@AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

COMPREHENSIVE VALIDATION PACKAGE

ATL Applications

INVENTORY SHEET

WORK ORDER # 1010461B

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Completed by:

Kara McKiernan	Kara McKiernan/ Document Control	11/02/10
(Signature)	(Print Name & Title)	(Date)

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1010461B

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:	10/21/2010	**CONTACT:**	Ausha Scott
DATE COMPLETED:	11/01/2010		

FRACTION #	NAME	TEST
17A	118537	ATL Applications
18A	118538	ATL Applications
19A	118549	ATL Applications
20A	118550	ATL Applications
21A	118551	ATL Applications
22A	118552	ATL Applications
23A	118553	ATL Applications
24A	118554	ATL Applications
25A	118565	ATL Applications
26A	118566	ATL Applications
27A	118567	ATL Applications
28A	118568	ATL Applications
29A	118569	ATL Applications
30A	118570	ATL Applications
30AA	118570 Lab Duplicate	ATL Applications
31A	Lab Blank	ATL Applications
31B	Lab Blank	ATL Applications
32A	LCS	ATL Applications

CERTIFIED BY: Linda L. Truman DATE: 11/01/10

Laboratory Director

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# 1010461B

Fourteen Radiello 170 (H2S) samples were received on October 21, 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 all samples. The client was contacted and collection dates of 10/4/10, 10/5/10, 10/19/10 and 10/20/10 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 21560 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)
118537	1010461B-17A	10/4/2010	10/26/2010	1.00	**0.80**	**0.51**	**ND**	**ND**
118538	1010461B-18A	10/4/2010	10/26/2010	1.00	**0.80**	**0.51**	**ND**	**ND**
118549	1010461B-19A	10/20/2010	10/26/2010	1.00	**0.80**	**0.51**	**2.1**	**1.3**
118550	1010461B-20A	10/20/2010	10/26/2010	1.00	**0.80**	**0.51**	**2.2**	**1.4**
118551	1010461B-21A	10/20/2010	10/26/2010	1.00	**0.80**	**0.51**	**2.0**	**1.3**
118552	1010461B-22A	10/20/2010	10/26/2010	1.00	**0.80**	**0.51**	**2.9**	**1.9**
118553	1010461B-23A	10/5/2010	10/26/2010	1.00	**0.80**	**0.51**	**ND**	**ND**
118554	1010461B-24A	10/5/2010	10/26/2010	1.00	**0.80**	**0.51**	**ND**	**ND**
118565	1010461B-25A	10/20/2010	10/26/2010	1.00	**0.80**	**0.54**	**1.3**	**0.86**
118566	1010461B-26A	10/20/2010	10/26/2010	1.00	**0.80**	**0.54**	**1.1**	**0.71**
118567	1010461B-27A	10/20/2010	10/26/2010	1.00	**0.80**	**0.54**	**1.6**	**1.1**
118568	1010461B-28A	10/20/2010	10/26/2010	1.00	**0.80**	**0.54**	**1.4**	**0.93**
118569	1010461B-29A	10/5/2010	10/26/2010	1.00	**0.80**	**0.51**	**ND**	**ND**
118570	1010461B-30A	10/5/2010	10/26/2010	1.00	**0.80**	**0.51**	**ND**	**ND**
118570 Lab Duplicate	1010461B-30AA	10/5/2010	10/26/2010	1.00	**0.80**	**0.51**	**ND**	**ND**
Method Blank	1010461B-31A	NA	10/26/2010	1.00	**0.80**	**0.51**	**ND**	**ND**
Method Blank	1010461B-31B	NA	10/26/2010	1.00	**0.80**	**0.51**	**ND**	**ND**
							%Rec	
LCS	1010461B-32A	NA	10/26/2010	1.00	**0.80**	**0.51**	**95**	

COMMENTS: 1. NA=Not Applicable
2. ND=Not Detected
3. Exposure time of 21560 minutes was assumed for the QC samples.
4. Background subtraction not performed.

Hydrogen Sulfide Radiello Calculation Worksheet

Workorder #: 1010461B

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: 10/26/2010

Corrected Q 0.096 Takes into account temp

Q includes conversion from Sulfide to H2S

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
						(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
17A	118537	10/4/2010	0.020	21560	1.00	-0.01543663	-0.162084618	-0.172253444	-0.078	-0.109
18A	118538	10/4/2010	0.021	21560	1.00	-0.014499984	-0.152249833	-0.161801646	-0.074	-0.103
19A	118549	10/20/2010	0.237	21560	1.00	0.187815592	1.972063713	2.095786575	0.953	1.328
20A	118550	10/20/2010	0.244	21560	1.00	0.194372115	2.040907208	2.168949156	0.986	1.375
21A	118551	10/20/2010	0.23	21560	1.00	0.181259068	1.903220218	2.022623994	0.920	1.282
22A	118552	10/20/2010	0.318	21560	1.00	0.263683933	2.768681293	2.942382158	1.338	1.865
23A	118553	10/5/2010	0.022	21560	1.00	-0.013563338	-0.142415048	-0.151349849	-0.069	-0.096
24A	118554	10/5/2010	0.025	21560	1.00	-0.010753399	-0.112910693	-0.119994457	-0.055	-0.076
25A	118565	10/20/2010	0.159	20295	1.00	0.114757189	1.204950488	1.280546384	0.618	0.862
26A	118566	10/20/2010	0.138	20295	1.00	0.095087619	0.998420005	1.06105864	0.512	0.714
27A	118567	10/20/2010	0.194	20295	1.00	0.147539806	1.549167961	1.64635929	0.795	1.108
28A	118568	10/20/2010	0.168	20295	1.00	0.123187005	1.293463553	1.37461256	0.664	0.925
29A	118569	10/5/2010	0.02	21560	1.00	-0.01543663	-0.162084618	-0.172253444	-0.078	-0.109
30A	118570	10/5/2010	0.021	21560	1.00	-0.014499984	-0.152249833	-0.161801646	-0.074	-0.103
30AA	118570 Lab Duplicate	10/5/2010	0.027	21560	1.00	-0.008880107	-0.093241123	-0.099090862	-0.045	-0.063
					1.00	-0.034169554	-0.358780316	-0.38128939	#DIV/0!	#DIV/0!
					1.00	-0.034169554	-0.358780316	-0.38128939	#DIV/0!	#DIV/0!
					1.00	-0.034169554	-0.358780316	-0.38128939	#DIV/0!	#DIV/0!
					1.00	-0.034169554	-0.358780316	-0.38128939	#DIV/0!	#DIV/0!
					1.00	-0.034169554	-0.358780316	-0.38128939	#DIV/0!	#DIV/0!
					1.00	-0.034169554	-0.358780316	-0.38128939	#DIV/0!	#DIV/0!
					1.00	-0.034169554	-0.358780316	-0.38128939	#DIV/0!	#DIV/0!
31A	Method Blank	NA	0.019	21560	1.00	-0.016373276	-0.171919403	-0.182705241	-0.083	-0.116
31B	Method Blank	NA	0.019	21560	1.00	-0.016373276	-0.171919403	-0.182705241	-0.083	-0.116
32A	LCS	NA	0.171	21560	1.00	0.125996944	1.322967907	1.405967952	0.639	0.891

QC Duration	CCV Spike Amt
21560	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	0.36	0.506	ND	ND	ND	
0.072	0.752	0.798966249	0.36	0.506	ND	ND	ND	
0.072	0.752	0.798966249	0.36	0.506	2.095786575	1.328150105	0.952798253	
0.072	0.752	0.798966249	0.36	0.506	2.168949156	1.374514984	0.986059837	
0.072	0.752	0.798966249	0.36	0.506	2.022623994	1.281785227	0.91953667	
0.072	0.752	0.798966249	0.36	0.506	2.942382158	1.864657985	1.337682288	
0.072	0.752	0.798966249	0.36	0.506	ND	ND	ND	
0.072	0.752	0.798966249	0.36	0.506	ND	ND	ND	
0.072	0.752	0.798966249	0.39	0.538	1.280546384	0.862094991	0.618456151	
0.072	0.752	0.798966249	0.39	0.538	1.06105864	0.7143305	0.512451756	
0.072	0.752	0.798966249	0.39	0.538	1.64635929	1.108369143	0.795130143	
0.072	0.752	0.798966249	0.39	0.538	1.37461256	0.92542263	0.663886606	
0.072	0.752	0.798966249	0.36	0.506	ND	ND	ND	
0.072	0.752	0.798966249	0.36	0.506	ND	ND	ND	
0.072	0.752	0.798966249	0.36	0.506	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	#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	0.36	0.506	ND	ND	ND	
0.072	0.752	0.798966249	0.36	0.506	ND	ND	ND	%Rec
0.072	0.752	0.798966249	0.36	0.506	1.405967952	0.890995536	0.63918904	95

Calibration Data

Calibration Date 10/26/2010 Linear Regression

ug/ml of sulfide	absorbance
0	0
0.0716	0.091
0.143	0.184
0.286	0.354
0.572	0.679
1.145	1.242

Slope	1.067639005
Y-int	0.036480749
R2	0.997754209

QC Results and Raw Data

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

Work Order: 1010461B **Date:** 10/26/10 **Method:** Rad170

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

Standard ID	Concentration	ABS
	sulfide (ug/mL)	
Level 1 1993-86-E	0.0716	0.091
Level 2 -D	0.143	0.184
Level 3 -C	0.286	0.354
Level 4 -B	0.572	0.679
Level 5 -A	1.145	1.242
ICV 1993-89	0.286	0.354

r = 0.9978
m = 1.068
b = 0.0365

ICV % Recovery = 104

Fraction	Dilution	ABS	Sample ID	Sample Volume	Comments
17A	1.00	0.020	118537	10.5 mL	
18A		0.021	118538		
19A		0.237	118549		
20A		0.244	118550		
21A		0.230	118551		
22A		0.318	118552		
23A		0.022	118553		
24A		0.025	118554		
25A		0.159	118565		
26A		0.138	118566		
27A		0.194	118567		
28A		0.168	118568		
29A		0.020	118569		
30A		0.021	118570		
30AA		0.027	118570		
BLK1		0.019	N/A		Lot: 10101
BLK2		0.019			
LCS		0.171			0.133 mg/mL
CCV		0.370		5.0 mL	0.286 mg/mL
				MJS	10/26/10

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 10/26/10

Signed

10/26/10
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. 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 Fauzia 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 Reviewed 10/22/10

Spectrophotometer Standard Preparation Log

@Air Toxics Ltd. Log Book #: 1993

Standard ID: 1993-86
Project: Rad 170 Calibration Curve
Analyst: M. Sfidmore
Preparation Date: 10/26/10
Expiration Date: 10/26/10

Solvent: HPLC H_2O
Solvent Lot #: DB270

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 10/26/10

MJS 10/26/10

Signed 10/26/10 Date
Reviewed 10/26/10 Date

Spectrophotometer Standard Preparation Log

@Air Toxics Ltd. Log Book #: 1993

Standard ID: 1993-87
Project: Rad 170 H_2S LCS
Analyst: M. Skidmore
Preparation Date: 10/26/10
Expiration Date: 10/26/10

Solvent: HPLC H_2O
Solvent Lot #: DB270

Procedure/Comments:

A Rad 170 cartridge (lot: ~~10101~~ 101048 MJS 10/26/10) 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 (1993-88) 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 10/26/10

MJS 10/26/10

Signed: [signature] Date: 10/26/10 Reviewed: [signature] Date: 10/26/10

Spectrophotometer Standard Preparation Log

@Air Toxics Ltd. Log Book #: 1993

Standard ID: 1993-88
Project: Ferric Chloride Amine Solution Rad 170
Analyst: M. Skidmore
Preparation Date: 10/26/10
Expiration Date: 10/26/10

Solvent: HPLC H_2O
Solvent Lot #: DB 270

Procedure/Comments: Add 5.0 mL of ferric chloride solution (1993-77, exp 10/18/11) with 25 mL of Amine solution (1993-76; exp. 11/18/10).

MJS
10/26/10

Signed 10/26/10 Reviewed 10/26/10

Spectrophotometer Standard Preparation Log

@Air Toxics Ltd. Log Book #: 1993

Standard ID: 1993-89
Project: Rad. 170 ICV
Analyst: FM
Preparation Date: 10/26/10
Expiration Date: 10/26/10

Solvent: HPLC H2O
Solvent Lot #: DB270

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 10/26/10

FM
10/26/10

Signed 10/26/10 Reviewed 10/27/10

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 #:	1010461B
# of pages (Including Cover):	4

11/2/2010

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

1010461

DATE: 20 OCT 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.
17A	118537	Air/passive	H_2S Analysis	Ø D
18A	118538			1
19A	118549			14D 23H 20M
20A	118550			
21A	118551			
22A	118552			
23A	118553			Ø D
24A	118554			1
25A	118565			14D 2H 15M
26A	118566			
27A	118567			
28A	118568			
29A	118569			Ø D
30A	118570			1

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 bbakere@eheinc.com

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

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 10/20/10

Received by: Brian Shattuck ATL of (company name) ATL Date: 10/21/10

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

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

CUSTODY SEAL INTACT? Y N NONE TEMP 5.4C

FEDEX

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

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

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

Page 2 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 1010461B

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: 11/03/10 11:59 pm
Date Completed: 11/1/10
Date Received: 10/21/10
PO#: 17131
Project#: 17131

Total $: $ 1,190.00
Logged By: MW

Fraction	Sample #	Analysis	Collected	Amount$
17A	118537	ATL Applications	10/4/2010	$80.00
18A	118538	ATL Applications	10/4/2010	$80.00
19A	118549	ATL Applications	10/20/2010	$80.00
20A	118550	ATL Applications	10/20/2010	$80.00
21A	118551	ATL Applications	10/20/2010	$80.00
22A	118552	ATL Applications	10/20/2010	$80.00
23A	118553	ATL Applications	10/5/2010	$80.00
24A	118554	ATL Applications	10/5/2010	$80.00
25A	118565	ATL Applications	10/20/2010	$80.00
26A	118566	ATL Applications	10/20/2010	$80.00
27A	118567	ATL Applications	10/20/2010	$80.00
28A	118568	ATL Applications	10/20/2010	$80.00
29A	118569	ATL Applications	10/5/2010	$80.00
30A	118570	ATL Applications	10/5/2010	$80.00
30AA	118570 Lab Duplicate	ATL Applications	10/5/2010	$0.00
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

Sample Discrepancy Report

Identification

Initiated By: MW **Project ID:**14482 **PM:** AS **Date:** 10/22/2010 **Discrepancy Type:** ☐ 1. ☒ 2. ☐ 3.

Workorder(s) affected:1010461 **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: See spreadsheet for DOCs and TOCs

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: 10/21/2010

☐ Waiting for Client Reply

Comments: **Client emailed spreadsheet with DOCs on 10/22.**

_____

☐ 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 #: 1010461B

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)
		☑	☐	☐	☐	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
		N/A	☐			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: An exposure time of 21560 minutes was used for the QC samples 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: 10/28/10	W: 10/28/10	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.