RAMBOLL ENVIRON

ENVIRONMENT
& HEALTH

Mr. Mostafa Mehran
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118

RE: Onsite Indoor Air and Sub-slab Soil Vapor Data Report
Former Whirlpool Facility
Fort Smith, Arkansas

Dear Mr. Mehran:

Date April 27, 2016

Ramboll Environ
1807 Park 270 Drive
Suite 320
St. Louis, MO 63146
USA

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www.ramboll-environ.com

On behalf of Whirlpool Corporation (Whirlpool), Ramboll Environ US Corporation (Ramboll Environ) collected indoor air and sub-slab soil vapor samples within and beneath the former Whirlpool manufacturing building located at 6400 Jenny Lind Road in Fort Smith, Arkansas. The purpose of the indoor air sampling was to evaluate potential vapor intrusion within the building as a result of the trichloroethene (TCE) contamination under investigation by Whirlpool. Whirlpool is planning and preparing the building for reuse and the indoor air quality assessment is an important part of the process for re-purposing the building.

As summarized in the Two Year Technical Review Report (Ramboll Environ, 2016), TCE exists beneath the building primarily beneath the western portion of the former manufacturing building based upon historic operations performed at the site, membrane interface probe (MIP) investigations, interior soil probes and borings for collection of soil and groundwater samples and groundwater monitoring events performed over the last 20+ years.

Currently the building is unoccupied. Whirlpool is beginning with the removal of equipment associated with the former operations and demolition and removal of mezzanine structures in the building with an objective of creating an open floor plan building with approximately 38 foot ceiling heights to facilitate re-purposing the building for warehousing operations.

The indoor air sampling that was performed to assess the indoor air quality that workers would encounter during those upcoming activities.

The number and location of the indoor air and sub-slab soil vapor samples collected in February 2016 are consistent with those in the Onsite Preliminary Indoor Air Quality Investigation Work Plan (February 3, 2016), which was submitted to and approved by the Arkansas Department of Environmental Quality (ADEQ). All samples were collected while the building's ventilation system was operating normally

with several overhead doors open. The building conditions during sampling were consistent with conditions that would have occurred when the facility was previously in operation, as well as, the conditions expected to be maintained during the upcoming phases of preparing the building for reuse.

SAMPLING METHODS

Pre Sampling Preparation

At least 8 hours prior to sampling indoor air or sub-slab soil vapor, the building ventilation system was operated at levels that were consistent with the conditions while the facility was operated by Whirlpool. The operation of the building ventilation system was intended to simulate conditions to be maintained during the upcoming phases of activities to prepare the building for reuse.

While the building ventilation system was operating and before collecting samples, the indoor air was field screened using a 10.6 eV MiniRAE 2000 hand-held photoionization detector (PID). The field screening was performed on January 12, 2016, to determine whether any air quality conditions might warrant taking additional health and safety precautions during sampling and to identify building features that might serve as preferential pathways for vapor intrusion (e.g. floor joints or cracks, below grade pits, etc.). There were no detections of volatile organic compounds (VOCs) in indoor air during the pre-sampling inspection. The PID was calibrated to a detection limit of approximately 1 parts per million (ppm), which is below the Occupational Safety and Health Administration (OSHA) limit of 10 ppm for TCE.

Indoor and Outdoor Air Sampling

Indoor air samples were collected on February 18, 2016, while the building ventilation system was operating normally with several overhead doors open. Sampling was performed between 0700 and 1745 CDT and during this time the temperature ranged from 40 to 78°F, the relative humidity ranged from 16 to 68% and the wind speed ranged from 5.8 to 21.9 miles per hour (mph) based upon climate data from the National Weather Service at the Fort Smith Regional Airport located approximately 2 miles northeast of the site (February 18, 2016, climate data).

Indoor air samples were collected from open areas at six locations within the building (Figure 1). The locations were away from existing machinery, concrete pits, or confined areas.

An outdoor air sample was also collected on February 18, 2016, to evaluate potential contributions from sources other than vapor intrusion. The outdoor air sample was collected northeast of the building, which was upwind of the building when sample collection started.

Indoor and outdoor air samples, including one duplicate indoor air sample, were collected at breathing height (approximately 70 inches above the ground) over an 8 hour period.

Samples were collected using certified clean stainless steel Summa canisters provided by an accredited analytical laboratory using flow control regulators preset by the laboratory to collect an 8 hour time integrated sample. The canister ID, regulator ID and initial canister pressure were logged at the beginning of sampling at each location. Indoor and outdoor air samples were collected until the pressure remaining in the canister read between negative (-) 5 and 6 inches mercury (in. Hg). All canisters were sealed and shipped to the analytical laboratory for analysis of TCE and associated breakdown products using USEPA Method TO-15 SIM. The results are summarized in Table 1. A complete laboratory report of the indoor and outdoor air sampling results is attached.

Sub-slab Vapor Sampling

Permanent sub-slab soil vapor sampling ports were installed through the floor of the building on February 24, 2016. The sub-slab soil vapor sampling ports were placed adjacent to the indoor air sampling locations discussed above. After final placement of the sample locations, the distances from each port to the closest wall was measured and are summarized in Table 2.

The six sampling ports were installed through the concrete floor using a hammer drill. The hammer drill was used to drill a roughly 2 inch deep, 1.5 inch outer diameter hole into the concrete floor. A smaller 5/8 inch inner diameter borehole was drilled approximately 6 inches deeper and through the bottom of the slab. The holes in the concrete were cleared of drill cuttings with a shop-vac and the opening was monitored using a PID placed into each hole for 1 minute.

A Stainless Steel Vapor Pin™ was installed into each hole through the slab and hammered into place using a rubber mallet. The vapor pin was sealed into the 5/8 inch inner diameter borehole through the slab using the manufacturer supplied rubber sheath that is designed to create an airtight seal between the vapor pin and the concrete slab. An airtight cap was placed on the opening in the vapor pin that is used to withdraw sub-slab soil vapors for sampling. The ports were allowed to equilibrate overnight prior to sampling sub-slab soil vapor.

Sub-slab vapor sampling was conducted on February 25, 2016, with building conditions similar to those during the collection of indoor air, as discussed above. Sampling was performed between 0845 and 1945 CDT and during this time the temperature ranged from 42 to 50°F, the relative humidity ranged from 36 to 58% and the wind speed ranged from 4.6 to 15 mph based upon climate data from the National Weather Service at the Fort Smith Airport (February 25, 2016, climate data).

Sub-slab samples were collected after at least 2 liters (L) of air was purged and tested for methane (CH_4), carbon dioxide (CO_2) and oxygen (O_2) content using a GEM 2000 multi-gas probe. Leak testing was conducted during purging and during the first 30 minutes of sampling. A shroud was placed over the sub-slab sample port, sampling train and tubing connections to and from the Summa canister and helium was injected until the air in the

shroud measured >15% helium using a helium detector. The helium detector was then used to measure the amount of helium in the sampling line. All helium measurements from the leak test were non-detect, except at sample location Q4 where 225 ppm of helium was measured in the sampling line. The helium concentration of 225 ppm was below the limit of 5% helium, suggesting the sampling train was adequately sealed (Onsite Preliminary Indoor Air Quality Investigation Work Plan, February 3, 2016, Attachment B: Sub-slab Soil Vapor Sampling Leak Testing Procedures).

After the sampling train was determined to be adequately sealed, soil vapor samples were collected using certified clean stainless steel Summa canisters provided by an accredited analytical laboratory using flow control regulators pre-set by the laboratory to collect an 8 hour time integrated sample. The canister ID, regulator ID and initial canister pressure were logged at the beginning of sampling at each location. Soil vapor samples were collected until the pressure remaining in the canister read between negative (-) 5 and 6 inches mercury (in. Hg). All canisters were sealed and shipped to the analytical laboratory for analysis of TCE and associated breakdown products using Method TO-15 SIM. The results are summarized on Table 3.

EVALUATION OF RESULTS

Indoor Air

As summarized in Table 1, certain chemicals [1,2-dichloroethane (1,2-DCA), trans-1,2-dichloroethene (trans-1,2-DCE), tetrachloroethene (PCE) and TCE] were detected in the indoor air samples. Their respective concentrations were in each case below USEPA and ADEQ indoor air screening levels[1]. These screening levels are conservative and are not intended to represent action levels.

These results do not indicate health risks from indoor exposure in the open areas of the building when it is operating under normal conditions.

Sub-slab Vapor

Table 3 shows that some chemicals were detected in the sub-slab soil vapor samples. TCE was detected in sub-slab soil vapor samples at concentrations of 522 and 1,590 micrograms per cubic meter (µg/m^3) (sample locations Q2 and Q5, respectively) which exceed the USEPA sub-slab vapor screening level concentration (assuming USEPA's default attenuation factor of 0.03) as shown in Table 3. However, indoor air TCE concentrations at Q2 and Q5 were well below indoor air screening levels (0.11 µg/m^{3}and 0.27 µg/m^3, respectively

[1] The USEPA Regional Screening Levels are used for site "screening" to help assess conditions that may require further attention at a particular site. When contaminant concentrations fall below screening levels, no further action or study is typically warranted as long as the exposure assumptions remain consistent. Concentrations detected above a screening level do not automatically trigger a response action; however, concentrations exceeding screening levels suggest that further evaluation of the potential risks of site contaminants is appropriate.

compared to the indoor air screening level of 8.8 µg/m^3). In addition, vinyl chloride (VC) (a breakdown product of TCE) was detected at Q3 at a concentration beneath the slab (60,000 µg/m^3) that exceed USEPA's sub-slab vapor screening levels; however, the indoor air VC concentration at Q3 was below detection limits.

The highest TCE concentrations detected in sub-slab soil vapor were located in the same areas (Q2 and Q5) where the highest TCE indoor air concentrations were detected. These results indicate that some of the TCE in the indoor air may have originated from under the slab at these locations.

CONCLUSION

As discussed above, the indoor air data do not indicate health risks from vapor intrusion in the open areas of the building when it is operating under normal conditions. The groundwater, soil and soil vapor data from beneath and around the building indicate that if floor penetrations occur, a potential exists for contaminants in the subsurface to volatilize and migrate into the indoor air in some parts of the building.

RECOMMENDATIONS

Whirlpool will require the following precautionary measures during activities related to preparation of the building for reuse (e.g. during the inventory and removal of equipment associated with the former operations, renovation of the existing space, filling pits, removing offices):

- A health and safety plan (HASP) should be prepared by the respective contractors for the building preparation or renovation activities in the building that include appropriate measures for the constituents present at the site;
- All work must comply with OSHA regulations;
- Work must be performed only during normal operating building conditions (i.e. the ventilation system must be operating normally and overhead doors must be open); and
- The concrete floor should not be penetrated during any activities, including equipment removal, demolition of mezzanines, or backfilling concrete pits.

In addition to the above precautions, an additional round of indoor air, outdoor air and sub-slab soil vapor samples will be collected during the summer months to determine if warmer weather produces results that are materially different from those in February. The Q1 and Q4 sampling locations (indoor air and sub-slab vapor) will be positioned at locations in the respective quadrants exhibiting the highest TCE concentrations in groundwater based upon the latest published progress report when the next sampling event is performed. The need for further sampling thereafter will be evaluated based on these results and any monitoring performed during building preparation and renovation activities.

After the building has been renovated and before it is put back into operation for commercial purposes, additional indoor air and sub-slab soil vapor sampling should be performed to confirm the safety of indoor air quality in the renovated building. The details of such sampling will depend on the nature of the renovations completed and the specific planned future use or uses of the building.

-oo0oo-

Please contact me if you have any additional comments or questions regarding the assessment of indoor air quality at the former Whirlpool manufacturing building.

Sincerely,

Michael F. Ellis, PE
Principal

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mellis@ramboll.com

LIST OF APPENDICES

Figure 1:	Sampling Locations
Table 1:	Indoor Air Sampling Results
Table 2:	Sub-slab Soil Vapor Point Locations
Table 3:	Sub-slab Soil Vapor Sampling Results
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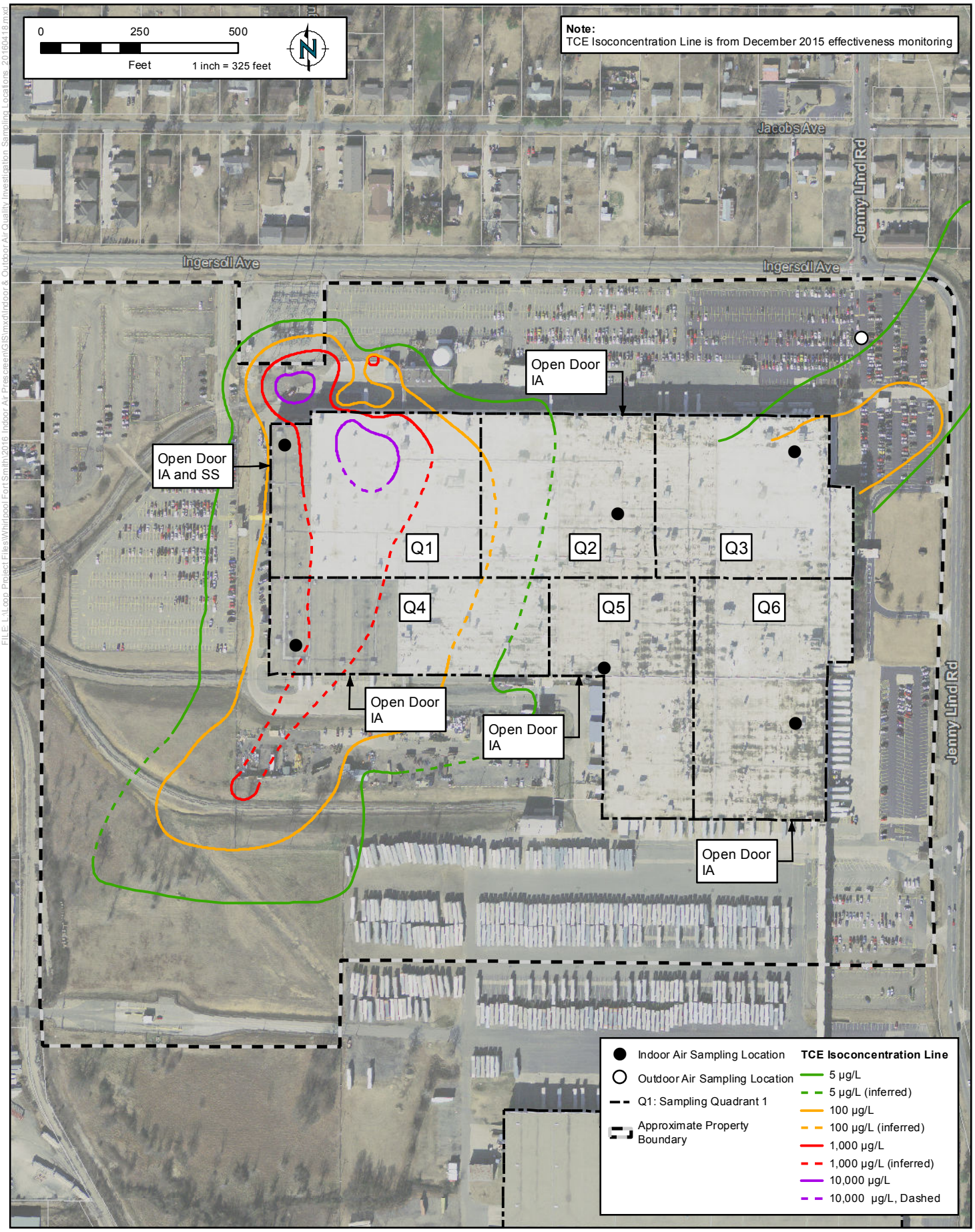
FIGURE



FILE: L:\Loop Project Files\Whirlpool\Fort Smith\2016 Indoor Air Prescreen\GIS\mxd\Indoor & Outdoor Air Quality Investigation Sampling Locations_20160418.mxd

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INDOOR AIR QUALITY INVESTIGATION SAMPLING LOCATIONS

Whirlpool Facility - Fort Smith, Arkansas

Figure 1

DRAFTED BY: FK | DATE: 04/18/2016 | PROJECT: 3437500N

TABLES

TABLE 1
INDOOR AIR SAMPLING RESULTS
Former Whirlpool Facility - Fort Smith, Arkansas

Location	Industrial Air	Q1	Q2	Q3	Q3 - DUP	Q4	Q5	Q6	AA
Ramboll Environ Sample ID	RSL	Q1-201602	Q2-201602	Q3-201602	3-201602-DUP	Q4-201602	Q5-201602	Q6-201602	AA-201602
Lab Sample ID	(TR = 1E-5)	60213392002	60213392003	60213392004	60213392005	60213392006	60213392007	60213392008	60213392001
Sample Date	(THQ = 1)	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/18/2016
Volatile Organic Compounds									
1,1-Dichloroethane	77	ND (0.057)	ND (0.055)	ND (0.057)	ND (0.057)	ND (0.057)	ND (0.059)	ND (0.057)	ND (0.072)
1,2-Dichloroethane	4.7	0.074 (0.057)	0.11 (0.055)	0.21 (0.057)	0.21 (0.057)	0.066 (0.057)	0.078 (0.059)	0.12 (0.057)	ND (0.072)
1,1-Dichloroethene	880	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.2)	ND (1.1)	ND (1.4)
cis-1,2-Dichloroethene		ND (0.056)	ND (0.054)	ND (0.056)	ND (0.056)	ND (0.056)	ND (0.058)	ND (0.056)	ND (0.071)
trans-1,2-Dichloroethene		ND (0.056)	0.067 (0.054)	ND (0.056)	ND (0.056)	ND (0.056)	ND (0.058)	ND (0.056)	ND (0.071)
Tetrachloroethene	180	ND (0.096)	0.21 (0.092)	0.2 (0.096)	0.21 (0.096)	0.11 (0.096)	ND (0.099)	ND (0.096)	0.19 (0.12)
1,1,1-Trichloroethane	22000	ND (0.077)	ND (0.074)	ND (0.077)	ND (0.077)	ND (0.077)	ND (0.080)	ND (0.077)	ND (0.097)
Trichloroethene	8.8	0.064 (0.038)	0.11 (0.037)	ND (0.038)	ND (0.038)	0.041 (0.038)	0.27 (0.039)	ND (0.038)	0.052 (0.048)
Vinyl Chloride	28	ND (0.036)	ND (0.035)	ND (0.036)	ND (0.036)	ND (0.036)	ND (0.037)	ND (0.036)	ND (0.046)

Notes:
All concentrations presented in micrograms per cubic meters ($\mu g/m^3$)
RSL - Regional screening levels
Q1 - Quadrant 1
U - Not detected
( ) - Detection Limit

TABLE 2
SUB-SLAB SOIL VAPOR POINT LOCATIONS
Former Whirlpool Facility - Fort Smith, Arkansas

Location	Distance to Outside Wall
Q1	37 feet east of west exterior wall; 38 feet south of north wall
Q2	230 feet south of north exterior wall
Q3	90 feet south of north exterior wall; 92 feet west of east wall
Q4	69 feet north of south exterior wall
Q5	30 feet south of exterior wall
Q6	54 feet west of east exterior wall

Notes:
Q1 - Quadrant 1

TABLE 3
SUB-SLAB SOIL VAPOR SAMPLING RESULTS
Former Whirlpool Facility - Fort Smith, Arkansas

Location	Industrial Air	Q1	Q1	Q2	Q3	Q4	Q5	Q6
Ramboll Environ Sample ID	RSL	Q1-SS-201602	SS-201602-DUP	Q2-SS-201602	Q3-SS-201602	Q4-SS-201602	Q5-SS-201602	Q6-SS-201602
Lab Sample ID	(TR = 1E-5)	60213886007	60213886001	60213886002	60213886003	60213886004	60213886005	60213886006
Sample Date	(THQ = 1)	2/25/2016	2/25/2016	2/25/2016	2/25/2016	2/25/2016	2/25/2016	2/25/2016
Volatile Organic Compounds								
1,1-Dichloroethane	77	U (1.2)	U (1.6)	U (1.30)	131J (407)	U (1.2)	U (26.4)	U (1.3)
1,2-Dichloroethane	4.7	U (0.61)	U (0.82)	U (0.66)	U (203)	U (0.61)	U (13.2)	U (0.64)
1,1-Dichloroethene	880	U (1.2)	U (1.6)	U (1.3)	U (402)	U (1.2)	U (26.1)	U (1.3)
cis-1,2-Dichloroethene		U (1.2)	U (1.6)	2.2 (1.3)	4150 (402)	U (1.2)	U (26.1)	U (1.3)
trans-1,2-Dichloroethene		U (1.2)	U (1.6)	U (1.3)	673 (402)	U (1.2)	U (26.1)	U (1.3)
Tetrachloroethene	180	U (1.0)	U (1.4)	0.75J (1.1)	U (342)	U (1.0)	13.3J (22.2)	1.3 (1.1)
1,1,1-Trichloroethane	22000	86.1 (1.7)	64.0 (2.2)	132 (1.8)	U (551)	U (1.7)	U (35.7)	17.7 (1.7)
Trichloroethene	8.8	U (0.82)	U (1.1)	552 (4.4)	U (273)	U (0.82)	1590 (17.7)	U (0.85)
Vinyl Chloride	28	U (0.39)	U (0.52)	U (0.42)	60000 (516)	U (0.39)	U (8.4)	U (0.40)

Notes:
All concentrations presented in micrograms per cubic meters ($\mu g/m^3$)
RSL - Regional screening levels
Q1 - Quadrant 1
U - Not detected
( ) - Detection Limit

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APPENDIX A
Laboratory Reports

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

February 22, 2016

Wendy Stonestreet
Ramboll Environ
7500 College Blvd Ste 925
Overland Park, KS 66210

RE: Project: Whirlpool Air Mont.
Pace Project No.: 60213392

Dear Wendy Stonestreet:
Enclosed are the analytical results for sample(s) received by the laboratory on February 19, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Colleen Clyne
colleen.clyne@pacelabs.com
Project Manager

Enclosures

cc: Tamara Gleason, Ramboll Environ

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: Whirlpool Air Mont.
Pace Project No.: 60213392

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: Whirlpool Air Mont.
Pace Project No.: 60213392

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60213392001	**AA-201602**	Air	02/18/16 15:41	02/19/16 10:15
60213392002	**Q1-201602**	Air	02/18/16 16:08	02/19/16 10:15
60213392003	**Q2-201602**	Air	02/18/16 16:15	02/19/16 10:15
60213392004	**Q3-201602**	Air	02/18/16 16:20	02/19/16 10:15
60213392005	**Q3-201602 - DUP**	Air	02/18/16 16:20	02/19/16 10:15
60213392006	**Q4-201602**	Air	02/18/16 16:29	02/19/16 10:15
60213392007	**Q5-201602**	Air	02/18/16 16:34	02/19/16 10:15
60213392008	**Q6-201602**	Air	02/18/16 16:38	02/19/16 10:15

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SAMPLE ANALYTE COUNT

Project: Whirlpool Air Mont.
Pace Project No.: 60213392

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60213392001	**AA-201602**	TO-15 by SIM	MJL	9	PASI-M
60213392002	**Q1-201602**	TO-15 by SIM	MJL	9	PASI-M
60213392003	**Q2-201602**	TO-15 by SIM	MJL	9	PASI-M
60213392004	**Q3-201602**	TO-15 by SIM	MJL	9	PASI-M
60213392005	**Q3-201602 - DUP**	TO-15 by SIM	MJL	9	PASI-M
60213392006	**Q4-201602**	TO-15 by SIM	MJL	9	PASI-M
60213392007	**Q5-201602**	TO-15 by SIM	MJL	9	PASI-M
60213392008	**Q6-201602**	TO-15 by SIM	MJL	9	PASI-M

Pace Analytical Services, Inc.
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PROJECT NARRATIVE

Project: Whirlpool Air Mont.
Pace Project No.: 60213392

Method: **TO-15 by SIM**
Description: TO15 MSV AIR SIM
Client: Environ_AR
Date: February 22, 2016

General Information:
8 samples were analyzed for TO-15 by SIM. 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, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Whirlpool Air Mont.
Pace Project No.: 60213392

Sample: AA-201602 **Lab ID: 60213392001** Collected: 02/18/16 15:41 Received: 02/19/16 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM	Analytical Method: TO-15 by SIM								
1,1-Dichloroethane	ND	ug/m3	0.072	0.0084	1.75		02/21/16 22:59	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.072	0.0081	1.75		02/21/16 22:59	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	0.42	1.75		02/21/16 22:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.071	0.011	1.75		02/21/16 22:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.071	0.018	1.75		02/21/16 22:59	156-60-5	
Tetrachloroethene	**0.19**	ug/m3	0.12	0.0085	1.75		02/21/16 22:59	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.097	0.0076	1.75		02/21/16 22:59	71-55-6	
Trichloroethene	**0.052**	ug/m3	0.048	0.012	1.75		02/21/16 22:59	79-01-6	
Vinyl chloride	ND	ug/m3	0.046	0.013	1.75		02/21/16 22:59	75-01-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Whirlpool Air Mont.
Pace Project No.: 60213392

Sample: Q1-201602 **Lab ID: 60213392002** Collected: 02/18/16 16:08 Received: 02/19/16 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM	Analytical Method: TO-15 by SIM								
1,1-Dichloroethane	ND	ug/m3	0.057	0.0067	1.39		02/21/16 23:26	75-34-3	
1,2-Dichloroethane	**0.074**	ug/m3	0.057	0.0064	1.39		02/21/16 23:26	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	0.33	1.39		02/21/16 23:26	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.056	0.0091	1.39		02/21/16 23:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.056	0.015	1.39		02/21/16 23:26	156-60-5	
Tetrachloroethene	ND	ug/m3	0.096	0.0067	1.39		02/21/16 23:26	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.077	0.0060	1.39		02/21/16 23:26	71-55-6	
Trichloroethene	**0.064**	ug/m3	0.038	0.0096	1.39		02/21/16 23:26	79-01-6	
Vinyl chloride	ND	ug/m3	0.036	0.011	1.39		02/21/16 23:26	75-01-4	

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Whirlpool Air Mont.
Pace Project No.: 60213392

Sample: Q2-201602 **Lab ID: 60213392003** Collected: 02/18/16 16:15 Received: 02/19/16 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM	Analytical Method: TO-15 by SIM								
1,1-Dichloroethane	ND	ug/m3	0.055	0.0064	1.34		02/21/16 23:53	75-34-3	
1,2-Dichloroethane	**0.11**	ug/m3	0.055	0.0062	1.34		02/21/16 23:53	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	0.32	1.34		02/21/16 23:53	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.054	0.0088	1.34		02/21/16 23:53	156-59-2	
trans-1,2-Dichloroethene	**0.067**	ug/m3	0.054	0.014	1.34		02/21/16 23:53	156-60-5	
Tetrachloroethene	**0.21**	ug/m3	0.092	0.0065	1.34		02/21/16 23:53	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.074	0.0058	1.34		02/21/16 23:53	71-55-6	
Trichloroethene	**0.11**	ug/m3	0.037	0.0093	1.34		02/21/16 23:53	79-01-6	
Vinyl chloride	ND	ug/m3	0.035	0.010	1.34		02/21/16 23:53	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Whirlpool Air Mont.
Pace Project No.: 60213392

Sample: Q3-201602 **Lab ID: 60213392004** Collected: 02/18/16 16:20 Received: 02/19/16 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM	Analytical Method: TO-15 by SIM								
1,1-Dichloroethane	ND	ug/m3	0.057	0.0067	1.39		02/22/16 10:05	75-34-3	
1,2-Dichloroethane	**0.21**	ug/m3	0.057	0.0064	1.39		02/22/16 10:05	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	0.33	1.39		02/22/16 10:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.056	0.0091	1.39		02/22/16 10:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.056	0.015	1.39		02/22/16 10:05	156-60-5	
Tetrachloroethene	**0.20**	ug/m3	0.096	0.0067	1.39		02/22/16 10:05	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.077	0.0060	1.39		02/22/16 10:05	71-55-6	
Trichloroethene	ND	ug/m3	0.038	0.0096	1.39		02/22/16 10:05	79-01-6	
Vinyl chloride	ND	ug/m3	0.036	0.011	1.39		02/22/16 10:05	75-01-4	

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ANALYTICAL RESULTS

Project: Whirlpool Air Mont.
Pace Project No.: 60213392

Sample: Q3-201602 - DUP **Lab ID: 60213392005** Collected: 02/18/16 16:20 Received: 02/19/16 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM	Analytical Method: TO-15 by SIM								
1,1-Dichloroethane	ND	ug/m3	0.057	0.0067	1.39		02/22/16 10:32	75-34-3	
1,2-Dichloroethane	**0.21**	ug/m3	0.057	0.0064	1.39		02/22/16 10:32	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	0.33	1.39		02/22/16 10:32	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.056	0.0091	1.39		02/22/16 10:32	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.056	0.015	1.39		02/22/16 10:32	156-60-5	
Tetrachloroethene	**0.21**	ug/m3	0.096	0.0067	1.39		02/22/16 10:32	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.077	0.0060	1.39		02/22/16 10:32	71-55-6	
Trichloroethene	ND	ug/m3	0.038	0.0096	1.39		02/22/16 10:32	79-01-6	
Vinyl chloride	ND	ug/m3	0.036	0.011	1.39		02/22/16 10:32	75-01-4	

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ANALYTICAL RESULTS

Project: Whirlpool Air Mont.
Pace Project No.: 60213392

Sample: Q4-201602 **Lab ID: 60213392006** Collected: 02/18/16 16:29 Received: 02/19/16 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM	Analytical Method: TO-15 by SIM								
1,1-Dichloroethane	ND	ug/m3	0.057	0.0067	1.39		02/22/16 11:00	75-34-3	
1,2-Dichloroethane	**0.066**	ug/m3	0.057	0.0064	1.39		02/22/16 11:00	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	0.33	1.39		02/22/16 11:00	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.056	0.0091	1.39		02/22/16 11:00	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.056	0.015	1.39		02/22/16 11:00	156-60-5	
Tetrachloroethene	**0.11**	ug/m3	0.096	0.0067	1.39		02/22/16 11:00	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.077	0.0060	1.39		02/22/16 11:00	71-55-6	
Trichloroethene	**0.041**	ug/m3	0.038	0.0096	1.39		02/22/16 11:00	79-01-6	
Vinyl chloride	ND	ug/m3	0.036	0.011	1.39		02/22/16 11:00	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Whirlpool Air Mont.
Pace Project No.: 60213392

Sample: Q5-201602 **Lab ID: 60213392007** Collected: 02/18/16 16:34 Received: 02/19/16 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM	Analytical Method: TO-15 by SIM								
1,1-Dichloroethane	ND	ug/m3	0.059	0.0069	1.44		02/22/16 09:11	75-34-3	
1,2-Dichloroethane	**0.078**	ug/m3	0.059	0.0066	1.44		02/22/16 09:11	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	0.34	1.44		02/22/16 09:11	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.058	0.0095	1.44		02/22/16 09:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.058	0.015	1.44		02/22/16 09:11	156-60-5	
Tetrachloroethene	ND	ug/m3	0.099	0.0070	1.44		02/22/16 09:11	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.080	0.0063	1.44		02/22/16 09:11	71-55-6	
Trichloroethene	**0.27**	ug/m3	0.039	0.010	1.44		02/22/16 09:11	79-01-6	
Vinyl chloride	ND	ug/m3	0.037	0.011	1.44		02/22/16 09:11	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Whirlpool Air Mont.
Pace Project No.: 60213392

Sample: Q6-201602 **Lab ID: 60213392008** Collected: 02/18/16 16:38 Received: 02/19/16 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM	Analytical Method: TO-15 by SIM								
1,1-Dichloroethane	ND	ug/m3	0.057	0.0067	1.39		02/22/16 09:38	75-34-3	
1,2-Dichloroethane	**0.12**	ug/m3	0.057	0.0064	1.39		02/22/16 09:38	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	0.33	1.39		02/22/16 09:38	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.056	0.0091	1.39		02/22/16 09:38	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.056	0.015	1.39		02/22/16 09:38	156-60-5	
Tetrachloroethene	ND	ug/m3	0.096	0.0067	1.39		02/22/16 09:38	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.077	0.0060	1.39		02/22/16 09:38	71-55-6	
Trichloroethene	ND	ug/m3	0.038	0.0096	1.39		02/22/16 09:38	79-01-6	
Vinyl chloride	ND	ug/m3	0.036	0.011	1.39		02/22/16 09:38	75-01-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Whirlpool Air Mont.
Pace Project No.: 60213392

QC Batch: AIR/25275 Analysis Method: TO-15 by SIM
QC Batch Method: TO-15 by SIM Analysis Description: TO-15 GC/MSV AIR SIM
Associated Lab Samples: 60213392001, 60213392002, 60213392003, 60213392004, 60213392005, 60213392006, 60213392007, 60213392008

METHOD BLANK: 2195843 Matrix: Air
Associated Lab Samples: 60213392001, 60213392002, 60213392003, 60213392004, 60213392005, 60213392006, 60213392007, 60213392008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	0.056	0.0044	02/21/16 19:00	
1,1-Dichloroethane	ug/m3	ND	0.041	0.0048	02/21/16 19:00	
1,1-Dichloroethene	ug/m3	ND	0.81	0.24	02/21/16 19:00	
1,2-Dichloroethane	ug/m3	ND	0.041	0.0046	02/21/16 19:00	
cis-1,2-Dichloroethene	ug/m3	ND	0.040	0.0066	02/21/16 19:00	
Tetrachloroethene	ug/m3	ND	0.069	0.0048	02/21/16 19:00	
trans-1,2-Dichloroethene	ug/m3	ND	0.040	0.010	02/21/16 19:00	
Trichloroethene	ug/m3	ND	0.027	0.0069	02/21/16 19:00	
Vinyl chloride	ug/m3	ND	0.026	0.0077	02/21/16 19:00	

LABORATORY CONTROL SAMPLE: 2195844

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	.28	0.26	94	67-143	
1,1-Dichloroethane	ug/m3	.2	0.21	103	65-138	
1,1-Dichloroethene	ug/m3	.2	ND	108	61-139	
1,2-Dichloroethane	ug/m3	.21	0.17	84	63-132	
cis-1,2-Dichloroethene	ug/m3	.2	0.17	86	64-137	
Tetrachloroethene	ug/m3	.34	0.28	83	61-134	
trans-1,2-Dichloroethene	ug/m3	.2	0.18	88	59-142	
Trichloroethene	ug/m3	.27	0.27	97	60-140	
Vinyl chloride	ug/m3	.13	0.14	110	64-142	

SAMPLE DUPLICATE: 2196085

Parameter	Units	60213333001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2-Dichloroethane	ug/m3	0.045J	.046J		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	0.62	0.56	10	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	0.072	0.061	17	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

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QUALIFIERS

Project: Whirlpool Air Mont.
Pace Project No.: 60213392

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.

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.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

Pace Analytical Services, Inc.
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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Whirlpool Air Mont.
Pace Project No.: 60213392

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60213392001	**AA-201602**	TO-15 by SIM	AIR/25275		
60213392002	**Q1-201602**	TO-15 by SIM	AIR/25275		
60213392003	**Q2-201602**	TO-15 by SIM	AIR/25275		
60213392004	**Q3-201602**	TO-15 by SIM	AIR/25275		
60213392005	**Q3-201602 - DUP**	TO-15 by SIM	AIR/25275		
60213392006	**Q4-201602**	TO-15 by SIM	AIR/25275		
60213392007	**Q5-201602**	TO-15 by SIM	AIR/25275		
60213392008	**Q6-201602**	TO-15 by SIM	AIR/25275		

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 29June2015 Page 1 of 1
	Document No.: F-MN-A-106-rev.10	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: Ramboll Environ

Project #: WO# : 60213392

60213392

Courier: ☒ Fed Ex ☐ UPS ☐ Speedee ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 8097 2664 4026, 8678 1275 2574

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): 0 Corrected Temp (°C): 0 Thermom. Used: ☐ B88A912167504 ☐ 72337080 ☐ B88A9132521491 ☐ 80512447

Temp should be above freezing to 6°C Correction Factor: 0 Date & Initials of Person Examining Contents: 2/19/16

Type of ice Received ☐ Blue ☐ Wet ☒ None

				Comments:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ 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.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters			Canisters		
Sample Number	Can ID	Flow Controller ID	Sample Number	Can ID	Flow Controller ID
AA	1058	1060			
Q1	2101	0262			
Q2	1658	0612			
Q3	2684	1055			
Q3 Dup	1733	0512			
Q4	2809	1079			
Q5	0521	0258			
Q6	0691	1041			

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

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: CBL Date: 2/19/16

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)

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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.

23878

Page: 1 of 1

Section A Required Client Information:

Company: RAMBOLL ENVIRON
Address: 7500 COLLEGE BLVD 925
Overland PARK, KS 66210
Email To: Wstonestreet@ramboll.com
Phone: 913-553-5926 Fax:
Requested Due Date/TAT: 1 DAY

Section B Required Project Information:

Report To: tgleason@ramboll.com
Copy To: Wstonestreet@ramboll.com
Purchase Order No.:
Project Name: WHIRLPOOL AIR MONT.
Project Number:

Section C Invoice Information:

Attention: Tamara Gleason
Company Name: RAMBOLL ENVIRON
Address: 250 MONROE AVE. NW GRAND RAPIDS MICHIGAN, 49503
Pace Quote Reference:
Pace Project Manager/Sales Rep. Colleen Clyne
Pace Profile #: 7444

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

Location of Sampling by State: AR

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 #	Section D Required Client Information: AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START / GRAB DATE	COLLECTED COMPOSITE START / GRAB TIME	COLLECTED COMPOSITE END DATE	COLLECTED COMPOSITE END TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	Method: PM10	3C: Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List: SIM	Pace Lab ID (600213392)
1	AA-201602	6LC	0	2/18/16	941	2/18/16	1541	-28	-1	1058	FC1060								X		001
2	Q1-201602	6LC	0	2/18/16	815	2/18/16	1608	-29	-2	2608	FC0262								X		002
3	Q2-201602	6LC	0	2/18/16	828	2/18/16	1615	-28.5	-2	1658	FC0012								X		003
4	Q3-201602	6LC	0	2/18/16	837	2/18/16	1620	-28	-3	2684	FC1055								X		004
5	Q3-201602-DUP	6LC	0	2/18/16	837	2/18/16	1620	-30	-4	1733	FC0512								X		005
6	Q4-201602	6LC	0	2/18/16	850	2/18/16	1629	-29	-4	2809	FC1079								X		006
7	Q5-201602	6LC	0	2/18/16	859	2/18/16	1634	-28	-4	0521	FC0258								X		007
8	Q6-201602	6LC	0	2/18/16	909	2/18/16	1638	-30	-2	0691	FC1011								X		008
9																					
10																					
11																					
12																					

Comments:
TO-15, Client Specific List

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Wendy Stonestreet / Ramboll ENVIRON	2/18/16	1800	[illegible] Price	2/19/16	1015

SAMPLE CONDITIONS

	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

Temp in °C | Received on Ice | Custody Sealed Cooler | Samples Intact

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Wendy Stonestreet
SIGNATURE of SAMPLER: Wendy Stonestreet DATE Signed (MM / DD / YY): 2/18/16

ORIGINAL

Chain of Custody

10339118

Pace Analytical®
www.pacelabs.com

Workorder: 60213392 **Workorder Name:** Whirlpool Air Mont. **Owner Received Date:** 2/19/2016 **Results Requested By:** 2/22/2016

Report To	Subcontract To
Colleen Clyne Pace Analytical Services, Inc. 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665 Fax (913)599-1759	Pace Analytical Minnesota 1700 Elm Street Suite 200 Minneapolis, MN 55414 Phone (612)607-1700

Item	Sample ID	Sample Type	Collect Date/Tim	Lab ID	Matrix	Preserved Containers	TO-15 SIM	LAB USE ONLY
1	AA-201602	PS	2/18/2016 15:41	60213392001	Air	1	X	
2	Q1-201602	PS	2/18/2016 16:08	60213392002	Air	1	X	
3	Q2-201602	PS	2/18/2016 16:15	60213392003	Air	1	X	
4	Q3-201602	PS	2/18/2016 16:20	60213392004	Air	1	X	
5	Q3-201602 - DUP	PS	2/18/2016 16:20	60213392005	Air	1	X	
6	Q4-201602	PS	2/18/2016 16:29	60213392006	Air	1	X	
7	Q5-201602	PS	2/18/2016 16:34	60213392007	Air	1	X	
8	Q6-201602	PS	2/18/2016 16:38	60213392008	Air	1	X	

Transfers	Released By	Date/Time	Received	Date/Time
1			Pace	2/19/16 @ 1015
2				
3				

Comments

Cooler Temperature on Receipt AMB °C Custody Seal Y or (N) Received on Ice Y or (N) Samples Intact (Y) or N

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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.

23878

Page: 1 of 1

Section A Required Client Information:

Company: RAMBOLL ENVIRON
Address: 7500 COLLEGE BLVD 925
Overland PARK, KS 66210
Email To: wstonestreet@ramboll.com
Phone: 913-553-5926 Fax:
Requested Due Date/TAT: 1 DAY

Section B Required Project Information:

Report To: tgleason@ramboll.com
Copy To: wstonestreet@ramboll.com
Purchase Order No.:
Project Name: WHIRLPOOL-AIR MONT.
Project Number:

Section C Invoice Information:

Attention: Tamara Gleason
Company Name: RAMBOLL-ENVIRON
Address: 250 MONROE AVE. NW GRAND RAPIDS
Pace Quote Reference: MICHIGAN, 49503
Pace Project Manager/Sales Rep. Colleen Clyne
Pace Profile #: 7444

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

Location of Sampling by State: AR

Reporting Units: ug/m³ X | mg/m³ | PPBV X | PPMV | Other

Report Level: II. X | 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 #	Section D AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START END/GRAB DATE	COLLECTED COMPOSITE START END/GRAB TIME	COLLECTED COMPOSITE - DATE	COLLECTED COMPOSITE - TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	Method: PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List* SIM	Pace Lab ID
1	AA-201602	6LC	0	2/18/16	941	2/18/16	1541	-28	-1	1058	FC10600								X		
2	Q1-201602	6LC	0	2/18/16	815	2/18/16	1608	-29	-2	2808	FC02602								X		
3	Q2-201602	6LC	0	2/18/16	828	2/18/16	1615	-28.5	-2	1658	FC00102								X		
4	Q3-201602	6LC	0	2/18/16	837	2/18/16	1620	-28	-3	2684	FC10555								X		
5	Q3-201602-DUP	6LC	0	2/18/16	837	2/18/16	1620	-30	-4	1733	FC05102								X		
6	Q4-201602	6LC	0	2/18/16	850	2/18/16	1629	-29	-4	2809	FC10799								X		
7	Q5-201602	6LC	0	2/18/16	859	2/18/16	1634	-28	-4	0521	FC02588								X		
8	Q6-201602	6LC	0	2/18/16	909	2/18/16	1638	-30	-2	0691	FC10111								X		
9																					
10																					
11																					
12																					

Comments:
TO-15, Client Specific List

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Wendy Stonestreet/Ramboll ENVIRON	2/18/16	1800	[illegible] Pace	2/19/16	1015

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Wendy Stonestreet
SIGNATURE of SAMPLER: Wendy Stonestreet DATE Signed (MM / DD / YY): 2/18/16

ORIGINAL

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

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 29June2015 Page 1 of 1
	Document No.: F-MN-A-106-rev.10	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: Ramboll Environ **Project #:** WO#: 10339118

10339118

Courier: ☑ Fed Ex ☐ UPS ☐ Speedee ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 8097 2664 4026, 8678 1275 2574

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): 0 **Corrected Temp (°C):** 0 **Thermom. Used:** ☐ B88A912167504 ☐ B88A9132521491 ☐ 72337080 ☐ 80512447

Temp should be above freezing to 6°C **Correction Factor:** 0 **Date & Initials of Person Examining Contents:** 02 19 16

Type of ice Received ☐ Blue ☐ Wet ☒ None

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ 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.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters			Canisters		
Sample Number	Can ID	Flow Controller ID	Sample Number	Can ID	Flow Controller ID
AA	1058	1060			
Q1	2101	0262			
Q2	1658	0012			
Q3	2684	1655			
Q3 Dup	1733	0512			
Q4	2809	1079			
Q5	0521	0258			
Q6	0691	1014			

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

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: JD **Date:** 02/19/16

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, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

March 14, 2016

Wendy Stonestreet
Ramboll Environ
7500 College Blvd Ste 925
Overland Park, KS 66210

RE: Project: Whirlpool Air Mont.
Pace Project No.: 60213886

Dear Wendy Stonestreet:
Enclosed are the analytical results for sample(s) received by the laboratory on February 27, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Colleen Clyne
colleen.clyne@pacelabs.com
Project Manager

Enclosures

cc: Tamara Gleason, Ramboll Environ

Pace Analytical Services, Inc.
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(913)599-5665

CERTIFICATIONS

Project: Whirlpool Air Mont.
Pace Project No.: 60213886

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: Whirlpool Air Mont.
Pace Project No.: 60213886

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60213886001	**Q1-SS-201602-DUP**	Air	02/25/16 16:40	02/27/16 10:20
60213886002	**Q2-SS-201602**	Air	02/25/16 17:30	02/27/16 10:20
60213886003	**Q3-SS-201602**	Air	02/25/16 18:10	02/27/16 10:20
60213886004	**Q4-SS-201602**	Air	02/25/16 15:45	02/27/16 10:20
60213886005	**Q5-SS-201602**	Air	02/25/16 19:00	02/27/16 10:20
60213886006	**Q6-SS-201602**	Air	02/25/16 19:45	02/27/16 10:20
60213886007	**Q1-SS-201602**	Air	02/25/16 16:40	02/27/16 10:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Whirlpool Air Mont.
Pace Project No.: 60213886

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60213886001	**Q1-SS-201602-DUP**	TO-15	DR1	9	PASI-M
60213886002	**Q2-SS-201602**	TO-15	DR1	9	PASI-M
60213886003	**Q3-SS-201602**	TO-15	DR1	9	PASI-M
60213886004	**Q4-SS-201602**	TO-15	DR1	9	PASI-M
60213886005	**Q5-SS-201602**	TO-15	DR1	9	PASI-M
60213886006	**Q6-SS-201602**	TO-15	DR1	9	PASI-M
60213886007	**Q1-SS-201602**	TO-15	DR1	9	PASI-M

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(913)599-5665

PROJECT NARRATIVE

Project: Whirlpool Air Mont.
Pace Project No.: 60213886

Date: March 14, 2016

Q3-SS-201602 (Lab ID: 60213886003)

- A3: This result is reported from a serial dilution.

Pace Analytical Services, Inc.
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(913)599-5665

PROJECT NARRATIVE

Project: Whirlpool Air Mont.
Pace Project No.: 60213886

Method: **TO-15**
Description: TO15 MSV AIR
Client: Environ_AR
Date: March 14, 2016

General Information:
7 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.

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: Whirlpool Air Mont.
Pace Project No.: 60213886

Sample: Q1-SS-201602-DUP **Lab ID: 60213886001** Collected: 02/25/16 16:40 Received: 02/27/16 10:20 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
1,1-Dichloroethane	ND	ug/m3	1.6	0.31	2		03/10/16 20:15	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.82	0.41	2		03/10/16 20:15	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.6	0.48	2		03/10/16 20:15	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.6	0.49	2		03/10/16 20:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.6	0.77	2		03/10/16 20:15	156-60-5	
Tetrachloroethene	ND	ug/m3	1.4	0.56	2		03/10/16 20:15	127-18-4	
1,1,1-Trichloroethane	**64.0**	ug/m3	2.2	0.49	2		03/10/16 20:15	71-55-6	
Trichloroethene	ND	ug/m3	1.1	0.55	2		03/10/16 20:15	79-01-6	
Vinyl chloride	ND	ug/m3	0.52	0.39	2		03/10/16 20:15	75-01-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: Whirlpool Air Mont.
Pace Project No.: 60213886

Sample: Q2-SS-201602 **Lab ID: 60213886002** Collected: 02/25/16 17:30 Received: 02/27/16 10:20 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
1,1-Dichloroethane	ND	ug/m3	1.3	0.25	1.61		03/10/16 22:02	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.66	0.33	1.61		03/10/16 22:02	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	0.38	1.61		03/10/16 22:02	75-35-4	
cis-1,2-Dichloroethene	**2.2**	ug/m3	1.3	0.40	1.61		03/10/16 22:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	0.62	1.61		03/10/16 22:02	156-60-5	
Tetrachloroethene	**0.75J**	ug/m3	1.1	0.45	1.61		03/10/16 22:02	127-18-4	
1,1,1-Trichloroethane	**132**	ug/m3	1.8	0.40	1.61		03/10/16 22:02	71-55-6	
Trichloroethene	**552**	ug/m3	4.4	2.2	8.05		03/10/16 22:25	79-01-6	
Vinyl chloride	ND	ug/m3	0.42	0.31	1.61		03/10/16 22:02	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Whirlpool Air Mont.
Pace Project No.: 60213886

Sample: Q3-SS-201602 **Lab ID: 60213886003** Collected: 02/25/16 18:10 Received: 02/27/16 10:20 Matrix: Air

Comments: • This result is reported from a serial dilution.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
1,1-Dichloroethane	**131J**	ug/m3	407	77.9	496		03/10/16 23:10	75-34-3	
1,2-Dichloroethane	ND	ug/m3	203	102	496		03/10/16 23:10	107-06-2	
1,1-Dichloroethene	ND	ug/m3	402	118	496		03/10/16 23:10	75-35-4	
cis-1,2-Dichloroethene	**4150**	ug/m3	402	122	496		03/10/16 23:10	156-59-2	
trans-1,2-Dichloroethene	**673**	ug/m3	402	190	496		03/10/16 23:10	156-60-5	
Tetrachloroethene	ND	ug/m3	342	138	496		03/10/16 23:10	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	551	123	496		03/10/16 23:10	71-55-6	
Trichloroethene	ND	ug/m3	273	137	496		03/10/16 23:10	79-01-6	
Vinyl chloride	**60000**	ug/m3	516	387	1984		03/11/16 15:21	75-01-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

ANALYTICAL RESULTS

Project: Whirlpool Air Mont.
Pace Project No.: 60213886

Sample: Q4-SS-201602 **Lab ID: 60213886004** Collected: 02/25/16 15:45 Received: 02/27/16 10:20 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
1,1-Dichloroethane	ND	ug/m3	1.2	0.23	1.49		03/10/16 20:41	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.61	0.31	1.49		03/10/16 20:41	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	0.35	1.49		03/10/16 20:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	0.37	1.49		03/10/16 20:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	0.57	1.49		03/10/16 20:41	156-60-5	
Tetrachloroethene	ND	ug/m3	1.0	0.41	1.49		03/10/16 20:41	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	1.7	0.37	1.49		03/10/16 20:41	71-55-6	
Trichloroethene	ND	ug/m3	0.82	0.41	1.49		03/10/16 20:41	79-01-6	
Vinyl chloride	ND	ug/m3	0.39	0.29	1.49		03/10/16 20:41	75-01-4	

Pace Analytical Services, Inc.
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(913)599-5665

ANALYTICAL RESULTS

Project: Whirlpool Air Mont.
Pace Project No.: 60213886

Sample: Q5-SS-201602 **Lab ID: 60213886005** Collected: 02/25/16 19:00 Received: 02/27/16 10:20 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
1,1-Dichloroethane	ND	ug/m3	26.4	5.1	32.2		03/10/16 22:48	75-34-3	
1,2-Dichloroethane	ND	ug/m3	13.2	6.6	32.2		03/10/16 22:48	107-06-2	
1,1-Dichloroethene	ND	ug/m3	26.1	7.7	32.2		03/10/16 22:48	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	26.1	7.9	32.2		03/10/16 22:48	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	26.1	12.4	32.2		03/10/16 22:48	156-60-5	
Tetrachloroethene	**13.3J**	ug/m3	22.2	9.0	32.2		03/10/16 22:48	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	35.7	8.0	32.2		03/10/16 22:48	71-55-6	
Trichloroethene	**1590**	ug/m3	17.7	8.9	32.2		03/10/16 22:48	79-01-6	
Vinyl chloride	ND	ug/m3	8.4	6.3	32.2		03/10/16 22:48	75-01-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Whirlpool Air Mont.
Pace Project No.: 60213886

Sample: Q6-SS-201602 **Lab ID: 60213886006** Collected: 02/25/16 19:45 Received: 02/27/16 10:20 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
1,1-Dichloroethane	ND	ug/m3	1.3	0.24	1.55		03/10/16 21:35	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.64	0.32	1.55		03/10/16 21:35	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	0.37	1.55		03/10/16 21:35	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.3	0.38	1.55		03/10/16 21:35	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	0.60	1.55		03/10/16 21:35	156-60-5	
Tetrachloroethene	**1.3**	ug/m3	1.1	0.43	1.55		03/10/16 21:35	127-18-4	
1,1,1-Trichloroethane	**17.7**	ug/m3	1.7	0.38	1.55		03/10/16 21:35	71-55-6	
Trichloroethene	ND	ug/m3	0.85	0.43	1.55		03/10/16 21:35	79-01-6	
Vinyl chloride	ND	ug/m3	0.40	0.30	1.55		03/10/16 21:35	75-01-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Whirlpool Air Mont.
Pace Project No.: 60213886

Sample: Q1-SS-201602 **Lab ID: 60213886007** Collected: 02/25/16 16:40 Received: 02/27/16 10:20 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
1,1-Dichloroethane	ND	ug/m3	1.2	0.23	1.49		03/10/16 21:08	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.61	0.31	1.49		03/10/16 21:08	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	0.35	1.49		03/10/16 21:08	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	0.37	1.49		03/10/16 21:08	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	0.57	1.49		03/10/16 21:08	156-60-5	
Tetrachloroethene	ND	ug/m3	1.0	0.41	1.49		03/10/16 21:08	127-18-4	
1,1,1-Trichloroethane	**86.1**	ug/m3	1.7	0.37	1.49		03/10/16 21:08	71-55-6	
Trichloroethene	ND	ug/m3	0.82	0.41	1.49		03/10/16 21:08	79-01-6	
Vinyl chloride	ND	ug/m3	0.39	0.29	1.49		03/10/16 21:08	75-01-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: Whirlpool Air Mont.
Pace Project No.: 60213886

QC Batch: AIR/25416 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 60213886001, 60213886002, 60213886003, 60213886004, 60213886005, 60213886006, 60213886007

METHOD BLANK: 2208084 Matrix: Air
Associated Lab Samples: 60213886001, 60213886002, 60213886003, 60213886004, 60213886005, 60213886006, 60213886007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	0.25	03/10/16 18:27	
1,1-Dichloroethane	ug/m3	ND	0.82	0.16	03/10/16 18:27	
1,1-Dichloroethene	ug/m3	ND	0.81	0.24	03/10/16 18:27	
1,2-Dichloroethane	ug/m3	ND	0.41	0.20	03/10/16 18:27	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	0.25	03/10/16 18:27	
Tetrachloroethene	ug/m3	ND	0.69	0.28	03/10/16 18:27	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	0.38	03/10/16 18:27	
Trichloroethene	ug/m3	ND	0.55	0.28	03/10/16 18:27	
Vinyl chloride	ug/m3	ND	0.26	0.20	03/10/16 18:27	

LABORATORY CONTROL SAMPLE: 2208085

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	48.8	88	60-143	
1,1-Dichloroethane	ug/m3	41.2	35.9	87	62-139	
1,1-Dichloroethene	ug/m3	40.3	36.6	91	62-135	
1,2-Dichloroethane	ug/m3	41.2	35.6	86	61-144	
cis-1,2-Dichloroethene	ug/m3	40.3	39.6	98	65-139	
Tetrachloroethene	ug/m3	69	69.1	100	60-142	
trans-1,2-Dichloroethene	ug/m3	40.3	38.8	96	67-137	
Trichloroethene	ug/m3	54.6	52.9	97	60-144	
Vinyl chloride	ug/m3	26	23.7	91	63-135	

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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: Whirlpool Air Mont.
Pace Project No.: 60213886

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.

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.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Whirlpool Air Mont.
Pace Project No.: 60213886

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60213886001	**Q1-SS-201602-DUP**	TO-15	AIR/25416		
60213886002	**Q2-SS-201602**	TO-15	AIR/25416		
60213886003	**Q3-SS-201602**	TO-15	AIR/25416		
60213886004	**Q4-SS-201602**	TO-15	AIR/25416		
60213886005	**Q5-SS-201602**	TO-15	AIR/25416		
60213886006	**Q6-SS-201602**	TO-15	AIR/25416		
60213886007	**Q1-SS-201602**	TO-15	AIR/25416		

WO# : 60213886

60213886

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AIR: CHAIN-OF-CUSTODY / Ana

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

24000

Page: 1 of 1

Section A Required Client Information:

Company: Ramboll Environ
Address: 7500 College Blvd Suite 925, Overland Park KS 66210
Email To: wstonestreet@ramboll.com
Phone: 913-553-9123 Fax:
Requested Due Date/TAT: standard

Section B Required Project Information:

Report To: tgleason@ramboll.com
Copy To: wstonestreet@ramboll.com
Purchase Order No.:
Project Name: Whirlpool Air Mont.
Project Number:

Section C Invoice Information:

Attention: Tamara Gleason
Company Name: Ramboll Environ
Address: 250 Monroe Ave, NW Grand Rapids Michigan, 49503
Pace Quote Reference:
Pace Project Manager/Sales Rep. Colleen Clyne
Pace Profile #: 7444

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

Location of Sampling by State: AR

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)	MEDIA CODE	PID Reading (Client only)	COLLECTED Composite Start/Grab DATE	COLLECTED Composite Start/Grab TIME	COLLECTED Composite End DATE	COLLECTED Composite End TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	Method: PM10	3C: Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List* SIM	Pace Lab ID
1	Q1-SS-20160202-DUP	6LC	0	2/25/16	10.00	2/25/16	16.40	29.5	5.5	1480	FC00554								X		001
2	Q2-SS-20160202	6LC	0	2/25/16	10.57	2/25/16	17.30	28	5	2062	FC03852								X		002
3	Q3-SS-20160202	6LC	0.1	2/25/16	11.43	2/25/16	18.10	30	5	2755	FC03952								X		003
4	Q4-SS-20160202	6LC	0.7	2/25/16	08.42	2/25/16	15.45	30	6	2140	FC04344								X		004
5	Q5-SS-20160202	6LC	0	2/25/16	12.25	2/25/16	19.00	30	5.5	3708	FC00116								X		005
6	Q6-SS-20160202	6LC	1.1	2/25/16	13.04	2/25/16	19.45	29	5.5	2829	FC01002								X		006
7	Q1-SS-20160202	6LC	0	2/25/16	10.00	2/25/16	16.40	29.5	5.5	1602	FC00554								X		007
8																					
9																					
10																					
11																					
12																					

Valid Media Codes: Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

Comments:

TO-15, Client Specific List

* Per Nick - add 3C Helium to Samples. COC 2/29/16

ORIGINAL

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature] /Ramboll Environ	2/26/16	1445	[signature]	2/29/16	10:20

SAMPLE CONDITIONS

—	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
Temp In °C	Received on Ice	Custody Sealed Cooler	Samples Intact

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nick Zurweller

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 2/26/16

Chain of Custody

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10340017

Workorder: 60213886 **Workorder Name:** Whirlpool Air Mont. **Owner Received Date:** 2/27/2016 **Results Requested By:** 3/10/2016

Report To	Subcontract To
Colleen Clyne Pace Analytical Services, Inc. 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665 Fax (913)599-1759	Pace Analytical Minnesota 1700 Elm Street Suite 200 Minneapolis, MN 55414 Phone (612)607-1700

Item	Sample ID	Sample Type	Collect Date/Tim	Lab ID	Matrix	Preserved Containers	TO-15 SIM*	3C Helium	LAB USE ONLY
1	Q1-SS-201602-DUP	PS	2/25/2016 16:40	60213886001	Air	2	X	X	001
2	Q2-SS-201602	PS	2/25/2016 17:30	60213886002	Air	2	X	X	002
3	Q3-SS-201602	PS	2/25/2016 18:10	60213886003	Air	2	X	X	003
4	Q4-SS-201602	PS	2/25/2016 15:45	60213886004	Air	2	X	X	004
5	Q5-SS-201602	PS	2/25/2016 19:00	60213886005	Air	2	X	X	005
6	Q6-SS-201602	PS	2/25/2016 19:45	60213886006	Air	2	X	X	006
7	Q1-SS-201602	PS	2/25/2016 16:40	60213886007	Air	2	X	X	007

Transfers	Released By	Date/Time	Received	Date/Time
1			Face	2/29/16 1000
2				
3				

Comments

*Custom List (attached)

Cooler Temperature on Receipt ~ °C **Custody Seal** Y or (N) **Received on Ice** Y or (N) **Samples Intact** (Y) or N

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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.

24000

Page: 1 of 1

Section A Required Client Information:

Company: Ramboll Environ
Address: 7500 College Blvd Suite 925, Overland Park KS 66210
Email To: WStonestreet@ramboll.com
Phone: 913-553-5923 Fax:
Requested Due Date/TAT: standard

Section B Required Project Information:

Report To: tgleason@ramboll.com
Copy To: WStonestreet@ramboll.com
Purchase Order No.:
Project Name: Whirlpool Air Mont.
Project Number:

Section C Invoice Information:

Attention: Tamara Gleason
Company Name: Ramboll Environ
Address: 250 Monroe Ave. NW Grand Rapids Michigan, 49503
Pace Quote Reference:
Pace Project Manager/Sales Rep. Colleen Clyne
Pace Profile #: 7444

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

Location of Sampling by State: AR

Reporting Units: X ug/m³ mg/m³ | X PPBV PPMV | Other

Report Level: II. X III. IV. Other

ITEM #	'Section D Required Client Information AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START END/GRAB DATE	COLLECTED COMPOSITE START END/GRAB TIME	COLLECTED COMPOSITE - DATE	COLLECTED COMPOSITE - TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	Method: PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List* SIM	Pace Lab ID
1	Q1 - SS - 20160202 - DUP	6LC	0	2/25/16	10.00	2/25/16	1640	29.5	5.5	1480	FC0054								X		
2	Q2 - SS - 20160202	6LC	0	2/25/16	1057	2/25/16	1730	28	5	2062	FC0382								X		
3	Q3 - SS - 20160202	6LC	0.1	2/25/16	1143	2/25/16	18:10	30	5	2755	FC0392								X		
4	Q4 - SS - 20160202	6LC	0.7	2/25/16	08.42	2/25/16	1545	30	6	2140	FC0434								X		
5	Q5 - SS - 20160202	6LC	0	2/25/16	12.25	2/25/16	1900	30	5.5	3708	FC0016								X		
6	Q6 - SS - 20160202	6LC	1.1	2/25/16	1304	2/25/16	1945	29	5.5	2829	FC0102								X		
7	Q1 - SS - 20160202	6LC	0	2/25/16	10.00	2/25/16	16.40	29.5	5.5	1602	FC0054								X		
8																					
9																					
10																					
11																					
12																					

Valid Media Codes: Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

Comments:

TO-15, Client Specific List

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Ramboll Environ	2/26/16	1445		2/29/16	1020

SAMPLE CONDITIONS

Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
—	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: Nick Zurweller

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 2/26/16

ORIGINAL

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 29June2015 Page 1 of 1
	Document No.: F-MN-A-106-rev.10	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: Ramboll Environ **Project #:** WO# : 10340012

10340012

Courier: ☑ Fed Ex ☐ UPS ☐ Speedee ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 782470234150, 8047 3340 7081

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):** 1 **Thermom. Used:** ☐ B88A912167504 ☐ B88A9132521491 ☐ 72337080 ☐ 80512447

Temp should be above freezing to 6°C **Correction Factor:** 1 **Date & Initials of Person Examining Contents:** MH 2/29/16

Type of ice Received ☐ Blue ☐ Wet ☑ None

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☐ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ 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.
Sample Labels Match COC?	☐ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters			Canisters		
Sample Number	Can ID	Flow Controller ID	Sample Number	Can ID	Flow Controller ID
Q1-SS-201602-Dup	1480	0054			
Q2-SS-201602	2062	0382			
Q3-SS-201602	2755	0392			
Q4-SS-201602	2140	0434			
Q5-SS-201602	2708	0016			
Q6-SS-201602	2829	0102			
Q1-SS-201602	1602	0054			

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

Person Contacted: Colleen Date/Time: 02/29/16

Comments/Resolution: Added 3C(He) per Colleen / client.

Per Tamara cancel 3C Helium analysis. CBC 03/01/16

Project Manager Review: CBC **Date:** 03/01/16

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)