

**COMPREHENSIVE VALIDATION PACKAGE**

ATL Applications

INVENTORY SHEET

WORK ORDER # 0909376A

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Completed by:

*Kara McKiernan*

(Signature)

Kara McKiernan/ Document Control

(Print Name & Title)

10/08/09

(Date)

**WORK ORDER #: 0909376A**

Work Order Summary

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

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>
01A	102845	ATL Applications
02A	102846	ATL Applications
03A	102847	ATL Applications
04A	102848	ATL Applications
05A	102849	ATL Applications
05AA	102849 Lab Duplicate	ATL Applications
06A	102850	ATL Applications
07A	102851	ATL Applications
08A	104977	ATL Applications
09A	104978	ATL Applications
10A	104979	ATL Applications
11A	104980	ATL Applications
12A	104981	ATL Applications
13A	104982	ATL Applications
13AA	104982 Lab Duplicate	ATL Applications
14A	Method Blank	ATL Applications
14B	Method Blank	ATL Applications
15A	CCV	ATL Applications

CERTIFIED BY:



Laboratory Director

DATE: 10/07/09

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

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

Thirteen 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/m<sup>3</sup>.

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  $4 \pm 2$  °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

## **Sample Results and Raw Data**

# AIR TOXICS LTD.

## ATL Application # 62 for RAD 172 (Ozone)

Spectrophotometer

Field Sample ID.	Lab Sample ID.	Collection Date	Analysis Date	Dilution Factor	Reporting Limit (ug)	Reporting Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
102845	0909376A-01A	9/15/2009	9/22/2009	1.00	0.64	1.4	ND	ND
102846	0909376A-02A	9/15/2009	9/22/2009	1.00	0.64	1.4	ND	ND
102847	0909376A-03A	9/15/2009	9/22/2009	1.00	0.64	1.4	ND	ND
102848	0909376A-04A	9/15/2009	9/22/2009	1.00	0.64	1.4	ND	ND
102849	0909376A-05A	9/15/2009	9/22/2009	2.00	1.3	2.8	14	30
102849 Lab Duplicate	0909376A-05AA	9/15/2009	9/22/2009	2.00	1.3	2.8	14	30
102850	0909376A-06A	NA	9/22/2009	1.00	0.64	1.3	ND	ND
102851	0909376A-07A	NA	9/22/2009	1.00	0.64	1.3	ND	ND
104977	0909376A-08A	NA	9/22/2009	1.00	0.64	1.3	ND	ND
104978	0909376A-09A	9/16/2009	9/22/2009	1.00	0.64	1.3	ND	ND
104979	0909376A-10A	9/16/2009	9/22/2009	1.00	0.64	1.3	ND	ND
104980	0909376A-11A	9/16/2009	9/22/2009	1.00	0.6	1.3	ND	ND
104981	0909376A-12A	9/16/2009	9/22/2009	1.00	0.64	1.3	ND	ND
104982	0909376A-13A	9/16/2009	9/22/2009	1.00	0.64	1.3	11	23
104982 Lab Duplicate	0909376A-13AA	9/16/2009	9/22/2009	1.00	0.64	1.3	11	23
Method Blank	0909376A-14A	NA	9/22/2009	1.00	0.64	1.3	ND	ND
Method Blank	0909376A-14B	NA	9/22/2009	1.00	0.64	1.3	ND	ND
CCV	0909376A-15A	NA	9/22/2009	1.00	0.64	1.3	%Rec 101	

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

Workorder #: **0909376A**

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

$(Abs-Y-int) \times DF$

Slope

$Conc (ug) \times 1000000$

Q x Duration

Low Point x DF

LabSampleID	Client	Date of Collection	Abs	Duration (min)	DF	Ozone Conc (ug)	Conc (ug/m3)	RL(ug)
01A	24.6	Ozone taking into account Temp						
02A	102845	9/15/2009	0.032	18720	1.00	0.083657209	0.182	0.638
03A	102846	9/15/2009	0.042	18720	1.00	0.167907441	0.365	0.638
04A	102847	9/15/2009	0.039	18720	1.00	0.142632371	0.310	0.638
05A	102848	9/15/2009	0.029	18720	1.00	0.058382139	0.127	0.638
05AA	102849	9/15/2009	0.841	18720	2.00	13.79900199	29.964	1.277
06A	102849 Lab Duplicate	9/15/2009	0.844	18720	2.00	13.84955213	30.074	1.277
07A	102850	NA	0.03	20160	1.00	0.066807162	0.135	0.638
08A	102851	NA	0.03	20160	1.00	0.066807162	0.135	0.638
09A	104977	NA	0.03	20160	1.00	0.066807162	0.135	0.638
10A	104978	9/16/2009	0.041	20160	1.00	0.159482418	0.322	0.638
11A	104979	9/16/2009	0.044	20160	1.00	0.184757487	0.373	0.638
12A	104980	9/16/2009	0.05	20160	1.00	0.235307627	0.474	0.638
13A	104981	9/16/2009	0.041	20160	1.00	0.159482418	0.322	0.638
13AA	104982	9/16/2009	1.359	20160	1.00	11.26366303	22.712	0.638
	104982 Lab Duplicate	9/16/2009	1.364	20160	1.00	11.30578814	22.797	0.638
14A	Method Blank	NA	0.019	20160	1.00	-0.185943534	#DIV/0!	0.638
14B	Method Blank	NA	0.028	20160	1.00	-0.185943534	#DIV/0!	0.638
15A	Method Blank	NA	NA	NA	1.00	-0.185943534	#DIV/0!	0.638
	CCV	NA	0.327	20160	1.00	2.56903906	5.180	0.638

QC Duration

20160

CCV Spike Amt

2.5536



## QC Results and Raw Data



# 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<sub>2</sub>O  
Solvent Lot #: N/A

Procedure/Comments: \_\_\_\_\_

Dissolve 20 µl of 4-Pyridine-carboxaldehyde, 97% (1476-1103, located F22H) in 200mL D.I. H<sub>2</sub>O. 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<sub>2</sub>O = 57 µg/mL.

1:5) 100 µl Pyridine solution with 400 µl of D.I. H<sub>2</sub>O = 22.8 µg/mL.

1:10) 100 µl Pyridine solution with 900 µl of D.I. H<sub>2</sub>O = 11.4 µg/mL

1:20) 250 µl Pyridine 1:10 solution with 250 µl of D.I. H<sub>2</sub>O = 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

AS

Page 46 M. Skidmore 9/23/09  
Signed Date

AS 9/24/09  
Reviewed Date

Standard ID: 1858-63  
Project: IGV RAD 172  
Analyst: [Signature]  
Preparation Date: 9/22/09  
Expiration Date: 9/22/09

Solvent: DI H<sub>2</sub>O  
Solvent Lot #: NA

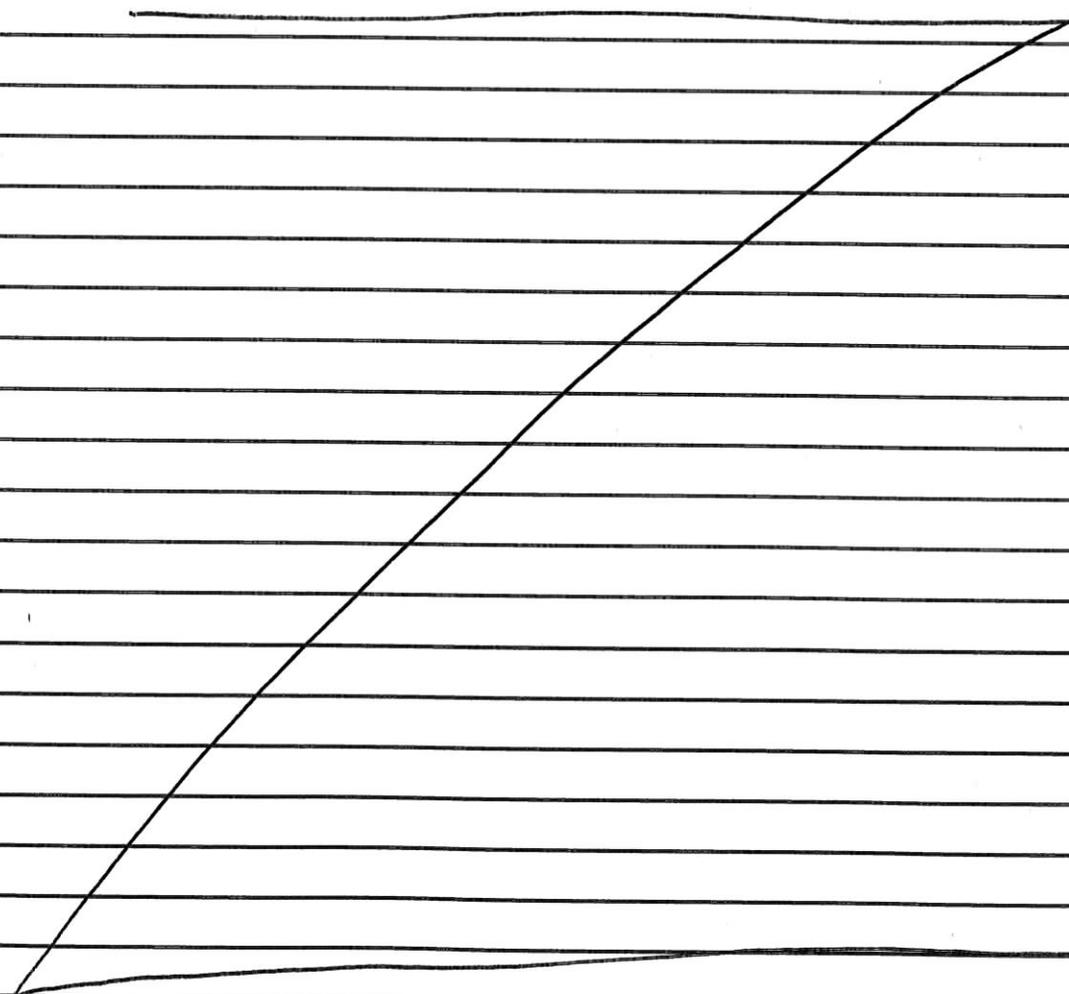
Procedure/Comments:

Dissolve 20 µl of 4-Pyridine-carboxaldehyde, 97% (1476-1103, located F22H) in 200mL D.I. H<sub>2</sub>O. 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<sub>2</sub>O = 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.



[Signature]  
Signed

9/29/09  
Date

[Signature]  
Reviewed

9/29/09  
Date

## **Shipping/ Receiving Documents**

**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 #: 0909376A  
# of pages (Including Cover): 4

10/8/2009

Thank you for selecting Air Toxics Ltd. We have received your samples and have found 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.

In accordance with your company's contract, this account is required to have a PO that is fully executed by both parties which also covers the cost of the workorder before any data can be released. Please ensure that you have given all appropriate information to our Project Manager so that there will be no delay in reporting of the data you are requesting.

The following discrepancies have been observed:

Samples were not received at the recommended temperature ( $4 \pm 2$  °C). ATL will proceed with the analysis unless otherwise notified.

*Your prompt response is appreciated.*

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
102845	AIR/PASSIVE	OZONE ANALYSIS	9/2/09	9/15/09	
102846					
102847					
102848					
102849					
102850				0	
102851				0	
104977			9/2	0	
104978				9/16/09	
104979					
104980					
104981					
104982					

Special Instructions:

- Standard turn around time
- Fax results 781-247-4305
- RETURN SAMPLES
- Additional report recipient

Rush by \_\_\_\_\_ date/time

Fidel 8082 262 52202  
Other  
**CUSTODY SEAL INTACT?**  
**Y N NON-TEMP 84°C**

Electronic transfer - data coordinator@eh&e.com  
MFRAGALA@EHEINC.COM

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

Relinquished by: [Signature] of Environmental Health & Engineering, Inc. Date: 9/17/09  
 Received by: [Signature] of (company name) ATI 0850 Date: 9/2/09  
 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: \_\_\_\_\_

**SAMPLE RECEIPT SUMMARY**

**WORKORDER 0909376A**

<b>Client</b>	<b>Phone</b>	<b>Date Promised:</b> 09/29/09 11:59 pm
Mr. Taeko Minegishi	800-825-5343	<b>Date Completed:</b> 10/7/09
Environmental Health & Engineering, Inc.	<b>Fax</b>	<b>Date Received:</b> 9/18/09
117 Fourth Avenue	781-247-4305	<b>PO#:</b> 16512
Needham, MA 02494		<b>Project#:</b> 16512
<b>Sales Rep:</b> TL		<b>Total \$:</b> \$ 715.00
		<b>Logged By:</b> MG

<u>Fraction</u>	<u>Sample #</u>	<u>Analysis</u>	<u>Collected</u>	<u>Amount\$</u>
01A	102845	ATL Applications	9/15/2009	\$50.00
02A	102846	ATL Applications	9/15/2009	\$50.00
03A	102847	ATL Applications	9/15/2009	\$50.00
04A	102848	ATL Applications	9/15/2009	\$50.00
05A	102849	ATL Applications	9/15/2009	\$50.00
05AA	102849 Lab Duplicate	ATL Applications	9/15/2009	\$0.00
06A	102850	ATL Applications	NA	\$50.00
07A	102851	ATL Applications	NA	\$50.00
08A	104977	ATL Applications	NA	\$50.00
09A	104978	ATL Applications	9/16/2009	\$50.00
10A	104979	ATL Applications	9/16/2009	\$50.00
11A	104980	ATL Applications	9/16/2009	\$50.00
12A	104981	ATL Applications	9/16/2009	\$50.00
13A	104982	ATL Applications	9/16/2009	\$50.00
13AA	104982 Lab Duplicate	ATL Applications	9/16/2009	\$0.00
14A	Method Blank	ATL Applications	NA	\$0.00
14B	Method Blank	ATL Applications	NA	\$0.00
15A	CCV	ATL Applications	NA	\$0.00

Misc. Charges eCVP (13) @ \$5.00 each. \$65.00

**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

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

# 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<sub>2</sub>O 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: TM, BB & DS Date: 9/22/2009  
 Waiting for Client Reply

Comments: \_\_\_\_\_  
 \_\_\_\_\_

Notify Lab Name: \_\_\_\_\_ Date: \_\_\_\_\_ Notify Receiving:   
 Additional notifications attached.

**Additional Comments:**

\_\_\_\_\_

## **Other Records**



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Method : ATL Application #62 Ozone-Radiello 172

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

DATA REVIEW CHECKLIST

Work Order #:

0909376A

- 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<sub>2</sub> or He)  Other (i.e. Tedlar bag, cartridge, sorbent)
- Final pressure consistent with canister size (6L vs. 1L) Red 172
- 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. 05A, 13A

M/O:

A <sub>1</sub> /A <sub>2</sub> (Analytical Review/Date)	R/T (Reporting Review/Date)	M (Management Review/Date)	Q (QA Review/Date)
A <sub>1</sub> :	R: 9/29/09	M: 10/7/09	
A <sub>2</sub> :	T:		