@AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

COMPREHENSIVE VALIDATION PACKAGE

ATL Applications

INVENTORY SHEET

WORK ORDER # 0909376C

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Completed by:

Kara McKiernan	Kara McKiernan/ Document Control	10/08/09
(Signature)	(Print Name & Title)	(Date)

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 0909376C

Work Order Summary

CLIENT:	Mr. Taeko Minegishi Environmental Health & Engineering, Inc. 117 Fourth Avenue Needham, MA 02494	**BILL TO:**	Accounts Payable Environmental Health & Engineering, Inc. 117 Fourth Avenue Needham, MA 02494
PHONE:	800-825-5343	**P.O. #**	16512
FAX:	781-247-4305	**PROJECT #**	16512
DATE RECEIVED:	09/18/2009	**CONTACT:**	Ausha Scott
DATE COMPLETED:	10/07/2009		

FRACTION #	NAME	TEST
30A	102789	ATL Applications
31A	102790	ATL Applications
32A	102791	ATL Applications
33A	102792	ATL Applications
33AA	102792 Lab Duplicate	ATL Applications
34A	102793	ATL Applications
35A	102794	ATL Applications
36A	105659	ATL Applications
37A	105660	ATL Applications
38A	105661	ATL Applications
39A	105662	ATL Applications
40A	105663	ATL Applications
41A	105664	ATL Applications
42A	105066	ATL Applications
43A	105067	ATL Applications
44A	105068	ATL Applications
44AA	105068 Lab Duplicate	ATL Applications
45A	105069	ATL Applications

Continued on next page

WORK ORDER #: 0909376C

Work Order Summary

CLIENT:	Mr. Taeko Minegishi Environmental Health & Engineering, Inc. 117 Fourth Avenue Needham, MA 02494	**BILL TO:**	Accounts Payable Environmental Health & Engineering, Inc. 117 Fourth Avenue Needham, MA 02494
PHONE:	800-825-5343	**P.O. #**	16512
FAX:	781-247-4305	**PROJECT #**	16512
DATE RECEIVED:	09/18/2009	**CONTACT:**	Ausha Scott
DATE COMPLETED:	10/07/2009		

FRACTION #	NAME	TEST
46A	105070	ATL Applications
47A	105071	ATL Applications
48A	Lab Blank	ATL Applications
48B	Lab Blank	ATL Applications
49A	CCV	ATL Applications

CERTIFIED BY: Linda S. Truman DATE: 10/07/09

Laboratory Director

LABORATORY NARRATIVE
Ozone by Radiello 172
Environmental Health & Engineering, Inc.
Workorder# 0909376C

Eighteen Radiello 172 (Ozone) samples were received on September 18, 2009. The procedure involves reaction of 4-pyridylaldehyde with 3-methyl-2-benzothiazolinone hydrazone to yield the corresponding azide. The absorbance is then measured at 430 nm using a spectrophotometer. Results are reported in uG and uG/m3.

Sampling rate of 24.6 mL/min was provided by the manufacturer.

Receiving Notes

A Temperature Blank was not included with the shipment. Temperature was measured on a representative sample and was not within 4±2 °C. Coolant in the form of blue ice was present. Analysis proceeded.

Analytical Notes

Results were calculated based on 25 deg C without temperature correction. The actual exposure time was used to calculate sample concentrations and reporting limits.

An exposure time of 20160 minutes was used for the QC samples.

All media used for the sampling were supplied by the client. Blank subtraction was not performed on the sample results since the media used for Method Blanks may be from a different lot than the media used for the samples.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

0003

Sample Results and Raw Data

AIR TOXICS LTD.

ATL Application # 62 for RAD 172 (Ozone)

Spectrophotometer

Field Sample I.D.	Lab Sample I.D.	Collection Date	Analysis Date	Dilution Factor	Reporting. Limit (ug)	Reporting. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
102789	0909376C-30A	9/16/2009	9/22/2009	1.00	0.64	1.4	ND	ND
102790	0909376C-31A	9/16/2009	9/22/2009	1.00	0.64	1.4	ND	ND
102791	0909376C-32A	9/16/2009	9/22/2009	1.00	0.64	1.4	ND	ND
102792	0909376C-33A	9/16/2009	9/22/2009	2.00	1.3	2.8	18	38
102792 Lab Duplicate	0909376C-33AA	9/16/2009	9/22/2009	2.00	1.3	2.8	18	38
102793	0909376C-34A	9/16/2009	9/22/2009	1.00	0.64	1.4	ND	ND
102794	0909376C-35A	N/A	9/22/2009	1.00	0.64	1.3	ND	ND
105659	0909376C-36A	9/16/2009	9/22/2009	1.00	0.64	1.4	ND	ND
105660	0909376C-37A	9/16/2009	9/22/2009	1.00	0.64	1.4	ND	ND
105661	0909376C-38A	9/16/2009	9/22/2009	1.00	0.64	1.4	ND	ND
105662	0909376C-39A	9/16/2009	9/22/2009	1.00	0.64	1.4	ND	ND
105663	0909376C-40A	9/16/2009	9/22/2009	1.00	0.64	1.4	12	26
105664	0909376C-41A	N/A	9/22/2009	1.00	0.64	1.3	ND	ND
105066	0909376C-42A	9/17/2009	9/22/2009	1.00	0.64	1.3	ND	ND
105067	0909376C-43A	9/17/2009	9/22/2009	1.00	0.64	1.3	ND	ND
105068	0909376C-44A	9/17/2009	9/22/2009	2.00	1.3	2.6	18	35
105068 Lab Duplicate	0909376C-44AA	9/17/2009	9/22/2009	2.00	1.3	2.6	18	35
105069	0909376C-45A	9/17/2009	9/22/2009	1.00	0.64	1.3	ND	ND
105070	0909376C-46A	9/17/2009	9/22/2009	1.00	0.64	1.3	ND	ND
105071	0909376C-47A	N/A	9/22/2009	1.00	0.64	1.3	ND	ND
Method Blank	0909376C-48A	N/A	9/22/2009	1.00	0.64	1.3	ND	ND
Method Blank	0909376C-48B	N/A	9/22/2009	1.00	0.64	1.3	ND	ND
								%Rec
CCV	0909376C-49A	N/A	9/22/2009	1.00	0.64	1.3		100

COMMENTS: 1. NA=Not Applicable
2. ND=Not Detected
3. Exposure time of 20160 minutes was assumed for the QC samples.
4. Background subtraction not performed.

Ozone Radiello Calculation Worksheet

9000

Workorder #: 0909376C

Sampling Rate (mL/min)) 24.6 Typically 24.6 for Ozone

Sampling T (deg C) 25 Typically 25

Volume (mL) 5 Typically 5 for Ozone

Date of Analysis: 9/22/2009

(Abs-Y-int)xDF / Slope

Conc (ug) x 1000000 / Q x Duration

Low PointxDF

Corrected Q 24.6 Ozone taking into account Temp

LabSampleID	Client	Date of Collection	Abs	Duration (min)	DF	Ozone Conc (ug)	Conc (ug/m3)	RL(ug)
30A	102789	9/16/2009	0.034	18720	1.00	0.100507255	0.218	0.638
31A	102790	9/16/2009	0.04	18720	1.00	0.151057395	0.328	0.638
32A	102791	9/16/2009	0.034	18720	1.00	0.100507255	0.218	0.638
33A	102792	9/16/2009	1.07	18720	2.00	17.65766263	38.344	1.277
33AA	102792 Lab Duplicate	9/16/2009	1.076	18720	2.00	17.75876291	38.563	1.277
34A	102793	9/16/2009	0.04	18720	1.00	0.151057395	0.328	0.638
35A	102794	N/A	0.023	20160	1.00	0.007832	0.016	0.638
36A	105659	9/16/2009	0.039	18720	1.00	0.142632371	0.310	0.638
37A	105660	9/16/2009	0.048	18720	1.00	0.21845758	0.474	0.638
38A	105661	9/16/2009	0.042	18720	1.00	0.167907441	0.365	0.638
39A	105662	9/16/2009	0.044	18720	1.00	0.184757487	0.401	0.638
40A	105663	9/16/2009	1.444	18720	1.00	11.97979	26.014	0.638
41A	105664	N/A	0.041	20160	1.00	0.159482418	0.322	0.638
42A	105066	9/17/2009	0.046	20160	1.00	0.201607534	0.407	0.638
43A	105067	9/17/2009	0.04	20160	1.00	0.151057395	0.305	0.638
44A	105068	9/17/2009	1.062	20160	2.00	17.52286226	35.333	1.277
44AA	105068 Lab Duplicate	9/17/2009	1.062	20160	2.00	17.52286226	35.333	1.277
45A	105069	9/17/2009	0.043	20160	1.00	0.176332464	0.356	0.638
46A	105070	9/17/2009	0.049	20160	1.00	0.226882604	0.457	0.638
47A	105071	N/A	0.025	20160	1.00	0.024682046	0.050	0.638
					1.00	-0.185943534	#DIV/0!	0.638
					1.00	-0.185943534	#DIV/0!	0.638
48A	Method Blank	N/A	0.019	20160	1.00	-0.025868093	-0.052	0.638
48B	Method Blank	N/A	0.028	20160	1.00	0.049957116	0.101	0.638
	Method Blank	N/A		20160	1.00	-0.185943534	-0.375	0.638
49A	CCV	N/A	0.324	20160	1.00	2.54376399	5.129	0.638

QC Duration: 20160

CCV Spike Amt: 2.5536

Verified by HH and AW on 9/4/09

RL (ug) x 1000000
Q x Duration

Calibration Data

Date of Calibration
9/22/2009 Linear Regression

4-PA
ug/ml*0.224*0.5mL

RL (ug/m3)	Result (ug)	Result (ug/m3)	%Rec	4-PA ug/mL	ug Ozone	absorbance
1.386	ND	ND		0	0	0
1.386	ND	ND		5.7	0.6384	0.087
1.386	ND	ND		11.4	1.2768	0.170
2.773	17.65766263	38.34354507		22.8	2.5536	0.332
2.773	17.75876291	38.56308393		57	6.384	0.796
1.386	ND	ND		114	12.768	1.529
1.287	ND	ND				
1.386	ND	ND		hand entry		
1.386	ND	ND				
1.386	ND	ND				
1.386	ND	ND				
1.386	11.97979	26.01406695				
1.287	ND	ND				
1.287	ND	ND				
1.287	ND	ND				
2.575	17.52286226	35.33291041				
2.575	17.52286226	35.33291041				
1.287	ND	ND				
1.287	ND	ND				
1.287	ND	ND				
#DIV/0!	ND	#DIV/0!				
#DIV/0!	ND	#DIV/0!				
1.287	ND	ND				
1.287	ND	ND				
1.287	ND	ND	%Rec			
1.287	2.54376399	5.129218266	100			

Slope	0.118694035
Y-int	0.022070388
R2	0.999638978

QC Results and Raw Data

Spectrophotometer Logbook **@Air Toxics Ltd.** **Logbook#: 1875**

Work Order: 0909376C **Date:** 9/22/09 **Method:** Rad 172 ozone

Analyst: M. Skidmore **Wavelength:** 430 nm

Standard ID	Concentration (concentration of 4-PA)	ABS
Level 1	5.7 ug/mL	0.087
Level 2	11.4 ug/mL	0.170
Level 3	22.8 ug/mL	0.332
Level 4	57 ug/mL	0.796
Level 5	114 ug/mL	1.529
ICV	22.8 ug/mL	0.328

r = 0.9996
m = 0.1187
b = 0.02207

ICV % Recovery = 101

Fraction	Dilution	ABS	Sample ID	Sample Volume	Comments
30A	1.00	0.034	102789	5.0 mL	
31A	↓	0.040	102790	↓	
32A	↓	0.034	102791	↓	
33A	2.00	1.070	102792	↓	
33AA	↓	1.076	102792	↓	
34A	1.00	0.040	102793	↓	
35A	↓	0.023	102794	↓	
36A	↓	0.039	105659	↓	
37A	↓	0.048	105660	↓	
38A	↓	0.042	105661	↓	
39A	↓	0.044	105662	↓	
40A	↓	1.444	105663	↓	
41A	↓	0.041	105664	↓	
42A	↓	0.046	105066	↓	
43A	↓	0.040	105067	↓	
44A	2.00	1.062	105068	↓	
44AA	↓	1.062	105068	↓	
45A	1.00	0.043	105069	↓	
46A	↓	0.049	105070	↓	
47A	↓	0.025	105071	↓	
BLK	↓	0.019	N/A	↓	lot: 09146
BLK	↓	0.028	↓	↓	↓

Procedure:

continued on page 9 →

Signed

9/23/09
Date

Continued from page 8.

Spectrophotometer Logbook **@Air Toxics Ltd.** **Logbook#: 1875**

Work Order: 09093761 **Date:** 9/22/09 **Method:** Rad 172 ozone

Analyst: M. Skidmore **Wavelength:** 430 nm

Standard ID	Concentration	ABS
Level 1		
Level 2		
Level 3		
Level 4		
Level 5		
ICV		

See page 8 for Concentration

r = See page 8

m =

b =

ICV % Recovery = NA

Fraction	Dilution	ABS	Sample ID	Sample Volume	Comments
CCV	1.00	0.324	N/A	5.0 mL	
					MJS 9/23/09

Procedure:

Signed

9/23/09
Date

Spectrophotometer Standard Preparation Log

@Air Toxics Ltd. Log Book #: 1858

Standard ID: 1858-46
Project: Rad 172 calibration Solution
Analyst: M. Skidmore
Preparation Date: 9/22/09
Expiration Date: 9/22/09

Solvent: DI H_2O
Solvent Lot #: N/A

Procedure/Comments:

Dissolve 20 µl of 4-Pyridine-carboxaldehyde, 97% (1476-1103, located F22H) in 200mL D.I. H_2O. From this solution prepare dilutions at 1:2, 1:5, 1:10, 1:20. Stock Solution = 114 µg/mL.

1:2) 250 µl Pyridine solution with 250 µl of D.I. H_2O = 57 µg/mL.

1:5) 100 µl Pyridine solution with 400 µl of D.I. H_2O = 22.8 µg/mL.

1:10) 100 µl Pyridine solution with 900 µl of D.I. H_2O = 11.4 µg/mL

1:20) 250 µl Pyridine 1:10 solution with 250 µl of D.I. H_2O = 5.7 µg/mL
(Then remove 250 µl of 1:10 solution to yield a final volume of 0.5 mL)

Then add 4.5 mL of MBTH solution to each level, stir and let stand for 1 hour (cover with parafilm). Then read absorbance at 430 nm.

Note: 1 µg of 4-pyridylaldehyde = 0.224 µg of ozone.

MJS 9/23/09

9/24/09

AK

Signed 9/23/09 Date

Reviewed 9/24/09 Date

Spectrophotometer Standard Preparation Log

@Air Toxics Ltd. Log Book #: 1858

Standard ID: 1858-63
Project: ICV RAD 172
Analyst: Ly
Preparation Date: 9/22/09
Expiration Date: 9/22/09

Solvent: DI H_2O
Solvent Lot #: NA

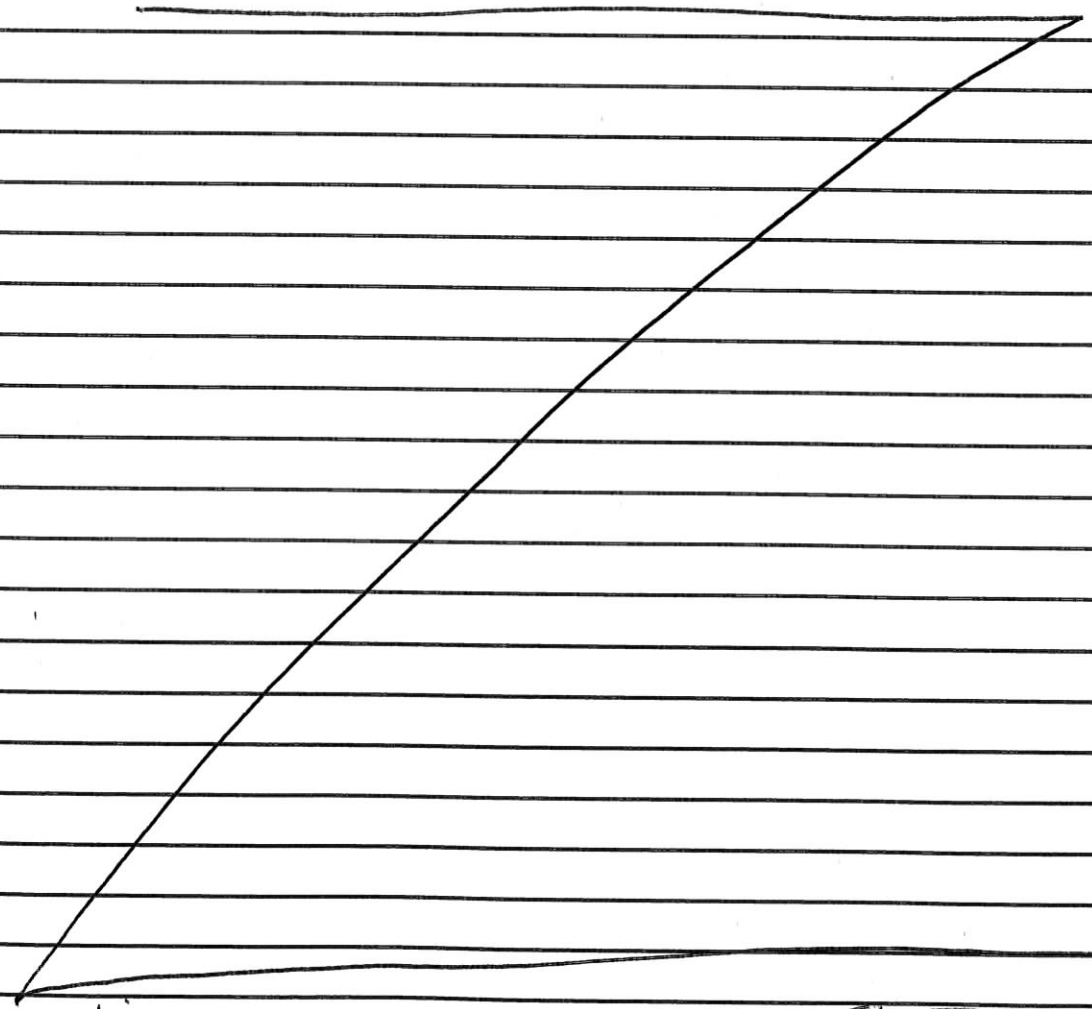
Procedure/Comments:

Dissolve 20 µl of 4-Pyridine-carboxaldehyde, 97% (1476-1103, located F22H) in 200mL D.I. H_2O. Stock Solution = 114 µg/mL. From this solution prepare a dilution at:

1:5) 100 µl Pyridine solution with 400 µl of D.I. H_2O = 22.8 µg/mL.

Then add 4.5 mL of MBTH solution to each level, stir and let stand for 1 hour (cover with parafilm). Then read absorbance at 430 nm.

Note: 1 µg of 4-pyridylaldehyde = 0.224 µg of ozone.



Ly 9/29/09

Signed 9/29/09 Date

Reviewed 9/29/09 Date

Shipping/ Receiving Documents

Air Toxics LTD.
Laboratory Services Since 1989

180 Blue Ravine Road, Suite B
Folsom, CA 95630

Phone (916) 985-1000 FAX (916) 985-1020
Hours 8:00 A.M. to 6:00 P.M. Pacific

COMPANY:	Environmental Health & Engineering, Inc.
ATTENTION:	Mr. Taeko Minegishi
FAX #:	781-247-4305
FROM:	Sample Receiving
Workorder #:	0909376C
# of pages (Including Cover):	4

10/8/2009

Thank you for selecting Air Toxics Ltd. We have received your samples and have found no discrepancies. In order to expedite analysis and reporting, please review the attached information for accuracy. Corrections can be faxed to **Ausha Scott at 916-985-1020.**
ATL will proceed with the analysis as specified on the Chain of Custody and Sample Login page.

0909376

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 9/16/09

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: AIR TOXICS

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 16512

The cost of this analysis will be covered by EH&E Purchase Order # 16512

For EH & E Data Coordinator - URGENT DATA ☐

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	START	OTHER:Time/Date/Vol.	STOP
80A 102789	AIR/PASIVE	OZONE ANALYSIS	9/3/09	9/16/09	
81A 102790					
82A 102791					
83A 102792					
84A 102793					
85A 102794				0	
86A 105659				9/16/09	
87A 105660					
88A 105661					
89A 105662					
10A 105663					
11A 105664			↓	0	

Special Instructions:

☒ Standard turn around time ☐ Rush by _____ date/time

CUSTODY SEAL INTACT? Y N NONE TEMP 3°C

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient MFRAGALA @ EHEINC.COM

Each signatory please return one copy of this form to the above address

Relinquished by: M. Carlson of Environmental Health & Engineering, Inc. Date: 9/17/09

Received by: _____ of (company name) AT1 0856 Date: 9/18/09

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

0909376

DATE: 9/17/09

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: AIR TOXICS

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 16512

The cost of this analysis will be covered by EH&E Purchase Order # 16512

For EH & E Data Coordinator - URGENT DATA ☐

	SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER START	OTHER:Time/Date/Vol. STOP
42A	105066	AIR/PASSIVE	OZONE ANALYSIS 9/3/09	9/17/09
43A	105067	↓	↓	↓
44A	105068			
45A	105069			
46A	105070			
47A	105071			0

Special Instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient MFRAGALA@EHEINC.COM

CUSTODY SEAL INTACT? Y ☐ N ☐ NONE TEMP 2.4 °C

Each signatory please return one copy of this form to the above address

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 9/17/09

Received by: _____ of (company name) ATI 08150 Date: 9/18/09

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

Air Toxics LTD.
Laboratory Services Since 1989

SAMPLE RECEIPT SUMMARY

WORKORDER 0909376C

Client

Mr. Taeko Minegishi
Environmental Health & Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494

Phone

800-825-5343

Fax

781-247-4305

Sales Rep: TL

Date Promised: 09/29/09 11:59 pm
Date Completed: 10/7/09
Date Received: 9/18/09
PO#: 16512
Project#: 16512

Total $: $ 990.00
Logged By: MG

Fraction	Sample #	Analysis	Collected	Amount$
30A	102789	ATL Applications	9/16/2009	$50.00
31A	102790	ATL Applications	9/16/2009	$50.00
32A	102791	ATL Applications	9/16/2009	$50.00
33A	102792	ATL Applications	9/16/2009	$50.00
33AA	102792 Lab Duplicate	ATL Applications	9/16/2009	$0.00
34A	102793	ATL Applications	9/16/2009	$50.00
35A	102794	ATL Applications	NA	$50.00
36A	105659	ATL Applications	9/16/2009	$50.00
37A	105660	ATL Applications	9/16/2009	$50.00
38A	105661	ATL Applications	9/16/2009	$50.00
39A	105662	ATL Applications	9/16/2009	$50.00
40A	105663	ATL Applications	9/16/2009	$50.00
41A	105664	ATL Applications	NA	$50.00
42A	105066	ATL Applications	9/17/2009	$50.00
43A	105067	ATL Applications	9/17/2009	$50.00
44A	105068	ATL Applications	9/17/2009	$50.00
44AA	105068 Lab Duplicate	ATL Applications	9/17/2009	$0.00
45A	105069	ATL Applications	9/17/2009	$50.00
46A	105070	ATL Applications	9/17/2009	$50.00
47A	105071	ATL Applications	NA	$50.00

Note: Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: CPSC Indoor Air Monitoring/13297

BILL TO: Accounts Payable
Environmental Health & Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494

Analysis Code: Other GC

TERMS:

Reporting Method: ATL Application #62 Ozone-Radiello 172

SAMPLE RECEIPT SUMMARY Continued

Client

Mr. Taeko Minegishi
Environmental Health & Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494

Sales Rep: TL

Phone

800-825-5343

Fax

781-247-4305

Date Promised: 09/29/09 11:59 pm
Date Completed: 10/7/09
Date Received: 9/18/09
PO#: 16512
Project#: 16512

Total $: $ 990.00
Logged By: MG

Fraction	Sample #	Analysis	Collected	Amount$
48A	Lab Blank	ATL Applications	NA	$0.00
48B	Lab Blank	ATL Applications	NA	$0.00
49A	CCV	ATL Applications	NA	$0.00

Misc. Charges eCVP (18) @ $5.00 each. $90.00

Note: Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: CPSC Indoor Air Monitoring/13297

BILL TO: Accounts Payable
Environmental Health & Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494

Analysis Code: Other GC

TERMS:

Reporting Method: ATL Application #62 Ozone-Radiello 172

Sample Discrepancy Report

Identification

Initiated By: MG **Project ID:** 13297 **PM:** AS **Date:** 9/18/2009 **Discrepancy Type:** ☐ 1. ☒ 2. ☐ 3.

Workorder(s) affected: 0909376 **Sample(s) affected:** ALL

1. Sample Receipt Discrepancies

Narration Not Required:

1.1. ☐ Sample container (cartridge/tube/VOA vial) was received broken, however sample was intact.

1.2. ☐ No brass cap on canister.

1.3. ☐ Date of Collection noted on first sample, but no arrow down to indicate all samples.

Notify Lab for further determination:

1.4. ☐ Tedlar bag received with minimal volume.

Initials: _____ Date: _____

Narration Required in Lab Narrative and Sample Confirmation:

1.5. ☐ COC was not filled out in ink.

1.6. ☐ COC improperly relinquished / received.

1.7. ☐ Sample tags / can numbers do not match the COC.

1.8. ☐ Sample date ☐ error / ☐ missing on COC but noted on sample tag (check one).

1.9. ☐ Custody Seal on the outside of the container was ☐ broken / ☐ improperly placed (check one).

1.10. ☐ ID-none on the sample Tag/Blank

1.11. ☐ Other (describe below).

Describe the Discrepancy: _____

2. Sample Receipt/Screening Discrepancies requiring PM notification

Document on Cover Page of Sample Receipt Confirmation and in Receiving Notes of Lab Narrative

If Section II. is filled out PM must be notified within 24 hrs of initiation

2.1. ☐ COC was not received with samples.

2.2. ☐ Analysis method(s) is ☐ not specified / ☐ incorrectly specified (check one) on the COC.

2.3. ☐ Incorrect sampling media / container for analysis requested.

2.4. ☐ Number of samples on the COC does not match the number of samples that were received.

2.5. ☐ Samples were received expired.

2.6. ☐ Sampling date (time for sulfur) is not documented for ☐ *some* / ☐ *any* samples (check one).

2.7. ☐ Sample received with amount of H_2O in the Tedlar Bag.

2.8. ☐ Sample cannot be analyzed. Container was ☐ received broken / ☐ leaking / ☐ flat / ☐ defective.

2.9. ☐ Tedlar bag / canister received emitting a strong odor; Sample ☐ can / ☐ cannot (check one) be analyzed.

2.10. ☐ Tedlar Bag for Sulfur analysis has metal fitting.

2.11. ☐ Environmental Supply Company valves

2.12. ☐ Sorbent samples-sampling volume was not provided

2.13. ☐ Flow controller used – canister samples received at ambient or under pressure.

2.14. ☐ Canister was at ambient pressure at time of pressurization and (check all that apply):

- ☐ Canister failed leak check on two manifolds,
- ☐ Canister valve was open,
- ☐ Brass nut was loose/not present.
- ☐ Sample can be analyzed
- ☐ Cannot be analyzed

2.15. ☐ Canister sample received with a vacuum difference >5.0"Hg between the receipt vac. And the final vac. reported on the COC, indicating loss of vacuum.

2.16. ☐ Canister sample received at >15"Hg (*not* identified as a Trip/Field Blank).

2.17. ☐ Canister Trip Blank received at low vacuum (< 25"Hg).

2.18. ☒ Sorbent Sample received outside method required temperature of 2°C to 6°C; ☐ Ice / ☒ blue ice (check one) was present. A temp. Blank ☐ was / ☒ was not present (check one).

2.19. ☐ Other (describe below)

Initials: _____ **Date:** _____ **Notify Receiving:** ☐ **Notify PM:** ☐

Describe the Discrepancy: 2.18: Received samples at 8.4C

3. Lab Discrepancies requiring Team Leader/PM notification

Document in Analytical Notes of Lab Narrative

If Section III. is filled out PM must be notified within 24 hrs of initiation

3.1. ☐ Tedlar Bag found to be leaking at the time of analysis; sample ☐ can / ☐ cannot (check one) be analyzed.

3.2. ☐ Tedlar Bag found to be flat/low volume; sample cannot be analyzed.

3.3. ☐ Sulfur samples received with insufficient time to analyze prior to expiration.

3.4. ☐ Canister found to be leaking at the time of analysis.

3.5. ☐ VOST tube saturated; bag dilution necessary.

3.6. ☐ Sample loss due to instrument malfunction / broken glassware.

3.7. ☐ Low/high surrogate recoveries noted in QC/sample(s) for extractable samples.

3.8. ☐ Reporting Limit was raised.

3.9. ☐ Post weight > Pre weight in field/lab Blank for PM10/TSP samples.

3.10. ☐ Other (describe below).

Initials: _____ **Date:** _____ **Notify Receiving:** ☐ **Notify PM:** ☐ _____

Team Lead Initials: _____ **Date:** _____

Describe the Discrepancy: _____

_____

_____

How Does this Affect Client: _____

_____

_____

Project Manager Use Only

Project Manager Notification ☒ **Section 2 Complete** ☐ **Section 3 Complete**

Action:

☐ It is not necessary to notify the client. Narrate the discrepancy in Receiving Notes/Analytical Notes of Lab Narrative.

PM Initials:_____ Date: _____

☒ Client notification required. See attached client contact / email, or comments below:

Client Notification:

PM Initials:AS Person notified: _____ Date: 9/22/2009

☐ Waiting for Client Reply

Comments: _____

_____

☐ Notify Lab Name: _____ Date: _____ **Notify Receiving:** ☐

☐ **Additional notifications attached.**

Additional Comments:

____

Other Records

Air Toxics LTD.
Laboratory Services Since 1989

Method : ATL Application #62 Ozone-Radiello 172

CAS Number	Compound	Rpt. Limit (ug)
10028-15-6	Ozone	1.0

@Air Toxics Ltd.

DATA REVIEW CHECKLIST

Work Order #: 0909376C

A_1	A_2	R	T	M	Q	
☐	☐	☑	☐	☑	☐	Analysis/Reporting vs. Project Profile/SOP requirements checked (i.e. 100% Dups, J-Flag to MDL, etc)
		☑	☐	☑	☐	The final report has the correct reporting list, special units, and header info.
		☑	☐	☑	☐	Lab Narrative is correct (proper method & description/Receiving & Analytical notes correct)
		☑	☐	☑	☐	Sample Discrepancy Report (SDR) is completed
☐	☐	☑	☐	☑	☐	Corrective Action issued - # _____
☐	☐	☑	☐	☑	☐	Unusual circumstances have been documented in the notes section below

LUMEN *validation report present and initialed* ***CIRCLE (YES (NO)***

☐	☐	☑	☐	☑	☐	Lab Blank, CCV, LCS and DUP met QC criteria
☐	☐	☑	☐	☑	☐	Hold time is met for all samples
		☑	☐	☑	☐	Appropriate data qualifier flags are applied
		☑	☐	☑	☐	Manual integrations for samples and QC are properly documented
☐	☐	☑	☐		☐	Samples analyzed within the project or method specific clock
		☑	☐			Retention times have been verified
☐	☐	☑	☐		☐	Appropriate ICAL(s) included
		☑	☐	☑	☐	At least one result per sample is verified against the target quant sheets/raw data
☐	☐	☑	☐		☐	Dilution factor correctly calculated (sample load volume, syringe and bag dilutions, can pressurization(s))
☐	☐	☑	☐			Correct amount of sample analyzed (i.e. sample not over-diluted)
		☑	☐			Spectra verified - documentation of spectral defense included (Section 5A of eCVP pkg)
		☐	☐			TICs resemble reference spectra
		☐	☐			TICs between duplicate samples are consistent
☐	☐	☐	☐	☐	☐	Checked samples for trends (i.e. Influent vs. Effluent, Field Dups, Field/Trip Blank, etc.)
☐	☐	☐	☐			Data for multiple analyses of sample(s) has been evaluated for comparability of results
		☑				Special units for all samples in the final report are correctly calculated
		☑	☐	☐		Manually entered results checked (i.e. TPH/NMOC)
☐	☐	☑				Chain of Custody verified for any special comments (i.e. different compounds/RLs, action levels)
		☑				Chain of Custody scanned correctly
				☐		Verify sample id's vs. chain of custody
		☑				Date MDL(s) performed per instrument(s) _____
☐	☐	☐				Samples pressurized w/ appropriate gas (N_2 or He) ☐ Other (i.e. Tedlar bag, cartridge, sorbent)
☐	☐	☐				Final pressure consistent with canister size (6L vs. 1L)
☐	☐	☐				Verify receipt pressures
☐	☐	☑				Verify canister ID #'s
		☑		☐		Final invoice amount correct (adjusted for TAT, Penalties, Re-issue Charges etc.)
				☐		MDL date(s) present for all instruments utilized
		☑	☐	☐	☐	Client LUMEN report reviewed for accuracy and completeness

Notes: *(to include: noting samples with QA/QC problems, Blanks with positive hits, narratives, etc.)*

A/R:

Dup: 33A - 44A

M/Q:

A_1/A_2 (Analytical Review/Date)	R/T (Reporting Review/Date)	M (Management Review/Date)	Q (QA Review/Date)
A_1:	R: Km 9/30/09	10/7/09	
A_2:	T:		

Note (1): Please check all the appropriate boxes. Indicate "NA" for any statement that does not apply. Rev. 02/20/09

Note (2): Management reviewer and reporting reviewer must be separate individuals.