



Robert E. Lee & Associates, Inc.
Engineering • Surveying • Environmental Services

1250 Centennial Centre Boulevard • Hobart, WI 54155 • 920-662-9641 • www.releeinc.com

February 15, 2019

RECEIVED

FEB 19 2019

WI DNR - GREEN BAY

Mr. Mike Jagemann
JAGEMANN PLATING CO., INC.
1324 South 26th Street
Manitowoc, WI 54220

RE: Vapor Sampling Results for Property located at 1332 S. 26th Street, Manitowoc, WI
Contaminant Detection Below WDNR Screening Levels
Jagemann Plating, 1324 South 26th Street, Manitowoc, WI; BRRTS #02-36-555544

Dear Mr. Jagemann:

This correspondence is to provide you with the results of the indoor air and the soil vapor sampling conducted during August 2018 and January 2019 at your building, located at 1332 S. 26th Street, Manitowoc, Wisconsin. The sampling was conducted by Robert E. Lee & Associates, Inc. (REL), as required by the Wisconsin Department of Natural Resources (WDNR) for the ongoing environmental investigation of a historic metals and chlorinated volatile organic compound (CVOC) release identified at Jagemann Plating Co., Inc., located at 1324 South 26th Street, Manitowoc, Wisconsin (the Site).

The purpose of the sampling was to determine if vapors from CVOC-contaminated groundwater are migrating through soil, accumulating beneath the foundation of your building, and entering the indoor air. On August 21, 2018, two (2) sub-slab vapor samples (designated as SS-1 and SS-2) were collected from beneath the building via a sampling device installed in the floor in a vacant office and in the cutting room of the Nelson Sign & Graphics (Nelson Sign), respectively. Two (2) indoor air samples (designated as IA-1 and IA-2) were also collected from within the vacant office and the Nelson Sign cutting room. One (1) outdoor air sample (OA-1) was collected for background air quality data on this same day. The sample locations are shown in the attached Figure B.4.a.

On January 24, 2019, a second set of sub-slab samples (designated as SS-1 and SS-2) were collected from the same sampling devices and locations to confirm the initial vapor sampling results. Indoor and outdoor air samples were not required to be collected by WDNR.

The air and vapor samples were submitted to Pace Analytical Services, Inc., of Minneapolis, Minnesota for laboratory analysis of 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, tetrachloroethene (PCE), trichloroethene (TCE), and vinyl chloride.

February 15, 2019
Mr. Mike Jagemann
JAGEMANN PLATING CO., INC.
Page 2

YOUR TEST RESULTS

The August 2018 results showed a low concentration of PCE and TCE in the sub-slab vapor sample (SS-2) collected from the cutting room of Nelson Graphic. During the second sampling event in January 2019, results showed a low concentration of PCE in the sub-slab vapor again from SS-2; however, the concentrations were lower than the August 2018 results. Concentrations of TCE were not detected in the sub-slab vapor in the cutting room of Nelson Graphic during the January 2019.

Although PCE and TCE was detected in soil vapors beneath the building slab, the level at which these compounds was detected is such that it does not pose a threat to you or your tenants. This is called “a detection below screening level” and is explained in the enclosed fact sheet. The sub-slab soil vapor results are summarized in the attached Table A.4.1.

There were no detections of any of the chemicals of concern in the indoor air samples collected from the building during both the August 2018 and January 2019 sampling events. The indoor and outdoor air results are summarized in the attached Table A.4.2. Attached is a copy of the laboratory report for your sub-slab vapor and indoor air samples.

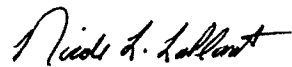
WHAT YOUR TEST RESULTS MEAN

The latest sample results from January 2019 confirm the previous test results from August 2018, indicating that there does not appear to be a risk of CVOC vapor entering your building from beneath the building slab. At this time, no further sampling is planned in the building. If it is determined in the future that additional sampling needs to be completed, REL will contact you to schedule another visit.


Please feel free to contact Mr. Tauren Beggs of the WDNR at 920-662-5178 with any questions or concerns regarding the sampling results and the required future actions at the Site. You may also contact us at 920-662-9641.

Sincerely,

ROBERT E. LEE & ASSOCIATES, INC.



Nicole L. LaPlant
Geologist/Project Manager



Bruce D. Meissner, P.G., V.P.
Environmental Compliance Manager

NLL/BDM/NJM

ENC.

CC/ENC.: Pat Nelson, Nelson Sign & Graphics LLC
Tauren Beggs, WDNR

A

ATTACHMENT A

WDNR FACT SHEETS:

- *"Understanding Chemical Vapor Intrusion Testing Results"*



Understanding Chemical Vapor Intrusion Testing Results

RR-977

October 2014

From the Lab to You

Chemical vapor samples were taken from underneath your house or building and possibly indoors as well. These samples have been tested by a certified laboratory and a report was issued. The Wisconsin Department of Natural Resources (DNR) uses these test results to determine if people in the building are being exposed to chemical vapors coming from nearby contaminated soil or groundwater, and to decide what, if any, action is needed to prevent this exposure.

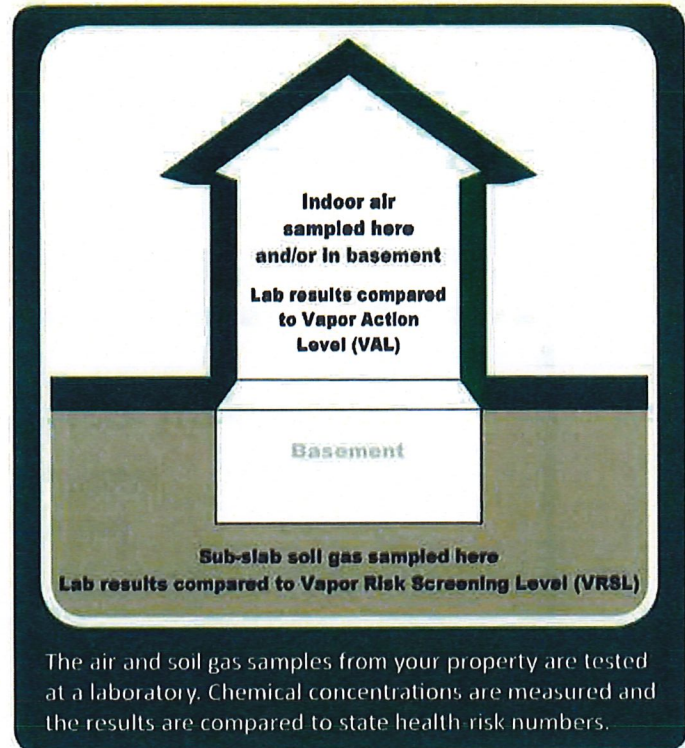
Indoor Air Testing Results

If indoor air samples were collected in your house or building, test results from the lab will be compared to the state Vapor Action Level (VAL) for chemicals of concern. The VAL is a chemical compound's numerical value that represents a health hazard risk to no more than 1 in 100,000 people during a lifetime of exposure. If test results show chemical concentrations in your air below the VAL then adverse health effects are extremely rare, even if you were to breathe the chemical at this concentration for your entire life.

Test results showing chemical concentrations in the air at or above the VAL prompt DNR to recommend that exposure to these chemical vapors be reduced. If test results show concentrations significantly above the VAL, or more than one type of chemical vapor is identified in your indoor air, the risk from exposure increases. If the concentration of any indoor chemical vapor greatly exceeds the VAL, DNR is concerned about even short-term exposure and will typically require immediate action to address the problem.

The VAL for each chemical is set by scientific research. It is protective of all people, including those who are most susceptible to adverse health effects.

If test results identify chemicals in your air that are not present in nearby soil or groundwater contamination, it is likely that these vapors are coming from some product or activity in or near your house or building. Many everyday consumer products (e.g., cleaners, solvents, polish, adhesives, lubricants, aerosols, insect repellants, etc.); combustion processes (e.g., smoking, home heating); fuels in attached garages; dry cleaned clothing or draperies; and occupant activities (e.g., craft hobbies), also release chemical vapors into the air.



The air and soil gas samples from your property are tested at a laboratory. Chemical concentrations are measured and the results are compared to state health risk numbers.

Sub-slab Soil Gas Testing Results

Soil gas samples were collected from the ground beneath the concrete slab of your building foundation or basement. The lab measured the concentrations of various chemicals in these samples. DNR compares these measurements to the state Vapor Risk Screening Level (VRSL), which identifies the concentration of a chemical in soil gas that scientific research suggests can be a health risk if vapor enters a building. If soil gas measurements exceed the VRSL for a chemical of concern, action to reduce exposure is strongly recommended.

The VRSL is a higher number (higher chemical concentration) than the VAL because it is presumed that concrete building foundations and basement walls will prevent most soil gas from entering a building. Further, any soil gas that does enter a building through cracks, holes, sump pumps, drains, etc., will be diluted to some extent by the indoor air. So, people inside will not be breathing air that includes the full concentration of chemical vapors that exist in the ground.



Wisconsin Department of Natural Resources
P.O. Box 7921, Madison, WI 53707
dnr.wi.gov, search "Brownfields"



DNR generally relies on the test results of the sub-slab soil gas samples when determining what, if any, action should be taken related to chemical vapors coming from nearby soil or groundwater contamination. Indoor air quality is highly variable, and it is difficult to make a definitive decision about vapor intrusion based on indoor air sampling alone.

Follow-Up Actions

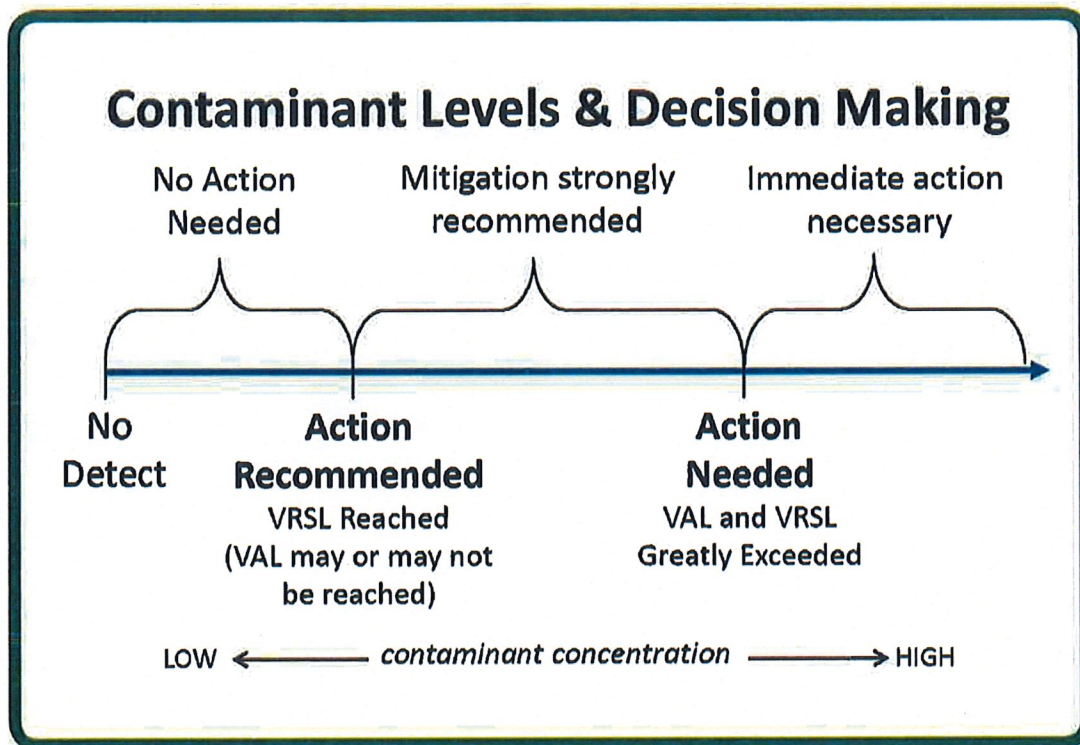
If your test results are less than a VAL for indoor air, or a VRSL for sub-slab soil gas, then the air in the house or building should not present a health concern. Follow-up sampling and testing may be necessary to confirm the results, but no other action is typically suggested.

When test results show soil gas chemical concentrations above a VRSL, both DNR and the Wisconsin Department of

Health Services recommend that owners take action to reduce potential exposure. This typically involves installing a vapor mitigation system that vents chemical vapors from beneath your home or building to the outdoors, similar to a radon mitigation system.

If indoor air concentrations exceed a VAL, but sub-slab concentrations are less than a VRSL, then the chemical vapors are most likely coming from indoor sources. Steps should be taken by the house or building owner to identify the products and practices causing the problem and implement appropriate remedies.

If soil gas mitigation is recommended, a representative of the party who is responsible for the soil or groundwater contamination will contact you to discuss your options.



A Note about Measurement Units: The lab report may include some unfamiliar technical language. The most important point to note is whether or not the test result for a specific chemical exceeds a VAL or VRSL, which are also sometimes referred to, generically, as "screening levels."

The concentration of gaseous pollutants in air is typically described in two different ways: 1) as units of mass per volume, where $\mu\text{g}/\text{m}^3$ represents micrograms of gaseous pollutant per cubic meter of ambient air; and 2) as parts per billion by volume (ppbv), where the volume of a gaseous pollutant is compared to a set volume of ambient air. These are the numbers that are compared to the VAL and VRSL.

For more information, visit dnr.wi.gov/topic/Brownfields/Vapor.html

This document contains information about certain state statutes and administrative rules but does not necessarily include all of the details found in the statutes and rules. Readers should consult the actual language of the statutes and rules to answer specific questions. The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services, and functions under an Affirmative Action Plan. If you have any questions, please write to Equal Opportunity Office, Department of Interior, Washington, D.C. 20240. This publication is available in alternative format upon request. Please call 608-267-3543 for more information.

B

ATTACHMENT B

SUB-SLAB VAPOR/AMBIENT AIR ANALYTICAL RESULTS:

- Table A.4.1, Sub-slab Vapor Results
- Table A.4.2, Ambient Air Results

**Table A.4.1 - 1332 S. 26th Street Sub-slab Vapor Sampling Results - Large Commercial/Industrial
Jagemann Plating Co. Inc., Manitowoc, WI**

Sample ID	Sample Location	Date Collected	Relevant VOCs ($\mu\text{g}/\text{m}^3$)					
			1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl chloride
Residential Sub-Slab Vapor VRSL -- $\mu\text{g}/\text{m}^3$			7,000	NE	NE	1,400	70	57
Small Commercial Sub-Slab Vapor VRSL -- $\mu\text{g}/\text{m}^3$			930	NE	NE	1,400	70	57
Large Commercial/Industrial Sub-Slab VRSL -- $\mu\text{g}/\text{m}^3$			88,000	NE	NE	18,000	880	2,800
SS-1	1332 S. 26th Street - Vacant Office Closet	8/21/2018	<0.46	<0.37	<0.48	<0.53	<0.43	<0.21
		1/24/2019	<0.50	<0.40	<0.52	<0.57	<0.47	<0.23
SS-2	1332 S. 26th Street - Nelson Sign Cutting Room	8/21/2018	<0.49	<0.39	<0.51	2.5	2.5	<0.23
		1/24/2019	<0.50	<0.40	<0.52	1.1 J	<0.47	<0.23

Key:

- NE - No screening level established
- < - Not detected above laboratory detection limits
- $\mu\text{g}/\text{m}^3$ - Micrograms per cubic meter
- J - Estimated concentration at or above the laboratory Limit of Detection and Limit of Quantitation
- 22 - Vapor Risk Screening Level (VRSL) exceeded

Notes:

- 1.) Samples were collected in 6-liter summa canister over a 30-minute period and analyzed using the U.S. EPA TO-15 analytical method
- 2.) The Vapor Risk Screening Level (VRSL) was obtained from WDNR's *Quick Look-Up Table for Indoor Air Vapor Action Levels and Vapor Risk Screening Levels*, based on November 2017 U.S. EPA Regional Screening Level Tables

**Table A.4.2 - 1332 S. 26th Street Ambient Air Analytical Results Summary - Large Commercial/Industrial
Jagemann Plating Co. Inc., Manitowoc, WI**

Sample ID	Sample Type	Sample Location	Date Collected	Relevant VOCs ($\mu\text{g}/\text{m}^3$)					
				1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
Residential Indoor Air Vapor Action Level (VAL) -- $\mu\text{g}/\text{m}^3$				210	NE	NE	42	2.1	1.7
Small Commercial Indoor Air Vapor Action Level (VAL) -- $\mu\text{g}/\text{m}^3$				880	NE	NE	180	8.8	1.7
Large Commercial/Industrial Indoor Air Vapor Action Level (VAL) -- $\mu\text{g}/\text{m}^3$				880	NE	NE	180	8.8	28
IA-1	Indoor Air	1332 S. 26th Street - Vacant Office Closet (paired with sub-slab vapor sample SS-1)	8/21/2018	<0.42	<0.34	<0.44	<0.49	<0.40	<0.20
IA-2	Indoor Air	1332 S. 26th Street - Nelson Sign Cutting Room (paired with sub-slab vapor sample SS-2)	8/21/2018	<0.50	<0.40	<0.52	<0.57	<0.47	<0.23
OA-1	Outdoor Air	Outdoor Background (Upwind)	8/21/2018	<0.42	<0.34	<0.44	<0.49	<0.40	<0.20

Key:

- NE - Not established
- < - Not detected above laboratory detection limits
- $\mu\text{g}/\text{m}^3$ - Micrograms per cubic meter
- J - Estimated concentration at or above the laboratory Limit of Detection and Limit of Quantitation
- J - Vapor Action Level (VAL) exceeded

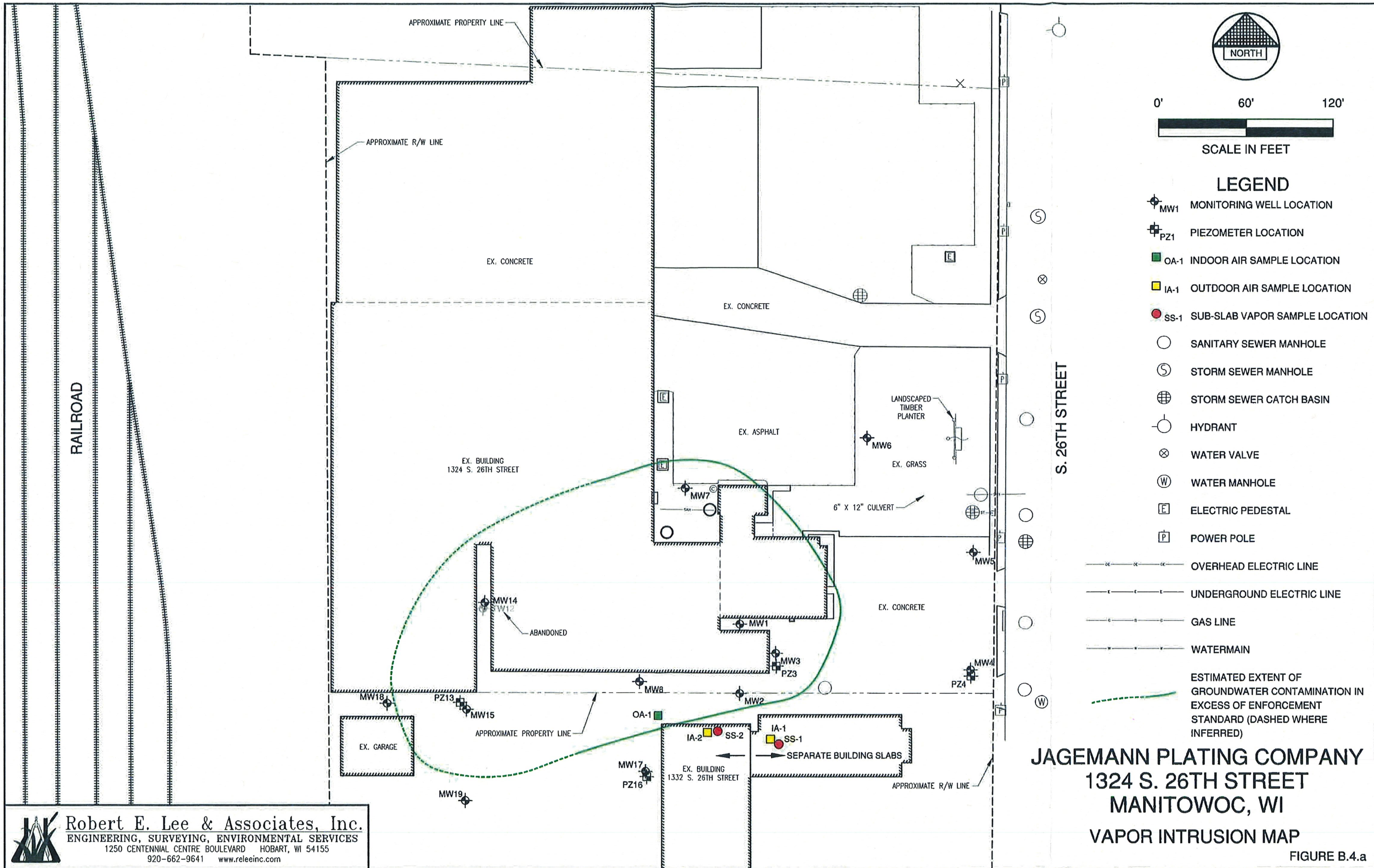
Notes:

- 1.) Samples were collected in 6-liter summa canister over an 8-hour period and analyzed using the U.S. EPA TO-15 analytical method
- 2.) The Vapor Action Level (VAL) was obtained from WDNR's *Quick Look-Up Table for Indoor Air Vapor Action Levels and Vapor Risk Screening Levels*, based on November 2017 U.S. EPA Regional Screening Level Tables

C

ATTACHMENT C

SAMPLE LOCATIONS, FIGURE B.4.A




Robert E. Lee & Associates, Inc.
 ENGINEERING, SURVEYING, ENVIRONMENTAL SERVICES
 1250 CENTENNIAL CENTRE BOULEVARD HOBART, WI 54155
 920-662-9641 www.releeinc.com

JAGEMANN PLATING COMPANY
1324 S. 26TH STREET
MANITOWOC, WI
VAPOR INTRUSION MAP
 FIGURE B.4.a

D

ATTACHMENT D

LABORATORY REPORTS



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

January 28, 2019

Nicole LaPlant
Robert E. Lee & Associates
1250 Centennial Center Blvd.
Hobart, WI 54155

RE: Project: 1162-013 Jagemann Plating Co
Pace Project No.: 10462512

Dear Nicole LaPlant:

Enclosed are the analytical results for sample(s) received by the laboratory on January 25, 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,

Kirsten Hogberg
kirsten.hogberg@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: Cody Applecamp, Robert E Lee & Associates
Bruce Meissner, Robert E. Lee & Associates



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1162-013 Jagemann Plating Co
Pace Project No.: 10462512

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 Certification #: 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: 1162-013 Jagemann Plating Co
Pace Project No.: 10462512

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10462512001	SS-1	Air	01/24/19 12:13	01/25/19 08:35
10462512002	SS-2	Air	01/24/19 13:04	01/25/19 08:35

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SAMPLE ANALYTE COUNT

Project: 1162-013 Jagemann Plating Co
Pace Project No.: 10462512

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10462512001	SS-1	TO-15	MG2	6
10462512002	SS-2	TO-15	MG2	6

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ANALYTICAL RESULTS

Project: 1162-013 Jagemann Plating Co
Pace Project No.: 10462512

Sample: SS-1 Lab ID: 10462512001 Collected: 01/24/19 12:13 Received: 01/25/19 08:35 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
1,1-Dichloroethene	<0.50	ug/m3	1.5	0.50	1.83		01/26/19 17:38	75-35-4	
cis-1,2-Dichloroethene	<0.40	ug/m3	1.5	0.40	1.83		01/26/19 17:38	156-59-2	
trans-1,2-Dichloroethene	<0.52	ug/m3	1.5	0.52	1.83		01/26/19 17:38	156-60-5	
Tetrachloroethene	<0.57	ug/m3	1.3	0.57	1.83		01/26/19 17:38	127-18-4	
Trichloroethene	<0.47	ug/m3	1.0	0.47	1.83		01/26/19 17:38	79-01-6	
Vinyl chloride	<0.23	ug/m3	0.48	0.23	1.83		01/26/19 17:38	75-01-4	

Sample: SS-2 Lab ID: 10462512002 Collected: 01/24/19 13:04 Received: 01/25/19 08:35 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
1,1-Dichloroethene	<0.50	ug/m3	1.5	0.50	1.83		01/26/19 18:06	75-35-4	
cis-1,2-Dichloroethene	<0.40	ug/m3	1.5	0.40	1.83		01/26/19 18:06	156-59-2	
trans-1,2-Dichloroethene	<0.52	ug/m3	1.5	0.52	1.83		01/26/19 18:06	156-60-5	
Tetrachloroethene	1.1J	ug/m3	1.3	0.57	1.83		01/26/19 18:06	127-18-4	
Trichloroethene	<0.47	ug/m3	1.0	0.47	1.83		01/26/19 18:06	79-01-6	
Vinyl chloride	<0.23	ug/m3	0.48	0.23	1.83		01/26/19 18:06	75-01-4	

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QUALITY CONTROL DATA

Project: 1162-013 Jagemann Plating Co
Pace Project No.: 10462512

QC Batch: 587484 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10462512001, 10462512002

METHOD BLANK: 3180038 Matrix: Air
Associated Lab Samples: 10462512001, 10462512002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/m3	<0.14	0.40	01/26/19 09:01	
cis-1,2-Dichloroethene	ug/m3	<0.11	0.40	01/26/19 09:01	
Tetrachloroethene	ug/m3	<0.16	0.34	01/26/19 09:01	
trans-1,2-Dichloroethene	ug/m3	<0.14	0.40	01/26/19 09:01	
Trichloroethene	ug/m3	<0.13	0.27	01/26/19 09:01	
Vinyl chloride	ug/m3	<0.063	0.13	01/26/19 09:01	

LABORATORY CONTROL SAMPLE: 3180039

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/m3	40.3	42.8	106	70-130	
cis-1,2-Dichloroethene	ug/m3	40.3	45.9	114	70-130	
Tetrachloroethene	ug/m3	68.9	77.7	113	70-130	
trans-1,2-Dichloroethene	ug/m3	40.3	43.8	109	70-130	
Trichloroethene	ug/m3	54.6	63.1	116	70-130	
Vinyl chloride	ug/m3	26	25.5	98	70-130	

SAMPLE DUPLICATE: 3180060

Parameter	Units	10462520001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethene	ug/m3	<1.2	<0.42			25
cis-1,2-Dichloroethene	ug/m3	<1.2	<0.33			25
Tetrachloroethene	ug/m3	8.9	8.8		1	25
trans-1,2-Dichloroethene	ug/m3	<1.2	<0.43			25
Trichloroethene	ug/m3	<0.83	<0.39			25
Vinyl chloride	ug/m3	<0.40	<0.19			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

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QUALIFIERS

Project: 1162-013 Jagemann Plating Co
Pace Project No.: 10462512

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 LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

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 at or above the adjusted LOD.

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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1162-013 Jagemann Plating Co
Pace Project No.: 10462512

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10462512001	SS-1	TO-15	587484		
10462512002	SS-2	TO-15	587484		

REPORT OF LABORATORY ANALYSIS

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AIR: CHAIN-OF-CUSTODY / A

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant f

WO#: 10462512



10462512

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:	37420 Page: 1 of 1
Company: <u>Robert E. Lees Assisted</u>	Report To: <u>Nicole Lefiant</u>	Attention: <u>Jaci Edman</u>	Program <input type="checkbox"/> UST <input type="checkbox"/> Superfund <input type="checkbox"/> Emissions <input type="checkbox"/> Clean Air Act <input type="checkbox"/> Voluntary Clean Up <input type="checkbox"/> Dry Clean <input type="checkbox"/> RCRA <input type="checkbox"/> Other Location of Sampling by State <u>WI</u> Reporting Units ug/m ³ <input type="checkbox"/> mg/m ³ <input type="checkbox"/> PPBV <input type="checkbox"/> PPMV <input type="checkbox"/> Other _____ Report Level II. ___ III. ___ IV. ___ Other ___
Address: <u>120 Centennial Centre Blvd</u>	Copy To:	Company Name: <u>REL</u>	
<u>Hobart, WI 54155</u>		Address: <u>Samp</u>	
Email To: <u>rladant@releinc.com</u>	Purchase Order No.:	Pace Quote Reference:	
Phone: <u>608 662 1611</u> Fax:	Project Name: <u>Jagemann Pkwy Co</u>	Pace Project Manager/Sales Rep.:	
Requested Due Date/TAT:	Project Number: <u>1162-013</u>	Pace Profile #: <u>237723</u>	

ITEM #	Section D Required Client Information		MEDIA CODE	PID Reading (Client only)	COLLECTED				Canister Pressure (Initial Field - In Hg)	Canister Pressure (Final Field - In Hg)	Summa Can Number	Flow Control Number	Method:								Pace Lab ID	
	AIR SAMPLE ID				COMPOSITE START		COMPOSITE - END/GRAB						PM10	3C - Filtered Gas (F)	TO-2 & TEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List & TEX	TO-15 Short List (Other)		see comments
	Sample IDs MUST BE UNIQUE	Valid Media Codes: MEDIA CODE			DATE	TIME	DATE	TIME														
1	<u>55-1</u>	<u>GLC</u>			<u>12/19/19</u>	<u>1143</u>	<u>12/19/19</u>	<u>1213</u>	<u>-29</u>	<u>-9</u>	<u>0628</u>	<u>2847</u>							<u>001</u>			
2	<u>55-2</u>	<u>GLC</u>			<u>↓</u>	<u>1234</u>	<u>↓</u>	<u>1304</u>	<u>-28</u>	<u>-7</u>	<u>0334</u>	<u>1561</u>							<u>002</u>			
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

Comments: Vinyl chloride
 1,1-Dichloroethene
 cis-1,2-Dichloroethene
 Trichloroethene
 Tetrachloroethene
 trans-1,2-Dichloroethene
 ORIGINAL

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
<u>REL</u>	<u>12/19/19</u>	<u>1400</u>	<u>1J-PAGE</u>	<u>12/19/19</u>	<u>8:35</u>	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
						<u>amb</u>	<input checked="" type="checkbox"/> YN	<input checked="" type="checkbox"/> YN	<input checked="" type="checkbox"/> YN
							<input type="checkbox"/> YN	<input type="checkbox"/> YN	<input type="checkbox"/> YN
							<input type="checkbox"/> YN	<input type="checkbox"/> YN	<input type="checkbox"/> YN
SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: _____ SIGNATURE of SAMPLER: <u>[Signature]</u> DATE Signed (MM/DD/YY) <u>12-24-19</u>									

Air Sample Condition Upon Receipt Client Name: Robert E. Lee Project #: **WO#: 10462512**

Courier: Fed Ex UPS Speedee Client
 Commercial Pace Other: _____

Tracking Number: 4545 9908 8281 PM: KNH Due Date: 02/07/19
 CLIENT: RELEE

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): amb Corrected Temp (°C): amb Thermom. Used: G87A9170600254
 G87A9155100842

Temp should be above freezing to 6°C Correction Factor: _____ Date & initials of Person Examining Contents: 1/25/19 BT

Type of Ice Received Blue Wet None

		Comments:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Media: <u>Air Can</u> Airbag Filter TDT Passive		11. Individually Certified Cans <u>Y</u> <u>N</u> list which samples
Is sufficient information available to reconcile samples to the COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.

Samples Received: <u>FFPT</u>					Pressure Gauge # 10AIR35				
Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
<u>2</u>			<u>-8</u>	<u>5</u>					
			<u>-8</u>	<u>5</u>					

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Kirsten Hopper Date: 1/25/2019

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

August 30, 2018

Nicole LaPlant
Robert E. Lee & Associates
1250 Centennial Center Blvd.
Hobart, WI 54155

RE: Project: 1162-013 Jagemann Plating Co
Pace Project No.: 10444812

Dear Nicole LaPlant:

Enclosed are the analytical results for sample(s) received by the laboratory on August 24, 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,

Kirsten Hogberg
kirsten.hogberg@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: Cody Applecamp, Robert E Lee & Associates
Bruce Meissner, Robert E. Lee & Associates



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1162-013 Jagemann Plating Co
Pace Project No.: 10444812

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 Certification #: 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: 1162-013 Jagemann Plating Co
Pace Project No.: 10444812

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10444812001	OA-1	Air	08/21/18 16:18	08/24/18 13:30
10444812002	IA-1	Air	08/21/18 15:57	08/24/18 13:30
10444812003	IA-2	Air	08/21/18 16:35	08/24/18 13:30
10444812004	SS-1	Air	08/22/18 12:29	08/24/18 13:30
10444812005	SS-2	Air	08/22/18 12:40	08/24/18 13:30

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SAMPLE ANALYTE COUNT

Project: 1162-013 Jagemann Plating Co
Pace Project No.: 10444812

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10444812001	OA-1	TO-15	MJL	6
10444812002	IA-1	TO-15	MJL	6
10444812003	IA-2	TO-15	MJL	6
10444812004	SS-1	TO-15	MJL	6
10444812005	SS-2	TO-15	MJL	6

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ANALYTICAL RESULTS

Project: 1162-013 Jagemann Plating Co
Pace Project No.: 10444812

Sample: OA-1 Lab ID: 10444812001 Collected: 08/21/18 16:18 Received: 08/24/18 13:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
1,1-Dichloroethene	<0.42	ug/m3	1.2	0.42	1.55		08/25/18 19:20	75-35-4	
cis-1,2-Dichloroethene	<0.34	ug/m3	1.2	0.34	1.55		08/25/18 19:20	156-59-2	
trans-1,2-Dichloroethene	<0.44	ug/m3	1.2	0.44	1.55		08/25/18 19:20	156-60-5	
Tetrachloroethene	<0.49	ug/m3	1.1	0.49	1.55		08/25/18 19:20	127-18-4	
Trichloroethene	<0.40	ug/m3	0.85	0.40	1.55		08/25/18 19:20	79-01-6	
Vinyl chloride	<0.20	ug/m3	0.40	0.20	1.55		08/25/18 19:20	75-01-4	

Sample: IA-1 Lab ID: 10444812002 Collected: 08/21/18 15:57 Received: 08/24/18 13:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
1,1-Dichloroethene	<0.42	ug/m3	1.2	0.42	1.55		08/25/18 20:21	75-35-4	
cis-1,2-Dichloroethene	<0.34	ug/m3	1.2	0.34	1.55		08/25/18 20:21	156-59-2	
trans-1,2-Dichloroethene	<0.44	ug/m3	1.2	0.44	1.55		08/25/18 20:21	156-60-5	
Tetrachloroethene	<0.49	ug/m3	1.1	0.49	1.55		08/25/18 20:21	127-18-4	
Trichloroethene	<0.40	ug/m3	0.85	0.40	1.55		08/25/18 20:21	79-01-6	
Vinyl chloride	<0.20	ug/m3	0.40	0.20	1.55		08/25/18 20:21	75-01-4	

Sample: IA-2 Lab ID: 10444812003 Collected: 08/21/18 16:35 Received: 08/24/18 13:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
1,1-Dichloroethene	<0.50	ug/m3	1.5	0.50	1.83		08/25/18 20:52	75-35-4	
cis-1,2-Dichloroethene	<0.40	ug/m3	1.5	0.40	1.83		08/25/18 20:52	156-59-2	
trans-1,2-Dichloroethene	<0.52	ug/m3	1.5	0.52	1.83		08/25/18 20:52	156-60-5	
Tetrachloroethene	<0.57	ug/m3	1.3	0.57	1.83		08/25/18 20:52	127-18-4	
Trichloroethene	<0.47	ug/m3	1.0	0.47	1.83		08/25/18 20:52	79-01-6	
Vinyl chloride	<0.23	ug/m3	0.48	0.23	1.83		08/25/18 20:52	75-01-4	

Sample: SS-1 Lab ID: 10444812004 Collected: 08/22/18 12:29 Received: 08/24/18 13:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
1,1-Dichloroethene	<0.46	ug/m3	1.4	0.46	1.68		08/25/18 21:22	75-35-4	
cis-1,2-Dichloroethene	<0.37	ug/m3	1.4	0.37	1.68		08/25/18 21:22	156-59-2	
trans-1,2-Dichloroethene	<0.48	ug/m3	1.4	0.48	1.68		08/25/18 21:22	156-60-5	
Tetrachloroethene	<0.53	ug/m3	1.2	0.53	1.68		08/25/18 21:22	127-18-4	
Trichloroethene	<0.43	ug/m3	0.92	0.43	1.68		08/25/18 21:22	79-01-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1162-013 Jagemann Plating Co
Pace Project No.: 10444812

Sample: SS-1 **Lab ID: 10444812004** Collected: 08/22/18 12:29 Received: 08/24/18 13:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Vinyl chloride	<0.21	ug/m3	0.44	0.21	1.68		08/25/18 21:22	75-01-4	

Sample: SS-2 **Lab ID: 10444812005** Collected: 08/22/18 12:40 Received: 08/24/18 13:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
1,1-Dichloroethene	<0.49	ug/m3	1.4	0.49	1.79		08/26/18 19:21	75-35-4	
cis-1,2-Dichloroethene	<0.39	ug/m3	1.4	0.39	1.79		08/26/18 19:21	156-59-2	
trans-1,2-Dichloroethene	<0.51	ug/m3	1.4	0.51	1.79		08/26/18 19:21	156-60-5	
Tetrachloroethene	2.5	ug/m3	1.2	0.56	1.79		08/26/18 19:21	127-18-4	
Trichloroethene	2.5	ug/m3	0.98	0.46	1.79		08/26/18 19:21	79-01-6	
Vinyl chloride	<0.23	ug/m3	0.47	0.23	1.79		08/26/18 19:21	75-01-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1162-013 Jagemann Plating Co
Pace Project No.: 10444812

QC Batch: 559023 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10444812001, 10444812002, 10444812003, 10444812004

METHOD BLANK: 3035470 Matrix: Air
Associated Lab Samples: 10444812001, 10444812002, 10444812003, 10444812004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/m3	<0.14	0.40	08/25/18 16:22	
cis-1,2-Dichloroethene	ug/m3	<0.11	0.40	08/25/18 16:22	
Tetrachloroethene	ug/m3	<0.16	0.34	08/25/18 16:22	
trans-1,2-Dichloroethene	ug/m3	<0.14	0.40	08/25/18 16:22	
Trichloroethene	ug/m3	<0.13	0.27	08/25/18 16:22	
Vinyl chloride	ug/m3	<0.063	0.13	08/25/18 16:22	

LABORATORY CONTROL SAMPLE: 3035471

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/m3	40.3	36.5	90	70-137	
cis-1,2-Dichloroethene	ug/m3	40.3	35.9	89	70-136	
Tetrachloroethene	ug/m3	68.9	66.5	96	70-133	
trans-1,2-Dichloroethene	ug/m3	40.3	35.7	89	70-132	
Trichloroethene	ug/m3	54.6	51.2	94	70-135	
Vinyl chloride	ug/m3	26	22.6	87	70-141	

SAMPLE DUPLICATE: 3035535

Parameter	Units	10444736001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethene	ug/m3	ND	<0.27		25	
cis-1,2-Dichloroethene	ug/m3	ND	<0.22		25	
Tetrachloroethene	ug/m3	ND	<0.31		25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.28		25	
Trichloroethene	ug/m3	ND	<0.26		25	
Vinyl chloride	ug/m3	ND	<0.13		25	

SAMPLE DUPLICATE: 3035536

Parameter	Units	10444812001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethene	ug/m3	<0.42	<0.42		25	
cis-1,2-Dichloroethene	ug/m3	<0.34	<0.34		25	
Tetrachloroethene	ug/m3	<0.49	<0.49		25	
trans-1,2-Dichloroethene	ug/m3	<0.44	<0.44		25	
Trichloroethene	ug/m3	<0.40	<0.40		25	
Vinyl chloride	ug/m3	<0.20	<0.20		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

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QUALITY CONTROL DATA

Project: 1162-013 Jagemann Plating Co
Pace Project No.: 10444812

QC Batch: 559035	Analysis Method: TO-15
QC Batch Method: TO-15	Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10444812005	

METHOD BLANK: 3035543 Matrix: Air
Associated Lab Samples: 10444812005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/m3	<0.27	0.81	08/26/18 11:07	
cis-1,2-Dichloroethene	ug/m3	<0.22	0.81	08/26/18 11:07	
Tetrachloroethene	ug/m3	<0.31	0.69	08/26/18 11:07	
trans-1,2-Dichloroethene	ug/m3	<0.28	0.81	08/26/18 11:07	
Trichloroethene	ug/m3	<0.26	0.55	08/26/18 11:07	
Vinyl chloride	ug/m3	<0.13	0.26	08/26/18 11:07	

LABORATORY CONTROL SAMPLE: 3035544

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/m3	40.3	40.8	101	70-137	
cis-1,2-Dichloroethene	ug/m3	40.3	38.9	97	70-136	
Tetrachloroethene	ug/m3	68.9	66.7	97	70-133	
trans-1,2-Dichloroethene	ug/m3	40.3	39.1	97	70-132	
Trichloroethene	ug/m3	54.6	52.5	96	70-135	
Vinyl chloride	ug/m3	26	25.6	99	70-141	

SAMPLE DUPLICATE: 3035871

Parameter	Units	10444824001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethene	ug/m3	7.5	7.4	2	25	
cis-1,2-Dichloroethene	ug/m3	23.7	24.1	2	25	
Tetrachloroethene	ug/m3	ND	<0.90		25	
trans-1,2-Dichloroethene	ug/m3	3.2	3.5	9	25	
Trichloroethene	ug/m3	25.1	26.8	7	25	
Vinyl chloride	ug/m3	ND	<0.36		25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1162-013 Jagemann Plating Co
Pace Project No.: 10444812

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 LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

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 at or above the adjusted LOD.

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: 1162-013 Jagemann Plating Co
Pace Project No.: 10444812

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10444812001	OA-1	TO-15	559023		
10444812002	IA-1	TO-15	559023		
10444812003	IA-2	TO-15	559023		
10444812004	SS-1	TO-15	559023		
10444812005	SS-2	TO-15	559035		

REPORT OF LABORATORY ANALYSIS

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



Section A
Required Client Information:

Company: Robert E. Lee Associates
Address: 1250 Centennial Center Blvd
Email To: rlaplant@releac.com
Phone: 612 662 9641 Fax:
Requested Due Date/TAT:

Section B
Required Project Information:

Report To: Nicole LaPlant
Copy To:
Purchase Order No.:
Project Name: Jagreen Plating Co
Project Number: 1162-013

Section C
Invoice Information:

Attention: Nicole LaPlant / Jackie Erdman
Company Name: REL
Address: same
Pace Quote Reference:
Pace Project Manager/Sales Rep:
Pace Profile #: 23003

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Program
 UST Superfund Emissions Clean Air Act
 Voluntary Clean Up Dry Clean RCRA Other
 Location of Sampling by State: WI
 Reporting Units: ug/m³ mg/m³
 PPBV PPMV
 Other:
 Report Level: II III IV Other:

ITEM #	'Section D Required Client Information AIR SAMPLE ID Sample IDs MUST BE UNIQUE	Vial Media Codes MEDIA CODE Tudlar Bag TB 1 Liter Summa Can 1LC 6 Liter Summa Can GLC Low Volume Puff LVP High Volume Puff HVP Other PM10	MEDIA CODE	PID Reading (Client only)	COLLECTED				Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method:	Comments							
					COMPOSITE START		COMPOSITE - END/GRAB								PM10	SO ₂ BTEX	CO	NO _x	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chl/lim/mer
					DATE	TIME	DATE	TIME													
1	04-1	GLC			8-21-18	0855	8-21-18	1618	-27"	-4"	3316	1073							Pace Lab ID: 001		
2	04-1 IA-1					0830		1557	-27"	-4"	1215	1103							002		
3	IA-2					0835		1635	-32"	-10"	0854	0249							003		
4	SS-1				8-22-18	1158	8-22-18	1229	-30"	-7"	0074	1001							004		
5	SS-2					1210		1240	-30"	-9"	0708	1757							005		

Comments: TC-15 CDOCs
 1,1 DCE
 - cis 1,2 DCE
 - trans 1,2 DCE
 - PCE
 - TCE
 - vinyl chloride

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
<u>REL</u>	<u>8-22-18</u>	<u>1600</u>	<u>WLOACE</u>	<u>8-24-18</u>	<u>1330</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ORIGINAL

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Cody Applekamp
 SIGNATURE of SAMPLER: [Signature] DATE Signed (MM/DD/YYYY): 8-22-18

Temp in °C
 Received on Ice
 Custody Sealed Container
 Samples Intact

Air Sample Condition Upon Receipt

Client Name: Robert E. Lee & Assoc.

Project #:

WO#: 10444812

PM: CT1

Due Date: 08/31/18

CLIENT: RELEE

Courier: Fed Ex UPS Speedee Client
 Commercial Pace Other:

Tracking Number: 4545 9905 1229/1218

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

Optional: Proj. Due Date: Proj. Name:

Packing Material: Bubble Wrap Bubble Bags Foam None Tin Can Other: _____

Temp Blank rec: Yes No

Temp. (TO17 and TO13 samples only) (°C): X Corrected Temp (°C): X

Thermom. Used:

G87A9170600254

G87A9155100842

Temp should be above freezing to 6°C Correction Factor: X

Date & Initials of Person Examining Contents: 8-24-18 AA

Type of ice Received Blue Wet None

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Media: <u>Air Can</u> Airbag Filter TDT Passive		11. Individually Certified Cans Y <u>N</u> (list which samples)
Is sufficient information available to reconcile samples to the COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.

Samples Received: <u>FFFT, 3 cans</u>					Pressure Gauge # <u>10AIR26</u>				
Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
<u>0A-1</u>			<u>-4</u>	<u>+5</u>					
<u>1A-1</u>			<u>-4</u>	<u>"</u>					
<u>1A-2</u>			<u>-8</u>	<u>"</u>					
<u>SS-1</u>			<u>-6</u>	<u>"</u>					
<u>SS-2</u>			<u>-7.5</u>	<u>"</u>					

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____

Date/Time: _____

Comments/Resolution: _____

Project Manager Review:

Sarah C. King

Date: 08/24/18

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)