

December 17, 2008

Ms. Kelly Buettner  
Air Toxics LTD.  
180 Blue Ravine Road, Suite.B  
Folsom, CA 95630-1020

Dear Ms. Buettner,

Enclosed are the results for Frontier Analytical Laboratory project **5225**. This corresponds to your project number **103P0333** and purchase order number **0812153C**. The two PUF/filter samples received on 12/5/2008 were extracted and analyzed by EPA Method TO-9 for tetra through octa chlorinated dibenzo dioxins and furans. Air Toxics LTD. requested a Level IV data package and a turnaround time of fifteen business days for project **5225**.

The following level IV report consists of an Analytical Data section, a Sample Receipt section, a Laboratory Raw Data section, and an Instrument Raw Data section. The Analytical Data section contains our project-sample tracking log and the analytical results. The Sample Receipt section contains your original chain of custody, our sample login form and the sample photos. The Laboratory Raw Data section contains our project request sheet, the cartridge request form, an extraction bench sheet, and the cleanup bench sheet. The instrument raw data section contains three sub-sections; the sample results section, the initial calibration section and the continuing/ending calibration section. The sample results sub-section consists of the quantitation summary forms with chromatograms for all samples and QC. The initial calibration sub-section consists of the individual quantitation summary forms and chromatograms for each point of the initial calibration curve as well as an overall quantitation summary form of the initial calibration curve. The continuing/ending calibration sub-section consists of the quantitation summary forms and chromatograms for all beginning and ending calibration injections associated with the samples and QC. You also requested Electronic Data Deliverables (EDD) for this project. The EDD and Level I summary have been sent to you via email. A copy of the entire Level IV data package on compact disk has been sent to you via OnTrac. The enclosed results are specifically for the samples referenced in this report only. These results meet all NELAC requirements and shall not be reproduced except in full.

If you have any questions regarding project **5225**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

*Daniel P. Vickers*

Daniel P. Vickers  
Director of Air Toxics

## Frontier Analytical Laboratory

### Sample Tracking Log

FAL Project ID: **5225**

Received on: **12/05/2008**

Project Due: **12/30/2008** Storage: **R2**

FAL Sample ID	Dup	Client Project ID	Client Sample ID	Requested Method	Matrix	Sampling Date	Sampling Time
5225-001-SA	0	103PO333	OFF01-120208	EPA TO-9 D/F	PUF / Filter	12/02/2008	07:00 am
5225-002-SA	0	103PO333	OFF02-120208	EPA TO-9 D/F	PUF / Filter	12/02/2008	07:25 am

# EPA Method TO-9 PCDD/F



FAL ID: 5225-001-MB  
Client ID: Method Blank  
Matrix: PUF / Filter  
Batch No: X1589

Date Extracted: 12-08-2008  
Date Received: NA  
Amount: 1.00 sample

ICal: AIRFAL3-8-29-08  
GC Column: DB5  
Units: pg/sample

Acquired: 12-15-2008  
WHO TEQ: 0.00

Compound	Conc	DL	Qual	WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD	ND	1.12		-	0.779				
1,2,3,7,8-PeCDD	ND	1.37		-	0.866				
1,2,3,4,7,8-HxCDD	ND	1.63		-	2.25				
1,2,3,6,7,8-HxCDD	ND	1.72		-	2.20	Total TCDD	ND	1.12	
1,2,3,7,8,9-HxCDD	ND	1.63		-	2.18	Total PeCDD	ND	1.37	
1,2,3,4,6,7,8-HpCDD	ND	1.83		-	2.71	Total HxCDD	ND	1.72	
OCDD	ND	3.01		-	5.66	Total HpCDD	ND	1.83	
2,3,7,8-TCDF	ND	0.880		-	0.744				
1,2,3,7,8-PeCDF	ND	1.55		-	0.941				
2,3,4,7,8-PeCDF	ND	1.64		-	0.982				
1,2,3,4,7,8-HxCDF	ND	1.03		-	1.47				
1,2,3,6,7,8-HxCDF	ND	0.999		-	1.31				
2,3,4,6,7,8-HxCDF	ND	1.12		-	1.51				
1,2,3,7,8,9-HxCDF	ND	1.33		-	1.85	Total TCDF	ND	0.880	
1,2,3,4,6,7,8-HpCDF	ND	0.656		-	1.12	Total PeCDF	ND	1.64	
1,2,3,4,7,8,9-HpCDF	ND	0.857		-	1.53	Total HxCDF	ND	1.33	
OCDF	ND	3.34		-	4.19	Total HpCDF	ND	0.857	

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	91.5	40.0 - 130	
13C-1,2,3,7,8-PeCDD	81.1	40.0 - 130	
13C-1,2,3,6,7,8-HxCDD	88.7	40.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	91.2	25.0 - 130	
13C-OCDD	86.5	25.0 - 130	
13C-2,3,7,8-TCDF	89.2	40.0 - 130	
13C-1,2,3,7,8-PeCDF	87.6	40.0 - 130	
13C-1,2,3,6,7,8-HxCDF	90.8	40.0 - 130	
13C-1,2,3,4,6,7,8-HpCDF	82.3	25.0 - 130	
13C-OCDF	99.3	25.0 - 130	
Cleanup Surrogate			
13C-1,2,3,7,8,9-HxCDF	104	40.0 - 130	
Pre-Spike Surrogate			
37Cl-2,3,7,8-TCDD	103	70.0 - 130	
13C-1,2,3,4,7,8-HxCDD	114	70.0 - 130	
13C-2,3,4,7,8-PeCDF	72.9	70.0 - 130	
13C-1,2,3,4,7,8-HxCDF	115	70.0 - 130	
13C-1,2,3,4,7,8,9-HpCDF	128	70.0 - 130	

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1

B Analyte is present in Method Blank

C Chemical Interference

D Presence of Diphenyl Ethers

E Analyte concentration is above calibration range

F Analyte confirmation on secondary column

J Analyte concentration is below calibration range

M Maximum possible concentration

ND Analyte Not Detected

NP Not Provided

S Sample acceptance criteria not met

X Matrix interferences

\* Result taken from dilution or reinjection

Analyst:                     

Date: 12/17/08

Reviewed By:                     

Date: 12/17/08

# EPA Method TO-9 PCDD/F



FAL ID: 5225-001-LCS1/LCS2  
Client ID: LCS1/LCS2  
Matrix: PUF / Filter

Date Extracted: 12-08-2008  
Date Received: NA  
LCS1 Amount: 1.00 sample  
LCS2 Amount: 1.00 sample


ICal: AIRFAL3-8-29-08  
Batch No: X1589  
Units: ng/ml

LCS1 Acquired: 12-15-2008  
LCS2 Acquired: 12-15-2008  
GC Column: DB5

Compound	Amount Spiked (pg)	LCS1 Amount	LCS2 Amount	% RSD	Qual
2,3,7,8-TCDD	200	3.86	3.99	3.31	
1,2,3,7,8-PeCDD	1000	21.4	22.1	3.22	
1,2,3,4,7,8-HxCDD	1000	23.0	24.4	5.91	
1,2,3,6,7,8-HxCDD	1000	22.5	23.8	5.62	
1,2,3,7,8,9-HxCDD	1000	22.7	23.9	5.15	
1,2,3,4,6,7,8-HpCDD	1000	24.9	25.8	3.55	
OCDD	2000	45.1	46.6	3.27	
2,3,7,8-TCDF	200	4.69	4.84	3.15	
1,2,3,7,8-PeCDF	1000	21.9	22.9	4.46	
2,3,4,7,8-PeCDF	1000	21.9	22.5	2.70	
1,2,3,4,7,8-HxCDF	1000	21.4	21.7	1.39	
1,2,3,6,7,8-HxCDF	1000	20.5	21.2	3.36	
2,3,4,6,7,8-HxCDF	1000	20.2	21.3	5.30	
1,2,3,7,8,9-HxCDF	1000	22.5	23.6	4.77	
1,2,3,4,6,7,8-HpCDF	1000	23.0	23.7	3.00	
1,2,3,4,7,8,9-HpCDF	1000	25.8	28.5	9.94	
OCDF	2000	42.8	44.8	4.57	
Internal Standards		% Rec	% Rec	QC Limits	
13C-2,3,7,8-TCDD	4000	93.7	90.2	40.0 - 130	
13C-1,2,3,7,8-PeCDD	4000	85.8	83.6	40.0 - 130	
13C-1,2,3,6,7,8-HxCDD	4000	86.3	82.5	40.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	4000	90.7	89.0	25.0 - 130	
13C-OCDD	8000	85.2	87.2	25.0 - 130	
13C-2,3,7,8-TCDF	4000	91.7	88.7	40.0 - 130	
13C-1,2,3,7,8-PeCDF	4000	87.7	87.5	40.0 - 130	
13C-1,2,3,6,7,8-HxCDF	4000	88.9	86.6	40.0 - 130	
13C-1,2,3,4,6,7,8-HpCDF	4000	80.5	79.8	25.0 - 130	
13C-OCDF	8000	87.6	100	25.0 - 130	
Cleanup Surrogate					
13C-1,2,3,7,8,9-HxCDF	4000	97.7	103	40.0 - 130	
Pre Spike Surrogate		% Rec	% Rec	QC Limits	
37Cl-2,3,7,8-TCDD	4000	101	103	70.0 - 130	
13C-1,2,3,4,7,8-HxCDD	4000	108	114	70.0 - 130	
13C-2,3,4,7,8-PeCDF	4000	73.9	74.6	70.0 - 130	
13C-1,2,3,4,7,8-HxCDF	4000	113	114	70.0 - 130	
13C-1,2,3,4,7,8,9-HpCDF	4000	118	130	70.0 - 130	

Analyst: 

Date: 12/17/08

Reviewed By: 

Date: 12/17/08

# EPA Method TO-9 PCDD/F



FAL ID: 5225-001-SA  
Client ID: OFF01-120208  
Matrix: PUF / Filter  
Batch No: X1589

Date Extracted: 12-08-2008  
Date Received: 12-05-2008  
Amount: 1.00 sample

ICal: AIRFAL3-8-29-08  
GC Column: DB5  
Units: pg/sample

Acquired: 12-15-2008  
WHO TEQ: 14.4

Compound	Conc	DL	Qual	WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD	ND	2.03		-	0.779				
1,2,3,7,8-PeCDD	ND	2.18		-	0.866				
1,2,3,4,7,8-HxCDD	5.36	-	J	0.536	2.25				
1,2,3,6,7,8-HxCDD	8.32	-	J	0.832	2.20	Total TCDD	24.5	-	
1,2,3,7,8,9-HxCDD	7.41	-	J	0.741	2.18	Total PeCDD	10.2	-	J
1,2,3,4,6,7,8-HpCDD	160	-		1.60	2.71	Total HxCDD	80.7	-	
OCDD	479	-		0.0479	5.66	Total HpCDD	312	-	
2,3,7,8-TCDF	25.3	-	F	2.53	0.744				
1,2,3,7,8-PeCDF	11.8	-	J	0.590	0.941				
2,3,4,7,8-PeCDF	6.16	-	J	3.08	0.982				
1,2,3,4,7,8-HxCDF	15.2	-	J	1.52	1.47				
1,2,3,6,7,8-HxCDF	10.1	-	J	1.01	1.31				
2,3,4,6,7,8-HxCDF	8.73	-	J	0.873	1.51				
1,2,3,7,8,9-HxCDF	5.04	-	J	0.504	1.85	Total TCDF	604	-	
1,2,3,4,6,7,8-HpCDF	40.8	-	J	0.408	1.12	Total PeCDF	160	-	
1,2,3,4,7,8,9-HpCDF	13.5	-	J	0.135	1.53	Total HxCDF	102	-	
OCDF	112	-		0.0112	4.19	Total HpCDF	79.8	-	

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	91.7	40.0 - 130	
13C-1,2,3,7,8-PeCDD	86.2	40.0 - 130	
13C-1,2,3,6,7,8-HxCDD	87.8	40.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	87.7	25.0 - 130	
13C-OCDD	81.5	25.0 - 130	
13C-2,3,7,8-TCDF	89.3	40.0 - 130	
13C-1,2,3,7,8-PeCDF	89.5	40.0 - 130	
13C-1,2,3,6,7,8-HxCDF	91.4	40.0 - 130	
13C-1,2,3,4,6,7,8-HpCDF	81.8	25.0 - 130	
13C-OCDF	92.5	25.0 - 130	
Cleanup Surrogate			
13C-1,2,3,7,8,9-HxCDF	105	40.0 - 130	
Pre-Spike Surrogate			
37Cl-2,3,7,8-TCDD	102	70.0 - 130	
13C-1,2,3,4,7,8-HxCDD	112	70.0 - 130	
13C-2,3,4,7,8-PeCDF	73.5	70.0 - 130	
13C-1,2,3,4,7,8-HxCDF	113	70.0 - 130	
13C-1,2,3,4,7,8,9-HpCDF	122	70.0 - 130	

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1

B Analyte is present in Method Blank

C Chemical Interference

D Presence of Diphenyl Ethers

E Analyte concentration is above calibration range

F Analyte confirmation on secondary column

J Analyte concentration is below calibration range

M Maximum possible concentration

ND Analyte Not Detected

NP Not Provided


S Sample acceptance criteria not met

X Matrix interferences

\* Result taken from dilution or reinjection

Analyst: 

Date: 12/17/08

Reviewed By: 

Date: 12/17/08

# EPA Method TO-9 PCDD/F



FAL ID: 5225-002-SA  
Client ID: OFF02-120208  
Matrix: PUF / Filter  
Batch No: X1589

Date Extracted: 12-08-2008  
Date Received: 12-05-2008  
Amount: 1.00 sample

ICal: AIRFAL3-8-29-08  
GC Column: DB5  
Units: pg/sample

Acquired: 12-16-2008  
WHO TEQ: 14.4

Compound	Conc	DL	Qual	WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD	ND	1.71		-	0.779				
1,2,3,7,8-PeCDD	ND	2.81		-	0.866				
1,2,3,4,7,8-HxCDD	4.95	-	J	0.495	2.25	Total TCDD	16.4	-	
1,2,3,6,7,8-HxCDD	10.4	-	J	1.04	2.20	Total PeCDD	7.77	-	J
1,2,3,7,8,9-HxCDD	8.10	-	J	0.810	2.18	Total HxCDD	98.5	-	
1,2,3,4,6,7,8-HpCDD	185	-		1.85	2.71	Total HpCDD	362	-	
OCDD	564	-		0.0564	5.66				
2,3,7,8-TCDF	25.9	-	F	2.59	0.744				
1,2,3,7,8-PeCDF	10.3	-	J	0.515	0.941				
2,3,4,7,8-PeCDF	6.71	-	J	3.36	0.982				
1,2,3,4,7,8-HxCDF	12.4	-	J	1.24	1.47				
1,2,3,6,7,8-HxCDF	8.13	-	J	0.813	1.31				
2,3,4,6,7,8-HxCDF	7.98	-	J	0.798	1.51				
1,2,3,7,8,9-HxCDF	3.79	-	J	0.379	1.85	Total TCDF	511	-	
1,2,3,4,6,7,8-HpCDF	31.4	-	J	0.314	1.12	Total PeCDF	144	-	
1,2,3,4,7,8,9-HpCDF	8.69	-	J	0.0869	1.53	Total HxCDF	86.3	-	
OCDF	73.5	-	J	0.00736	4.19	Total HpCDF	59.1	-	

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	97.1	40.0 - 130	
13C-1,2,3,7,8-PeCDD	95.5	40.0 - 130	
13C-1,2,3,6,7,8-HxCDD	85.6	40.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	92.0	25.0 - 130	
13C-OCDD	91.1	25.0 - 130	
13C-2,3,7,8-TCDF	96.1	40.0 - 130	
13C-1,2,3,7,8-PeCDF	97.2	40.0 - 130	
13C-1,2,3,6,7,8-HxCDF	91.7	40.0 - 130	
13C-1,2,3,4,6,7,8-HpCDF	83.8	25.0 - 130	
13C-OCDF	102	25.0 - 130	
Cleanup Surrogate			
13C-1,2,3,7,8,9-HxCDF	105	40.0 - 130	
Pre-Spike Surrogate			
37Cl-2,3,7,8-TCDD	102	70.0 - 130	
13C-1,2,3,4,7,8-HxCDD	111	70.0 - 130	
13C-2,3,4,7,8-PeCDF	75.5	70.0 - 130	
13C-1,2,3,4,7,8-HxCDF	107	70.0 - 130	
13C-1,2,3,4,7,8,9-HpCDF	122	70.0 - 130	

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1

B Analyte is present in Method Blank

C Chemical Interference

D Presence of Diphenyl Ethers

E Analyte concentration is above calibration range

F Analyte confirmation on secondary column

J Analyte concentration is below calibration range

M Maximum possible concentration

ND Analyte Not Detected

NP Not Provided


S Sample acceptance criteria not met

X Matrix interferences

\* Result taken from dilution or reinjection

Analyst: 

Date: 12/17/08

Reviewed By: 

Date: 12/17/08

5225  
1°C



### Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection handling or shipping of these samples. Relinquished signature also indicated agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922.

AIR TOXICS LTD.  
180 BLUE RAVINE RD, SUITE B  
FOLSOM, CA 95630-1020  
916-985-1000 main line  
916-985-1020 fax line

## Chain-of-Custody Record

Page 1 of 1

<b>Contact Person Kelly Buettner</b> Company Air Toxics Ltd. Address 180-B Blue Ravine      City Folsom      State CA Zip 95630 Phone 916-605-3356      FAX 916-985-1020				<b>Project Information:</b> P.O. # 0812153C Project # 103PO333 Project Name BMI		<b>Turn Around Time:</b> <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Specify		<b>Pressurized by:</b> Date: Press. Gas: N2      He														
Collected By: (Signature)																						
Lab I.D.	Field Sample I.D.	Canister I.D.	Date & Time	Analysis Requested	Canister Pressure/Vacuum																	
					Initial	Final	Receipt	Final (psi)														
	OFF01-120208		12/2/08 0700	TO-9	"Hg																	
	OFF02-120208		12/2/08 0725	TO-9	"Hg																	
					"Hg																	
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Relinquished By: (Signature) Date/Time 12-5-08 14:50				Received By: (Signature) Date/Time																		
Relinquished By: (Signature) Date/Time				Received By: (Signature) Date/Time																		
Relinquished By: (Signature) Date/Time				Received By: (Signature) Date/Time 12-5-08 7:50																		
Notes: K.buettner@airtoxics.com																						
<table border="1"><tr><td>Shipper Name</td><td>Air Bill #</td><td>Opened By</td><td>Temp ©</td><td>Condition</td><td>Custody Seals</td><td>Work Order #</td></tr><tr><td>Lab Use Only</td><td></td><td></td><td></td><td></td><td>Yes No None</td><td></td></tr></table>									Shipper Name	Air Bill #	Opened By	Temp ©	Condition	Custody Seals	Work Order #	Lab Use Only					Yes No None	
Shipper Name	Air Bill #	Opened By	Temp ©	Condition	Custody Seals	Work Order #																
Lab Use Only					Yes No None																	

## Frontier Analytical Laboratory

### Sample Login Form

FAL Project ID: **5225**

Client:	Air Toxics
Client Project ID:	103PO333
Date Received:	12/05/2008
Time Received:	02:50 pm
Received By:	KZ
Logged In By:	BM
# of Samples Received:	2
Duplicates:	0
Storage Location:	R2

Method of Delivery:	Courier
Tracking Number:	NA
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	1
Cooling Method	Blue Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	No
Test for residual Chlorine	No
Thiosulfate Added	No
Earliest Sample Hold Time Expiration	12/09/2008
Adequate Sample Volume	Yes
Anomalies or additional comments:	



