17 15:32	75-01-4	
Surrogates		-						
4-Bromofluorobenzene (S)	98	%	79-129	1		12/04/17 15:32	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		12/04/17 15:32	17060-07-0	
Toluene-d8 (S)	98	%	80-120	1		12/04/17 15:32	2037-26-5	
Dibromofluoromethane (S)	103	%	80-120	1		12/04/17 15:32	1868-53-7	



Project: G11788 Plaza 2331

Pace Project No.: 30237071

Sample: EPS 338 @ 5	Lab ID: 302	37071007	Collected: 11/22/	17 10:50	Received: 11	/27/17 22:25	Matrix: Solid	
Results reported on a "dry weight"	" basis and are adj	usted for p	ercent moisture, s	ample si	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Meth	nod: EPA 82	60B Preparation M	ethod: El	PA 5035A			
1,1-Dichloroethene	ND	mg/kg	0.0039	1	12/05/17 12:00	12/05/17 13:03	3 75-35-4	1c
cis-1,2-Dichloroethene	1.2	mg/kg	0.21	50	12/06/17 12:00	12/06/17 17:2	7 156-59-2	1c
trans-1,2-Dichloroethene	0.013	mg/kg	0.0039	1	12/05/17 12:00	12/05/17 13:03	3 156-60-5	1c
Tetrachloroethene	7.8	mg/kg	0.21	50	12/06/17 12:00	12/06/17 17:2	7 127-18-4	1c
Trichloroethene	1.2	mg/kg	0.21	50	12/06/17 12:00	12/06/17 17:2	7 79-01-6	1c
Vinyl chloride	ND	mg/kg	0.0039	1	12/05/17 12:00	12/05/17 13:03	3 75-01-4	1c
Surrogates								
Toluene-d8 (S)	99	%	76-124	1	12/05/17 12:00	12/05/17 13:03	3 2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-133	1	12/05/17 12:00	12/05/17 13:03	3 460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	74-131	1	12/05/17 12:00	12/05/17 13:03	3 17060-07-0	
Dibromofluoromethane (S)	101	%	71-130	1	12/05/17 12:00	12/05/17 13:03	3 1868-53-7	
Percent Moisture	Analytical Meth	nod: ASTM [	02974-87					
Percent Moisture	10.1	%	0.10	1		12/02/17 12:5	2	

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EPA 8260B

8260B MSV 5035 Low

Project: G11788 Plaza 2331

Pace Project No.: 30237071

QC Batch:	281147
QC Batch Method:	EPA 5035A

Analysis Method:

Analysis Description: Associated Lab Samples: 30237071001, 30237071002, 30237071003, 30237071005, 30237071007

METHOD BLANK: 1379982 Matrix: Solid Associated Lab Complexe

Associated Lab Samples:	30237071001, 30237071002, 30237071003, 30237071005, 30237071007	
	Plank Departing	

Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1-Dichloroethene	 mg/kg	ND	0.0050	12/05/17 10:24	
trans-1,2-Dichloroethene	mg/kg	ND	0.0050	12/05/17 10:24	
Vinyl chloride	mg/kg	ND	0.0050	12/05/17 10:24	
1,2-Dichloroethane-d4 (S)	%	89	74-131	12/05/17 10:24	
4-Bromofluorobenzene (S)	%	97	70-133	12/05/17 10:24	
Dibromofluoromethane (S)	%	96	71-130	12/05/17 10:24	
Toluene-d8 (S)	%	96	76-124	12/05/17 10:24	

#### LABORATORY CONTROL SAMPLE: 1379983

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethene	mg/kg	.02	0.016	81	70-130	
trans-1,2-Dichloroethene	mg/kg	.02	0.016	81	70-130	
Vinyl chloride	mg/kg	.02	0.016	80	70-130	
1,2-Dichloroethane-d4 (S)	%			84	74-131	
4-Bromofluorobenzene (S)	%			98	70-133	
Dibromofluoromethane (S)	%			101	71-130	
Toluene-d8 (S)	%			98	76-124	

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



Project: G11788 Plaza 2331

Pace Project No.: 30237071

QC Batch:	2813	45	Analysis Method:
QC Batch Method:	EPA	5035A	Analysis Description
Associated Lab Sam	ples:	30237071001, 3023707100	02, 30237071003, 30237

sis Description: 8260B MSV 5035 Low 30237071001, 30237071002, 30237071003, 30237071004, 30237071005, 30237071007

EPA 8260B

METHOD BLANK: 1381006 Matrix: Solid Associated Lab Samples: 30237071001, 30237071002, 30237071003, 30237071004, 30237071005, 30237071007

nalyzed Qualifiers
6/17 12:57
6/17 12:57
6/17 12:57
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(

#### LABORATORY CONTROL SAMPLE: 1381007

_		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethene	mg/kg	.02	0.016	81	70-130	
cis-1,2-Dichloroethene	mg/kg	.02	0.017	84	70-130	
Tetrachloroethene	mg/kg	.02	0.023	115	70-130	
trans-1,2-Dichloroethene	mg/kg	.02	0.017	83	70-130	
Trichloroethene	mg/kg	.02	0.017	87	70-130	
Vinyl chloride	mg/kg	.02	0.020	102	70-130	
1,2-Dichloroethane-d4 (S)	%			87	74-131	
4-Bromofluorobenzene (S)	%			104	70-133	
Dibromofluoromethane (S)	%			100	71-130	
Toluene-d8 (S)	%			96	76-124	

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



Project: G11788 Plaza 2331

Pace Project No.: 30237071

Pace Project No.: 30237	071				
QC Batch: 2810	)27	Analysis Meth	nod: EF	PA 8260B	
QC Batch Method: EPA	8260B	Analysis Desc	cription: 82	60B MSV	
Associated Lab Samples:	30237071006				
METHOD BLANK: 13796	09	Matrix:	Water		
Associated Lab Samples:	30237071006				
		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L		1.0	12/04/17 12:35	
cis-1,2-Dichloroethene	ug/L	ND	1.0	12/04/17 12:35	
Tetrachloroethene	ug/L	ND	1.0	12/04/17 12:35	
trans-1,2-Dichloroethene	ug/L	ND	1.0	12/04/17 12:35	
Trichloroethene	ug/L	ND	1.0	12/04/17 12:35	
Vinyl chloride	ug/L	ND	1.0	12/04/17 12:35	
1,2-Dichloroethane-d4 (S)	%	94	80-120	12/04/17 12:35	
4-Bromofluorobenzene (S)	%	101	79-129	12/04/17 12:35	
Dibromofluoromethane (S)	%	103	80-120	12/04/17 12:35	
Toluene-d8 (S)	%	94	80-120	12/04/17 12:35	

## LABORATORY CONTROL SAMPLE: 1379610

		Spike	LCS	LCS	% Rec	0 ""
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethene	ug/L	20	19.6	98	70-130	
cis-1,2-Dichloroethene	ug/L	20	19.2	96	70-130	
Tetrachloroethene	ug/L	20	20.0	100	70-130	
trans-1,2-Dichloroethene	ug/L	20	19.4	97	70-130	
Trichloroethene	ug/L	20	19.9	99	70-130	
Vinyl chloride	ug/L	20	19.8	99	70-130	
1,2-Dichloroethane-d4 (S)	%			94	80-120	
4-Bromofluorobenzene (S)	%			101	79-129	
Dibromofluoromethane (S)	%			102	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE & MATRIX SPIK	E DUPLICAT	E: 13799	72		1379973						
Parameter	302 Units	236926001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	20	20	20.4	19.1	102	95	63-126		
cis-1,2-Dichloroethene	ug/L	ND	20	20	24.0	21.4	120	107	65-120	11	
Fetrachloroethene	ug/L	ND	20	20	18.8	17.0	94	85	77-125	10	
rans-1,2-Dichloroethene	ug/L	ND	20	20	21.3	19.4	107	97	70-119	9	
Frichloroethene	ug/L	ND	20	20	22.1	19.9	111	99	74-128	10	
/inyl chloride	ug/L	ND	20	20	21.1	21.1	105	106	60-131	0	
,2-Dichloroethane-d4 (S)	%						108	105	80-120		
-Bromofluorobenzene (S)	%						102	102	79-129		
Dibromofluoromethane (S)	%						101	99	80-120		

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

## **REPORT OF LABORATORY ANALYSIS**



Project: G11788 Plaza 2331 Pace Project No.: 30237071

MATRIX SPIKE & MATRIX SPI	KE DUPLICAT	E: 13799	72		1379973						
	302	236926001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	Qual
Toluene-d8 (S)	%						102	102	80-120		

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



Project:	G11788 Plaza 233	1					
Pace Project No.:	30237071						
QC Batch:	280963		Analysis Meth	od: A	ASTM D2974-87		
QC Batch Method:	ASTM D2974-87		Analysis Desc	ription: [	Dry Weight/Perce	nt Moisture	
Associated Lab San	nples: 30237071	001, 30237071002	2, 30237071003, 30	237071004, 3	30237071005, 30	237071007	
SAMPLE DUPLICA	TE: 1379245						
	TE. 1379243		30236855001	Dup			
Paran	neter	Units	Result	Result	RPD	Qualifiers	
Percent Moisture		%	19.2	17.9	9 7		
SAMPLE DUPLICA	TE: 1379246						
			30236855002	Dup			
Paran	neter	Units	Result	Result	RPD	Qualifiers	

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



## QUALIFIERS

Project: G11788 Plaza 2331 Pace Project No.: 30237071

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

## **BATCH QUALIFIERS**

Batch: 281147

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 281345

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

## ANALYTE QUALIFIERS

1c A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.



# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: G11788 Plaza 2331 Pace Project No.: 30237071

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30237071001	EPS-336@5	EPA 5035A	281147	EPA 8260B	281149
30237071001	EPS-336@5	EPA 5035A	281345	EPA 8260B	281351
30237071002	EPS-336@9.5	EPA 5035A	281147	EPA 8260B	281149
30237071002	EPS-336@9.5	EPA 5035A	281345	EPA 8260B	281351
30237071003	EPS-336 @ 15	EPA 5035A	281147	EPA 8260B	281149
30237071003 30237071004	EPS-336 @ 15 EPS-337 @ 5	EPA 5035A EPA 5035A	281345 281345	EPA 8260B EPA 8260B	281351 281351
30237071005	EPS-337 @10	EPA 5035A	281147	EPA 8260B	281149
30237071005	EPS-337 @10	EPA 5035A	281345	EPA 8260B	281351
30237071007	EPS 338 @ 5	EPA 5035A	281147	EPA 8260B	281149
30237071007	EPS 338 @ 5	EPA 5035A	281345	EPA 8260B	281351
30237071006	Trip Blank	EPA 8260B	281027		
30237071001 30237071002 30237071003 30237071004 30237071005	EPS-336@5 EPS-336@9.5 EPS-336 @ 15 EPS-337 @ 5 EPS-337 @10	ASTM D2974-87 ASTM D2974-87 ASTM D2974-87 ASTM D2974-87 ASTM D2974-87	280963 280963 280963 280963 280963 280963		
30237071007	EPS 338 @ 5	ASTM D2974-87	280963		

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	•		REGULATORY AGENCY	NPDES [	T UST T RCRA	Site Location	STATE 1	Requested Analysis/Filtered (Y/N)			102. Ma. 19971 ZPL										DATE	221 140-911	122 (1-22)			1122111
غمري : 	Section C. Invoite Information:	tiention:	/ Name:	Address:	ada Quidte oference:	Pacta Project Managori	ace Profile #:	Requested A	Preservatives	<u>100)//k/// · · · · · · · · · · · · · · · · ·</u>	3 (et ) 1719-01- 460 1719-01- 400				<u> 4           2   X X X X   1</u>						12. TIME 1 - 1 - ACCEPTED BY AFFILIATION	and In a start of the same	The here house and			SPUR UNOU DATESigned
<b>-</b>	<u>5</u>	At .	3		Por the second second second	and the second sec	La and the second se		COLLECTED	COLLECTION Contrecting Game	HI HI HI HI HI HI HI HI HI HI HI HI HI H	· 10/2-6-10	11/11/0/0821	- 5460 C/RT/1	11/2/11/04/	11111000	and and and				Stephen (	LINER LIEK	4		SAMPLER NAME AND SIGNATURE	PRINT Name of SAMPLER: SIGNATURE OF SAMPLER:
	Section E Required Project Information:	Report To:	Copy Tay.	-		Project Name: Study Study	Project Nuithber:		(JWG) (ଜୁନ୍ଦୁ କୁସ୍ପୁ	See vert codes	우성한 (445년) Мататуре (6 Камриетуре (6	Ľ	and the second s	Service internet	A CONTRACTOR OF A CONTRACTOR A						RELINQUISHED BY / AFFILIATION	TTU INNI -16			NS .	_
lis, spart	cifent Information:	and the second of	Address of Lot of March 20	rie Maria Frank 2,004	o: ***		Requested Due Date/LATE Strugger Card Conference Pro		Section D Required Cleft Information MATRIX / CODE	Natuer Vietuer Vister Vister Vister Sidisbild SAMEDI E IID SOMSbild	E C		EN5 - 336.107 19.5	3 DIS - Wal @ TO	A CONTRACT OF A	AV 30724 10	-15	1 PTS-3508 S	14	32	ADDITIONAL ODWMENTS			ていいです: 第四日の		30237071

CHAIN-OF-CUSTODY / Analytical Request Document

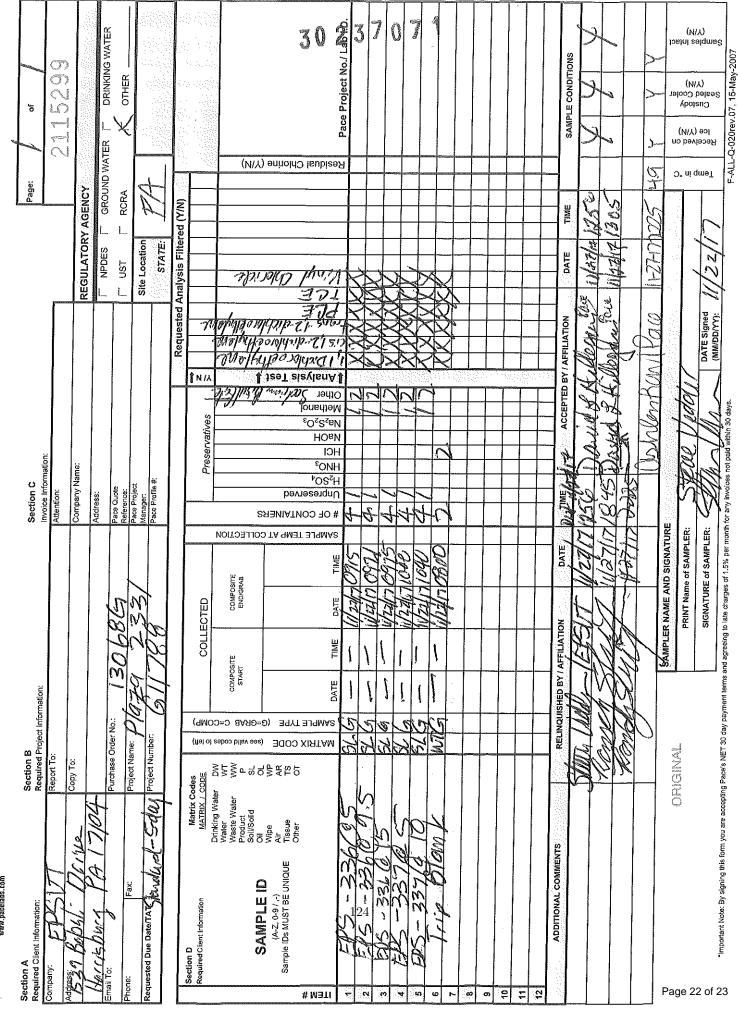
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Face Analytical

# CHAIN-OF-CUSTODY / Analytical Request Document

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



Pittsburgh Lat	o Sample Cond	ition	Upo	on R	lece	eipt					
Pace Analytical	Client Name:		Ef	31	/[	<b></b>	Proje	3 ect#	023	70	71
Courier: 🔲 Fed Ex 🗌 U Tracking #:			_			1		-	Labe LIMS Logi	•1 <u>COL</u> □ <u>COL</u>	
Custody Seal on Cooler/E	Box Present: 🌵 yes		no	Seal	ls inta	ct: 🗘 yes [	🗋 no				
Thermometer Used	8			· · ·	/	lue None					
Cooler Temperature C	bserved Temp 4.	9	°C	Cor	rectio	n Factor <u>: 1() , (</u>	<u>) .c</u>	Final	Temp <u>: l</u>	19	۰C
Temp should be above freezin								to and	Initials of pa	reon eyam	ining
			1 22	1	-			ontent	Initials of pe s:	_11-7	18-11
Comments:		Yes	No	N/A	1					2000-2000-200-200-200-200-200-200-200-2	
Chain of Custody Present:		X	<u> </u>		1.						
Chain of Custody Filled Out	t:	ĮХ,	<u> </u>		2.						
Chain of Custody Relinquis	hed:	X			3.		<u>.</u> ,		. <u></u>		
Sampler Name & Signature	on COC:	$ \Sigma $		<u> </u>	4.	71	· •				i
Sample Labels match COC		ل		.[	5.	Received	CXTG	a s		e nota	on
-Includes date/time/ID	Matrix: <u>SL</u>	<u>- 41</u>	<u>V</u>						COC	<del>.</del>	
Samples Arrived within Hold	d Time:	メ			6.	<u> </u>					
Short Hold Time Analysis	(<72hr remaining):		X		7.						
Rush Turn Around Time R	equested:	Х		<u> </u>	8.						
Sufficient Volume:		Х			9.					<u></u>	
Correct Containers Used:		Х			10.						
-Pace Containers Used:		Х									
Containers Intact:		$\mathbb{X}$			11.						
Orthophosphate field filtered	j			X	12.						
Hex Cr Aqueous Compliance/N				X	13.						
Organic Samples checke				X	14.						
Filtered volume received for				Х	15.	_					
All containers have been check	ed for preservation.			X	16.						
All containers needing preserva	tion are found to be in	1		X							
compliance with EPA recommer	ndation.										
exceptions:(VOA) coliform,	TOC, O&G, Phenolics						Date/tim preserva				
$\bigcirc$						of added					
			$\overline{\nabla}$			rvative					
Headspace in VOA Vials ( >8	6mm):	$\overline{\checkmark}$			17.						
Trip Blank Present:	1				18.						
Trip Blank Custody Seals Pro	esent	4			Initial	when				~ <del></del>	
Rad Aqueous Samples Scr	eenea > v.5 mrem/nr			$\mathbb{X}$	compl		Date:	يرون مورون	, <u>10</u>		
Client Notification/ Resolut	ion:										
Person Contacted:			<sup> </sup>	Date/1	ſime:			Contac	ted B <u>y:</u>		
Comments/ Resolution:						······	<u> </u>			1	<u> </u>
VOAK -> ID	$\rightarrow EPS - 3$	<u> 386</u>	25			Project	(ad	<u>e </u>	233	!	
Da	te → 11-22-17					<u> </u>					
Tin	ne-> 1050										
	<u></u>										

# $\Box$ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, 225 py of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers) \*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

# 4.2 Assorted results

Some of the reports are entirely focused on indoor air, whereas some are on near-source soil gas and or sub-slab samples.



Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

April 17, 2018

Satya Ganti Sarva Bio Remed, LLC 25 Marianne Drive York, PA 17406

RE: Project: G11788 2331 East Market Street Pace Project No.: 10426555

Dear Satya Ganti:

Enclosed are the analytical results for sample(s) received by the laboratory on April 09, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Nathan Boberg nathan.boberg@pacelabs.com (612)607-6407 Project Manager

Enclosures

cc: Steve Vedder, Environmental Products & Services of Vermont, Inc.



# **REPORT OF LABORATORY ANALYSIS**

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Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

## CERTIFICATIONS

Project: G11788 2331 East Market Street Pace Project No.: 10426555

#### **Minnesota Certification IDs**

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414-2485 A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #:MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Maryland Certification #: 322 Massachusetts Certification #: M-MN064

Michigan Certification #: 9909 Minnesota Certification #: 027-053-137 Mississippi Certification #: MN00064 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon NwTPH Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DW Certification #: 9952 C West Virginia DEP Certification #: 382 Wisconsin Certification #: 999407970

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# SAMPLE SUMMARY

Project:G11788 2331 East Market StreetPace Project No.:10426555

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10426555001	IA-Basement-01	Air	04/06/18 00:00	04/09/18 09:30
10426555002	VP-3	Air	04/06/18 09:48	04/09/18 09:30

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## **REPORT OF LABORATORY ANALYSIS**



# SAMPLE ANALYTE COUNT

Project:G11788 2331 East Market StreetPace Project No.:10426555

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10426555001	IA-Basement-01	TO-15	NCK	22
10426555002	VP-3	TO-15	NCK	22

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# **REPORT OF LABORATORY ANALYSIS**



## **PROJECT NARRATIVE**

Project: G11788 2331 East Market Street

Pace Project No.: 10426555

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:April 17, 2018

## General Information:

2 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:

Analyte Comments:

## QC Batch: 532407

- N2: The lab does not hold NELAC/TNI accreditation for this parameter.
  - BLANK (Lab ID: 2891573)
    - 2,2,4-Trimethylpentane
  - DUP (Lab ID: 2891853)
    - 2,2,4-Trimethylpentane
  - DUP (Lab ID: 2891854)
  - 2,2,4-Trimethylpentane
  - IA-Basement-01 (Lab ID: 10426555001)
    - 2,2,4-Trimethylpentane
  - LCS (Lab ID: 2891574)
    - 2,2,4-Trimethylpentane
  - VP-3 (Lab ID: 10426555002)
  - 2,2,4-Trimethylpentane

This data package has been reviewed for quality and completeness and is approved for release.

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#### Project: G11788 2331 East Market Street 10426555

#### Pace Project No.:

Lab ID: 10426555001 Collected: 04/06/18 00:00 Sample: IA-Basement-01 Received: 04/09/18 09:30 Matrix: Air DF CAS No. Parameters Results Units Report Limit Prepared Analyzed Qual **TO15 MSV AIR** Analytical Method: TO-15 24.3 04/15/18 18:19 67-64-1 Acetone ug/m3 16.3 6.76 ND ug/m3 2.2 6.76 04/15/18 18:19 71-43-2 Benzene 2-Butanone (MEK) ND ug/m3 20.3 04/15/18 18:19 78-93-3 6.76 ug/m3 Carbon disulfide ND 4.3 6.76 04/15/18 18:19 75-15-0 Dichlorodifluoromethane ND ug/m3 6.8 6.76 04/15/18 18:19 75-71-8 1,1-Dichloroethene 6.76 ND ug/m3 04/15/18 18:19 75-35-4 5.4 cis-1,2-Dichloroethene 12.5 ug/m3 5.4 6.76 04/15/18 18:19 156-59-2 trans-1,2-Dichloroethene ND ug/m3 5.4 6.76 04/15/18 18:19 156-60-5 Ethylbenzene ND ug/m3 6.0 6.76 04/15/18 18:19 100-41-4 4-Ethyltoluene ND ug/m3 6.76 04/15/18 18:19 622-96-8 6.8 n-Hexane ND ug/m3 4.8 6.76 04/15/18 18:19 110-54-3 Methylene Chloride ND ug/m3 23.9 6.76 04/15/18 18:19 75-09-2 Tetrachloroethene 121 ug/m3 4.7 6.76 04/15/18 18:19 127-18-4 Toluene ND ug/m3 5.2 6.76 04/15/18 18:19 108-88-3 1,1,1-Trichloroethane ND ug/m3 7.5 6.76 04/15/18 18:19 71-55-6 7.8 ug/m3 3.7 04/15/18 18:19 79-01-6 Trichloroethene 6.76 1,2,4-Trimethylbenzene ND ug/m3 6.8 6.76 04/15/18 18:19 95-63-6 ug/m3 1,3,5-Trimethylbenzene ND 6.8 6.76 04/15/18 18:19 108-67-8 2,2,4-Trimethylpentane ND ug/m3 16.0 6.76 04/15/18 18:19 540-84-1 N2 Vinyl chloride ND ug/m3 1.8 6.76 04/15/18 18:19 75-01-4 ug/m3 m&p-Xylene ND 12.0 6.76 04/15/18 18:19 179601-23-1 o-Xylene ND ug/m3 6.0 6.76 04/15/18 18:19 95-47-6

Sample: VP-3	Lab ID: 104	26555002	Collected: 04/06/	18 09:48	Received: 04	4/09/18 09:30	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Meth	nod: TO-15						
Acetone	ND	ug/m3	4.0	1.68		04/15/18 19:2	8 67-64-1	
Benzene	0.85	ug/m3	0.55	1.68		04/15/18 19:2	8 71-43-2	
2-Butanone (MEK)	5.6	ug/m3	5.0	1.68		04/15/18 19:2	8 78-93-3	
Carbon disulfide	ND	ug/m3	1.1	1.68		04/15/18 19:2	8 75-15-0	
Dichlorodifluoromethane	2.2	ug/m3	1.7	1.68		04/15/18 19:2	8 75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		04/15/18 19:2	8 75-35-4	
cis-1,2-Dichloroethene	1990	ug/m3	40.6	50.4		04/17/18 08:2	9 156-59-2	
trans-1,2-Dichloroethene	16.5	ug/m3	1.4	1.68		04/15/18 19:2	8 156-60-5	
Ethylbenzene	ND	ug/m3	1.5	1.68		04/15/18 19:2	8 100-41-4	
4-Ethyltoluene	ND	ug/m3	1.7	1.68		04/15/18 19:2	8 622-96-8	
n-Hexane	8.3	ug/m3	1.2	1.68		04/15/18 19:2	8 110-54-3	
Methylene Chloride	ND	ug/m3	5.9	1.68		04/15/18 19:2	8 75-09-2	
Tetrachloroethene	587	ug/m3	34.7	50.4		04/17/18 08:2	9 127-18-4	
Toluene	2.4	ug/m3	1.3	1.68		04/15/18 19:2	8 108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.68		04/15/18 19:2	8 71-55-6	
Trichloroethene	326	ug/m3	27.5	50.4		04/17/18 08:2	9 79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.7	1.68		04/15/18 19:2	8 95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	132 1.7	1.68		04/15/18 19:2	8 108-67-8	



## Pace Project No.: 10426555

Sample: VP-3	Lab ID: 104	426555002	Collected: 04/06/	8 09:48	Received: 0	4/09/18 09:30 N	latrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Me	thod: TO-15						
2,2,4-Trimethylpentane	ND	ug/m3	4.0	1.68		04/15/18 19:28	540-84-1	N2
Vinyl chloride	ND	ug/m3	0.44	1.68		04/15/18 19:28	75-01-4	
m&p-Xylene	ND	ug/m3	3.0	1.68		04/15/18 19:28	179601-23-1	
o-Xylene	ND	ug/m3	1.5	1.68		04/15/18 19:28	95-47-6	

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Project: G11788 2331 East Market Street

Pace Project No.:

10426555

QC Batch:	532407	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR Low Level
Associated Lab Sam	ples: 10426555001, 10426555002		
METHOD BLANK:	2891573	Matrix: Air	

Associated Lab Samples: 10426555001, 10426555002

,	2000001, 1042000002	Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	04/15/18 11:17	
1,1-Dichloroethene	ug/m3	ND	0.81	04/15/18 11:17	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	04/15/18 11:17	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	04/15/18 11:17	
2,2,4-Trimethylpentane	ug/m3	ND	2.4	04/15/18 11:17	N2
2-Butanone (MEK)	ug/m3	ND	3.0	04/15/18 11:17	
4-Ethyltoluene	ug/m3	ND	1.0	04/15/18 11:17	
Acetone	ug/m3	ND	2.4	04/15/18 11:17	
Benzene	ug/m3	ND	0.32	04/15/18 11:17	
Carbon disulfide	ug/m3	ND	0.63	04/15/18 11:17	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	04/15/18 11:17	
Dichlorodifluoromethane	ug/m3	ND	1.0	04/15/18 11:17	
Ethylbenzene	ug/m3	ND	0.88	04/15/18 11:17	
m&p-Xylene	ug/m3	ND	1.8	04/15/18 11:17	
Methylene Chloride	ug/m3	ND	3.5	04/15/18 11:17	
n-Hexane	ug/m3	ND	0.72	04/15/18 11:17	
o-Xylene	ug/m3	ND	0.88	04/15/18 11:17	
Tetrachloroethene	ug/m3	ND	0.69	04/15/18 11:17	
Toluene	ug/m3	ND	0.77	04/15/18 11:17	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	04/15/18 11:17	
Trichloroethene	ug/m3	ND	0.55	04/15/18 11:17	
Vinyl chloride	ug/m3	ND	0.26	04/15/18 11:17	

## LABORATORY CONTROL SAMPLE: 2891574

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	54.6	98	70-135	
1,1-Dichloroethene	ug/m3	40.3	39.3	98	70-137	
1,2,4-Trimethylbenzene	ug/m3	50	51.4	103	70-137	
1,3,5-Trimethylbenzene	ug/m3	50	50.3	101	70-133	
2,2,4-Trimethylpentane	ug/m3	47.5	43.3	91	70-140	N2
2-Butanone (MEK)	ug/m3	30	28.2	94	65-143	
4-Ethyltoluene	ug/m3	50	53.3	107	70-132	
Acetone	ug/m3	121	96.8	80	59-132	
Benzene	ug/m3	32.5	29.2	90	70-134	
Carbon disulfide	ug/m3	31.6	32.8	104	66-134	
cis-1,2-Dichloroethene	ug/m3	40.3	38.5	96	70-136	
Dichlorodifluoromethane	ug/m3	50.3	47.8	95	69-130	
Ethylbenzene	ug/m3	44.1	45.2	102	70-133	
m&p-Xylene	ug/m3	88.3	87.7	99	70-133	

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

# **REPORT OF LABORATORY ANALYSIS**



## Project: G11788 2331 East Market Street

Pace Project No.: 10426555

## LABORATORY CONTROL SAMPLE: 2891574

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Methylene Chloride	ug/m3	177	150	85	67-132	
n-Hexane	ug/m3	35.8	30.8	86	70-130	
o-Xylene	ug/m3	44.1	42.0	95	70-132	
Tetrachloroethene	ug/m3	68.9	67.7	98	70-133	
Toluene	ug/m3	38.3	34.6	90	70-130	
trans-1,2-Dichloroethene	ug/m3	40.3	41.8	104	70-132	
Trichloroethene	ug/m3	54.6	56.2	103	70-135	
Vinyl chloride	ug/m3	26	21.9	84	70-141	

#### SAMPLE DUPLICATE: 2891853

		10426555001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	N2
2-Butanone (MEK)	ug/m3	ND	7.5J		25	
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	24.3	23.7	2	25	
Benzene	ug/m3	ND	ND		25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	12.5	13.4	7	25	
Dichlorodifluoromethane	ug/m3	ND	ND		25	
Ethylbenzene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	ND	ND		25	
n-Hexane	ug/m3	ND	ND		25	
o-Xylene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	121	118	2	25	
Toluene	ug/m3	ND	3.8J		25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	7.8	7.8	0	25	
Vinyl chloride	ug/m3	ND	ND		25	

## SAMPLE DUPLICATE: 2891854

		10426913001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	.4J		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	N2
2-Butanone (MEK)	ug/m3	6.3	6.3	0	25	

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

## **REPORT OF LABORATORY ANALYSIS**



Project: G11788 2331 East Market Street

Pace Project No.: 10426555

## SAMPLE DUPLICATE: 2891854

Note         ug/m3         15.7         15.6         1         25           Benzene         ug/m3         ND         .41J         25           Carbon disulfide         ug/m3         ND         ND         25           cis-1,2-Dichloroethene         ug/m3         ND         ND         25           Dichlorodifluoromethane         ug/m3         2.1         2.3         9         25           Ethylbenzene         ug/m3         ND         ND         25           Metylene Chloride         ug/m3         ND         .9J         25           Metylene Chloride         ug/m3         ND         .9J         25           Metylene Chloride         ug/m3         ND         4.5J         25           Metylene Chloride         ug/m3         ND         ND         25           Metylene         ug/m3         3.2         3.1         4         25           Oluene         ug/m3         ND         ND         2			10426913001	Dup		Max	
Accetoneug/m315.715.6125Benzeneug/m3ND.41 J25Carbon disulfideug/m3NDND25isi-1,2-Dichloroetheneug/m3NDND25Dichlorodifluoromethaneug/m32.12.3925Ethylbenzeneug/m3NDND.25Methylene Chlorideug/m3ND.9J25I-Hexaneug/m3ND4.5J25I-Hexaneug/m31.91.9125I-Hexaneug/m3NDND25I-terachloroetheneug/m3NDND25Ioueneug/m3NDND25Ioueneug/m3NDND25Ioueneug/m3NDND25Ioueneug/m3NDND25Ioueneug/m3NDND25Ioueneug/m3NDND25Ioueneug/m3NDND25Ioueneug/m3NDND25Ioueneug/m3NDND25Ioueneug/m3NDND25Ioueneug/m3NDND25Ioueneug/m3NDND25Ioueneug/m3NDND25Ioueneug/m3NDND25Ioueneug/m3NDND25Irichloroetheneug/m3NDND<	Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Benzene ug/m3 ND .41J 25 Carbon disulfide ug/m3 ND ND 25 iis-1,2-Dichloroethene ug/m3 ND ND 25 Dichlorodifluoromethane ug/m3 2.1 2.3 9 25 Ethylbenzene ug/m3 ND ND 25 Ethylbenzene ug/m3 ND .9J 25 Methylene Chloride ug/m3 ND 4.5J 25 II-Hexane ug/m3 1.9 1.9 1 25 II-Hexane ug/m3 ND ND 25 Etrachloroethene ug/m3 ND ND 25 Tetrachloroethene ug/m3 ND ND 25 Firtholoroethene ug/m3 ND ND 25	4-Ethyltoluene	ug/m3	ND	ND		25	
Carbon disulfideug/m3NDND25Carbon disulfideug/m3NDND25is-1,2-Dichloroetheneug/m32.12.3925Dichlorodifluoromethaneug/m3NDND25Ethylbenzeneug/m3ND.9J25n&p-Xyleneug/m3ND.9J25I-Hexaneug/m3ND4.5J25I-Hexaneug/m31.91.91I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25	Acetone	ug/m3	15.7	15.6	1	25	
List-1,2-Dichloroetheneug/m3NDND25Dichlorodifluoromethaneug/m32.12.3925Ethylbenzeneug/m3NDND25n&p-Xyleneug/m3ND.9,J25Aethylene Chlorideug/m3ND4.5,J25I-Hexaneug/m31.91.9125I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Topoleneug/m3NDND25Ioueneug/m33.23.1425rans-1,2-Dichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25	Benzene	ug/m3	ND	.41J		25	
Dichlorodifluoromethaneug/m32.12.3925Ethylbenzeneug/m3NDND25n&p-Xyleneug/m3ND.9J25Methylene Chlorideug/m3ND4.5J25I-Hexaneug/m31.91.9125I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Hexaneug/m3NDND25I-Tachloroetheneug/m3NDND25Tolueneug/m33.23.1425rans-1,2-Dichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25	Carbon disulfide	ug/m3	ND	ND		25	
ItemInformationInformationInformationInformationInformationEthylbenzeneug/m3NDND.9J25Methylene Chlorideug/m3ND4.5J25I-Hexaneug/m31.91.9125I-Yaleneug/m3NDND25Fetrachloroetheneug/m3NDND25Tolueneug/m33.23.1425rans-1,2-Dichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25	cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
n&p-Xylene     ug/m3     ND     .9J     25       Aethylene Chloride     ug/m3     ND     4.5J     25       I-Hexane     ug/m3     1.9     1.9     1     25       I-Yalene     ug/m3     ND     ND     25       etrachloroethene     ug/m3     ND     ND     25       foluene     ug/m3     3.2     3.1     4     25       rans-1,2-Dichloroethene     ug/m3     ND     ND     25       richloroethene     ug/m3     ND     ND     25	Dichlorodifluoromethane	ug/m3	2.1	2.3	9	25	
Methylene Chloride         ug/m3         ND         4.5J         25           I-Hexane         ug/m3         1.9         1.9         1         25           I-Hexane         ug/m3         ND         ND         ND         25           I-Xylene         ug/m3         ND         ND         25           Tetrachloroethene         ug/m3         3.2         3.1         4         25           rans-1,2-Dichloroethene         ug/m3         ND         ND         25           Trichloroethene         ug/m3         ND         ND         25	Ethylbenzene	ug/m3	ND	ND		25	
ug/m3         1.9         1.9         1         25          Xylene         ug/m3         ND         ND         25           -etrachloroethene         ug/m3         ND         ND         25           oluene         ug/m3         3.2         3.1         4         25           rans-1,2-Dichloroethene         ug/m3         ND         ND         25           Trichloroethene         ug/m3         ND         ND         25	m&p-Xylene	ug/m3	ND	.9J		25	
-Xyleneug/m3NDND25retrachloroetheneug/m3NDND25olueneug/m33.23.1425rans-1,2-Dichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25	Methylene Chloride	ug/m3	ND	4.5J		25	
Tetrachloroetheneug/m3NDND25Tolueneug/m33.23.1425rans-1,2-Dichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25	n-Hexane	ug/m3	1.9	1.9	1	25	
Tolueneug/m33.23.1425rans-1,2-Dichloroetheneug/m3NDND25Trichloroetheneug/m3NDND25	o-Xylene	ug/m3	ND	ND		25	
rans-1,2-Dichloroetheneug/m3NDND25richloroetheneug/m3NDND25	Tetrachloroethene	ug/m3	ND	ND		25	
richloroethene ug/m3 ND ND 25	Toluene	ug/m3	3.2	3.1	4	25	
	trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
/inyl chloride ug/m3 ND ND 25	Trichloroethene	ug/m3	ND	ND		25	
	Vinyl chloride	ug/m3	ND	ND		25	

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



## QUALIFIERS

## Project: G11788 2331 East Market Street

Pace Project No.: 10426555

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

## ANALYTE QUALIFIERS

N2 The lab does not hold NELAC/TNI accreditation for this parameter.

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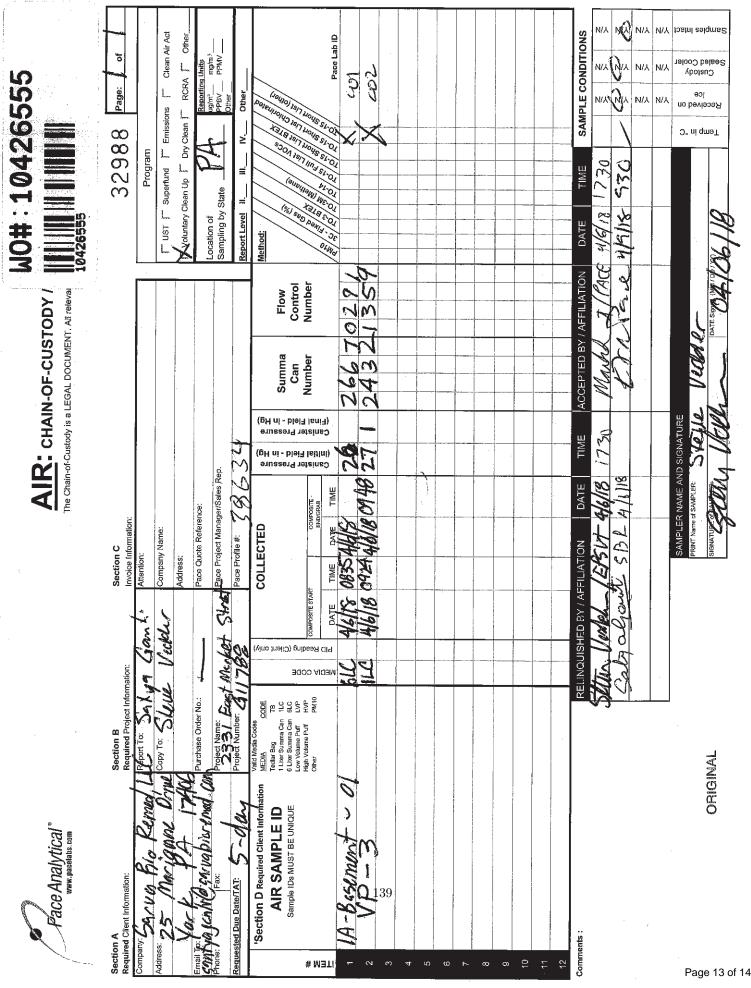


# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	G11788 2331 East Market Street
Pace Project No.:	10426555

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10426555001 10426555002	IA-Basement-01 VP-3	TO-15 TO-15	532407 532407		

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3.

FC046Rev.01, 03Feb2010

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Pace Analytical		Document Name: Air Sample Condition Upon Receipt				Document Revised: 28Dec2017 Page 1 of 1				
<i>Pa</i>			Document No.: F-MN-A-106-rev.14					Issuing Authority: Pace Minnesota Quality Office			
Upon Receipt Client Name: Sarryn B. O		B.O	Project #:			<u>WO</u> #	WO#:10426555				
Courier:		UPS Pace	Speed		lient		PM: NB3 CLIENT:	Sarva	Due Date Bio	: 04/16/	18
Tracking Number:	001 (0	8141					Γ	Optional: P	roj. Due Date:		
Custody Seal on Cooler/B	Sox Present?	🗌 Yes 🦯	<b>⊴</b> No	Seals Inta	ict?	]Yes	- No		roj. Due Date:	Proj. Name:	
acking Material:	bble Wrap	Bubble Ba	gs Foar	m 🗋 No	one [	]Tin Can	Other:		Temp I	Blank rec: 📋	Yes No
Temp. (TO17 and TO13 samp	ples only) (°C):		Corrected Ten	np (°C):		Thermo	om. Used:				163
Temp should be above freez	ing to 6°C Co	orrection Facto						rson Examinir	ng Contents: 🖌	G87A91551	19115
ype of ice Received 🔲 Bl	ue 🗌 Wet	None									
								с	omments:		
Chain of Custody Present	?		- Yes	No		1.					
Chain of Custody Filled Ou	ut?		Yes	No	N/A	2.					
Chain of Custody Relinqui	shed?		Yes	[]No	N/A	3.					
Sampler Name and/or Sig	nature on COC	.7	<b>∕</b> Yes	No	N/A	4.				<u></u>	
Samples Arrived within Hold Time?			Yes	No	N/A	5.					
Short Hold Time Analysis (<72 hr)?			Yes	No	□N/A	6.				<u> </u>	
Rush Turn Around Time R	Requested?		⊷ <b>T</b> Yes	No	N/A	7.					
Sufficient Volume?			Yes	No	□N/A	8.	-				
Correct Containers Used?			Yes	No	□n/a	9.					
-Pace Containers Used	?		Yes	No	□n/a					_	
Containers Intact?			Yes	□No	□n/a	10.			~		
Media: Air Can	Airbag	Filter	TDT	Passive		11.	Individu	ally Certified	Cans Y N	) (list whigh sa	mples)
	· · ·		Yes	No	□n/a	12.	vP-3 ~	of lase	Leel vo	efed k	34
Sample Labels Match COC	.£							=			<u>_</u> 4€
	. f							Pressure (	Gauge # 10A/R	26	
		sters			1				Gauge # 10AIR	26	
amples Received:		sters Flow	Initial	Fina	Ē				Gauge # 10AIR Canisters Flow	Initial	Final
amples Received: Sample Number			Initial Pressure	Pressu		Sample	e Number		anisters		
amples Received:	Cani	Flow	Pressure -24	1		Sample	Number	с С	anisters Flow	Initial	Final
Samples Received:	Cani	Flow	Pressure	Pressu		Sample	Number	с С	anisters Flow	Initial	Final
amples Received:	Cani	Flow	Pressure -24	Pressu 5		Sample	Number	с С	anisters Flow	Initial	Final
amples Received:	Cani	Flow	Pressure -24	Pressu 5		Sample	Number	с С	anisters Flow	Initial	Final
amples Received:	Cani	Flow	Pressure -24	Pressu 5		Sample	2 Number	с С	anisters Flow	Initial	Final
amples Received:	Cani	Flow	Pressure -24	Pressu 5		Sample	Number	с С	anisters Flow	Initial	Final
Samples Received:	Cani	Flow	Pressure -24	Pressu 5		Sample	e Number	с С	anisters Flow	Initial	Final
Samples Received:	Cani	Flow	Pressure -24	Pressu 5		Sample	2 Number	с С	anisters Flow	Initial	Final
amples Received:	Cani	Flow	Pressure -24	Pressu 5		Sample	e Number	с С	anisters Flow	Initial	Final
sample Number	Cani	Flow	Pressure -24	Pressu 5		Sample	2 Number	Can ID	Controller	Initial Pressure	Final Pressure
Samples Received: Sample Number IA - Boogeneat VP - 3	Cani Can ID	Flow Controller	Pressure -24)					Can ID	anisters Flow Controller	Initial Pressure	Final Pressure
Sample Number Sample Number TA-Basement VP - 3 CLIENT NOTIFICATION/RE Person Conta	Cani Can ID	Flow Controller	Pressure -24) O					Can ID	Controller	Initial Pressure	Final Pressure
Sample Number	Cani Can ID	Flow Controller	Pressure -24) O					Can ID	anisters Flow Controller	Initial Pressure	Final Pressure
amples Received: Sample Number IA-Basement VP-3 CLIENT NOTIFICATION/RE Person Conta	Cani Can ID	Flow Controller	Pressure -24) O					Can ID	anisters Flow Controller	Initial Pressure	Final Pressure
Sample Number Sample Number TA-Basement VP - 3 CLIENT NOTIFICATION/RE Person Conta	Cani Can ID	Flow Controller	Pressure -24) O				ne:	Can ID	anisters Flow Controller	Initial Pressure	Final Pressure



Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

June 13, 2018

Satya Ganti Sarva Bio Remed, LLC 25 Marianne Drive York, PA 17406

RE: Project: 2331 Plaza Site Pace Project No.: 10434134

Dear Satya Ganti:

Enclosed are the analytical results for sample(s) received by the laboratory on June 06, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Nathan Boberg nathan.boberg@pacelabs.com (612)607-6407 Project Manager

Enclosures

cc: Steve Vedder, Environmental Products & Services of Vermont, Inc.



# **REPORT OF LABORATORY ANALYSIS**

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Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

## CERTIFICATIONS

Project: 2331 Plaza Site Pace Project No.: 10434134

#### **Minnesota Certification IDs**

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414-2485 A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #:MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Maryland Certification #: 322 Massachusetts Certification #: M-MN064

Michigan Certification #: 9909 Minnesota Certification #: 027-053-137 Mississippi Certification #: MN00064 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon NwTPH Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DW Certification #: 9952 C West Virginia DEP Certification #: 382 Wisconsin Certification #: 999407970

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## SAMPLE SUMMARY

Project: Pace Project No.	2331 Plaza Site : 10434134			
Lab ID	Sample ID	Matrix	Date Collected	Date Received
10434134001	2331 Market St. Indoor Air CIA	Air	06/05/18 16:18	06/06/18 09:30

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## **REPORT OF LABORATORY ANALYSIS**



## SAMPLE ANALYTE COUNT

Project:	2331 Plaza Site
Pace Project No.:	10434134

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10434134001	2331 Market St. Indoor Air CIA	TO-15	AFV	22

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## **REPORT OF LABORATORY ANALYSIS**



### **PROJECT NARRATIVE**

Project: 2331 Plaza Site Pace Project No.: 10434134

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:June 13, 2018

#### General Information:

1 sample was analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chainof custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: 543273

- R1: RPD value was outside control limits.
  - DUP (Lab ID: 2955501)
    - Methylene Chloride

## Additional Comments:

Analyte Comments:

#### QC Batch: 543273

- N2: The lab does not hold NELAC/TNI accreditation for this parameter.
  - 2331 Market St. Indoor Air CIA (Lab ID: 10434134001)
    - 2,2,4-Trimethylpentane
  - BLANK (Lab ID: 2953712)
  - 2,2,4-Trimethylpentane
  - DUP (Lab ID: 2955500)
  - 2,2,4-Trimethylpentane
  - DUP (Lab ID: 2955501)
    - 2,2,4-Trimethylpentane

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## **PROJECT NARRATIVE**

Project: 2331 Plaza Site Pace Project No.: 10434134

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:June 13, 2018

Analyte Comments:

QC Batch: 543273

N2: The lab does not hold NELAC/TNI accreditation for this parameter.

• LCS (Lab ID: 2953713)

• 2,2,4-Trimethylpentane

This data package has been reviewed for quality and completeness and is approved for release.

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### **REPORT OF LABORATORY ANALYSIS**



## ANALYTICAL RESULTS

Project: 2331 Plaza Site

Pace Project No.: 10434134

Sample: 2331 Market St. Indoor Air CIA	Lab ID: 10434134001		Collected: 06/05/18 16:18		Received: 0	6/06/18 09:30	Matrix: Air		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
TO15 MSV AIR	Analytical Meth	nod: TO-15							
Acetone	43.6	ug/m3	3.6	1.49		06/07/18 23:44	67-64-1		
Benzene	0.71	ug/m3	0.48	1.49		06/07/18 23:44	71-43-2		
2-Butanone (MEK)	6.6	ug/m3	4.5	1.49		06/07/18 23:44	78-93-3		
Carbon disulfide	ND	ug/m3	0.94	1.49		06/07/18 23:44	75-15-0		
Dichlorodifluoromethane	2.9	ug/m3	1.5	1.49		06/07/18 23:44	75-71-8		
1,1-Dichloroethene	ND	ug/m3	1.2	1.49		06/07/18 23:44	75-35-4		
cis-1,2-Dichloroethene	98.4	ug/m3	1.2	1.49		06/07/18 23:44	156-59-2		
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		06/07/18 23:44	156-60-5		
Ethylbenzene	ND	ug/m3	1.3	1.49		06/07/18 23:44	100-41-4		
4-Ethyltoluene	ND	ug/m3	1.5	1.49		06/07/18 23:44	622-96-8		
n-Hexane	2.0	ug/m3	1.1	1.49		06/07/18 23:44	110-54-3		
Methylene Chloride	22.2	ug/m3	5.3	1.49		06/07/18 23:44	75-09-2		
Tetrachloroethene	338	ug/m3	1.0	1.49		06/07/18 23:44	127-18-4		
Toluene	6.7	ug/m3	1.1	1.49		06/07/18 23:44	108-88-3		
1,1,1-Trichloroethane	1.7	ug/m3	1.7	1.49		06/07/18 23:44	71-55-6		
Trichloroethene	26.8	ug/m3	0.81	1.49		06/07/18 23:44	79-01-6		
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.49		06/07/18 23:44	95-63-6		
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.49		06/07/18 23:44	108-67-8		
2,2,4-Trimethylpentane	ND	ug/m3	3.5	1.49		06/07/18 23:44	540-84-1	N2	
Vinyl chloride	3.1	ug/m3	0.39	1.49		06/07/18 23:44	75-01-4		
m&p-Xylene	ND	ug/m3	2.6	1.49		06/07/18 23:44	179601-23-1		
o-Xylene	ND	ug/m3	1.3	1.49		06/07/18 23:44	95-47-6		

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### **REPORT OF LABORATORY ANALYSIS**



Analysis Method:

Matrix: Air

Project: 2331 Plaza Site

Pace Project No.: 10434134

QC Batch: 543273 QC Batch Method: TO-15 10434134001

Analysis Description: TO15 MSV AIR Low Level

TO-15

Associated Lab Samples:

METHOD BLANK: 2953712

Associated Lab Samples: 10434134001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	06/07/18 14:28	
1,1-Dichloroethene	ug/m3	ND	0.81	06/07/18 14:28	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	06/07/18 14:28	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	06/07/18 14:28	
2,2,4-Trimethylpentane	ug/m3	ND	2.4	06/07/18 14:28	N2
2-Butanone (MEK)	ug/m3	ND	3.0	06/07/18 14:28	
4-Ethyltoluene	ug/m3	ND	1.0	06/07/18 14:28	
Acetone	ug/m3	ND	2.4	06/07/18 14:28	
Benzene	ug/m3	ND	0.32	06/07/18 14:28	
Carbon disulfide	ug/m3	ND	0.63	06/07/18 14:28	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	06/07/18 14:28	
Dichlorodifluoromethane	ug/m3	ND	1.0	06/07/18 14:28	
Ethylbenzene	ug/m3	ND	0.88	06/07/18 14:28	
m&p-Xylene	ug/m3	ND	1.8	06/07/18 14:28	
Methylene Chloride	ug/m3	ND	3.5	06/07/18 14:28	
n-Hexane	ug/m3	ND	0.72	06/07/18 14:28	
o-Xylene	ug/m3	ND	0.88	06/07/18 14:28	
Tetrachloroethene	ug/m3	ND	0.69	06/07/18 14:28	
Toluene	ug/m3	ND	0.77	06/07/18 14:28	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	06/07/18 14:28	
Trichloroethene	ug/m3	ND	0.55	06/07/18 14:28	
Vinyl chloride	ug/m3	ND	0.26	06/07/18 14:28	

#### LABORATORY CONTROL SAMPLE: 2953713

_		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	59.3	55.2	93	70-135	
1,1-Dichloroethene	ug/m3	39.9	35.7	89	70-137	
1,2,4-Trimethylbenzene	ug/m3	53.5	60.7	114	70-137	
1,3,5-Trimethylbenzene	ug/m3	53.5	53.9	101	70-133	
2,2,4-Trimethylpentane	ug/m3	50.3	50.1	99	70-140 I	N2
2-Butanone (MEK)	ug/m3	33	38.2	116	65-143	
4-Ethyltoluene	ug/m3	54	55.4	103	70-132	
Acetone	ug/m3	25.8	20.6	80	59-132	
Benzene	ug/m3	35.1	34.1	97	70-134	
Carbon disulfide	ug/m3	33.2	24.1	72	66-134	
cis-1,2-Dichloroethene	ug/m3	42.7	43.5	102	70-136	
Dichlorodifluoromethane	ug/m3	53.8	48.2	90	69-130	
Ethylbenzene	ug/m3	47.7	46.5	98	70-133	
m&p-Xylene	ug/m3	92.7	93.0	100	70-133	

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

## **REPORT OF LABORATORY ANALYSIS**



Project: 2331 Plaza Site Pace Project No.: 10434134

### LABORATORY CONTROL SAMPLE: 2953713

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Methylene Chloride	ug/m3	38.8	34.3	88	67-132	
n-Hexane	ug/m3	35.8	37.3	104	70-130	
o-Xylene	ug/m3	48.1	47.0	98	70-132	
etrachloroethene	ug/m3	73.8	73.4	100	70-133	
bluene	ug/m3	41.4	45.3	110	70-130	
ans-1,2-Dichloroethene	ug/m3	36.3	38.3	106	70-132	
richloroethene	ug/m3	58.4	59.3	101	70-135	
inyl chloride	ug/m3	25.7	25.4	99	70-141	

#### SAMPLE DUPLICATE: 2955500

		10434070007	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	N2
2-Butanone (MEK)	ug/m3	ND	3.3J		25	
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	22.6	19.5	15	25	
Benzene	ug/m3	ND	ND		25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.6	2.4	7	25	
Ethylbenzene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	1.6J		25	
Methylene Chloride	ug/m3	ND	2.8J		25	
n-Hexane	ug/m3	ND	ND		25	
o-Xylene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	ND	.94J		25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

### SAMPLE DUPLICATE: 2955501

Parameter	Units	10434070005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	5
1,1-Dichloroethene	ug/m3	ND	ND		25	5
1,2,4-Trimethylbenzene	ug/m3	ND	1J		25	5
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	5
2,2,4-Trimethylpentane	ug/m3	ND	.8J		25	5 N2
2-Butanone (MEK)	ug/m3	ND	3.4J		25	5

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

## **REPORT OF LABORATORY ANALYSIS**



Project: 2331 Plaza Site Pace Project No.: 10434134

### SAMPLE DUPLICATE: 2955501

		10434070005	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	103	93.5	10	25	
Benzene	ug/m3	0.83	0.87	5	25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.6	2.6	2	25	
Ethylbenzene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	1.9J		25	
Methylene Chloride	ug/m3	577	396	37	25 I	R1
n-Hexane	ug/m3	67.0	51.9	25	25	
o-Xylene	ug/m3	ND	.72J		25	
Tetrachloroethene	ug/m3	2.1	2.3	6	25	
Toluene	ug/m3	8.8	9.3	6	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

Results presented on this page are in the units indicated by the "Units" 450mn except where an alternate unit is presented to the right of the result.



### QUALIFIERS

Project: 2331 Plaza Site Pace Project No.: 10434134

#### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

- N2 The lab does not hold NELAC/TNI accreditation for this parameter.
- R1 RPD value was outside control limits.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2331 Plaza Site Pace Project No.: 10434134

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Batch
10434134001	2331 Market St. Indoor Air CIA	TO-15	543273		

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1	

The Chain-of-Custody is a LEGAL DOCUMENT. All releve AIR: CHAIN-OF-CUSTODY



Sec	Section A	Section B			Section C	о Г				
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e 13 of	ļ	SIGNATURE of SAMPLER: DATE Signed (MM / DD / YY)	Sealed Cus Recei

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

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Project Manager Revie		Athan B	berg	154	Date	:	6/7/18			

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



Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

October 03, 2018

Steve Vedder Environmental Products & Services of Vermont, Inc. 1539 Bobali Drive Harrisburg, PA 17104

RE: Project: 2331 E. Market St. Pace Project No.: 10449263

Dear Steve Vedder:

Enclosed are the analytical results for sample(s) received by the laboratory on September 27, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Sert C. Ung

Scott Unze for Nathan Boberg nathan.boberg@pacelabs.com (612)360-0728 Project Manager

Enclosures

cc: Satya Ganti, Sarva Bio Remed, LLC



# **REPORT OF LABORATORY ANALYSIS**

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Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

### CERTIFICATIONS

Project: 2331 E. Market St. Pace Project No.: 10449263

#### **Minnesota Certification IDs**

1700 Elm Street SE, Minneapolis, MN 55414-2485 A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #: MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Marvland Certification #: 322 Massachusetts Certification #: M-MN064 Michigan Certification #: 9909

Minnesota Certification #: 027-053-137 Minnesota Dept of Ag Certifcation #: via MN 027-053-137 Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon NwTPH Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DW Certification #: 9952 C West Virginia DEP Certification #: 382 Wisconsin Certification #: 999407970 Wyoming UST Certification #: via A2LA 2926.01

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## SAMPLE SUMMARY

Project:	2331 E. Market St.
Pace Project No.:	10449263

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10449263001	VP-3	Air	09/26/18 10:24	09/27/18 12:00

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## **REPORT OF LABORATORY ANALYSIS**



## SAMPLE ANALYTE COUNT

Project:	2331 E. Market St.
Pace Project No.:	10449263

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10449263001	VP-3	TO-15	AFV	22

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## **REPORT OF LABORATORY ANALYSIS**



### **PROJECT NARRATIVE**

Project: 2331 E. Market St. Pace Project No.: 10449263

Method: TO-15 Description: TO15 MSV AIR Client: Sarva Bio Remed, LLC Date: October 03, 2018

### General Information:

1 sample was analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chainof custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:

Analyte Comments:

### QC Batch: 566185

- N2: The lab does not hold NELAC/TNI accreditation for this parameter.
  - BLANK (Lab ID: 3072572)
  - 2,2,4-Trimethylpentane
  - DUP (Lab ID: 3073187)
    - 2,2,4-Trimethylpentane
  - DUP (Lab ID: 3073188)
  - 2,2,4-Trimethylpentane
  - LCS (Lab ID: 3072573)
  - 2,2,4-Trimethylpentane
  - VP-3 (Lab ID: 10449263001)
    - 2,2,4-Trimethylpentane

This data package has been reviewed for quality and completeness and is approved for release.

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## ANALYTICAL RESULTS

Project: 2331 E. Market St.

### Pace Project No.: 10449263

Sample: VP-3	Lab ID: 104	49263001	Collected: 09/26/	18 10:24	Received: 09	9/27/18 12:00 I	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
Acetone	1790	ug/m3	69.5	28.85		09/30/18 15:24	67-64-1	
Benzene	116	ug/m3	9.4	28.85		09/30/18 15:24	71-43-2	
2-Butanone (MEK)	ND	ug/m3	86.6	28.85		09/30/18 15:24	78-93-3	
Carbon disulfide	ND	ug/m3	18.3	28.85		09/30/18 15:24	75-15-0	
Dichlorodifluoromethane	97.1	ug/m3	29.1	28.85		09/30/18 15:24	75-71-8	
1,1-Dichloroethene	ND	ug/m3	23.3	28.85		09/30/18 15:24	75-35-4	
cis-1,2-Dichloroethene	280	ug/m3	23.3	28.85		09/30/18 15:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	23.3	28.85		09/30/18 15:24	156-60-5	
Ethylbenzene	333	ug/m3	25.5	28.85		09/30/18 15:24	100-41-4	
4-Ethyltoluene	ND	ug/m3	72.1	28.85		09/30/18 15:24	622-96-8	
n-Hexane	1570	ug/m3	20.7	28.85		09/30/18 15:24	110-54-3	
Methylene Chloride	21400	ug/m3	1710	484.6		10/01/18 13:05	75-09-2	
Tetrachloroethene	ND	ug/m3	39.8	28.85		09/30/18 15:24	127-18-4	
Toluene	264	ug/m3	22.1	28.85		09/30/18 15:24	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	32.0	28.85		09/30/18 15:24	71-55-6	
Trichloroethene	30.5	ug/m3	15.8	28.85		09/30/18 15:24	79-01-6	
1,2,4-Trimethylbenzene	72.2	ug/m3	28.8	28.85		09/30/18 15:24	95-63-6	
1,3,5-Trimethylbenzene	44.7	ug/m3	28.8	28.85		09/30/18 15:24	108-67-8	
2,2,4-Trimethylpentane	179	ug/m3	68.4	28.85		09/30/18 15:24	540-84-1	N2
Vinyl chloride	92.2	ug/m3	7.5	28.85		09/30/18 15:24	75-01-4	
m&p-Xylene	1450	ug/m3	51.1	28.85		09/30/18 15:24	179601-23-1	
o-Xylene	200	ug/m3	25.5	28.85		09/30/18 15:24	95-47-6	

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Analysis Method:

Matrix: Air

Project: 2331 E. Market St.

Pace Project No.: 10449263

QC Batch:566185QC Batch Method:TO-15Associated Lab Samples:10449263001

Analysis Description: TO15 MSV AIR Low Level

TO-15

METHOD BLANK: 3072572

Associated Lab Samples: 10449263001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	0.56	09/30/18 12:10	
1,1-Dichloroethene	ug/m3	ND	0.40	09/30/18 12:10	
1,2,4-Trimethylbenzene	ug/m3	ND	0.50	09/30/18 12:10	
1,3,5-Trimethylbenzene	ug/m3	ND	0.50	09/30/18 12:10	
2,2,4-Trimethylpentane	ug/m3	ND	1.2	09/30/18 12:10	N2
2-Butanone (MEK)	ug/m3	ND	1.5	09/30/18 12:10	
4-Ethyltoluene	ug/m3	ND	1.2	09/30/18 12:10	
Acetone	ug/m3	ND	1.2	09/30/18 12:10	
Benzene	ug/m3	ND	0.16	09/30/18 12:10	
Carbon disulfide	ug/m3	ND	0.32	09/30/18 12:10	
cis-1,2-Dichloroethene	ug/m3	ND	0.40	09/30/18 12:10	
Dichlorodifluoromethane	ug/m3	ND	0.50	09/30/18 12:10	
Ethylbenzene	ug/m3	ND	0.44	09/30/18 12:10	
m&p-Xylene	ug/m3	ND	0.88	09/30/18 12:10	
Methylene Chloride	ug/m3	ND	1.8	09/30/18 12:10	
n-Hexane	ug/m3	ND	0.36	09/30/18 12:10	
o-Xylene	ug/m3	ND	0.44	09/30/18 12:10	
Tetrachloroethene	ug/m3	ND	0.69	09/30/18 12:10	MN
Toluene	ug/m3	ND	0.38	09/30/18 12:10	
trans-1,2-Dichloroethene	ug/m3	ND	0.40	09/30/18 12:10	
Trichloroethene	ug/m3	ND	0.27	09/30/18 12:10	
Vinyl chloride	ug/m3	ND	0.13	09/30/18 12:10	

### LABORATORY CONTROL SAMPLE: 3072573

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	56.4	102	70-135	
1,1-Dichloroethene	ug/m3	40.3	43.7	108	70-137	
1,2,4-Trimethylbenzene	ug/m3	50	53.5	107	70-137	
1,3,5-Trimethylbenzene	ug/m3	50	53.5	107	70-133	
2,2,4-Trimethylpentane	ug/m3	47.5	51.8	109	70-140 1	12
2-Butanone (MEK)	ug/m3	30	31.7	106	65-143	
4-Ethyltoluene	ug/m3	50	53.8	108	70-132	
Acetone	ug/m3	121	126	105	59-132	
Benzene	ug/m3	32.5	34.4	106	70-134	
Carbon disulfide	ug/m3	31.6	34.7	109	66-134	
cis-1,2-Dichloroethene	ug/m3	40.3	40.7	101	70-136	
Dichlorodifluoromethane	ug/m3	50.3	53.6	107	69-130	
Ethylbenzene	ug/m3	44.1	47.4	107	70-133	
m&p-Xylene	ug/m3	88.3	93.8	106	70-133	

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

## **REPORT OF LABORATORY ANALYSIS**



Project: 2331 E. Market St. Pace Project No.: 10449263

### LABORATORY CONTROL SAMPLE: 3072573

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Methylene Chloride	ug/m3	177	186	105	67-132	
n-Hexane	ug/m3	35.8	39.2	109	70-130	
o-Xylene	ug/m3	44.1	46.9	106	70-132	
Tetrachloroethene	ug/m3	68.9	70.2	102	70-133	
Toluene	ug/m3	38.3	41.3	108	70-130	
ans-1,2-Dichloroethene	ug/m3	40.3	42.0	104	70-132	
Trichloroethene	ug/m3	54.6	55.0	101	70-135	
Vinyl chloride	ug/m3	26	28.4	109	70-141	

#### SAMPLE DUPLICATE: 3073187

		10449283001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	 ug/m3		ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	2.2	2.1	4	25	
1,3,5-Trimethylbenzene	ug/m3	ND	.7J		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	N2
2-Butanone (MEK)	ug/m3	ND	1.6J		25	
4-Ethyltoluene	ug/m3	ND	.9J		25	
Acetone	ug/m3	18.6	17.2	8	25	
Benzene	ug/m3	ND	.41J		25	
Carbon disulfide	ug/m3	3.2	3.2	1	25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.1	2.0	5	25	
Ethylbenzene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	ND	5J		25	
n-Hexane	ug/m3	ND	.81J		25	
o-Xylene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	1.2	1.2	2	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	.41J		25	
Vinyl chloride	ug/m3	ND	ND		25	

### SAMPLE DUPLICATE: 3073188

		10449283003	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	5
1,1-Dichloroethene	ug/m3	ND	ND		25	5
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	5
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	5
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	5 N2
2-Butanone (MEK)	ug/m3	ND	1.4J		25	5

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

## **REPORT OF LABORATORY ANALYSIS**



Project: 2331 E. Market St. Pace Project No.: 10449263

### SAMPLE DUPLICATE: 3073188

		10449283003	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	7.0	7.3	5	25	
Benzene	ug/m3	0.51	0.53	3	25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.0	2.1	6	25	
Ethylbenzene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	5.5	5.6	2	25	
n-Hexane	ug/m3	1.1	1.1	0	25	
o-Xylene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	ND	1J		25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	
	0					

Results presented on this page are in the units indicated by the "Units" 1602mn except where an alternate unit is presented to the right of the result.

### **REPORT OF LABORATORY ANALYSIS**



### QUALIFIERS

Project: 2331 E. Market St. Pace Project No.: 10449263

#### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

- MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.
- N2 The lab does not hold NELAC/TNI accreditation for this parameter.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

l ah ID	Sample ID	QC Batch Method	OC Batch	Analytical Method	Analytical Batch
Pace Project No.:	10449263				
Project:	2331 E. Market St.				

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Batch
10449263001	VP-3	TO-15	566185		

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O#::10449265 33716 Page: 33716 Page: 33716 Page: Program Frogr		Signed Cooler Y Custody Y Custody Y Sealed Cooler Y Sealed Cooler Y
		DRUCUL DATE Signed (MM / D
Constant Pressure Canister Pressure Canister Pressure Central Field - in Hg)	220)	SAMPLER NAME AND SIGNATURE FRINT Name of SAMPLER.
Section C Invoice Information: Attribution: Address: Address: Pace Profile #: COLLECTED COLLECTED	× 1 PACE 1/2	SAMPLER NAME A PRINT Name of SAMPLER. SIGNATURE OF
Section B Report To: Studies Project Information: Report To: Studies Order No.: Purchase Order No.: Project Number: Pip Reading (Client only) PID Re	Mail	
Pace Analytical www.parelabs.com       www.parelabs.com       Section A       Required Client Information       Billiness:       Billiness       Billiness       Billiness       Billiness       Billiness       Billiness       Billiness       Billiness       Bill		ORIGINAL

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1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612,607,6386

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Chain of Custody Filled O	ut?		Yes	No	2.					
Chain of Custody Relinqu	ished?		Yes	No	3.					
Sampler Name and/or Sig	nature on CO	C7	Yes		/A 4.					
Samples Arrived within H	old Time?		ØŸes	No	5.					
Short Hold Time Analysis	; (<72 hr)?		Yes	No	6.					
Rush Turn Around Time	Requested?		Yes	<b>N</b> NO	7.					
Sufficient Volume?			Yes	[]No	8.					
Correct Containers Used	•		Yes	 []]No	9.					
-Pace Containers Used			Yes	□No						
Containers Intact?	·		Yes		10.					
Media: Air Can	Airbag	Filter	TDT	Passive	11.	Individua	ally Certified Ca		list which sa	mnlesi
Is sufficient information a to the COC?					12.		Vate/T.in Up: f: 20	e on 1	<u>`</u>	
Samples Received:							Pressure Ga	uge # 10AIR	26	
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Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample	e Number	Can ID	Flow Controller	Initial Pressure	Fir Pres
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Comments/Resol		. <del>.</del>							. <u>.</u>	
		N I	~	167						



Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

October 12, 2018

Steve Vedder Environmental Products & Services of Vermont, Inc. 1539 Bobali Drive Harrisburg, PA 17104

RE: Project: 2331 E. Market St. Pace Project No.: 10450487

Dear Steve Vedder:

Enclosed are the analytical results for sample(s) received by the laboratory on October 05, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Delle 2

Nathan Boberg nathan.boberg@pacelabs.com (612)360-0728 Project Manager

Enclosures

cc: Satya Ganti, Sarva Bio Remed, LLC



# **REPORT OF LABORATORY ANALYSIS**

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Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

### CERTIFICATIONS

Project: 2331 E. Market St. Pace Project No.: 10450487

#### **Minnesota Certification IDs**

1700 Elm Street SE, Minneapolis, MN 55414-2485 A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #: MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Marvland Certification #: 322 Massachusetts Certification #: M-MN064 Michigan Certification #: 9909

Minnesota Certification #: 027-053-137 Minnesota Dept of Ag Certifcation #: via MN 027-053-137 Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon NwTPH Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DW Certification #: 9952 C West Virginia DEP Certification #: 382 Wisconsin Certification #: 999407970 Wyoming UST Certification #: via A2LA 2926.01

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## SAMPLE SUMMARY

Project:	2331 E. Market St.
Pace Project No .:	10450487

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10450487001	 IA-01	Air	10/03/18 16:15	10/05/18 10:15

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## **REPORT OF LABORATORY ANALYSIS**



## SAMPLE ANALYTE COUNT

Project:	2331 E. Market St.
Pace Project No .:	10450487

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10450487001	IA-01	TO-15	MLS	22

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### **REPORT OF LABORATORY ANALYSIS**



### **PROJECT NARRATIVE**

Project: 2331 E. Market St. Pace Project No.: 10450487

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:October 12, 2018

#### General Information:

1 sample was analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chainof custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: 568403

- R1: RPD value was outside control limits.
  - DUP (Lab ID: 3085303)
    - 2-Butanone (MEK)

#### Additional Comments:

Analyte Comments:

#### QC Batch: 568403

- N2: The lab does not hold NELAC/TNI accreditation for this parameter.
  - BLANK (Lab ID: 3084359)
  - 2,2,4-Trimethylpentane
  - DUP (Lab ID: 3085303)
  - 2,2,4-Trimethylpentane
  - DUP (Lab ID: 3085304)
  - 2,2,4-Trimethylpentane
  - IA-01 (Lab ID: 10450487001)
  - 2,2,4-Trimethylpentane

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## **PROJECT NARRATIVE**

Project: 2331 E. Market St. Pace Project No.: 10450487

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:October 12, 2018

Analyte Comments:

QC Batch: 568403

N2: The lab does not hold NELAC/TNI accreditation for this parameter.

• LCS (Lab ID: 3084360)

• 2,2,4-Trimethylpentane

This data package has been reviewed for quality and completeness and is approved for release.

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## **REPORT OF LABORATORY ANALYSIS**



## ANALYTICAL RESULTS

Project: 2331 E. Market St.

### Pace Project No.: 10450487

Sample: IA-01	Lab ID: 104	50487001	Collected: 10/03/	18 16:15	Received: 10/0	05/18 10:15 N	Aatrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
Acetone	29.1	ug/m3	4.0	1.64		10/10/18 13:44	67-64-1	
Benzene	ND	ug/m3	0.53	1.64		10/10/18 13:44	71-43-2	
2-Butanone (MEK)	6.4	ug/m3	4.9	1.64		10/10/18 13:44	78-93-3	
Carbon disulfide	ND	ug/m3	1.0	1.64		10/10/18 13:44	75-15-0	
Dichlorodifluoromethane	2.5	ug/m3	1.7	1.64		10/10/18 13:44	75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.3	1.64		10/10/18 13:44	75-35-4	
cis-1,2-Dichloroethene	395	ug/m3	39.7	49.2		10/11/18 11:08	156-59-2	
trans-1,2-Dichloroethene	1.5	ug/m3	1.3	1.64		10/10/18 13:44	156-60-5	
Ethylbenzene	ND	ug/m3	1.4	1.64		10/10/18 13:44	100-41-4	
4-Ethyltoluene	ND	ug/m3	4.1	1.64		10/10/18 13:44	622-96-8	
n-Hexane	ND	ug/m3	1.2	1.64		10/10/18 13:44	110-54-3	
Methylene Chloride	ND	ug/m3	5.8	1.64		10/10/18 13:44	75-09-2	
Tetrachloroethene	861	ug/m3	33.9	49.2		10/11/18 11:08	127-18-4	
Toluene	2.1	ug/m3	1.3	1.64		10/10/18 13:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.8	1.64		10/10/18 13:44	71-55-6	
Trichloroethene	41.9	ug/m3	0.90	1.64		10/10/18 13:44	79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.6	1.64		10/10/18 13:44	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.6	1.64		10/10/18 13:44	108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	3.9	1.64		10/10/18 13:44	540-84-1	N2
Vinyl chloride	7.0	ug/m3	0.43	1.64		10/10/18 13:44	75-01-4	
m&p-Xylene	ND	ug/m3	2.9	1.64		10/10/18 13:44	179601-23-1	
o-Xylene	ND	ug/m3	1.4	1.64		10/10/18 13:44	95-47-6	

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Matrix: Air

Project: 2331 E. Market St.

Pace Project No.: 10450487

QC Batch: 568403 Analysis Method: QC Batch Method: TO-15

Analysis Description: TO15 MSV AIR Low Level

TO-15

Associated Lab Samples: 10450487001

METHOD BLANK: 3084359

Associated Lab Samples: 10450487001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	0.56	10/10/18 08:56	
1,1-Dichloroethene	ug/m3	ND	0.40	10/10/18 08:56	
1,2,4-Trimethylbenzene	ug/m3	ND	0.50	10/10/18 08:56	
1,3,5-Trimethylbenzene	ug/m3	ND	0.50	10/10/18 08:56	
2,2,4-Trimethylpentane	ug/m3	ND	1.2	10/10/18 08:56	N2
2-Butanone (MEK)	ug/m3	ND	1.5	10/10/18 08:56	
4-Ethyltoluene	ug/m3	ND	1.2	10/10/18 08:56	
Acetone	ug/m3	ND	1.2	10/10/18 08:56	
Benzene	ug/m3	ND	0.16	10/10/18 08:56	
Carbon disulfide	ug/m3	ND	0.32	10/10/18 08:56	
cis-1,2-Dichloroethene	ug/m3	ND	0.40	10/10/18 08:56	
Dichlorodifluoromethane	ug/m3	ND	0.50	10/10/18 08:56	
Ethylbenzene	ug/m3	ND	0.44	10/10/18 08:56	
m&p-Xylene	ug/m3	ND	0.88	10/10/18 08:56	
Methylene Chloride	ug/m3	ND	1.8	10/10/18 08:56	
n-Hexane	ug/m3	ND	0.36	10/10/18 08:56	
o-Xylene	ug/m3	ND	0.44	10/10/18 08:56	
Tetrachloroethene	ug/m3	ND	0.34	10/10/18 08:56	
Toluene	ug/m3	ND	0.38	10/10/18 08:56	
trans-1,2-Dichloroethene	ug/m3	ND	0.40	10/10/18 08:56	
Trichloroethene	ug/m3	ND	0.27	10/10/18 08:56	
Vinyl chloride	ug/m3	ND	0.13	10/10/18 08:56	

#### LABORATORY CONTROL SAMPLE: 3084360

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	59.8	108	70-135	
1,1-Dichloroethene	ug/m3	40.3	44.5	110	70-137	
1,2,4-Trimethylbenzene	ug/m3	50	55.1	110	70-137	
1,3,5-Trimethylbenzene	ug/m3	50	55.4	111	70-133	
2,2,4-Trimethylpentane	ug/m3	47.5	53.0	112	70-140	<b>V</b> 2
2-Butanone (MEK)	ug/m3	30	38.9	130	65-143	
4-Ethyltoluene	ug/m3	50	56.6	113	70-132	
Acetone	ug/m3	121	121	100	59-132	
Benzene	ug/m3	32.5	35.1	108	70-134	
Carbon disulfide	ug/m3	31.6	34.5	109	66-134	
cis-1,2-Dichloroethene	ug/m3	40.3	48.8	121	70-136	
Dichlorodifluoromethane	ug/m3	50.3	48.7	97	69-130	
Ethylbenzene	ug/m3	44.1	51.0	116	70-133	
m&p-Xylene	ug/m3	88.3	94.9	107	70-133	

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

## **REPORT OF LABORATORY ANALYSIS**



Project: 2331 E. Market St. Pace Project No.: 10450487

### LABORATORY CONTROL SAMPLE: 3084360

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Methylene Chloride	ug/m3	177	172	97	67-132	
n-Hexane	ug/m3	35.8	41.4	116	70-130	
o-Xylene	ug/m3	44.1	48.2	109	70-132	
Tetrachloroethene	ug/m3	68.9	71.2	103	70-133	
Toluene	ug/m3	38.3	42.6	111	70-130	
rans-1,2-Dichloroethene	ug/m3	40.3	47.7	118	70-132	
Trichloroethene	ug/m3	54.6	62.4	114	70-135	
Vinyl chloride	ug/m3	26	24.4	94	70-141	

#### SAMPLE DUPLICATE: 3085303

		10450759001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	5
1,1-Dichloroethene	ug/m3	ND	ND		25	5
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	5
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	5
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	5 N2
2-Butanone (MEK)	ug/m3	8.5	5.8	38	25	5 R1
4-Ethyltoluene	ug/m3	ND	ND		25	5
Acetone	ug/m3	19.7	19.3	2	25	5
Benzene	ug/m3	0.27J	.36J		25	5
Carbon disulfide	ug/m3	ND	ND		25	5
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	5
Dichlorodifluoromethane	ug/m3	2.4	2.4	2	25	5
Ethylbenzene	ug/m3	ND	ND		25	5
m&p-Xylene	ug/m3	ND	ND		25	5
Methylene Chloride	ug/m3	4.5J	4.6J		25	5
n-Hexane	ug/m3	ND	.52J		25	5
o-Xylene	ug/m3	ND	ND		25	5
Tetrachloroethene	ug/m3	ND	ND		25	5
Toluene	ug/m3	1.1J	1J		25	5
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	5
Trichloroethene	ug/m3	ND	ND		25	5
Vinyl chloride	ug/m3	ND	ND		25	5

### SAMPLE DUPLICATE: 3085304

Parameter	Units	10450759003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3		ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	4.1	4.4	6	25	
1,3,5-Trimethylbenzene	ug/m3	1.4J	ND		25	
2,2,4-Trimethylpentane	ug/m3	6.4	6.5	1	25	N2
2-Butanone (MEK)	ug/m3	8.1	6.3	25	25	

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

## **REPORT OF LABORATORY ANALYSIS**



Project: 2331 E. Market St. Pace Project No.: 10450487

### SAMPLE DUPLICATE: 3085304

		10450759003	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	61.5	58.4	5	25	
Benzene	ug/m3	1.6	1.7	3	25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	ND	4.2		25	
Ethylbenzene	ug/m3	1.8	1.7	9	25	
m&p-Xylene	ug/m3	5.4	5.9	7	25	
Methylene Chloride	ug/m3	3.3J	2.9J		25	
n-Hexane	ug/m3	4.7	6.0	24	25	
o-Xylene	ug/m3	2.6	2.6	0	25	
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	9.5	9.1	5	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

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

### **REPORT OF LABORATORY ANALYSIS**



### QUALIFIERS

Project: 2331 E. Market St. Pace Project No.: 10450487

#### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

- N2 The lab does not hold NELAC/TNI accreditation for this parameter.
- R1 RPD value was outside control limits.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Pace Project No.:	2331 E. Market St. 10450487				
Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Batc
10450487001	IA-01	TO-15	568403		

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FC046Rev.01, 03Feb2010

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612:607.6386

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Phone Analy time!"	Air Sar	Document Name nple Condition Upo		P	Revised: 02May age 1 of 1	2018	
Pace Analytical		Document No.: F-MN-A-106-rev.1	5		ng Authority: esota Quality O	ffice	
Air Sample Condition Upon Receipt	Rid	Projec	<sup>ct #:</sup> WO#	: 104		B <b>7</b>	
Courier: Courier: Courier:	UPS Speed		PM: NB3 CLIENT:	D Sarva Bi	ue Date: o	10/12/1	.8
Tracking Number: 7830 92	19 5010						
Custody Seal on Cooler/Box Present?	Yes 🔣 No	Seals Intact?	🗌 Yes 💆 No	Optional: Proj	. Due Date:	Proj. Name:	
Packing Material: Bubble Wrap	Bubble Bags 🕅 Foar	n None	Tin Can Other:		Temp B	lank rec: [	Yes 🕅 No
Temp. (TO17 and TO13 samples only) (°C):	Corrected Tem	p (°C):	Thermom. Used:			G87A91706	
Temp should be above freezing to 6°C Corre	ection Factor:		Date & Initials of Per	son Examining	Contents:	1687A91557	5118
Type of ice Received Blue Wet	None				_	· <del>- / ·</del>	
				Con	nments:		
Chain of Custody Present?	<b>X</b> Yes	No	1.				
Chain of Custody Filled Out?	Yes	No	2.				
Chain of Custody Relinquished?	Yes	No	3.				
Sampler Name and/or Signature on COC?	Yes		A 4.				
Samples Arrived within Hold Time?	<b>W</b> res	No	5.				
Short Hold Time Analysis (<72 hr)?	Yes	No	6.				
Rush Turn Around Time Requested?	Yes	No	7.				
Sufficient Volume?	Yes	No	8.	, <u>188</u>			
Correct Containers Used?	2 Yes	No	9.	··			· · · ·
-Pace Containers Used?	<b>N</b> Yes	No					
Containers Intact?	Yes		10.				
	ilter TDT	Passive		ally Certified Ca	V A	ust which sau	
is sufficient information available to reconci to the COC?			12.	any certified ce		ust which sa	inpies)
Samples Received:			· · · · · · · · · · · · · · · · · · ·	Pressure Gau	age # 10AIR2		
<u> </u>						20	
Canister	s Flow Initial	Final		Can	isters Flow	Initial	Final
Sample Number . Can ID Co	ontroller Pressure	Pressure	Sample Number	Can ID	Controller	Pressure	Pressure
					-		
			····				
CLIENT NOTIFICATION/RESOLUTION Person Contacted:	S.Vedder		Date/Time:	Field Data R 10/8	equired? [ /18 13:00	]Yes []No	
Comments/Resolution:					<b></b>		·
	TO15 - Shortlist n	eeded (custom	)	·····			
				· · · · · · · · · · · · · · · · · · ·			
Project Manager Review:	DHAM Rober	181	Date:	10/9/18			
Note: Whenever there is a discrepancy affecting N hold, incorrect preservative, out of temp, incorrect	North Carolina compliance	amples, a copy of	this form will be sent to	the North Carol	ina DEHNR Cer	tification Offic	e(i.e out of



Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

October 30, 2018

Steve Vedder Environmental Products & Services of Vermont, Inc. 1539 Bobali Drive Harrisburg, PA 17104

RE: Project: Sarva Bio Pace Project No.: 10453023

Dear Steve Vedder:

Enclosed are the analytical results for sample(s) received by the laboratory on October 25, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

120Fr *C* 

Nathan Boberg nathan.boberg@pacelabs.com (612)360-0728 Project Manager

Enclosures

cc: Satya Ganti, Sarva Bio Remed, LLC



# **REPORT OF LABORATORY ANALYSIS**

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Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

### CERTIFICATIONS

Project:	Sarva Bio
Pace Project No .:	10453023

#### **Minnesota Certification IDs**

1700 Elm Street SE, Minneapolis, MN 55414-2485 A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #: MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Marvland Certification #: 322 Massachusetts Certification #: M-MN064 Michigan Certification #: 9909

Minnesota Certification #: 027-053-137 Minnesota Dept of Ag Certifcation #: via MN 027-053-137 Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon NwTPH Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DW Certification #: 9952 C West Virginia DEP Certification #: 382 Wisconsin Certification #: 999407970 Wyoming UST Certification #: via A2LA 2926.01

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## SAMPLE SUMMARY

Project:Sarva BioPace Project No.:10453023

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10453023001	IA-001 (10/23)	Air	10/23/18 14:10	10/25/18 09:50
10453023002	IA-001 (10/24)	Air	10/24/18 14:00	10/25/18 09:50

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### **REPORT OF LABORATORY ANALYSIS**



## SAMPLE ANALYTE COUNT

			Analytes	
Pace Project No.:	10453023			
Project:	Sarva Bio			

Lab ID	Sample ID	Method	Analysts	Reported
10453023001	IA-001 (10/23)	TO-15	CH1	22
10453023002	IA-001 (10/24)	TO-15	CH1	22

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## **REPORT OF LABORATORY ANALYSIS**



### **PROJECT NARRATIVE**

Project: Sarva Bio Pace Project No.: 10453023

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:October 30, 2018

#### General Information:

2 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:

Analyte Comments:

#### QC Batch: 571934

- N2: The lab does not hold NELAC/TNI accreditation for this parameter.
  - BLANK (Lab ID: 3103559)
    - 2,2,4-Trimethylpentane
  - DUP (Lab ID: 3104256)
    - 2,2,4-Trimethylpentane
  - DUP (Lab ID: 3104258)
  - 2,2,4-Trimethylpentane
  - IA-001 (10/23) (Lab ID: 10453023001)
    - 2,2,4-Trimethylpentane
  - IA-001 (10/24) (Lab ID: 10453023002)
    - 2,2,4-Trimethylpentane
  - LCS (Lab ID: 3103560)
  - 2,2,4-Trimethylpentane

This data package has been reviewed for quality and completeness and is approved for release.

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## ANALYTICAL RESULTS

Project: Sarva Bio

Pace Project No.: 10453023

Sample: IA-001 (10/23)	Lab ID: 104	53023001	Collected: 10/23/2	8 14:10	Received: 10	0/25/18 09:50 N	/latrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
TO15 MSV AIR	Analytical Met	hod: TO-15						
Acetone	26.9	ug/m3	3.6	1.49		10/28/18 17:35	67-64-1	
Benzene	1.0	ug/m3	0.48	1.49		10/28/18 17:35	71-43-2	
2-Butanone (MEK)	6.0	ug/m3	4.5	1.49		10/28/18 17:35	78-93-3	
Carbon disulfide	ND	ug/m3	0.94	1.49		10/28/18 17:35	75-15-0	
Dichlorodifluoromethane	2.2	ug/m3	1.5	1.49		10/28/18 17:35	75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.2	1.49		10/28/18 17:35	75-35-4	
cis-1,2-Dichloroethene	72.3	ug/m3	1.2	1.49		10/28/18 17:35	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		10/28/18 17:35	156-60-5	
Ethylbenzene	ND	ug/m3	1.3	1.49		10/28/18 17:35	100-41-4	
4-Ethyltoluene	ND	ug/m3	3.7	1.49		10/28/18 17:35	622-96-8	
n-Hexane	1.1	ug/m3	1.1	1.49		10/28/18 17:35	110-54-3	
Methylene Chloride	6.9	ug/m3	5.3	1.49		10/28/18 17:35	75-09-2	
Tetrachloroethene	262	ug/m3	1.0	1.49		10/28/18 17:35	127-18-4	
Toluene	2.8	ug/m3	1.1	1.49		10/28/18 17:35	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.49		10/28/18 17:35	71-55-6	
Trichloroethene	13.8	ug/m3	1.6	1.49		10/28/18 17:35	79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.49		10/28/18 17:35	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.49		10/28/18 17:35	108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	3.5	1.49		10/28/18 17:35	540-84-1	N2
Vinyl chloride	3.2	ug/m3	0.39	1.49		10/28/18 17:35	75-01-4	
m&p-Xylene	ND	ug/m3	2.6	1.49		10/28/18 17:35	179601-23-1	
o-Xylene	ND	ug/m3	1.3	1.49		10/28/18 17:35	95-47-6	
Sample: IA-001 (10/24)	Lab ID: 104	53023002	Collected: 10/24/	8 14:00	Received: 1	0/25/18 09:50 N	Aatrix: Air	

Sample: IA-001 (10/24)	Lab ID: 104	53023002	Collected: 10/24/	18 14:00	Received: 10	0/25/18 09:50 N	latrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Meth	hod: TO-15						
Acetone	28.6	ug/m3	3.5	1.44		10/28/18 18:04	67-64-1	
Benzene	ND	ug/m3	0.47	1.44		10/28/18 18:04	71-43-2	
2-Butanone (MEK)	4.8	ug/m3	4.3	1.44		10/28/18 18:04	78-93-3	
Carbon disulfide	ND	ug/m3	0.91	1.44		10/28/18 18:04	75-15-0	
Dichlorodifluoromethane	2.3	ug/m3	1.5	1.44		10/28/18 18:04	75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		10/28/18 18:04	75-35-4	
cis-1,2-Dichloroethene	47.0	ug/m3	1.2	1.44		10/28/18 18:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		10/28/18 18:04	156-60-5	
Ethylbenzene	ND	ug/m3	1.3	1.44		10/28/18 18:04	100-41-4	
4-Ethyltoluene	ND	ug/m3	3.6	1.44		10/28/18 18:04	622-96-8	
n-Hexane	ND	ug/m3	1.0	1.44		10/28/18 18:04	110-54-3	
Methylene Chloride	6.7	ug/m3	5.1	1.44		10/28/18 18:04	75-09-2	
Tetrachloroethene	169	ug/m3	0.99	1.44		10/28/18 18:04	127-18-4	
Toluene	ND	ug/m3	1.1	1.44		10/28/18 18:04	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		10/28/18 18:04	71-55-6	
Trichloroethene	8.7	ug/m3	1.6	1.44		10/28/18 18:04	79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		10/28/18 18:04	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	187 1.4	1.44		10/28/18 18:04	108-67-8	



## ANALYTICAL RESULTS

Project: Sarva Bio Pace Project No.: 10453023

Sample: IA-001 (10/24)	Lab ID: 10	0453023002	Collected: 10/24/	18 14:00	Received: 10	0/25/18 09:50 N	Aatrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical M	ethod: TO-15						
2,2,4-Trimethylpentane	ND	ug/m3	3.4	1.44		10/28/18 18:04	540-84-1	N2
Vinyl chloride	1.9	ug/m3	0.37	1.44		10/28/18 18:04	75-01-4	
m&p-Xylene	ND	ug/m3	2.5	1.44		10/28/18 18:04	179601-23-1	
o-Xylene	ND	ug/m3	1.3	1.44		10/28/18 18:04	95-47-6	

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Project: Sarva Bio

Pace Project No.: 10453023

QC Batch Method:

.

QC Batch: 57193

571934

TO-15

Analysis Method: TO-15 Analysis Description: TO15

Matrix: Air

n: TO15 MSV AIR Low Level

Associated Lab Samples: 10453023001, 10453023002

METHOD BLANK: 3103559

Associated Lab Samples: 10453023001, 10453023002

	10400020001, 10400020002				
Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Falameter		Result		Analyzeu	
1,1,1-Trichloroethane	ug/m3	ND	0.56	10/28/18 10:00	
1,1-Dichloroethene	ug/m3	ND	0.40	10/28/18 10:00	
1,2,4-Trimethylbenzene	ug/m3	ND	0.50	10/28/18 10:00	
1,3,5-Trimethylbenzene	ug/m3	ND	0.50	10/28/18 10:00	
2,2,4-Trimethylpentane	ug/m3	ND	1.2	10/28/18 10:00	N2
2-Butanone (MEK)	ug/m3	ND	1.5	10/28/18 10:00	
4-Ethyltoluene	ug/m3	ND	1.2	10/28/18 10:00	
Acetone	ug/m3	ND	1.2	10/28/18 10:00	
Benzene	ug/m3	ND	0.16	10/28/18 10:00	
Carbon disulfide	ug/m3	ND	0.32	10/28/18 10:00	
cis-1,2-Dichloroethene	ug/m3	ND	0.40	10/28/18 10:00	
Dichlorodifluoromethane	ug/m3	ND	0.50	10/28/18 10:00	
Ethylbenzene	ug/m3	ND	0.44	10/28/18 10:00	
m&p-Xylene	ug/m3	ND	0.88	10/28/18 10:00	
Methylene Chloride	ug/m3	ND	1.8	10/28/18 10:00	
n-Hexane	ug/m3	ND	0.36	10/28/18 10:00	
o-Xylene	ug/m3	ND	0.44	10/28/18 10:00	
Tetrachloroethene	ug/m3	ND	0.34	10/28/18 10:00	
Toluene	ug/m3	ND	0.38	10/28/18 10:00	
trans-1,2-Dichloroethene	ug/m3	ND	0.40	10/28/18 10:00	
Trichloroethene	ug/m3	ND	0.55	10/28/18 10:00	MN
Vinyl chloride	ug/m3	ND	0.13	10/28/18 10:00	

### LABORATORY CONTROL SAMPLE: 3103560

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	50.3	91	70-135	
1,1-Dichloroethene	ug/m3	40.3	36.8	91	70-137	
1,2,4-Trimethylbenzene	ug/m3	50	46.7	93	70-137	
1,3,5-Trimethylbenzene	ug/m3	50	48.1	96	70-133	
2,2,4-Trimethylpentane	ug/m3	47.5	48.3	102	70-140 1	12
2-Butanone (MEK)	ug/m3	30	32.2	107	65-143	
4-Ethyltoluene	ug/m3	50	48.4	97	70-132	
Acetone	ug/m3	121	102	85	59-132	
Benzene	ug/m3	32.5	30.8	95	70-134	
Carbon disulfide	ug/m3	31.6	34.9	110	66-134	
cis-1,2-Dichloroethene	ug/m3	40.3	41.5	103	70-136	
Dichlorodifluoromethane	ug/m3	50.3	44.3	88	69-130	
Ethylbenzene	ug/m3	44.1	42.5	96	70-133	
m&p-Xylene	ug/m3	88.3	85.3	97	70-133	

Results presented on this page are in the units indicated by the "Units" and the result.

## **REPORT OF LABORATORY ANALYSIS**



Project:	Sarva Bio
Pace Project No.:	10453023

### LABORATORY CONTROL SAMPLE: 3103560

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Methylene Chloride	ug/m3	177	182	103	67-132	
n-Hexane	ug/m3	35.8	34.9	97	70-130	
o-Xylene	ug/m3	44.1	41.4	94	70-132	
Tetrachloroethene	ug/m3	68.9	71.4	104	70-133	
Toluene	ug/m3	38.3	38.3	100	70-130	
ans-1,2-Dichloroethene	ug/m3	40.3	46.2	115	70-132	
Trichloroethene	ug/m3	54.6	52.5	96	70-135	
/inyl chloride	ug/m3	26	21.2	82	70-141	

#### SAMPLE DUPLICATE: 3104256

		10452926031	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	N2
2-Butanone (MEK)	ug/m3	ND	1.3J		25	
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	18.7	19.0	2	25	
Benzene	ug/m3	0.56	0.63	13	25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.1	2.0	5	25	
Ethylbenzene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	8.7	8.8	2	25	
n-Hexane	ug/m3	1.3	1.3	2	25	
o-Xylene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	1.9	1.9	1	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

### SAMPLE DUPLICATE: 3104258

		10452926035	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3		ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	N2
2-Butanone (MEK)	ug/m3	ND	.84J		25	

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

### **REPORT OF LABORATORY ANALYSIS**



Project: Sarva Bio Pace Project No.: 10453023

### SAMPLE DUPLICATE: 3104258

		Max	
Parameter Units Result Result	RPD	RPD	Qualifiers
4-Ethyltoluene ug/m3 ND	ND	25	
Acetone ug/m3 16.0 1	7.1 6	25	
Benzene ug/m3 0.73 0	.77 5	25	
Carbon disulfide ug/m3 ND	ND	25	
cis-1,2-Dichloroethene ug/m3 ND	ND	25	
Dichlorodifluoromethane ug/m3 2.2	2.2 2	25	
Ethylbenzene ug/m3 ND	ND	25	
m&p-Xylene ug/m3 ND	ND	25	
Methylene Chloride ug/m3 7.4	7.8 6	25	
n-Hexane ug/m3 1.1	1.3 17	25	
o-Xylene ug/m3 ND	ND	25	
Tetrachloroethene ug/m3 ND	ND	25	
Toluene ug/m3 2.3	2.1 9	25	
trans-1,2-Dichloroethene ug/m3 ND	ND	25	
Trichloroethene ug/m3 ND	ND	25	
Vinyl chloride ug/m3 ND	ND	25	

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



### QUALIFIERS

Project:	Sarva Bio
Pace Project No.:	10453023

#### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

- MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.
- N2 The lab does not hold NELAC/TNI accreditation for this parameter.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Pace Project No.:	Sarva Bio 10453023				
Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10453023001	IA-001 (10/23)	TO-15	571934		
10453023002	IA-001 (10/24)	TO-15	571934		

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WO# : 10453023	34343 Page: of	Program	Clear	T Voluntary Clean Up T Dry Clean RCRA T Other	Location of Location Locati	StateOther	Report Level N. M. Other		1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2		2 Co2						DATE TIME SAMPLE CONDITIONS	10/24 10:20	10/25/89150 - F	 N/A	Temp in °C	5
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Pace Analytical *	Section A Section B Required Project Information: Required Project Information:	Cognany E 17124 St. LLC Report To:		, PA 17515-	- mar -	9 -0040		Section D Required Client Information     Mail: Media Codes       Section D Required Client Information     MEDia       AIR SAMPLE ID     Totale Bag       Totale Bag     Totale Bag       I Liver Summa Can TL:     Tuter Summa Can TL:       Sample IDs MUST BE UNIQUE     Luer Summa Can LL:       Heyr Volume Puff     UP       Other     Phyr Volume Puff       Payr Volume Puff     UP       Other     Phyr Volume Puff	WEDI/	Z A 001	Z Z 46 001	4 ω	0	5	11	12	Comments :	Set	22		Page	

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

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Chain of Custody Relinquished?					<b>.</b>				
Sampler Name and/or Signature on CO	Cr	Yes							
Samples Arrived within Hold Time?		Yes		5.					· · · · · ·
Short Hold Time Analysis (<72 hr)?		Yes	DXNo	6.		. <u></u>			· · · · · ·
Rush Turn Around Time Requested?		Yes		7.			· · · ·		
Sufficient Volume?	<u> </u>	XXXYes	No	8.	- · · · ·	· · · · · · · · · · · · · · · · · · ·		· ·	
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Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

March 06, 2019

Steve Vedder Environmental Products & Services of Vermont, Inc. 1539 Bobali Drive Harrisburg, PA 17104

RE: Project: IA-G 1-4 Pace Project No.: 10465549

Dear Steve Vedder:

Enclosed are the analytical results for sample(s) received by the laboratory on March 01, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Delle 2

Nathan Boberg nathan.boberg@pacelabs.com (612)360-0728 Project Manager

Enclosures

cc: Satya Ganti, Sarva Bio Remed, LLC



# **REPORT OF LABORATORY ANALYSIS**

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Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

### CERTIFICATIONS

Project:	IA-G 1-4
Pace Project No.:	10465549

#### **Minnesota Certification IDs**

1700 Elm Street SE, Minneapolis, MN 55414-2485 A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #: MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Marvland Certification #: 322 Massachusetts Certification #: M-MN064 Michigan Certification #: 9909

Minnesota Certification #: 027-053-137 Minnesota Dept of Ag Certifcation #: via MN 027-053-137 Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon NwTPH Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DW Certification #: 9952 C West Virginia DEP Certification #: 382 Wisconsin Certification #: 999407970 Wyoming UST Certification #: via A2LA 2926.01

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## SAMPLE SUMMARY

Project: IA-G 1-4 Pace Project No.: 10465549

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10465549001	IA-G-1 (Base Line)	Air	02/25/19 16:00	03/01/19 10:00
10465549002	IA-G-2 (VR-1)	Air	02/26/19 16:00	03/01/19 10:00
10465549003	IA-G-3 (VR-2)	Air	02/27/19 16:00	03/01/19 10:00
10465549004	IA-G-4 (VR-3)	Air	02/28/19 16:00	03/01/19 10:00

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### **REPORT OF LABORATORY ANALYSIS**



## SAMPLE ANALYTE COUNT

Project:	IA-G 1-4
Pace Project No .:	10465549

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10465549001	IA-G-1 (Base Line)	TO-15	MJL	22
10465549002	IA-G-2 (VR-1)	TO-15	MJL	22
10465549003	IA-G-3 (VR-2)	TO-15	MJL	22
10465549004	IA-G-4 (VR-3)	TO-15	MJL	22

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### **PROJECT NARRATIVE**

Project: IA-G 1-4 Pace Project No.: 10465549

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:March 06, 2019

#### General Information:

4 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:

Analyte Comments:

#### QC Batch: 592373

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- BLANK (Lab ID: 3203330)
  - 2,2,4-Trimethylpentane
- DUP (Lab ID: 3203591)
  - 2,2,4-Trimethylpentane
- DUP (Lab ID: 3203592)
  - 2,2,4-Trimethylpentane
- IA-G-1 (Base Line) (Lab ID: 10465549001)
  - 2,2,4-Trimethylpentane
- IA-G-2 (VR-1) (Lab ID: 10465549002)
- 2,2,4-Trimethylpentane
- IA-G-3 (VR-2) (Lab ID: 10465549003)
  - 2,2,4-Trimethylpentane

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### **PROJECT NARRATIVE**

Project: IA-G 1-4 Pace Project No.: 10465549

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:March 06, 2019

Analyte Comments:

QC Batch: 592373

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

• IA-G-4 (VR-3) (Lab ID: 10465549004)

2,2,4-Trimethylpentane

• LCS (Lab ID: 3203331)

• 2,2,4-Trimethylpentane

This data package has been reviewed for quality and completeness and is approved for release.

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### **REPORT OF LABORATORY ANALYSIS**



### **ANALYTICAL RESULTS**

Project: IA-G 1-4

Pace Project No.: 10465549 -

Sample: IA-G-1 (Base Line)	Lab ID: 10465549001		Collected: 02/25/19 16:00		Received: 03/01/19 10:00 Matrix: Air				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qu	
TO15 MSV AIR	Analytical Met	nod: TO-15							
Acetone	4.7	ug/m3	3.5	1.44		03/05/19 12:02	67-64-1		
Benzene	ND	ug/m3	0.47	1.44		03/05/19 12:02	71-43-2		
2-Butanone (MEK)	ND	ug/m3	4.3	1.44		03/05/19 12:02	78-93-3		
Carbon disulfide	ND	ug/m3	0.91	1.44		03/05/19 12:02	75-15-0		
Dichlorodifluoromethane	1.8	ug/m3	1.5	1.44		03/05/19 12:02	75-71-8		
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		03/05/19 12:02	75-35-4		
cis-1,2-Dichloroethene	15.3	ug/m3	1.2	1.44		03/05/19 12:02	156-59-2		
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		03/05/19 12:02	156-60-5		
Ethylbenzene	ND	ug/m3	1.3	1.44		03/05/19 12:02	100-41-4		
4-Ethyltoluene	ND	ug/m3	3.6	1.44		03/05/19 12:02	622-96-8		
n-Hexane	ND	ug/m3	1.0	1.44		03/05/19 12:02	110-54-3		
Methylene Chloride	ND	ug/m3	5.1	1.44		03/05/19 12:02	75-09-2		
Tetrachloroethene	72.0	ug/m3	0.99	1.44		03/05/19 12:02	127-18-4		
Toluene	ND	ug/m3	1.1	1.44		03/05/19 12:02	108-88-3		
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		03/05/19 12:02	71-55-6		
Trichloroethene	3.3	ug/m3	0.79	1.44		03/05/19 12:02	79-01-6		
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		03/05/19 12:02	95-63-6		
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		03/05/19 12:02	108-67-8		
2,2,4-Trimethylpentane	ND	ug/m3	3.4	1.44		03/05/19 12:02	540-84-1	N2	
Vinyl chloride	ND	ug/m3	0.37	1.44		03/05/19 12:02	75-01-4		
m&p-Xylene	ND	ug/m3	2.5	1.44		03/05/19 12:02	179601-23-1		
o-Xylene	ND	ug/m3	1.3	1.44		03/05/19 12:02	95-47-6		

Sample: IA-G-2 (VR-1)	Lab ID: 104	Lab ID: 10465549002		Collected: 02/26/19 16:00		Received: 03/01/19 10:00 M		Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
TO15 MSV AIR	Analytical Met	hod: TO-15							
Acetone	10.3	ug/m3	3.6	1.49		03/05/19 12:54	67-64-1		
Benzene	0.52	ug/m3	0.48	1.49		03/05/19 12:54	71-43-2		
2-Butanone (MEK)	ND	ug/m3	4.5	1.49		03/05/19 12:54	78-93-3		
Carbon disulfide	ND	ug/m3	0.94	1.49		03/05/19 12:54	75-15-0		
Dichlorodifluoromethane	1.7	ug/m3	1.5	1.49		03/05/19 12:54	75-71-8		
1,1-Dichloroethene	ND	ug/m3	1.2	1.49		03/05/19 12:54	75-35-4		
cis-1,2-Dichloroethene	20.1	ug/m3	1.2	1.49		03/05/19 12:54	156-59-2		
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		03/05/19 12:54	156-60-5		
Ethylbenzene	ND	ug/m3	1.3	1.49		03/05/19 12:54	100-41-4		
4-Ethyltoluene	ND	ug/m3	3.7	1.49		03/05/19 12:54	622-96-8		
n-Hexane	ND	ug/m3	1.1	1.49		03/05/19 12:54	110-54-3		
Methylene Chloride	ND	ug/m3	5.3	1.49		03/05/19 12:54	75-09-2		
Tetrachloroethene	102	ug/m3	1.0	1.49		03/05/19 12:54	127-18-4		
Toluene	ND	ug/m3	1.1	1.49		03/05/19 12:54	108-88-3		
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.49		03/05/19 12:54	71-55-6		
Trichloroethene	4.3	ug/m3	0.81	1.49		03/05/19 12:54	79-01-6		
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.49		03/05/19 12:54	95-63-6		
1,3,5-Trimethylbenzene	ND	ug/m3	202 1.5	1.49		03/05/19 12:54	108-67-8		

## **REPORT OF LABORATORY ANALYSIS**



## ANALYTICAL RESULTS

Project: IA-G 1-4

Pace Project No.: 10465549

FO15 MSV AIR         Analytical Method: TO-15           2,2,4-Trimethylpentane         ND         ug/m3         3,5         1,49         03/05/19 12:54         540-84-1         N2           möp-Skylene         ND         ug/m3         2,6         1,49         03/05/19 12:54         75-01-4           nöp-Skylene         ND         ug/m3         2,6         1,49         03/05/19 12:54         75-01-4           skylene         ND         ug/m3         1,3         1,49         03/05/19 12:54         95-47-6           Sample: IA-G-3 (VR-2)         Lab ID: 10465549003         Collected:         02/27/19 16:00         Received:         03/05/19 13:21         67-64-1           Parameters         Results         Units         Report Limit         DF         Prepared         Analyzed         CAS No.         Que           YO15 MSV AIR         Analytical Method: TO-15         Xectone         6.3         ug/m3         0.48         1.49         03/05/19 13:21         77-64-1           Sampone (MEK)         ND         ug/m3         1.5         1.49         03/05/19 13:21         75-71-8           Ji-Dichlorothene         ND         ug/m3         1.2         1.49         03/05/19 13:21         75-34-4           JiChloro	Sample: IA-G-2 (VR-1)	Lab ID: 104	Lab ID: 10465549002		Collected: 02/26/19 16:00		Received: 03/01/19 10:00 Matrix: Air		
ND         ug/m3         3.5         1.49         03/05/19 12.54         540-84-1         N2           Viryl chloride         ND         ug/m3         0.39         1.49         03/05/19 12.54         750-14           NBc-Xipree         ND         ug/m3         2.6         1.49         03/05/19 12.54         750-12.41           Sample:         IA-G-3 (VR-2)         Lab ID:         10455549003         Collected:         02/27/19 16:00         Received:         03/05/19 12.54         750-14           Sample:         IA-G-3 (VR-2)         Lab ID:         10455549003         Collected:         02/27/19 16:00         Received:         03/05/19 12.54         750-0           Sample:         IA-G-3 (VR-2)         Lab ID:         10455549003         Collected:         02/27/19 16:00         Matrix: Air           Parameters         Results         Units         Report Limit         DF         Prepared         Analyzed         CAS No.         Quit           Saton disulfied         ND         ug/m3         0.44         1.49         03/05/19 13.21         75-15-0           Dichlorodifuoromethane         1.8         ug/m3         1.2         1.49         03/05/19 13.21         75-16-0           Dichlorodifuoromethane         1.8	Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
ND         ug/m3         0.38         1.49         0.306/19 12:54         75-014           n&p-Xylene         ND         ug/m3         2.6         1.49         0.306/19 12:54         1756012:3-1           Sample:         IA-G-3 (VR-2)         Lab ID:         10465549903         Collected:         0.227/19 16:00         Received:         0.306/19 12:54         1756012:3-1           Sample:         IA-G-3 (VR-2)         Lab ID:         10465549903         Collected:         0.227/19 16:00         Received:         0.306/19 12:24         67-64-1           Sample:         IA-G-3 (VR-2)         Lab ID:         10465549903         Collected:         0.227/19 16:00         Received:         0.306/19 13:21         67-64-1           Sample:         IA-G-3 (VR-2)         Lab ID:         10465549903         Collected:         0.3026/19 13:21         67-64-1           Sample:         Manaytical Method: TO-15         Xactone         6.3         ug/m3         0.48         1.49         0.306/19 13:21         67-64-1           Scatone         ND         ug/m3         0.48         1.49         0.306/19 13:21         75-43           Jachon disulfie         ND         ug/m3         1.2         1.49         0.306/19 13:21         75-64	TO15 MSV AIR	Analytical Meth	nod: TO-15						
ND         ug/m3         2.6         1.49         0306/19 12:54         179601-23-1           Sample:         IA-G-3 (VR-2)         Lab ID:         10465549003         Collected:         02/27/19 16:00         Received:         03/05/19 12:54         95-47-6           Sample:         IA-G-3 (VR-2)         Lab ID:         10465549003         Collected:         02/27/19 16:00         Received:         03/05/19 13:21         67-64-1           Parameters         Results         Units         Report Limit         DF         Prepared         Analyzed         CAS No.         Qua           Coll 5 MSV AIR         Analytical Method: TO-15         Xoctone         6.3         ug/m3         0.48         1.49         03/05/19 13:21         76-76-1-1           Sectance         ND         ug/m3         0.48         1.49         03/05/19 13:21         75-71-8           Choltroodthorenhane         ND         ug/m3         1.2         1.49         03/05/19 13:21         75-71-8           Sit-1.2-Oltchloroethene         ND         ug/m3         1.2         1.49         03/05/19 13:21         75-71-8           Sit-1.2-Dichloroethene         ND         ug/m3         1.3         1.49         03/05/19 13:21         75-71-8           Sit-1.2-Dic	2,2,4-Trimethylpentane	ND	ug/m3	3.5	1.49		03/05/19 12:54	540-84-1	N2
ND         ug/m3         2.6         1.49         0306/19 12:54         179601-23-1           Sample:         IA-G-3 (VR-2)         Lab ID:         10465549003         Collected:         02/27/19 16:00         Received:         03/05/19 12:54         95-47-6           Sample:         IA-G-3 (VR-2)         Lab ID:         10465549003         Collected:         02/27/19 16:00         Received:         03/05/19 13:21         67-64-1           Parameters         Results         Units         Report Limit         DF         Prepared         Analyzed         CAS No.         Qua           Coll 5 MSV AIR         Analytical Method: TO-15         Xoctone         6.3         ug/m3         0.48         1.49         03/05/19 13:21         76-76-1-1           Sectance         ND         ug/m3         0.48         1.49         03/05/19 13:21         75-71-8           Choltroodthorenhane         ND         ug/m3         1.2         1.49         03/05/19 13:21         75-71-8           Sit-1.2-Oltchloroethene         ND         ug/m3         1.2         1.49         03/05/19 13:21         75-71-8           Sit-1.2-Dichloroethene         ND         ug/m3         1.3         1.49         03/05/19 13:21         75-71-8           Sit-1.2-Dic	/inyl chloride	ND	ug/m3	0.39	1.49		03/05/19 12:54	75-01-4	
ND         ug/m3         1.3         1.49         03005/1912:54         95-47-6           Sample:         IA-G-3 (VR-2)         Lab ID:         10465549003         Collected:         02/27/19         16:00         Received:         03/01/19         10:00         Matrix: Air           Parameters         Results         Units         Report Limit         DF         Prepared         Analyzed         CAS No.         Que           C015 MSV AIR         Analytical Method: TO-15         Acatone         6.3         ug/m3         3.6         1.49         03/05/19         73:21         77-68-3           Coltone (MEK)         ND         ug/m3         0.48         1.49         03/05/19         73:21         75-76-0           Schoon disulfield         ND         ug/m3         1.5         1.49         03/05/19         75-15-0           Olchorodifluoromethane         1.8         ug/m3         1.2         1.49         03/05/19         75-15-0           Olchorodifluoromethane         ND         ug/m3         1.2         1.49         03/05/19         75-15-0           Problohoroethane         ND         ug/m3         1.2         1.49         03/05/19         75-15-0           Stathoroethane         ND	m&p-Xylene	ND		2.6	1.49		03/05/19 12:54	179601-23-1	
Parameters         Results         Units         Report Limit         DF         Prepared         Analyzed         CAS No.         Que           TO15 MSV AIR         Analytical Method: TO-15                       Analyzed         CAS No.         Que                     Analyzed         CAS No.         Que                     Analyzed         CAS No.         Que               Prepared         Analyzed         CAS No.         Que                    Rescite         Trans.12.         T	p-Xylene		-	1.3	1.49		03/05/19 12:54	95-47-6	
Parameters         Results         Units         Report Limit         DF         Prepared         Analyzed         CAS No.         Que           TO15 MSV AIR         Analytical Method: TO-15                       Analyzed         CAS No.         Que                     Analyzed         CAS No.         Que                     Analyzed         CAS No.         Que               Prepared         Analyzed         CAS No.         Que                    Rescite         Trans.12.         T	Sample: IA-G-3 (VR-2)	Lab ID: 104	65549003	Collected: 02/27	/19 16:00	Received: 0	3/01/19 10:00 N	latrix: Air	
FOIS MSV AIR         Analytical Method: TO-15           Acctance         6.3         ug/m3         3.6         1.49         03/05/19/13.21         67-64-1           Benzene         ND         ug/m3         4.8         1.49         03/05/19/13.21         77-18-2           2-Butanone (MEK)         ND         ug/m3         4.5         1.49         03/05/19/13.21         75-15-0           2-butanone (MEK)         ND         ug/m3         1.5         1.49         03/05/19/13.21         75-74-8           2-butanore/difluoromethane         1.8         ug/m3         1.2         1.49         03/05/19/13.21         156-69-2           3:1,2-Dichloroethene         ND         ug/m3         1.2         1.49         03/05/19/13.21         106-41-4           4:hylbenzene         ND         ug/m3         1.3         1.49         03/05/19/13.21         106-41-4           4:ethylbenzene         ND         ug/m3         3.7         1.49         03/05/19/13.21         106-8-3           Us/mithylbenzene         ND         ug/m3         1.1         1.49         03/05/19/13.21         107-96-8           Lij,1-Trickloroethene         ND         ug/m3         1.5         1.49         03/05/19/13.21         75-56-6	,								Qual
Acctone         6.3         ug/m3         3.6         1.49         03/05/19 13:21         67-64-1           Banzene         ND         ug/m3         0.48         1.49         03/05/19 13:21         71-43-2           2-Butanone (MEK)         ND         ug/m3         0.48         1.49         03/05/19 13:21         75-15-0           2-Butanone (MEK)         ND         ug/m3         1.5         1.49         03/05/19 13:21         75-71-8           1.1-Dichlorosthene         ND         ug/m3         1.2         1.49         03/05/19 13:21         75-71-8           1.1-Dichlorosthene         ND         ug/m3         1.2         1.49         03/05/19 13:21         156-60-5           Eitrylbenzene         ND         ug/m3         1.3         1.49         03/05/19 13:21         156-60-5           Eitrylbenzene         ND         ug/m3         1.3         1.49         03/05/19 13:21         156-60-5           Eitrylbenzene         ND         ug/m3         1.3         1.49         03/05/19 13:21         156-63-5           Eitrylbenzene         ND         ug/m3         1.3         1.49         03/05/19 13:21         175-09-2           Fetrachloroethene         ND         ug/m3         1.5									
Banzene         ND         ug/m3         0.48         1.49         03/05/19 13:21         71-43-2           2-Butanone (MEK)         ND         ug/m3         4.5         1.49         03/05/19 13:21         75-15-0           2-Butanone (MEK)         ND         ug/m3         0.94         1.49         03/05/19 13:21         75-15-0           2-Butanone (MEK)         ND         ug/m3         1.2         1.49         03/05/19 13:21         75-51-4           2-Dichlorodthane         ND         ug/m3         1.2         1.49         03/05/19 13:21         156-65-2           2-Inhoroethene         ND         ug/m3         1.2         1.49         03/05/19 13:21         156-65-5           2-Bitylbenzene         ND         ug/m3         1.3         1.49         03/05/19 13:21         100-41-4           Ethylbolene         ND         ug/m3         3.7         1.49         03/05/19 13:21         10-54-3           Vethylene Chloride         ND         ug/m3         1.1         1.49         03/05/19 13:21         10-54-3           Vethylene Chloride         ND         ug/m3         1.5         1.49         03/05/19 13:21         10-54-3           1,1-Trichylbenzene         ND         ug/m3	ro15 MSV AIR								
Butanone (MEK)         ND         ug/m3         4.5         1.49         03/05/19 13:21         78-93-3           Carbon disulfide         ND         ug/m3         0.94         1.49         03/05/19 13:21         75-15-0           Dichlorodifluoromethane         1.8         ug/m3         1.5         1.49         03/05/19 13:21         75-71-8           I,1-Dichloroethene         ND         ug/m3         1.2         1.49         03/05/19 13:21         156-59-2           Tans-1,2-Dichloroethene         ND         ug/m3         1.2         1.49         03/05/19 13:21         106-60-5           Ethylbenzene         ND         ug/m3         1.3         1.49         03/05/19 13:21         106-41-4           LEBtylbuere         ND         ug/m3         3.7         1.49         03/05/19 13:21         10-54-3           Verblorede         ND         ug/m3         1.1         1.49         03/05/19 13:21         10-54-3           Verblorede         ND         ug/m3         1.1         1.49         03/05/19 13:21         17-50-2           Fetrachloreethene         ND         ug/m3         1.5         1.49         03/05/19 13:21         17-56-6           Coluene         ND         ug/m3			0						
Carbon disulfide         ND         ug/m3         0.94         1.49         0305/19 13:21         75-15-0           Dichlorodfiluoromethane         1.8         ug/m3         1.5         1.49         0305/19 13:21         75-71-8           L/-Dichloroethene         ND         ug/m3         1.2         1.49         0305/19 13:21         156-59-2           tist, 12-Dichloroethene         ND         ug/m3         1.2         1.49         0305/19 13:21         156-60-5           tistybenzene         ND         ug/m3         1.3         1.49         0305/19 13:21         156-60-5           tityblenzene         ND         ug/m3         3.7         1.49         0305/19 13:21         162-64-3           Viethylene Chloride         ND         ug/m3         5.3         1.49         0305/19 13:21         175-43           Viethylene Chloride         ND         ug/m3         1.0         1.49         0305/19 13:21         175-56           foluene         ND         ug/m3         1.7         1.49         0305/19 13:21         175-56           frichloroethane         ND         ug/m3         1.5         1.49         0305/19 13:21         75-61           J.2,4-Trimethylbenzene         ND         ug/m3 <td></td> <td>ND</td> <td>0</td> <td>0.48</td> <td>1.49</td> <td></td> <td></td> <td></td> <td></td>		ND	0	0.48	1.49				
Dicklorodifluoromethane         1.8         ug/m3         1.5         1.49         03/05/19 13:21         75-71-8           1,1-Dichloroethene         ND         ug/m3         1.2         1.49         03/05/19 13:21         75-35-4           is:1,2-Dichloroethene         ND         ug/m3         1.2         1.49         03/05/19 13:21         156-60-5           is:1,2-Dichloroethene         ND         ug/m3         1.3         1.49         03/05/19 13:21         100-41-4           Ethylbenzene         ND         ug/m3         1.7         1.49         03/05/19 13:21         102-41-4           Ethylbenzene         ND         ug/m3         1.1         1.49         03/05/19 13:21         102-43           Hetxane         ND         ug/m3         1.1         1.49         03/05/19 13:21         108-88-3           ichrachloroethene         102         ug/m3         1.7         1.49         03/05/19 13:21         108-88-3           ichuene         ND         ug/m3         1.5         1.49         03/05/19 13:21         75-56-6           ichuene         ND         ug/m3         1.5         1.49         03/05/19 13:21         75-67-6           i,1,1-Tichloroethane         ND         ug/m3	, , , , , , , , , , , , , , , , , , ,	ND	ug/m3	4.5			03/05/19 13:21	78-93-3	
ND         ug/m3         1.2         1.49         03/05/19 13:21         75-35-4           isis 1,2-Dichloroethene         ND         ug/m3         1.2         1.49         03/05/19 13:21         156-59-2           ans-1,2-Dichloroethene         ND         ug/m3         1.2         1.49         03/05/19 13:21         100-41-4           ans-1,2-Dichloroethene         ND         ug/m3         3.7         1.49         03/05/19 13:21         100-41-4           Ethylbenzene         ND         ug/m3         3.7         1.49         03/05/19 13:21         100-41-4           Veltvane         ND         ug/m3         1.4         1.49         03/05/19 13:21         100-41-4           Veltvane         ND         ug/m3         1.4         1.49         03/05/19 13:21         100-41-3           Veltvane         ND         ug/m3         1.7         1.49         03/05/19 13:21         108-88-3           (1,1-Trichloroethane         ND         ug/m3         1.5         1.49         03/05/19 13:21         79-01-6           1,2,4-Timethylbenzene         ND         ug/m3         1.5         1.49         03/05/19 13:21         79-01-6           1,2,4-Timethylbenzane         ND         ug/m3         3.5	Carbon disulfide	ND	ug/m3	0.94	1.49		03/05/19 13:21	75-15-0	
is-1,2-Dichloroethene       25.4       ug/m3       1.2       1.49       03/05/19       13:21       156-59-2         rans-1,2-Dichloroethene       ND       ug/m3       1.2       1.49       03/05/19       13:21       156-60-5         titylbenzene       ND       ug/m3       1.3       1.49       03/05/19       13:21       102-04-14         VEthyltoluene       ND       ug/m3       1.1       1.49       03/05/19       13:21       102-43         Vethylene Chloride       ND       ug/m3       1.1       1.49       03/05/19       13:21       107-43         dethylene Chloride       ND       ug/m3       1.0       1.49       03/05/19       13:21       127-18-4         oluene       ND       ug/m3       1.7       1.49       03/05/19       13:21       175-66         richloroethene       6.4       ug/m3       0.81       1.49       03/05/19       13:21       108-67-8         .2,4-Trimethylbenzene       ND       ug/m3       3.5       1.49       03/05/19       13:21       108-67-8         .2,4-Trimethylbenzene       ND       ug/m3       3.5       1.49       03/05/19       13:21       56-64         inkloride       0.52 <td>Dichlorodifluoromethane</td> <td>1.8</td> <td>ug/m3</td> <td>1.5</td> <td>1.49</td> <td></td> <td>03/05/19 13:21</td> <td>75-71-8</td> <td></td>	Dichlorodifluoromethane	1.8	ug/m3	1.5	1.49		03/05/19 13:21	75-71-8	
ND         ug/m3         1.2         1.49         03/05/19         13:21         156-60-5           ithylbenzene         ND         ug/m3         1.3         1.49         03/05/19         13:21         100-41-4           -Ethyltoluene         ND         ug/m3         3.7         1.49         03/05/19         13:21         100-41-4           -Ethyltoluene         ND         ug/m3         3.7         1.49         03/05/19         13:21         100-41-4           -Hexane         ND         ug/m3         1.1         1.49         03/05/19         13:21         170-54-3           etarchloroethene         132         ug/m3         1.0         1.49         03/05/19         13:21         71-56-6           oluene         ND         ug/m3         1.7         1.49         03/05/19         13:21         79-0-2           -2.4-Trimethylbenzene         ND         ug/m3         1.5         1.49         03/05/19         13:21         79-01-6           .2.4-Trimethylbenzene         ND         ug/m3         1.5         1.49         03/05/19         13:21         70-6-7-8           .2.4-Trimethylbenzene         ND         ug/m3         0.35         1.49         03/05/19         1	,1-Dichloroethene	ND	ug/m3	1.2	1.49		03/05/19 13:21	75-35-4	
ND         ug/m3         1.3         1.49         03/05/19         13:21         100-41-4           -Ethyllouene         ND         ug/m3         3.7         1.49         03/05/19         13:21         122-96-8           -Hexane         ND         ug/m3         1.1         1.49         03/05/19         13:21         175-08-2           etrachloroethene         132         ug/m3         1.0         1.49         03/05/19         13:21         175-08-2           etrachloroethene         132         ug/m3         1.0         1.49         03/05/19         13:21         171-84           foluene         ND         ug/m3         1.7         1.49         03/05/19         13:21         179-01-6           ,1,1-Trichloroethane         6.4         ug/m3         1.5         1.49         03/05/19         13:21         195-63-6           ,3,5-Trimethylbenzene         ND         ug/m3         1.5         1.49         03/05/19         13:21         108-67-8           ,2,4-Trimethylbenzene         ND         ug/m3         3.5         1.49         03/05/19         13:21         156-01-4           n8p-Xylene         ND         ug/m3         2.6         1.49         03/05/19 <t< td=""><td>is-1,2-Dichloroethene</td><td>25.4</td><td>ug/m3</td><td>1.2</td><td>1.49</td><td></td><td>03/05/19 13:21</td><td>156-59-2</td><td></td></t<>	is-1,2-Dichloroethene	25.4	ug/m3	1.2	1.49		03/05/19 13:21	156-59-2	
ND         ug/m3         1.3         1.49         03/05/19         13:21         100-41-4           -Ethyltoluene         ND         ug/m3         3.7         1.49         03/05/19         13:21         122-96-8           -Hexane         ND         ug/m3         1.1         1.49         03/05/19         13:21         175-09-2           Vetrachloroethene         132         ug/m3         1.0         1.49         03/05/19         13:21         175-09-2           Vetrachloroethene         132         ug/m3         1.0         1.49         03/05/19         13:21         127-18-4           Voluene         ND         ug/m3         1.7         1.49         03/05/19         13:21         179-01-6           1,1-Trichloroethane         ND         ug/m3         1.5         1.49         03/05/19         13:21         195-63-6           1,2,4-Trimethylbenzene         ND         ug/m3         1.5         1.49         03/05/19         13:21         108-67-8           2,4-Trimethylbenzene         ND         ug/m3         3.5         1.49         03/05/19         13:21         175-01-4           ABp-Xylene         ND         ug/m3         2.6         1.49         03/05/19	rans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		03/05/19 13:21	156-60-5	
-Ethyltoluene         ND         ug/m3         3.7         1.49         03/05/19         13:21         622-96-8           -Hexane         ND         ug/m3         1.1         1.49         03/05/19         13:21         170-54-3           Alethylene Chloride         ND         ug/m3         5.3         1.49         03/05/19         13:21         127-18-4           Yoluene         ND         ug/m3         1.0         1.49         03/05/19         13:21         127-18-4           Yoluene         ND         ug/m3         1.1         1.49         03/05/19         13:21         127-18-4           Yoluene         ND         ug/m3         1.7         1.49         03/05/19         13:21         178-56-6           Yoly Aletorethane         ND         ug/m3         1.5         1.49         03/05/19         13:21         178-67-6           Z,2-4-Trimethylbenzene         ND         ug/m3         3.5         1.49         03/05/19         13:21         178-67-6           Z,2-4-Trimethylbenzene         ND         ug/m3         2.6         1.49         03/05/19         13:21         179601-23-1           Yelene         ND         ug/m3         2.6         1.49         03/05/1	thylbenzene	ND	-	1.3	1.49		03/05/19 13:21	100-41-4	
ND         ug/m3         1.1         1.49         03/05/19 13:21         110-54-3           Aethylene Chloride         ND         ug/m3         5.3         1.49         03/05/19 13:21         127-18-4           Tetrachloroethene         132         ug/m3         1.0         1.49         03/05/19 13:21         127-18-4           Toluene         ND         ug/m3         1.1         1.49         03/05/19 13:21         127-18-4           Toluene         ND         ug/m3         1.1         1.49         03/05/19 13:21         127-18-4           Toluene         ND         ug/m3         1.5         1.49         03/05/19 13:21         71-55-6           Trichloroethane         ND         ug/m3         1.5         1.49         03/05/19 13:21         95-63-6           .3,5-Trimethylbenzene         ND         ug/m3         3.5         1.49         03/05/19 13:21         540-84-1         N2           .2,4-Trimethylpentane         ND         ug/m3         3.5         1.49         03/05/19 13:21         75-01-4           .3,5-Trimethylpentane         ND         ug/m3         2.6         1.49         03/05/19 13:21         75-01-4           .2,4-Trimethylpentane         ND         ug/m3 <t< td=""><td>-</td><td>ND</td><td>0</td><td>3.7</td><td>1.49</td><td></td><td>03/05/19 13:21</td><td>622-96-8</td><td></td></t<>	-	ND	0	3.7	1.49		03/05/19 13:21	622-96-8	
Methylene Chloride         ND         ug/m3         5.3         1.49         03/05/19         13:21         75-09-2           fetrachloroethene         132         ug/m3         1.0         1.49         03/05/19         13:21         127-18-4           foluene         ND         ug/m3         1.1         1.49         03/05/19         13:21         108-88-3           ,1,1-Trichloroethane         ND         ug/m3         1.7         1.49         03/05/19         13:21         75-66           richloroethene         6.4         ug/m3         0.81         1.49         03/05/19         13:21         79-01-6           ,2,4-Trimethylbenzene         ND         ug/m3         1.5         1.49         03/05/19         13:21         108-67-8           ,2,4-Trimethylpentane         ND         ug/m3         3.5         1.49         03/05/19         13:21         75-01-4           n8p-Xylene         ND         ug/m3         2.6         1.49         03/05/19         13:21         75-01-4           n8p-Xylene         ND         ug/m3         2.6         1.49         03/05/19         13:21         75-01-4           rots         Results         Units         Report Limit         DF	-		-						
Tetrachloroethene         132         ug/m3         1.0         1.49         03/05/19         1321         127-18-4           Foluene         ND         ug/m3         1.1         1.49         03/05/19         13:21         108-88-3           ,1,1-Trichloroethane         ND         ug/m3         1.7         1.49         03/05/19         13:21         71-55-6           richloroethane         6.4         ug/m3         1.5         1.49         03/05/19         13:21         79-01-6           ,2,4-Trimethylbenzene         ND         ug/m3         1.5         1.49         03/05/19         13:21         96-63-6           ,2,4-Trimethylbenzene         ND         ug/m3         1.5         1.49         03/05/19         13:21         108-67-8           ,2,4-Trimethylpentane         ND         ug/m3         0.39         1.49         03/05/19         13:21         75-01-4           Nap-Xylene         ND         ug/m3         2.6         1.49         03/05/19         13:21         75-01-4           Nap-Xylene         ND         ug/m3         2.6         1.49         03/05/19         13:21         79601-23-1           +Xylene         ND         ug/m3         1.3         1.49			-						
ND         ug/m3         1.1         1.49         03/05/19         13:21         108-88-3           ,1,1-Trichloroethane         ND         ug/m3         1.7         1.49         03/05/19         13:21         71-55-6           rirchloroethane         6.4         ug/m3         0.81         1.49         03/05/19         13:21         79-01-6           ,2,4-Trimethylbenzene         ND         ug/m3         1.5         1.49         03/05/19         13:21         95-63-6           ,3,5-Trimethylbenzene         ND         ug/m3         3.5         1.49         03/05/19         13:21         540-84-1         N2           ,2,4-Trimethylpentane         ND         ug/m3         3.5         1.49         03/05/19         13:21         75-01-4           ,8,p-Xylene         ND         ug/m3         2.6         1.49         03/05/19         13:21         75-01-4           n&p-Xylene         ND         ug/m3         2.6         1.49         03/05/19         13:21         75-01-4           sep-Xylene         ND         ug/m3         2.6         1.49         03/05/19         13:21         95-47-6           Sample: IA-G-4 (VR-3)         Lab ID:         10465549004         Collected:	-		-						
1,1-Trichloroethane       ND       ug/m3       1.7       1.49       03/05/19       13:21       71-55-6         richloroethane       6.4       ug/m3       0.81       1.49       03/05/19       13:21       79-01-6         .2,4-Trimethylbenzene       ND       ug/m3       1.5       1.49       03/05/19       13:21       95-63-6         .3,5-Trimethylbenzene       ND       ug/m3       1.5       1.49       03/05/19       13:21       540-84-1       N2         .2,4-Trimethylbenzene       ND       ug/m3       3.5       1.49       03/05/19       13:21       540-84-1       N2         .2,4-Trimethylpentane       ND       ug/m3       0.39       1.49       03/05/19       13:21       540-84-1       N2         /inyl chloride       0.52       ug/m3       0.39       1.49       03/05/19       13:21       179601-23-1         -Xylene       ND       ug/m3       1.3       1.49       03/05/19       13:21       95-47-6         Sample: IA-G-4 (VR-3)       Lab ID: 10465549004       Collected:       02/28/19       16:00       Received:       03/01/19       10:00       Matrix: Air         Parameters       Results       Units       Report Li			-						
Grichloroethene         6.4         ug/m3         0.81         1.49         03/05/19         13:21         79-01-6           ,2,4-Trimethylbenzene         ND         ug/m3         1.5         1.49         03/05/19         13:21         95-63-6           ,3,5-Trimethylbenzene         ND         ug/m3         1.5         1.49         03/05/19         13:21         108-67-8           ,2,4-Trimethylbenzene         ND         ug/m3         3.5         1.49         03/05/19         13:21         540-84-1         N2           ,2,4-Trimethylpentane         ND         ug/m3         0.39         1.49         03/05/19         13:21         75-01-4           n&p-Xylene         ND         ug/m3         2.6         1.49         03/05/19         13:21         95-47-6           Sample: IA-G-4 (VR-3)         Lab ID:         10465549004         Collected:         02/28/19         16:00         Received:         03/05/19         13:21         95-47-6           Sample: IA-G-4 (VR-3)         Lab ID:         10465549004         Collected:         02/28/19         16:00         Received:         03/05/19         13:47         67-64-1           Sample: IA-G-4 (VR-3)         Lab ID:         10465549004 <t< td=""><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>			-						
,2,4-Trimethylbenzene       ND       ug/m3       1.5       1.49       03/05/19 13:21       95-63-6         ,3,5-Trimethylbenzene       ND       ug/m3       1.5       1.49       03/05/19 13:21       108-67-8         2,2,4-Trimethylpentane       ND       ug/m3       3.5       1.49       03/05/19 13:21       540-84-1       N2         Vinyl chloride       0.52       ug/m3       0.39       1.49       03/05/19 13:21       75-01-4         n&p-Xylene       ND       ug/m3       2.6       1.49       03/05/19 13:21       179601-23-1         o-Xylene       ND       ug/m3       1.3       1.49       03/05/19 13:21       95-47-6         Sample:       IA-G-4 (VR-3)       Lab ID: 10465549004       Collected: 02/28/19 16:00       Received: 03/01/19 10:00       Matrix: Air         Parameters       Results       Units       Report Limit       DF       Prepared       Analyzed       CAS No.       Qua         TO15 MSV AIR       Analytical Method: TO-15       X       X       X       X       X       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y <t< td=""><td></td><td></td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>			0						
ND       ug/m3       1.5       1.49       03/05/19       13:21       108-67-8         2,2,4-Trimethylpentane       ND       ug/m3       3.5       1.49       03/05/19       13:21       540-84-1       N2         Vinyl chloride       0.52       ug/m3       0.39       1.49       03/05/19       13:21       75-01-4         n&p-Xylene       ND       ug/m3       2.6       1.49       03/05/19       13:21       179601-23-1         o-Xylene       ND       ug/m3       1.3       1.49       03/05/19       13:21       95-47-6         Sample:       IA-G-4 (VR-3)       Lab ID:       10465549004       Collected:       02/28/19       16:00       Received:       03/05/19       13:21       95-47-6         Sample:       IA-G-4 (VR-3)       Lab ID:       10465549004       Collected:       02/28/19       16:00       Received:       03/05/19       13:47       03/05/19       13:47       03/05/19       13:47       03/05/19       13:47       03/05/19       13:47       03/05/19       13:47       03/05/19       13:47       03/05/19       13:47       03/05/19       13:47       03/05/19       13:47       03/05/19       13:47       03/05/19       13:47       03/05/19 <t< td=""><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>			-						
ND         ug/m3         3.5         1.49         03/05/19         13:21         540-84-1         N2           /inyl chloride         0.52         ug/m3         0.39         1.49         03/05/19         13:21         75-01-4           n&p-Xylene         ND         ug/m3         2.6         1.49         03/05/19         13:21         179601-23-1           p-Xylene         ND         ug/m3         1.3         1.49         03/05/19         13:21         95-47-6           Sample:         IA-G-4 (VR-3)         Lab ID:         10465549004         Collected:         02/28/19         16:00         Received:         03/01/19         10:00         Matrix: Air           Parameters         Results         Units         Report Limit         DF         Prepared         Analyzed         CAS No.         Qua           TO15 MSV AIR         Analytical Method: TO-15         Analytical Method: TO	•		-						
Only Chloride       0.52       ug/m3       0.39       1.49       03/05/19       13:21       75-01-4         n&p-Xylene       ND       ug/m3       2.6       1.49       03/05/19       13:21       179601-23-1         o-Xylene       ND       ug/m3       1.3       1.49       03/05/19       13:21       179601-23-1         o-Xylene       ND       ug/m3       1.3       1.49       03/05/19       13:21       95-47-6         Sample:       IA-G-4 (VR-3)       Lab ID:       10465549004       Collected:       02/28/19       16:00       Received:       03/05/19       13:21       95-47-6         Sample:       IA-G-4 (VR-3)       Lab ID:       10465549004       Collected:       02/28/19       16:00       Received:       03/05/19       13:21       75-01-4         Sample:       IA-G-4 (VR-3)       Lab ID:       10465549004       Collected:       02/28/19       16:00       Received:       03/05/19       13:21       95-47-6         Sample:       IA-G-4 (VR-3)       Lab ID:       10465549004       Collected:       02/28/19       16:00       Received:       03/05/19       13:47       76         Tool 5       Analytical Method: TO-15       Sanot 6       2       ug/m	-		-						NO
NB       Ug/m3       2.6       1.49       03/05/19       13:21       179601-23-1         ND       Ug/m3       1.3       1.49       03/05/19       13:21       95-47-6         Sample:       IA-G-4 (VR-3)       Lab ID:       10465549004       Collected:       02/28/19       16:00       Received:       03/05/19       13:21       95-47-6         Sample:       IA-G-4 (VR-3)       Lab ID:       10465549004       Collected:       02/28/19       16:00       Received:       03/05/19       13:21       95-47-6         Sample:       IA-G-4 (VR-3)       Lab ID:       10465549004       Collected:       02/28/19       16:00       Received:       03/05/19       13:21       95-47-6         Sample:       IA-G-4 (VR-3)       Lab ID:       10465549004       Collected:       02/28/19       16:00       Received:       03/05/19       13:27       67.64.1         Mo       Ug/m3       0.47       1.46       03/05/19       13:47       67-64-1       67-64-1         Senzene       ND       Ug/m3       0.44       1.46       03/05/19       13:47       78-93-3         Carbon disulfide       ND       Ug/m3       0.92       1.46       03/05/19       13:47       75-15-0			-						INZ
ND         ug/m3         1.3         1.49         03/05/19         13:21         95-47-6           Sample:         IA-G-4 (VR-3)         Lab ID:         10465549004         Collected:         02/28/19         16:00         Received:         03/05/19         13:21         95-47-6           Sample:         IA-G-4 (VR-3)         Lab ID:         10465549004         Collected:         02/28/19         16:00         Received:         03/05/19         10:21         95-47-6           Parameters         Results         Units         Report Limit         DF         Prepared         Analyzed         CAS No.         Qual           TO15 MSV AIR         Analytical Method: TO-15           Acetone         6.2         ug/m3         0.47         1.46         03/05/19         13:47         67-64-1           Banzene         ND         ug/m3         0.47         1.46         03/05/19         13:47         78-93-3           Carbon disulfide         ND         ug/m3         0.92         1.46         03/05/19         13:47         75-71-8           Dichlorodifluoromethane         1.6         ug/m3         1.2	5		0						
Parameters         Results         Units         Report Limit         DF         Prepared         Analyzed         CAS No.         Qua           TO15 MSV AIR         Analytical Method: TO-15           Acetone         6.2         ug/m3         3.5         1.46         03/05/19 13:47         67-64-1           Benzene         ND         ug/m3         0.47         1.46         03/05/19 13:47         71-43-2           P-Butanone (MEK)         ND         ug/m3         4.4         1.46         03/05/19 13:47         78-93-3           Carbon disulfide         ND         ug/m3         0.92         1.46         03/05/19 13:47         75-15-0           Dichlorodifluoromethane         1.6         ug/m3         1.5         1.46         03/05/19 13:47         75-71-8           U-Dichloroethene         ND         ug/m3         1.5         1.46         03/05/19 13:47         75-35-4			-						
Parameters         Results         Units         Report Limit         DF         Prepared         Analyzed         CAS No.         Qua           TO15 MSV AIR         Analytical Method: TO-15           Acetone         6.2         ug/m3         3.5         1.46         03/05/19 13:47         67-64-1           Benzene         ND         ug/m3         0.47         1.46         03/05/19 13:47         71-43-2           P-Butanone (MEK)         ND         ug/m3         4.4         1.46         03/05/19 13:47         78-93-3           Carbon disulfide         ND         ug/m3         0.92         1.46         03/05/19 13:47         75-15-0           Dichlorodifluoromethane         1.6         ug/m3         1.5         1.46         03/05/19 13:47         75-71-8           U-Dichloroethene         ND         ug/m3         1.5         1.46         03/05/19 13:47         75-35-4	Sample: $14 - G - 4$ (V/P-3)	Lab ID: 104	65540004	Collected: 02/28	/10 16:00	Received: 0	3/01/10 10:00	Antrix: Air	
FO15 MSV AIR         Analytical Method: TO-15           Acetone         6.2         ug/m3         3.5         1.46         03/05/19         13:47         67-64-1           Benzene         ND         ug/m3         0.47         1.46         03/05/19         13:47         71-43-2           Q2-Butanone (MEK)         ND         ug/m3         4.4         1.46         03/05/19         13:47         78-93-3           Carbon disulfide         ND         ug/m3         0.92         1.46         03/05/19         13:47         75-15-0           Dichlorodifluoromethane         1.6         ug/m3         1.5         1.46         03/05/19         13:47         75-71-8           I,1-Dichloroethene         ND         ug/m3         1.2         1.46         03/05/19         13:47         75-35-4									
6.2         ug/m3         3.5         1.46         03/05/19         13:47         67-64-1           Benzene         ND         ug/m3         0.47         1.46         03/05/19         13:47         71-43-2           2-Butanone (MEK)         ND         ug/m3         4.4         1.46         03/05/19         13:47         78-93-3           Carbon disulfide         ND         ug/m3         0.92         1.46         03/05/19         13:47         75-15-0           Dichlorodifluoromethane         1.6         ug/m3         1.5         1.46         03/05/19         13:47         75-71-8           1,1-Dichloroethene         ND         ug/m3         1.5         1.46         03/05/19         13:47         75-35-4	Parameters	Results	Units	Report Limit		Prepared	Analyzed	CAS No.	Qual
Benzene         ND         ug/m3         0.47         1.46         03/05/19         13:47         71-43-2           2-Butanone (MEK)         ND         ug/m3         4.4         1.46         03/05/19         13:47         78-93-3           Carbon disulfide         ND         ug/m3         0.92         1.46         03/05/19         13:47         75-15-0           Dichlorodifluoromethane <b>1.6</b> ug/m3         1.5         1.46         03/05/19         13:47         75-71-8           I,1-Dichloroethene         ND         ug/m3         1.2         1.46         03/05/19         13:47         75-35-4	ro15 MSV AIR	Analytical Meth	nod: TO-15						
Benzene         ND         ug/m3         0.47         1.46         03/05/19         13:47         71-43-2           P-Butanone (MEK)         ND         ug/m3         4.4         1.46         03/05/19         13:47         78-93-3           Carbon disulfide         ND         ug/m3         0.92         1.46         03/05/19         13:47         75-15-0           Dichlorodifluoromethane <b>1.6</b> ug/m3         1.5         1.46         03/05/19         13:47         75-71-8           J-Dichloroethene         ND         ug/m3         1.2         1.46         03/05/19         13:47         75-35-4	Acetone	6.2	ug/m3	3.5	1.46		03/05/19 13:47	67-64-1	
P-Butanone (MEK)         ND         ug/m3         4.4         1.46         03/05/19         13:47         78-93-3           Carbon disulfide         ND         ug/m3         0.92         1.46         03/05/19         13:47         75-15-0           Dichlorodifluoromethane <b>1.6</b> ug/m3         1.5         1.46         03/05/19         13:47         75-71-8           I,1-Dichloroethene         ND         ug/m3         1.2         1.46         03/05/19         13:47         75-35-4	Benzene		ug/m3	0.47	1.46		03/05/19 13:47	71-43-2	
ND         ug/m3         0.92         1.46         03/05/19         13:47         75-15-0           Dichlorodifluoromethane <b>1.6</b> ug/m3         1.5         1.46         03/05/19         13:47         75-71-8           J.1-Dichloroethene         ND         ug/m3         1.2         1.46         03/05/19         13:47         75-35-4	2-Butanone (MEK)	ND	-	4.4			03/05/19 13:47	78-93-3	
Dichlorodifluoromethane         1.6         ug/m3         1.5         1.46         03/05/19         13:47         75-71-8           ,1-Dichloroethene         ND         ug/m3         1.2         1.46         03/05/19         13:47         75-35-4	( )	ND	-	0.92			03/05/19 13:47	75-15-0	
1-Dichloroethene ND ug/m3 1.2 1.46 03/05/19 13:47 75-35-4									
203			-						
	,			203				·	

## **REPORT OF LABORATORY ANALYSIS**



## ANALYTICAL RESULTS

Project: IA-G 1-4

Pace Project No.: 10465549

Sample: IA-G-4 (VR-3)	Lab ID: 104	Lab ID: 10465549004		Collected: 02/28/19 16:00		Received: 03/01/19 10:00		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
cis-1,2-Dichloroethene	19.7	ug/m3	1.2	1.46		03/05/19 13:4	7 156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.46		03/05/19 13:47	7 156-60-5	
Ethylbenzene	ND	ug/m3	1.3	1.46		03/05/19 13:47	7 100-41-4	
4-Ethyltoluene	ND	ug/m3	3.6	1.46		03/05/19 13:47	7 622-96-8	
n-Hexane	ND	ug/m3	1.0	1.46		03/05/19 13:4	7 110-54-3	
Methylene Chloride	ND	ug/m3	5.2	1.46		03/05/19 13:47	7 75-09-2	
Tetrachloroethene	98.2	ug/m3	1.0	1.46		03/05/19 13:47	7 127-18-4	
Toluene	ND	ug/m3	1.1	1.46		03/05/19 13:47	7 108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.46		03/05/19 13:4	7 71-55-6	
Trichloroethene	4.5	ug/m3	0.80	1.46		03/05/19 13:4	7 79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.46		03/05/19 13:4	7 95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.46		03/05/19 13:47	7 108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	3.5	1.46		03/05/19 13:4	7 540-84-1	N2
Vinyl chloride	ND	ug/m3	0.38	1.46		03/05/19 13:4	7 75-01-4	
m&p-Xylene	ND	ug/m3	2.6	1.46		03/05/19 13:4	7 179601-23-1	
o-Xylene	ND	ug/m3	1.3	1.46		03/05/19 13:4	7 95-47-6	

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## **REPORT OF LABORATORY ANALYSIS**



Project: IA-G 1-4

Pace Project No.: 10465549

 QC Batch:
 592373
 Analysis Method:
 TO-15

 QC Batch Method:
 TO-15
 Analysis Description:
 TO15 MSV AIR Low Level

 Associated Lab Samples:
 10465549001, 10465549002, 10465549003, 10465549004
 TO15 MSV AIR Low Level

METHOD BLANK: 3203330

Matrix: Air

Associated Lab Samples:	10465549001, 10	0465549002,	10465549003,	10465549004
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		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	03/05/19 09:03	
1,1-Dichloroethene	ug/m3	ND	0.81	03/05/19 09:03	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	03/05/19 09:03	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	03/05/19 09:03	
2,2,4-Trimethylpentane	ug/m3	ND	2.4	03/05/19 09:03	N2
2-Butanone (MEK)	ug/m3	ND	3.0	03/05/19 09:03	
4-Ethyltoluene	ug/m3	ND	2.5	03/05/19 09:03	
Acetone	ug/m3	ND	2.4	03/05/19 09:03	
Benzene	ug/m3	ND	0.32	03/05/19 09:03	
Carbon disulfide	ug/m3	ND	0.63	03/05/19 09:03	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	03/05/19 09:03	
Dichlorodifluoromethane	ug/m3	ND	1.0	03/05/19 09:03	
Ethylbenzene	ug/m3	ND	0.88	03/05/19 09:03	
m&p-Xylene	ug/m3	ND	1.8	03/05/19 09:03	
Methylene Chloride	ug/m3	ND	3.5	03/05/19 09:03	
n-Hexane	ug/m3	ND	0.72	03/05/19 09:03	
o-Xylene	ug/m3	ND	0.88	03/05/19 09:03	
Tetrachloroethene	ug/m3	ND	0.69	03/05/19 09:03	
Toluene	ug/m3	ND	0.77	03/05/19 09:03	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	03/05/19 09:03	
Trichloroethene	ug/m3	ND	0.55	03/05/19 09:03	
Vinyl chloride	ug/m3	ND	0.26	03/05/19 09:03	

### LABORATORY CONTROL SAMPLE: 3203331

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	53.9	97	70-130	
1,1-Dichloroethene	ug/m3	40.3	33.8	84	70-130	
1,2,4-Trimethylbenzene	ug/m3	50	49.8	100	70-134	
1,3,5-Trimethylbenzene	ug/m3	50	49.2	99	70-132	
2,2,4-Trimethylpentane	ug/m3	47.5	44.3	93	68-138 N	N2
2-Butanone (MEK)	ug/m3	30	27.0	90	70-130	
4-Ethyltoluene	ug/m3	50	49.7	99	70-138	
Acetone	ug/m3	121	91.5	76	67-130	
Benzene	ug/m3	32.5	30.5	94	70-130	
Carbon disulfide	ug/m3	31.6	29.3	93	56-137	
cis-1,2-Dichloroethene	ug/m3	40.3	37.6	93	70-130	
Dichlorodifluoromethane	ug/m3	50.3	45.3	90	70-130	
Ethylbenzene	ug/m3	44.1	42.6	97	67-131	
m&p-Xylene	ug/m3	88.3	84.4	96	70-132	

Results presented on this page are in the units indicated by the "Units" 2005mn except where an alternate unit is presented to the right of the result.

## **REPORT OF LABORATORY ANALYSIS**



Project: IA-G 1-4 Pace Project No.: 10465549

### LABORATORY CONTROL SAMPLE: 3203331

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
lethylene Chloride	ug/m3	177	153	87	65-130	
-Hexane	ug/m3	35.8	32.7	91	66-130	
-Xylene	ug/m3	44.1	42.8	97	70-130	
etrachloroethene	ug/m3	68.9	70.2	102	70-130	
luene	ug/m3	38.3	36.7	96	70-130	
ns-1,2-Dichloroethene	ug/m3	40.3	37.9	94	70-130	
chloroethene	ug/m3	54.6	52.5	96	70-130	
nyl chloride	ug/m3	26	21.5	83	70-130	

#### SAMPLE DUPLICATE: 3203591

		92419449008	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	2.4	2.5	3	25	
1,3,5-Trimethylbenzene	ug/m3	0.66J	.66J		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	N2
2-Butanone (MEK)	ug/m3	1.6J	1.8J		25	
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	11.4	12.0	5	25	
Benzene	ug/m3	1.1	1.1	5	25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	1.7	1.9	8	25	
Ethylbenzene	ug/m3	4.1	4.2	2	25	
m&p-Xylene	ug/m3	20.2	20.9	4	25	
Methylene Chloride	ug/m3	4.7J	4.7J		25	
n-Hexane	ug/m3	1.2	1.4	10	25	
o-Xylene	ug/m3	6.0	6.2	3	25	
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	7.6	7.7	1	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

### SAMPLE DUPLICATE: 3203592

Parameter	Units	10465549001 Result	Dup Result	RPD	Max RPD	Qualifiers
1 alameter						
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	N2
2-Butanone (MEK)	ug/m3	ND	.88J		25	

Results presented on this page are in the units indicated by the "Units" 200mn except where an alternate unit is presented to the right of the result.

## **REPORT OF LABORATORY ANALYSIS**



Project: IA-G 1-4 Pace Project No.: 10465549

### SAMPLE DUPLICATE: 3203592

		10465549001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	4.7	4.9	4	25	
Benzene	ug/m3	ND	.39J		25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	15.3	16.1	5	25	
Dichlorodifluoromethane	ug/m3	1.8	1.8	1	25	
Ethylbenzene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	ND	2.7J		25	
n-Hexane	ug/m3	ND	ND		25	
o-Xylene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	72.0	76.4	6	25	
Toluene	ug/m3	ND	.73J		25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	3.3	3.5	5	25	
Vinyl chloride	ug/m3	ND	.34J		25	

Results presented on this page are in the units indicated by the "Units" 2007mn except where an alternate unit is presented to the right of the result.

### **REPORT OF LABORATORY ANALYSIS**



### QUALIFIERS

Project:	IA-G 1-4
Pace Project No.:	10465549

#### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.



## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	IA-G 1-4
Pace Project No.:	10465549

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10465549001	IA-G-1 (Base Line)	TO-15	592373		
10465549002	IA-G-2 (VR-1)	TO-15	592373		
10465549003	IA-G-3 (VR-2)	TO-15	592373		
10465549004	IA-G-4 (VR-3)	TO-15	592373		

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AIR: CHAIN-OF-CUSTOI The Chain-of-Custody is a LEGAL DOCUMENT. All



	37941	Page: of
	Program	
MEN I.C.	TUST T Superfund T Emissions T Clean Air Act	ns 🖵 Clean Air Act
C. Yeuchard	T Voluntary Clean Up T Dry Clean F RCRA F Other	RCRA Cother
2y.	Location of	Reporting Units ug/m² mg/m³ app/ pow/
	Sampling by State	

37941 Page: of	Program	1 UST 1 Superfund 1 Emissions 1 Clean Air Act	T Voluntary Clean Up T Dry Clean F RCRA T Other	Location of Reporting Units ug/m <sup>2</sup> mg/m <sup>3</sup> mg/m <sup>3</sup> Sampling by State PPBV PPMV	Report Level II. IV. Other	Method: Met	X	005	003			DATE TIME SAMPLE CONDITIONS		ул  /Л	N/A N/A N/A	N/A	<ul> <li>S</li> <li>An or</li> <li>Custod on</li> <li>Costody</li> <li>Cooler</li> <li>Sied Cooler</li> </ul>	ът 998
	and 2			Pade Quote Reference: $(0.35552)$	Pace Profile #. 38634	MEDIA CODE PID Reaching (Client only) DATE Canister Pressure (Initial Field - in Hg) Canister Pressure (Initial Field - in Hg) Canister Pressure (Initial Field - in Hg) DATE DA	2 2 25/19 800 2 Mm 1600 28 5 352 2061	26/19 800 2416/ 16 00 28 5 1	2/27160 30 5 2 3 3 0 1 1 0	5 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		RELINQUISHED BY / AFFILIATION DATE TIME ACCEPTED BY / AFFILIATION	nto 2/28/19 11 10 105	200	251796 222176		SAMPLER NAME AND SIGNATURE Print name of sampler: signature of samples:	
Section A Section B Section B Required Client Information: Required Project Information:	COMPANY & MART-St- LLC. REPORT TO: 504	Address. Bearing of Revi Copy To:	Deven, PA 17315	Email To: 	<u>AT</u> :	*Section D Required Client Information Valid Media Codes AIR SAMPLE ID Telde Bag TB Telde Bag TB Sample IDs MUST BE UNIQUE 6 Lifter Summa Can 1LD Flow Volume Puri 1. UP High Volume Puri 1. UP High Volume Puri 1. UP Phyrodiae	I TA- G-1 (Bus (in))	<u>, 48 -</u>	3 IA 5 61-3 (VR-2).	$\int_{a}^{b} TA - G - 4 (VR - 3).$	10	Comments :					Page	-

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

Page 15 of 16

. Service	)	es.	Air San	Document Nam				t Revised: 31Jani Page 1 of 1	2019	] .
Pa	ce Analytica	1		Document No. F-MN-A-106-rev				iing Authority: nesota Quality O	ffice	
Air Sample Condition Upon Receipt	Client Name	::		Pro	ject #:	WO#	:104	6554	<b>1</b> 9	J
	Fed Ex Pace 785767	UPS SpeeDee な <i>ても</i> する	USPS Comr	Client		PM: NB3 CLIENT:	Sarva B	Due Date io	: 03/08/	19
Custody Seal on Cooler/	Box Present	? □Yes		Seals Intact?	Yes	<b>⊿</b> N₀				
Packing Material:	ubble Wrap	Bubble	Bags 🛛 Foa	m 🗌 None	Tin	Can Other	-:	Temp	Blank rec:	Yes No
Temp. (TO17 and TO13 san	ples only) (°C)		Corrected Te	., mp (°C):			Thermon	neter Used:	G87A917	0600254
Temp should be above free		Correction Fac		~	Da	te & Initials of P	erson Examini	ng Contents:	□G87A915! Ø <b>3 /øj / /</b>	5100842 9 <b>5 5</b>
Type of ice Received	Blue 🔲 Wei	None						_		
				,				Comments:		
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Chain of Custody Filled Out			Z	£		2.				
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Sampler Name and/or Sign		>		Yes No	□n/A	4.				
Samples Arrived within Hol			<u> </u>			5.				
Short Hold Time Analysis ( Rush Turn Around Time Re				Yes <mark>Z</mark> No Yes ZNo		6.				
Sufficient Volume?	questeur			r <u>es <b>⊿</b>No</u> les □No		7. 8.				
Correct Containers Used?				// //es □No		9.				
-Pace Containers Used?			— <i>С</i> .	res 🔤 No		5.				
Containers Intact?	· · ·		<u>~</u>			10.				
Media: Alr Can	Airbag	Filter		Passive			vidually Čertii	ied Cans Y	N Hist whi	ch samples)
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Do cans need to be pressur DO NOT PRESSURIZE)?	zed (3C and A	STM 1946	Z	/es 🔲 No		13.	,			
Samples Received:					Pressur	e Gauge # 🔲 1	OAIR34	10AIR35		
	Cani	sters						nisters		
		Flow	Initial	Final				Flow	Initial	Final
Sample Number	Can ID	Controller	Pressure	Pressure	Sam	ple Number	. Can ID	Controller	Pressure	Pressure
2			-3.0	1		·				
3			-3.0	1						
ÿ			-2.5	ι,						
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	acted:	S.Vedo	der		Date	2/Time:		a Required? /4/19 8:57	Yes N	lo
Comments/Reso	ution;		TO15 custo	m short list is	require	for all subm	itted sample	25		
							ou ourripit			
Project Manager Review	;	Ditto	Robera	211		Date:	3/4/1			



Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

April 18, 2019

Steve Vedder Environmental Products & Services of Vermont, Inc. 1539 Bobali Drive Harrisburg, PA 17104

RE: Project: 2331 E-Market St LLC Pace Project No.: 10469665

Dear Steve Vedder:

Enclosed are the analytical results for sample(s) received by the laboratory on April 05, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

120Fr 2

Nathan Boberg nathan.boberg@pacelabs.com (612)360-0728 Project Manager

Enclosures

cc: Satya Ganti, Sarva Bio Remed, LLC



# **REPORT OF LABORATORY ANALYSIS**

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Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

### CERTIFICATIONS

Project: 2331 E-Market St LLC Pace Project No.: 10469665

#### **Minnesota Certification IDs**

1700 Elm Street SE, Minneapolis, MN 55414-2485 A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #: MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Maryland Certification #: 322 Massachusetts Certification #: M-MN064 Michigan Certification #: 9909 Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certifcation #: via MN 027-053-137 Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Missouri Certification #: 10100 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon Primary Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Vermont Certification #: VT-027053137 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DEP Certification #: 382 West Virginia DW Certification #: 9952 C Wisconsin Certification #: 999407970 Wyoming UST Certification #: via A2LA 2926.01

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## SAMPLE SUMMARY

Project: 2331 E-Market St LLC Pace Project No.: 10469665

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10469665001	IA-001 (Pump Room)	Air	04/04/19 04:00	04/05/19 09:45
10469665002	IA-002 (G Middle Room)	Air		04/05/19 09:45
10469665003	IA-003 (Below Dock)	Air		04/05/19 09:45
10469665004	IA-004 (Suite H2)	Air		04/05/19 09:45
10469665005	IA-005 (R.R)	Air		04/05/19 09:45
10469665006	IA-006 (Vault)	Air		04/05/19 09:45
10469665007	IA-007 (H3-Yoga)	Air		04/05/19 09:45
10469665008	IA-008 (W15)	Air		04/05/19 09:45
10469665009	IA-Ambient (On the Dock)	Air		04/05/19 09:45

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## **REPORT OF LABORATORY ANALYSIS**



### SAMPLE ANALYTE COUNT

Project: 2331 E-Market St LLC Pace Project No.: 10469665

10469665001 IA-001 (Pump Room)	TO-15	MLS	22
10469665002 IA-002 (G Middle Room)	TO-15	MLS	22
10469665003 IA-003 (Below Dock)	TO-15	MLS	22
10469665004 IA-004 (Suite H2)	TO-15	MLS	22
10469665005 IA-005 (R.R)	TO-15	MLS	22
10469665006 IA-006 (Vault)	TO-15	MLS	22
10469665007 IA-007 (H3-Yoga)	TO-15	MJL	22
10469665008 IA-008 (W15)	TO-15	MJL	22
10469665009 IA-Ambient (On the Dock)	TO-15	MLS	22

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#### **PROJECT NARRATIVE**

Project: 2331 E-Market St LLC

Pace Project No.: 10469665

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:April 18, 2019

#### General Information:

9 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:

Analyte Comments:

#### QC Batch: 599489

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- BLANK (Lab ID: 3241160)
  - 2,2,4-Trimethylpentane
- DUP (Lab ID: 3241937)
  - 2,2,4-Trimethylpentane
- DUP (Lab ID: 3241938)
  - 2,2,4-Trimethylpentane
- IA-001 (Pump Room) (Lab ID: 10469665001)
- 2,2,4-Trimethylpentane
- LCS (Lab ID: 3241161)
  - 2,2,4-Trimethylpentane

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#### **PROJECT NARRATIVE**

Project: 2331 E-Market St LLC

Pace Project No.: 10469665

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:April 18, 2019

Analyte Comments:

QC Batch: 600032

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- BLANK (Lab ID: 3243705)
  - 2,2,4-Trimethylpentane
- DUP (Lab ID: 3244843)
  - 2,2,4-Trimethylpentane
- DUP (Lab ID: 3244844)
  - 2,2,4-Trimethylpentane
- IA-002 (G Middle Room) (Lab ID: 10469665002)
  - 2,2,4-Trimethylpentane
- IA-003 (Below Dock) (Lab ID: 10469665003)
  - 2,2,4-Trimethylpentane
- IA-004 (Suite H2) (Lab ID: 10469665004)
  - 2,2,4-Trimethylpentane
- IA-005 (R.R) (Lab ID: 10469665005)
- 2,2,4-Trimethylpentane
- IA-006 (Vault) (Lab ID: 10469665006)
- 2,2,4-Trimethylpentane
- LCS (Lab ID: 3243706)
  - 2,2,4-Trimethylpentane

QC Batch: 600050

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- BLANK (Lab ID: 3243792)
  - 2,2,4-Trimethylpentane
- DUP (Lab ID: 3243970)
  - 2,2,4-Trimethylpentane
- DUP (Lab ID: 3243971)
- 2,2,4-Trimethylpentane
- IA-007 (H3-Yoga) (Lab ID: 10469665007)
  - 2,2,4-Trimethylpentane
- IA-008 (W15) (Lab ID: 10469665008)
  - 2,2,4-Trimethylpentane
- IA-Ambient (On the Dock) (Lab ID: 10469665009)
- 2,2,4-Trimethylpentane
- LCS (Lab ID: 3243793)
  - 2,2,4-Trimethylpentane

This data package has been reviewed for quality and completeness and is approved for release.



#### Project: 2331 E-Market St LLC

#### Pace Project No.: 10469665

Sample: IA-001 (Pump Room)	Lab ID: 104	69665001	Collected: 04/04/	19 04:00	Received: 04	4/05/19 09:45 N	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
TO15 MSV AIR	Analytical Mether	nod: TO-15						
Acetone	10.3	ug/m3	3.3	1.39		04/15/19 10:16	67-64-1	
Benzene	0.80	ug/m3	0.45	1.39		04/15/19 10:16	71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.2	1.39		04/15/19 10:16	78-93-3	
Carbon disulfide	ND	ug/m3	0.88	1.39		04/15/19 10:16	75-15-0	
Dichlorodifluoromethane	2.1	ug/m3	1.4	1.39		04/15/19 10:16	75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.1	1.39		04/15/19 10:16	75-35-4	
cis-1,2-Dichloroethene	38.9	ug/m3	1.1	1.39		04/15/19 10:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.39		04/15/19 10:16	156-60-5	
Ethylbenzene	ND	ug/m3	1.2	1.39		04/15/19 10:16	100-41-4	
4-Ethyltoluene	ND	ug/m3	3.5	1.39		04/15/19 10:16	622-96-8	
n-Hexane	ND	ug/m3	1.0	1.39		04/15/19 10:16	110-54-3	
Methylene Chloride	ND	ug/m3	4.9	1.39		04/15/19 10:16	75-09-2	
Tetrachloroethene	188	ug/m3	0.96	1.39		04/15/19 10:16	127-18-4	
Toluene	2.3	ug/m3	1.1	1.39		04/15/19 10:16	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.39		04/15/19 10:16	71-55-6	
Trichloroethene	9.3	ug/m3	0.76	1.39		04/15/19 10:16	79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.39		04/15/19 10:16	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.39		04/15/19 10:16	108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	3.3	1.39		04/15/19 10:16	540-84-1	N2
Vinyl chloride	0.64	ug/m3	0.36	1.39		04/15/19 10:16	75-01-4	
m&p-Xylene	ND	ug/m3	2.5	1.39		04/15/19 10:16	179601-23-1	
o-Xylene	ND	ug/m3	1.2	1.39		04/15/19 10:16	95-47-6	

Sample: IA-002 (G Middle Room)	Lab ID: 104	69665002	Collected:		Received: 04	4/05/19 09:45 N	latrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Mether	nod: TO-15						
Acetone	10.2	ug/m3	3.4	1.41		04/17/19 12:28	67-64-1	
Benzene	0.74	ug/m3	0.46	1.41		04/17/19 12:28	71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.2	1.41		04/17/19 12:28	78-93-3	
Carbon disulfide	ND	ug/m3	0.89	1.41		04/17/19 12:28	75-15-0	
Dichlorodifluoromethane	2.2	ug/m3	1.4	1.41		04/17/19 12:28	75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.1	1.41		04/17/19 12:28	75-35-4	
cis-1,2-Dichloroethene	38.0	ug/m3	1.1	1.41		04/17/19 12:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.41		04/17/19 12:28	156-60-5	
Ethylbenzene	ND	ug/m3	1.2	1.41		04/17/19 12:28	100-41-4	
4-Ethyltoluene	ND	ug/m3	3.5	1.41		04/17/19 12:28	622-96-8	
n-Hexane	ND	ug/m3	1.0	1.41		04/17/19 12:28	110-54-3	
Methylene Chloride	ND	ug/m3	5.0	1.41		04/17/19 12:28	75-09-2	
Tetrachloroethene	190	ug/m3	0.97	1.41		04/17/19 12:28	127-18-4	
Toluene	1.8	ug/m3	1.1	1.41		04/17/19 12:28	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.41		04/17/19 12:28	71-55-6	
Trichloroethene	9.0	ug/m3	0.77	1.41		04/17/19 12:28	79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.41		04/17/19 12:28	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	218 1.4	1.41		04/17/19 12:28	108-67-8	



#### Project: 2331 E-Market St LLC

#### Pace Project No.: 10469665

Sample: IA-002 (G Middle Room)	Lab ID: 104	69665002	Collected:		Received: 0	4/05/19 09:45 N	latrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
2,2,4-Trimethylpentane	ND	ug/m3	3.3	1.41		04/17/19 12:28	540-84-1	N2
Vinyl chloride	ND	ug/m3	0.37	1.41		04/17/19 12:28	75-01-4	
m&p-Xylene	ND	ug/m3	2.5	1.41		04/17/19 12:28	179601-23-1	
o-Xylene	ND	ug/m3	1.2	1.41		04/17/19 12:28	95-47-6	
Sample: IA-003 (Below Dock)	Lab ID: 104	69665003	Collected:		Received: 0	4/05/19 09:45 M	latrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
Acetone	12.6	ug/m3	3.4	1.41		04/17/19 12:59	67-64-1	
Benzene	0.70	ug/m3	0.46	1.41		04/17/19 12:59	71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.2	1.41		04/17/19 12:59	78-93-3	
Carbon disulfide	ND	ug/m3	0.89	1.41		04/17/19 12:59	75-15-0	
Dichlorodifluoromethane	2.3	ug/m3	1.4	1.41		04/17/19 12:59	75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.1	1.41		04/17/19 12:59	75-35-4	
cis-1,2-Dichloroethene	40.8	ug/m3	1.1	1.41		04/17/19 12:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.41		04/17/19 12:59	156-60-5	
Ethylbenzene	ND	ug/m3	1.2	1.41		04/17/19 12:59	100-41-4	
4-Ethyltoluene	ND	ug/m3	3.5	1.41		04/17/19 12:59	622-96-8	
n-Hexane	ND	ug/m3	1.0	1.41		04/17/19 12:59	110-54-3	

5.0

0.97

1.1

1.6

1.4

1.4

3.3

0.37

2.5

1.2

0.77

1.41

1.41

1.41

1.41

1.41

1.41

1.41

1.41

1.41

1.41

1.41

04/17/19 12:59 75-09-2

04/17/19 12:59 127-18-4

04/17/19 12:59 108-88-3

04/17/19 12:59 71-55-6

04/17/19 12:59 79-01-6

04/17/19 12:59 95-63-6

04/17/19 12:59 108-67-8

04/17/19 12:59 540-84-1

04/17/19 12:59 75-01-4

04/17/19 12:59 95-47-6

04/17/19 12:59 179601-23-1

ND

188

2.4

ND

9.0

ND

ND

ND

0.70

ND

ND

ug/m3

Sample: IA-004 (Suite H2)	Lab ID: 104	69665004	Collected:		Received: 0	4/05/19 09:45 N	latrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
Acetone	12.6	ug/m3	3.5	1.44		04/17/19 13:29	67-64-1	
Benzene	0.72	ug/m3	0.47	1.44		04/17/19 13:29	71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.3	1.44		04/17/19 13:29	78-93-3	
Carbon disulfide	ND	ug/m3	0.91	1.44		04/17/19 13:29	75-15-0	
Dichlorodifluoromethane	2.2	ug/m3	1.5	1.44		04/17/19 13:29	75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.2 219	1.44		04/17/19 13:29	75-35-4	

### **REPORT OF LABORATORY ANALYSIS**

Methylene Chloride

Tetrachloroethene

Trichloroethene

Vinyl chloride

m&p-Xylene

o-Xylene

1,1,1-Trichloroethane

1,2,4-Trimethylbenzene

1,3,5-Trimethylbenzene

2,2,4-Trimethylpentane

Toluene

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N2



Project: 2331 E-Market St LLC

#### Pace Project No.: 10469665

Sample: IA-004 (Suite H2)	Lab ID: 104	69665004	Collected:		Received: 04	4/05/19 09:45 N	latrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
TO15 MSV AIR	Analytical Met	hod: TO-15						
cis-1,2-Dichloroethene	34.6	ug/m3	1.2	1.44		04/17/19 13:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		04/17/19 13:29	156-60-5	
Ethylbenzene	ND	ug/m3	1.3	1.44		04/17/19 13:29	100-41-4	
4-Ethyltoluene	ND	ug/m3	3.6	1.44		04/17/19 13:29	622-96-8	
n-Hexane	ND	ug/m3	1.0	1.44		04/17/19 13:29	110-54-3	
Methylene Chloride	ND	ug/m3	5.1	1.44		04/17/19 13:29	75-09-2	
Tetrachloroethene	160	ug/m3	0.99	1.44		04/17/19 13:29	127-18-4	
Toluene	3.4	ug/m3	1.1	1.44		04/17/19 13:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		04/17/19 13:29	71-55-6	
Trichloroethene	7.8	ug/m3	0.79	1.44		04/17/19 13:29	79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		04/17/19 13:29	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		04/17/19 13:29	108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	3.4	1.44		04/17/19 13:29	540-84-1	N2
Vinyl chloride	0.55	ug/m3	0.37	1.44		04/17/19 13:29	75-01-4	
m&p-Xylene	ND	ug/m3	2.5	1.44		04/17/19 13:29	179601-23-1	
o-Xylene	2.0	ug/m3	1.3	1.44		04/17/19 13:29	95-47-6	

Sample: IA-005 (R.R)	Lab ID: 104	69665005	Collected:		Received: 0	4/05/19 09:45 N	latrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Mether	hod: TO-15						
Acetone	14.9	ug/m3	3.2	1.34		04/17/19 14:00	67-64-1	
Benzene	0.81	ug/m3	0.44	1.34		04/17/19 14:00	71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.0	1.34		04/17/19 14:00	78-93-3	
Carbon disulfide	ND	ug/m3	0.85	1.34		04/17/19 14:00	75-15-0	
Dichlorodifluoromethane	2.4	ug/m3	1.4	1.34		04/17/19 14:00	75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.1	1.34		04/17/19 14:00	75-35-4	
cis-1,2-Dichloroethene	31.5	ug/m3	1.1	1.34		04/17/19 14:00	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.34		04/17/19 14:00	156-60-5	
Ethylbenzene	ND	ug/m3	1.2	1.34		04/17/19 14:00	100-41-4	
4-Ethyltoluene	ND	ug/m3	3.4	1.34		04/17/19 14:00	622-96-8	
n-Hexane	1.2	ug/m3	0.96	1.34		04/17/19 14:00	110-54-3	
Methylene Chloride	ND	ug/m3	4.7	1.34		04/17/19 14:00	75-09-2	
Tetrachloroethene	146	ug/m3	0.92	1.34		04/17/19 14:00	127-18-4	
Toluene	8.9	ug/m3	1.0	1.34		04/17/19 14:00	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.5	1.34		04/17/19 14:00	71-55-6	
Trichloroethene	7.2	ug/m3	0.73	1.34		04/17/19 14:00	79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.3	1.34		04/17/19 14:00	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.3	1.34		04/17/19 14:00	108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	3.2	1.34		04/17/19 14:00	540-84-1	N2
Vinyl chloride	0.41	ug/m3	0.35	1.34		04/17/19 14:00	75-01-4	
m&p-Xylene	ND	ug/m3	2.4	1.34		04/17/19 14:00	179601-23-1	
o-Xylene	2.1	ug/m3	1.2	1.34		04/17/19 14:00	95-47-6	

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Project: 2331 E-Market St LLC

#### Pace Project No.: 10469665

Sample: IA-006 (Vault)	Lab ID: 104	69665006	Collected:		Received: 0	4/05/19 09:45 N	latrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	nod: TO-15						
Acetone	20.6	ug/m3	4.4	1.84		04/17/19 14:33	67-64-1	
Benzene	0.79	ug/m3	0.60	1.84		04/17/19 14:33	71-43-2	
2-Butanone (MEK)	ND	ug/m3	5.5	1.84		04/17/19 14:33	78-93-3	
Carbon disulfide	ND	ug/m3	1.2	1.84		04/17/19 14:33	75-15-0	
Dichlorodifluoromethane	2.2	ug/m3	1.9	1.84		04/17/19 14:33	75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.5	1.84		04/17/19 14:33	75-35-4	
cis-1,2-Dichloroethene	23.3	ug/m3	1.5	1.84		04/17/19 14:33	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	1.84		04/17/19 14:33	156-60-5	
Ethylbenzene	ND	ug/m3	1.6	1.84		04/17/19 14:33	100-41-4	
4-Ethyltoluene	ND	ug/m3	4.6	1.84		04/17/19 14:33	622-96-8	
n-Hexane	2.7	ug/m3	1.3	1.84		04/17/19 14:33	110-54-3	
Methylene Chloride	12.1	ug/m3	6.5	1.84		04/17/19 14:33	75-09-2	
Tetrachloroethene	117	ug/m3	1.3	1.84		04/17/19 14:33	127-18-4	
Toluene	12.8	ug/m3	1.4	1.84		04/17/19 14:33	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	2.0	1.84		04/17/19 14:33	71-55-6	
Trichloroethene	5.7	ug/m3	1.0	1.84		04/17/19 14:33	79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.8	1.84		04/17/19 14:33	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.8	1.84		04/17/19 14:33	108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	4.4	1.84		04/17/19 14:33	540-84-1	N2
Vinyl chloride	ND	ug/m3	0.48	1.84		04/17/19 14:33	75-01-4	
m&p-Xylene	ND	ug/m3	3.3	1.84		04/17/19 14:33	179601-23-1	
o-Xylene	2.1	ug/m3	1.6	1.84		04/17/19 14:33	95-47-6	

Sample: IA-007 (H3-Yoga)	Lab ID: 104	69665007	Collected:		Received: 04	4/05/19 09:45 N	Aatrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Meth	nod: TO-15						
Acetone	16.7	ug/m3	3.	5 1.46		04/17/19 12:39	67-64-1	
Benzene	0.88	ug/m3	0.4	7 1.46		04/17/19 12:39	71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.	4 1.46		04/17/19 12:39	78-93-3	
Carbon disulfide	ND	ug/m3	0.9	2 1.46		04/17/19 12:39	75-15-0	
Dichlorodifluoromethane	2.5	ug/m3	1.	5 1.46		04/17/19 12:39	75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.	2 1.46		04/17/19 12:39	75-35-4	
cis-1,2-Dichloroethene	38.6	ug/m3	1.	2 1.46		04/17/19 12:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.	2 1.46		04/17/19 12:39	156-60-5	
Ethylbenzene	ND	ug/m3	1.	3 1.46		04/17/19 12:39	100-41-4	
4-Ethyltoluene	ND	ug/m3	3.	5 1.46		04/17/19 12:39	622-96-8	
n-Hexane	ND	ug/m3	1.	0 1.46		04/17/19 12:39	110-54-3	
Methylene Chloride	ND	ug/m3	5.	2 1.46		04/17/19 12:39	75-09-2	
Tetrachloroethene	183	ug/m3	1.	0 1.46		04/17/19 12:39	127-18-4	
Toluene	2.6	ug/m3	1.	1 1.46		04/17/19 12:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.	5 1.46		04/17/19 12:39	71-55-6	
Trichloroethene	8.3	ug/m3	0.8	0 1.46		04/17/19 12:39	79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.	5 1.46		04/17/19 12:39	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	221 1.	5 1.46		04/17/19 12:39	108-67-8	



#### Project: 2331 E-Market St LLC

#### Pace Project No.: 10469665

Sample: IA-007 (H3-Yoga)	Lab ID: 104	69665007	Collected:		Received: 0	4/05/19 09:45 N	Aatrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
2,2,4-Trimethylpentane	ND	ug/m3	3.5	1.46		04/17/19 12:39	540-84-1	N2
Vinyl chloride	0.59	ug/m3	0.38	1.46		04/17/19 12:39	75-01-4	
m&p-Xylene	ND	ug/m3	2.6	1.46		04/17/19 12:39	179601-23-1	
o-Xylene	3.3	ug/m3	1.3	1.46		04/17/19 12:39	95-47-6	
Sample: IA-008 (W15)	Lab ID: 104	69665008	Collected:		Received: 0	04/05/19 09:45 N	Aatrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
Acetone	16.2	ug/m3	3.5	1.44		04/17/19 13:32	67-64-1	
Benzene	0.87	ug/m3	0.47	1.44		04/17/19 13:32	71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.3	1.44		04/17/19 13:32	78-93-3	
Carbon disulfide	ND	ug/m3	0.91	1.44		04/17/19 13:32	75-15-0	
Dichlorodifluoromethane	2.4	ug/m3	1.5	1.44		04/17/19 13:32	75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		04/17/19 13:32	75-35-4	
cis-1,2-Dichloroethene	38.8	ug/m3	1.2	1.44		04/17/19 13:32	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		04/17/19 13:32	156-60-5	
Ethylbenzene	ND	ug/m3	1.3	1.44		04/17/19 13:32	100-41-4	
4-Ethyltoluene	ND	ug/m3	3.6	1.44		04/17/19 13:32	622-96-8	
n-Hexane	ND	ug/m3	1.0	1.44		04/17/19 13:32	110-54-3	
Methylene Chloride	ND	ug/m3	5.1	1.44		04/17/19 13:32	75-09-2	
Tetrachloroethene	196	ug/m3	0.99	1.44		04/17/19 13:32	127-18-4	
Toluene	3.1	ug/m3	1.1	1.44		04/17/19 13:32	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		04/17/19 13:32	71-55-6	
Trichloroethene	8.3	ug/m3	0.79	1.44		04/17/19 13:32	79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		04/17/19 13:32	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		04/17/19 13:32	108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	3.4	1.44		04/17/19 13:32	540-84-1	N2
Vinyl chloride	ND	ug/m3	0.37	1.44		04/17/19 13:32	75-01-4	
m&p-Xylene	2.6	ug/m3	2.5	1.44		04/17/19 13:32	179601-23-1	
o-Xylene	2.7	ug/m3	1.3	1.44		04/17/19 13:32	95-47-6	
Sample: IA-Ambient (On the Dock)	Lab ID: 104	69665009	Collected:		Received: 0	04/05/19 09:45 M	Aatrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
Acetone	7.5	ug/m3	3.5	1.46		04/17/19 13:58	67-64-1	
Benzene	0.54	ug/m3	0.47	1.46		04/17/19 13:58		
2-Butanone (MEK)	ND	ug/m3	4.4	1.46		04/17/19 13:58		
Carbon disulfide	ND	ug/m3	0.92	1.46		04/17/19 13:58		
Dichlorodifluoromethane	2.6	ug/m3	1.5	1.46		04/17/19 13:58		
1 1 Dishloroothono			4.0	1 40		04/17/10 10:00		

### **REPORT OF LABORATORY ANALYSIS**

222

1.2

1.46

ND

ug/m3

1,1-Dichloroethene

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04/17/19 13:58 75-35-4



Project: 2331 E-Market St LLC

#### Pace Project No.: 10469665

Sample: IA-Ambient (On the Dock)	Lab ID: 104	69665009	Collected:		Received: 04	4/05/19 09:45 N	1atrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.46		04/17/19 13:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.46		04/17/19 13:58	156-60-5	
Ethylbenzene	ND	ug/m3	1.3	1.46		04/17/19 13:58	100-41-4	
4-Ethyltoluene	ND	ug/m3	3.6	1.46		04/17/19 13:58	622-96-8	
n-Hexane	ND	ug/m3	1.0	1.46		04/17/19 13:58	110-54-3	
Methylene Chloride	ND	ug/m3	5.2	1.46		04/17/19 13:58	75-09-2	
Tetrachloroethene	ND	ug/m3	1.0	1.46		04/17/19 13:58	127-18-4	
Toluene	1.9	ug/m3	1.1	1.46		04/17/19 13:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.46		04/17/19 13:58	71-55-6	
Trichloroethene	ND	ug/m3	0.80	1.46		04/17/19 13:58	79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.46		04/17/19 13:58	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.46		04/17/19 13:58	108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	3.5	1.46		04/17/19 13:58	540-84-1	N2
Vinyl chloride	ND	ug/m3	0.38	1.46		04/17/19 13:58	75-01-4	
m&p-Xylene	ND	ug/m3	2.6	1.46		04/17/19 13:58	179601-23-1	
o-Xylene	ND	ug/m3	1.3	1.46		04/17/19 13:58	95-47-6	

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### **REPORT OF LABORATORY ANALYSIS**



Project: 2331 E-Market St LLC

Pace Project No.:

10469665

QC Batch:	599489	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR Low Level
Associated Lab Samp	oles: 10469665001		

Matrix: Air

#### METHOD BLANK: 3241160

Associated Lab Samples: 10469665001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	04/15/19 09:24	
1,1-Dichloroethene	ug/m3	ND	0.81	04/15/19 09:24	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	04/15/19 09:24	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	04/15/19 09:24	
2,2,4-Trimethylpentane	ug/m3	ND	2.4	04/15/19 09:24	N2
2-Butanone (MEK)	ug/m3	ND	3.0	04/15/19 09:24	
4-Ethyltoluene	ug/m3	ND	2.5	04/15/19 09:24	
Acetone	ug/m3	ND	2.4	04/15/19 09:24	
Benzene	ug/m3	ND	0.32	04/15/19 09:24	
Carbon disulfide	ug/m3	ND	0.63	04/15/19 09:24	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	04/15/19 09:24	
Dichlorodifluoromethane	ug/m3	ND	1.0	04/15/19 09:24	
Ethylbenzene	ug/m3	ND	0.88	04/15/19 09:24	
m&p-Xylene	ug/m3	ND	1.8	04/15/19 09:24	
Methylene Chloride	ug/m3	ND	3.5	04/15/19 09:24	
n-Hexane	ug/m3	ND	0.72	04/15/19 09:24	
o-Xylene	ug/m3	ND	0.88	04/15/19 09:24	
Tetrachloroethene	ug/m3	ND	0.69	04/15/19 09:24	
Toluene	ug/m3	ND	0.77	04/15/19 09:24	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	04/15/19 09:24	
Trichloroethene	ug/m3	ND	0.55	04/15/19 09:24	
Vinyl chloride	ug/m3	ND	0.26	04/15/19 09:24	

#### LABORATORY CONTROL SAMPLE: 3241161

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	57.0	103	70-130	
1,1-Dichloroethene	ug/m3	40.3	30.7	76	70-130	
1,2,4-Trimethylbenzene	ug/m3	50	62.0	124	70-134	
1,3,5-Trimethylbenzene	ug/m3	50	60.9	122	70-132	
2,2,4-Trimethylpentane	ug/m3	47.5	47.5	100	68-138 I	<b>V</b> 2
2-Butanone (MEK)	ug/m3	30	31.8	106	70-130	
I-Ethyltoluene	ug/m3	50	61.6	123	70-138	
Acetone	ug/m3	121	90.9	75	67-130	
Benzene	ug/m3	32.5	32.5	100	70-130	
Carbon disulfide	ug/m3	31.6	23.3	74	56-137	
cis-1,2-Dichloroethene	ug/m3	40.3	42.8	106	70-130	
Dichlorodifluoromethane	ug/m3	50.3	45.5	90	70-130	
Ethylbenzene	ug/m3	44.1	49.9	113	67-131	
m&p-Xylene	ug/m3	88.3	97.0	110	70-132	

Results presented on this page are in the units indicated by the "Units" 2004mn except where an alternate unit is presented to the right of the result.

### **REPORT OF LABORATORY ANALYSIS**



# Project: 2331 E-Market St LLC

Pace Project No.: 10469665

#### LABORATORY CONTROL SAMPLE: 3241161

Parameter Units Conc. Result % Rec Limits	Qualifiers
Methylene Chloride ug/m3 177 142 80 65-1	0
n-Hexane ug/m3 35.8 34.3 96 66-1	0
o-Xylene ug/m3 44.1 50.0 113 70-1	0
Tetrachloroethene ug/m3 68.9 71.4 104 70-1	0
Toluene ug/m3 38.3 40.0 104 70-1	0
trans-1,2-Dichloroethene ug/m3 40.3 45.5 113 70-1	0
Trichloroethene ug/m3 54.6 57.8 106 70-1	0
Vinyl chloride ug/m3 26 21.8 84 70-1	0

#### SAMPLE DUPLICATE: 3241937

		10469550012	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	2.4	2.3	2	25	
1,3,5-Trimethylbenzene	ug/m3	ND	.9J		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	N2
2-Butanone (MEK)	ug/m3	ND	2.5J		25	
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	18.4	18.5	1	25	
Benzene	ug/m3	ND	.29J		25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.0	2.0	5	25	
Ethylbenzene	ug/m3	ND	1.3J		25	
m&p-Xylene	ug/m3	5.3	5.1	3	25	
Methylene Chloride	ug/m3	7.2	7.0	3	25	
n-Hexane	ug/m3	4.3	4.1	6	25	
o-Xylene	ug/m3	3.1	3.0	4	25	
Tetrachloroethene	ug/m3	ND	1.1J		25	
Toluene	ug/m3	16.2	15.8	3	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	1.2	1.0	13	25	
Vinyl chloride	ug/m3	ND	ND		25	

#### SAMPLE DUPLICATE: 3241938

Parameter	Units	10469550014 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3		6.0	3	25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	1.8	1.8	4	25	
1,3,5-Trimethylbenzene	ug/m3	ND	.74J		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25 1	N2
2-Butanone (MEK)	ug/m3	ND	.58J		25	

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

### **REPORT OF LABORATORY ANALYSIS**



Project: 2331 E-Market St LLC Pace Project No.: 10469665

#### SAMPLE DUPLICATE: 3241938

		10469550014	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	19.1	19.2	0	25	
Benzene	ug/m3	ND	.33J		25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	1.8	1.9	7	25	
Ethylbenzene	ug/m3	ND	.9J		25	
m&p-Xylene	ug/m3	3.4	3.6	4	25	
Methylene Chloride	ug/m3	ND	2.7J		25	
n-Hexane	ug/m3	ND	1J		25	
o-Xylene	ug/m3	2.1	2.3	6	25	
Tetrachloroethene	ug/m3	12.3	13.1	7	25	
Toluene	ug/m3	5.0	5.3	5	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	.46J		25	
Vinyl chloride	ug/m3	ND	ND		25	

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#### **REPORT OF LABORATORY ANALYSIS**



Project: 2331 E-Market St LLC

Pace Project No.: 10469665

QC Batch:	6000	32	Analysis Method:	TO-15
QC Batch Method:	TO-1	5	Analysis Description:	TO15 MSV AIR Low Level
Associated Lab Sam	ples:	10469665002, 10469665003,	10469665004, 10469665005	, 10469665006

#### METHOD BLANK: 3243705

Matrix: Air

Associated Lab Samples: 10469665002, 10469665003, 10469665004, 10469665005, 10469665006

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	0.56	04/17/19 09:29	
1,1-Dichloroethene	ug/m3	ND	0.40	04/17/19 09:29	
1,2,4-Trimethylbenzene	ug/m3	ND	0.50	04/17/19 09:29	
1,3,5-Trimethylbenzene	ug/m3	ND	0.50	04/17/19 09:29	
2,2,4-Trimethylpentane	ug/m3	ND	1.2	04/17/19 09:29	N2
2-Butanone (MEK)	ug/m3	ND	1.5	04/17/19 09:29	
4-Ethyltoluene	ug/m3	ND	1.2	04/17/19 09:29	
Acetone	ug/m3	ND	1.2	04/17/19 09:29	
Benzene	ug/m3	ND	0.16	04/17/19 09:29	
Carbon disulfide	ug/m3	ND	0.32	04/17/19 09:29	
cis-1,2-Dichloroethene	ug/m3	ND	0.40	04/17/19 09:29	
Dichlorodifluoromethane	ug/m3	ND	0.50	04/17/19 09:29	
Ethylbenzene	ug/m3	ND	0.44	04/17/19 09:29	
m&p-Xylene	ug/m3	ND	0.88	04/17/19 09:29	
Methylene Chloride	ug/m3	ND	1.8	04/17/19 09:29	
n-Hexane	ug/m3	ND	0.36	04/17/19 09:29	
o-Xylene	ug/m3	ND	0.44	04/17/19 09:29	
Tetrachloroethene	ug/m3	ND	0.34	04/17/19 09:29	
Toluene	ug/m3	ND	0.38	04/17/19 09:29	
trans-1,2-Dichloroethene	ug/m3	ND	0.40	04/17/19 09:29	
Trichloroethene	ug/m3	ND	0.27	04/17/19 09:29	
Vinyl chloride	ug/m3	ND	0.13	04/17/19 09:29	

#### LABORATORY CONTROL SAMPLE: 3243706

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	59.4	107	70-130	
1,1-Dichloroethene	ug/m3	40.3	38.9	97	70-130	
1,2,4-Trimethylbenzene	ug/m3	50	60.0	120	70-134	
1,3,5-Trimethylbenzene	ug/m3	50	58.5	117	70-132	
2,2,4-Trimethylpentane	ug/m3	47.5	46.7	98	68-138 I	<b>V</b> 2
2-Butanone (MEK)	ug/m3	30	29.8	100	70-130	
I-Ethyltoluene	ug/m3	50	59.6	119	70-138	
Acetone	ug/m3	121	106	87	67-130	
Benzene	ug/m3	32.5	31.2	96	70-130	
Carbon disulfide	ug/m3	31.6	32.6	103	56-137	
cis-1,2-Dichloroethene	ug/m3	40.3	41.8	104	70-130	
Dichlorodifluoromethane	ug/m3	50.3	51.2	102	70-130	
Ethylbenzene	ug/m3	44.1	50.0	113	67-131	
m&p-Xylene	ug/m3	88.3	99.7	113	70-132	

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### **REPORT OF LABORATORY ANALYSIS**



#### Project: 2331 E-Market St LLC Pace Project No.: 10469665

## LABORATORY CONTROL SAMPLE: 3243706

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Methylene Chloride	ug/m3	177	163	92	65-130	
n-Hexane	ug/m3	35.8	33.8	94	66-130	
o-Xylene	ug/m3	44.1	49.7	113	70-130	
Tetrachloroethene	ug/m3	68.9	70.4	102	70-130	
Toluene	ug/m3	38.3	40.6	106	70-130	
rans-1,2-Dichloroethene	ug/m3	40.3	39.5	98	70-130	
Trichloroethene	ug/m3	54.6	57.2	105	70-130	
Vinyl chloride	ug/m3	26	25.7	99	70-130	

#### SAMPLE DUPLICATE: 3244843

		10468522005	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	N2
2-Butanone (MEK)	ug/m3	ND	ND		25	
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	4.1	4.8	15	25	
Benzene	ug/m3	ND	.51J		25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.0	2.3	15	25	
Ethylbenzene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	ND	2.8J		25	
n-Hexane	ug/m3	ND	.56J		25	
o-Xylene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	ND	ND		25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

#### SAMPLE DUPLICATE: 3244844

Parameter	Units	10468522007 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	5.3	5.0	5	25	
1,3,5-Trimethylbenzene	ug/m3	1.8	2.0	6	25	
2,2,4-Trimethylpentane	ug/m3	ND	1.9J		25	N2
2-Butanone (MEK)	ug/m3	9.7	9.1	7	25	

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### **REPORT OF LABORATORY ANALYSIS**



Project: 2331 E-Market St LLC Pace Project No.: 10469665

#### SAMPLE DUPLICATE: 3244844

<b>D</b>		10468522007	Dup		Max	0 117
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
4-Ethyltoluene	ug/m3	ND	1.9J		25	
Acetone	ug/m3	167	156	7	25	
Benzene	ug/m3	1.5	1.4	7	25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.8	2.7	4	25	
Ethylbenzene	ug/m3	17.3	16.6	4	25	
m&p-Xylene	ug/m3	69.3	67.6	3	25	
Methylene Chloride	ug/m3	ND	5.1J		25	
n-Hexane	ug/m3	3.0	2.8	5	25	
o-Xylene	ug/m3	16.0	15.5	3	25	
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	90.2	88.3	2	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	.49J		25	
Vinyl chloride	ug/m3	ND	ND		25	

Results presented on this page are in the units indicated by the "Units" 200mn except where an alternate unit is presented to the right of the result.

#### **REPORT OF LABORATORY ANALYSIS**



Project: 2331 E-Market St LLC

Pace Project No.: 10469665

QC Batch:	600050	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR Low Level
Associated Lab Sam	ples: 10469665007, 10469665008,	10469665009	

 METHOD BLANK:
 3243792
 Matrix: Air

 Associated Lab Samples:
 10469665007, 10469665008, 10469665009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	04/17/19 08:33	
1,1-Dichloroethene	ug/m3	ND	0.81	04/17/19 08:33	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	04/17/19 08:33	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	04/17/19 08:33	
2,2,4-Trimethylpentane	ug/m3	ND	2.4	04/17/19 08:33	N2
2-Butanone (MEK)	ug/m3	ND	3.0	04/17/19 08:33	
4-Ethyltoluene	ug/m3	ND	2.5	04/17/19 08:33	
Acetone	ug/m3	ND	2.4	04/17/19 08:33	
Benzene	ug/m3	ND	0.32	04/17/19 08:33	
Carbon disulfide	ug/m3	ND	0.63	04/17/19 08:33	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	04/17/19 08:33	
Dichlorodifluoromethane	ug/m3	ND	1.0	04/17/19 08:33	
Ethylbenzene	ug/m3	ND	0.88	04/17/19 08:33	
m&p-Xylene	ug/m3	ND	1.8	04/17/19 08:33	
Methylene Chloride	ug/m3	ND	3.5	04/17/19 08:33	
n-Hexane	ug/m3	ND	0.72	04/17/19 08:33	
o-Xylene	ug/m3	ND	0.88	04/17/19 08:33	
Tetrachloroethene	ug/m3	ND	0.69	04/17/19 08:33	
Toluene	ug/m3	ND	0.77	04/17/19 08:33	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	04/17/19 08:33	
Trichloroethene	ug/m3	ND	0.55	04/17/19 08:33	
Vinyl chloride	ug/m3	ND	0.26	04/17/19 08:33	

#### LABORATORY CONTROL SAMPLE: 3243793

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	61.8	111	70-130	
1,1-Dichloroethene	ug/m3	40.3	43.2	107	70-130	
1,2,4-Trimethylbenzene	ug/m3	50	56.6	113	70-134	
1,3,5-Trimethylbenzene	ug/m3	50	56.1	112	70-132	
2,2,4-Trimethylpentane	ug/m3	47.5	50.9	107	68-138 N	12
2-Butanone (MEK)	ug/m3	30	27.1	90	70-130	
4-Ethyltoluene	ug/m3	50	57.6	115	70-138	
Acetone	ug/m3	121	110	91	67-130	
Benzene	ug/m3	32.5	35.5	109	70-130	
Carbon disulfide	ug/m3	31.6	34.9	110	56-137	
cis-1,2-Dichloroethene	ug/m3	40.3	43.7	108	70-130	
Dichlorodifluoromethane	ug/m3	50.3	55.4	110	70-130	
Ethylbenzene	ug/m3	44.1	48.8	111	67-131	
m&p-Xylene	ug/m3	88.3	97.9	111	70-132	

Results presented on this page are in the units indicated by the "Units" 2300mn except where an alternate unit is presented to the right of the result.

### **REPORT OF LABORATORY ANALYSIS**



# Project: 2331 E-Market St LLC

Pace Project No.: 10469665

#### LABORATORY CONTROL SAMPLE: 3243793

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Methylene Chloride	ug/m3	177	183	104	65-130	
n-Hexane	ug/m3	35.8	39.3	110	66-130	
o-Xylene	ug/m3	44.1	48.8	111	70-130	
Tetrachloroethene	ug/m3	68.9	75.5	110	70-130	
Toluene	ug/m3	38.3	42.5	111	70-130	
trans-1,2-Dichloroethene	ug/m3	40.3	43.1	107	70-130	
Trichloroethene	ug/m3	54.6	56.8	104	70-130	
Vinyl chloride	ug/m3	26	27.6	106	70-130	

#### SAMPLE DUPLICATE: 3243970

		10469665007	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	N2
2-Butanone (MEK)	ug/m3	ND	1.6J		25	
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	16.7	16.9	1	25	
Benzene	ug/m3	0.88	0.84	4	25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	38.6	38.2	1	25	
Dichlorodifluoromethane	ug/m3	2.5	2.5	1	25	
Ethylbenzene	ug/m3	ND	.55J		25	
m&p-Xylene	ug/m3	ND	2.7		25	
Methylene Chloride	ug/m3	ND	3.9J		25	
n-Hexane	ug/m3	ND	ND		25	
o-Xylene	ug/m3	3.3	3.2	2	25	
Tetrachloroethene	ug/m3	183	184	1	25	
Toluene	ug/m3	2.6	2.6	0	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	8.3	8.2	1	25	
Vinyl chloride	ug/m3	0.59	ND		25	

#### SAMPLE DUPLICATE: 3243971

		10469665009	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	N2
2-Butanone (MEK)	ug/m3	ND	1.7J		25	

Results presented on this page are in the units indicated by the "Units" 23 Junn except where an alternate unit is presented to the right of the result.

### **REPORT OF LABORATORY ANALYSIS**



Project: 2331 E-Market St LLC Pace Project No.: 10469665

#### SAMPLE DUPLICATE: 3243971

		10469665009	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	7.5	7.7	2	25	
Benzene	ug/m3	0.54	0.55	2	25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.6	2.8	7	25	
Ethylbenzene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	ND	2.9J		25	
n-Hexane	ug/m3	ND	.6J		25	
o-Xylene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	ND	.74J		25	
Toluene	ug/m3	1.9	1.8	1	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

Results presented on this page are in the units indicated by the "Units" 230mn except where an alternate unit is presented to the right of the result.

#### **REPORT OF LABORATORY ANALYSIS**



#### QUALIFIERS

Project: 2331 E-Market St LLC

Pace Project No.: 10469665

#### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

#### ANALYTE QUALIFIERS

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2331 E-Market St LLC Pace Project No.: 10469665

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10469665001	IA-001 (Pump Room)	TO-15	599489		
10469665002	IA-002 (G Middle Room)	TO-15	600032		
10469665003	IA-003 (Below Dock)	TO-15	600032		
10469665004	IA-004 (Suite H2)	TO-15	600032		
10469665005	IA-005 (R.R)	TO-15	600032		
10469665006	IA-006 (Vault)	TO-15	600032		
10469665007	IA-007 (H3-Yoga)	TO-15	600050		
10469665008	IA-008 (W15)	TO-15	600050		
10469665009	IA-Ambient (On the Dock)	TO-15	600050		

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	35400 Page: of	Program	TUST Superfund T Emissions Clean Air Act	ry Clean Up T Dry Clean T RCRA	Reporting, Units ug/m <sup>3</sup> mg/m PPBVPPMV	Cuher Report Level II. IV. Other	66%	1 57 100 15 17 100 5 12 00 10 17 10 1 57 100 15 17 1 59 10 10 15 17 1 59 10 10 15 17 1 59 10 10 10 1 50 00 00 00 1 50 00 00 1 50 00 00 1 50 00 00 1 50 000 1 50 00 1 50 00 1 50 000 1 50 000 1 50 0	7/ K/ K/ K/ K/ R/ K/ R/ Pace	SARVA SLLISH	83		0.55	0%je	(ta)		500		DATE TIME SAMPLE CONDITION		ortestig 9.45 - 5 5	N/A N/A	N/A	S areived on cesived on ice ice sled Cooler sled Cooler	ея Ва
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Pace Analytical *	Section A Section B Required Client Information: Required Project Information:	Company: SARVA Bie REMED. LLC REPORTO: SARVA GANYA GANYA	VE DRIVE, COONTO, VED		Email 10: Phone: Fax: 419-740-5 831 Project Name: 23-31 St. LLC	Project Number:		Low Volume Puff High Volume Puff Other	7	IA-002 [G Middle kuron)	TA- 203 ( Below			14 00 41	44-400 / 111 C / 1	TACANA STILL	IN TIGHTET VIT	Comments :		MAN AN CONTRACT	Variat V Hallogan			ORIGINAL	≥ 24 oi

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

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Rush Turn Around Time	Requested?			Yes 🗹 No		7.				
Sufficient Volume?				Yes No		8.				
-Pace Containers Use						9.				
Containers Intact				Yes No Yes No		10.				
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imples Received:	Car	nisters			Fressul	e Gauge #		nisters		
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Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

April 29, 2019

Steve Vedder Environmental Products & Services of Vermont, Inc. 1539 Bobali Drive Harrisburg, PA 17104

RE: Project: 2331 E MAIN ST Pace Project No.: 10471486

Dear Steve Vedder:

Enclosed are the analytical results for sample(s) received by the laboratory on April 19, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

120Fr 2

Nathan Boberg nathan.boberg@pacelabs.com (612)360-0728 Project Manager

Enclosures

cc: Satya Ganti, Sarva Bio Remed, LLC



## **REPORT OF LABORATORY ANALYSIS**

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Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

#### CERTIFICATIONS

Project: 2331 E MAIN ST Pace Project No.: 10471486

#### **Minnesota Certification IDs**

1700 Elm Street SE, Minneapolis, MN 55414-2485 A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #: MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Marvland Certification #: 322 Massachusetts Certification #: M-MN064 Michigan Certification #: 9909 Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certifcation #: via MN 027-053-137 Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Missouri Certification #: 10100 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon Primary Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Vermont Certification #: VT-027053137 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DEP Certification #: 382 West Virginia DW Certification #: 9952 C Wisconsin Certification #: 999407970 Wyoming UST Certification #: via A2LA 2926.01

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### SAMPLE SUMMARY

Project: 2331 E MAIN ST Pace Project No.: 10471486

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10471486001	IA-001 (PUMP ROOM)	Air	04/18/19 16:00	04/19/19 08:45
10471486002	IA-AMBIENT (ON DOCK)	Air	04/18/19 16:00	04/19/19 08:45
10471486003	IA-009 (F-Warehouse)	Air	04/18/19 16:00	04/19/19 08:45
10471486004	IA-010 (D-Jeweler Sho)	Air	04/18/19 16:00	04/19/19 08:45
10471486005	IA-011 (Rest Room-B)	Air	04/18/19 16:00	04/19/19 08:45
10471486006	IA-012 (C-Clothing Store)	Air	04/18/19 16:00	04/19/19 08:45
10471486007	IA-013 (A-Be Bainced)	Air	04/18/19 16:00	04/19/19 08:45

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#### **REPORT OF LABORATORY ANALYSIS**



### SAMPLE ANALYTE COUNT

Project:	2331 E MAIN ST
Pace Project No.:	10471486

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10471486001	IA-001 (PUMP ROOM)		MG2	22
10471486002	IA-AMBIENT (ON DOCK)	TO-15	MG2	22
10471486003	IA-009 (F-Warehouse)	TO-15	MG2	22
10471486004	IA-010 (D-Jeweler Sho)	TO-15	MJL	22
10471486005	IA-011 (Rest Room-B)	TO-15	MJL	22
10471486006	IA-012 (C-Clothing Store)	TO-15	MJL	22

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### **REPORT OF LABORATORY ANALYSIS**



#### **PROJECT NARRATIVE**

Project: 2331 E MAIN ST

Pace Project No.: 10471486

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:April 29, 2019

#### General Information:

6 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:

Analyte Comments:

#### QC Batch: 601509

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- BLANK (Lab ID: 3250728)
  - 2,2,4-Trimethylpentane
- DUP (Lab ID: 3252255)
  - 2,2,4-Trimethylpentane
- DUP (Lab ID: 3252256)
  - 2,2,4-Trimethylpentane
- IA-001 (PUMP ROOM) (Lab ID: 10471486001)
  - 2,2,4-Trimethylpentane
- IA-009 (F-Warehouse) (Lab ID: 10471486003)
- 2,2,4-Trimethylpentane
- IA-AMBIENT (ON DOCK) (Lab ID: 10471486002)
  - 2,2,4-Trimethylpentane

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#### **PROJECT NARRATIVE**

Project: 2331 E MAIN ST

Pace Project No.: 10471486

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:April 29, 2019

Analyte Comments:

QC Batch: 601509

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

• LCS (Lab ID: 3250729)

2,2,4-Trimethylpentane

QC Batch: 601789

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- BLANK (Lab ID: 3252677)
  - 2,2,4-Trimethylpentane
- IA-010 (D-Jeweler Sho) (Lab ID: 10471486004)
  - 2,2,4-Trimethylpentane
- IA-011 (Rest Room-B) (Lab ID: 10471486005)
  - 2,2,4-Trimethylpentane
- IA-012 (C-Clothing Store) (Lab ID: 10471486006)
  - 2,2,4-Trimethylpentane
- LCS (Lab ID: 3252678)
- 2,2,4-Trimethylpentane

This data package has been reviewed for quality and completeness and is approved for release.

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### Project: 2331 E MAIN ST

### Pace Project No.: 10471486

Sample: IA-001 (PUMP ROOM)	Lab ID: 104	71486001	Collected: 04/18/	19 16:00	Received: 04/19/19 08:45	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared Analyze	d CAS No.	Qua
TO15 MSV AIR	Analytical Met	nod: TO-15					
Acetone	20.9	ug/m3	3.4	1.41	04/24/19 19	9:45 67-64-1	
Benzene	ND	ug/m3	0.46	1.41	04/24/19 19	9:45 71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.2	1.41	04/24/19 19	9:45 78-93-3	
Carbon disulfide	ND	ug/m3	0.89	1.41	04/24/19 19	9:45 75-15-0	
Dichlorodifluoromethane	2.5	ug/m3	1.4	1.41	04/24/19 19	9:45 75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.1	1.41	04/24/19 19	):45 75-35-4	
cis-1,2-Dichloroethene	57.6	ug/m3	1.1	1.41	04/24/19 19	9:45 156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	1.41	04/24/19 19	9:45 156-60-5	
Ethylbenzene	ND	ug/m3	1.2	1.41	04/24/19 19	9:45 100-41-4	
4-Ethyltoluene	ND	ug/m3	3.5	1.41	04/24/19 19	9:45 622-96-8	
n-Hexane	1.2	ug/m3	1.0	1.41	04/24/19 19	9:45 110-54-3	
Methylene Chloride	7.4	ug/m3	5.0	1.41	04/24/19 19	):45 75-09-2	
Tetrachloroethene	273	ug/m3	0.97	1.41	04/24/19 19	):45 127-18-4	
Toluene	1.3	ug/m3	1.1	1.41	04/24/19 19	9:45 108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.41	04/24/19 19	9:45 71-55-6	
Trichloroethene	11.2	ug/m3	0.77	1.41	04/24/19 19	9:45 79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.41	04/24/19 19	9:45 95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.41	04/24/19 19	9:45 108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	3.3	1.41	04/24/19 19	9:45 540-84-1	N2
Vinyl chloride	ND	ug/m3	0.37	1.41	04/24/19 19	9:45 75-01-4	
m&p-Xylene	ND	ug/m3	2.5	1.41	04/24/19 19	9:45 179601-23-1	
o-Xylene	1.3	ug/m3	1.2	1.41	04/24/19 19	9:45 95-47-6	

Sample: IA-AMBIENT (ON DOCK)	Lab ID: 104	71486002	Collected: 04/18/	19 16:00	Received: 04	4/19/19 08:45 I	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Metl	hod: TO-15						
Acetone	8.3	ug/m3	3.7	1.55		04/24/19 20:46	67-64-1	
Benzene	ND	ug/m3	0.50	1.55		04/24/19 20:46	6 71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.6	1.55		04/24/19 20:46	5 78-93-3	
Carbon disulfide	ND	ug/m3	0.98	1.55		04/24/19 20:46	6 75-15-0	
Dichlorodifluoromethane	2.2	ug/m3	1.6	1.55		04/24/19 20:46	6 75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.2	1.55		04/24/19 20:46	6 75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.55		04/24/19 20:46	6 156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.55		04/24/19 20:46	6 156-60-5	
Ethylbenzene	ND	ug/m3	1.4	1.55		04/24/19 20:46	6 100-41-4	
4-Ethyltoluene	ND	ug/m3	3.9	1.55		04/24/19 20:46	622-96-8	
n-Hexane	ND	ug/m3	1.1	1.55		04/24/19 20:46	6 110-54-3	
Methylene Chloride	ND	ug/m3	5.5	1.55		04/24/19 20:46	6 75-09-2	
Tetrachloroethene	ND	ug/m3	1.1	1.55		04/24/19 20:46	6 127-18-4	
Toluene	ND	ug/m3	1.2	1.55		04/24/19 20:46	6 108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.55		04/24/19 20:46	6 71-55-6	
Trichloroethene	ND	ug/m3	0.85	1.55		04/24/19 20:46	6 79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.55		04/24/19 20:46	6 95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	243 1.5	1.55		04/24/19 20:46	6 108-67-8	

### **REPORT OF LABORATORY ANALYSIS**



Project: 2331 E MAIN ST

Pace Project No.: 10471486

Sample: IA-AMBIENT (ON DOCK)	Lab ID: 104	71486002	Collected: 04/18/	19 16:00	Received: 0	4/19/19 08:45 N	latrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
O15 MSV AIR	Analytical Met	hod: TO-15						
2,2,4-Trimethylpentane	ND	ug/m3	3.7	1.55		04/24/19 20:46	540-84-1	N2
/inyl chloride	ND	ug/m3	0.40	1.55		04/24/19 20:46	75-01-4	
n&p-Xylene	ND	ug/m3	2.7	1.55		04/24/19 20:46	179601-23-1	
-Xylene	ND	ug/m3	1.4	1.55		04/24/19 20:46	95-47-6	
Sample: IA-009 (F-Warehouse)	Lab ID: 104	71486003	Collected: 04/18/	19 16:00	Received: 0	4/19/19 08:45 N	latrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
O15 MSV AIR	Analytical Met	hod: TO-15						
Acetone	32.0	ug/m3	5.4	2.24		04/24/19 21:48	67-64-1	
Benzene	ND	ug/m3	0.73	2.24		04/24/19 21:48	71-43-2	
P-Butanone (MEK)	ND	ug/m3	6.7	2.24		04/24/19 21:48	78-93-3	
Carbon disulfide	ND	ug/m3	1.4	2.24		04/24/19 21:48		
Dichlorodifluoromethane	2.4	ug/m3	2.3	2.24		04/24/19 21:48		
,1-Dichloroethene	ND	ug/m3	1.8	2.24		04/24/19 21:48		
is-1,2-Dichloroethene	14.1	ug/m3	1.8	2.24		04/24/19 21:48		
ans-1,2-Dichloroethene	ND	ug/m3	1.8	2.24		04/24/19 21:48		
thylbenzene	ND	ug/m3	2.0	2.24		04/24/19 21:48		
-Ethyltoluene	ND	ug/m3	5.6	2.24		04/24/19 21:48		
-Hexane	ND	ug/m3	1.6	2.24		04/24/19 21:48		
	ND	-	7.9	2.24		04/24/19 21:48		
lethylene Chloride etrachloroethene	75.2	ug/m3	1.5	2.24		04/24/19 21:48		
oluene		ug/m3		2.24				
	ND	ug/m3	1.7			04/24/19 21:48		
,1,1-Trichloroethane	ND	ug/m3	2.5	2.24		04/24/19 21:48		
richloroethene	2.8	ug/m3	1.2	2.24		04/24/19 21:48		
,2,4-Trimethylbenzene	ND	ug/m3	2.2	2.24		04/24/19 21:48		
,3,5-Trimethylbenzene	ND	ug/m3	2.2	2.24		04/24/19 21:48		
2,2,4-Trimethylpentane	ND	ug/m3	5.3	2.24		04/24/19 21:48		N2
/inyl chloride	ND	ug/m3	0.58	2.24		04/24/19 21:48		
n&p-Xylene	ND	ug/m3	4.0	2.24		04/24/19 21:48		
-Xylene	ND	ug/m3	2.0	2.24		04/24/19 21:48	95-47-6	
ample: IA-010 (D-Jeweler Sho)	Lab ID: 104	71486004	Collected: 04/18/	19 16:00	Received: 0	4/19/19 08:45 N	latrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
O15 MSV AIR	Analytical Met	hod: TO-15						
Acetone	133	ug/m3	3.5	1.46		04/25/19 21:02	67-64-1	
Benzene	0.50	ug/m3	0.47	1.46		04/25/19 21:02		
P-Butanone (MEK)	ND	ug/m3	4.4	1.46		04/25/19 21:02		
Carbon disulfide	ND	ug/m3	0.92	1.46		04/25/19 21:02		
Dichlorodifluoromethane	2.2	ug/m3	1.5	1.46		04/25/19 21:02		
		-		1.46		04/25/19 21:02		
,1-Dichloroethene	ND	ug/m3	1.2	1.4n		(14/23)/19/21112	10-30-4	

### **REPORT OF LABORATORY ANALYSIS**



Project: 2331 E MAIN ST

Pace Project No.: 10471486

Sample: IA-010 (D-Jeweler Sho)	Lab ID: 104	71486004	Collected: 04/18/	19 16:00	Received: 0	4/19/19 08:45	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
TO15 MSV AIR	Analytical Met	hod: TO-15						
cis-1,2-Dichloroethene	1.4	ug/m3	1.2	1.46		04/25/19 21:02	2 156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.46		04/25/19 21:02	2 156-60-5	
Ethylbenzene	ND	ug/m3	1.3	1.46		04/25/19 21:02	2 100-41-4	
4-Ethyltoluene	ND	ug/m3	3.6	1.46		04/25/19 21:02	2 622-96-8	
n-Hexane	ND	ug/m3	1.0	1.46		04/25/19 21:02	2 110-54-3	
Methylene Chloride	ND	ug/m3	5.2	1.46		04/25/19 21:02	2 75-09-2	
Tetrachloroethene	7.7	ug/m3	1.0	1.46		04/25/19 21:02	2 127-18-4	
Toluene	2.4	ug/m3	1.1	1.46		04/25/19 21:02	2 108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.46		04/25/19 21:02	2 71-55-6	
Trichloroethene	ND	ug/m3	0.80	1.46		04/25/19 21:02	2 79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.46		04/25/19 21:02	2 95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.46		04/25/19 21:02	2 108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	3.5	1.46		04/25/19 21:02	2 540-84-1	N2
Vinyl chloride	ND	ug/m3	0.38	1.46		04/25/19 21:02	2 75-01-4	
m&p-Xylene	ND	ug/m3	2.6	1.46		04/25/19 21:02	2 179601-23-1	
o-Xylene	ND	ug/m3	1.3	1.46		04/25/19 21:02	2 95-47-6	
Sample: IA-011 (Rest Room-B)	Lab ID: 104	171486005	Collected: 04/18/	19 16:00	Received: 0	4/19/19 08:45	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
TO15 MSV AIR	Analytical Met	hod: TO-15						
Acetone	42.8	ug/m3	3.5	1.44		04/25/19 21:32	2 67-64-1	
Benzene	0.54	ug/m3	0.47	1.44		04/25/19 21:32	2 71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.3	1.44		04/25/19 21:32	2 78-93-3	
Carbon disulfide	ND	ug/m3	0.91	1.44		04/25/19 21:32	2 75-15-0	
Dichlorodifluoromethane	2.3	ug/m3	1.5	1.44		04/25/19 21:32	2 75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		04/25/19 21:32	2 75-35-4	
cis-1 2-Dichloroethene	70	ua/m3	12	1 44		04/25/10 21.3	2 156-59-2	

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Meth	nod: TO-15						
Acetone	42.8	ug/m3	3.5	1.44		04/25/19 21:32	67-64-1	
Benzene	0.54	ug/m3	0.47	1.44		04/25/19 21:32	71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.3	1.44		04/25/19 21:32	78-93-3	
Carbon disulfide	ND	ug/m3	0.91	1.44		04/25/19 21:32	75-15-0	
Dichlorodifluoromethane	2.3	ug/m3	1.5	1.44		04/25/19 21:32	75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		04/25/19 21:32	75-35-4	
cis-1,2-Dichloroethene	7.0	ug/m3	1.2	1.44		04/25/19 21:32	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		04/25/19 21:32	156-60-5	
Ethylbenzene	ND	ug/m3	1.3	1.44		04/25/19 21:32	100-41-4	
4-Ethyltoluene	ND	ug/m3	3.6	1.44		04/25/19 21:32	622-96-8	
n-Hexane	3.5	ug/m3	1.0	1.44		04/25/19 21:32	110-54-3	
Methylene Chloride	19.5	ug/m3	5.1	1.44		04/25/19 21:32	75-09-2	
Tetrachloroethene	39.8	ug/m3	0.99	1.44		04/25/19 21:32	127-18-4	
Toluene	3.0	ug/m3	1.1	1.44		04/25/19 21:32	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		04/25/19 21:32	71-55-6	
Trichloroethene	1.9	ug/m3	0.79	1.44		04/25/19 21:32	79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		04/25/19 21:32	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		04/25/19 21:32	108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	3.4	1.44		04/25/19 21:32	540-84-1	N2
Vinyl chloride	ND	ug/m3	0.37	1.44		04/25/19 21:32	75-01-4	
m&p-Xylene	ND	ug/m3	2.5	1.44		04/25/19 21:32	179601-23-1	
o-Xylene	ND	ug/m3	1.3	1.44		04/25/19 21:32	95-47-6	

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Project: 2331 E MAIN ST

Pace Project No.: 10471486

Sample: IA-012 (C-Clothing Store)	Lab ID: 104	71486006	Collected: 04/18/	19 16:00	Received: 04/19/19 08:45	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared Analyzed	CAS No.	Qua
TO15 MSV AIR	Analytical Met	nod: TO-15					
Acetone	44.2	ug/m3	3.5	1.46	04/25/19 22	01 67-64-1	
Benzene	ND	ug/m3	0.47	1.46	04/25/19 22	01 71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.4	1.46	04/25/19 22	01 78-93-3	
Carbon disulfide	ND	ug/m3	0.92	1.46	04/25/19 22	01 75-15-0	
Dichlorodifluoromethane	2.1	ug/m3	1.5	1.46	04/25/19 22	01 75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.2	1.46	04/25/19 22	01 75-35-4	
cis-1,2-Dichloroethene	6.8	ug/m3	1.2	1.46	04/25/19 22	01 156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.46	04/25/19 22	01 156-60-5	
Ethylbenzene	ND	ug/m3	1.3	1.46	04/25/19 22	01 100-41-4	
4-Ethyltoluene	ND	ug/m3	3.6	1.46	04/25/19 22	01 622-96-8	
n-Hexane	ND	ug/m3	1.0	1.46	04/25/19 22	01 110-54-3	
Methylene Chloride	ND	ug/m3	5.2	1.46	04/25/19 22	01 75-09-2	
Tetrachloroethene	31.5	ug/m3	1.0	1.46	04/25/19 22	01 127-18-4	
Toluene	1.5	ug/m3	1.1	1.46	04/25/19 22	01 108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.46	04/25/19 22	01 71-55-6	
Trichloroethene	1.6	ug/m3	0.80	1.46	04/25/19 22	01 79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.46	04/25/19 22	01 95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.46	04/25/19 22	01 108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	3.5	1.46	04/25/19 22	01 540-84-1	N2
Vinyl chloride	ND	ug/m3	0.38	1.46	04/25/19 22	01 75-01-4	
m&p-Xylene	ND	ug/m3	2.6	1.46	04/25/19 22	01 179601-23-1	
o-Xylene	ND	ug/m3	1.3	1.46	04/25/19 22	01 95-47-6	

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### **REPORT OF LABORATORY ANALYSIS**



#### Project: 2331 E MAIN ST

Pace Project No.: 10471486

QC Batch:	601509	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR Low Level
Associated Lab Sam	ples: 10471486001, 10471486002, 1	0471486003	

METHOD BI ANK 3250728

# Matrix Air

Associated Lab Samples: 10471	1486001, 10471486002				
		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	04/24/19 09:34	
1,1-Dichloroethene	ug/m3	ND	0.81	04/24/19 09:34	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	04/24/19 09:34	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	04/24/19 09:34	
2,2,4-Trimethylpentane	ug/m3	ND	2.4	04/24/19 09:34	N2
2-Butanone (MEK)	ug/m3	ND	3.0	04/24/19 09:34	
4-Ethyltoluene	ug/m3	ND	2.5	04/24/19 09:34	
Acetone	ug/m3	ND	2.4	04/24/19 09:34	
Benzene	ug/m3	ND	0.32	04/24/19 09:34	
Carbon disulfide	ug/m3	ND	0.63	04/24/19 09:34	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	04/24/19 09:34	
Dichlorodifluoromethane	ug/m3	ND	1.0	04/24/19 09:34	
Ethylbenzene	ug/m3	ND	0.88	04/24/19 09:34	
m&p-Xylene	ug/m3	ND	1.8	04/24/19 09:34	
Methylene Chloride	ug/m3	ND	3.5	04/24/19 09:34	
n-Hexane	ug/m3	ND	0.72	04/24/19 09:34	
o-Xylene	ug/m3	ND	0.88	04/24/19 09:34	
Tetrachloroethene	ug/m3	ND	0.69	04/24/19 09:34	
Toluene	ug/m3	ND	0.77	04/24/19 09:34	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	04/24/19 09:34	
Trichloroethene	ug/m3	ND	0.55	04/24/19 09:34	
Vinyl chloride	ug/m3	ND	0.26	04/24/19 09:34	

### LABORATORY CONTROL SAMPLE: 3250729

_		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	59.1	106	70-130	
1,1-Dichloroethene	ug/m3	40.3	47.0	117	70-130	
1,2,4-Trimethylbenzene	ug/m3	50	57.4	115	70-134	
1,3,5-Trimethylbenzene	ug/m3	50	53.7	107	70-132	
2,2,4-Trimethylpentane	ug/m3	47.5	50.5	106	68-138 N	12
2-Butanone (MEK)	ug/m3	30	29.1	97	70-130	
4-Ethyltoluene	ug/m3	50	56.9	114	70-138	
Acetone	ug/m3	121	125	103	67-130	
Benzene	ug/m3	32.5	34.0	105	70-130	
Carbon disulfide	ug/m3	31.6	34.6	109	56-137	
cis-1,2-Dichloroethene	ug/m3	40.3	41.9	104	70-130	
Dichlorodifluoromethane	ug/m3	50.3	50.7	101	70-130	
Ethylbenzene	ug/m3	44.1	49.4	112	67-131	
m&p-Xylene	ug/m3	88.3	97.3	110	70-132	

Results presented on this page are in the units indicated by the "Units" 2447mn except where an alternate unit is presented to the right of the result.

### **REPORT OF LABORATORY ANALYSIS**



#### Project: 2331 E MAIN ST Pace Project No.: 10471486

#### LABORATORY CONTROL SAMPLE: 3250729

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Methylene Chloride	ug/m3	177	185	105	65-130	
n-Hexane	ug/m3	35.8	34.9	97	66-130	
o-Xylene	ug/m3	44.1	46.8	106	70-130	
Tetrachloroethene	ug/m3	68.9	70.0	102	70-130	
Toluene	ug/m3	38.3	40.6	106	70-130	
rans-1,2-Dichloroethene	ug/m3	40.3	47.8	119	70-130	
Trichloroethene	ug/m3	54.6	52.9	97	70-130	
Vinyl chloride	ug/m3	26	29.3	113	70-130	

#### SAMPLE DUPLICATE: 3252255

		10471486001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	N2
2-Butanone (MEK)	ug/m3	ND	.63J		25	
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	20.9	21.1	1	25	
Benzene	ug/m3	ND	.43J		25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	57.6	57.5	0	25	
Dichlorodifluoromethane	ug/m3	2.5	2.4	3	25	
Ethylbenzene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	1.4J		25	
Methylene Chloride	ug/m3	7.4	7.5	2	25	
n-Hexane	ug/m3	1.2	.93J		25	
o-Xylene	ug/m3	1.3	1.4	3	25	
Tetrachloroethene	ug/m3	273	284	4	25	
Toluene	ug/m3	1.3	1.3	1	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	11.2	11.3	1	25	
Vinyl chloride	ug/m3	ND	0.72		25	

#### SAMPLE DUPLICATE: 3252256

Parameter	Units	10471486002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	N2
2-Butanone (MEK)	ug/m3	ND	ND		25	

Results presented on this page are in the units indicated by the "Units" 240mn except where an alternate unit is presented to the right of the result.

#### REPORT OF LABORATORY ANALYSIS



Project: 2331 E MAIN ST Pace Project No.: 10471486

#### SAMPLE DUPLICATE: 3252256

ParameterUnitsResultResultRPDRPDQualifiersEthyltolueneug/m3NDND25etoneug/m38.39.11025nzeneug/m3ND.39J25rbon disulfideug/m3NDND25-1,2-Dichloroetheneug/m3NDND25chlorodifluoromethaneug/m32.22.51025ug/m3NDNDND25
ug/m3         8.3         9.1         10         25           nzene         ug/m3         ND         .39J         25           rbon disulfide         ug/m3         ND         ND         25           -1,2-Dichloroethene         ug/m3         ND         ND         25           chlorodifluoromethane         ug/m3         2.2         2.5         10         25
nzene         ug/m3         ND         .39J         25           rbon disulfide         ug/m3         ND         ND         25           -1,2-Dichloroethene         ug/m3         ND         ND         25           chlorodifluoromethane         ug/m3         22         2.5         10         25
rbon disulfide ug/m3 ND ND 25 -1,2-Dichloroethene ug/m3 ND ND 25 chlorodifluoromethane ug/m3 2.2 2.5 10 25
-1,2-Dichloroethene ug/m3 ND ND 25 chlorodifluoromethane ug/m3 2.2 2.5 10 25
chlorodifluoromethane ug/m3 2.2 2.5 10 25
uvleenzene ug/m3 ND ND 25
.p-Xylene ug/m3 ND ND 25
thylene Chloride ug/m3 ND 3.3J 25
lexane ug/m3 ND ND 25
(ylene ug/m3 ND ND 25
rachloroethene ug/m3 ND ND 25
uene ug/m3 ND .94J 25
ns-1,2-Dichloroethene ug/m3 ND ND 25
chloroethene ug/m3 ND ND 25
yl chloride ug/m3 ND ND 25

Results presented on this page are in the units indicated by the "Units" 244mn except where an alternate unit is presented to the right of the result.

#### **REPORT OF LABORATORY ANALYSIS**



#### Project: 2331 E MAIN ST

Pace Project No.: 10471486

QC Batch:	601789	Analysis Method:	TO-15			
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR Low Level			
Associated Lab Samples: 10471486004, 10471486005, 10471486006						

METHOD BLANK: 3252677

## Matrix: Air

Associated Lab Samples: 10	0471486004, 10471486005,	10471486006			
		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	0.56	04/25/19 15:21	
1,1-Dichloroethene	ug/m3	ND	0.40	04/25/19 15:21	
1,2,4-Trimethylbenzene	ug/m3	ND	0.50	04/25/19 15:21	
1,3,5-Trimethylbenzene	ug/m3	ND	0.50	04/25/19 15:21	
2,2,4-Trimethylpentane	ug/m3	ND	1.2	04/25/19 15:21	N2
2-Butanone (MEK)	ug/m3	ND	1.5	04/25/19 15:21	
4-Ethyltoluene	ug/m3	ND	1.2	04/25/19 15:21	
Acetone	ug/m3	ND	1.2	04/25/19 15:21	
Benzene	ug/m3	ND	0.16	04/25/19 15:21	
Carbon disulfide	ug/m3	ND	0.32	04/25/19 15:21	
cis-1,2-Dichloroethene	ug/m3	ND	0.40	04/25/19 15:21	
Dichlorodifluoromethane	ug/m3	ND	0.50	04/25/19 15:21	
Ethylbenzene	ug/m3	ND	0.44	04/25/19 15:21	
m&p-Xylene	ug/m3	ND	0.88	04/25/19 15:21	
Methylene Chloride	ug/m3	ND	1.8	04/25/19 15:21	
n-Hexane	ug/m3	ND	0.36	04/25/19 15:21	
o-Xylene	ug/m3	ND	0.44	04/25/19 15:21	
Tetrachloroethene	ug/m3	ND	0.34	04/25/19 15:21	
Toluene	ug/m3	ND	0.38	04/25/19 15:21	
trans-1,2-Dichloroethene	ug/m3	ND	0.40	04/25/19 15:21	
Trichloroethene	ug/m3	ND	0.27	04/25/19 15:21	
Vinyl chloride	ug/m3	ND	0.13	04/25/19 15:21	

#### LABORATORY CONTROL SAMPLE: 3252678

	LL. 0202070	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	56.6	54.0	95	70-130	
1,1-Dichloroethene	ug/m3	43.5	39.5	91	70-130	
1,2,4-Trimethylbenzene	ug/m3	53	46.6	88	70-134	
1,3,5-Trimethylbenzene	ug/m3	53.5	46.7	87	70-132	
2,2,4-Trimethylpentane	ug/m3	48.4	46.0	95	68-138 I	N2
2-Butanone (MEK)	ug/m3	32.4	26.1	81	70-130	
4-Ethyltoluene	ug/m3	52	46.9	90	70-138	
Acetone	ug/m3	26.6	27.5	103	67-130	
Benzene	ug/m3	34.4	32.2	94	70-130	
Carbon disulfide	ug/m3	32.9	33.2	101	56-137	
cis-1,2-Dichloroethene	ug/m3	41.9	41.1	98	70-130	
Dichlorodifluoromethane	ug/m3	52.8	51.2	97	70-130	
Ethylbenzene	ug/m3	45.5	41.2	91	67-131	
m&p-Xylene	ug/m3	45.9	47.6	104	70-132	

Results presented on this page are in the units indicated by the "Units" 250mn except where an alternate unit is presented to the right of the result.

### **REPORT OF LABORATORY ANALYSIS**



Project: 2331 E MAIN ST Pace Project No.: 10471486

#### LABORATORY CONTROL SAMPLE: 3252678

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
				/01100		Qualifiers
Methylene Chloride	ug/m3	38.1	39.5	104	65-130	
n-Hexane	ug/m3	37.6	33.6	89	66-130	
o-Xylene	ug/m3	44.1	40.2	91	70-130	
Tetrachloroethene	ug/m3	70.3	62.1	88	70-130	
Toluene	ug/m3	39.4	36.9	94	70-130	
trans-1,2-Dichloroethene	ug/m3	41.5	40.4	97	70-130	
Trichloroethene	ug/m3	56.3	54.1	96	70-130	
Vinyl chloride	ug/m3	28.1	31.2	111	70-130	

Results presented on this page are in the units indicated by the "Units" 250mn except where an alternate unit is presented to the right of the result.

### **REPORT OF LABORATORY ANALYSIS**



### QUALIFIERS

Project: 2331 E MAIN ST Pace Project No.: 10471486

#### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

#### ANALYTE QUALIFIERS

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

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### **REPORT OF LABORATORY ANALYSIS**



# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2331 E MAIN ST Pace Project No.: 10471486

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10471486001	IA-001 (PUMP ROOM)	TO-15	601509		
10471486002	IA-AMBIENT (ON DOCK)	TO-15	601509		
10471486003	IA-009 (F-Warehouse)	TO-15	601509		
10471486004	IA-010 (D-Jeweler Sho)	TO-15	601789		
10471486005	IA-011 (Rest Room-B)	TO-15	601789		
10471486006	IA-012 (C-Clothing Store)	TO-15	601789		

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### **REPORT OF LABORATORY ANALYSIS**

WO# : 10471486	35637     Page: of       F' UST I' Superfund I' Emissions I' Clean Air A       F' UST I' Superfund I' Emissions I' Clean Air A       F' UST I' Superfund I' Emissions I' Clean Air A       F' Voluntary Clean Up I' Dry Clean I' RCRA I' Other       Location of sampling by State       Location of sampling by State       Method:       Report Level II       Report Level II       Method:       Report Level II       Method:       Report Level II       Method:       Report Level II       Report Level II       Method:       Report Level II       Report Level II       Method:       Report Level II	Samples Intact     Y/N       Samples Intact     Y/N
AIR: CHAIN-OF-CUSTODY / The Chain-of-Custody is a LEGAL DOCUMENT. All releval	Section C Incolora Information. Autorica Information. Autorica Manager/Sales Rep. Page Proget Manager/Sales Rep. Page Prog	SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: SIGNATURE of SAMPLER: DATE Signed (MM / DD / YY)
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1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

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Temp. (TO17 and TO13 san	oples only) (°C)		Corrected Te	mp (°C):	-		Thermon	neter Used:	G87A9170	
Temp should be above free					 Date	& Initials of	Person Examinî	ng Contents:	G87A9155	100842
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Chain of Custody Present?			Ø	Yes No		1.				
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Sampler Name and/or Sign	ature on COC?	?		Yes 🗌 No	□n/a	4.		11		
Samples Arrived within Hol	d Time?			Yes 🗌 No		5.				
Short Hold Time Analysis (	<72 hr)?			Yes 🗖 No		6.				
Rush Turn Around Time Re	quested?			Yes 🗹 No		7.			28	
Sufficient Volume?			Ø	Yes 🗌 No		8.		7		
Correct Containers Used?			Ą	Yes 🗌 No		9.		4		
-Pace Containers Used?				Yes 🗌 No				~~		
Containers Intact?				Yes 🗌 No		10.				
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inner Dessiund:			-1 <u>2</u>		Pressure	Gauge #	10AIR34 [		times tra	m prer
amples Received:	 				Tressure			19 (N N)		SCA
	Cani	isters Flow	Initial	Final				nisters Flow	Initial	Final
Sample Number	Can ID	Controller	Pressure	Pressure	Sampl	e Number	Can ID	Controller	Pressure	Pressure
A-001 (fung Riom)	1251	0868	-1.5	5						
4 - Ambient (In Dock)	2338	1058	-4	N						
A-009(F-Watchonse	0012	0403	-12	4						
A-oloc D-Jewelwsh	) 3619	1093	-2.5	4						
H-Oli RestRom-B)	0393	0857	-2							
94-012(C-	3564	1051	-7.5							
FA 313(A-	1218	1102	-29							
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Note: Whenever there is a discrepancy affecting North Caroline compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

June 05, 2019

Steve Vedder Environmental Products & Services of Vermont, Inc. 1539 Bobali Drive Harrisburg, PA 17104

RE: Project: VP-3 Pace Project No.: 10476901

Dear Steve Vedder:

Enclosed are the analytical results for sample(s) received by the laboratory on May 29, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

120 Bozza

Nathan Boberg nathan.boberg@pacelabs.com (612)360-0728 Project Manager

Enclosures

cc: Satya Ganti, Sarva Bio Remed, LLC



# **REPORT OF LABORATORY ANALYSIS**

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Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

#### CERTIFICATIONS

Project: VP-3 Pace Project No.: 10476901

#### **Minnesota Certification IDs**

1700 Elm Street SE, Minneapolis, MN 55414-2485 A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #: MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Marvland Certification #: 322 Massachusetts Certification #: M-MN064 Michigan Certification #: 9909 Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certifcation #: via MN 027-053-137 Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Missouri Certification #: 10100 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon Primary Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Vermont Certification #: VT-027053137 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DEP Certification #: 382 West Virginia DW Certification #: 9952 C Wisconsin Certification #: 999407970 Wyoming UST Certification #: via A2LA 2926.01

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# SAMPLE SUMMARY

Project: VP-3 Pace Project No.: 10476901

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10476901001	VP-3 Before VR	Air	05/22/19 09:59	05/29/19 11:50
10476901002	VP-3 After VR	Air	05/22/19 11:35	05/29/19 11:50
10476901003	VP-3 Day 2	Air	05/23/19 09:30	05/29/19 11:50

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# **REPORT OF LABORATORY ANALYSIS**



# SAMPLE ANALYTE COUNT

Project: VP-3 Pace Project No.: 10476901

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10476901001	VP-3 Before VR	TO-15	AFV	22
10476901002	VP-3 After VR	TO-15	MLS	22
10476901003	VP-3 Day 2	TO-15	MLS	22

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# **REPORT OF LABORATORY ANALYSIS**



Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

#### **PROJECT NARRATIVE**

Project: VP-3 Pace Project No.: 10476901

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:June 05, 2019

#### General Information:

3 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### **Internal Standards:**

All internal standards were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:

Analyte Comments:

#### QC Batch: 610074

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- BLANK (Lab ID: 3296958)
- 2,2,4-Trimethylpentane
- DUP (Lab ID: 3297878)
- 2,2,4-Trimethylpentane
- DUP (Lab ID: 3297879)
  - 2,2,4-Trimethylpentane
- LCS (Lab ID: 3296959)
- 2,2,4-Trimethylpentane
- VP-3 After VR (Lab ID: 10476901002)
- 2,2,4-Trimethylpentane
- VP-3 Day 2 (Lab ID: 10476901003)
  - 2,2,4-Trimethylpentane

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#### **PROJECT NARRATIVE**

Project: VP-3 Pace Project No.: 10476901

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:June 05, 2019

Analyte Comments:

QC Batch: 610368

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- BLANK (Lab ID: 3298257)
  - 2,2,4-Trimethylpentane
- LCS (Lab ID: 3298258)
  - 2,2,4-Trimethylpentane
- VP-3 Before VR (Lab ID: 10476901001)
  - 2,2,4-Trimethylpentane

This data package has been reviewed for quality and completeness and is approved for release.

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# ANALYTICAL RESULTS

Project: VP-3

Pace Project No.: 10476901

Sample: VP-3 Before VR	Lab ID: 10	476901001	Collected: 05/22/1	9 09:59	Received: 05/2	29/19 11:50 N	latrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Q
TO15 MSV AIR	Analytical Me	thod: TO-15						
Acetone	132	ug/m3	33.5	13.9	(	06/04/19 17:04	67-64-1	
Benzene	ND	ug/m3	4.5	13.9	(	06/04/19 17:04	71-43-2	
2-Butanone (MEK)	ND	ug/m3	41.7	13.9	(	06/04/19 17:04	78-93-3	
Carbon disulfide	ND	ug/m3	8.8	13.9	(	06/04/19 17:04	75-15-0	
Dichlorodifluoromethane	ND	ug/m3	14.0	13.9	(	06/04/19 17:04	75-71-8	
I,1-Dichloroethene	ND	ug/m3	11.2	13.9	(	06/04/19 17:04	75-35-4	
cis-1,2-Dichloroethene	754	ug/m3	11.2	13.9	(	06/04/19 17:04	156-59-2	
rans-1,2-Dichloroethene	ND	ug/m3	11.2	13.9	(	06/04/19 17:04	156-60-5	
Ethylbenzene	ND	ug/m3	12.3	13.9	(	06/04/19 17:04	100-41-4	
I-Ethyltoluene	ND	ug/m3	34.8	13.9	(	06/04/19 17:04	622-96-8	
n-Hexane	124	ug/m3	10	13.9	(	06/04/19 17:04	110-54-3	
Methylene Chloride	94.4	ug/m3	49.1	13.9	(	06/04/19 17:04	75-09-2	
<b>Fetrachloroethene</b>	543	ug/m3	9.6	13.9	(	06/04/19 17:04	127-18-4	
Foluene	ND	ug/m3	10.6	13.9	(	06/04/19 17:04	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	15.4	13.9	(	06/04/19 17:04	71-55-6	
Frichloroethene	82.2	ug/m3	7.6	13.9	(	06/04/19 17:04	79-01-6	
I,2,4-Trimethylbenzene	ND	ug/m3	13.9	13.9	(	06/04/19 17:04	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	13.9	13.9	(	06/04/19 17:04	108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	32.9	13.9	(	06/04/19 17:04	540-84-1	N2
/inyl chloride	200	ug/m3	3.6	13.9	(	06/04/19 17:04	75-01-4	
n&p-Xylene	ND	ug/m3	24.6	13.9	(	06/04/19 17:04	179601-23-1	
p-Xylene	ND	ug/m3	12.3	13.9	(	06/04/19 17:04	95-47-6	

Sample: VP-3 After VR	Lab ID: 10476901002		Collected: 05/22/19 11:35		Received: 05	5/29/19 11:50	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Mether	nod: TO-15						
Acetone	377	ug/m3	34	<b>'</b> 144		06/03/19 23:08	3 67-64-1	
Benzene	ND	ug/m3	46.	3 144		06/03/19 23:08	3 71-43-2	
2-Butanone (MEK)	1140	ug/m3	43	2 144		06/03/19 23:08	3 78-93-3	
Carbon disulfide	ND	ug/m3	91.	2 144		06/03/19 23:08	3 75-15-0	
Dichlorodifluoromethane	ND	ug/m3	14	5 144		06/03/19 23:08	3 75-71-8	
1,1-Dichloroethene	ND	ug/m3	11	6 144		06/03/19 23:08	3 75-35-4	
cis-1,2-Dichloroethene	4620	ug/m3	11	5 144		06/03/19 23:08	3 156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	11	6 144		06/03/19 23:08	3 156-60-5	
Ethylbenzene	ND	ug/m3	12	7 144		06/03/19 23:08	3 100-41-4	
4-Ethyltoluene	ND	ug/m3	36	) 144		06/03/19 23:08	3 622-96-8	
n-Hexane	502	ug/m3	10	3 144		06/03/19 23:08	3 110-54-3	
Methylene Chloride	ND	ug/m3	50	3 144		06/03/19 23:08	3 75-09-2	
Tetrachloroethene	568	ug/m3	99.	2 144		06/03/19 23:08	3 127-18-4	
Toluene	ND	ug/m3	11	) 144		06/03/19 23:08	3 108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	16	) 144		06/03/19 23:08	3 71-55-6	
Trichloroethene	212	ug/m3	78.	6 144		06/03/19 23:08	3 79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	14	144		06/03/19 23:08	3 95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	262 14	144		06/03/19 23:08	3 108-67-8	



# ANALYTICAL RESULTS

# Project: VP-3

Pace Project No.: 10476901

Sample: VP-3 After VR	Lab ID: 104	Lab ID: 10476901002		9 11:35	Received: (	)5/29/19 11:50	Matrix: Air		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
TO15 MSV AIR	Analytical Met	hod: TO-15							
2,2,4-Trimethylpentane	ND	ug/m3	341	144		06/03/19 23:08	3 540-84-1	N2	
Vinyl chloride	713	ug/m3	37.4	144		06/03/19 23:08	3 75-01-4		
m&p-Xylene	ND	ug/m3	255	144		06/03/19 23:08	3 179601-23-1		
o-Xylene	ND	ug/m3	127	144		06/03/19 23:08	3 95-47-6		
Sample: VP-3 Day 2	Lab ID: 104	76901003	Collected: 05/23/1	9 09:30	Received: (	)5/29/19 11:50	Matrix: Air		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
TO15 MSV AIR	Analytical Met	hod: TO-15							
Acetone	ND	ug/m3	352	146		06/03/19 23:37	7 67-64-1		
Benzene	ND	ug/m3	47.4	146		06/03/19 23:37	7 71-43-2		
2-Butanone (MEK)	ND	ug/m3	438	146		06/03/19 23:37	7 78-93-3		
Carbon disulfide	ND	ug/m3	92.4	146		06/03/19 23:37	7 75-15-0		
Dichlorodifluoromethane	ND	ug/m3	147	146		06/03/19 23:37	7 75-71-8		
1,1-Dichloroethene	ND	ug/m3	118	146		06/03/19 23:37	7 75-35-4		
cis-1,2-Dichloroethene	3590	ug/m3	118	146		06/03/19 23:37	7 156-59-2		
trans-1,2-Dichloroethene	ND	ug/m3	118	146		06/03/19 23:37	7 156-60-5		
Ethylbenzene	ND	ug/m3	129	146		06/03/19 23:37	7 100-41-4		
4-Ethyltoluene	ND	ug/m3	365	146		06/03/19 23:37	622-96-8		
n-Hexane	452	ug/m3	105	146		06/03/19 23:37	7 110-54-3		
Methylene Chloride	906	ug/m3	515	146		06/03/19 23:37	7 75-09-2		
Tetrachloroethene	445	ug/m3	101	146		06/03/19 23:37	-		
Toluene	ND	ug/m3	112	146		06/03/19 23:37	7 108-88-3		
1,1,1-Trichloroethane	ND	ug/m3	162	146		06/03/19 23:37	7 71-55-6		
Trichloroethene	203	ug/m3	79.7	146		06/03/19 23:37	7 79-01-6		
1,2,4-Trimethylbenzene	ND	ug/m3	146	146		06/03/19 23:37	7 95-63-6		
1,3,5-Trimethylbenzene	ND	ug/m3	146	146		06/03/19 23:37	7 108-67-8		
2,2,4-Trimethylpentane	ND	ug/m3	346	146		06/03/19 23:37	7 540-84-1	N2	
Vinyl chloride	329	ug/m3	38.0	146		06/03/19 23:37	7 75-01-4		
m&p-Xylene	ND	ug/m3	258	146		06/03/19 23:37	7 179601-23-1		
o-Xylene	ND	ug/m3	129	146		06/03/19 23:37	7 95-47-6		

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Matrix: Air

Project: VP-3

Pace Project No.: 10476901

QC Batch:

610074

TO-15

Analysis Method: TO-15 Analysis Description: TO15 MSV AIR Low Level

QC Batch Method: Associated Lab Samples: 10476901002, 10476901003

METHOD BLANK: 3296958

Associated Lab Samples: 10476901002, 10476901003

Doromotor	Linita	Blank	Reporting	Analyzad	Qualifiers
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	06/03/19 09:26	
1,1-Dichloroethene	ug/m3	ND	0.81	06/03/19 09:26	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	06/03/19 09:26	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	06/03/19 09:26	
2,2,4-Trimethylpentane	ug/m3	ND	2.4	06/03/19 09:26	N2
2-Butanone (MEK)	ug/m3	ND	3.0	06/03/19 09:26	
4-Ethyltoluene	ug/m3	ND	2.5	06/03/19 09:26	
Acetone	ug/m3	ND	2.4	06/03/19 09:26	
Benzene	ug/m3	ND	0.32	06/03/19 09:26	
Carbon disulfide	ug/m3	ND	0.63	06/03/19 09:26	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	06/03/19 09:26	
Dichlorodifluoromethane	ug/m3	ND	1.0	06/03/19 09:26	
Ethylbenzene	ug/m3	ND	0.88	06/03/19 09:26	
m&p-Xylene	ug/m3	ND	1.8	06/03/19 09:26	
Methylene Chloride	ug/m3	ND	3.5	06/03/19 09:26	
n-Hexane	ug/m3	ND	0.72	06/03/19 09:26	
o-Xylene	ug/m3	ND	0.88	06/03/19 09:26	
Tetrachloroethene	ug/m3	ND	0.69	06/03/19 09:26	
Toluene	ug/m3	ND	0.77	06/03/19 09:26	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	06/03/19 09:26	
Trichloroethene	ug/m3	ND	0.55	06/03/19 09:26	
Vinyl chloride	ug/m3	ND	0.26	06/03/19 09:26	

#### LABORATORY CONTROL SAMPLE: 3296959

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	58.6	106	70-130	
1,1-Dichloroethene	ug/m3	40.3	42.2	105	70-130	
1,2,4-Trimethylbenzene	ug/m3	50	50.9	102	70-134	
1,3,5-Trimethylbenzene	ug/m3	50	59.5	119	70-132	
2,2,4-Trimethylpentane	ug/m3	47.5	49.9	105	68-138 N	12
2-Butanone (MEK)	ug/m3	30	32.7	109	70-130	
4-Ethyltoluene	ug/m3	50	64.2	128	70-138	
Acetone	ug/m3	121	97.6	81	67-130	
Benzene	ug/m3	32.5	33.2	102	70-130	
Carbon disulfide	ug/m3	31.6	34.0	107	56-137	
cis-1,2-Dichloroethene	ug/m3	40.3	46.4	115	70-130	
Dichlorodifluoromethane	ug/m3	50.3	51.7	103	70-130	
Ethylbenzene	ug/m3	44.1	48.1	109	67-131	
m&p-Xylene	ug/m3	88.3	94.6	107	70-132	

Results presented on this page are in the units indicated by the "Units" 204mn except where an alternate unit is presented to the right of the result.

# **REPORT OF LABORATORY ANALYSIS**



Project: VP-3 Pace Project No.: 10476901

#### LABORATORY CONTROL SAMPLE: 3296959

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
ethylene Chloride	ug/m3	177	169	96	65-130	
Hexane	ug/m3	35.8	37.8	105	66-130	
Xylene	ug/m3	44.1	47.5	108	70-130	
trachloroethene	ug/m3	68.9	73.5	107	70-130	
iene	ug/m3	38.3	42.0	110	70-130	
s-1,2-Dichloroethene	ug/m3	40.3	44.5	110	70-130	
hloroethene	ug/m3	54.6	61.0	112	70-130	
yl chloride	ug/m3	26	28.9	111	70-130	

#### SAMPLE DUPLICATE: 3297878

		10476912003	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.43	ND		25	
1,1-Dichloroethene	ug/m3	<0.38	ND		25	
1,2,4-Trimethylbenzene	ug/m3	<0.63	ND		25	
1,3,5-Trimethylbenzene	ug/m3	<0.55	ND		25	
2,2,4-Trimethylpentane	ug/m3	<0.96	ND		25	N2
2-Butanone (MEK)	ug/m3	4.3	3.8J		25	
4-Ethyltoluene	ug/m3	<0.79	ND		25	
Acetone	ug/m3	12.6	12.2	3	25	
Benzene	ug/m3	<0.21	ND		25	
Carbon disulfide	ug/m3	<0.30	ND		25	
cis-1,2-Dichloroethene	ug/m3	<0.30	ND		25	
Dichlorodifluoromethane	ug/m3	1.8	1.9	4	25	
Ethylbenzene	ug/m3	<0.42	ND		25	
m&p-Xylene	ug/m3	<0.97	ND		25	
Methylene Chloride	ug/m3	6.7	7.0	5	25	
n-Hexane	ug/m3	0.65J	.64J		25	
o-Xylene	ug/m3	<0.48	ND		25	
Tetrachloroethene	ug/m3	<0.44	ND		25	
Toluene	ug/m3	<0.49	ND		25	
trans-1,2-Dichloroethene	ug/m3	<0.40	ND		25	
Trichloroethene	ug/m3	<0.36	ND		25	
Vinyl chloride	ug/m3	<0.18	ND		25	

#### SAMPLE DUPLICATE: 3297879

		30295637001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	 ug/m3		ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	N2
2-Butanone (MEK)	ug/m3	6.8	6.2	9	25	

Results presented on this page are in the units indicated by the "Units" 2004mn except where an alternate unit is presented to the right of the result.

### REPORT OF LABORATORY ANALYSIS



Project: VP-3 Pace Project No.: 10476901

#### SAMPLE DUPLICATE: 3297879

		30295637001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	20.3	19.9	2	25	
Benzene	ug/m3	ND	ND		25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.1	1.9	7	25	
Ethylbenzene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	2.2J		25	
Methylene Chloride	ug/m3	8.9	8.7	2	25	
n-Hexane	ug/m3	ND	.81J		25	
o-Xylene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	3.6	3.3	11	25	
trans-1,2-Dichloroethene	ug/m3	11.8	11.4	3	25	
Trichloroethene	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

Results presented on this page are in the units indicated by the "Units" 200mn except where an alternate unit is presented to the right of the result.

#### **REPORT OF LABORATORY ANALYSIS**



Project: VP-3

Pace Project No.: 10476901

QC Batch Method:

QC Batch:

610368

Analysis Method: Analysis Description:

Matrix: Air

TO15 MSV AIR Low Level

TO-15

Associated Lab Samples: 10476901001

TO-15

METHOD BLANK:	3298257

Associated Lab Samples: 10476901001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	0.56	06/04/19 08:50	
1,1-Dichloroethene	ug/m3	ND	0.40	06/04/19 08:50	
1,2,4-Trimethylbenzene	ug/m3	ND	0.50	06/04/19 08:50	
1,3,5-Trimethylbenzene	ug/m3	ND	0.50	06/04/19 08:50	
2,2,4-Trimethylpentane	ug/m3	ND	1.2	06/04/19 08:50	N2
2-Butanone (MEK)	ug/m3	ND	1.5	06/04/19 08:50	
4-Ethyltoluene	ug/m3	ND	1.2	06/04/19 08:50	
Acetone	ug/m3	ND	1.2	06/04/19 08:50	
Benzene	ug/m3	ND	0.16	06/04/19 08:50	
Carbon disulfide	ug/m3	ND	0.32	06/04/19 08:50	
cis-1,2-Dichloroethene	ug/m3	ND	0.40	06/04/19 08:50	
Dichlorodifluoromethane	ug/m3	ND	0.50	06/04/19 08:50	
Ethylbenzene	ug/m3	ND	0.44	06/04/19 08:50	
m&p-Xylene	ug/m3	ND	0.88	06/04/19 08:50	
Methylene Chloride	ug/m3	ND	1.8	06/04/19 08:50	
n-Hexane	ug/m3	ND	0.36	06/04/19 08:50	
o-Xylene	ug/m3	ND	0.44	06/04/19 08:50	
Tetrachloroethene	ug/m3	ND	0.34	06/04/19 08:50	
Toluene	ug/m3	ND	0.38	06/04/19 08:50	
trans-1,2-Dichloroethene	ug/m3	ND	0.40	06/04/19 08:50	
Trichloroethene	ug/m3	ND	0.27	06/04/19 08:50	
Vinyl chloride	ug/m3	ND	0.13	06/04/19 08:50	

#### LABORATORY CONTROL SAMPLE: 3298258

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	67.9	122	70-130	
1,1-Dichloroethene	ug/m3	40.3	48.4	120	70-130	
1,2,4-Trimethylbenzene	ug/m3	50	57.7	115	70-134	
1,3,5-Trimethylbenzene	ug/m3	50	58.5	117	70-132	
2,2,4-Trimethylpentane	ug/m3	47.5	52.3	110	68-138 I	<b>V</b> 2
2-Butanone (MEK)	ug/m3	30	26.4	88	70-130	
4-Ethyltoluene	ug/m3	50	62.2	125	70-138	
Acetone	ug/m3	121	156	129	67-130	
Benzene	ug/m3	32.5	35.5	109	70-130	
Carbon disulfide	ug/m3	31.6	35.3	112	56-137	
cis-1,2-Dichloroethene	ug/m3	40.3	45.9	114	70-130	
Dichlorodifluoromethane	ug/m3	50.3	60.0	119	70-130	
Ethylbenzene	ug/m3	44.1	51.1	116	67-131	
m&p-Xylene	ug/m3	88.3	103	117	70-132	

Results presented on this page are in the units indicated by the "Units" 260mn except where an alternate unit is presented to the right of the result.

# **REPORT OF LABORATORY ANALYSIS**



Project: VP-3 Pace Project No.: 10476901

LABORATORY	CONTROL	SAMPLE:	3298258

		Spike	LCS	LCS	% Rec	o ""
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Methylene Chloride	ug/m3	177	175	99	65-130	
n-Hexane	ug/m3	35.8	38.9	109	66-130	
o-Xylene	ug/m3	44.1	51.3	116	70-130	
Tetrachloroethene	ug/m3	68.9	80.2	116	70-130	
Toluene	ug/m3	38.3	45.1	118	70-130	
trans-1,2-Dichloroethene	ug/m3	40.3	45.3	112	70-130	
Trichloroethene	ug/m3	54.6	67.4	123	70-130	
Vinyl chloride	ug/m3	26	30.1	116	70-130	

Results presented on this page are in the units indicated by the "Units" 200mn except where an alternate unit is presented to the right of the result.



### QUALIFIERS

Project: VP-3 Pace Project No.: 10476901

#### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

#### ANALYTE QUALIFIERS

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

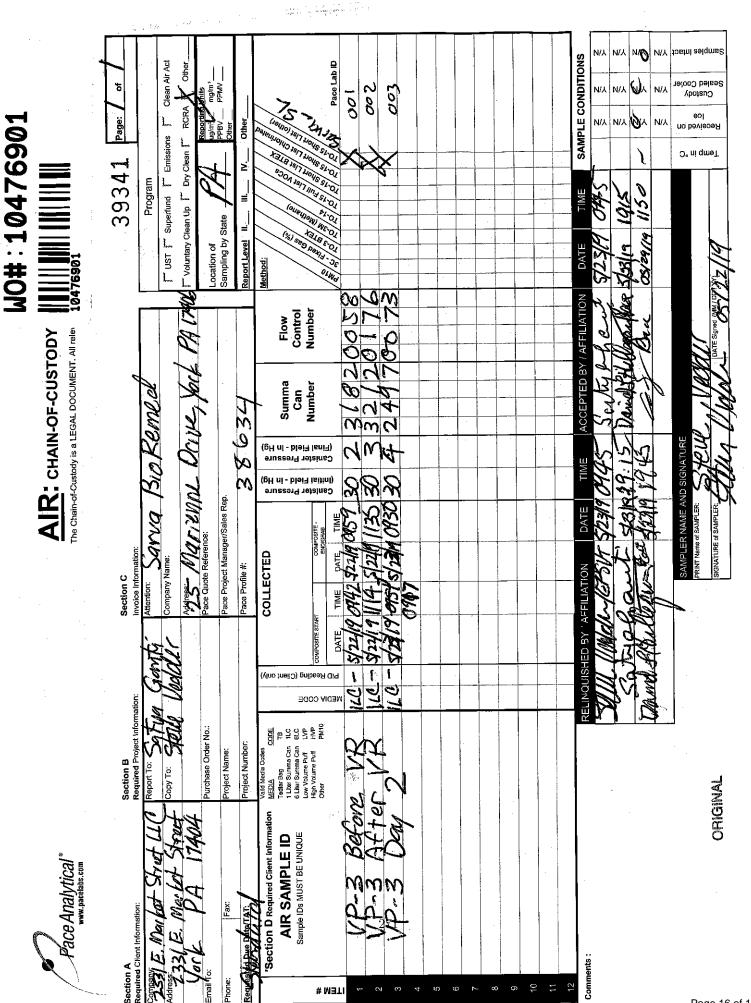


# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: VP-3 Pace Project No.: 10476901

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10476901001	VP-3 Before VR	TO-15	610368		
10476901002 10476901003	VP-3 After VR VP-3 Day 2	TO-15 TO-15	610074 610074		

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1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

FC046Rev.01, 03Feb2010

ø			Air Samp	Document Nam				Revised: 31Jan2 age 1 of 1	2019	]
	ace Analytica		Document No.: F-MN-A-106-rev.18				Issui	ng Authority:		]
Air Sample Condition Upon Receipt	Client Name	<b>D</b>		Pro	ject #:			<u> </u>		
	Fed Ex	UPS SpeeDee	USPS Comm	 Clien ercial See Exc		PM: NB3 CLIENT:			06/05/1	9
								<u> </u>		
Custody Seal on Cool		(		Seals Intact?					_	/
Packing Material:	Bubble Wrap	Bubble B	ags Poar	n 🗌 None	□Tin	Can Other:			Blank rec:	
Temp. (TO17 and TO13 s			Corrected Tem	ip (°C):				eter Used:	G87A9170	100842
Temp should be above f	-	Correction Fac	tor:		Da	te & Initials of Pe	erson Examinin	g Contents: _	05/20/1	9 C S
Type of ice Received	_Blue L_We	t <u>Z</u> None					ەن.			
				·	•			Comments:		
Chain of Custody Presen			Z			1.				
Chain of Custody Filled C			<u> </u>			2.	· · · ·			
Chain of Custody Relinqu					N/A	3.				
Sampler Name and/or Si Samples Arrived within H		r				4. 5.				
Short Hold Time Analysi			<b>/</b> '			6.				
Rush Turn Around Time			 			7				<u> </u>
Sufficient Volume?			ZÍv			8.				
Correct Containers Used	?					9.				
-Pace Containers Use	1?									
Containers Intact						10.				
Media: Air Can	Airbag	Filter	TDT Pa	assive		11. Indiv	vidually Certifi	ied Cans Y	N list which	h samples)
Is sufficient information samples to the COC?	available to reco	oncile		es 🔲 No		12.				
Do cans need to be press DO NOT PRESSURIZE)?	urized (3C and /	ASTM 1946		es No		13.				
Samples Received:			/_		Pressur	e Gauge # 🔲 1	.0AIR34 🛛	10AIR35		-
·····,	Car	isters					Cai	nisters		•
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sam	ple Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
Befer	3182	0058	-1.0	+10.0						L
Aflen	3212	0176	-2.0			······································				 
Day 2	2497	0073	-2.5	ti -						ļ
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	_	<u> </u>								
	/RESOLUTION				Dat	e/Time:		•	Yes N	
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· · · · · · · · · · · · · · · · · · ·			Rhan	27	2				<u></u>	
Project Manager Revi Note: Whenever there is a		ting North Caro	UDDE A	samples a con	of this fo	Date:		9 alina DEHMR O	ertification Offi	re(ie out
hold, incorrect preservative					, 2					

Page 17 of 17	<u>,</u>
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Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

July 11, 2019

Steve Vedder Environmental Products & Services of Vermont, Inc. 1539 Bobali Drive Harrisburg, PA 17104

RE: Project: Plaza 2331 Pace Project No.: 10482007

Dear Steve Vedder:

Enclosed are the analytical results for sample(s) received by the laboratory on July 03, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Delle 25

Nathan Boberg nathan.boberg@pacelabs.com (612)360-0728 Project Manager

Enclosures

cc: Satya Ganti, Sarva Bio Remed, LLC



# **REPORT OF LABORATORY ANALYSIS**

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Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

#### CERTIFICATIONS

Project:	Plaza 2331
Pace Project No.:	10482007

#### **Minnesota Certification IDs**

1700 Elm Street SE, Minneapolis, MN 55414-2485 A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #: MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Marvland Certification #: 322 Massachusetts Certification #: M-MN064 Michigan Certification #: 9909 Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certifcation #: via MN 027-053-137 Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Missouri Certification #: 10100 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon Primary Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Vermont Certification #: VT-027053137 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DEP Certification #: 382 West Virginia DW Certification #: 9952 C Wisconsin Certification #: 999407970 Wyoming UST Certification #: via A2LA 2926.01

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# SAMPLE SUMMARY

Project: Plaza 2331 Pace Project No.: 10482007

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10482007001	VP-3 Before VR	Air	07/01/19 11:20	07/03/19 10:30
10482007002	VP-3 After VR	Air	07/01/19 12:20	07/03/19 10:30
10482007003	VP-3 After 24hr	Air	07/02/19 10:31	07/03/19 10:30

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### **REPORT OF LABORATORY ANALYSIS**



# SAMPLE ANALYTE COUNT

Project:	Plaza 2331
Pace Project No.:	10482007

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10482007001	VP-3 Before VR	TO-15	MG2	22
10482007002	VP-3 After VR	TO-15	MG2	22
10482007003	VP-3 After 24hr	TO-15	MG2	22

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### **REPORT OF LABORATORY ANALYSIS**



#### **PROJECT NARRATIVE**

Project: Plaza 2331 Pace Project No.: 10482007

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:July 11, 2019

#### General Information:

3 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:

Analyte Comments:

#### QC Batch: 618504

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- BLANK (Lab ID: 3340045)
- 2,2,4-Trimethylpentane
- DUP (Lab ID: 3341925)
  - 2,2,4-Trimethylpentane
- DUP (Lab ID: 3341926)
  - 2,2,4-Trimethylpentane
- LCS (Lab ID: 3340046)
- 2,2,4-Trimethylpentane
- VP-3 After 24hr (Lab ID: 10482007003)
- 2,2,4-Trimethylpentane
- VP-3 After VR (Lab ID: 10482007002)
  - 2,2,4-Trimethylpentane

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#### **PROJECT NARRATIVE**

Project: Plaza 2331 Pace Project No.: 10482007

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:July 11, 2019

Analyte Comments:

QC Batch: 618504

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

• VP-3 Before VR (Lab ID: 10482007001)

• 2,2,4-Trimethylpentane

This data package has been reviewed for quality and completeness and is approved for release.

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### **REPORT OF LABORATORY ANALYSIS**



## ANALYTICAL RESULTS

Project: Plaza 2331

Pace Project No.: 10482007

Sample: VP-3 Before VR	Lab ID: 1	0482007001	Collected: 07/01/1	9 11:20	Received: 07	7/03/19 10:30 N	latrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Q
TO15 MSV AIR	Analytical N	lethod: TO-15						
Acetone	ND	ug/m3	4.3	1.8		07/10/19 20:47	67-64-1	
Benzene	3.5	ug/m3	0.58	1.8		07/10/19 20:47	71-43-2	
2-Butanone (MEK)	ND	ug/m3	5.4	1.8		07/10/19 20:47	78-93-3	
Carbon disulfide	15.0	ug/m3	1.1	1.8		07/10/19 20:47	75-15-0	
Dichlorodifluoromethane	2.3	ug/m3	1.8	1.8		07/10/19 20:47	75-71-8	
1,1-Dichloroethene	4.4	ug/m3	1.5	1.8		07/10/19 20:47	75-35-4	
cis-1,2-Dichloroethene	2930	ug/m3	116	144		07/11/19 12:07	156-59-2	
rans-1,2-Dichloroethene	8.4	ug/m3	1.5	1.8		07/10/19 20:47	156-60-5	
Ethylbenzene	ND	ug/m3	1.6	1.8		07/10/19 20:47	100-41-4	
I-Ethyltoluene	ND	ug/m3	4.5	1.8		07/10/19 20:47	622-96-8	
n-Hexane	170	ug/m3	1.3	1.8		07/10/19 20:47	110-54-3	
Aethylene Chloride	13.5	ug/m3	6.4	1.8		07/10/19 20:47	75-09-2	
etrachloroethene	1470	ug/m3	99.2	144		07/11/19 12:07	127-18-4	
oluene	6.3	ug/m3	1.4	1.8		07/10/19 20:47	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	2.0	1.8		07/10/19 20:47	71-55-6	
Trichloroethene	155	ug/m3	0.98	1.8		07/10/19 20:47	79-01-6	
,2,4-Trimethylbenzene	ND	ug/m3	1.8	1.8		07/10/19 20:47	95-63-6	
I,3,5-Trimethylbenzene	ND	ug/m3	1.8	1.8		07/10/19 20:47	108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	4.3	1.8		07/10/19 20:47	540-84-1	N2
/inyl chloride	65.9	ug/m3	0.47	1.8		07/10/19 20:47	75-01-4	
n&p-Xylene	4.2	ug/m3	3.2	1.8		07/10/19 20:47	179601-23-1	
o-Xylene	ND	ug/m3	1.6	1.8		07/10/19 20:47	95-47-6	

Sample: VP-3 After VR	Lab ID: 104	82007002	Collected: 07/01/	19 12:20	Received: 0	7/03/19 10:30	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Mether	nod: TO-15						
Acetone	94.0	ug/m3	4.7	1.94		07/10/19 21:10	6 67-64-1	
Benzene	2.3	ug/m3	0.63	1.94		07/10/19 21:10	6 71-43-2	
2-Butanone (MEK)	17.8	ug/m3	5.8	1.94		07/10/19 21:10	6 78-93-3	
Carbon disulfide	4.7	ug/m3	1.2	1.94		07/10/19 21:10	6 75-15-0	
Dichlorodifluoromethane	2.4	ug/m3	2.0	1.94		07/10/19 21:10	6 75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.6	1.94		07/10/19 21:10	6 75-35-4	
cis-1,2-Dichloroethene	496	ug/m3	15.6	19.4		07/11/19 11:12	2 156-59-2	
trans-1,2-Dichloroethene	2.6	ug/m3	1.6	1.94		07/10/19 21:10	6 156-60-5	
Ethylbenzene	ND	ug/m3	1.7	1.94		07/10/19 21:10	6 100-41-4	
4-Ethyltoluene	ND	ug/m3	4.8	1.94		07/10/19 21:10	6 622-96-8	
n-Hexane	49.1	ug/m3	1.4	1.94		07/10/19 21:10	6 110-54-3	
Methylene Chloride	16.8	ug/m3	6.8	1.94		07/10/19 21:10	6 75-09-2	
Tetrachloroethene	470	ug/m3	13.4	19.4		07/11/19 11:12	2 127-18-4	
Toluene	8.3	ug/m3	1.5	1.94		07/10/19 21:10	6 108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	2.2	1.94		07/10/19 21:10	6 71-55-6	
Trichloroethene	52.8	ug/m3	1.1	1.94		07/10/19 21:10	6 79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.9	1.94		07/10/19 21:10	6 95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	279 1.9	1.94		07/10/19 21:10	6 108-67-8	



# ANALYTICAL RESULTS

Project: Plaza 2331

Pace Project No.: 10482007

Sample: VP-3 After VR	Lab ID: 104	82007002	Collected: 07/01/	19 12:20	Received: 0	07/03/19 10:30	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
2,2,4-Trimethylpentane	ND	ug/m3	4.6	1.94		07/10/19 21:16	540-84-1	N2
Vinyl chloride	30.3	ug/m3	0.50	1.94		07/10/19 21:16	6 75-01-4	
m&p-Xylene	ND	ug/m3	3.4	1.94		07/10/19 21:16	6 179601-23-1	
o-Xylene	ND	ug/m3	1.7	1.94		07/10/19 21:16	8 95-47-6	
Sample: VP-3 After 24hr	Lab ID: 104	82007003	Collected: 07/02/2	19 10:31	Received: 0	07/03/19 10:30	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
Acetone	793	ug/m3	21.7	9		07/10/19 21:43	8 67-64-1	
Benzene	7.9	ug/m3	2.9	9		07/10/19 21:43	3 71-43-2	
2-Butanone (MEK)	191	ug/m3	27.0	9		07/10/19 21:43	3 78-93-3	
Carbon disulfide	20.5	ug/m3	5.7	9		07/10/19 21:43	3 75-15-0	
Dichlorodifluoromethane	ND	ug/m3	9.1	9		07/10/19 21:43	3 75-71-8	
1,1-Dichloroethene	ND	ug/m3	7.3	9		07/10/19 21:43	3 75-35-4	
cis-1,2-Dichloroethene	6310	ug/m3	174	216		07/11/19 11:39	156-59-2	
trans-1,2-Dichloroethene	18.1	ug/m3	7.3	9		07/10/19 21:43	3 156-60-5	
Ethylbenzene	ND	ug/m3	7.9	9		07/10/19 21:43	3 100-41-4	
4-Ethyltoluene	ND	ug/m3	22.5	9		07/10/19 21:43	8 622-96-8	
n-Hexane	623	ug/m3	6.4	9		07/10/19 21:43	3 110-54-3	
Methylene Chloride	ND	ug/m3	31.8	9		07/10/19 21:43	3 75-09-2	
Tetrachloroethene	591	ug/m3	6.2	9		07/10/19 21:43	3 127-18-4	
Toluene	ND	ug/m3	6.9	9		07/10/19 21:43	3 108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	10	9		07/10/19 21:43		
Trichloroethene	252	ug/m3	4.9	9		07/10/19 21:43		
1,2,4-Trimethylbenzene	ND	ug/m3	9.0	9		07/10/19 21:43		
1,3,5-Trimethylbenzene	ND	ug/m3	9.0	9		07/10/19 21:43	8 108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	21.3	9		07/10/19 21:43	3 540-84-1	N2
Vinyl chloride	198	ug/m3	2.3	9		07/10/19 21:43		
m&p-Xylene	ND	ug/m3	15.9	9		07/10/19 21:43		
o-Xylene	ND	ug/m3	7.9	9		07/10/19 21:43	3 95-47-6	

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Project: Plaza 2331

Pace Project No.: 10482007

QC Batch:	618504	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR Low Level
Associated Lab Sam	ples: 10482007001, 10482007002, 1	0482007003	

METHOD BLANK: 3340045

#### Matrix: Air Associated Lab Samples: 10482007001, 10482007002, 10482007003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	07/10/19 08:08	
1,1-Dichloroethene	ug/m3	ND	0.81	07/10/19 08:08	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	07/10/19 08:08	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	07/10/19 08:08	
2,2,4-Trimethylpentane	ug/m3	ND	2.4	07/10/19 08:08	N2
2-Butanone (MEK)	ug/m3	ND	3.0	07/10/19 08:08	
4-Ethyltoluene	ug/m3	ND	2.5	07/10/19 08:08	
Acetone	ug/m3	ND	2.4	07/10/19 08:08	
Benzene	ug/m3	ND	0.32	07/10/19 08:08	
Carbon disulfide	ug/m3	ND	0.63	07/10/19 08:08	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	07/10/19 08:08	
Dichlorodifluoromethane	ug/m3	ND	1.0	07/10/19 08:08	
Ethylbenzene	ug/m3	ND	0.88	07/10/19 08:08	
m&p-Xylene	ug/m3	ND	1.8	07/10/19 08:08	
Methylene Chloride	ug/m3	ND	3.5	07/10/19 08:08	
n-Hexane	ug/m3	ND	0.72	07/10/19 08:08	
o-Xylene	ug/m3	ND	0.88	07/10/19 08:08	
Tetrachloroethene	ug/m3	ND	0.69	07/10/19 08:08	
Toluene	ug/m3	ND	0.77	07/10/19 08:08	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	07/10/19 08:08	
Trichloroethene	ug/m3	ND	0.55	07/10/19 08:08	
Vinyl chloride	ug/m3	ND	0.26	07/10/19 08:08	

### LABORATORY CONTROL SAMPLE: 3340046

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	52.5	95	70-130	
1,1-Dichloroethene	ug/m3	40.3	38.1	95	70-130	
1,2,4-Trimethylbenzene	ug/m3	50	49.7	99	70-134	
1,3,5-Trimethylbenzene	ug/m3	50	48.5	97	70-132	
2,2,4-Trimethylpentane	ug/m3	47.5	44.4	94	68-138 N	12
2-Butanone (MEK)	ug/m3	30	30.5	102	70-130	
4-Ethyltoluene	ug/m3	50	49.9	100	70-138	
Acetone	ug/m3	121	105	87	67-130	
Benzene	ug/m3	32.5	30.1	93	70-130	
Carbon disulfide	ug/m3	31.6	31.0	98	56-137	
cis-1,2-Dichloroethene	ug/m3	40.3	37.3	93	70-130	
Dichlorodifluoromethane	ug/m3	50.3	43.9	87	70-130	
Ethylbenzene	ug/m3	44.1	42.3	96	67-131	
m&p-Xylene	ug/m3	88.3	85.1	96	70-132	

Results presented on this page are in the units indicated by the "Units" 28 Junn except where an alternate unit is presented to the right of the result.

# **REPORT OF LABORATORY ANALYSIS**



Project:	Plaza 2331
Pace Project No.:	10482007

#### LABORATORY CONTROL SAMPLE: 3340046

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aethylene Chloride	ug/m3	177	162	92	65-130	
h-Hexane	ug/m3	35.8	34.5	96	66-130	
o-Xylene	ug/m3	44.1	41.7	94	70-130	
etrachloroethene	ug/m3	68.9	70.4	102	70-130	
bluene	ug/m3	38.3	35.3	92	70-130	
ans-1,2-Dichloroethene	ug/m3	40.3	37.8	94	70-130	
ichloroethene	ug/m3	54.6	53.4	98	70-130	
nyl chloride	ug/m3	26	22.1	85	70-130	

#### SAMPLE DUPLICATE: 3341925

		60307924001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	 ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	N2
2-Butanone (MEK)	ug/m3	ND	2.9J		25	
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	419	403	4	25	
Benzene	ug/m3	ND	.49J		25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.4	2.2	12	25	
Ethylbenzene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	11.9	11.5	4	25	
n-Hexane	ug/m3	ND	1.2J		25	
o-Xylene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	1.5	ND		25	
Toluene	ug/m3	2.0	2.1	4	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	2.7	2.9	4	25	
Vinyl chloride	ug/m3	ND	ND		25	

#### SAMPLE DUPLICATE: 3341926

		60307924002	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	N2
2-Butanone (MEK)	ug/m3	ND	1.1J		25	

Results presented on this page are in the units indicated by the "Units" 28 am except where an alternate unit is presented to the right of the result.

### **REPORT OF LABORATORY ANALYSIS**



Project: Plaza 2331 Pace Project No.: 10482007

#### SAMPLE DUPLICATE: 3341926

		60307924002	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	32.9	30.8	7	25	
Benzene	ug/m3	1.2	1.1	5	25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.4	2.3	1	25	
Ethylbenzene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	19.2	18.0	6	25	
n-Hexane	ug/m3	2.1	2.2	5	25	
o-Xylene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	1.9	1.8	5	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	.63J		25	
Vinyl chloride	ug/m3	ND	ND		25	

Results presented on this page are in the units indicated by the "Units" 2800mn except where an alternate unit is presented to the right of the result.

#### **REPORT OF LABORATORY ANALYSIS**



### QUALIFIERS

Project:	Plaza 2331		
Pace Project No.:	10482007		

#### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

#### ANALYTE QUALIFIERS

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

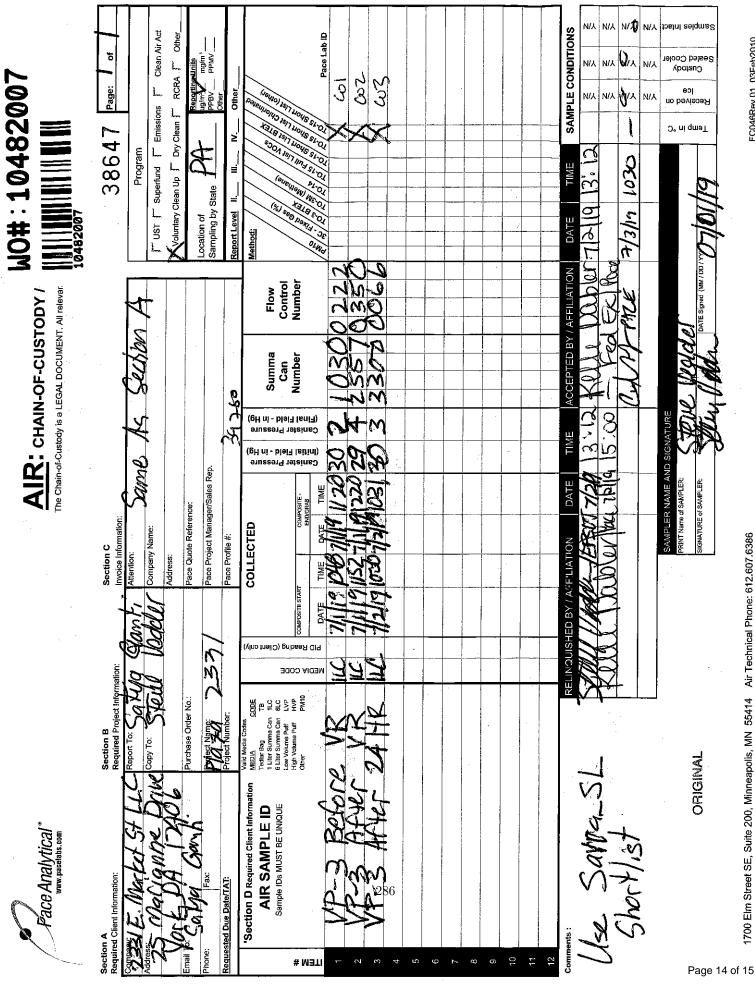


# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	Plaza 2331
Pace Project No.:	10482007

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10482007001	VP-3 Before VR	 TO-15	618504		
10482007002	VP-3 After VR	TO-15	618504		
10482007003	VP-3 After 24hr	TO-15	618504		

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FC046Rev.01, 03Feb2010

Air Sample Condition Upon Receipt Courier:	Fed Ex Pace	e: MARKE	Г <u></u> Г Г					uing Authority: nesota Quality C	ffice		
Upon Receipt Courier:	<b>Z331 E</b> Fed Ex Pace	<u>a</u> MARKE □ups	r st	Bea	F-MN-A-106-rev.18 Pace Minnesota Quality Office						
Tracking Number:	Pace	=			oject #:	<u> </u>	<u>#:10</u>	4820	07		
Custody Seal on Cooler/	-					PM:	NB3	Due Dat	e: 07/11	/19	
_		SpeeDee <b>)349_64</b>		mercial See Exc	eption	CLIE	NT: Sarva	Bio	-	.  -	
Dealing Motorial.	/Box Present	t? 🗌 Yes		Seals Intact?	Yes	ANO				••• ••	
Packing Material:	ubble Wrap	Bubble B	Bags 🙀Foa	am 🗌 None	∏Tin	Can 🗌 Oth	er:	Temp	Blank rec: [	Yes 🕅 N	
Temp. (TO17 and TO13 sam	uples only) (°C	n X	Corrected Te	mp (°C):	_		Thermon	neter Used:	<b>G87A91</b> 7	0600254	
Temp should be above free		Correction Fac			 Dat	te & Initials oi	Person Examini	ng Contents:		5100842	
Type of ice Received	•	4		<u> </u>				-	11.27	1.1.0.	
		τ						Comments:			
Chain of Custody Present?			<u>کا</u>	Yes 🔲 No		1.					
Chain of Custody Filled Out	?		X	Yes 🗌 No		2.		· ·			
Chain of Custody Relinquish	ned?		<u>b</u> z	Yes 🔲 No		3.					
Sampler_Name and/or Signa	ature on COC	?	<u> </u>	Yes 🔲 No	N/A	4.					
Samples Arrived within Hole	d Time?		<u> </u>	Yes No		5. ·					
Short Hold Time Analysis (<	<72 hr)?			Yes 🔯 No		6.					
Rush Turn Around Time Re	quested?			Yes 👿 No		7.					
Sufficient Volume?			汉	Yes 🔲 No		8.	•				
Correct Containers Used?			لې کې	Yes 🔲 No		9.					
-Pace Containers Used?			<u> </u>								
Containers Intact?	<u></u>		<u> </u>			10.					
	Airbag	Filter	TDT I	Passive		11. Ir	dividually Certii	ied Cans Y	N Vist which	ch samples)	
s sufficient information ava amples to the COC?	ilable to reco	ncile	۲Â،	Yes ∏No		12.					
Do cans need to be pressuri	zed (3C and A	ASTM 1946	, 			12.					
DO NOT PRESSURIZE)?			<u> </u>	res 🔲 No		13.					
amples Received:					Pressure	e Gauge #	10AIR34	10AIR35			
~- <u>·</u>	Cani	isters					Ca	nisters			
		Flow	Initial	Final				Flow	Initial	Final	
Sample Number	Can ID	Controller	Pressure	Pressure	Samp	pie Number	Can ID	Controller	Pressure	Pressure	
SEFORE VR	1030	0222	-2	+10 +10							
	2557	0350	-4						··· ···		
APTER 24VR	3300	0066	-2	10							
<u> </u>											
				<u></u>							
CLIENT NOTIFICATION/RE	SOLUTION						Field Data	a Required?	Yes N	0	
Person Conta	acted:				_ Date	/Time:					
Comments/Resol	ution:										
				28	7						

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



September 12, 2019

Steve Vedder Environmental Products & Services of Vermont, Inc. 1539 Bobali Drive Harrisburg, PA 17104

RE: Project: TO-15 Short List Pace Project No.: 10490266

Dear Steve Vedder:

Enclosed are the analytical results for sample(s) received by the laboratory on September 05, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

120FF 

Nathan Boberg nathan.boberg@pacelabs.com (612)360-0728 Project Manager

Enclosures

cc: Satya Ganti, Sarva Bio Remed, LLC



# **REPORT OF LABORATORY ANALYSIS**

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### CERTIFICATIONS

Project: TO-15 Short List Pace Project No.: 10490266

#### **Minnesota Certification IDs**

1700 Elm Street SE, Minneapolis, MN 55414-2485 A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #: MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Marvland Certification #: 322 Massachusetts Certification #: M-MN064 Michigan Certification #: 9909 Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certifcation #: via MN 027-053-137 Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Missouri Certification #: 10100 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon Primary Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Vermont Certification #: VT-027053137 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DEP Certification #: 382 West Virginia DW Certification #: 9952 C Wisconsin Certification #: 999407970 Wyoming UST Certification #: via A2LA 2926.01

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# SAMPLE SUMMARY

Project: TO-15 Short List Pace Project No.: 10490266

Lab ID Sample ID Matrix **Date Collected Date Received** 10490266001 IA-001 (Pump Room) 09/04/19 16:45 09/05/19 11:05 Air 10490266002 IA-002 (Middle Room) Air 09/04/19 16:45 09/05/19 11:05 10490266003 IA-003 (Below Dock) 09/04/19 16:40 09/05/19 11:05 Air

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# **REPORT OF LABORATORY ANALYSIS**



# SAMPLE ANALYTE COUNT

Project: TO-15 Short List Pace Project No.: 10490266

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10490266001	IA-001 (Pump Room)	TO-15	AFV	22
10490266002	IA-002 (Middle Room)	TO-15	AFV	22
10490266003	IA-003 (Below Dock)	TO-15	AFV	22

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# **REPORT OF LABORATORY ANALYSIS**



### **PROJECT NARRATIVE**

Project: TO-15 Short List Pace Project No.: 10490266

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:September 12, 2019

### **General Information:**

3 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.

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# ANALYTICAL RESULTS

Project: TO-15 Short List

# Pace Project No.: 10490266

Sample: IA-001 (Pump Room)	Lab ID: 104	90266001	Collected: 09/04/	19 16:45	Received: 0	Received: 09/05/19 11:05 Matrix: Air					
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual			
TO15 MSV AIR	Analytical Met	nod: TO-15									
Acetone	249	ug/m3	9.7	1.61		09/10/19 18:26	67-64-1				
Benzene	0.58	ug/m3	0.52	1.61		09/10/19 18:26	71-43-2				
2-Butanone (MEK)	17.5	ug/m3	4.8	1.61		09/10/19 18:26	78-93-3				
Carbon disulfide	ND	ug/m3	1.0	1.61		09/10/19 18:26	75-15-0				
Dichlorodifluoromethane	2.4	ug/m3	1.6	1.61		09/10/19 18:26	75-71-8				
1,1-Dichloroethene	ND	ug/m3	1.3	1.61		09/10/19 18:26	75-35-4				
cis-1,2-Dichloroethene	81.0	ug/m3	1.3	1.61		09/10/19 18:26	156-59-2				
trans-1,2-Dichloroethene	ND	ug/m3	1.3	1.61		09/10/19 18:26	156-60-5				
Ethylbenzene	ND	ug/m3	1.4	1.61		09/10/19 18:26	100-41-4				
4-Ethyltoluene	ND	ug/m3	4.0	1.61		09/10/19 18:26	622-96-8				
n-Hexane	ND	ug/m3	1.2	1.61		09/10/19 18:26	110-54-3				
Methylene Chloride	ND	ug/m3	5.7	1.61		09/10/19 18:26	75-09-2				
Tetrachloroethene	847	ug/m3	22.2	32.2		09/11/19 20:15	127-18-4				
Toluene	4.3	ug/m3	1.2	1.61		09/10/19 18:26	108-88-3				
1,1,1-Trichloroethane	ND	ug/m3	1.8	1.61		09/10/19 18:26	71-55-6				
Trichloroethene	19.0	ug/m3	0.88	1.61		09/10/19 18:26	79-01-6				
1,2,4-Trimethylbenzene	ND	ug/m3	1.6	1.61		09/10/19 18:26	95-63-6				
1,3,5-Trimethylbenzene	ND	ug/m3	1.6	1.61		09/10/19 18:26	108-67-8				
2,2,4-Trimethylpentane	ND	ug/m3	3.8	1.61		09/10/19 18:26	540-84-1				
Vinyl chloride	ND	ug/m3	0.42	1.61		09/10/19 18:26	75-01-4				
m&p-Xylene	ND	ug/m3	2.8	1.61		09/10/19 18:26	179601-23-1				
o-Xylene	ND	ug/m3	1.4	1.61		09/10/19 18:26	95-47-6				

Sample: IA-002 (Middle Room)	Lab ID: 104	90266002	Collected: 09/04/	19 16:45	Received: 0	9/05/19 11:05 N	Aatrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Meth	nod: TO-15						
Acetone	240	ug/m3	8.7	1.44		09/10/19 18:56	67-64-1	
Benzene	0.59	ug/m3	0.47	1.44		09/10/19 18:56	71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.3	1.44		09/10/19 18:56	78-93-3	
Carbon disulfide	ND	ug/m3	0.91	1.44		09/10/19 18:56	75-15-0	
Dichlorodifluoromethane	2.5	ug/m3	1.5	1.44		09/10/19 18:56	75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/10/19 18:56	75-35-4	
cis-1,2-Dichloroethene	82.7	ug/m3	1.2	1.44		09/10/19 18:56	156-59-2	
trans-1,2-Dichloroethene	1.4	ug/m3	1.2	1.44		09/10/19 18:56	156-60-5	
Ethylbenzene	ND	ug/m3	1.3	1.44		09/10/19 18:56	100-41-4	
4-Ethyltoluene	ND	ug/m3	3.6	1.44		09/10/19 18:56	622-96-8	
n-Hexane	ND	ug/m3	1.0	1.44		09/10/19 18:56	110-54-3	
Methylene Chloride	ND	ug/m3	5.1	1.44		09/10/19 18:56	75-09-2	
Tetrachloroethene	858	ug/m3	19.8	28.8		09/11/19 20:44	127-18-4	
Toluene	3.9	ug/m3	1.1	1.44		09/10/19 18:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		09/10/19 18:56	71-55-6	
Trichloroethene	19.5	ug/m3	0.79	1.44		09/10/19 18:56	79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/10/19 18:56	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	293 1.4	1.44		09/10/19 18:56	108-67-8	



# ANALYTICAL RESULTS

Project: TO-15 Short List

Pace Project No.: 10490266

Sample: IA-002 (Middle Room)	Lab ID: 104	90266002	Collected: 09/04/	19 16:45	Received: 0	9/05/19 11:05	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
2,2,4-Trimethylpentane	ND	ug/m3	3.4	1.44		09/10/19 18:5	6 540-84-1	
Vinyl chloride	ND	ug/m3	0.37	1.44		09/10/19 18:5	6 75-01-4	
m&p-Xylene	ND	ug/m3	2.5	1.44		09/10/19 18:5	6 179601-23-1	
o-Xylene	ND	ug/m3	1.3	1.44		09/10/19 18:5	6 95-47-6	
Sample: IA-003 (Below Dock)	Lab ID: 104	90266003	Collected: 09/04/	19 16:40	Received: 0	9/05/19 11:05	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
Acetone	207	ug/m3	8.7	1.44		09/10/19 19:2	7 67-64-1	
Benzene	0.56	ug/m3	0.47	1.44		09/10/19 19:2	7 71-43-2	
2-Butanone (MEK)	6.1	ug/m3	4.3	1.44		09/10/19 19:2	7 78-93-3	
Carbon disulfide	ND	ug/m3	0.91	1.44		09/10/19 19:2	7 75-15-0	
Dichlorodifluoromethane	2.4	ug/m3	1.5	1.44		09/10/19 19:2	7 75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		09/10/19 19:2	7 75-35-4	
cis-1,2-Dichloroethene	85.2	ug/m3	1.2	1.44		09/10/19 19:2	27 156-59-2	
trans-1,2-Dichloroethene	1.5	ug/m3	1.2	1.44		09/10/19 19:2	7 156-60-5	
Ethylbenzene	1.6	ug/m3	1.3	1.44		09/10/19 19:2	27 100-41-4	
4-Ethyltoluene	ND	ug/m3	3.6	1.44		09/10/19 19:2	7 622-96-8	
n-Hexane	ND	ug/m3	1.0	1.44		09/10/19 19:2	7 110-54-3	
Methylene Chloride	ND	ug/m3	5.1	1.44		09/10/19 19:2	7 75-09-2	
Tetrachloroethene	909	ug/m3	19.8	28.8		09/11/19 21:1	3 127-18-4	
Toluene	3.6	ug/m3	1.1	1.44		09/10/19 19:2	7 108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		09/10/19 19:2	7 71-55-6	
Trichloroethene	19.6	ug/m3	0.79	1.44		09/10/19 19:2	7 79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/10/19 19:2	7 95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		09/10/19 19:2	7 108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	3.4	1.44		09/10/19 19:2	7 540-84-1	
Vinyl chloride	ND	ug/m3	0.37	1.44		09/10/19 19:2		
m&p-Xylene	8.6	ug/m3	2.5	1.44		09/10/19 19:2	7 179601-23-1	
o-Xylene	2.5	ug/m3	1.3	1.44		09/10/19 19:2	7 95-47-6	

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### **REPORT OF LABORATORY ANALYSIS**



# **QUALITY CONTROL DATA**

# Project: TO-15 Short List

Pace Project No.: 10490266

QC Batch:	631257	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR Low Level
Associated Lab Sam	ples: 10490266001, 10490266002, 1	0490266003	

METHOD BLANK: 3403723 Matrix: Air Associated Lab Samples: 10490266001, 10490266002, 10490266003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Faidilielei					
1,1,1-Trichloroethane	ug/m3	ND	0.56	09/10/19 10:47	
1,1-Dichloroethene	ug/m3	ND	0.40	09/10/19 10:47	
1,2,4-Trimethylbenzene	ug/m3	ND	0.50	09/10/19 10:47	
1,3,5-Trimethylbenzene	ug/m3	ND	0.50	09/10/19 10:47	
2,2,4-Trimethylpentane	ug/m3	ND	1.2	09/10/19 10:47	
2-Butanone (MEK)	ug/m3	ND	1.5	09/10/19 10:47	
4-Ethyltoluene	ug/m3	ND	1.2	09/10/19 10:47	
Acetone	ug/m3	ND	3.0	09/10/19 10:47	MN
Benzene	ug/m3	ND	0.16	09/10/19 10:47	
Carbon disulfide	ug/m3	ND	0.32	09/10/19 10:47	
cis-1,2-Dichloroethene	ug/m3	ND	0.40	09/10/19 10:47	
Dichlorodifluoromethane	ug/m3	ND	0.50	09/10/19 10:47	
Ethylbenzene	ug/m3	ND	0.44	09/10/19 10:47	
m&p-Xylene	ug/m3	ND	0.88	09/10/19 10:47	
Methylene Chloride	ug/m3	ND	1.8	09/10/19 10:47	
n-Hexane	ug/m3	ND	0.36	09/10/19 10:47	
o-Xylene	ug/m3	ND	0.44	09/10/19 10:47	
Tetrachloroethene	ug/m3	ND	0.34	09/10/19 10:47	
Toluene	ug/m3	ND	0.38	09/10/19 10:47	
trans-1,2-Dichloroethene	ug/m3	ND	0.40	09/10/19 10:47	
Trichloroethene	ug/m3	ND	0.27	09/10/19 10:47	
Vinyl chloride	ug/m3	ND	0.13	09/10/19 10:47	

### LABORATORY CONTROL SAMPLE: 3403724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	64.3	116	70-130	
1,1-Dichloroethene	ug/m3	40.3	46.0	114	70-130	
1,2,4-Trimethylbenzene	ug/m3	50	53.9	108	70-134	
1,3,5-Trimethylbenzene	ug/m3	50	54.1	108	70-132	
2,2,4-Trimethylpentane	ug/m3	47.5	51.6	109	68-138	
2-Butanone (MEK)	ug/m3	30	32.9	110	70-130	
4-Ethyltoluene	ug/m3	50	55.6	111	70-138	
Acetone	ug/m3	121	146	121	67-130	
Benzene	ug/m3	32.5	35.8	110	70-130	
Carbon disulfide	ug/m3	31.6	36.4	115	56-137	
cis-1,2-Dichloroethene	ug/m3	40.3	48.2	120	70-130	
Dichlorodifluoromethane	ug/m3	50.3	55.7	111	70-130	
Ethylbenzene	ug/m3	44.1	50.2	114	67-131	
m&p-Xylene	ug/m3	88.3	105	119	70-132	

Results presented on this page are in the units indicated by the "Units" 2015mn except where an alternate unit is presented to the right of the result.

# **REPORT OF LABORATORY ANALYSIS**



# **QUALITY CONTROL DATA**

Project: TO-15 Short List Pace Project No.: 10490266

### LABORATORY CONTROL SAMPLE: 3403724

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Methylene Chloride	ug/m3	177	171	97	65-130	
n-Hexane	ug/m3	35.8	36.1	101	66-130	
o-Xylene	ug/m3	44.1	52.1	118	70-130	
Tetrachloroethene	ug/m3	68.9	80.1	116	70-130	
Toluene	ug/m3	38.3	43.1	113	70-130	
trans-1,2-Dichloroethene	ug/m3	40.3	44.5	111	70-130	
Trichloroethene	ug/m3	54.6	63.5	116	70-130	
Vinyl chloride	ug/m3	26	29.7	114	70-130	

Results presented on this page are in the units indicated by the "Units" 2010mn except where an alternate unit is presented to the right of the result.



### QUALIFIERS

Project: TO-15 Short List Pace Project No.: 10490266

### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.



# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: TO-15 Short List Pace Project No.: 10490266

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10490266001	IA-001 (Pump Room)	TO-15	631257		
10490266002	IA-002 (Middle Room)	TO-15	631257		
10490266003	IA-003 (Below Dock)	TO-15	631257		

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99	e: of		Clean Air Act	RCRA Cother	Reporting Units uoim* mo/m³	PPMV				15 CALUA		- SAR UA					SAMPLE CONDITIONS		Q/A	)N/A N/A	N/A	ce es Intact es Intact	uCu Sealei
WO# : 10490266	46741 Page:	Program a Program	missions		Location of Location of	y State	Report Level II. III. IV. Other	(3) (3) (3)	10000000000000000000000000000000000000	$\frac{1}{2}$	X 70-	-21-07 X 70-15-		· · · · · · · · · · · · · · · · · · ·			DATE TIME SAMPLE	94410 18230 3	9151A 1105 - 2	N/X	N/A	ive bon	Tem
The Chain-of-Custody is a LEGAL DOCUMENT. All relevan	C omation:		Company Name:	Address:	Pace Quote Reference:	Pace Project Manager/Sales Rep.		▲ (6H ui - pi	(Initial Fie Canister I V (Final Fie D O O O O O O O O O O	1 7 1 8 459/ 4/ PI	30 111077086	1411908:400/1/12/02 7 2 9 7 1 1 0 6 21					N	14/19/1650 Duintet Lighten Rive	He Moon Rave 44/10 19 Col 3 - OAT (-			SAMPLER NAME AND SIGNATURE	SIGNATURE of SAMPLER. DD / YY)
Pace Analytical*	Section A Required Client Information: Required Project Information:	231 E MKH Street	LLE COPYTO: VA	×, 1 × 1 × 106	Hagent Chehne	-0 (i S' 9	Project Number:	*Section D Required Client information Valid Media Codes AIR SAMPLE ID Tedata Codes Sample IDs MUST BE UNIQUE 6 Litter Summa Can 6LC	PID Volume Purit LVP High Volume Purit LVP Other Purit Volume Coll Pid Volume Purit Volume PM10 Pid Volume Purit Volume Pid Volume P	TA - 001 C Pump Room) 9	2 (Middle Room)				10	11	Comments : RELINQUISHED BY / AFFILIATIO	errier	Dowid of 1	a			ORIGINAL age

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

FC046Rev.01, 03Feb2010

of 13

Tracking Num Custody Seal o Packing Materi Temp. (T017 and	pt <u>23</u> rier: ⊠Fed Ex □Pace		√ √ · □usps	Document No F-MN-A-106-rev Pro		1.10#		aing Authority:		
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Tracking Num Custody Seal o Packing Materi Temp. (T017 and	ber: $7895$			 Clien		PM: NB3			: 09/19/1	,9
Packing Materi Temp. (TO17 and	on Cooler/Box Prese	1222	Comn SYJ/	nercial See Exc		CLIENT:	Sarva B	io		. —
Temp. (TO17 and		nt? Yes	<b>N</b> o	Seals Intact?	Yes					
	al: 🗌 Bubble Wra	p 🔲 Bubble	Bags Foa	m 🔲 None	Tin	Can Other	•	Tem	p Blank rec:	]Yes 🛃
Temp should be	d TO13 samples only) (	°c):	Corrected Ter	np (°C):			Thermon	neter Used:	G87A9170	
	above freezing to 6°C	Correction Fa	actor:		Da	te & Initials of Pe	erson Examini	ng Contents:	9/5/	12
Type of ice Reco	eived 🔤 Blue 🔤 M	/et None								
								Comments:		
Chain of Custody				/		1.				
Chain of Custody						2.				
Chain of Custody Sampler Name a	nd/or Signature on CC				N/A	<u>3.</u> 4,				
	within Hold Time?		 Z			5,				
	Analysis (<72 hr)?		 □Y			6.				
	d Time Requested?	·	Y			7.				
Sufficient Volume	27		 Zr	/		8.				
Correct Containe	rs Used?		ØY	es 🔲 No		9.				
-Pace Containe	ers Used?			es 🔲 No						
Containers intact			<u> </u>			10.				
Media: Air Ci		Filter	TDT P	assive		11. Indi	vidually Certil	ied Cans Y	N list which	ch sample
samples to the C	· · · · · · · · · · · · · · · · · · ·			es 🗌 No		12.				
Do cans need to I DO NOT PRESSUE	e pressurized (3C and IIZE)?	I ASTM 1946		es 🛄 No		13.				
amples Received					Pressure	e Gauge # 🔲 1	.0AIR34 🖉	10AIR35		
	Ci	nisters						nisters		
Sample Num	per Can ID	Flow Controller	initial Pressure	Final Pressure	Same	ple Number		Flow Controller	Initial	Final
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TA OUT	1 107	1 NYEU	-7.	5						
A - 00	5 2671	10 64	-2	5						
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	ATION/RESOLUTION			<u></u> .	l Date	/Time:		-	Yes N	
	nts/Resolution:									
		N		300	)					
Project Manage	r Review:	λH	hankber	٩		Date:	9/5/19	)		



October 04, 2019

Steve Vedder Environmental Products & Services of Vermont, Inc. 1539 Bobali Drive Harrisburg, PA 17104

RE: Project: Air Pace Project No.: 10493430

Dear Steve Vedder:

Enclosed are the analytical results for sample(s) received by the laboratory on September 27, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

120Fr *C* 

Nathan Boberg nathan.boberg@pacelabs.com (612)360-0728 Project Manager

Enclosures

cc: Satya Ganti, Sarva Bio Remed, LLC



# **REPORT OF LABORATORY ANALYSIS**

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### CERTIFICATIONS

Project: Air Pace Project No.: 10493430

#### **Minnesota Certification IDs**

1700 Elm Street SE, Minneapolis, MN 55414-2485 A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #: MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Maryland Certification #: 322 Massachusetts Certification #: M-MN064 Michigan Certification #: 9909 Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certifcation #: via MN 027-053-137 Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Missouri Certification #: 10100 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon Primary Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Vermont Certification #: VT-027053137 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DEP Certification #: 382 West Virginia DW Certification #: 9952 C Wisconsin Certification #: 999407970 Wyoming UST Certification #: via A2LA 2926.01

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# SAMPLE SUMMARY

Project:AirPace Project No.:10493430

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10493430001	IA-001 (Before)	Air	09/23/19 17:00	09/27/19 09:30
10493430002	IA-001 (After-VR)	Air	09/24/19 17:00	09/27/19 09:30
10493430003	IA-001 (24 Hrs. After)	Air	09/25/19 17:00	09/27/19 09:30

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# **REPORT OF LABORATORY ANALYSIS**



# SAMPLE ANALYTE COUNT

Project:AirPace Project No.:10493430

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10493430001	IA-001 (Before)	TO-15	MLS, NCK	22
10493430002	IA-001 (After-VR)	TO-15	MLS, NCK	22
10493430003	IA-001 (24 Hrs. After)	TO-15	MLS, NCK	22

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# **REPORT OF LABORATORY ANALYSIS**



### **PROJECT NARRATIVE**

Project: Air Pace Project No.: 10493430

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:October 04, 2019

### **General Information:**

3 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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# ANALYTICAL RESULTS

Project: Air

Pace Project No.: 10493430

Sample: IA-001 (Before)	Lab ID: 104	93430001	Collected: 09/23/	9 17:00	Received: 09	9/27/19 09:30 N	Aatrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
Acetone	69.8	ug/m3	3.5	1.44		10/03/19 19:33	67-64-1	
Benzene	0.64	ug/m3	0.47	1.44		10/03/19 19:33	71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.3	1.44		10/03/19 19:33	78-93-3	
Carbon disulfide	ND	ug/m3	0.91	1.44		10/03/19 19:33	75-15-0	
Dichlorodifluoromethane	2.4	ug/m3	1.5	1.44		10/03/19 19:33	75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		10/03/19 19:33	75-35-4	
cis-1,2-Dichloroethene	55.6	ug/m3	1.2	1.44		10/03/19 19:33	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		10/03/19 19:33	156-60-5	
Ethylbenzene	ND	ug/m3	1.3	1.44		10/03/19 19:33	100-41-4	
4-Ethyltoluene	ND	ug/m3	3.6	1.44		10/03/19 19:33	622-96-8	
n-Hexane	ND	ug/m3	1.0	1.44		10/03/19 19:33	110-54-3	
Methylene Chloride	ND	ug/m3	5.1	1.44		10/03/19 19:33	75-09-2	
Tetrachloroethene	1240	ug/m3	19.8	28.8		10/04/19 13:29	127-18-4	
Toluene	3.7	ug/m3	1.1	1.44		10/03/19 19:33	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		10/03/19 19:33	71-55-6	
Trichloroethene	14.8	ug/m3	0.79	1.44		10/03/19 19:33	79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		10/03/19 19:33	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		10/03/19 19:33	108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	3.4	1.44		10/03/19 19:33	540-84-1	
Vinyl chloride	ND	ug/m3	0.37	1.44		10/03/19 19:33	75-01-4	
m&p-Xylene	ND	ug/m3	2.5	1.44		10/03/19 19:33	179601-23-1	
o-Xylene	ND	ug/m3	1.3	1.44		10/03/19 19:33	95-47-6	
Sample: IA-001 (After-VR)	Lab ID: 104	93430002	Collected: 09/24/	19 17:00	Received: 09	9/27/19 09:30 N	Aatrix: Air	
			<b>D</b>	55	<b>.</b> .		040 N	<u> </u>

	Eab 1D. 10435430002		Collected: 03/24/13 17.00					
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Mether	nod: TO-15						
Acetone	52.8	ug/m3	3.7	1.55		10/03/19 20:03	67-64-1	
Benzene	ND	ug/m3	0.50	1.55		10/03/19 20:03	71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.6	1.55		10/03/19 20:03	78-93-3	
Carbon disulfide	ND	ug/m3	0.98	1.55		10/03/19 20:03	75-15-0	
Dichlorodifluoromethane	2.6	ug/m3	1.6	1.55		10/03/19 20:03	75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.2	1.55		10/03/19 20:03	75-35-4	
cis-1,2-Dichloroethene	49.1	ug/m3	1.2	1.55		10/03/19 20:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.55		10/03/19 20:03	156-60-5	
Ethylbenzene	ND	ug/m3	1.4	1.55		10/03/19 20:03	100-41-4	
4-Ethyltoluene	ND	ug/m3	3.9	1.55		10/03/19 20:03	622-96-8	
n-Hexane	ND	ug/m3	1.1	1.55		10/03/19 20:03	110-54-3	
Methylene Chloride	ND	ug/m3	5.5	1.55		10/03/19 20:03	75-09-2	
Tetrachloroethene	1050	ug/m3	21.4	31		10/04/19 13:56	127-18-4	
Toluene	2.8	ug/m3	1.2	1.55		10/03/19 20:03	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.55		10/03/19 20:03	71-55-6	
Trichloroethene	12.9	ug/m3	0.85	1.55		10/03/19 20:03	79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.55		10/03/19 20:03	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	306 1.5	1.55		10/03/19 20:03	108-67-8	



# ANALYTICAL RESULTS

Project: Air

Pace Project No.: 10493430

Sample: IA-001 (After-VR)	Lab ID: 104	93430002	Collected: 09/24/	19 17:00	Received: 0	9/27/19 09:30	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Mether	nod: TO-15						
2,2,4-Trimethylpentane	ND	ug/m3	3.7	1.55		10/03/19 20:03	3 540-84-1	
Vinyl chloride	ND	ug/m3	0.40	1.55		10/03/19 20:03	3 75-01-4	
m&p-Xylene	ND	ug/m3	2.7	1.55		10/03/19 20:03	3 179601-23-1	
o-Xylene	ND	ug/m3	1.4	1.55		10/03/19 20:03	3 95-47-6	
Sample: IA-001 (24 Hrs. After)	Lab ID: 104	93430003	Collected: 09/25/	19 17:00	Received: 0	9/27/19 09:30	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Meth	nod: TO-15						
Acetone	45.2	ug/m3	3.7	1.55		10/03/19 20:32	2 67-64-1	
Benzene	0.50	ug/m3	0.50	1.55		10/03/19 20:32	2 71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.6	1.55		10/03/19 20:32	2 78-93-3	
Carbon disulfide	ND	ug/m3	0.98	1.55		10/03/19 20:32	2 75-15-0	
Dichlorodifluoromethane	2.4	ug/m3	1.6	1.55		10/03/19 20:32	2 75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.2	1.55		10/03/19 20:32	2 75-35-4	
cis-1,2-Dichloroethene	44.4	ug/m3	1.2	1.55		10/03/19 20:32	2 156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.55		10/03/19 20:32	2 156-60-5	
Ethylbenzene	ND	ug/m3	1.4	1.55		10/03/19 20:32	2 100-41-4	
4-Ethyltoluene	ND	ug/m3	3.9	1.55		10/03/19 20:32	2 622-96-8	
n-Hexane	1.6	ug/m3	1.1	1.55		10/03/19 20:32	2 110-54-3	
Methylene Chloride	10.9	ug/m3	5.5	1.55		10/03/19 20:32	2 75-09-2	
Tetrachloroethene	939	ug/m3	21.4	31		10/04/19 14:23	3 127-18-4	
Toluene	4.3	ug/m3	1.2	1.55		10/03/19 20:32	2 108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.55		10/03/19 20:32	2 71-55-6	
Trichloroethene	12.5	ug/m3	0.85	1.55		10/03/19 20:32	2 79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.55		10/03/19 20:32	2 95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.55		10/03/19 20:32	2 108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	3.7	1.55		10/03/19 20:32	2 540-84-1	
Vinyl chloride	ND	ug/m3	0.40	1.55		10/03/19 20:32		
m&p-Xylene	ND	ug/m3	2.7	1.55		10/03/19 20:32	2 179601-23-1	
o-Xylene	ND	ug/m3	1.4	1.55		10/03/19 20:32	2 95-47-6	

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# **QUALITY CONTROL DATA**

# Project: Air

Pace Project No.: 10493430

QC Batch:	636101	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR Low Level
Associated Lab Sam	ples: 10493430001, 10493430002, 1	0493430003	

Matrix: Air

# METHOD BLANK: 3428125 Matri Associated Lab Samples: 10493430001, 10493430002, 10493430003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
I,1,1-Trichloroethane	ug/m3	ND	1.1	10/03/19 09:51	
I,1-Dichloroethene	ug/m3	ND	0.81	10/03/19 09:51	
l,2,4-Trimethylbenzene	ug/m3	ND	1.0	10/03/19 09:51	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	10/03/19 09:51	
2,2,4-Trimethylpentane	ug/m3	ND	2.4	10/03/19 09:51	
2-Butanone (MEK)	ug/m3	ND	3.0	10/03/19 09:51	
1-Ethyltoluene	ug/m3	ND	2.5	10/03/19 09:51	
Acetone	ug/m3	ND	2.4	10/03/19 09:51	
Benzene	ug/m3	ND	0.32	10/03/19 09:51	
Carbon disulfide	ug/m3	ND	0.63	10/03/19 09:51	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	10/03/19 09:51	
Dichlorodifluoromethane	ug/m3	ND	1.0	10/03/19 09:51	
Ethylbenzene	ug/m3	ND	0.88	10/03/19 09:51	
n&p-Xylene	ug/m3	ND	1.8	10/03/19 09:51	
Methylene Chloride	ug/m3	ND	3.5	10/03/19 09:51	
n-Hexane	ug/m3	ND	0.72	10/03/19 09:51	
o-Xylene	ug/m3	ND	0.88	10/03/19 09:51	
Tetrachloroethene	ug/m3	ND	0.69	10/03/19 09:51	
Toluene	ug/m3	ND	0.77	10/03/19 09:51	
rans-1,2-Dichloroethene	ug/m3	ND	0.81	10/03/19 09:51	
Frichloroethene	ug/m3	ND	0.55	10/03/19 09:51	
/inyl chloride	ug/m3	ND	0.26	10/03/19 09:51	

### LABORATORY CONTROL SAMPLE: 3428126

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	64.2	116	70-130	
1,1-Dichloroethene	ug/m3	40.3	44.5	110	70-130	
1,2,4-Trimethylbenzene	ug/m3	50	56.3	113	70-134	
1,3,5-Trimethylbenzene	ug/m3	50	57.5	115	70-132	
2,2,4-Trimethylpentane	ug/m3	47.5	51.6	109	68-138	
2-Butanone (MEK)	ug/m3	30	29.8	99	70-130	
4-Ethyltoluene	ug/m3	50	56.1	112	70-138	
Acetone	ug/m3	121	128	106	67-130	
Benzene	ug/m3	32.5	34.8	107	70-130	
Carbon disulfide	ug/m3	31.6	35.0	111	56-137	
cis-1,2-Dichloroethene	ug/m3	40.3	43.4	108	70-130	
Dichlorodifluoromethane	ug/m3	50.3	51.9	103	70-130	
Ethylbenzene	ug/m3	44.1	48.3	109	67-131	
m&p-Xylene	ug/m3	88.3	97.4	110	70-132	

Results presented on this page are in the units indicated by the "Units" 300mn except where an alternate unit is presented to the right of the result.



# **QUALITY CONTROL DATA**

Project: Air Pace Project No.: 10493430

### LABORATORY CONTROL SAMPLE: 3428126

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
ethylene Chloride	ug/m3	177	188	106	65-130	
Hexane	ug/m3	35.8	38.7	108	66-130	
Xylene	ug/m3	44.1	48.5	110	70-130	
trachloroethene	ug/m3	68.9	72.0	105	70-130	
uene	ug/m3	38.3	41.9	110	70-130	
s-1,2-Dichloroethene	ug/m3	40.3	42.1	105	70-130	
hloroethene	ug/m3	54.6	58.8	108	70-130	
yl chloride	ug/m3	26	27.5	106	70-130	

### SAMPLE DUPLICATE: 3429356

		10493486005	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.43	ND		25	
1,1-Dichloroethene	ug/m3	<0.38	ND		25	
1,2,4-Trimethylbenzene	ug/m3	2.0	2.2	7	25	
1,3,5-Trimethylbenzene	ug/m3	0.71J	.76J		25	
2,2,4-Trimethylpentane	ug/m3	7.9	7.7	2	25	
2-Butanone (MEK)	ug/m3	4.7	4.8	3	25	
4-Ethyltoluene	ug/m3	<0.79	ND		25	
Acetone	ug/m3	19.6	20.2	3	25	
Benzene	ug/m3	1.2	1.2	4	25	
Carbon disulfide	ug/m3	<0.30	ND		25	
cis-1,2-Dichloroethene	ug/m3	2.1	2.0	4	25	
Dichlorodifluoromethane	ug/m3	2.3	2.4	4	25	
Ethylbenzene	ug/m3	2.7	2.8	3	25	
m&p-Xylene	ug/m3	9.9	9.7	1	25	
Methylene Chloride	ug/m3	10.2	10.3	1	25	
n-Hexane	ug/m3	4.9	4.6	6	25	
o-Xylene	ug/m3	3.7	3.6	4	25	
Tetrachloroethene	ug/m3	<0.44	ND		25	
Toluene	ug/m3	17.4	17.6	1	25	
trans-1,2-Dichloroethene	ug/m3	<0.40	ND		25	
Trichloroethene	ug/m3	21.7	21.3	2	25	
Vinyl chloride	ug/m3	<0.18	ND		25	

Results presented on this page are in the units indicated by the "Units" 300mn except where an alternate unit is presented to the right of the result.

### **REPORT OF LABORATORY ANALYSIS**



### QUALIFIERS

Project: Air Pace Project No.: 10493430

### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

			Apolytical
Pace Project No.:	10493430		
Project:	Air		

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10493430001	IA-001 (Before)	TO-15	636101		
10493430002	IA-001 (After-VR)	TO-15	636101		
10493430003	IA-001 (24 Hrs. After)	TO-15	636101		

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1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

FC046Rev.01, 03Feb2010

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87	Document Name: Air Sample Condition Upon Receipt	Document Revised: 31Jan2019 ipt Page 1 of 1				
Pace Analytical	Document No.: F-MN-A-106-rev.18	Issuing Authority: Pace Minnesota Quality Office				
Air Sample Condition Client Name:	Project #:	WO#:10493430				
Courier: Tred Ex UPS Pace SpeeDee Tracking Number: 7200 8795	USPS Client Commercial See Exception	PM: NB3 Due Date: 10/04/19 CLIENT: Sarva Bio				
Custody Seal on Cooler/Box Present? Yes Packing Material: Bubble Wrap Bubble	Bags DFoan DNone Tin					
Temp. (TO17 and TO13 samples only) (°C): Temp should be above freezing to 6°C Correction Fac Type of ice Received Blue Wet Mone	Corrected Temp (°C): Date	Thermometer Used: G87A9170600254 G87A9155100842 e & Initials of Person Examining Contents: WO 9/30/L4				
Chain of Custody Present?	Yes No.	Comments:				
Chain of Custody Filled Out?		2 No info in Section Bor C				
Chain of Custody Relinquished?		3.				
Sampler Name and/or Signature on COC?	Yes No N/A	4.				
Samples Arrived within Hold Time?	Yes No	5.				
Short Hold Time Analysis (<72 hr)?	Yes No	6.				
Rush Turn Around Time Requested?	Ver DNo	7.				
Sufficient Volume?	MY INO	8.				
Correct Containers Used?	Ves INO	9.				
-Pace Containers Used?	Yes No					
Containers Intact?		10.				
Media: Air Can Airbag Filter	TDT Passive	11. Individually Certified Cans Y (N)(list which samples)				
Is sufficient information available to reconcile samples to the COC?	Vyes DNo	12.				
Do cans need to be pressurized (3C and ASTM 1946 DO NOT PRESSURIZE)?		13.				
Samples Received:	Pressure	Gauge # 🗌 10AIR34 🔽 10AIR35				
Canisters		Canisters				
Flow	Initial Final	Flow Initial Final				
Sample Number Can ID Controller	Pressure Pressure Sampl	e Number Can ID Controller Pressure Pressure				
1-4-001 (Betore) 0820 0059 TA-001 (After-VR) 0847 1074 (-	4 500 15					
1A-001 (24/48. After) 1580 1077	1) Ranger TS					
LA-OUT (21 Mis. ATTRI) 1502 1017						
		· · · · · · · · · · · · · · · · · · ·				
CLIENT NOTIFICATION/RESOLUTION		Field Data Required?				
Person Contacted:	Date/1	Time:				
Comments/Resolution:						
	·····	1. 				
N 1	313					
Project Manager Keview:	Roberg	Date: 9/30/19				
lote: Whenever there is a discrepancy affecting North Carolin		win be sent to the North Carolina DEHNR Certification Office ( i.e. out of				
old, incorrect preservative, out of temp, incorrect containers,	L					



November 27, 2019

Steve Vedder Environmental Products & Services of Vermont, Inc. 1539 Bobali Drive Harrisburg, PA 17104

RE: Project: Air Pace Project No.: 10500152

Dear Steve Vedder:

Enclosed are the analytical results for sample(s) received by the laboratory on November 20, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Delle 2

Nathan Boberg nathan.boberg@pacelabs.com (612)360-0728 Project Manager

Enclosures

cc: Satya Ganti, Sarva Bio Remed, LLC



# **REPORT OF LABORATORY ANALYSIS**

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### CERTIFICATIONS

Project: Air Pace Project No.: 10500152

#### Pace Analytical Services Minneapolis

A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #: MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Maryland Certification #: 322 Massachusetts Certification #: M-MN064 Massachusetts DWP Certification #: via MN 027-053-137 Michigan Certification #: 9909 Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certifcation #: via MN 027-053-137 Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Missouri Certification #: 10100 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon Primary Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Vermont Certification #: VT-027053137 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DEP Certification #: 382 West Virginia DW Certification #: 9952 C Wisconsin Certification #: 999407970 Wyoming UST Certification #: via A2LA 2926.01

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# SAMPLE SUMMARY

Project: Air Pace Project No.: 10500152

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10500152001	IA-001 (Pump Room) (After VR)	Air	11/13/19 16:30	11/20/19 10:30
10500152002	IA-001 (2) Pump Room 24 Hrs Af	Air	11/14/19 16:30	11/20/19 10:30
10500152003	IA-001 (3) Pump Room 5 Days Af	Air	11/18/19 08:30	11/20/19 10:30

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### **REPORT OF LABORATORY ANALYSIS**



# SAMPLE ANALYTE COUNT

Project: Air Pace Project No.: 10500152

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10500152001	IA-001 (Pump Room) (After VR)	TO-15	MG2	22
10500152002	IA-001 (2) Pump Room 24 Hrs Af	TO-15	MG2, NCK	22
10500152003	IA-001 (3) Pump Room 5 Days Af	TO-15	MG2	22

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# **REPORT OF LABORATORY ANALYSIS**



### **PROJECT NARRATIVE**

Project: Air Pace Project No.: 10500152

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:November 27, 2019

### **General Information:**

3 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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# **ANALYTICAL RESULTS**

Project: Air

Pace Project No.: 10500152 

Sample: IA-001 (Pump Room) (After VR)	Lab ID: 10500152001		Collected: 11/13/19 16:30		Received: 1	1/20/19 10:30 N	Matrix: Air		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
TO15 MSV AIR	Analytical Met	hod: TO-15							
Acetone	13.7	ug/m3	3.6	1.49		11/26/19 17:26	67-64-1		
Benzene	ND	ug/m3	0.48	1.49		11/26/19 17:26	71-43-2		
2-Butanone (MEK)	ND	ug/m3	4.5	1.49		11/26/19 17:26	78-93-3		
Carbon disulfide	ND	ug/m3	0.94	1.49		11/26/19 17:26	75-15-0		
Dichlorodifluoromethane	2.2	ug/m3	1.5	1.49		11/26/19 17:26	75-71-8		
1,1-Dichloroethene	ND	ug/m3	1.2	1.49		11/26/19 17:26	75-35-4		
cis-1,2-Dichloroethene	15.1	ug/m3	1.2	1.49		11/26/19 17:26	156-59-2		
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		11/26/19 17:26	156-60-5		
Ethylbenzene	ND	ug/m3	1.3	1.49		11/26/19 17:26	100-41-4		
4-Ethyltoluene	ND	ug/m3	3.7	1.49		11/26/19 17:26	622-96-8		
n-Hexane	1.1	ug/m3	1.1	1.49		11/26/19 17:26	110-54-3		
Methylene Chloride	10.5	ug/m3	5.3	1.49		11/26/19 17:26	75-09-2		
Tetrachloroethene	257	ug/m3	1.0	1.49		11/26/19 17:26	127-18-4		
Toluene	ND	ug/m3	1.1	1.49		11/26/19 17:26	108-88-3		
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.49		11/26/19 17:26	71-55-6		
Trichloroethene	5.2	ug/m3	0.81	1.49		11/26/19 17:26	79-01-6		
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.49		11/26/19 17:26	95-63-6		
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.49		11/26/19 17:26	108-67-8		
2,2,4-Trimethylpentane	ND	ug/m3	3.5	1.49		11/26/19 17:26	540-84-1		
Vinyl chloride	ND	ug/m3	0.39	1.49		11/26/19 17:26	75-01-4		
m&p-Xylene	ND	ug/m3	2.6	1.49		11/26/19 17:26			
o-Xylene	ND	ug/m3	1.3	1.49		11/26/19 17:26	95-47-6		
Sample: IA-001 (2) Pump Room 24 Hrs Af	Lab ID: 105	00152002	Collected: 11/14/1	19 16:30	Received: 1	1/20/19 10:30 N	Aatrix: Air		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
TO15 MSV AIR	Analytical Met	hod TO-15			. <u> </u>				
Acetone	19.9	ug/m3	3.5	1.44		11/26/19 17:52	67 64 1		
Benzene	0.51	ug/m3	0.47	1.44		11/26/19 17:52			
2-Butanone (MEK)	ND	ug/m3	4.3	1.44		11/26/19 17:52			
Carbon disulfide	ND	ug/m3	0.91	1.44		11/26/19 17:52			
Dichlorodifluoromethane	2.3	ug/m3	1.5	1.44		11/26/19 17:52			
1,1-Dichloroethene	2.3 ND	•	1.5	1.44					
cis-1,2-Dichloroethene	20.6	ug/m3	1.2	1.44		11/26/19 17:52 11/26/19 17:52			
trans-1,2-Dichloroethene	20.0 ND	ug/m3	1.2	1.44		11/26/19 17:52			
-		ug/m3							
Ethylbenzene	ND	ug/m3	1.3	1.44 1.44		11/26/19 17:52			
4-Ethyltoluene n-Hexane	ND 1.7	ug/m3	3.6 1.0	1.44 1.44		11/26/19 17:52 11/26/19 17:52			
	13.5	ug/m3	5.1	1.44		11/26/19 17:52			
Methylene Chloride		ug/m3				11/27/19 11:03			
Tetrachloroethene	360	ug/m3	5.0	7.2					
Toluene	1.1	ug/m3	1.1	1.44		11/26/19 17:52			
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		11/26/19 17:52			
Trichloroethene	6.9	ug/m3	319 <sup>0.79</sup>	1.44		11/26/19 17:52	19-01-0		



# ANALYTICAL RESULTS

Project: Air

Pace Project No.: 10500152

Sample: IA-001 (2) Pump Room 24 Hrs Af	Lab ID: 105	00152002	Collected: 11/14/1	9 16:30	Received: 1	1/20/19 10:30	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		11/26/19 17:52	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		11/26/19 17:52	108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	3.4	1.44		11/26/19 17:52	540-84-1	
Vinyl chloride	ND	ug/m3	0.37	1.44		11/26/19 17:52	75-01-4	
m&p-Xylene	ND	ug/m3	2.5	1.44		11/26/19 17:52	179601-23-1	
o-Xylene	ND	ug/m3	1.3	1.44		11/26/19 17:52	95-47-6	
Sample: IA-001 (3) Pump Room 5 Days Af	Lab ID: 105	00152003	Collected: 11/18/1	9 08:30	Received: 1	1/20/19 10:30	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
Acetone	21.5	ug/m3	3.6	1.49		11/26/19 18:19	67-64-1	
Benzene	ND	ug/m3	0.48	1.49		11/26/19 18:19	71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.5	1.49		11/26/19 18:19	78-93-3	
Carbon disulfide	ND	ug/m3	0.94	1.49		11/26/19 18:19	75-15-0	
Dichlorodifluoromethane	2.1	ug/m3	1.5	1.49		11/26/19 18:19	75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.2	1.49		11/26/19 18:19	75-35-4	
cis-1,2-Dichloroethene	15.3	ug/m3	1.2	1.49		11/26/19 18:19	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		11/26/19 18:19	156-60-5	
Ethylbenzene	ND	ug/m3	1.3	1.49		11/26/19 18:19	100-41-4	
4-Ethyltoluene	ND	ug/m3	3.7	1.49		11/26/19 18:19	622-96-8	
n-Hexane	ND	ug/m3	1.1	1.49		11/26/19 18:19	110-54-3	
Methylene Chloride	6.2	ug/m3	5.3	1.49		11/26/19 18:19	75-09-2	
Tetrachloroethene	232	ug/m3	1.0	1.49		11/26/19 18:19	127-18-4	
Toluene	ND	ug/m3	1.1	1.49		11/26/19 18:19	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.49		11/26/19 18:19	71-55-6	
Trichloroethene	3.6	ug/m3	0.81	1.49		11/26/19 18:19	79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.49		11/26/19 18:19	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.49		11/26/19 18:19	108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	3.5	1.49		11/26/19 18:19	540-84-1	
Vinyl chloride	ND	ug/m3	0.39	1.49		11/26/19 18:19	75-01-4	
m&p-Xylene	ND	ug/m3	2.6	1.49		11/26/19 18:19	179601-23-1	
o-Xylene	ND	ug/m3	1.3	1.49		11/26/19 18:19	95-47-6	



# **QUALITY CONTROL DATA**

# Project: Air

Pace Project No.: 10500152

QC Batch:	647139	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR Low Level
Associated Lab Sam	ples: 10500152001, 10500152002, 1	0500152003	

METHOD BLANK: 3482557 Matrix: Air Associated Lab Samples: 10500152001, 10500152002, 10500152003

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	0.56	11/26/19 10:11	
1,1-Dichloroethene	ug/m3	ND	0.40	11/26/19 10:11	
1,2,4-Trimethylbenzene	ug/m3	ND	0.50	11/26/19 10:11	
1,3,5-Trimethylbenzene	ug/m3	ND	0.50	11/26/19 10:11	
2,2,4-Trimethylpentane	ug/m3	ND	1.2	11/26/19 10:11	
2-Butanone (MEK)	ug/m3	ND	1.5	11/26/19 10:11	
4-Ethyltoluene	ug/m3	ND	1.2	11/26/19 10:11	
Acetone	ug/m3	ND	1.2	11/26/19 10:11	
Benzene	ug/m3	ND	0.16	11/26/19 10:11	
Carbon disulfide	ug/m3	ND	0.32	11/26/19 10:11	
cis-1,2-Dichloroethene	ug/m3	ND	0.40	11/26/19 10:11	
Dichlorodifluoromethane	ug/m3	ND	0.50	11/26/19 10:11	
Ethylbenzene	ug/m3	ND	0.44	11/26/19 10:11	
m&p-Xylene	ug/m3	ND	0.88	11/26/19 10:11	
Methylene Chloride	ug/m3	ND	1.8	11/26/19 10:11	
n-Hexane	ug/m3	ND	0.36	11/26/19 10:11	
o-Xylene	ug/m3	ND	0.44	11/26/19 10:11	
Tetrachloroethene	ug/m3	ND	0.34	11/26/19 10:11	
Toluene	ug/m3	ND	0.38	11/26/19 10:11	
trans-1,2-Dichloroethene	ug/m3	ND	0.40	11/26/19 10:11	
Trichloroethene	ug/m3	ND	0.27	11/26/19 10:11	
Vinyl chloride	ug/m3	ND	0.13	11/26/19 10:11	

### LABORATORY CONTROL SAMPLE: 3482558

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	53.1	96	70-130	
1,1-Dichloroethene	ug/m3	40.3	40.1	99	70-130	
1,2,4-Trimethylbenzene	ug/m3	50	50.8	102	70-134	
1,3,5-Trimethylbenzene	ug/m3	50	50.8	102	70-132	
2,2,4-Trimethylpentane	ug/m3	47.5	47.1	99	68-138	
2-Butanone (MEK)	ug/m3	30	29.9	100	70-130	
4-Ethyltoluene	ug/m3	50	50.8	102	70-138	
Acetone	ug/m3	121	103	86	67-130	
Benzene	ug/m3	32.5	31.7	98	70-130	
Carbon disulfide	ug/m3	31.6	29.7	94	56-137	
cis-1,2-Dichloroethene	ug/m3	40.3	41.0	102	70-130	
Dichlorodifluoromethane	ug/m3	50.3	47.2	94	70-130	
Ethylbenzene	ug/m3	44.1	49.8	113	67-131	
m&p-Xylene	ug/m3	88.3	103	116	70-132	

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

# **REPORT OF LABORATORY ANALYSIS**



# **QUALITY CONTROL DATA**

Project: Air Pace Project No.: 10500152

### LABORATORY CONTROL SAMPLE: 3482558

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
ethylene Chloride	ug/m3	177	163	92	65-130	
Hexane	ug/m3	35.8	36.5	102	66-130	
Xylene	ug/m3	44.1	49.7	113	70-130	
trachloroethene	ug/m3	68.9	67.9	99	70-130	
uene	ug/m3	38.3	42.1	110	70-130	
s-1,2-Dichloroethene	ug/m3	40.3	39.9	99	70-130	
hloroethene	ug/m3	54.6	54.2	99	70-130	
yl chloride	ug/m3	26	26.4	102	70-130	

#### SAMPLE DUPLICATE: 3483535

		10500155001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	1.4	1.4	3	25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	
2-Butanone (MEK)	ug/m3	ND	ND		25	
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	4.7	4.5	4	25	
Benzene	ug/m3	0.52	0.52	1	25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.0	2.2	8	25	
Ethylbenzene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	1.5J		25	
Methylene Chloride	ug/m3	ND	2.7J		25	
n-Hexane	ug/m3	1.3	1.3	1	25	
o-Xylene	ug/m3	ND	.52J		25	
Tetrachloroethene	ug/m3	ND	ND		25	
Toluene	ug/m3	2.6	2.6	1	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

### SAMPLE DUPLICATE: 3483536

		10500155002	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	1.5	1.5	3	25	
1,3,5-Trimethylbenzene	ug/m3	ND	.84J		25	
2,2,4-Trimethylpentane	ug/m3	4.6	4.6	2	25	
2-Butanone (MEK)	ug/m3	ND	2.4J		25	

Results presented on this page are in the units indicated by the "Units" 2020mn except where an alternate unit is presented to the right of the result.

# **REPORT OF LABORATORY ANALYSIS**



Project: Air Pace Project No.: 10500152

### SAMPLE DUPLICATE: 3483536

ParameterUnitsResultResultRPDRPDQualifiersEthyltolueneug/m3NDNDND25etoneug/m321.223.41025nzeneug/m30.500.51125rbon disulfideug/m3NDND25-1,2-Dichloroetheneug/m321.12.0225chlorodifluoromethaneug/m3NDND25ug/m3NDND252525chlorodifluoromethaneug/m3NDND25chlorodifluoromethaneug/m3ND1.7J25chlorodiflueneug/m3ND1.7J25chlorodiflueneug/m3ND2.1J25
ug/m3         21.2         23.4         10         25           nzene         ug/m3         0.50         0.51         1         25           rbon disulfide         ug/m3         ND         ND         25           -1,2-Dichloroethene         ug/m3         2.1         2.0         2         25           chlorodifluoromethane         ug/m3         ND         ND         25           nylbenzene         ug/m3         ND         ND         25           chlorodifluoromethane         ug/m3         ND         ND         25           pylbenzene         ug/m3         ND         ND         25           pylpene         ug/m3         ND         ND         25
nzene         ug/m3         0.50         0.51         1         25           rbon disulfide         ug/m3         ND         ND         25           -1,2-Dichloroethene         ug/m3         ND         ND         25           chlorodifluoromethane         ug/m3         2.1         2.0         2         25           hylbenzene         ug/m3         ND         ND         25           cp-Xylene         ug/m3         ND         1.7J         25
rbon disulfideug/m3NDND25-1,2-Dichloroetheneug/m3NDND25chlorodifluoromethaneug/m32.12.0225nylbenzeneug/m3NDND25chlorodifluoromethaneug/m3NDND25chlorodifluoromethaneug/m3ND25
-1,2-Dichloroethene         ug/m3         ND         ND         25           chlorodifluoromethane         ug/m3         2.1         2.0         2         25           nylbenzene         ug/m3         ND         ND         25           kp-Xylene         ug/m3         ND         1.7J         25
bit         ug/m3         2.1         2.0         2         25           hylbenzene         ug/m3         ND         ND         25           kp-Xylene         ug/m3         ND         1.7J         25
Instrumentation         Instrument
kp-Xylene ug/m3 ND 1.7J 25
sthylene Chloride ug/m3 ND 2.1.1 25
Hexane ug/m3 2.0 1.9 6 25
Kylene ug/m3 ND .68J 25
irachloroethene ug/m3 ND ND 25
uene ug/m3 2.3 2.2 2 25
ns-1,2-Dichloroethene ug/m3 ND ND 25
chloroethene ug/m3 ND ND 25
lyl chloride ug/m3 ND ND 25

Results presented on this page are in the units indicated by the "Units" 2000mn except where an alternate unit is presented to the right of the result.

## **REPORT OF LABORATORY ANALYSIS**



## QUALIFIERS

Project: Air Pace Project No.: 10500152

#### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Air Pace Project No.: 10500152

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10500152001	IA-001 (Pump Room) (After VR)	TO-15	647139		
10500152002	IA-001 (2) Pump Room 24 Hrs Af	TO-15	647139		
10500152003	IA-001 (3) Pump Room 5 Days Af	TO-15	647139		

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					Act	Other				£									SNC	N/A	N	N/A	N/A	ples Intact	lms2
N			ď	1000	Clean Air Act		mg/m <sup>3</sup>			Pace I ah ID			1						CONDITIONS	N/A (	<u>d</u>	N/A	N/A	ed Cooler	
15		-	Page:		us T	RCRA F	Reporting Units ug/m <sup>3</sup> mg/m <sup>3</sup> PPBV PPMV	Other	(let (other)	14045 51-01 14045 51-01	00		2 2	C			2 T. 192		SAMPLE CO	N/A	Ø,	N/A	N/A	ice Ice	оөр
00			99		Emissions	Dry Clean		≥	ter (officer) ter (o	1.02 240 4 1.02 240 4 1.02 240 4 1.02 240 4 1.02 240 4 1.02 2 1.02 2 1.0				~	$\checkmark$				SAN		).			Ö° ni qr	Г 19Т
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1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

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hort Hold Time Analysis	(<72 hr)?		Y			6.		200.		
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Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

December 18, 2019

Steve Vedder Environmental Products & Services of Vermont, Inc. 1539 Bobali Drive Harrisburg, PA 17104

RE: Project: IA-001 Pace Project No.: 10502750

Dear Steve Vedder:

Enclosed are the analytical results for sample(s) received by the laboratory on December 16, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

120Fr 

Nathan Boberg nathan.boberg@pacelabs.com (612)360-0728 Project Manager

Enclosures

cc: Satya Ganti, Sarva Bio Remed, LLC



## **REPORT OF LABORATORY ANALYSIS**

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Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

#### CERTIFICATIONS

Project: IA-001 Pace Project No.: 10502750

#### **Pace Analytical Services Minneapolis**

A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #: MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Maryland Certification #: 322 Massachusetts Certification #: M-MN064 Massachusetts DWP Certification #: via MN 027-053-137 Michigan Certification #: 9909 Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certifcation #: via MN 027-053-137 Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Missouri Certification #: 10100 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon Primary Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Vermont Certification #: VT-027053137 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DEP Certification #: 382 West Virginia DW Certification #: 9952 C Wisconsin Certification #: 999407970 Wyoming UST Certification #: via A2LA 2926.01

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## SAMPLE SUMMARY

Project: IA-001 Pace Project No.: 10502750

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10502750001	IA-001	Air	12/12/19 17:00	12/16/19 08:55
10502750002	SG-101	Air	12/12/19 11:08	12/16/19 08:55
10502750003	SG-106	Air	12/12/19 11:25	12/16/19 08:55

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## **REPORT OF LABORATORY ANALYSIS**



## SAMPLE ANALYTE COUNT

Project: IA-001 Pace Project No.: 10502750

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10502750001	IA-001	TO-15	MG2	22
10502750002	SG-101	TO-15	MG2	22
10502750003	SG-106	TO-15	MG2	22

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## **REPORT OF LABORATORY ANALYSIS**



## **PROJECT NARRATIVE**

Project: IA-001 Pace Project No.: 10502750

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:December 18, 2019

#### General Information:

3 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### QC Batch: 650390

- R1: RPD value was outside control limits.
  - DUP (Lab ID: 3498692)

n-Hexane

#### **Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.

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## ANALYTICAL RESULTS

Project: IA-001

Pace Project No.: 10502750

Sample: IA-001	Lab ID: 105	02750001	Collected: 12/12/1	9 17:00	Received: 12	/16/19 08:55	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
Acetone	17.9	ug/m3	3.7	1.55		12/17/19 19:09	67-64-1	
Benzene	0.63	ug/m3	0.50	1.55		12/17/19 19:09	71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.6	1.55		12/17/19 19:09	78-93-3	
Carbon disulfide	ND	ug/m3	0.98	1.55		12/17/19 19:09	75-15-0	
Dichlorodifluoromethane	2.1	ug/m3	1.6	1.55		12/17/19 19:09	75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.2	1.55		12/17/19 19:09	75-35-4	
cis-1,2-Dichloroethene	10.3	ug/m3	1.2	1.55		12/17/19 19:09	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.55		12/17/19 19:09	156-60-5	
Ethylbenzene	ND	ug/m3	1.4	1.55		12/17/19 19:09	100-41-4	
4-Ethyltoluene	ND	ug/m3	3.9	1.55		12/17/19 19:09	622-96-8	
n-Hexane	ND	ug/m3	1.1	1.55		12/17/19 19:09	110-54-3	
Methylene Chloride	6.5	ug/m3	5.5	1.55		12/17/19 19:09		
Tetrachloroethene	180	ug/m3	1.1	1.55		12/17/19 19:09	127-18-4	
Toluene	1.9	ug/m3	1.2	1.55		12/17/19 19:09	-	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.55		12/17/19 19:09		
Trichloroethene	2.5	ug/m3	0.85	1.55		12/17/19 19:09		
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.55		12/17/19 19:09		
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.55		12/17/19 19:09		
2,2,4-Trimethylpentane	ND	ug/m3	3.7	1.55		12/17/19 19:09		
Vinyl chloride	ND	ug/m3	0.40	1.55		12/17/19 19:09		
m&p-Xylene	ND	ug/m3	2.7	1.55		12/17/19 19:09		
o-Xylene	ND	ug/m3	1.4	1.55		12/17/19 19:09		
Sample: SG-101	Lab ID: 105	02750002	Collected: 12/12/1	9 11:08	Received: 12	/16/19 08:55	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						

TO15 MSV AIR	Analytical Meth	nod: TO-15			
Acetone	31.5	ug/m3	4.2	1.74	12/18/19 02:35 67-64-1
Benzene	1.3	ug/m3	0.57	1.74	12/18/19 02:35 71-43-2
2-Butanone (MEK)	21.8	ug/m3	5.2	1.74	12/18/19 02:35 78-93-3
Carbon disulfide	25.0	ug/m3	1.1	1.74	12/18/19 02:35 75-15-0
Dichlorodifluoromethane	2.6	ug/m3	1.8	1.74	12/18/19 02:35 75-71-8
1,1-Dichloroethene	3.9	ug/m3	1.4	1.74	12/18/19 02:35 75-35-4
cis-1,2-Dichloroethene	2160	ug/m3	42.1	52.2	12/18/19 03:03 156-59-2
rans-1,2-Dichloroethene	43.8	ug/m3	1.4	1.74	12/18/19 02:35 156-60-5
Ethylbenzene	ND	ug/m3	1.5	1.74	12/18/19 02:35 100-41-4
4-Ethyltoluene	ND	ug/m3	4.4	1.74	12/18/19 02:35 622-96-8
n-Hexane	36.1	ug/m3	1.2	1.74	12/18/19 02:35 110-54-3
Methylene Chloride	20.0	ug/m3	6.1	1.74	12/18/19 02:35 75-09-2
Tetrachloroethene	2870	ug/m3	36.0	52.2	12/18/19 03:03 127-18-4
Toluene	9.1	ug/m3	1.3	1.74	12/18/19 02:35 108-88-3
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.74	12/18/19 02:35 71-55-6
Trichloroethene	666	ug/m3	28.5	52.2	12/18/19 03:03 79-01-6
1,2,4-Trimethylbenzene	ND	ug/m3	1.7	1.74	12/18/19 02:35 95-63-6
1,3,5-Trimethylbenzene	ND	ug/m3	333 1.7	1.74	12/18/19 02:35 108-67-8



## ANALYTICAL RESULTS

Project: IA-001

Pace Project No.: 10502750

Sample: SG-101	Lab ID: 105	02750002	Collected: 12/12/	19 11:08	Received: 1	2/16/19 08:55	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
2,2,4-Trimethylpentane	ND	ug/m3	4.1	1.74		12/18/19 02:3	5 540-84-1	
Vinyl chloride	676	ug/m3	13.6	52.2		12/18/19 03:0	3 75-01-4	
m&p-Xylene	ND	ug/m3	3.1	1.74		12/18/19 02:3	5 179601-23-1	
o-Xylene	ND	ug/m3	1.5	1.74		12/18/19 02:3	5 95-47-6	
Sample: SG-106	Lab ID: 105	02750003	Collected: 12/12/	19 11:25	Received: 1	2/16/19 08:55	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
Acetone	ND	ug/m3	11500	4787		12/18/19 03:3	1 67-64-1	
Benzene	ND	ug/m3	1560	4787		12/18/19 03:3	1 71-43-2	
2-Butanone (MEK)	ND	ug/m3	14400	4787		12/18/19 03:3	1 78-93-3	
Carbon disulfide	ND	ug/m3	3030	4787		12/18/19 03:3	1 75-15-0	
Dichlorodifluoromethane	ND	ug/m3	4830	4787		12/18/19 03:3	1 75-71-8	
1,1-Dichloroethene	ND	ug/m3	3860	4787		12/18/19 03:3	1 75-35-4	
cis-1,2-Dichloroethene	166000	ug/m3	3860	4787		12/18/19 03:3	1 156-59-2	
trans-1,2-Dichloroethene	5940	ug/m3	3860	4787		12/18/19 03:3	1 156-60-5	
Ethylbenzene	ND	ug/m3	4230	4787		12/18/19 03:3	1 100-41-4	
4-Ethyltoluene	ND	ug/m3	12000	4787		12/18/19 03:3	1 622-96-8	
n-Hexane	5570	ug/m3	3430	4787		12/18/19 03:3	1 110-54-3	
Methylene Chloride	ND	ug/m3	16900	4787		12/18/19 03:3	1 75-09-2	
Tetrachloroethene	80400	ug/m3	3300	4787		12/18/19 03:3	1 127-18-4	
Toluene	ND	ug/m3	3670	4787		12/18/19 03:3	1 108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	5310	4787		12/18/19 03:3	1 71-55-6	
Trichloroethene	636000	ug/m3	2610	4787		12/18/19 03:3	1 79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	4780	4787		12/18/19 03:3	1 95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	4780	4787		12/18/19 03:3	1 108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	11300	4787		12/18/19 03:3	1 540-84-1	
Vinyl chloride	122000	ug/m3	1240	4787		12/18/19 03:3	1 75-01-4	
m&p-Xylene	ND	ug/m3	8470	4787		12/18/19 03:3	1 179601-23-1	
o-Xylene	ND	ug/m3	4230	4787		12/18/19 03:3	1 95-47-6	

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Project: IA-001 10502750

Pace Project No.:

QC Batch:	650390	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR Low Level
Associated Lab Sam	ples: 10502750001, 10502750002, 1	0502750003	

METHOD BLANK: 3497326 Matrix: Air Associated Lab Samples: 10502750001, 10502750002, 10502750003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
,1,1-Trichloroethane	ug/m3	ND	1.1	12/17/19 10:46	
,1-Dichloroethene	ug/m3	ND	0.81	12/17/19 10:46	
,2,4-Trimethylbenzene	ug/m3	ND	1.0	12/17/19 10:46	
,3,5-Trimethylbenzene	ug/m3	ND	1.0	12/17/19 10:46	
2,2,4-Trimethylpentane	ug/m3	ND	2.4	12/17/19 10:46	
2-Butanone (MEK)	ug/m3	ND	3.0	12/17/19 10:46	
-Ethyltoluene	ug/m3	ND	2.5	12/17/19 10:46	
Acetone	ug/m3	ND	2.4	12/17/19 10:46	
Benzene	ug/m3	ND	0.32	12/17/19 10:46	
Carbon disulfide	ug/m3	ND	0.63	12/17/19 10:46	
is-1,2-Dichloroethene	ug/m3	ND	0.81	12/17/19 10:46	
Dichlorodifluoromethane	ug/m3	ND	1.0	12/17/19 10:46	
Ethylbenzene	ug/m3	ND	0.88	12/17/19 10:46	
n&p-Xylene	ug/m3	ND	1.8	12/17/19 10:46	
lethylene Chloride	ug/m3	ND	3.5	12/17/19 10:46	
n-Hexane	ug/m3	ND	0.72	12/17/19 10:46	
o-Xylene	ug/m3	ND	0.88	12/17/19 10:46	
etrachloroethene	ug/m3	ND	0.69	12/17/19 10:46	
oluene	ug/m3	ND	0.77	12/17/19 10:46	
rans-1,2-Dichloroethene	ug/m3	ND	0.81	12/17/19 10:46	
richloroethene	ug/m3	ND	0.55	12/17/19 10:46	
/inyl chloride	ug/m3	ND	0.26	12/17/19 10:46	

## LABORATORY CONTROL SAMPLE: 3497327

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	56.7	102	70-130	
1,1-Dichloroethene	ug/m3	40.3	39.4	98	70-130	
1,2,4-Trimethylbenzene	ug/m3	50	55.4	111	70-134	
1,3,5-Trimethylbenzene	ug/m3	50	51.8	104	70-132	
2,2,4-Trimethylpentane	ug/m3	47.5	49.1	103	68-138	
2-Butanone (MEK)	ug/m3	30	25.8	86	70-130	
4-Ethyltoluene	ug/m3	50	54.2	109	70-138	
Acetone	ug/m3	121	117	97	67-130	
Benzene	ug/m3	32.5	31.2	96	70-130	
Carbon disulfide	ug/m3	31.6	28.8	91	56-137	
cis-1,2-Dichloroethene	ug/m3	40.3	39.2	97	70-130	
Dichlorodifluoromethane	ug/m3	50.3	51.5	102	70-130	
Ethylbenzene	ug/m3	44.1	47.5	108	67-131	
m&p-Xylene	ug/m3	88.3	93.7	106	70-132	

Results presented on this page are in the units indicated by the "Units" 2005mn except where an alternate unit is presented to the right of the result.

## **REPORT OF LABORATORY ANALYSIS**



Project: IA-001 Pace Project No.: 10502750

#### LABORATORY CONTROL SAMPLE: 3497327

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Methylene Chloride	ug/m3	177	169	96	65-130	
n-Hexane	ug/m3	35.8	29.9	84	66-130	
o-Xylene	ug/m3	44.1	43.7	99	70-130	
Tetrachloroethene	ug/m3	68.9	80.2	116	70-130	
Toluene	ug/m3	38.3	44.1	115	70-130	
rans-1,2-Dichloroethene	ug/m3	40.3	37.3	92	70-130	
Trichloroethene	ug/m3	54.6	64.5	118	70-130	
/inyl chloride	ug/m3	26	25.5	98	70-130	

#### SAMPLE DUPLICATE: 3498692

		10502719001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.44	ND		25	
1,1-Dichloroethene	ug/m3	<0.39	ND		25	
1,2,4-Trimethylbenzene	ug/m3	1.5	1.5	1	25	
1,3,5-Trimethylbenzene	ug/m3	0.60J	.69J		25	
2,2,4-Trimethylpentane	ug/m3	<0.99	ND		25	
2-Butanone (MEK)	ug/m3	2.8J	3.9J		25	
4-Ethyltoluene	ug/m3	<0.82	ND		25	
Acetone	ug/m3	31.5	31.4	0	25	
Benzene	ug/m3	3.7	4.0	8	25	
Carbon disulfide	ug/m3	<0.32	ND		25	
cis-1,2-Dichloroethene	ug/m3	<0.32	ND		25	
Dichlorodifluoromethane	ug/m3	2.3	2.2	2	25	
Ethylbenzene	ug/m3	0.94J	.93J		25	
m&p-Xylene	ug/m3	3.4	3.4	1	25	
Methylene Chloride	ug/m3	16.9	18.8	11	25	
n-Hexane	ug/m3	1.9	2.7	32	25 R	R1
o-Xylene	ug/m3	1.4	1.4	0	25	
Tetrachloroethene	ug/m3	<0.45	ND		25	
Toluene	ug/m3	20.2	20.3	0	25	
trans-1,2-Dichloroethene	ug/m3	<0.41	ND		25	
Trichloroethene	ug/m3	<0.36	ND		25	
Vinyl chloride	ug/m3	<0.18	ND		25	

#### SAMPLE DUPLICATE: 3498693

Parameter	Units	10502750001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3				25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	
2-Butanone (MEK)	ug/m3	ND	1.2J		25	

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

## **REPORT OF LABORATORY ANALYSIS**



Project: IA-001 Pace Project No.: 10502750

### SAMPLE DUPLICATE: 3498693

Parameter Units Result Result RPD Qua
4-Ethyltoluene ug/m3 ND ND 25
Acetone ug/m3 17.9 17.5 2 25
Benzene ug/m3 0.63 0.59 7 25
Carbon disulfide ug/m3 ND ND 25
cis-1,2-Dichloroethene ug/m3 10.3 10.0 3 25
Dichlorodifluoromethane ug/m3 2.1 2.1 1 25
Ethylbenzene ug/m3 ND ND 25
m&p-Xylene ug/m3 ND ND 25
Methylene Chloride ug/m3 6.5 6.5 0 25
n-Hexane ug/m3 ND .77J 25
p-Xylene ug/m3 ND ND 25
Tetrachloroethene ug/m3 180 178 1 25
Toluene ug/m3 1.9 1.8 3 25
trans-1,2-Dichloroethene ug/m3 ND ND 25
Trichloroethene ug/m3 2.5 2.5 1 25
Vinyl chloride ug/m3 ND ND 25

Results presented on this page are in the units indicated by the "Units" 33/mm except where an alternate unit is presented to the right of the result.

## **REPORT OF LABORATORY ANALYSIS**



## QUALIFIERS

Project: IA-001 Pace Project No.: 10502750

#### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

#### ANALYTE QUALIFIERS

R1 RPD value was outside control limits.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

		 	Analytical
Pace Project No.:	10502750		
Project:	IA-001		

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Batch	
10502750001	IA-001	TO-15	650390			•
10502750002	SG-101	TO-15	650390			
10502750003	SG-106	TO-15	650390			

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AIK: CHAIN-OF-CUSTODY / Analytical Request Document © Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.	42920	voj visto koncensti de se stanovno se na dravi na se	VOST T Superfund T Emissions T Clean Air Act	ary Clean Up	Reporting	Sampling by State	Report Level II	I AOC&	10000000000000000000000000000000000000		X col	X w3		#:10502750		2750			CONDITIONS	N/A	N/A N/A	-	N/A	Samples Intact
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1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

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Page 13 of 14

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-	Páce Analyti	cal		Document N F-MN-A-106-re			ls	suing Authority:		
Air Sample Condition Upon Receipt	Client Nan	ne: a Bior		Pr	oject #:	WO‡	:10	5027	'50	
Courier:	Fed Ex		USP USP		at	PM: NB	3	Due Dat	e: 12/23	/19
	Pace	SpeeDee	Con	mercial See Ex		CLIENT	: Sarva	Bio		
Tracking Number:	7789	023 2	094	[						. )
Custody Seal on Cool	er/Box Preser	nt? []Yes	No	Seals Intact	? 🗌 Ye	s INO				
Packing Material:	]Bubble Wrap	Bubble	Bags CFc	am 🗌 None	Tin	Can Othe	er:	Tem	p Blank rec:	Yes 🛛
Temp. (TO17 and TO13 s	amples only) (°(	C):	 Corrected Te	emp (°C):			Thermo	neter Used:	G87A917	
Temp should be above f	reezing to 6°C	Correction Fa	ctor:		Da	te & Initials of F	Person Examini	ing Contents:	WOI	2/16/1
Type of ice Received	Blue W	et 🖉 None								17
								Comments:		
Chain of Custody Present	?			Yes No		1.				
Chain of Custody Filled O	ut?		Z	Yes No		2.				
Chain of Custody Relinqu	ished?		Z	Yes No		3.				
Sampler Name and/or Sig	nature on COC	?		Yes No	□n/a	4.				1011
Samples Arrived within H			Z	Yes No		5.				
Short Hold Time Analysis				Yes No		6.				
Rush Turn Around Time F	Requested?			Yes ZNo	· · ·	7.				
Sufficient Volume?				Yes No		8.				
Correct Containers Used?			-	Yes 🗍 No		9.				
-Pace Containers Used	ſ			Yes □No Yes □No		10				
Media: Air Can	Airbag	Filter		Yes No Passive		10. 11. Ind	ividually Certi	Find Come V		
Is sufficient information at the COC?	vailable to reco	oncile samples		Yes No		11. Ind	vidually Certi	fied Cans Y	N list whi	ch samples
Do cans need to be pressu	rized? (DO N	ОТ				<u> </u>				
PRESSURIZE 3C or A	-		Z	Yes 🗌 No		13.				
		Gauga # [	710AIR26	10AIR34	L 10	AIR35	1097			
	Con	listers	2 10/11/20			<u>ЧШЭЭ П,</u>		• .		
	Cai	Flow	Initial	Final			Ca	nisters Flow	Initial	Final
Sample Number	Can ID	Controller	Pressure	Pressure	Samp	le Number	Can ID	Controller	Pressure	Pressure
LA-001	2314	0022	-4	+5						
59-101	1170	1435	-	+10						
34-106	0903	0607	-3	+10						
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Comments/Reso	olution:			· · · · · · · · · · ·	_					
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Project Manager Review		latha	Abberg			Date:	12/17/1		· .	
ote: Whenever there is a dis old, incorrect preservative, o	crepancy affect ut of temp, inco	ong North Caroli prrect containers	na compliance	samples, a copy (	of this form	n will be sent to	the North Caro	olina DEHNR Ce	rtification Offic	e(i.e outo



Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

January 06, 2020

Steve Vedder Environmental Products & Services of Vermont, Inc. 1539 Bobali Drive Harrisburg, PA 17104

RE: Project: AIR Pace Project No.: 10504039

Dear Steve Vedder:

Enclosed are the analytical results for sample(s) received by the laboratory on December 28, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Delle 25

Nathan Boberg nathan.boberg@pacelabs.com (612)360-0728 Project Manager

Enclosures

cc: Satya Ganti, Sarva Bio Remed, LLC



## **REPORT OF LABORATORY ANALYSIS**

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Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

#### CERTIFICATIONS

Project:	AIR
Pace Project No .:	10504039

#### Pace Analytical Services Minneapolis

A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #: MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Maryland Certification #: 322 Massachusetts Certification #: M-MN064 Massachusetts DWP Certification #: via MN 027-053-137 Michigan Certification #: 9909 Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certifcation #: via MN 027-053-137 Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Missouri Certification #: 10100 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon Primary Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Vermont Certification #: VT-027053137 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DEP Certification #: 382 West Virginia DW Certification #: 9952 C Wisconsin Certification #: 999407970 Wyoming UST Certification #: via A2LA 2926.01

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## SAMPLE SUMMARY

Project: AIR Pace Project No.: 10504039

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10504039001	IA-001 (After AR)	Air	12/26/19 17:00	12/28/19 10:00
10504039002	SG-101	Air	12/26/19 11:04	12/28/19 10:00
10504039003	SG-106	Air	12/26/19 11:03	12/28/19 10:00

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## **REPORT OF LABORATORY ANALYSIS**



## SAMPLE ANALYTE COUNT

Project:AIRPace Project No.:10504039

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10504039001	IA-001 (After AR)	TO-15	CH1	22
10504039002	SG-101	TO-15	CH1	22
10504039003	SG-106	TO-15	CH1	22

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## **REPORT OF LABORATORY ANALYSIS**



## **PROJECT NARRATIVE**

Project: AIR Pace Project No.: 10504039

Method:TO-15Description:TO15 MSV AIRClient:Sarva Bio Remed, LLCDate:January 06, 2020

#### **General Information:**

3 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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## ANALYTICAL RESULTS

Project: AIR

Pace Project No.: 10504039

Sample: IA-001 (After AR)	Lab ID: 105	04039001	Collected: 12/26/1	9 17:00	Received: 12/28/19 10:00	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	nod: TO-15					
Acetone	23.6	ug/m3	3.7	1.55	01/04/20 18:40	67-64-1	
Benzene	1.4	ug/m3	0.50	1.55	01/04/20 18:40	71-43-2	
2-Butanone (MEK)	ND	ug/m3	4.6	1.55	01/04/20 18:40	78-93-3	
Carbon disulfide	ND	ug/m3	0.98	1.55	01/04/20 18:40	75-15-0	
Dichlorodifluoromethane	2.9	ug/m3	1.6	1.55	01/04/20 18:40	75-71-8	
1,1-Dichloroethene	ND	ug/m3	1.2	1.55	01/04/20 18:40	75-35-4	
cis-1,2-Dichloroethene	7.9	ug/m3	1.2	1.55	01/04/20 18:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.55	01/04/20 18:40	156-60-5	
Ethylbenzene	ND	ug/m3	1.4	1.55	01/04/20 18:40	100-41-4	
4-Ethyltoluene	ND	ug/m3	3.9	1.55	01/04/20 18:40	622-96-8	
n-Hexane	1.2	ug/m3	1.1	1.55	01/04/20 18:40	110-54-3	
Methylene Chloride	ND	ug/m3	5.5	1.55	01/04/20 18:40	75-09-2	
Tetrachloroethene	102	ug/m3	1.1	1.55	01/04/20 18:40	127-18-4	
Toluene	2.1	ug/m3	1.2	1.55	01/04/20 18:40	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.55	01/04/20 18:40	71-55-6	
Trichloroethene	1.8	ug/m3	0.85	1.55	01/04/20 18:40	79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.55	01/04/20 18:40	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.55	01/04/20 18:40	108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	3.7	1.55	01/04/20 18:40	540-84-1	
Vinyl chloride	ND	ug/m3	0.40	1.55	01/04/20 18:40	75-01-4	
m&p-Xylene	ND	ug/m3	2.7	1.55	01/04/20 18:40	179601-23-1	
o-Xylene	ND	ug/m3	1.4	1.55	01/04/20 18:40	95-47-6	

Sample: SG-101	Lab ID: 105	04039002	Collected: 12/26/	19 11:04	Received: 1	2/28/19 10:00	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Meth	nod: TO-15						
Acetone	71.0	ug/m3	4.2	1.74		01/04/20 19:39	9 67-64-1	
Benzene	1.9	ug/m3	0.57	1.74		01/04/20 19:39	9 71-43-2	
2-Butanone (MEK)	7.4	ug/m3	5.2	1.74		01/04/20 19:39	9 78-93-3	
Carbon disulfide	29.1	ug/m3	1.1	1.74		01/04/20 19:39	9 75-15-0	
Dichlorodifluoromethane	ND	ug/m3	1.8	1.74		01/04/20 19:39	9 75-71-8	
1,1-Dichloroethene	9.2	ug/m3	1.4	1.74		01/04/20 19:39	9 75-35-4	
cis-1,2-Dichloroethene	4490	ug/m3	42.1	52.2		01/04/20 20:07	7 156-59-2	
trans-1,2-Dichloroethene	114	ug/m3	1.4	1.74		01/04/20 19:39	9 156-60-5	
Ethylbenzene	ND	ug/m3	1.5	1.74		01/04/20 19:39	9 100-41-4	
4-Ethyltoluene	ND	ug/m3	4.4	1.74		01/04/20 19:39	9 622-96-8	
n-Hexane	71.4	ug/m3	1.2	1.74		01/04/20 19:39	9 110-54-3	
Methylene Chloride	11.2	ug/m3	6.1	1.74		01/04/20 19:39	9 75-09-2	
Tetrachloroethene	3700	ug/m3	36.0	52.2		01/04/20 20:07	7 127-18-4	
Toluene	6.3	ug/m3	1.3	1.74		01/04/20 19:39	9 108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.74		01/04/20 19:39	9 71-55-6	
Trichloroethene	911	ug/m3	28.5	52.2		01/04/20 20:07	7 79-01-6	
1,2,4-Trimethylbenzene	ND	ug/m3	1.7	1.74		01/04/20 19:39	9 95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	347 1.7	1.74		01/04/20 19:39	9 108-67-8	



## ANALYTICAL RESULTS

Project: AIR

Pace Project No.: 10504039

Sample: SG-101	Lab ID: 105	04039002	Collected: 12/26/	19 11:04	Received: 1	2/28/19 10:00 N	/latrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Metl	hod: TO-15						
2,2,4-Trimethylpentane	ND	ug/m3	4.1	1.74		01/04/20 19:39	540-84-1	
Vinyl chloride	1200	ug/m3	13.6	52.2		01/04/20 20:07	75-01-4	
m&p-Xylene	ND	ug/m3	3.1	1.74		01/04/20 19:39	179601-23-1	
o-Xylene	ND	ug/m3	1.5	1.74		01/04/20 19:39	95-47-6	
Sample: SG-106	Lab ID: 105	04039003	Collected: 12/26/	19 11:03	Received: 1	12/28/19 10:00 M	Aatrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Met	hod: TO-15						
Acetone	ND	ug/m3	4.3	1.8		01/04/20 20:37	67-64-1	
Benzene	15.6	ug/m3	0.58	1.8		01/04/20 20:37	71-43-2	
2-Butanone (MEK)	ND	ug/m3	5.4	1.8		01/04/20 20:37	78-93-3	
Carbon disulfide	116	ug/m3	1.1	1.8		01/04/20 20:37	75-15-0	
Dichlorodifluoromethane	ND	ug/m3	1.8	1.8		01/04/20 20:37	75-71-8	
1,1-Dichloroethene	1140	ug/m3	43.5	54		01/04/20 21:05	75-35-4	
cis-1,2-Dichloroethene	302000	ug/m3	2790	3456		01/06/20 11:03	156-59-2	
trans-1,2-Dichloroethene	2410	ug/m3	43.5	54		01/04/20 21:05	156-60-5	
Ethylbenzene	3.1	ug/m3	1.6	1.8		01/04/20 20:37	100-41-4	
4-Ethyltoluene	ND	ug/m3	4.5	1.8		01/04/20 20:37	622-96-8	
n-Hexane	3120	ug/m3	38.7	54		01/04/20 21:05	110-54-3	
Methylene Chloride	16.8	ug/m3	6.4	1.8		01/04/20 20:37	75-09-2	
Tetrachloroethene	30700	ug/m3	2380	3456		01/06/20 11:03	127-18-4	
Toluene	11.7	ug/m3	1.4	1.8		01/04/20 20:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/m3	2.0	1.8		01/04/20 20:37	71-55-6	
Trichloroethene	70400	ug/m3	1890	3456		01/06/20 11:03	79-01-6	
1,2,4-Trimethylbenzene	2.7	ug/m3	1.8	1.8		01/04/20 20:37	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.8	1.8		01/04/20 20:37	108-67-8	
2,2,4-Trimethylpentane	43.9	ug/m3	4.3	1.8		01/04/20 20:37	540-84-1	
Vinyl chloride	66300	ug/m3	899	3456		01/06/20 11:03	75-01-4	
m&p-Xylene	12.6	ug/m3	3.2	1.8		01/04/20 20:37		
o-Xylene	2.4	ug/m3	1.6	1.8		01/04/20 20:37	95-47-6	

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# Project: AIR

Pace Project No.: 10504039

QC Batch:	652962	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR Low Level
Associated Lab Sam	ples: 10504039001, 10504039002, 1	0504039003	

 METHOD BLANK:
 3510775
 Matrix: Air

 Associated Lab Samples:
 10504039001, 10504039002, 10504039003

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	 ug/m3	ND	0.56	01/04/20 12:08	
1,1-Dichloroethene	ug/m3	ND	0.40	01/04/20 12:08	
1,2,4-Trimethylbenzene	ug/m3	ND	0.50	01/04/20 12:08	
1,3,5-Trimethylbenzene	ug/m3	ND	0.50	01/04/20 12:08	
2,2,4-Trimethylpentane	ug/m3	ND	1.2	01/04/20 12:08	
2-Butanone (MEK)	ug/m3	ND	1.5	01/04/20 12:08	
4-Ethyltoluene	ug/m3	ND	1.2	01/04/20 12:08	
Acetone	ug/m3	ND	1.2	01/04/20 12:08	
Benzene	ug/m3	ND	0.16	01/04/20 12:08	
Carbon disulfide	ug/m3	ND	0.32	01/04/20 12:08	
cis-1,2-Dichloroethene	ug/m3	ND	0.40	01/04/20 12:08	
Dichlorodifluoromethane	ug/m3	ND	0.50	01/04/20 12:08	
Ethylbenzene	ug/m3	ND	0.44	01/04/20 12:08	
m&p-Xylene	ug/m3	ND	0.88	01/04/20 12:08	
Methylene Chloride	ug/m3	ND	1.8	01/04/20 12:08	
n-Hexane	ug/m3	ND	0.36	01/04/20 12:08	
o-Xylene	ug/m3	ND	0.44	01/04/20 12:08	
Tetrachloroethene	ug/m3	ND	0.34	01/04/20 12:08	
Toluene	ug/m3	ND	0.38	01/04/20 12:08	
trans-1,2-Dichloroethene	ug/m3	ND	0.40	01/04/20 12:08	
Trichloroethene	ug/m3	ND	0.27	01/04/20 12:08	
Vinyl chloride	ug/m3	ND	0.13	01/04/20 12:08	

## LABORATORY CONTROL SAMPLE: 3510776

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3		60.8		70-130	
1,1-Dichloroethene	ug/m3	40.3	44.8	111	69-137	
1,2,4-Trimethylbenzene	ug/m3	50	57.2	115	70-137	
1,3,5-Trimethylbenzene	ug/m3	50	54.3	109	70-136	
2,2,4-Trimethylpentane	ug/m3	47.5	55.2	116	70-130	
2-Butanone (MEK)	ug/m3	30	32.6	109	61-130	
4-Ethyltoluene	ug/m3	50	56.6	113	70-142	
Acetone	ug/m3	121	125	104	59-137	
Benzene	ug/m3	32.5	35.1	108	70-133	
Carbon disulfide	ug/m3	31.6	34.1	108	70-130	
cis-1,2-Dichloroethene	ug/m3	40.3	43.5	108	70-132	
Dichlorodifluoromethane	ug/m3	50.3	54.8	109	70-130	
Ethylbenzene	ug/m3	44.1	49.3	112	70-142	
m&p-Xylene	ug/m3	88.3	97.1	110	70-141	

Results presented on this page are in the units indicated by the "Units" 3440mn except where an alternate unit is presented to the right of the result.

## **REPORT OF LABORATORY ANALYSIS**



Project: AIR Pace Project No.: 10504039

#### LABORATORY CONTROL SAMPLE: 3510776

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Methylene Chloride	ug/m3	177	192	109	69-130	
n-Hexane	ug/m3	35.8	41.2	115	70-131	
o-Xylene	ug/m3	44.1	49.0	111	70-135	
Tetrachloroethene	ug/m3	68.9	73.4	107	70-136	
Toluene	ug/m3	38.3	40.8	106	70-136	
trans-1,2-Dichloroethene	ug/m3	40.3	43.2	107	70-132	
Trichloroethene	ug/m3	54.6	60.4	111	70-132	
Vinyl chloride	ug/m3	26	27.1	104	68-141	

#### SAMPLE DUPLICATE: 3511097

		10504039001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
2,2,4-Trimethylpentane	ug/m3	ND	ND		25	
2-Butanone (MEK)	ug/m3	ND	2.3J		25	
4-Ethyltoluene	ug/m3	ND	ND		25	
Acetone	ug/m3	23.6	25.7	9	25	
Benzene	ug/m3	1.4	1.5	3	25	
Carbon disulfide	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	7.9	8.2	4	25	
Dichlorodifluoromethane	ug/m3	2.9	3.1	6	25	
Ethylbenzene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	ND	4.1J		25	
n-Hexane	ug/m3	1.2	1.2	3	25	
o-Xylene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	102	106	3	25	
Toluene	ug/m3	2.1	2.2	0	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	1.8	1.9	5	25	
Vinyl chloride	ug/m3	ND	ND		25	

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

## **REPORT OF LABORATORY ANALYSIS**



## QUALIFIERS

Project: AIR Pace Project No.: 10504039

#### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

			Analytical
Pace Project No.:	10504039		
Project:	AIR		

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Batch
10504039001	IA-001 (After AR)	TO-15	652962		
10504039002	SG-101	TO-15	652962		
10504039003	SG-106	TO-15	652962		

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Pace Analytical

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

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of of		Clean Air Act	RCRA	ing Units	MPP MPP			Dare Lah ID	ابئ	200	503			1	ł			SAMPLE CONDITIONS	N/A	N/A	-	N/A	ed Cooler	n)
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Section B Reauired Project Information:	Report To:	Copy To:		Purchase Order No.:	Project Name:	Project Number:	MEDIA MEDIA Sampling Bag 1 Liter Summa Can 1LC 6 Liter Summa Can 6LC Hish Volume Purf LVP		AR)											¥	I			
Section A Required Client Information:	15 MLASH	MRAjamo 37-	-486	Revelor	20 C/ U	Requested Due Date/TAT:	Section D Required Client Information AIR SAMPLE ID Sample IDS MUST BE UNIQUE		A-DOI CAHE	3 - 401	G - 106													
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FC046Rev.01, 03Feb2010

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

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-1	ace Analytic	cal		Document N F-MN-A-106-re		1955 -		ssuing Authority: innesota Quality		
Air Sample Condition Upon Receipt	Client Nan	ne: 233/	EMK		oject #:	- MO	<u>#:1(</u>		039	<b>I</b> .
Courier:	Fed Ex Pace	UPS SpeeDee 7760				PM: N CLIEN	IB3 IT: Sarva		te: 01/1	4/20
Custody Seal on Coole	er/Box Presen	t? 🗌 Yes	No	Seals Intact	? 🗌 Ye	s ANO	-			
Packing Material:	Bubble Wrap	Bubble	Bags 2Fo	oam None	Tir	Can Oth	er:	Tem	p Blank rec:	Yes 1
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Chain of Custody Relinquis	shed?		Ę	res 🔲 No	-	3.				
Sampler Name and/or Sig	nature on COC	?		Yes 🗍 No	□n/a	4.				
Samples Arrived within Ho	old Time?			Yes No		5.				
Short Hold Time Analysis	(<72 hr)?			Yes No		6.				
Rush Turn Around Time R	equested?			Yes No		7.		·····		
Sufficient Volume?				Tes No		8.				
Correct Containers Used?				Tes No		9.				
-Pace Containers Used?				Yes No		5.				
Containers Intact?				Tes No		10.				
Media: (Air Car)	Airbag	Filter		Passive			ividually Certi	fied Cans Y	(N ))st whi	
Is sufficient information av the COC?	ailable to reco	ncile samples t		Yes No		12.	IVIDUANY CET		CI DSt WIII	u samples
Do cans need to be pressur PRESSURIZE 3C or AS				Yes 🗍 No		13.				
		Gauge #	10AIR26	10AIR34	□ 10	ÁIR35 □4	4097			
	Cani	isters			[		Ca	nisters		
		* Flow	Initial	Final		-		Flow	Initial	Final
Sample Number	Can ID	Controller	Pressure	Pressure	Samp	le Number	Can ID	Controller	Pressure	Pressure
IA-OUI	0949	2479	-4	+ 5						
56-101	2627	0051	-1	+10						
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Eurofins SF GMP Horsham

Eurofins SF GMP Horsham

702 Electronic Drive Horsham, PA 19044 +1 (215) 355-3900 Micro-HorshamQC@eurofinsus.com

Sarva Bio Remed, Llc

Satya Ganti 11 North Willow Street Trenton, NJ 08608

## ANALYTICAL REPORT

AR-20-UX-003378-01

Received On: 23Mar2020 Reported On: 28Mar2020

Eurofins Sample Code: Client Sample Code: Sample Description:	996-2020-032300 N/A VP 3 (After)	D25 Sample Registrati Condition Upon R Sample Reference	eceipt:		
ZM7BU - Total Aerobic M /ml USP Chapter 61	licrobial Count	<b>Reference</b> U.S. Pharmacopeia Chapter 61		creditation IP_EUUS56	Completed 27Mar2020
Parameter		Result			

**Total Aerobic Microbial Count** 

148x10^5 cfu/ml

Respectfully Submitted,

- 4. 6

Andrew Wunder Lab Supervisor

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Sarva Bio Remed, Llc

Satya Ganti 11 North Willow Street Trenton, NJ 08608

## ANALYTICAL REPORT

AR-20-UX-003515-01

Received On: 25Mar2020 Reported On: 30Mar2020

Client Code: UX0000033

Eurofins Sample Code:996-2020-03250020Client Sample Code:After 72 HoursSample Description:VP 3		Condition Upon Re	Sample Registration Date:25Mar2020Condition Upon Receipt:acceptable, non-perishableSample Reference:3/23/2020 15:00			
ZM7BU - Total Aerobic Microbial Count /ml USP Chapter 61				reditation P_EUUS56	Completed 30Mar2020	
Parameter		Result				

Total Aerobic Microbial Count

153x10^5 cfu/ml

Respectfully Submitted,

241 6

Andrew Wunder Lab Supervisor

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Figure 12: Soil Injection Point

# 5 Open Source Libraries and Software Used to Create this report

- Chart : A library for generating 2D charts and plots
- Haskell Programming Language
- Evaluating Vapor Intrusion Pathways
- Evualation of spatial and temporal variability in VOC concentrations at Vapor Intrusion Investigation Sites.

## 6 Source code and data

Source-code and collected data is committed on github.com and is available upon request.

## 7 Reviewers

- Steve Vedder svedder@epsofvermont.com
- Satya Ganti sales@sarvabioremed.com



Figure 13: SG-106 Additional Point1



Figure 14: SG-106 Additional Point2

# 8 Bibliography

 National Research Council. In Situ Bioremediation: When Does it Work? The National Academies Press, Washington, DC, 1993.

# 9 References

- TO-15
- DNR Guidance on Vapor Intrusion

# 10 Acknowledgments

We would like to sincerely thank Theodore Turnbull and Barbara Elliott for supporting us with the project.