@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

COMPREHENSIVE VALIDATION PACKAGE

ATL Applications

INVENTORY SHEET

WORK ORDER # 1010269B

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Completed by:

Kara McKiernan	Kara McKiernan/ Document Control	10/28/10
(Signature)	(Print Name & Title)	(Date)

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1010269B

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. #**	17314
FAX:	781-247-4305	**PROJECT #**	17314
DATE RECEIVED:	10/13/2010	**CONTACT:**	Ausha Scott
DATE COMPLETED:	10/27/2010		

FRACTION #	NAME	TEST
17A	116139	ATL Applications
18A	116140	ATL Applications
19A	116153	ATL Applications
20A	116154	ATL Applications
21A	116155	ATL Applications
22A	116156	ATL Applications
23A	116157	ATL Applications
24A	116158	ATL Applications
25A	115378	ATL Applications
26A	115379	ATL Applications
27A	115380	ATL Applications
28A	115381	ATL Applications
29A	115386	ATL Applications
30A	115387	ATL Applications
31A	115485	ATL Applications
32A	115486	ATL Applications
32AA	115486 Lab Duplicate	ATL Applications
33A	Lab Blank	ATL Applications

Continued on next page

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DATE COMPLETED:	10/27/2010		

FRACTION #	NAME	TEST
33B	Lab Blank	ATL Applications
34A	LCS	ATL Applications

CERTIFIED BY: Linda L. Freeman

Laboratory Director

DATE: 10/27/10

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# 1010269B

Sixteen Radiello 170 (H2S) samples were received on October 13, 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

Sample collection date was not provided on the Chain of Custody for any sample. The client was contacted and a date of 10/5/10, 10/6/10 and 10/7/10 were provided.

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 21360 minutes was used for the QC samples and trip blanks.

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)
116139	1010269B-17A	NA	10/18/2010	1.00	0.80	0.51	ND	ND
116140	1010269B-18A	NA	10/18/2010	1.00	0.80	0.51	ND	ND
116153	1010269B-19A	NA	10/18/2010	1.00	0.80	0.53	1.7	1.1
116154	1010269B-20A	NA	10/18/2010	1.00	0.80	0.53	ND	ND
116155	1010269B-21A	NA	10/18/2010	1.00	0.80	0.53	ND	ND
116156	1010269B-22A	NA	10/18/2010	1.00	0.80	0.53	1.8	1.2
116157	1010269B-23A	NA	10/18/2010	1.00	0.80	0.51	ND	ND
116158	1010269B-24A	NA	10/18/2010	1.00	0.80	0.51	ND	ND
115378	1010269B-25A	NA	10/18/2010	1.00	0.80	0.51	ND	ND
115379	1010269B-26A	NA	10/18/2010	1.00	0.80	0.51	ND	ND
115380	1010269B-27A	NA	10/18/2010	1.00	0.80	0.51	ND	ND
115381	1010269B-28A	NA	10/18/2010	1.00	0.80	0.51	1.3	0.84
115386	1010269B-29A	NA	10/18/2010	1.00	0.80	0.51	ND	ND
115387	1010269B-30A	NA	10/18/2010	1.00	0.80	0.51	ND	ND
115485	1010269B-31A	NA	10/18/2010	1.00	0.80	0.51	ND	ND
115486	1010269B-32A	NA	10/18/2010	1.00	0.80	0.51	ND	ND
115486 Lab Duplicate	1010269B-32AA	NA	10/18/2010	1.00	0.80	0.51	ND	ND
Method Blank	1010269B-33A	NA	10/18/2010	1.00	0.80	0.51	ND	ND
Method Blank	1010269B-33B	NA	10/18/2010	1.00	0.80	0.51	ND	ND
							%Rec	
LCS	1010269B-34A	NA	10/18/2010	1.00	0.80	0.51	124	

COMMENTS: 1. NA=Not Applicable
2. ND=Not Detected
3. Exposure time of 21360 minutes was assumed for the QC samples.
4. Background subtraction not performed.

Hydrogen Sulfide Radiello Calculation Worksheet

Workorder #: 1010269B

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: 10/18/2010

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
17A	116139	NA	0.020	21360	1.00	-0.018461897	-0.193849921	-0.206011631	-0.095	-0.132
18A	116140	NA	0.026	21360	1.00	-0.012811894	-0.134524891	-0.142964682	-0.066	-0.091
19A	116153	NA	0.204	20640	1.00	0.154804856	1.625450987	1.727428143	0.820	1.144
20A	116154	NA	0.086	20640	1.00	0.043688134	0.458725405	0.48750481	0.232	0.323
21A	116155	NA	0.057	20640	1.00	0.016379787	0.171987762	0.182777889	0.087	0.121
22A	116156	NA	0.212	20640	1.00	0.162338193	1.704551026	1.811490742	0.860	1.199
23A	116157	NA	0.019	21360	1.00	-0.019403564	-0.203737426	-0.216519456	-0.099	-0.138
24A	116158	NA	0.02	21360	1.00	-0.018461897	-0.193849921	-0.206011631	-0.095	-0.132
25A	115378	NA	0.109	21360	1.00	0.065346478	0.686138018	0.729184781	0.335	0.466
26A	115379	NA	0.078	21360	1.00	0.036154797	0.379625365	0.403442211	0.185	0.258
27A	115380	NA	0.104	21360	1.00	0.060638142	0.636700493	0.676645657	0.311	0.433
28A	115381	NA	0.164	21360	1.00	0.11713817	1.22995079	1.307115148	0.600	0.836
29A	115386	NA	0.018	21360	1.00	-0.020345232	-0.213624931	-0.227027281	-0.104	-0.145
30A	115387	NA	0.022	21360	1.00	-0.016578563	-0.174074911	-0.184995981	-0.085	-0.118
31A	115485	NA	0.057	21270	1.00	0.016379787	0.171987762	0.182777889	0.084	0.117
32A	115486	NA	0.061	21270	1.00	0.020146455	0.211537781	0.224809188	0.104	0.144
32AA	115486 Lab Duplicate	NA	0.064	21270	1.00	0.022971457	0.241200296	0.256332663	0.118	0.165
					1.00	-0.03729524	-0.39160002	-0.416168128	#DIV/0!	#DIV/0!
					1.00	-0.03729524	-0.39160002	-0.416168128	#DIV/0!	#DIV/0!
					1.00	-0.03729524	-0.39160002	-0.416168128	#DIV/0!	#DIV/0!
					1.00	-0.03729524	-0.39160002	-0.416168128	#DIV/0!	#DIV/0!
					1.00	-0.03729524	-0.39160002	-0.416168128	#DIV/0!	#DIV/0!
33A	Method Blank	NA	0.02	21360	1.00	-0.018461897	-0.193849921	-0.206011631	-0.095	-0.132
33B	Method Blank	NA	0.019	21360	1.00	-0.019403564	-0.203737426	-0.216519456	-0.099	-0.138
34A	LCS	NA	0.215	21360	1.00	0.165163194	1.734213541	1.843014216	0.846	1.179

QC Duration 21360

CCV Spike Amt 0.133

Verified: HH and AW on 9/4/09

Q includes conversion from Sulfide to H2S

Low PointxDF	RL(ug/mL)xVol (mL)	RL (ug sulfide) *MW H2S MW Sulfide	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	0.37	0.511	ND	ND	ND	
0.072	0.752	0.798966249	0.37	0.511	ND	ND	ND	
0.072	0.752	0.798966249	0.38	0.529	1.727428143	1.143507879	0.820338232	
0.072	0.752	0.798966249	0.38	0.529	ND	ND	ND	
0.072	0.752	0.798966249	0.38	0.529	ND	ND	ND	
0.072	0.752	0.798966249	0.38	0.529	1.811490742	1.199154908	0.860258714	
0.072	0.752	0.798966249	0.37	0.511	ND	ND	ND	
0.072	0.752	0.798966249	0.37	0.511	ND	ND	ND	
0.072	0.752	0.798966249	0.37	0.511	ND	ND	ND	
0.072	0.752	0.798966249	0.37	0.511	ND	ND	ND	
0.072	0.752	0.798966249	0.37	0.511	ND	ND	ND	
0.072	0.752	0.798966249	0.37	0.511	1.307115148	0.836106237	0.599812144	
0.072	0.752	0.798966249	0.37	0.511	ND	ND	ND	
0.072	0.752	0.798966249	0.37	0.511	ND	ND	ND	
0.072	0.752	0.798966249	0.37	0.513	ND	ND	ND	
0.072	0.752	0.798966249	0.37	0.513	ND	ND	ND	
0.072	0.752	0.798966249	0.37	0.513	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	0.37	0.511	ND	ND	ND	
0.072	0.752	0.798966249	0.37	0.511	ND	ND	ND	%Rec
0.072	0.752	0.798966249	0.37	0.511	1.843014216	1.178898188	0.845726797	124

Calibration Data		Calibration Date 10/18/2010	Linear Regression
ug/ml of sulfide	**absorbance**		
0	0	Slope	1.061946373
0.0716	0.097	Y-int	0.039605545
0.143	0.18	R2	0.997358126
0.286	0.356		
0.572	0.683		
1.145	1.237		

QC Results and Raw Data

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

Work Order: 1010269B **Date:** 10/18/10 **Method:** Rad 170

Analyst: M. Skidmore **Wavelength:** 665nm

Standard ID	Concentration	ABS
	Sulfide (µg/mL)	
Level 1 1993-80 -E	0.0716	0.097
Level 2 -D	0.143	0.180
Level 3 -C	0.286	0.356
Level 4 -B	0.572	0.683
Level 5 -A	1.145	1.237
ICV 1993-81	0.286	0.345

r = 0.9974
m = 1.062
b = 0.0396

ICV % Recovery = 101

Fraction	Dilution	ABS	Sample ID	Sample Volume	Comments
17A	1.00	0.020	116139	10.5 mL	
18A		0.026	116140		
19A		0.204	116153		
20A		0.086	116154		
21A		0.057	116155		
22A		0.212	116156		
23A		0.019	116157		
24A		0.020	116158		
25A		0.109	115378		
26A		0.078	115379		
27A		0.104	115380		
28A		0.164	115381		
29A		0.018	115386		
30A		0.022	115387		
31A		0.057	115485		
32A		0.061	115486		
32AA		0.064			
BLK1		0.020	N/A		Lot: 10101
BLK2		0.019			
LCS		0.215			0.133 µg/mL
CCV		0.353	N/A		0.286 µg/mL
					MJS 10/19/10

Procedure:

1.) Add 10 mL of H_2O 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 10/19/10

Signed

10/19/10
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 #: OB270

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: 1993-78
Project: Ferric Chloride-Amine Solution Rad 170
Analyst: M. Skidmore
Preparation Date: 10/18/10
Expiration Date: 10/18/10

Solvent: HPLC H_2O
Solvent Lot #: DB270

Procedure/Comments: Add 12.5 mL of ferric chloride solution (1993-77, exp 10/18/11) with 62.5 mL of amine solution (1993-76, exp 11/18/10).

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: 1993-79
Project: Rad 170 H_2S LCS
Analyst: M. Skidmore
Preparation Date: 10/18/10
Expiration Date: 10/18/10

Solvent: HPLC H_2O
Solvent Lot #: DB270

Procedure/Comments:

A Rad 170 cartridge (lot: 10101) 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 (1993-78) 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 10/18/10

MJS 10/18/10

Signed: [signature] Date: 10/18/10 Reviewed: [signature] Date: 10/22/10

Spectrophotometer Standard Preparation Log

@Air Toxics Ltd. Log Book #: 1993

Standard ID: 1993-80
Project: Rad 170 calibration Curve
Analyst: M. Skidmore
Preparation Date: 10/18/10
Expiration Date: 10/18/10

Solvent: HPLC H_2O
Solvent Lot #: DB 270

Procedure/Comments:

Solution A: 2 mL of Code Rad 171 (1476-1736, exp 2/3/11) (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 10/18/10

MJS 10/18/10

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

Spectrophotometer Standard Preparation Log **@Air Toxics Ltd.** **Log Book #: 1993**

Standard ID: 1993-81 MJS 10/18/10
Project: Rad 170 µ ICV
Analyst: FM
Preparation Date: 10/18/10
Expiration Date: 10/18/10

Solvent: HPLC water
Solvent Lot #: DB270

Procedure/Comments:

Solution A: 2 mL of Code Rad 171 (1476-1736, exp 2/3/11) (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.

MJS 10/18/10

MJS 10/18/10

Page 81 Signed: Fauzia Date: 10/18/10 Reviewed: [signature] Date: 10/18/10

Rev. 8/97

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 #: 1010269B
# of pages (Including Cover): 4

10/28/2010

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.

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

1010269B

DATE: 10/12/10

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

TO: Air Toxic

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 # 17314

The cost of this analysis will be covered by EH&E Purchase Order # 17314

For EH & E Data Coordinator - URGENT DATA ☐

	SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
17A	116139	Air	H2S Analysis	Ø
18A	116140			Ø
19A	116153			14 Days 8 hours
20A	116154			
21A	116155			
22A	116156			
23A	116157			Ø
24A	116158			Ø
25A	115378			14 Days 20 Hours
26A	115379			
27A	115380			
28A	115381			
29A	115386			Ø
30A	115387			Ø
31A	115485			14 Days 18 Hours 30 minutes
32A	115486			

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 bbaker@eheinc.com; tminegishi@eheinc.com

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

Relinquished by: Tuan Tang of Environmental Health & Engineering, Inc. Date: 10/12/10

Received by: [signature] of (company name) ATL Date: 10/13/10 09:00

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: _____

CUSTODY SEAL INTACT? Y N NONE TEMP 5.5°C

Fed Ex 873924616829

Page 2 of 4

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 1010269B

Client

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

Phone

800-825-5343

Fax

781-247-4305

Date Promised: 10/26/10 11:59 pm
Date Completed: 10/27/10
Date Received: 10/13/10
PO#: 17314
Project#: 17314

Total $: $ 1,360.00
Logged By: AW

Sales Rep: TL

Fraction	Sample #	Analysis	Collected	Amount$
17A	116139	ATL Applications	10/6/2010	$80.00
18A	116140	ATL Applications	10/6/2010	$80.00
19A	116153	ATL Applications	10/7/2010	$80.00
20A	116154	ATL Applications	10/7/2010	$80.00
21A	116155	ATL Applications	10/7/2010	$80.00
22A	116156	ATL Applications	10/7/2010	$80.00
23A	116157	ATL Applications	10/7/2010	$80.00
24A	116158	ATL Applications	10/7/2010	$80.00
25A	115378	ATL Applications	10/5/2010	$80.00
26A	115379	ATL Applications	10/5/2010	$80.00
27A	115380	ATL Applications	10/5/2010	$80.00
28A	115381	ATL Applications	10/5/2010	$80.00
29A	115386	ATL Applications	10/5/2010	$80.00
30A	115387	ATL Applications	10/5/2010	$80.00
31A	115485	ATL Applications	10/6/2010	$80.00
32A	115486	ATL Applications	10/6/2010	$80.00
32AA	115486 Lab Duplicate	ATL Applications	10/6/2010	$0.00
33A	Lab Blank	ATL Applications	NA	$0.00
33B	Lab Blank	ATL Applications	NA	$0.00
34A	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: AW

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: AW **Project ID:** 14482 **PM:** AS **Date:** 10/13/2010 **Discrepancy Type:** ☐ 1. ☒ 2. ☐ 3.

Workorder(s) affected: 1010269A/B/C/D **Sample(s) affected:** All

1. Sample Receipt Discrepancies

Narration Not Required:

1.1. ☐ Sample container (cartridge/tube/VOA vial) was received broken, however sample was intact.

1.2. ☐ No brass cap on canister.

1.3. ☐ Date of Collection noted on first sample, but no arrow down to indicate all samples.

Notify Lab for further determination:

1.4. ☐ Tedlar bag received with minimal volume.

Initials: _____ Date: _____

Narration Required in Lab Narrative and Sample Confirmation:

1.5. ☐ COC was not filled out in ink.

1.6. ☐ COC improperly relinquished / received.

1.7. ☐ Sample tags / can numbers do not match the COC.

1.8. ☐ Sample date ☐ error / ☐ missing on COC but noted on sample tag (check one).

1.9. ☐ Custody Seal on the outside of the container was ☐ broken / ☐ improperly placed (check one).

1.10. ☐ ID-none on the sample Tag/Blank

1.11. ☐ Other (describe below).

Describe the Discrepancy: _____

2. Sample Receipt/Screening Discrepancies requiring PM notification

Document on Cover Page of Sample Receipt Confirmation and in Receiving Notes of Lab Narrative

If Section II. is filled out PM must be notified within 24 hrs of initiation

2.1. ☐ COC was not received with samples.

2.2. ☐ Analysis method(s) is ☐ not specified / ☐ incorrectly specified (check one) on the COC.

2.3. ☐ Incorrect sampling media / container for analysis requested.

2.4. ☐ Number of samples on the COC does not match the number of samples that were received.

2.5. ☐ Samples were received expired.

2.6. ☒ Sampling date (time for sulfur) is not documented for ☐ *some* / ☒ *any* samples (check one).

2.7. ☐ Sample received with amount of H_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: _____

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: BBaker Date: 10/13/2010

☐ Waiting for Client Reply

Comments: **Client emailed spreadsheet on 10/18**

☐ 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

DATA REVIEW CHECKLIST

Work Order #: 1010269B

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.
NA	☐	NA				Non-Standard sublist printed/verified, LOQ and LOD verified
		☑	☐	☐	☐	Lab Narrative is correct (proper method & description/Receiving & Analytical notes correct)
		NA	☐	☐	☐	Sample Discrepancy Report (SDR) is completed
NA	☐	NA	☐	☐	☐	Corrective Action issued - #_____
NA	☐	NA	☐		☐	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
		NA	☐	☐	☐	Appropriate data qualifier flags are applied
		NA	☐	☐	☐	Manual integrations for samples and QC are properly documented
☑	☐	NA	☐		☐	Samples analyzed within the project or method specific clock
		NA	☐			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)
		NA	☐			Spectra verified - documentation of spectral defense included (Section 5A of eCVP pkg)
		NA	☐			TICs resemble reference spectra
		☑	☐			TICs between duplicate samples are consistent
☑	☐	☑	☐	☐	☐	Checked samples for trends (i.e. Influent vs. Effluent, Field Dups, Field/Trip Blank, etc.)
☑	☐	☑	☐			Data for multiple analyses of sample(s) has been evaluated for comparability of results
		☑	☐			Special units for all samples in the final report are correctly calculated
		☑	☐			Manually entered results checked (i.e. TPH/NMOC)
☑	☐	☑				Chain of Custody verified for any special comments (i.e. different compounds/RLs, action levels)
		☑				Chain of Custody scanned correctly
					☐	Verify sample id's vs. chain of custody
☑	☐	☑				Date MDL(s) performed per instrument(s) 9/4/09
NA	☐	NA				Samples pressurized w/ appropriate gas (N_2 or He) ☐ Other (i.e. Tedlar bag, cartridge, sorbent)
NA	☐	NA				Final pressure consistent with canister size (6L vs. 1L)
NA	☐	NA				Verify receipt pressures
☑	☐	NA				Verify canister ID #'s
		NA	☐	☐		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: 21,360 minutes was used as the duration for all QC'S and Trip Blanks,

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: [signature] 10/22/10	W: [signature] 10/22/10	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.