



AN ENVIRONMENTAL ANALYTICAL LABORATORY

COMPREHENSIVE VALIDATION PACKAGE

ATL Applications
INVENTORY SHEET

WORK ORDER # 1011113B

Table with 3 columns: Item Description, From, To. Includes sections like '1. Work Order Cover Page & Laboratory Narrative & Table', '2. Sample Results and Raw Data', '3. QC Results and Raw Data', '4. Shipping/Receiving Documents', and '5. Other Records'.

Completed by:

Kara McKiernan (Signature), Kara McKiernan/ Document Control (Print Name & Title), 11/16/10 (Date)

WORK ORDER #: 101113B

Work Order Summary

CLIENT: Mr. Brian Baker
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

FAX: 781-247-4305

DATE RECEIVED: 11/04/2010

DATE COMPLETED: 11/15/2010

P.O. # 17131

PROJECT # 17131

CONTACT: Ausha Scott

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>
17A	118617	ATL Applications
18A	118618	ATL Applications
19A	118629	ATL Applications
20A	118630	ATL Applications
21A	118631	ATL Applications
22A	118632	ATL Applications
23A	118633	ATL Applications
24A	118634	ATL Applications
25A	118645	ATL Applications
26A	118646	ATL Applications
27A	118647	ATL Applications
28A	118648	ATL Applications
28AA	118648 Lab Duplicate	ATL Applications
29A	118649	ATL Applications
30A	118650	ATL Applications
31A	Lab Blank	ATL Applications
31B	Lab Blank	ATL Applications
32A	LCS	ATL Applications

CERTIFIED BY:

Sinda J. Fuman

Laboratory Director

DATE: 11/15/10

**LABORATORY NARRATIVE
Hydrogen Sulfide by Radiello 170
Environmental Health & Engineering, Inc.
Workorder# 1011113B**

Fourteen Radiello 170 (H₂S) samples were received on November 04, 2010. The procedure involves adsorption of H₂S by zinc acetate to form zinc sulfide. The sulfide is then recovered by extraction with water and addition of ferric chloride in a strongly acidic solution to produce methylene blue. Methylene blue absorbance is then measured at 665 nm using a spectrophotometer. Results are reported in uG and uG/m³.

Sampling rate of 69 mL/min for H₂S was provided by the manufacturer.

Receiving Notes

There were no receiving discrepancies.

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 19,950 minutes was used for the QC 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 # 59 for RAD 170 (Hydrogen Sulfide)

Spectrophotometer

Field Sample I.D.	Lab Sample I.D.	Collection Date	Analysis Date	Dilution Factor	Reporting Limit (ug)	Reporting Limit (ug/m ³)	Amount (ug)	Amount (ug/m ³)
118617	1011113B-17A	NA	11/12/2010	1.00	0.80	0.55	ND	ND
118618	1011113B-18A	NA	11/12/2010	1.00	0.80	0.55	ND	ND
118629	1011113B-19A	11/2/2010	11/12/2010	1.00	0.80	0.58	1.1	0.81
118630	1011113B-20A	11/2/2010	11/12/2010	1.00	0.80	0.58	0.97	0.71
118631	1011113B-21A	11/2/2010	11/12/2010	1.00	0.80	0.58	1.4	1.0
118632	1011113B-22A	11/2/2010	11/12/2010	1.00	0.80	0.58	1.4	1.0
118633	1011113B-23A	NA	11/12/2010	1.00	0.80	0.55	ND	ND
118634	1011113B-24A	NA	11/12/2010	1.00	0.80	0.55	ND	ND
118645	1011113B-25A	11/2/2010	11/12/2010	1.00	0.80	0.55	ND	ND
118646	1011113B-26A	11/2/2010	11/12/2010	1.00	0.80	0.55	0.96	0.66
118647	1011113B-27A	11/2/2010	11/12/2010	1.00	0.80	0.55	1.8	1.2
118648	1011113B-28A	11/2/2010	11/12/2010	1.00	0.80	0.55	1.3	0.87
118648 Lab Duplicate	1011113B-28AA	11/2/2010	11/12/2010	1.00	0.80	0.55	1.3	0.89
118649	1011113B-29A	NA	11/12/2010	1.00	0.80	0.55	ND	ND
118650	1011113B-30A	NA	11/12/2010	1.00	0.80	0.55	ND	ND
Method Blank	1011113B-31A	NA	11/12/2010	1.00	0.80	0.55	ND	ND
Method Blank	1011113B-31B	NA	11/12/2010	1.00	0.80	0.55	ND	ND
LCS	1011113B-32A	NA	11/12/2010	1.00	0.80	0.55	%Rec 96	

- COMMENTS:** 1. NA=Not Applicable
 2. ND=Not Detected
 3. Exposure time of 19950 minutes was assumed for the QC samples.
 4. Background subtraction not performed.

QC Results and Raw Data

Work Order: 101113B

Date: 11/12/10

Method: Rad 170

Analyst: M. Skidmore

Wavelength: 665nm

Standard ID	Concentration	ABS
	Sulfide (µg/mL)	
Level 1 1993-91-E	0.0716	0.098
Level 2 -D	0.143	0.187
Level 3 -C	0.286	0.354
Level 4 -B	0.572	0.684
Level 5 -A	1.145	1.256
ICV 1993-92	0.286	0.351

$r = \frac{0.9983}{1.077}$
 $m = \frac{1.077}{0.03823}$
 $b = \frac{0.03823}{1.077}$

ICV % Recovery = 102%

Fraction	Dilution	ABS	Sample ID	Sample Volume	Comments
17A	1.00	0.023	118617	10.5 mL	
18A		0.031	118618		
19A		0.145	118629		
20A		0.132	118630		
21A		0.178	118631		
22A		0.175	118632		
23A		0.022	118633		
24A		0.023	118634		
25A		0.109	118645		
26A		0.131	118646		
27A		0.214	118647		
28A		0.161	118648		
28AA		0.163	↓		
29A		0.033	118649		
30A		0.026	118650		
BIK1		0.026	N/A		Lot: 10101
BIK2		0.023	↓		↓
LCS		0.175	↓		Lot: 10101, 0.133 µg/mL
CCV	✓	0.359	↓	5.0 mL	0.286 µg/mL
_____					MJS 11/12/10

Procedure:

- 1.) Add 10 mL of H₂O to sample tube, cap and vortex for 1 minute.
- 2.) Add 0.5 mL of Ferric Chloride-Amine solution and cap immediately.
- 3.) Allow color to develop for 30 minutes.
- 4.) Measure absorbance at 665nm.

MJS 11/12/10


Signed

11/12/10
Date

Spectrophotometer Standard Preparation Log

@Air Toxics Ltd. Log Book #: 1993

Standard ID: 1993-76
Project: Rad 170 Amine Solution
Analyst: M. Skidmore
Preparation Date: 10/18/10
Expiration Date: 11/18/10

Solvent: HPLC H₂O
Solvent Lot #: DB 270

Procedure/Comments: _____

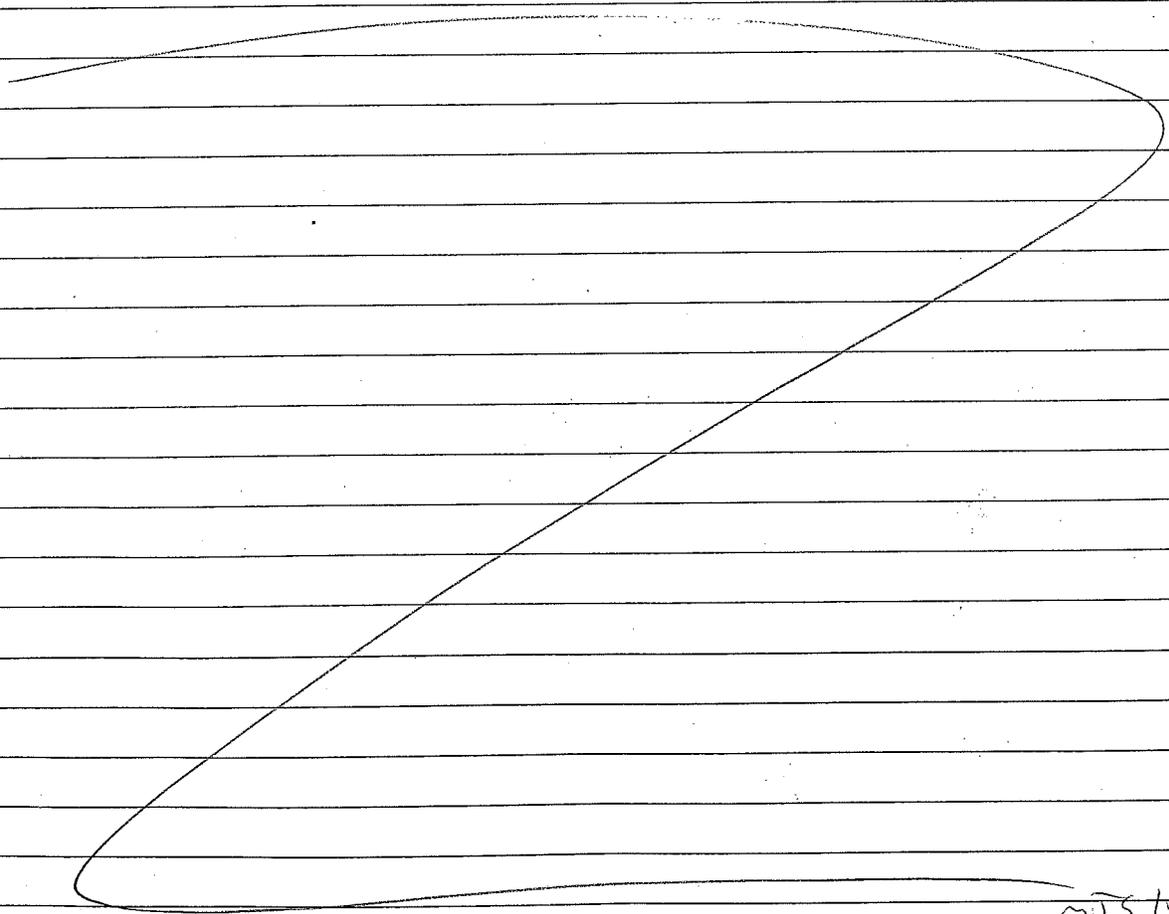
Sulfuric Acid Solution:

Slowly add 6.25 mL of concentrated sulfuric acid to 2.5 mL of D.I. H₂O, and let the solution cool. (sulfuric acid lot: 01428LS).

Amine Solution:

Dissolve 1.6875g of N,N-dimethyl-p-phenylendiammonium oxalate (located in ER1A; Lot: 63797PJ) in the above mentioned sulfuric acid solution. Dilute this solution to 250 mL with sulfuric acid-water 1:1 v/v. (This is roughly 120 mL H₂O + 120 mL sulfuric acid).

MJS 10/18/10



MJS 10/18/10

Page 76 MJS 10/18/10 Signed Fauzi Reviewed 10/22/10 Date Rev. 8/97

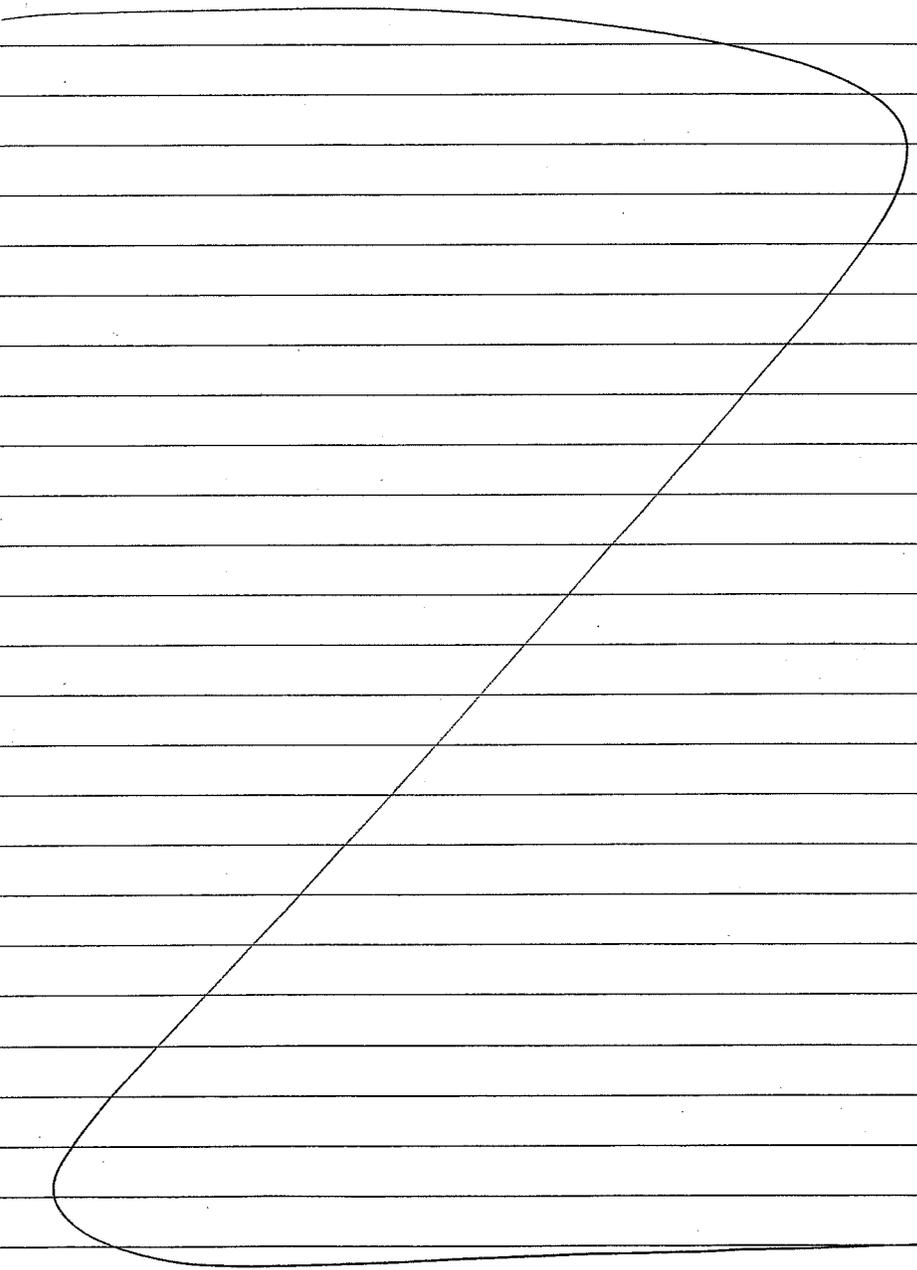
Spectrophotometer Standard Preparation Log

@Air Toxics Ltd. Log Book #: 1993

Standard ID: 1993-77
Project: Ferric Chloride Solution Rad 170
Analyst: M. Skidmore
Preparation Date: 10/18/10
Expiration Date: 10/18/11

Solvent: HPLC H₂O
Solvent Lot #: DB 270

Procedure/Comments: Dissolve 125 g of ferric chloride hexahydrate
(located in ERAC, lot: 732917) in 50 mL of H₂O,



MJS 10/18/10

M. Skidmore 10/18/10
Signed Date

Fauzi
Reviewed

10/22/10
Date

Spectrophotometer Standard Preparation Log

@Air Toxics Ltd. Log Book #: 1993

Standard ID: 1993-90

Project: Ferric chloride Amine solution

Analyst: M. Skidmore

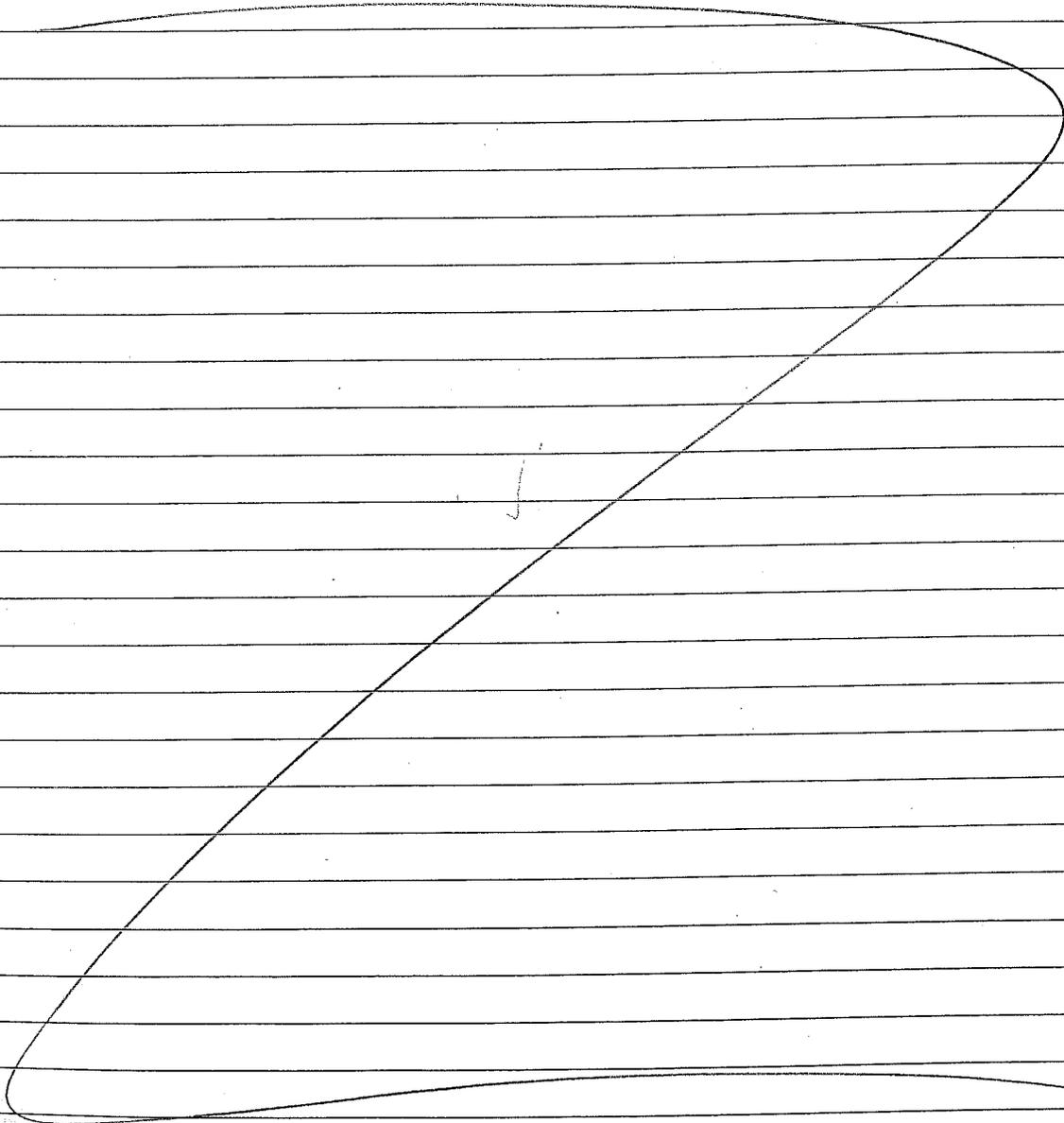
Preparation Date: 11/12/10

Expiration Date: 11/12/10

Solvent: HPLC H₂O

Solvent Lot #: DB 812

Procedure/Comments: Add 4.0 mL of ferric chloride solution (1993-77, exp 10/18/10) with 20 mL of amine solution (1993-76, exp 11/18/10).



MJS 11/12/10

Milob [Signature] 11/12/10
Signed Date

Favozin [Signature] 11/12/10
Reviewed Date

Spectrophotometer Standard Preparation Log

@Air Toxics Ltd. Log Book #: 1993

Standard ID: 1993-91
Project: Rad 170 calibration curve
Analyst: M. Skidmore
Preparation Date: 11/12/10
Expiration Date: 11/12/10

Solvent: HPLC H₂O
Solvent Lot #: DB812

Procedure/Comments: _____

Solution A: 2 mL of Code Rad 171 (1476-2077, exp 6/16/11) (located in ER1B) with 98 mL of D.I. H₂O = 1.145 µg/mL

Solution B: 2.5 mL of Solution A with 2.5 mL of D.I. H₂O = 0.572 µg/mL

Solution C: 1.25 mL of Solution A with 3.75 mL of D.I. H₂O = 0.286 µg/mL

Solution D: 0.625 mL of Solution A with 4.375 mL of D.I. H₂O = 0.143 µg/mL

Solution E: 0.375 mL of Solution A with 5.625 mL of D.I. H₂O = 0.0716 µg/mL

Note: Each solution was measured immediately after it was prepared. Solution A is only stable in the flask it was prepared in.

MJS 11/12/10

MJS
11/12/10

Spectrophotometer Standard Preparation Log

@Air Toxics Ltd. Log Book #: 1993

Standard ID: 1993-92
Project: Rad. 170 ICV
Analyst: Fm
Preparation Date: 11/12/10
Expiration Date: 11/12/10

Solvent: HPLC H₂O
Solvent Lot #: DB 812

Procedure/Comments: _____

Solution A: 2 mL of Code Rad 171 (1476-2077, exp 6/16/11) (located in ER1B) with 98 mL of D.I. H₂O = 1.145 µg/mL

Solution C: 1.25 mL of Solution A with 3.75 mL of D.I. H₂O = 0.286 µg/mL

Note: Each solution was measured immediately after it was prepared. Solution A is only stable in the flask it was prepared in.

Fm 11/12/10

Fm
11/12/10

Fauzi 11/12/10
Signed Date

Michael B... 11/12/10
Reviewed Date

Spectrophotometer Standard Preparation Log

@Air Toxics Ltd. Log Book #: 1993

Standard ID: 1993-93

Project: Ferric Chloride-Amine solution

Analyst: M. Skidmore

Preparation Date: 11/12/10

Expiration Date: 11/12/10

MJS 11/12/10
Rad 170⁺
H₂S LCS

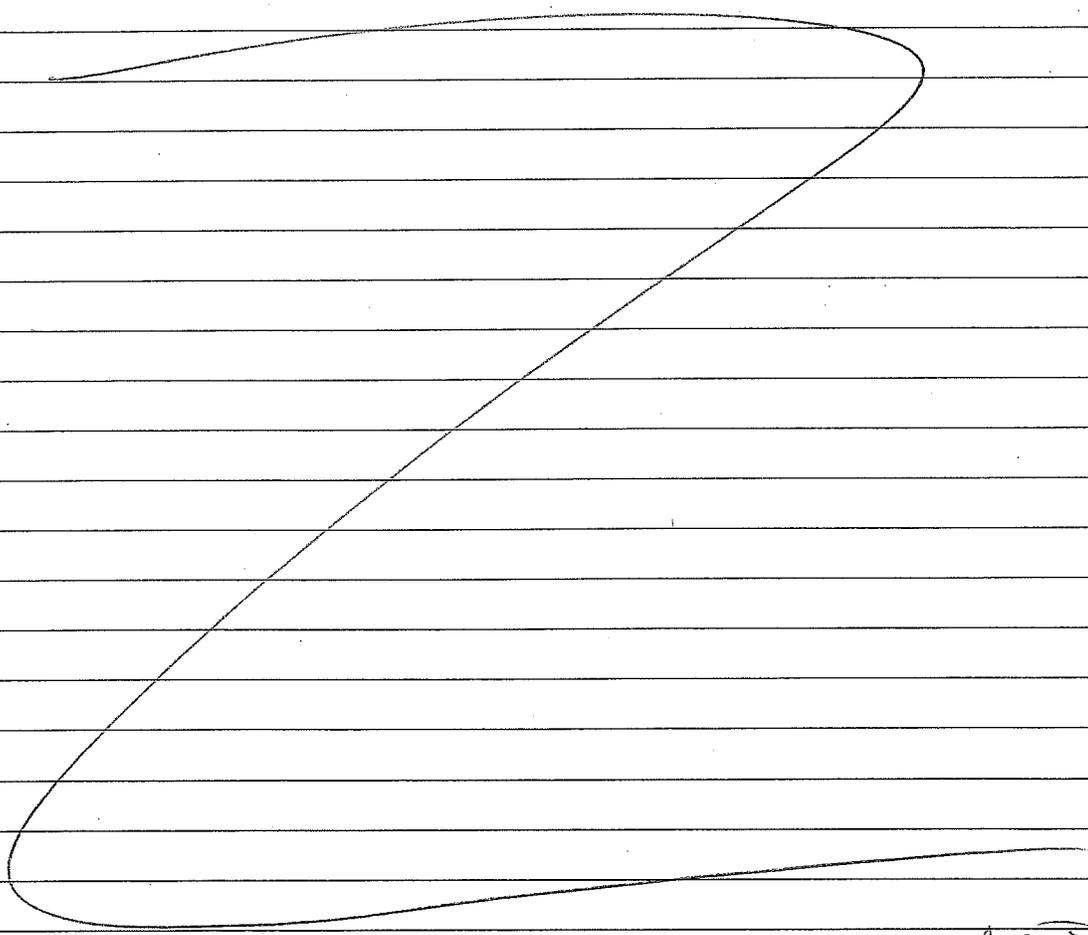
Solvent: MPLC H₂O

Solvent Lot #: DB 812

Procedure/Comments:

A Rad 170 cartridge (lot: 10101) was placed in a 40 mL VOA vial. 10.0 mL of D.I. H₂O was aliquoted into the vial. 1.0 mL of H₂S gas (1476-1497, 1000ppm) was injected into the vial, into the H₂O. The solution was allowed to gently shake for 2 hours. Then 0.5 of the ferric-chloride-amine (1993-90) was added to the vial and capped immediately. The solution was allowed to sit for 30 minutes and the absorbance was measured at 665 nm.

MJS 11/12/10



MJS
11/12/10

M. Skidmore 11/12/10

Fauzi 11/12/10

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. Brian Baker
FAX #: 781-247-4305
FROM: Sample Receiving
Workorder #: 1011113B
of pages (Including Cover): 4

11/16/2010

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.

1011113

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 # 17131

The cost of this analysis will be covered by EH&E Purchase Order # 17131

For EH & E Data Coordinator - URGENT DATA

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER (Time/Date/Vol.)	
17A 118617	PASSIVE/AIR	H ₂ S ANALYSIS	6D	
18A 118618			I	
19A 118629			10/20/10 - 11/2/10	12D 23H 30M
20A 118630			I	I
21A 118631			I	I
22A 118632			I	I
23A 118633			I	6D
24A 118634			I	I
25A 118645			10/19/10 - 11/2/10	13D 20H 30M
26A 118646			I	I
27A 118647			I	I
28A 118648	I	I		
29A 118649	I	I	6D	
30A 118650	I	I	I	

Special instructions:

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

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

Relinquished by: [Signature] of Environmental Health & Engineering, Inc. Date: 11/3/10

Received by: Brian Whittaker of (company name) ATL Date: 11/4/10 900

Relinquished by: _____ of (company name) Fedex 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 101113B

Client	Phone	Date Promised: 11/17/10 11:59 pm
Mr. Brian Baker	800-825-5343	Date Completed: 11/15/10
Environmental Health & Engineering, Inc.	Fax	Date Received: 11/4/10
117 Fourth Avenue	781-247-4305	PO#: 17131
Needham, MA 02494		Project#: 17131
Sales Rep: TL		Total \$: \$ 1,190.00
		Logged By: MW

<u>Fraction</u>	<u>Sample #</u>	<u>Analysis</u>	<u>Collected</u>	<u>Amount\$</u>
17A	118617	ATL Applications	NA	\$80.00
18A	118618	ATL Applications	NA	\$80.00
19A	118629	ATL Applications	11/2/2010	\$80.00
20A	118630	ATL Applications	11/2/2010	\$80.00
21A	118631	ATL Applications	11/2/2010	\$80.00
22A	118632	ATL Applications	11/2/2010	\$80.00
23A	118633	ATL Applications	NA	\$80.00
24A	118634	ATL Applications	NA	\$80.00
25A	118645	ATL Applications	11/2/2010	\$80.00
26A	118646	ATL Applications	11/2/2010	\$80.00
27A	118647	ATL Applications	11/2/2010	\$80.00
28A	118648	ATL Applications	11/2/2010	\$80.00
28AA	118648 Lab Duplicate	ATL Applications	11/2/2010	\$0.00
29A	118649	ATL Applications	NA	\$80.00
30A	118650	ATL Applications	NA	\$80.00
31A	Lab Blank	ATL Applications	NA	\$0.00
31B	Lab Blank	ATL Applications	NA	\$0.00
32A	LCS	ATL Applications	NA	\$0.00

Misc. Charges eCVP (14) @ \$5.00 each. \$70.00

Note: Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: CPSC/14482

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

Analysis Code: Other GC

TERMS:

Reporting Method: ATL Application #59 H2S-Radiello 170

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

@ Air Toxics Ltd	Title: Sample Discrepancy Report		Release Date: 03/03/10
	Form #: F1.3	Revision #: 1	Revision Date: 10/7/08
			Page #: 1 of 2

Sample Discrepancy Report

Identification

Initiated By: MW Project ID:14482 PM: AS Date: 11/6/2010 Discrepancy Type: 1. 2. 3.

Workorder(s) affected: 1011113 Sample(s) affected: 05A,06A, 11A, 12A, 17A, 18A, 23A, 24A, 29A and 30A

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

- | | |
|---|---|
| <ul style="list-style-type: none"> 2.1. <input type="checkbox"/> COC was not received with samples. 2.2. <input type="checkbox"/> Analysis method(s) is <input type="checkbox"/> not specified / <input type="checkbox"/> incorrectly specified (check one) on the COC. 2.3. <input type="checkbox"/> Incorrect sampling media / container for analysis requested. 2.4. <input type="checkbox"/> Number of samples on the COC does not match the number of samples that were received. 2.5. <input type="checkbox"/> Samples were received expired. 2.6. <input checked="" type="checkbox"/> Sampling date (time for sulfur) is not documented for <input checked="" type="checkbox"/> <u>some</u> / <input type="checkbox"/> <u>any</u> samples (check one). 2.7. <input type="checkbox"/> Sample received with amount of H₂O in the Tedlar Bag. 2.8. <input type="checkbox"/> Sample cannot be analyzed. Container was <input type="checkbox"/> received broken / <input type="checkbox"/> leaking / <input type="checkbox"/> flat / <input type="checkbox"/> defective. 2.9. <input type="checkbox"/> Tedlar bag / canister received emitting a strong odor; Sample <input type="checkbox"/> can / <input type="checkbox"/> cannot (check one) be analyzed. 2.10. <input type="checkbox"/> Tedlar Bag for Sulfur analysis has metal fitting. 2.11. <input type="checkbox"/> Environmental Supply Company valves 2.12. <input type="checkbox"/> Sorbent samples-sampling volume was not provided | <ul style="list-style-type: none"> 2.13. <input type="checkbox"/> Flow controller used – canister samples received at ambient or under pressure. 2.14. <input type="checkbox"/> Canister was at ambient pressure at time of pressurization and (check all that apply):
 <input type="checkbox"/> Canister failed leak check on two manifolds,
 <input type="checkbox"/> Canister valve was open,
 <input type="checkbox"/> Brass nut was loose/not present.
 <input type="checkbox"/> Sample can be analyzed
 <input type="checkbox"/> Cannot be analyzed 2.15. <input type="checkbox"/> 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. <input type="checkbox"/> Canister sample received at >15"Hg (<u>not</u> identified as a Trip/Field Blank). 2.17. <input type="checkbox"/> Canister Trip Blank received at low vacuum (< 25"Hg). 2.18. <input type="checkbox"/> Sorbent Sample received outside method required temperature of 2°C to 6°C; <input type="checkbox"/> ice / <input type="checkbox"/> blue ice (check one) was present. A temp. Blank <input type="checkbox"/> was / <input type="checkbox"/> was not present (check one). 2.19. <input type="checkbox"/> Other (describe below) |
|---|---|

Initials: _____ Date: _____ Notify Receiving: Notify PM:

Describe the Discrepancy: No DOCs for samples listed above (NO NEED TO NARRATE)

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: AS Date: 11/8/10

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

Client Notification:

PM Initials: _____ Person notified: _____ Date: _____

Waiting for Client Reply

Samplers that have "0D" are trip blanks. They will not have DOCs. Please do not discrepancy these.

Comments: _____

Notify Lab Name: _____ Date: _____ Notify Receiving:

Additional notifications attached.

Additional Comments:

Other Records



Method : ATL Application #59 H2S-Radiello 170

CAS Number	Compound	Rpt. Limit (ug)
7783-06-4	Hydrogen Sulfide	1.2

DATA REVIEW CHECKLIST Work Order #: 101113B

- | | | | | | | |
|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Analysis/Reporting vs. Project Profile/SOP requirements checked (i.e. 100% Dups, J-Flag to MDL, etc) |
| | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | The final report has the correct reporting list, special units, and header info. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Non-Standard sublist printed/verified, LOQ and LOD verified |
| | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Lab Narrative is correct (proper method & description/Receiving & Analytical notes correct) |
| | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sample Discrepancy Report (SDR) is completed |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Corrective Action issued - # _____ |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Unusual circumstances have been documented in the notes section below |

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

- | | | | | | | |
|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Lab Blank, CCV, LCS and DUP met QC criteria |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Hold time is met for all samples |
| | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Appropriate data qualifier flags are applied |
| | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Manual integrations for samples and QC are properly documented |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Samples analyzed within the project or method specific clock |
| | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Retention times have been verified |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Appropriate ICAL(s) included, %RSD Recalculation |
| | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | At least one result per sample is verified against the target quant sheets/raw data |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Dilution factor correctly calculated (sample load volume, syringe and bag dilutions, can pressurization(s)) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Correct amount of sample analyzed (i.e. sample not over-diluted) |
| | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Spectra verified - documentation of spectral defense included (Section 5A of eCVP pkg) |
| | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | TICs resemble reference spectra |
| | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | TICs between duplicate samples are consistent |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Checked samples for trends (i.e. Influent vs. Effluent, Field Dups, Field/Trip Blank, etc.) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data for multiple analyses of sample(s) has been evaluated for comparability of results |
| | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Special units for all samples in the final report are correctly calculated |
| | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Manually entered results checked (i.e. TPH/NMOC) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Chain of Custody verified for any special comments (i.e. different compounds/RLs, action levels) |
| | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Chain of Custody scanned correctly |
| | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Verify sample id's vs. chain of custody |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Date MDL(s) performed per instrument(s) <u>10/25/10</u> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Samples pressurized w/ appropriate gas (N ₂ or He) <input type="checkbox"/> Other (i.e. Tedlar bag, cartridge, sorbent) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Final pressure consistent with canister size (6L vs. 1L) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Verify receipt pressures |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Verify canister ID #'s |
| | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Final invoice amount correct (adjusted for TAT, Penalties, Re-issue Charges etc.) |
| | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Final PDF report reviewed for correctness |

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

A/R: 28A - DUP

T/Q:

A ₁ /A ₂	W/T	R*	Q
(Analytical Review/Date)	(Write-up/Tech Review/Date)	(Report Review/Date)	(QA Review/Date)
A ₁ : <u>[Signature]</u> 11/12/10	W: <u>[Signature]</u> 11/12/10	R:	
A ₂ :	T:		

Note (1): Please check all the appropriate boxes. Indicate "NA" for any statement that does not apply.
 Note (2): Report reviewer and write-up reviewer must be separate individuals for DoD & Client Specific projects.
 * Report Review is completed for DoD & Client Specific projects only.