December 17, 2020

Indiana Department of Environmental Management
Office of Land Quality
State Cleanup Section
100 North Senate Avenue, IGCN, Room 1101
Indianapolis, Indiana 46204-2251
Attn: Mr. Tim Johnson

RE: Status Report
Indoor Air Mitigation System Performance Sampling and
Carbon Filter Replacement
Hurricane Road Industrial Development, LLC Property
Crossroads Recycling Building Office
1062 Eastview Drive
Franklin, Indiana
IDEM SCP Site #2013-34567
Patriot Project No. 20-0317-01E

Dear Mr. Johnson:

Patriot Engineering and Environmental, Inc. (*Patriot*) is pleased to submit this report documenting the October 2020 performance air sampling conducted on the interim indoor air vapor mitigation system at the Crossroads Recycling building located on the Hurricane Road Industrial Development, LLC (HRID) property at 1062 Eastview Drive in Franklin, Indiana (the Site). This work was conducted in response to a request from the Indiana Department of Environmental Management (IDEM) to install a vapor mitigation system to reduce the concentrations of VOCs in the office space at the Crossroads Recycling building. This report describes the work activities that were conducted by *Patriot* during the October 2020 performance sampling event and presents our findings and conclusions relative to the Site.

## PROJECT BACKGROUND

*Patriot* installed an Airpura C600DLX Air Purifier (C600) within the office space at the Crossroads Recycling building where indoor air concentrations of trichloroethylene (TCE) had been detected during previous vapor intrusion investigations at concentrations exceeding the Remediation Closure Guide (RCG) Commercial/Industrial Indoor Air Screening Level (IASL) of 8.8 micrograms per cubic meter (ug/$m^3$). The C600 was installed on April 1, 2020 and placed on the ground surface in the north-west corner of the office space. *Patriot* performed vapor intrusion sampling events

immediately prior to startup of the system and at intervals of 2 days, 1 week, and 2 weeks following system setup. During each sampling event, one indoor air sample was collected from the office space over an approximately 8-hour period using a 6-liter batch-certified summa canister equipped with a laboratory calibrated flow regulator and vacuum gauge. The Summa canisters were labeled, logged onto a chain-of-custody form and delivered to the laboratory for short list VOC analyses including TCE, perchloroethylene (PCE), cis-1,2-dichloroethylene (cis-1,2-DCE), trans-1,2-dichloroethylene (trans-1,2-DCE), and vinyl chloride using U.S. EPA Method TO-15. The analytical results for these sampling events are summarized below.

| Sample ID | Date | Duration | Analytical Results (ug/m$^3$) | | | | |
|---|---|---|---|---|---|---|---|
| | | | PCE | TCE | c-DCE | t-DCE | VC |
| Office Baseline | 4/1/2020 | 8 hr | 1.7 | **86.0** | ND | ND | ND |
| Office 48hrs | 4/3/2020 | 8 hr | ND | **14.6** | ND | ND | ND |
| IA-6 | 4/9/2020 | 8 hr | ND | **20.1** | ND | ND | ND |
| Office- 2 Week | 4/16/2020 | 8 hr | ND | **10.5** | ND | ND | ND |
| **IDEM RCG Residential IASLs** | | | **42** | **2.1** | **NE** | **NE** | **1.7** |
| **IDEM RCG Commercial IASLs** | | | **180** | **8.8** | **NE** | **NE** | **28** |

Notes:
ND= Below Laboratory Reporting Limit
ug/m$^3$ = micrograms per meter cubed
**10.5** = Constituent detected above IDEM RCG Residential IASLs
**10.5** = Constituent detected above IDEM RCG Commercial IASLs

The sampling events conducted after installation of the C600 showed a substantial reduction in TCE concentrations. Analysis of the post-installation 2-day, one-week and two-week samples reported TCE concentration reductions of 83%, 76.6% and 87.8% when compared to the initial baseline TCE concentration of 86.0 ug/m$^3$. However, all of the samples exceeded the RCG Commercial/ Industrial IASL of 8.8 ug/m$^3$. During each of the post-installation sampling events, *Patriot* noted that the variable airflow controller on the C600 air purifier had been turned down by the tenant to a level below the maximum volume due to noise from the unit and *Patriot* was not able to determine whether the failure to meet the mitigation goal was due to limitations of the C600 or due to the unit not being operated properly. The tenant was reinstructed on use of the C600 and was instructed that the unit must operate at full airflow volume in order to successfully remediate the Indoor Air. An "*Indoor Air Vapor Mitigation System Installation and Startup Report*" documenting the system installation and indoor air sampling was submitted to IDEM on June 4, 2020.

*Patriot* conducted one-month post-startup performance air sampling on May 6, 2020 and monthly performance air sampling on May 27, 2020 to document the performance of the C600 mitigation system and determine whether break-through of the carbon filter

was occurring. The samples were collected from the office space over an approximately 1-hour period using a 6-liter batch-certified summa canister. Upon arrival at the Site for the May 6, 2020 sampling event, *Patriot* noted that the tenant had set the variable airflow controller at approximately 30% of the maximum airflow. The tenant was reinstructed that the airflow controller needed to be set at maximum volume for proper system operation. The C600 mitigation system was operating at maximum volume at the time of the May 27, 2020 sampling event. The analytical results revealed that the TCE concentration in the indoor air sample collected on May 6, 2020, when the system was operating at approximately 30% volume, exceeded the RCG Commercial/Industrial IASL and the TCE concentration in the indoor air sample collected on May 27, 2020, when the system was operating at maximum volume, was below the RCG Commercial/Industrial IASL. The May 6 and May 27, 2020 monthly performance sampling results were submitted to IDEM in a report dated June 24, 2020 and the analytical are included in the table below.

*Patriot* conducted monthly performance air sampling events during the months of April through July 2020 in a similar manner to previous sampling events. The analytical results for these monthly sampling events are summarized in the table below.

| Sample ID | Date | Analytical Results (ug/m$^3$) | | | | |
|---|---|---|---|---|---|---|
| | | PCE | TCE | c-DCE | t-DCE | VC |
| Office 1 Month (April) | 5/6/2020 | **4.9** | **33.1** | ND | ND | ND |
| May Monthly Sample Office | 5/27/2020 | ND | **2.5** | ND | ND | ND |
| June Monthly Sample Office | 6/8/2020 | ND | **2.4** | ND | ND | ND |
| July Monthly Sample Office | 7/15/2020 | ND | **7.0** | ND | ND | ND |
| **IDEM RCG Commercial IASLs** | | **180** | **8.8** | **NE** | **NE** | **28** |

Notes:
ND = Below Laboratory Reporting Limit
ug/m$^3$ = micrograms per meter cubed
NE = RCG Screening Level not established
**10.5** = Constituent detected above IDEM RCG Commercial IASLs

As shown in the table, TCE was detected at concentrations below the RCG Commercial/Industrial IASL during the June and July monthly sampling events. No other VOCs were reported in the samples collected during the June and July 2020 monthly sampling events.

Upon arrival at the Site for the May 27, June 8, and July 15, 2020 sampling events, *Patriot* noted that the variable airflow controller was set at the maximum airflow and the analytical results of these sampling events showed that the mitigation goal had been met. Therefore, it appears that the C600 air purifier is successfully mitigating the indoor air in the office portion of the building when it is properly operated at or near maximum

airflow. *Patriot* replaced the carbon filter in the C600 air purifier immediately following collection of the July monthly air sample. The analytical data indicates that the carbon filter will successfully mitigate the indoor air in the office portion of the building for at least two to three months of continuous operation.

## OCTOBER PERFORMANCE AIR SAMPLING

*Patriot* conducted a performance air sampling event on October 14, 2020 to document the performance of the C600 mitigation system and determine whether break-through of the carbon filter was occurring. Samples were collected from the office space and open warehouse area over an approximately 8-hour period during the work day using 6-liter batch-certified summa canisters in a similar manner to previous sampling events. The analytical results for the October monthly sampling event are summarized in the table below.

| Sample ID | Date | Analytical Results (ug/m$^3$) | | | | |
|---|---|---|---|---|---|---|
| | | PCE | TCE | c-DCE | t-DCE | VC |
| Office Space (October) | 10/14/2020 | ND | **11.2** | ND | ND | ND |
| IA-1 (Warehouse October) | 10/14/2020 | ND | **3.9** | ND | ND | ND |
| **IDEM RCG Commercial IASLs** | | **180** | **8.8** | **NE** | **NE** | **28** |

Notes:
ND = Below Laboratory Reporting Limit
ug/m$^3$ = micrograms per meter cubed
NE = RCG Screening Level not established
**11.2** = Constituent detected above IDEM RCG Commercial IASLs

As shown in the table, TCE was detected at concentrations exceeding the RCG Commercial/Industrial IASL in the sample collected in the office space. No other VOCs were reported in the sample collected in the office space. TCE was also detected in the sample collected from the warehouse area but at a concentration below the RCG Commercial/Industrial IASL. The laboratory analytical report for the October sampling event is included in Attachment B and the field data sheets documenting the sampling event are included as Attachment C.

## CARBON REPLACMENT AND ONGOING PERFORMANCE MONITORING

A replacement carbon filter has been ordered but due to a manufacturing backlog, delivery is not expected until the end of December 2020. *Patriot* will replace the carbon filter as soon as it is received from the manufacturer.

The 8-hour indoor air sample collected in the warehouse portion of the building did not contain VOCs at concentrations exceeding the RCG Commercial/Industrial IASLs

indicating that the exhaust fan installed in the building continues to effectively reduce VOCs in the warehouse area breathing air.

The C600 air purifier and the warehouse area exhaust fan are intended to be interim measures to prevent personnel exposure until a permanent mitigation system can be installed or the source of the indoor air impacts is identified and remediated. Patriot is currently undertaking a Further Site Investigation #4 which identified the presence of at least two subsurface vaults beneath the floor of the building that had been either fully or partially backfilled with sand. The vaults appear to extend adjacent to or under the office area where the elevated indoor air TCE concentrations were encountered. Vapor monitoring of sand from the vaults and the open boreholes through the concrete floor revealed elevated concentrations of total photoionizable vapors and analysis of sand samples from the vaults revealed the presence of TCE and PCE, with a maximum TCE concentrations of 16.0 milligrams per kilogram (mg/kg). In addition, the sub-slab vapor monitoring port where high concentrations of TCE sub-slab soil vapor were previously reported is located immediately above one of the vaults. Patriot is currently preparing a scope of work to identify the number and locations of the subsurface vaults, which will be used to design a remediation system for the impacted sand and mitigate the indoor air TCE using sub-slab depressurization. Until the system is installed, Patriot will change out the carbon filter in the C-600 on a 6-week basis to ensure that breakthrough is not occurring.

Please do not hesitate to contact us if you have any questions regarding this report of if you need any additional information.

Very truly yours,

**Patriot Engineering and Environmental, Inc.**

James J. Cody
Project Engineer
Environmental Group

Michael F. Casper, LPG
Principal
Chief Environmental Consultant

Attachments

cc: Greg Cafouros, Kroger Gardis & Regas, LLP

# Attachment A

# Site Map

Golf Course

Former Settling Pond

Pinnacle Towers Acquisition, LLC

Hurricane Road Industrial Development

Reed Mfg.

Eastview Drive

CROSSROADS RECYCLING

IA-5

IA-2/IA-6

SS-2

IA-1/IA-7

SS-1

IA-4/SS-4

OA-1

IA-3/IA-8

SS-3

Woods

Grass

Concrete Pad

Office

Stone

Bldg.

Conc.

GAS

FO

W

APPROX. SCALE IN FEET

0 15 30

Site Layout Map

APPROX. SCALE IN FEET

0 75' 150'

Patriot Engineering & Environmental, Inc.

LEGEND

- Parcel Line
- Clawson Property Boundary
- W — Water Line
- GAS — Gas Line
- FO — Fiber Optic Line
- Outdoor Air Sample Location
- Indoor Air Sample Location
- Sub-Slab Vapor Sample Location
- Paired Indoor Air and Sub-Slab Vapor Sample Location
- Wooded area with fill and debris

| | |
|---|---|
| Project: Former Houghland Tomato Cannery<br>1130 E. Eastview Drive<br>Franklin, Indiana<br>IDEM Identification No. 2013-42015 | |
| | Drawn By: J. DuMond |
| Project Number: 19-1979-01E | Approved: J. Cody |
| Date: March 4, 2020 | DWG: 19-1979-01_Ph2 |

Figure 1

Crossroads Recycling
Sample Location Map

# Attachment B

# Laboratory Report

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

October 28, 2020

James Cody
Patriot Engineering
6330 East 75th. St.
Indianapolis, IN 46250

RE: Project: CROSSROADS RECYCLING
Pace Project No.: 10536009

Dear James Cody:

Enclosed are the analytical results for sample(s) received by the laboratory on October 19, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

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

Sincerely,

Carolynne Trout

Carolynne Trout
carolynne.trout@pacelabs.com
1(612)607-6351
Project Manager

Enclosures

cc: Mike Casper, Patriot Engineering

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

# CERTIFICATIONS

Project: CROSSROADS RECYCLING
Pace Project No.: 10536009

**Pace Analytical Services - Minneapolis MN**

1700 Elm Street SE, Minneapolis, MN 55414
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
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
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
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 #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
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
USDA Permit #: P330-19-00208
*Please Note: Applicable air certifications are denoted with an asterisk (*).

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

## SAMPLE SUMMARY

Project: CROSSROADS RECYCLING
Pace Project No.: 10536009

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **10536009001** | **OFFICE SPACE OCTOBER** | Air | 10/14/20 14:42 | 10/19/20 13:07 |
| **10536009002** | **IA-1** | Air | 10/14/20 14:40 | 10/19/20 13:07 |

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

## SAMPLE ANALYTE COUNT

Project: CROSSROADS RECYCLING
Pace Project No.: 10536009

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|---|---|---|---|---|
| **10536009001** | **OFFICE SPACE OCTOBER** | TO-15 | MJL | 5 |
| **10536009002** | **IA-1** | TO-15 | MJL | 5 |

PASI-M = Pace Analytical Services - Minneapolis

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

# PROJECT NARRATIVE

Project: CROSSROADS RECYCLING
Pace Project No.: 10536009

**Method:** **TO-15**
**Description:** TO15 MSV AIR
**Client:** Patriot Engineering-IN
**Date:** October 28, 2020

**General Information:**
2 samples were analyzed for TO-15 by Pace Analytical Services Minneapolis. 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.

**Pace Analytical Services, LLC**
1700 Elm Street - Suite 200
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(612)607-1700

## ANALYTICAL RESULTS

Project: CROSSROADS RECYCLING
Pace Project No.: 10536009

**Sample: OFFICE SPACE OCTOBER** **Lab ID: 10536009001** Collected: 10/14/20 14:42 Received: 10/19/20 13:07 Matrix: Air

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| | Pace Analytical Services - Minneapolis | | | | | | | | |
| cis-1,2-Dichloroethene | ND | ug/m3 | 1.5 | 0.31 | 1.92 | | 10/27/20 22:31 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/m3 | 1.5 | 0.32 | 1.92 | | 10/27/20 22:31 | 156-60-5 | |
| Tetrachloroethene | ND | ug/m3 | 1.3 | 0.55 | 1.92 | | 10/27/20 22:31 | 127-18-4 | |
| Trichloroethene | **11.2** | ug/m3 | 1.0 | 0.34 | 1.92 | | 10/27/20 22:31 | 79-01-6 | |
| Vinyl chloride | ND | ug/m3 | 0.50 | 0.19 | 1.92 | | 10/27/20 22:31 | 75-01-4 | |

**Sample: IA-1** **Lab ID: 10536009002** Collected: 10/14/20 14:40 Received: 10/19/20 13:07 Matrix: Air

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| | Pace Analytical Services - Minneapolis | | | | | | | | |
| cis-1,2-Dichloroethene | ND | ug/m3 | 1.5 | 0.31 | 1.92 | | 10/27/20 23:06 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/m3 | 1.5 | 0.32 | 1.92 | | 10/27/20 23:06 | 156-60-5 | |
| Tetrachloroethene | ND | ug/m3 | 1.3 | 0.55 | 1.92 | | 10/27/20 23:06 | 127-18-4 | |
| Trichloroethene | **3.9** | ug/m3 | 1.0 | 0.34 | 1.92 | | 10/27/20 23:06 | 79-01-6 | |
| Vinyl chloride | ND | ug/m3 | 0.50 | 0.19 | 1.92 | | 10/27/20 23:06 | 75-01-4 | |

## REPORT OF LABORATORY ANALYSIS

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

# QUALITY CONTROL DATA

Project: CROSSROADS RECYCLING
Pace Project No.: 10536009

QC Batch: 707066
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10536009001, 10536009002

METHOD BLANK: 3777377 Matrix: Air
Associated Lab Samples: 10536009001, 10536009002

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ug/m3 | ND | 0.81 | 0.16 | 10/27/20 15:22 | |
| Tetrachloroethene | ug/m3 | ND | 0.69 | 0.29 | 10/27/20 15:22 | |
| trans-1,2-Dichloroethene | ug/m3 | ND | 0.81 | 0.17 | 10/27/20 15:22 | |
| Trichloroethene | ug/m3 | ND | 0.55 | 0.18 | 10/27/20 15:22 | |
| Vinyl chloride | ug/m3 | ND | 0.26 | 0.10 | 10/27/20 15:22 | |

LABORATORY CONTROL SAMPLE: 3777378

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ug/m3 | 41.8 | 39.4 | 94 | 70-132 | |
| Tetrachloroethene | ug/m3 | 74.9 | 62.6 | 84 | 70-136 | |
| trans-1,2-Dichloroethene | ug/m3 | 41.9 | 38.8 | 93 | 70-132 | |
| Trichloroethene | ug/m3 | 56.7 | 50.7 | 89 | 70-132 | |
| Vinyl chloride | ug/m3 | 28.5 | 23.9 | 84 | 68-141 | |

SAMPLE DUPLICATE: 3778374

| Parameter | Units | 10536083001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ug/m3 | ND | ND | | 25 | |
| Tetrachloroethene | ug/m3 | 3.5 | 3.4 | 3 | 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: 3778375

| Parameter | Units | 10535722009 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | ug/m3 | ND | ND | | 25 | |
| Tetrachloroethene | 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 | |

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

## REPORT OF LABORATORY ANALYSIS

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

# QUALIFIERS

Project: CROSSROADS RECYCLING
Pace Project No.: 10536009

**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.

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

## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CROSSROADS RECYCLING
Pace Project No.: 10536009

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **10536009001** | **OFFICE SPACE OCTOBER** | TO-15 | 707066 | | |
| **10536009002** | **IA-1** | TO-15 | 707066 | | |

Pace Analytical®
www.pacelabs.com

# AIR: CHAIN-OF-CUSTODY / Analytical Request Document

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

40628

Page: 1 of 1

**Section A** Required Client Information:

| | |
|---|---|
| Company: | PATRIOT ENGINEERING |
| Address: | 6150 E 75th ST |
| | INDIANAPOLIS, IN |
| Email To: | scody@patriotenv.com |
| Phone: | Fax: |
| Requested Due Date/TAT: | NORMAL |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | JAMES CODY |
| Copy To: | MIKE CASPER |
| Purchase Order No.: | |
| Project Name: | CROSSROADS RECYCLING |
| Project Number: | |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | |
| Company Name: | |
| Address: | |
| Pace Quote Reference: | |
| Pace Project Manager/Sales Rep. | |
| Pace Profile #: | 35198 |

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State: IN

Reporting Units: ug/m³ ___ mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level: II. ___ III. ___ IV. ___ Other ___

'Section D Required Client Information

**AIR SAMPLE ID**
Sample IDs MUST BE UNIQUE

Valid Media Codes

| MEDIA | CODE |
|---|---|
| Tedlar Bag | TB |
| 1 Liter Summa Can | 1LC |
| 6 Liter Summa Can | 6LC |
| Low Volume Puff | LVP |
| High Volume Puff | HVP |
| Other | PM10 |

| ITEM # | AIR SAMPLE ID | MEDIA CODE | PID Reading (Client only) | COLLECTED COMPOSITE START DATE | COMPOSITE START TIME | COMPOSITE - END/GRAB DATE | COMPOSITE - END/GRAB TIME | Canister Pressure (Initial Field - in Hg) | Canister Pressure (Final Field - in Hg) | Summa Can Number | Flow Control Number | Method: PM10 | 3C - Fixed Gas (%) | TO-3 BTEX | TO-3M (Methane) | TO-14 | TO-15 Full List VOCs | TO-15 Short List BTEX | TO-15 Short List Chlorinated | TO-15 Short List (other) | Pace Lab ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | OFFICE SPACE OCTOBER | 6LC | | 10/14 | 8:26 | 10/14 | 14:40 | -30 | -9 | 3335 | 00246 | | | | | | X | | | | 001 |
| 2 | IA-1 | 6LC | | " | 8:25 | " | 14:40 | -30 | -9 | 3423 | 18401 | | | | | | X | | | | 002 |
| 3 | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | |

Comments :

| RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME |
|---|---|---|---|---|---|
| JAMES CODY/PATRIOT | 10/16/20 | 15:00 | [signature]/Pace | 10/19/20 | 13:07 |
| | | | | | |
| | | | | | |
| | | | | | |

SAMPLE CONDITIONS

| Temp in °C | Received on Ice | Custody Sealed Cooler | Samples Intact |
|---|---|---|---|
| — | Y/N | Y/N | Y/N |
| | Y/N | Y/N | Y/N |
| | Y/N | Y/N | Y/N |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: JAMES CODY

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 10/16/20

WO# : 10536009

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10536009

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# AIR: CHAIN-OF-CUSTODY / Analytical Request Document

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

40628

Page: 1 of 1

**Section A** Required Client Information:

| | |
|---|---|
| Company: | PATRIOT ENGINEERING |
| Address: | 6150 E 75th St |
| | INDIANAPOLIS, IN |
| Email To: | jcody@patriotenv.com |
| Phone: | Fax: |
| Requested Due Date/TAT: | NORMAL |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | JAMES CODY |
| Copy To: | MIKE CASPER |
| Purchase Order No.: | |
| Project Name: | CROSSROADS RECYCLING |
| Project Number: | |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | |
| Company Name: | |
| Address: | |
| Pace Quote Reference: | |
| Pace Project Manager/Sales Rep. | |
| Pace Profile #: | 35198 |

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State: IN

Reporting Units: ug/m³ ___ mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level: II. ___ III. ___ IV. ___ Other ___

**Section D** Required Client Information

**AIR SAMPLE ID**
Sample IDs MUST BE UNIQUE

Valid Media Codes

| MEDIA | CODE |
|---|---|
| Tedlar Bag | TB |
| 1 Liter Summa Can | 1LC |
| 6 Liter Summa Can | 6LC |
| Low Volume Puff | LVP |
| High Volume Puff | HVP |
| Other | PM10 |

| ITEM # | AIR SAMPLE ID | MEDIA CODE | PID Reading (Client only) | COLLECTED COMPOSITE START DATE | COMPOSITE START TIME | COMPOSITE - END/GRAB DATE | COMPOSITE - END/GRAB TIME | Canister Pressure (Initial Field - in Hg) | Canister Pressure (Final Field - in Hg) | Summa Can Number | Flow Control Number | Method: PM10 | 3C - Fixed Gas (%) | TO-3 BTEX | TO-3M (Methane) | TO-14 | TO-15 Full List VOCs | TO-15 Short List BTEX | TO-15 Short List Chlorinated | TO-15 Short List (other) | Pace Lab ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | OFFICE SPACE OCTOBER | 6LC | | 10/14 | 8:26 | 10/14 | 14:40 | -30 | -9 | 3335 | 00246 | | | | | | X | | | | 001 |
| 2 | IA-1 | 6LC | | " | 8:25 | " | 14:40 | -30 | -9 | 3423 | 18401 | | | | | | X | | | | 002 |
| 3 | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | |

**Comments :**

| RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME |
|---|---|---|---|---|---|
| JAMES CODY/PATRIOT | 10/16/20 | 15:00 | [illegible]/Pace | 10/19/20 | 13:07 |
| | | | | | |
| | | | | | |
| | | | | | |

**SAMPLE CONDITIONS**

| Temp in °C | Received on Ice | Custody Sealed Cooler | Samples Intact |
|---|---|---|---|
| — | Y/N | Y/N | Y/N |
| | Y/N | Y/N | Y/N |
| | Y/N | Y/N | Y/N |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: JAMES CODY

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 10/16/20

WO# : 10536009

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10536009

| Pace Analytical® | Document Name: **Sample Condition Upon Receipt (SCUR) - Air** | Document Revised: 24Mar2020 **Page 1 of 1** |
|---|---|---|
| | Document No.: **ENV-FRM-MIN4-0113 Rev.00** | Pace Analytical Services - **Minneapolis** |

**Air Sample Condition Upon Receipt**

**Client Name:** Patriot Eng. **Project #:** **WO#: 10536009**

PM: CT1 Due Date: 10/26/20

CLIENT: PATRIOT

**Courier:** ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☒ Pace ☐ SpeeDee ☐ Commercial **See Exception** ☐

**Tracking Number:** 1723 2546 5193

**Custody Seal on Cooler/Box Present?** ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☐ No

**Packing Material:** ☐ Bubble Wrap ☐ Bubble Bags ☒ Foam ☐ None ☐ Tin Can ☐ Other:_____ **Temp Blank rec:** ☐ Yes ☒ No

**Temp. (TO17 and TO13 samples only) (°C):** _____ **Corrected Temp (°C):** _____ **Thermometer Used:** ☐ G87A9170600254 ☐ G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** _____ **Date & Initials of Person Examining Contents:** 10-19-20 MZ

**Type of ice Received** ☐ Blue ☐ Wet ☒ None

| | | | | **Comments:** |
|---|---|---|---|---|
| Chain of Custody Present? | ☒ 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 | ☐ 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?** | ☐ Yes | ☒ No | | 7. |
| Sufficient Volume? | ☒ Yes | ☐ No | | 8. |
| Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used? | ☒ Yes ☒ Yes | ☐ No ☐ No | | 9. |
| Containers Intact? **(visual inspection/no leaks when pressurized)** | ☒ Yes | ☐ No | | 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? | ☒ Yes | ☐ No | | 12. |
| Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)** | ☒ Yes | ☐ No | | 13. |

Gauge # ☒ 10AIR26 ☐ 10AIR34 ☐ 10AIR35 ☐ 4097

| Canisters | | | | | Canisters | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Sample Number | Can ID | Flow Controller | Initial Pressure | Final Pressure | Sample Number | Can ID | Flow Controller | Initial Pressure | Final Pressure |
| Office Space | 3375 | 46 | -9 | +5 | | | | | |
| IA-1 | 3423 | 1840 | -9 | +5 | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

**CLIENT NOTIFICATION/RESOLUTION** **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

**Project Manager Review:** Carolyne Trout **Date:** 10/20/20

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)

# Attachment C

# Field Data Sheets

PATRIOT ENGINEERING and ENVIRONMENTAL, Inc.

*Engineering Value for Project Success*

# VIA Field Sampling Data Sheet

**Date:** 10/14/20 **Sampler Name:** J CODY

**VIA Sampling Location/Address:** CROSSROADS RECYCLING

**Sample ID:** IA-1

**Sample Location:** WAREHOUSE

**Type of Sample (sub-slab/exterior soil gas/indoor air/outside air):** INDOOR AIR

**Type of Sample Container:** 6L SUMMA

**Weather Conditions at Time of Sampling:** DRY 60°

**Leak Testing Before Sampling ?:** NA

**Well Purged Prior to Sampling ?:** NA

**Sample Start Time:** 8:25
**Vacuum Reading of Sample Can at Start of Sampling:** -30

**Sample End Time:** 14:40
**Vacuum Reading of Sample Can at End of Sampling:** -9

**Laboratory Analysis Requested:** TO-15

**Duplicate Sample Collected?** NO

6150 East 75th Street, Indianapolis, Indiana 46250
Ph. 317-576-8058 • Fax 317-576-1965 • Web www.patrioteng.com
INDIANA - Bloomington, Evansville, Fort Wayne, Indianapolis, Lafayette, Terre Haute
KENTUCKY - Louisville, OHIO - Cincinnati, Dayton, TENNESSEE - Nashville

PATRIOT ENGINEERING and ENVIRONMENTAL, Inc.

*Engineering Value for Project Success*

# VIA Field Sampling Data Sheet

**Date:** 10/14/20 **Sampler Name:** J CODY

**VIA Sampling Location/Address:** CROSSROADS RECYCLING

**Sample ID:** OFFICE SPACE OCTOBER

**Sample Location:** OFFICE SPACE

**Type of Sample (sub-slab/exterior soil gas/indoor air/outside air):** INDOOR AIR

**Type of Sample Container:** 6L SUMMA

**Weather Conditions at Time of Sampling:** DRY 60°

**Leak Testing Before Sampling ?:** NA

**Well Purged Prior to Sampling ?:** NA

**Sample Start Time:** 10:26
**Vacuum Reading of Sample Can at Start of Sampling:** -30

**Sample End Time:** 14:42
**Vacuum Reading of Sample Can at End of Sampling:** -9

**Laboratory Analysis Requested:** TO-15

**Duplicate Sample Collected?** NO

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