@AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

COMPREHENSIVE VALIDATION PACKAGE

ATL Applications

INVENTORY SHEET

WORK ORDER # 1011113A

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Completed by:

Kara McKiernan — Kara McKiernan/ Document Control — 11/16/10

(Signature) (Print Name & Title) (Date)

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1011113A

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	**P.O. #**	17131
FAX:	781-247-4305	**PROJECT #**	17131
DATE RECEIVED:	11/04/2010	**CONTACT:**	Ausha Scott
DATE COMPLETED:	11/15/2010		

FRACTION #	NAME	TEST
01A	118581	ATL Applications
02A	118582	ATL Applications
03A	118583	ATL Applications
04A	118584	ATL Applications
05A	118585	ATL Applications
06A	118586	ATL Applications
07A	118597	ATL Applications
08A	118598	ATL Applications
09A	118599	ATL Applications
10A	118600	ATL Applications
11A	118601	ATL Applications
12A	118602	ATL Applications
13A	118613	ATL Applications
14A	118614	ATL Applications
15A	118615	ATL Applications
16A	118616	ATL Applications
16AA	118616 Lab Duplicate	ATL Applications
17A	Lab Blank	ATL Applications

Continued on next page

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DATE RECEIVED:	11/04/2010	**CONTACT:**	Ausha Scott
DATE COMPLETED:	11/15/2010		

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

CERTIFIED BY: Linda A. Frumarx

Laboratory Director

DATE: 11/15/10

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

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

Sixteen 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 18,700 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/m3)	Amount (ug)	Amount (ug/m3)
118581	1011113A-01A	11/1/2010	11/12/2010	1.00	0.80	0.58	ND	ND
118582	1011113A-02A	11/1/2010	11/12/2010	1.00	0.80	0.58	ND	ND
118583	1011113A-03A	11/1/2010	11/12/2010	1.00	0.80	0.58	ND	ND
118584	1011113A-04A	11/1/2010	11/12/2010	1.00	0.80	0.58	1.3	0.94
118585	1011113A-05A	NA	11/12/2010	1.00	0.80	0.58	ND	ND
118586	1011113A-06A	NA	11/12/2010	1.00	0.80	0.58	ND	ND
118597	1011113A-07A	11/1/2010	11/12/2010	1.00	0.80	0.58	1.9	1.4
118598	1011113A-08A	11/1/2010	11/12/2010	1.00	0.80	0.58	1.7	1.3
118599	1011113A-09A	11/1/2010	11/12/2010	1.00	0.80	0.58	1.7	1.3
118600	1011113A-10A	11/1/2010	11/12/2010	1.00	0.80	0.58	ND	ND
118601	1011113A-11A	NA	11/12/2010	1.00	0.80	0.58	ND	ND
118602	1011113A-12A	NA	11/12/2010	1.00	0.80	0.58	ND	ND
118613	1011113A-13A	11/1/2010	11/12/2010	1.00	0.80	0.58	1.3	0.94
118614	1011113A-14A	11/1/2010	11/12/2010	1.00	0.80	0.58	ND	ND
118615	1011113A-15A	11/1/2010	11/12/2010	1.00	0.80	0.58	1.6	1.2
118616	1011113A-16A	11/1/2010	11/12/2010	1.00	0.80	0.58	ND	ND
118616 Lab Duplicate	1011113A-16AA	11/1/2010	11/12/2010	1.00	0.80	0.58	ND	ND
Method Blank	1011113A-17A	NA	11/12/2010	1.00	0.80	0.58	ND	ND
Method Blank	1011113A-17B	NA	11/12/2010	1.00	0.80	0.58	ND	ND
							%Rec	
LCS	1011113A-18A	NA	11/12/2010	1.00	0.80	0.58	100	

COMMENTS: 1. NA=Not Applicable
2. ND=Not Detected
3. Exposure time of 18700 minutes was assumed for the QC samples.
4. Background subtraction not performed.

Hydrogen Sulfide Radiello Calculation Worksheet

Workorder #: 1011113A

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:	11/12/2010	
Corrected Q	0.096	Takes into account temp

(Abs-Y-int)xDF / Slope

Conc(ug/mL)xVol (mL)

conc (ug sulfide) *MW H2S / MW Sulfide

Q includes conversion from Sulfide to H2S

Conc (ug) x 1000 / Q x Duration

ppbx mw 24.45

T Corrected, no Blank correction

LabSampleID	Client	Date of Collection	Abs	Duration (min)	DF	Conc (ug/mL) of sulfide	Conc (ug) of sulfide	Conc (ug) of H2S	Conc (ppb) of H2S	Conc (ug/m3) of H2S
01A	118581	11/1/2010	0.069	18695	1.00	0.028575316	0.300040813	0.318864702	0.167	0.233
02A	118582	11/1/2010	0.077	18695	1.00	0.036004943	0.3780519	0.401770029	0.211	0.294
03A	118583	11/1/2010	0.076	18695	1.00	0.035076239	0.368300514	0.391406863	0.205	0.286
04A	118584	11/1/2010	0.163	18695	1.00	0.115873436	1.216671081	1.2930023	0.678	0.945
05A	118585	NA	0.021	18700	1.00	-0.016002448	-0.168025707	-0.178567263	-0.094	-0.130
06A	118586	NA	0.025	18700	1.00	-0.012287635	-0.129020163	-0.137114599	-0.072	-0.100
07A	118597	11/1/2010	0.224	18700	1.00	0.172524344	1.811505616	1.925155423	1.009	1.407
08A	118598	11/1/2010	0.204	18700	1.00	0.153950276	1.6164779	1.717892104	0.900	1.255
09A	118599	11/1/2010	0.207	18700	1.00	0.156736386	1.645732057	1.748981602	0.917	1.278
10A	118600	11/1/2010	0.07	18700	1.00	0.029504019	0.309792199	0.329227868	0.173	0.241
11A	118601	NA	0.022	18700	1.00	-0.015073745	-0.158274321	-0.168204097	-0.088	-0.123
12A	118602	NA	0.021	18700	1.00	-0.016002448	-0.168025707	-0.178567263	-0.094	-0.130
13A	118613	11/1/2010	0.163	18690	1.00	0.115873436	1.216671081	1.2930023	0.678	0.945
14A	118614	11/1/2010	0.095	18690	1.00	0.052721604	0.553576845	0.588307016	0.309	0.430
15A	118615	11/1/2010	0.191	18690	1.00	0.141877132	1.489709884	1.583170947	0.830	1.157
16A	118616	11/1/2010	0.073	18690	1.00	0.032290129	0.339046356	0.360317366	0.189	0.263
16AA	118616 Lab Duplicate	11/1/2010	0.076	18690	1.00	0.035076239	0.368300514	0.391406863	0.205	0.286
					1.00	-0.03550522	-0.372804809	-0.396193748	#DIV/0!	#DIV/0!
					1.00	-0.03550522	-0.372804809	-0.396193748	#DIV/0!	#DIV/0!
					1.00	-0.03550522	-0.372804809	-0.396193748	#DIV/0!	#DIV/0!
					1.00	-0.03550522	-0.372804809	-0.396193748	#DIV/0!	#DIV/0!
					1.00	-0.03550522	-0.372804809	-0.396193748	#DIV/0!	#DIV/0!
17A	Method Blank	NA	0.023	18700	1.00	-0.014145041	-0.148522935	-0.157840931	-0.083	-0.115
17B	Method Blank	NA	0.021	18700	1.00	-0.016002448	-0.168025707	-0.178567263	-0.094	-0.130
18A	LCS	NA	0.181	18700	1.00	0.132590098	1.392196026	1.479539287	0.776	1.081

QC Duration: 18700

CCV Spike Amt: 0.133

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	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	Result (ppb) H2S	%Rec
0.072	0.752	0.798966249	0.42	0.584	ND	ND	ND	
0.072	0.752	0.798966249	0.42	0.584	ND	ND	ND	
0.072	0.752	0.798966249	0.42	0.584	ND	ND	ND	
0.072	0.752	0.798966249	0.42	0.584	1.2930023	0.944980162	0.677916934	
0.072	0.752	0.798966249	0.42	0.584	ND	ND	ND	
0.072	0.752	0.798966249	0.42	0.584	ND	ND	ND	
0.072	0.752	0.798966249	0.42	0.584	1.925155423	1.406607905	1.009082897	
0.072	0.752	0.798966249	0.42	0.584	1.717892104	1.255171705	0.900444463	
0.072	0.752	0.798966249	0.42	0.584	1.748981602	1.277887135	0.916740228	
0.072	0.752	0.798966249	0.42	0.584	ND	ND	ND	
0.072	0.752	0.798966249	0.42	0.584	ND	ND	ND	
0.072	0.752	0.798966249	0.42	0.584	ND	ND	ND	
0.072	0.752	0.798966249	0.42	0.584	1.2930023	0.945232966	0.678098293	
0.072	0.752	0.798966249	0.42	0.584	ND	ND	ND	
0.072	0.752	0.798966249	0.42	0.584	1.583170947	1.157357082	0.830273477	
0.072	0.752	0.798966249	0.42	0.584	ND	ND	ND	
0.072	0.752	0.798966249	0.42	0.584	ND	ND	ND	
0.072	0.752	0.798966249	#DIV/0!	#DIV/0!	ND	#DIV/0!	#DIV/0!	
0.072	0.752	0.798966249	#DIV/0!	#DIV/0!	ND	#DIV/0!	#DIV/0!	
0.072	0.752	0.798966249	#DIV/0!	#DIV/0!	ND	#DIV/0!	#DIV/0!	
0.072	0.752	0.798966249	#DIV/0!	#DIV/0!	ND	#DIV/0!	#DIV/0!	
0.072	0.752	0.798966249	#DIV/0!	#DIV/0!	ND	#DIV/0!	#DIV/0!	
0.072	0.752	0.798966249	0.42	0.584	ND	ND	ND	
0.072	0.752	0.798966249	0.42	0.584	ND	ND	ND	%Rec
0.072	0.752	0.798966249	0.42	0.584	1.479539287	1.081020074	0.775510264	100

Calibration Data

Calibration Date 11/12/2010 Linear Regression

ug/ml of sulfide	absorbance
0	0
0.0716	0.098
0.143	0.187
0.286	0.354
0.572	0.684
1.145	1.256

Slope	1.076770029
Y-int	0.038230957
R2	0.998295164

QC Results and Raw Data

Spectrophotometer Logbook **@Air Toxics Ltd.** **Logbook#: 1927**

Work Order: 1011113A **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 = 0.9983
m = 1.077
b = 0.03823

ICV % Recovery = 102

Fraction	Dilution	ABS	Sample ID	Sample Volume	Comments
01A	1.00	0.069	118581	10.5 mL	
02A		0.077	118582		
03A		0.076	118583		
04A		0.163	118584		
05A		0.021	118585		
06A		0.025	118586		
07A		0.224	118597		
08A		0.204	118598		
09A		0.207	118599		
10A		0.070	118600		
11A		0.022	118601		
12A		0.021	118602		
13A		0.163	118613		
14A		0.095	118614		
15A		0.191	118615		
16A		0.073	118616		
16AA		0.076	118616		
B1K1		0.023	N/A		Lot: 10101
B1K2		0.021			↓
LCS		0.181			Lot: 10101, 0.133µg/mL
CCV	↓	0.356	↓	5.0mL	0.286 µg/mL
				MJS	11/12/10

Procedure:

1.) Add 10 mL of H_20 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 H_2O
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. H_2O, and let the solution cool. (sulfuric acid lot: 014281S).

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 H_2O + 120 mL sulfuric acid).

MJS 10/18/10

MJS 10/18/10

Signed 10/18/10 Date Reviewed 10/22/10 Date

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 H_2O
Solvent Lot #: DB270

Procedure/Comments: Dissolve 125 g of ferric chloride hexahydrate (located in ERAC, lot: 732917) in 50 mL of H_2O,

MJS 10/18/10

Signed 10/18/10 Date

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 H_2O
Solvent Lot #: OB812

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

MJS 11/12/10

Signed 11/12/10 Date

Reviewed 11/12/10 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. 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

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

Signed 11/12/10 Date Reviewed 11/12/10 Date

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 312

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. H_2O = 1.145 µg/mL

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

Fauzia 11/12/10
Signed Date

Reviewed 11/12/10
Date

Spectrophotometer Standard Preparation Log

@Air Toxics Ltd. Log Book #: 1993

Standard ID: 1993-93 MJS 11/12/10
Project: ~~Ferric Chloride-Amine Solution~~ Rad 170 H_2S LCS
Analyst: M. Skidmore
Preparation Date: 11/12/10
Expiration Date: 11/12/10

Solvent: HPLC H_2O
Solvent Lot #: DB 812

Procedure/Comments:

A Rad 170 cartridge (lot: 1010) was placed in a 40 mL VOA vial. 10.0 mL of D.I. H_2O was aliquoted into the vial. 1.0 mL of H_2S gas (1476-1497, 1000ppm) was injected into the vial, into the H_2O. 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

Signed 11/12/10 Date Reviewed 11/12/10 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. Brian Baker
FAX #:	781-247-4305
FROM:	Sample Receiving
Workorder #:	1011113A
# of pages (Including Cover):	4

11/16/2010

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.

Your prompt response is appreciated.

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

1011113

DATE: 3 NOV 10

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.
01A	118581	PASSIVE/AIR	H_2S ANALYSIS 10/19/10 - 11/1/10	12D 23H 35M
02A	118582			
03A	118583			
04A	118584			
05A	118585			ϕD
06A	118586			
07A	118597		10/19/10 - 11/1/10	12D 23H 40M
08A	118598			
09A	118599			
10A	118600			
11A	118601			ϕD
12A	118602			
13A	118613		10/19/10 - 11/1/10	12D 23H 30M
14A	118614			
15A	118615			
16A	118616			

Special instructions:

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

☐ Fax results 781-247-4305

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

☒ Additional report recipient Hbarr@eheinc.com

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

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

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

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

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

CUSTODY SEAL INTACT? Y N NONE TEMP 3.5c

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

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

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

Page 1 of 2

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 1011113A

Client

Mr. Brian Baker
Environmental Health &
Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494

Phone

800-825-5343

Fax

781-247-4305

Sales Rep: TL

Date Promised: 11/17/10 11:59 pm
Date Completed: 11/15/10
Date Received: 11/4/10
PO#: 17131
Project#: 17131

Total $: $ 1,360.00
Logged By: MW

Fraction	Sample #	Analysis	Collected	Amount$
01A	118581	ATL Applications	11/1/2010	$80.00
02A	118582	ATL Applications	11/1/2010	$80.00
03A	118583	ATL Applications	11/1/2010	$80.00
04A	118584	ATL Applications	11/1/2010	$80.00
05A	118585	ATL Applications	NA	$80.00
06A	118586	ATL Applications	NA	$80.00
07A	118597	ATL Applications	11/1/2010	$80.00
08A	118598	ATL Applications	11/1/2010	$80.00
09A	118599	ATL Applications	11/1/2010	$80.00
10A	118600	ATL Applications	11/1/2010	$80.00
11A	118601	ATL Applications	NA	$80.00
12A	118602	ATL Applications	NA	$80.00
13A	118613	ATL Applications	11/1/2010	$80.00
14A	118614	ATL Applications	11/1/2010	$80.00
15A	118615	ATL Applications	11/1/2010	$80.00
16A	118616	ATL Applications	11/1/2010	$80.00
16AA	118616 Lab Duplicate	ATL Applications	11/1/2010	$0.00
17A	Lab Blank	ATL Applications	NA	$0.00
17B	Lab Blank	ATL Applications	NA	$0.00
18A	LCS	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/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

Air Toxics LTD.
Laboratory Services Since 1989

SAMPLE RECEIPT SUMMARY Continued

Client

Phone

Fax

Date Promised:
Date Completed:
Date Received:
PO#:
Project#:

Sales Rep:

Total $: $ 1,360.00
Logged By: MW

Fraction	Sample #	Analysis	Collected	Amount$
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/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

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

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: No DOCs for samples listed above (NO NEED TONARRATE)

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: 11/8/2010

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

Client Notification:

PM Initials:_____ Person notified: _____ Date: _____

☐ Waiting for Client Reply

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

_____

☐ 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	Title: Data Review Checklist			Release Date: 07/28/10
	Form #: F1.27	Revision #: 2	Revision Date:07/27/10	Page #: 1 of 2

DATA REVIEW CHECKLIST

Work Order #: 1011113A

A_1	A_2	W	T	R	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.
N/A	☐	N/A				Non-Standard sublist printed/verified, LOQ and LOD verified
		☑	☐	☐	☐	Lab Narrative is correct (proper method & description/Receiving & Analytical notes correct)
		N/A	☐	☐	☐	Sample Discrepancy Report (SDR) is completed
N/A	☐	N/A	☐	☐	☐	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
		N/A	☐	☐	☐	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, %RSD Recalculation
		☑	☐		☐	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)
		N/A	☐			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
		N/A	☐			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) 10/25/10
N/A	☐	N/A				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.)
		☑	☐	☐		Final PDF report reviewed for correctness

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

A/R: 16A – Dup

T/Q:

A_1/A_2 (Analytical Review/Date)	W/T (Write-up/Tech Review/Date)	R* (Report Review/Date)	Q (QA Review/Date)
A_1: 11/12/10	W: 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.