@AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

COMPREHENSIVE VALIDATION PACKAGE

ATL Applications

INVENTORY SHEET

WORK ORDER # 0909377A

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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 #: 0909377A

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
01A	104930	ATL Applications
01AA	104930 Lab Duplicate	ATL Applications
02A	104931	ATL Applications
03A	104932	ATL Applications
04A	104933	ATL Applications
05A	104934	ATL Applications
05AA	104934 Lab Duplicate	ATL Applications
06A	104935	ATL Applications
07A	102903	ATL Applications
08A	102904	ATL Applications
09A	102908	ATL Applications
10A	102912	ATL Applications
11A	102916	ATL Applications
12A	106261	ATL Applications
13A	106262	ATL Applications
14A	106267	ATL Applications
15A	106271	ATL Applications
16A	106275	ATL Applications

Continued on next page

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PHONE:	800-825-5343	**P.O. #**	16512
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DATE RECEIVED:	09/18/2009	**CONTACT:**	Ausha Scott
DATE COMPLETED:	10/07/2009		

FRACTION #	NAME	TEST
17A	Lab Blank	ATL Applications
17B	Lab Blank	ATL Applications
18A	CCV	ATL Applications

CERTIFIED BY: Linda J. Truman

Laboratory Director

DATE: 10/07/09

LABORATORY NARRATIVE
Hydrogen Sulfide by Radiello 170
Environmental Health & Engineering, Inc.
Workorder# 0909377A

Sixteen Radiello 170 (H2S) samples were received on September 18, 2009. 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

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.

Sample collection date was incomplete on the Chain of Custody for samples 102903, 102904, 102908, 102912, 102916, 106261, 106262, 106267, 106271 and 106275. The year of collection was assumed to be 2009.

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 18720 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 # 59 for RAD 170 (Hydrogen Sulfide)

Spectrophotometer

9000

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)
104930	0909377A-01A	9/15/2009	9/25/2009	1.00	0.80	0.58	2.1	1.5
104930 Lab Duplicate	0909377A-01AA	9/15/2009	9/25/2009	1.00	0.80	0.58	2.3	1.7
104931	0909377A-02A	9/15/2009	9/25/2009	1.00	0.80	0.58	1.8	1.3
104932	0909377A-03A	NA	9/25/2009	1.00	0.80	0.58	ND	ND
104933	0909377A-04A	9/15/2009	9/25/2009	1.00	0.80	0.58	0.91	0.66
104934	0909377A-05A	9/15/2009	9/25/2009	1.00	0.80	0.58	2.0	1.5
104934 Lab Duplicate	0909377A-05AA	9/15/2009	9/25/2009	1.00	0.80	0.58	2.0	1.5
104935	0909377A-06A	9/15/2009	9/25/2009	1.00	0.80	0.58	1.4	1.0
102903	0909377A-07A	9/15/2009	9/25/2009	1.00	0.80	0.58	0.93	0.68
102904	0909377A-08A	9/15/2009	9/25/2009	1.00	0.80	0.58	0.84	0.61
102908	0909377A-09A	9/15/2009	9/25/2009	1.00	0.80	0.58	ND	ND
102912	0909377A-10A	9/15/2009	9/25/2009	1.00	0.80	0.58	ND	ND
102916	0909377A-11A	9/15/2009	9/25/2009	1.00	0.80	0.58	1.4	1.0
106261	0909377A-12A	9/15/2009	9/25/2009	1.00	0.80	0.58	ND	ND
106262	0909377A-13A	9/15/2009	9/25/2009	1.00	0.80	0.58	ND	ND
106267	0909377A-14A	9/15/2009	9/25/2009	1.00	0.80	0.58	1.3	0.97
106271	0909377A-15A	9/15/2009	9/25/2009	1.00	0.80	0.58	ND	ND
106275	0909377A-16A	9/15/2009	9/25/2009	1.00	0.80	0.58	ND	ND
Method Blank	0909377A-17A	NA	9/25/2009	1.00	0.80	0.58	ND	ND
Method Blank	0909377A-17B	NA	9/25/2009	1.00	0.80	0.58	ND	ND
							%Rec	
CCV	0909377A-18A	NA	9/25/2009	1.00	0.80	0.58	101	

COMMENTS: 1. NA=Not Applicable
2. ND=Not Detected
3. Exposure time of 18720 minutes was assumed for the QC samples.
4. Background subtraction not performed.

Hydrogen Sulfide Radiello Calculation Worksheet

Workorder #: 0909377A

Sampling Rate (ng/ppb.min) 0.096 Typically0.096 for H2S

Sampling T (deg C) 25 Typically 25

Volume (mL) 10.5 Typically 10.5 for H2S

Date of Analysis: 9/25/2009

Corrected Q 0.096 Takes into account temp

Q includes conversion from Sulfide to H2S

(Abs-Y-int)xDF / Slope

Conc(ug/mL)xVol (mL)

conc (ug sulfide) *MW H2S / MW Sulfide

Conc (ug) x 1000 / Q x Duration

ppbx mw / 24.45

LabSampleID	Client	Date of Collection	Abs	Duration (min)	DF	Conc (ug/mL) of sulfide	Conc (ug) of sulfide	Conc (ug) of H2S	T Corrected, no Blank correction: Conc (ppb) of H2S	T Corrected, no Blank correction: Conc (ug/m3) of H2S
01A	104930	9/15/2009	0.213	18720	1.00	0.188272113	1.976857188	2.100880783	1.100	1.533
01AA	104930 Lab Duplicate	9/15/2009	0.230	18720	1.00	0.204745971	2.149832693	2.284708383	1.196	1.668
02A	104931	9/15/2009	0.189	18720	1.00	0.165014903	1.732656477	1.841359465	0.964	1.344
03A	104932	NA	0.017	18720	1.00	-0.001661774	-0.017448624	-0.018543312	-0.010	-0.014
04A	104933	9/15/2009	0.103	18720	1.00	0.081676564	0.857603926	0.911408077	0.477	0.665
05A	104934	9/15/2009	0.207	18720	1.00	0.182457811	1.915807011	2.036000453	1.066	1.486
05AA	104934 Lab Duplicate	9/15/2009	0.207	18720	1.00	0.182457811	1.915807011	2.036000453	1.066	1.486
06A	104935	9/15/2009	0.149	18720	1.00	0.126252885	1.32565529	1.408823935	0.738	1.028
07A	102903	9/15/2009	0.105	18720	1.00	0.083614665	0.877953986	0.933034853	0.489	0.681
08A	102904	9/15/2009	0.096	18720	1.00	0.074893211	0.786378719	0.835714359	0.438	0.610
09A	102908	9/15/2009	0.073	18720	1.00	0.052605051	0.552353037	0.587006429	0.307	0.428
10A	102912	9/15/2009	0.09	18720	1.00	0.069078909	0.725328541	0.770834029	0.404	0.563
11A	102916	9/15/2009	0.149	18720	1.00	0.126252885	1.32565529	1.408823935	0.738	1.028
12A	106261	9/15/2009	0.049	18720	1.00	0.02934784	0.308152325	0.327485112	0.171	0.239
13A	106262	9/15/2009	0.06	18720	1.00	0.040007395	0.420077651	0.446432382	0.234	0.326
14A	106267	9/15/2009	0.142	18720	1.00	0.119469532	1.254430083	1.333130218	0.698	0.973
15A	106271	9/15/2009	0.041	18720	1.00	0.021595437	0.226752088	0.240978006	0.126	0.176
16A	106275	9/15/2009	0.044	18720	1.00	0.024502588	0.257277176	0.273418171	0.143	0.200
					1.00	-0.018135631	-0.190424128	-0.202370912	#DIV/0!	#DIV/0!
			-		1.00	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
					1.00	-0.018135631	-0.190424128	-0.202370912	#DIV/0!	#DIV/0!
					1.00	-0.018135631	-0.190424128	-0.202370912	#DIV/0!	#DIV/0!
17A	Method Blank	NA	0.013	18720	1.00	-0.005537976	-0.058148743	-0.061796865	-0.032	-0.045
17B	Method Blank	NA	0.011	18720	1.00	-0.007476076	-0.078498802	-0.083423641	-0.044	-0.061
18A	CCV	NA	0.318	18720	1.00	0.29002241	3.045235302	3.236286547	1.695	2.362

QC Duration 18720

CCV Spike Amt 0.286

Verified: HH and AW on 9/4/09

Low PointxDF	RL(ug/mL)xVol (mL)	RL (ug sulfide) *MW H2S / MW Sulfide	Q includes conversion from Sulfide to H2S: RL (ug) x 1000 / Q x Duration	ppbx mw / 24.45				Calibration Data	Calibration Date 9/25/2009 Linear Regression	
					T Corrected, no Blank correction					
RL(ug/ml) of sulfide	RL (ug) of sulfide	RL (ug) of H2S	RL (ppb) of H2S	RL (ug/m3)	Result (ug) H2S	Result (ug/m3) H2S	%Rec	ug/ml of sulfide	absorbance	
0.072	0.752	0.798966249	0.42	0.583	2.100880783	1.533361051		0	0	Slope 1.031938024
0.072	0.752	0.798966249	0.42	0.583	2.284708383	1.667530531		0.0716	0.085	Y-int 0.018714848
0.072	0.752	0.798966249	0.42	0.583	1.841359465	1.343945315		0.143	0.17	R2 0.999877045
0.072	0.752	0.798966249	0.42	0.583	ND	ND		0.286	0.319	
0.072	0.752	0.798966249	0.42	0.583	0.911408077	0.665205593		0.572	0.609	
0.072	0.752	0.798966249	0.42	0.583	2.036000453	1.486007117		1.145	1.199	
0.072	0.752	0.798966249	0.42	0.583	2.036000453	1.486007117				
0.072	0.752	0.798966249	0.42	0.583	1.408823935	1.028252421				
0.072	0.752	0.798966249	0.42	0.583	0.933034853	0.680990237				
0.072	0.752	0.798966249	0.42	0.583	0.835714359	0.609959336				
0.072	0.752	0.798966249	0.42	0.583	ND	ND				
0.072	0.752	0.798966249	0.42	0.583	ND	ND				
0.072	0.752	0.798966249	0.42	0.583	1.408823935	1.028252421				
0.072	0.752	0.798966249	0.42	0.583	ND	ND				
0.072	0.752	0.798966249	0.42	0.583	ND	ND				
0.072	0.752	0.798966249	0.42	0.583	1.333130218	0.973006164				
0.072	0.752	0.798966249	0.42	0.583	ND	ND				
0.072	0.752	0.798966249	0.42	0.583	ND	ND				
0.072	0.752	0.798966249	#DIV/0!	#DIV/0!	ND	#DIV/0!				
0.072	0.752	0.798966249	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!				
0.072	0.752	0.798966249	#DIV/0!	#DIV/0!	ND	#DIV/0!				
0.072	0.752	0.798966249	#DIV/0!	#DIV/0!	ND	#DIV/0!				
0.072	0.752	0.798966249	0.42	0.583	ND	ND				
0.072	0.752	0.798966249	0.42	0.583	ND	ND	%Rec			
0.072	0.752	0.798966249	0.42	0.583	3.236286547	2.362054897	101			

QC Results and Raw Data

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

Work Order: 0909377A **Date:** 9/25/09 **Method:** Rad 170

Analyst: MSkidmore **Wavelength:** 665nm

Standard ID	Concentration	ABS
Level 1 1858-52 - E	0.0716 µg/mL	0.085
Level 2 - D	0.143 µg/mL	0.170
Level 3 - C	0.286 µg/mL	0.319
Level 4 - B	0.572 µg/mL	0.609
Level 5 - A	1.145 µg/mL	1.199
ICV 1858-51	0.133µg/mL	0.150

r = 0.9999
m = 1.03
b = 0.01871

ICV % Recovery = 1048

Fraction	Dilution	ABS	Sample ID	Sample Volume	Comments
01A	1.00	0.213	104930 104930	10.5 mL	
01AA		0.230	104931 104930		
02A		0.189	104932 104931		
03A		0.017	104933 104932		
04A		0.103	104934 104933		
05A		0.207	104935 104934		
05AA		0.207	102903		
06A		0.149	102904 104935		
07A		0.105	102908 102903		
08A		0.096	102912 102904		
09A		0.073	102916 102908		
10A		0.090	102912		
11A		0.149	102916		
12A		0.049	106261		
13A		0.060	106262		
14A		0.142	106267		
15A		0.041	106271		
16A		0.044	106275		
BLK		0.013	N/A		
BLK		0.011			
CCV		0.318			
			MTS 9/28/09		

Procedure:

Signed

9/28/09
Date

0010

Spectrophotometer Standard Preparation Log **@Air Toxics Ltd.** **Log Book #: 1858**

Standard ID: 1858-51
Project: H_2S LCS/ICV Rad 170
Analyst: M. Skidmore
Preparation Date: 9/25/09
Expiration Date: 9/25/09

Solvent: D.I. H_2O
Solvent Lot #: N/A

Procedure/Comments: 25 mL of H_2S gas (1476-835, 1000ppm) was placed into a 1 liter tedlar bag. 1.0 mL of the gas was injected into 10 mL of D.I. H_2O in a 40 mL VOA vial. The vial also contained a Rad 170 cartridge absorbant. The vial was gently shaken for 2 hours.

Catridge Lot: 09075.

0.5 mL of ferric chloride-amine solution (1858-53) was added to vial and recapped immediately. The solution was allowed to stand for 30 minutes and then the absorbance was measured at 665 nm.

MJS
9/29/09

Signed: Michael Skidmore Date: 9/29/09 Reviewed: _____ Date: _____

Spectrophotometer Standard Preparation Log

@Air Toxics Ltd. Log Book #: 1858

Standard ID: 1858-52
Project: Calibration Solution Rad 170
Analyst: M. Skidmore
Preparation Date: 9/25/09
Expiration Date: 9/25/09

Solvent: D.I. H_2O
Solvent Lot #: N/A

Procedure/Comments:

Solution A: 2 mL of Code Rad 171 (1476-984, exp 8/6/10) (located in ER1B) with 98 mL of D.I. H_2O = 1.145 µg/mL

Solution B: 2.5 mL of Solution A with 2.5 mL of D.I. H_2O = 0.572 µg/mL

Solution C: 1.25 mL of Solution A with 3.75 mL of D.I. H_2O = 0.286 µg/mL

Solution D: 0.625 mL of Solution A with 4.375 mL of D.I. H_2O = 0.143 µg/mL

Solution E: 0.375 mL of Solution A with 5.625 mL of D.I. H_2O = 0.0716 µg/mL

MJS 9/25/09

* Each Solution was Measured immediately after it was made. The absorbance diminishes rapidly with time. Solution A is stable in the beaker it was in, But was not stable once it was aliquotted into a cuvette. This solution (A) should be Measured immediately after its put into the cuvette, All cuvettes were parafilmed immediately after the ~~Sx~~ MJS 9/24/09

MJS
9/28/09

Signed 9/28/09

Page 52 Signed Date Reviewed 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 #: 0909377A
# 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 ± 2 °C). ATL will proceed with the analysis unless otherwise notified.

Samples 102903, 102904, 102908, 102912, 102916, 106261, 106262, 106267, 106271 and 106275 were received without complete documentation regarding collection date on the Chain of Custody or sample tags. The year 2009 will be used to determine the extent of hold time.

Your prompt response is appreciated.

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

0909377

DATE: 9/15/09

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
01A	104930	AIR/PASSIVE	H_2S ANALYSIS	9/2/09	9/15/09
02A	104931			9/2	9/15/09
03A	104932			9/2	0
04A	104933			9/2	9/15/09
05A	104934			9/2	9/15/09
06A	104935			9/2	9/15/09
07A	102903			9/2	9/15
08A	102904			9/2	9/15
09A	102908			9/2	9/15
10A	102912			9/2	9/15
11A	102916			9/2	9/15
12A	106261			9/2	9/15
13A	106262			9/2	9/15
14A	106267			9/2	9/15
15A	106271			9/2	9/15
16A	106275			9/2	9/15

Special Instructions:

Fedex 868262525202

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

CUSTODY SEAL INTACT? Y N NONE TEMP 2, 4°

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES**

☒ Electronic transfer - datacoordinator@ehsinc.com

☒ Additional report recipient MFRAGALA@EHEINC.COM

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 085-0 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 0909377A

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 $: $ 880.00
Logged By: MW

Fraction	Sample #	Analysis	Collected	Amount$
01A	104930	ATL Applications	9/15/2009	$50.00
01AA	104930 Lab Duplicate	ATL Applications	9/15/2009	$0.00
02A	104931	ATL Applications	9/15/2009	$50.00
03A	104932	ATL Applications	NA	$50.00
04A	104933	ATL Applications	9/15/2009	$50.00
05A	104934	ATL Applications	9/15/2009	$50.00
05AA	104934 Lab Duplicate	ATL Applications	9/15/2009	$0.00
06A	104935	ATL Applications	9/15/2009	$50.00
07A	102903	ATL Applications	9/15/2009	$50.00
08A	102904	ATL Applications	9/15/2009	$50.00
09A	102908	ATL Applications	9/15/2009	$50.00
10A	102912	ATL Applications	9/15/2009	$50.00
11A	102916	ATL Applications	9/15/2009	$50.00
12A	106261	ATL Applications	9/15/2009	$50.00
13A	106262	ATL Applications	9/15/2009	$50.00
14A	106267	ATL Applications	9/15/2009	$50.00
15A	106271	ATL Applications	9/15/2009	$50.00
16A	106275	ATL Applications	9/15/2009	$50.00
17A	Lab Blank	ATL Applications	NA	$0.00
17B	Lab 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 #59 H2S-Radiello 170

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 $: $ 880.00
Logged By: MW

Fraction	Sample #	Analysis	Collected	Amount$
18A	CCV	ATL Applications	NA	$0.00
Misc. Charges	eCVP (16) @ $5.00 each.			$80.00

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 #59 H2S-Radiello 170

Sample Discrepancy Report

Identification

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

Workorder(s) affected: 0909377 **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: 07A-16a does not have yr of collection - will assume 09'

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: samples rec'd 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

Air Toxics LTD.
Laboratory Services Since 1989

Method : ATL Application #59 H2S-Radiello 170

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

@Air Toxics Ltd.

DATA REVIEW CHECKLIST

Work Order #: 0909377A

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)
☐	☐	☑		10/7/09		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: 01A + 05A

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. 02/2009

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