

COMPREHENSIVE VALIDATION PACKAGE

ATL Applications

INVENTORY SHEET

WORK ORDER # 0908631C

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Completed by:

Kara McKiernan

(Signature)

Kara McKiernan/ Document Control

(Print Name & Title)

09/21/09

(Date)

WORK ORDER #: 0908631C

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: | 08/28/2009 | CONTACT: | Ausha Scott |
| DATE COMPLETED: | 09/17/2009 | | |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u> |
|-------------------|----------------------|------------------|
| 33A | 101324 | ATL Applications |
| 34A | 101325 | ATL Applications |
| 34AA | 101325 Lab Duplicate | ATL Applications |
| 35A | 101326 | ATL Applications |
| 36A | 101327 | ATL Applications |
| 37A | 101328 | ATL Applications |
| 38A(cancelled) | 101677 | ATL Applications |
| 39A | 101678 | ATL Applications |
| 40A | 101679 | ATL Applications |
| 41A | 101680 | ATL Applications |
| 42A | 101681 | ATL Applications |
| 43A | 101682 | ATL Applications |
| 44A | 101416 | ATL Applications |
| 45A | 101417 | ATL Applications |
| 46A | 101418 | ATL Applications |
| 46AA | 101418 Lab Duplicate | ATL Applications |
| 47A | 101419 | ATL Applications |

Continued on next page

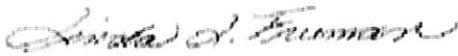
WORK ORDER #: 0908631C

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 |
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| DATE RECEIVED: | 08/28/2009 | CONTACT: | Ausha Scott |
| DATE COMPLETED: | 09/17/2009 | | |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u> |
|-------------------|--------------|------------------|
| 48A | 101420 | ATL Applications |
| 49A | Method Blank | ATL Applications |
| 49B | Method Blank | ATL Applications |
| 50A | CCV | ATL Applications |

CERTIFIED BY:



Laboratory Director

DATE: 09/17/09

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
Nitrogen Dioxide by Radiello 166
Environmental Health & Engineering, Inc.
Workorder# 0908631C**

Sixteen Radiello 166 (NO₂) samples were received on August 28, 2009. The procedure involves extraction of nitrite from reaction of NO₂ with triethanolamine. Absorbance of nitrite is then measured at 537 nm using a spectrophotometer. Results are reported in uG and uG/m³.

Sampling rate of 141 mL/min was provided by the manufacturer.

Receiving Notes

The number of samples received did not match the information on the Chain of Custody (COC). Sample 101677 was not received at Air Toxics Ltd. despite notation on the COC.

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 21600 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 # 61 for RAD 166 (Nitrogen Dioxide)

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) |
|----------------------|----------------|-----------------|---------------|-----------------|----------------------|-------------------------|-------------|----------------|
| 101324 | 0908631C-33A | 8/25/2009 | 9/1/2009 | 1.00 | 0.32 | 0.23 | 9.0 | 6.4 |
| 101325 | 0908631C-34A | 8/25/2009 | 9/1/2009 | 1.00 | 0.32 | 0.23 | 13 | 9.1 |
| 101325 Lab Duplicate | 0908631C-34AA | 8/25/2009 | 9/1/2009 | 1.00 | 0.32 | 0.23 | 13 | 9.2 |
| 101326 | 0908631C-35A | 8/25/2009 | 9/1/2009 | 1.00 | 0.32 | 0.23 | 4.3 | 3.1 |
| 101327 | 0908631C-36A | 8/25/2009 | 9/1/2009 | 1.00 | 0.32 | 0.23 | 6.1 | 4.3 |
| 101328 | 0908631C-37A | NA | 9/1/2009 | 1.00 | 0.32 | 0.22 | NID | NID |
| 101678 | 0908631C-39A | 8/27/2009 | 9/1/2009 | 1.00 | 0.32 | 0.22 | 4.0 | 2.6 |
| 101679 | 0908631C-40A | 8/27/2009 | 9/1/2009 | 1.00 | 0.32 | 0.22 | 4.9 | 3.2 |
| 101680 | 0908631C-41A | 8/27/2009 | 9/1/2009 | 1.00 | 0.32 | 0.22 | 3.6 | 2.4 |
| 101681 | 0908631C-42A | 8/27/2009 | 9/1/2009 | 1.00 | 0.32 | 0.22 | 3.5 | 2.3 |
| 101682 | 0908631C-43A | NA | 9/1/2009 | 1.00 | 0.32 | 0.22 | 0.44 | 0.29 |
| 101416 | 0908631C-44A | 8/26/2009 | 9/1/2009 | 1.00 | 0.32 | 0.23 | 3.0 | 2.1 |
| 101417 | 0908631C-45A | 8/26/2009 | 9/1/2009 | 1.00 | 0.32 | 0.23 | 2.6 | 1.8 |
| 101418 | 0908631C-46A | 8/26/2009 | 9/1/2009 | 1.00 | 0.32 | 0.23 | 8.0 | 5.7 |
| 101418 Lab Duplicate | 0908631C-46AA | 8/26/2009 | 9/1/2009 | 1.00 | 0.32 | 0.23 | 8.0 | 5.7 |
| 101419 | 0908631C-47A | 8/26/2009 | 9/1/2009 | 1.00 | 0.32 | 0.23 | 2.3 | 1.6 |
| 101420 | 0908631C-48A | 8/26/2009 | 9/1/2009 | 1.00 | 0.32 | 0.23 | 3.3 | 2.4 |
| Method Blank | 0908631C-49A | NA | 9/1/2009 | 1.00 | 0.32 | 0.22 | 0.48 | 0.32 |
| Method Blank | 0908631C-49B | NA | 9/1/2009 | 1.00 | 0.32 | 0.22 | 0.52 | 0.34 |
| CCV | 0908631C-50A | NA | 9/1/2009 | 1.00 | 0.32 | 0.22 | %Rec 102 | |

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.

Dioxide Radiello Calculation Worksheet

Workorder #: 0908631C

1000ng/Lug

Sampling Rate (ng/(ppb*min)) 0.141 Typically 0.96 for NO2

Sampling T (deg C) 25 Typically 25

Volume (ml) 5 Typically 5 for NO2

Date of Analysis: 9/1/2009

(Abs-Y-Int)/DF Conc (ug) in full 5 ml of Conc (ug) x 1000 DOBx nmw
Slope 0.5ml Q x Duration 24.45

| Corrected Q | 0.141 | es into account temp | Abs | Duration (min) | DF | Conc (ug) (for 0.5ml Aliquot) | Conc (ug) in full 5 ml of sample | Conc (ppb) | Conc (ug/m3) |
|-------------|----------------------|----------------------|-------|----------------|------|-------------------------------|----------------------------------|------------|--------------|
| 33A | 101324 | 8/25/2009 | 0.241 | 18720 | 1.00 | 0.90147763 | 9.014776302 | 3.415 | 6.426 |
| 34A | 101325 | 8/25/2009 | 0.336 | 18720 | 1.00 | 1.280457398 | 12.80457398 | 4.851 | 9.127 |
| 34AA | 101325 Lab Duplicate | | 0.337 | 18720 | 1.00 | 1.284446659 | 12.84446659 | 4.866 | 9.155 |
| 35A | 101326 | 8/25/2009 | 0.124 | 18720 | 1.00 | 0.434734127 | 4.347341267 | 1.647 | 3.099 |
| 36A | 101327 | 8/25/2009 | 0.167 | 18720 | 1.00 | 0.606272337 | 6.062723374 | 2.297 | 4.321 |
| 37A | 101328 | NA | 0.022 | 20160 | 1.00 | 0.027829534 | 0.278295339 | 0.098 | 0.184 |
| 38A | 101677 | 8/27/2009 | NA | 20160 | 1.00 | #VALUE! | #VALUE! | #VALUE! | #VALUE! |
| 39A | 101678 | 8/27/2009 | 0.115 | 20160 | 1.00 | 0.39883078 | 3.988307803 | 1.403 | 2.640 |
| 40A | 101679 | 8/27/2009 | 0.137 | 20160 | 1.00 | 0.486594516 | 4.86594516 | 1.712 | 3.221 |
| 41A | 101680 | 8/27/2009 | 0.105 | 20160 | 1.00 | 0.358938173 | 3.589381732 | 1.263 | 2.376 |
| 42A | 101681 | 8/27/2009 | 0.102 | 20160 | 1.00 | 0.346970391 | 3.46970391 | 1.221 | 2.296 |
| 43A | 101682 | NA | 0.026 | 20160 | 1.00 | 0.043786577 | 0.437865768 | 0.154 | 0.290 |
| 44A | 101416 | 8/26/2009 | 0.089 | 18720 | 1.00 | 0.295110002 | 2.951100017 | 1.118 | 2.103 |
| 45A | 101417 | 8/26/2009 | 0.080 | 18720 | 1.00 | 0.259206655 | 2.592066553 | 0.982 | 1.848 |
| 46A | 101418 | 8/26/2009 | 0.216 | 18720 | 1.00 | 0.801746112 | 8.017461124 | 3.037 | 5.715 |
| 46AA | 101418 Lab Duplicate | | 0.216 | 18720 | 1.00 | 0.801746112 | 8.017461124 | 3.037 | 5.715 |
| 47A | 101419 | 8/26/2009 | 0.073 | 18720 | 1.00 | 0.23128183 | 2.312818303 | 0.876 | 1.649 |
| 48A | 101420 | 8/26/2009 | 0.098 | 18720 | 1.00 | 0.331013348 | 3.310133482 | 1.254 | 2.359 |
| | | | | | 1.00 | -0.059934202 | -0.599342018 | #DNV/01 | #DNV/01 |
| | | | | | 1.00 | -0.059934202 | -0.599342018 | #DNV/01 | #DNV/01 |
| | | | | | 1.00 | -0.059934202 | -0.599342018 | #DNV/01 | #DNV/01 |
| 49A | Method Blank | | 0.027 | 20160 | 1.00 | 0.047775837 | 0.477758375 | 0.168 | 0.316 |
| 49B | Method Blank | | 0.028 | 20160 | 1.00 | 0.051765098 | 0.517650982 | 0.182 | 0.343 |
| 50A | CCV | | 0.844 | 20160 | 1.00 | 3.307001841 | 33.07001841 | 11.634 | 21.888 |

QC Duration 20160
CCV Spike Amt ug per 0.5 ml 3.25

QC Results and Raw Data

Spectrophotometer Logbook

@Air Toxics Ltd.

Log Book #: 1564

Work Order: 0908631C

Date: 9/1/09

Method: Rad 166

Analyst: A. Toyama

Wavelength: 537 nm

Prep. Notes:

| Standard ID | Concentration | ABS |
|-----------------------------|--|-------|
| 1858-26-07 0.065 | 0.065 0.7 $\mu\text{g}/\text{mL}$ | 0.017 |
| 0.5 0.325 | 0.325 0.5 $\mu\text{g}/\text{mL}$ | 0.051 |
| 2.0 1.3 | 1.3 2.0 $\mu\text{g}/\text{mL}$ | 0.182 |
| 10 6.5 | 6.5 10 $\mu\text{g}/\text{mL}$ | 0.844 |
| 20 13 | 13 20 $\mu\text{g}/\text{mL}$ | 1.637 |
| 9/3/09 AT | 9/3/09 AT | |

$r = 0.9998$ 4/5/10/9
 $m = 0.0915$ 8.25067
 $b = 0.0150$ 0.0150
 9/3/09
 AT

| Fraction | Dilution | ABS | Sample ID | Sample Volume |
|----------|----------|-------|-----------|---------------|
| 33A | 1.00 | 0.241 | 101324 | 5.0 mL |
| 34A | | 0.336 | 325 | |
| 35A | | 0.124 | 326 | |
| 36A | | 0.167 | 327 | |
| 37A | | 0.022 | 328 | |
| 39A | | 0.115 | 678 | |
| 40A | | 0.137 | 679 | |
| 41A | | 0.105 | 680 | |
| 42A | | 0.102 | 681 | |
| 43A | | 0.026 | 682 | |
| 44A | | 0.089 | 416 | |
| 45A | | 0.050 | 417 | |
| 46A | | 0.216 | 418 | |
| 47A | | 0.073 | 419 | |
| 48A | | 0.098 | 420 | |

Notes: Blank Cartridges: Lot 09150
CCV/LCS prepared at 1009/mL
6.5 $\mu\text{g}/\text{mL}$
 9/8/09
 AT

Spectrophotometer Logbook

@Air Toxics Ltd.

Log Book #: 1564

Work Order: 0908631C

Cont. from page 43

Date: _____

Method: _____

Analyst: _____

Wavelength: _____

Prep. Notes: _____

Standard ID

Concentration

ABS

| Standard ID | Concentration | ABS |
|-------------|---------------|-----|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

r = _____
m = _____
b = _____

Fraction

Dilution

ABS

Sample ID

Sample Volume

| Fraction | Dilution | ABS | Sample ID | Sample Volume |
|----------|----------|-------|-----------|---------------|
| 34AA | 1.00 | 0.337 | 101325 | 5.0 mL |
| 46AA | ↓ | 0.216 | ↓ 419 | ↓ |
| BIK | ↓ | 0.027 | NA | ↓ |
| BIK | ↓ | 0.028 | ↓ | ↓ |
| CCV/LCS | ↓ | 0.844 | ↓ | ↓ |

9/1/09 AG

9/1/09

ACT

Notes: _____

Signed: _____

Date: 9/1/09

Standard ID: 1858-26
Project: Calibration Solution Rad 166
Analyst: A. Toyama
Preparation Date: 9/1/09
Expiration Date: 9/1/09

Solvent: DI H₂O
Solvent Lot #: NA

Procedure/Comments: Dissolve 5mg Sodium Nitrite, 97% (located ER2D) in 250 mL DI H₂O to yield 20 ^{ug/ml} or 20 ^{ug/ml} ^{9/15/09} From this solution, dilute to make 13 ^{ug/ml} or 13 ^{ug/ml}
6.5 ^{ug/ml} 1.3 ^{ug/ml} 0.325 ^{ug/ml} 0.065 ^{ug/ml}
~~10 ^{ug/ml}, 3.0 ^{ug/ml}, 0.5 ^{ug/ml} and 0.1 ^{ug/ml}~~ ^{9/3/09 Act}
(~~375:600~~ ~~125:625~~ 150:600 100:500) all in μ l from conc. just in

To each of these calibration levels, transfer 0.5 mL to vial and add 5 mL of sulphanilamide, cap tightly, stir and wait 5 minutes. Then add 1 mL of NEDA solution, stir and wait 10 minutes. Measure absorbance at 537 nm.

8/31/09
Act

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 #: 0908631C
of pages (Including Cover): 4

9/21/2009

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.

Sample 101677 was not received at ATL despite notation on the COC. Unless otherwise notified ATL will proceed with the analysis of the samples that were received.

Your prompt response is appreciated.

DATE: 27 Aug 09

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

0908631

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 | | |
|------------|---------------|---|---------|------------------------------|---------|---------|
| 33A 101324 | AIR / PASSIVE | NO ₂ SO ₂ HF ANALYSIS | 8/12/09 | 8/25/09 | | |
| 34A 101325 | | | | | | |
| 35A 101326 | | | | | | |
| 36A 101327 | | | | | | |
| 37A 101328 | | | | | | |
| 38 101677 | | | | | 8/13/09 | 8/27/09 |
| 39A 101678 | | | | | | |
| 40A 101679 | | | | | | |
| 41A 101680 | | | | | | |
| 42A 101681 | | | | | | |
| 43A 101682 | | | | | | |
| 44 101416 | | | | | 8/13/09 | 8/26/09 |
| 45A 101417 | | | | | | |
| 46A 101418 | | | | | | |
| 47A 101419 | | | | | | |
| 48A 101420 | | | | | | |

Special Instructions:

- Standard turn around time
- Fax results 781-247-4305
- RETURN SAMPLES
- Additional report recipient wfraga@ehinc.com
- Rush by _____ date/time
- Electronic transfer - datacoordinator@ehinc.com

Filer 9704 23331854

| |
|---|
| <input type="checkbox"/> Other CUSTOMER SEAL INTACT? Y N NONE TEMP |
|---|

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

Relinquished by: [Signature] of Environmental Health & Engineering, Inc. Date: 8/27/09
 Received by: [Signature] of (company name) 0850 Date: 8/27/09
 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 0908631C

Client

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

Phone

800-825-5343

Fax

781-247-4305

Date Promised: 09/09/09 11:59 pm

Date Completed: 9/17/09

Date Received: 8/28/09

PO#: 16512

Project#: 16512

Total \$: \$ 675.00

Logged By: MW

Sales Rep: TL

| <u>Fraction</u> | <u>Sample #</u> | <u>Analysis</u> | <u>Collected</u> | <u>Amount\$</u> |
|-----------------|----------------------|------------------|------------------|-----------------|
| 33A | 101324 | ATL Applications | 8/25/2009 | \$40.00 |
| 34A | 101325 | ATL Applications | 8/25/2009 | \$40.00 |
| 34AA | 101325 Lab Duplicate | ATL Applications | 8/25/2009 | \$0.00 |
| 35A | 101326 | ATL Applications | 8/25/2009 | \$40.00 |
| 36A | 101327 | ATL Applications | 8/25/2009 | \$40.00 |
| 37A | 101328 | ATL Applications | NA | \$40.00 |
| 38A(cancelled) | 101677 | ATL Applications | 8/27/2009 | \$0.00 |
| 39A | 101678 | ATL Applications | 8/27/2009 | \$40.00 |
| 40A | 101679 | ATL Applications | 8/27/2009 | \$40.00 |
| 41A | 101680 | ATL Applications | 8/27/2009 | \$40.00 |
| 42A | 101681 | ATL Applications | 8/27/2009 | \$40.00 |
| 43A | 101682 | ATL Applications | NA | \$40.00 |
| 44A | 101416 | ATL Applications | 8/26/2009 | \$40.00 |
| 45A | 101417 | ATL Applications | 8/26/2009 | \$40.00 |
| 46A | 101418 | ATL Applications | 8/26/2009 | \$40.00 |
| 46AA | 101418 Lab Duplicate | ATL Applications | 8/26/2009 | \$0.00 |
| 47A | 101419 | ATL Applications | 8/26/2009 | \$40.00 |
| 48A | 101420 | ATL Applications | 8/26/2009 | \$40.00 |
| 49A | Method Blank | ATL Applications | NA | \$0.00 |
| 49B | Method Blank | ATL Applications | NA | \$0.00 |

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 #61 NO2-Radiello 166

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

SAMPLE RECEIPT SUMMARY Continued

Client

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

Phone

800-825-5343

Fax

781-247-4305

Date Promised: 09/09/09 11:59 pm

Date Completed: 9/17/09

Date Received: 8/28/09

PO#: 16512

Project#: 16512

Total \$: \$ 675.00

Logged By: MW

Sales Rep: TL

| <u>Fraction</u> | <u>Sample #</u> | <u>Analysis</u> | <u>Collected</u> | <u>Amount\$</u> |
|--|-----------------|------------------|------------------|-----------------|
| 50A | CCV | ATL Applications | NA | \$0.00 |
| Misc. Charges eCVP (15) @ \$5.00 each. | | | | \$75.00 |

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 #61 NO2-Radiello 166

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: MW Project ID:13297 PM: AS Date: 8/28/2009 Discrepancy Type: 1. 2. 3.

Workorder(s) affected: 0908637 Sample(s) affected: 38A

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 H₂O 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: Sample 38A - 101677, was not received - will put on hold until further notice

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: B. Baker Date: 8/31/2009

Waiting for Client Reply

Comments: **Client did not indicate the missing samples would be submitted. Please narrate and proceed.**

Notify Lab Name: _____ Date: _____ Notify Receiving:

Additional notifications attached.

Additional Comments:

Other Records



Method : ATL Application #61 NO2-Radiello 166

| CAS Number | Compound | Rpt. Limit (ug) |
|-------------------|------------------|------------------------|
| 10102-44-0 | Nitrogen Dioxide | 1.0 |

DATA REVIEW CHECKLIST

Work Order #:

0908631C

A1 A2 R T M Q
[checkboxes]

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

NA [checkboxes]

Corrective Action issued - #
Unusual circumstances have been documented in the notes section below

LUMEN validation report present and initialed

CIRCLE (YES / NO)

[checkboxes]

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

[checkboxes]

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)

NA [checkboxes]

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

[checkboxes]

Special units for all samples in the final report are correctly calculated
Manually entered results checked (i.e. TPH/NMOC)

[checkboxes]

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)

NA [checkboxes]

Samples pressurized w/ appropriate gas (N2 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.)

[checkboxes]

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: 38A on hold - not received
Dup. 34A, 46A

M/Q:

A1/A2 (Analytical Review/Date) R/T (Reporting Review/Date) M (Management Review/Date) Q (QA Review/Date)
A1: by 9/11/09 R: M 9/17/09

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.