Appendix F

Analytical Data Reports

Gravimetric Analysis for Particulate Matter (AECOM).....pg F-1

HRGC/HRMS Analysis for PCDDs/PCDFs (Vista Analytical).....pg F-12

VOST Analysis for Monochlorobenzene (Air Toxics, Ltd.).....pg F-90

Method 29 Metals Analysis and Method 26A HCl/Cl_2 Analysis (TestAmerica Sacramento)...pg F-138

Gravimetric Analysis for Particulate Matter (AECOM)

Heritage-WTI, Inc. - 2010 MACT CPT
Particulate Filter and Acetone Rinse Results

ACETONE FRONT HALF RINSE RESULTS

Sample ID #	Sample Volume (mL)	Tare Weight (g)	Gross Sample Weight (g)	Net Sample Weight (g)	Blank-Corrected Net Sample Weight (g)	Blank-Corrected Net Sample Weight (mg)
Lab Blank	50	89.9869	89.9872	0.0003		
PM-FHACE-FB	100	90.6270	90.6278	0.0008		
PM-FHACE-C2-R1	57	93.0541	93.0562	0.0021	0.0017	1.7
PM-FHACE-C2-R2	50	106.1914	106.1953	0.0039	0.0036	3.6
PM-FHACE-C2-R3	76	113.7956	113.7976	0.0020	0.0015	1.5

Density of Acetone	=	0.7908	g/mL
		mg/g	g/mL
PM conc. in acetone (LB # 1)	=	0.008	6.00E-06
PM conc. in acetone (FB # 1)	=	0.010	8.00E-06
Max. Acetone Blank Correction	=	0.010	7.91E-06

PARTICULATE FILTER RESULTS

Run #.	Tare Weight (g)	Gross Sample Weight (g)	Net Sample Weight (g)	Net Sample Weight (mg)
Lab Blank	0.3604	0.3605	0.0001	0.1
PM-PF-FB	0.3565	0.3566	0.0001	0.1
PM-PF-C2-R1	0.3620	0.3639	0.0019	1.9
PM-PF-C2-R2	0.3597	0.3643	0.0046	4.6
PM-PF-C2-R3	0.3576	0.3599	0.0023	2.3

NOTE :
No blank filter correction is necessary if blank filter is within ± 5 mg of initial tare weight or 2 % of sample weight, whichever is greater.

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AECOM

Method 5 Front Half Acetone Probe Rinse Data Sheet

Project Manager: Doug Roeck
Project Name: Heritage-WTI
Project Number: 60149294
Analysis Method: Natural Evaporation

Heat Application

Balance Used: Mettler 3

	Day	Date	Time	RH (%)	RT (°F)	Analyst
Start	Monday	5/24/2010	9:20	43	73	MW
Wt. 1	Tuesday	5/25/2010	9:30	43	73	MW
Wt. 2	Tuesday	5/25/2010	17:00	43	70	MW
Wt. 3	Thursday	5/27/2010	9:05	40	74	MW
Wt. 4						

QA Sheet Page #	Initial Wt. Date	Initial Wt. Grams	Sample Beaker #	Sample Run Date	Sample ID	Field mL	Lab mL	1st Wt. Grams	2nd Wt. Grams	Δ1&2 Wt. Grams	3rd Wt. Grams	Δ2&3 Wt. Grams	4th Wt. Grams	Δ3&4 Wt. Grams	Final Wt. Grams	ΔFW-IW Total Grams
488	03/26/10	89.9869	336	N/A	LAB ACETONE BLANK	N/A	50	89.9870	89.9874	0.0004	ok by Wt.				89.9872	0.0003
488	03/26/10	90.6270	341	03/30/10	PM-FHACE-FB	100	50	90.6270	90.6280	0.0010	90.6275	0.0005	ok by Wt.		90.6278	0.0008
488	03/26/10	93.0541	376	05/11/10	PM-FHACE-C2-R1	57	50	93.0563	93.0561	0.0002	ok by Wt.				93.0562	0.0021
488	03/26/10	106.1914	395	05/11/10	PM-FHACE-C2-R2	50	50	106.1950	106.1955	0.0005	ok by Wt.				106.1953	0.0039
488	03/26/10	113.7956	2231	05/12/10	PM-FHACE-C2-R3	76	50	113.7976	113.7976	0.0000	ok by Wt.				113.7976	0.0020

Acetone Manufacturer/Lot No.:___ Fisher / 092950

Acetone Rinse = 25 mls twice - (50 mls total)

1. Delta Weight tolerance +/- 0.0005g of total weight less tare weight between two consecutive weightings or average weight.
2. Beakers must be weighed with the proper conditions (RH = 25 - 50 % and RT = 59-78 deg f)
3. Beakers must be properly conditioned (24 hour desiccation; Further Conditioning ≥ 6 hours).
4. Natural Evaporation Method = Evaporate to dryness at room temperature under a hood / watch glass cover
5. Heat Application = Under a hood and watch glass over sample, apply heat below the boiling point of sample until evaporated to 25 mls; then follow step 4 (above) for remaining portion.
6. Total grams below or equal to .0005 (LDL) is presented as .0003.

AECOM

Method 5 Exposed Filter Data Sheet

Project Manager: Doug Roeck
Project Name: Heritage-WTI
Project Number: 60149294
Analysis Method: 24 hour Desiccation

Oven Dried

Balance Used: Mettler 3

	Day	Date	Time	R.H.(%)	R.T. (°F)	Analyst
Start	Friday	5/14/2010	15:00	43	71	PT
Wt. 1	Tuesday	5/18/2010	10:35	42	69	WV
Wt. 2	Monday	5/24/2010	9:05	44	74	MW
Wt. 3						
Wt. 4						

QA Sheet Page#	Initial Weight Date	Initial Weight Grams	Filter #	Sample Run Date	Sample ID	Filter Type/Size	1st Wt. Grams	2nd Wt. Grams	Δ 1&2 Wt. Grams	3rd Wt. Grams	Δ 2&3 Wt. Grams	4th Wt. Grams	Δ 3&4 Wt. Grams	Final Wt. Grams	Δ FW-IW Total Grams
236	10/08/09	0.3604	G4209	N/A	LAB FILTER BLANK	90mm	0.3605	0.3605	0.0000	ok by Wt.				0.3605	0.0003
236	10/08/09	0.3565	G4213	03/30/10	PM-PF-FB	90mm	0.3565	0.3567	0.0002	ok by Wt.				0.3566	0.0003
236	10/08/09	0.3620	G4211	05/11/10	PM-PF-C2-R1	90mm	0.3638	0.3639	0.0001	ok by Wt.				0.3639	0.0019
236	10/08/09	0.3597	G4214	05/11/10	PM-PF-C2-R2	90mm	0.3641	0.3644	0.0003	ok by Wt.				0.3643	0.0046
236	10/08/09	0.3576	G4208	05/12/10	PM-PF-C2-R3	90mm	0.3598	0.3600	0.0002	ok by Wt.				0.3599	0.0023

Filter Type: G=Glass T=Teflon Q=Quartz

1. Delta Weight tolerance +/- 0.0005g of total weight less tare weight between two consecutive weightings or average weight.
2. Filters must be weighed with the proper conditions (RH = 25 - 50 % and RT = 59-78 deg f)
3. Filters must be properly conditioned (24 hour desiccation; Further Conditioning ≥ 6 hours).
4. Conditioning for oven method; Oven dried at 105 deg c fo 2-3 hours; Further conditioning ≥ 6 hours.
5. Total grams below or equal to .0005 (LDL) is presented as .0003.

AECOM Environment

AECOM Gravimetric Laboratory
Analytical Report

Client: Doug Roeck
AECOM
2 Technology Park Drive
Westford, MA 01886

Client ID: 60149294

Laboratory ID: 10-023

Date(s) Received: 5/14/10

All work contained in this report has been done in accordance with laboratory standard operating procedures. AECOM's Gravimetric Laboratory follows methodologies based upon standard EPA/NIOSH/OSHA Methods. Data contained herein should be considered accurate and complete to the best of our knowledge. This report cannot be duplicated in part without the written permission of AECOM.

Arthur Carpenito

May 28, 2010

Arthur Carpenito
Laboratory Analyst
AECOM Gravimetric Laboratory

Date

Case Narrative

Re.: Gravimetric Analysis of Filter and Front Half Probe Rinse Samples – Heritage-WTI, East Liverpool, OH

Project #: **60149294**

LAB ID #: **10-023**

ANALYTICAL PROCEDURE:

Four (4) glass fiber filter samples and 4 acetone rinse samples were analyzed via EPA Method 5 for Gravimetric Analysis as governed by AECOM's SOP 2629-300.

Consecutive gravimetric weights of filters and beaker residues were taken with an annually calibrated Mettler balance, and weighed within specified limits as outlined in the EPA Method and AECOM's SOP 2629-300.

QUALITY CONTROL:

1. One field filter blank and one field acetone blank were analyzed as specified by the EPA Method for Gravimetric Analysis and AECOM's SOP 2629-300.
2. Laboratory blanks of both filter and acetone were analyzed per the same Methods and SOP listed above.

DISCUSSION:

1. The gravimetric result of the field filter blank is lowest detectable limit (LDL). The field acetone blank result is 0.8 mg.
2. The gravimetric results of the laboratory blanks, both filter and acetone, are LDL.

Date Samples Received by the Laboratory: 5/14/10
Date Analysis Started: 5/14/10

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AECOM

Method 5 Exposed Filter Data Sheet

Project Manager: Doug Roeck
Project Name: Heritage-WTI
Project Number: 60149294
Analysis Method: Gravimetric/Desiccation

Oven Dried

Balance Used: Mettler 3

	Day	Date	Time	R.H. (%)	R.T. (F)	Analyst
Start	Friday	5/14/2010	15:00	43	71	PT
Wt. 1	Tuesday	5/18/2010	10:35	42	69	WV
Wt. 2	Monday	5/24/2010	9:05	44	74	MW
Wt. 3						
Wt. 4						

QA Sheet Page #	Initial Weight Date	Initial Weight Grams	Filter #	Sample Run Date	Sample ID	Filter Type/Size	1st Wt. Grams	2nd Wt. Grams	Δ 1&2 Wt. Grams	3rd Wt. Grams	Δ 2&3 Wt. Grams	4th Wt. Grams	Δ 3&4 Wt. Grams	Final Wt. Grams	Δ Ave Wt. Total Grams
236	10/08/09	0.3604	G4209	N/A	LAB FILTER BLANK	90mm	0.3605	0.3605	0.0000	ok by Wt.				0.3605	0.0003
236	10/08/09	0.3565	G4213	03/30/10	PM-PF-FB	90mm	0.3565	0.3567	0.0002	ok by Wt.				0.3566	0.0003
236	10/08/09	0.3620	G4211	05/11/10	PM-PF-C2-R1	90mm	0.3638	0.3639	0.0001	ok by Wt.				0.3639	0.0019
236	10/08/09	0.3597	G4214	05/11/10	PM-PF-C2-R2	90mm	0.3641	0.3644	0.0003	ok by Wt.				0.3643	0.0046
236	10/08/09	0.3576	G4208	05/12/10	PM-PF-C2-R3	90mm	0.3598	0.3600	0.0002	ok by Wt.				0.3599	0.0023

Filter Type: G=Glass T=Teflon Q=Quartz

1. Delta Weight tolerance +/- 0.0005g of total weight less tare weight between two consecutive weightings or average weight.
2. Filters must be weighed with the proper conditions (RH = 25 - 50 % and RT = 59-78 deg f)
3. Filters must be properly conditioned (24 hour desiccation; Further Conditioning 6 hours).
4. Conditioning for oven method; Oven dried at 105 deg c fo 2-3 hours; Further conditioning 6 hours.
5. Total grams below or equal to .0005 (LDL) is presented as .0003.

AECOM

Method 5 Front Half Acetone Probe Rinse Data Sheet

Project Manager: Doug Roeck
Project Name: Heritage-WTI
Project Number: 60149294
Analysis Method: Natural Evaporation

Heat Application

Balance Used: Mettler 3

	Day	Date	Time	R.H. (%)	R.T. (°F)	Analyst
Start	Monday	5/24/2010	9:20	43	73	MW
Wt. 1	Tuesday	5/25/2010	9:30	43	73	MW
Wt. 2	Tuesday	5/25/2010	17:00	43	70	MW
Wt. 3	Thursday	5/27/2010	9:05	40	74	MW
Wt. 4						

QA Sheet Page #	Initial Wt. Date	Initial Wt. Grams	Beaker #	Sample Run Date	Sample ID	Field mL	Lab mL	1st Wt. Grams	2nd Wt. Grams	Δ 1&2 Wt. Grams	3rd Wt. Grams	Δ 2&3 Wt. Grams	4th Wt. Grams	Δ 3&4 Wt. Grams	Final Wt. Grams	Δ FW-IW Total Grams
488	03/26/10	89.9869	336	N/A	LAB ACETONE BLANK	N/A	50	89.9870	89.9874	0.0004	ok by Wt.				89.9872	0.0003
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488	03/26/10	93.0541	376	05/11/10	PM-FHACE-C2-R1	57	50	93.0563	93.0561	0.0002	ok by Wt.				93.0562	0.0021
488	03/26/10	106.1914	395	05/11/10	PM-FHACE-C2-R2	50	50	106.1950	106.1955	0.0005	ok by Wt.				106.1953	0.0039
488	03/26/10	113.7956	2231	05/12/10	PM-FHACE-C2-R3	76	50	113.7976	113.7976	0.0000	ok by Wt.				113.7976	0.0020

Acetone Manufacturer/Lot No.: Fisher / 092950

Acetone Rinse = 25 mls twice - (50 mls total)

1. Delta Weight tolerance +/- 0.0005g of total weight less tare weight between two consecutive weightings or average weight.
2. Beakers must be weighed with the proper conditions (RH = 25 - 50 % and RT = 59-78 deg f)
3. Beakers must be properly conditioned (24 hour desiccation; Further Conditioning ≥ 6 hours).
4. Natural Evaporation Method = Evaporate to dryness at room temperature under a hood / watch glass cover
5. Heat Application = Under a hood and watch glass over sample, apply heat below the boiling point of sample until evaporated to 25 mls; then follow step 4 (above) for remaining portion.
6. Total grams below or equal to .0005 (LDL) is presented as .0003.

AECOM

Sample Packing and Traceability List

COPY 1

Site of Program:	Heritage-WTI	Sample Date: 5/11-12/2010	Project Location:	E. Liverpool, OH	P.O. #: N/A
Type of Program:	2010 MACT CPT	Date Shipped: 5/12/10	Laboratory:	AECOM	
Project #:	60149294	Shipper / Doug Roeck /	Test Conditions:	C1 = Condition 1	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce		C2 = Condition 2	
Program Contact:	Doug Roeck		FedEx Air Bill #:	Hand Delivered	

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
1	PM-FHACE-C2-R1	Acetone	Acetone Rinse, Run 1	Gravimetric Analysis	10-023-1
2	PM-FHACE-C2-R2	Acetone	Acetone Rinse, Run 2	Gravimetric Analysis	10-023-2
3	PM-FHACE-C2-R3	Acetone	Acetone Rinse, Run 3	Gravimetric Analysis	10-023-3
4	PM-PF-C2-R1	Filter	Particulate Filter, Run 1	Gravimetric Analysis	10-023-4
5	PM-PF-C2-R2	Filter	Particulate Filter, Run 2	Gravimetric Analysis	10-023-5
6	PM-PF-C2-R3	Filter	Particulate Filter, Run 3	Gravimetric Analysis	10-023-6
7					
8	PM-FHACE-FB	Acetone	Acetone, Field Blank	Gravimetric Analysis	10-023-7
9	PM-PF-FB	Filter	Part. Filter, Field Blank	Gravimetric Analysis	10-023-8
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

10-023

Field Notes/ Comments 1. Sampling for particulate matter (PM) performed during **Condition 2** only.

Page 1 of 1

Relinquished By (print): Douglas R. Roeck Date: 5/12/10 Signature: Douglas R. Roeck Time: 4PM	Relinquished By (print): Date: Signature: Time:	Relinquished By (print): Date: Signature: Time:	Received by Lab (print): Date: Signature: Time:
Received By (print): Paul Taverna Date: 5/14/10 Signature: Paul Taverna Time: 1345	Received By (print): Date: Signature: Time:	Received By (print): Date: Signature: Time:	Analytical Laboratory Destination: AECOM Gravimetric Laboratory 325 Ayer Road Harvard, MA 01451 Attn: Paul Taverna, (978)-772-2345, x 32

SAMPLE LOG-IN & RECEIPT CHECKLIST

Client/Proj# WTI/60149294

Project Mgr: Doug Roeck Lab Pool #: 10-023

Inspected & Logged in by: Paul Tavera Date & Time: 5/14/10 @ 1345

Sample Matrix	Number of Samples	Analysis Requested	Hold Time & Due by date	Storage Location	Disposal Date
Filter	4	Method 5	HT: 5/28/10 Due: 5/28/10		
Acetone	4	↓	HT: 5/28/10 Due: 5/28/10		
			HT: Due:		

Circle the appropriate response:

1) Shipped / Hand delivered

2) COC present / not present on receipt

3) Samples broken / leaking / intact on receipt

4) Samples ambient / chilled on receipt

5) Samples preserved correctly / incorrectly / none recommended

6) Received within / outside holding time

7) COC tapes present / not present on samples / NA

9) Discrepancies / NO discrepancies noted between COCs and samples

Additional Comments: _____

HERITAGE-WTI Method 5 PM Filter Tare Wts

ENSR Air Laboratory - Clean M5/M201 Filter Data Sheet

Balance Used: Mettle 3 **Page #** 236

Analysis Method: 24 Hour desiccation

or

Oven Dried Method

Conditioning:	Day	Date	Time	R.H.(%)	Temp.(F)	Analyst
Start	Monday	~~10~~/3/23/09	11:16	32	70	AC
Weight 1	Tuesday	10/6/09	1051	49	69	MW
Weight 2	Thursday	10/8/09	1011	35	70	MW
Weight 3						
Weight 4						

Filter #	Filter Size	1st Wt Grams	2nd Wt Grams	Δ Wt Grams	3rd Wt Grams	4th Wt Grams	5th Wt Grams	Δ Wt Grams	Final Weight Grams	
G4201	90mm	0.3573	0.3573	0.0000					0.3573	
G4202		0.3582	0.3580	-0.0002					0.3581	
G4203		0.3597	0.3596	-0.0001					0.3597	
G4204		0.3588	0.3588	0.0000					0.3588	
G4205		0.3568	0.3568	0.0000					0.3568	
G4206		0.3572	0.3572	0.0000					0.3572	
G4207		0.3564	0.3565	0.0001					0.3565	
G4208 *		0.3576	0.3576	0.0000					0.3576	C2-R3
G4209 *		0.3603	0.3604	0.0001					0.3604	Lab Blank
G4210 *		0.3574	0.3573	-0.0001					0.3574	
G4211 *		0.3620	0.3620	0.0000					0.3620	C2-R1
G4212 *		0.3580	0.3580	0.0000					0.3580	
G4213 *		0.3564	0.3566	0.0002					0.3565	FB
G4214 *		0.3597	0.3597	0.000					0.3597	C2-R2
G4215		0.3573	0.3573	0.000					0.3573	

Filter Type: Glass Teflon Quartz

Batch/Lot Number: J1137482D

Inspected by: W. VANECK

Manufacturer: ~~Whatman~~ Fisherbrand

1. Filters must be free of pin holes, tears, lumps, or creases.
2. Filters must be properly conditioned (24-hour desiccation period; further conditioning ≥6 hours).
3. For oven-dried method, filters are put into a 105°C oven for 3 hrs followed by 2 hours in desiccator.
4. Filters must be weighed under proper room conditions (R.H.= 25-50% and Temp.= 59-78°F).
5. Δweight tolerance = ±0.5 mg between consecutive weights for each filter.

QCd MW 11/11/09

HRGC/HRMS Analysis for PCDDs/PCDFs (Vista Analytical)

Vista
Analytical Laboratory

April 20, 2010

Vista Project I.D.: 32547

Mr. Doug Roeck
AECOM, Inc.
2 Technology Park Drive
Westford, MA 01886

Dear Mr. Roeck,

Enclosed are the results for the three MM5 samples received at Vista Analytical Laboratory on April 02, 2010 under your Project Name "Heritage-WTI", Project Number "60149294". These samples were extracted and analyzed using Method 0023A for tetra-through-octa chlorinated dioxins and furans. The front and back halves of each sample train were extracted and analyzed separately. A standard turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Vista's current certifications, and copies of the raw data (if requested).

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com. Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier

Martha M. Maier
Laboratory Director

ACCREDITED IN ACCORDANCE WITH nelac

Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista Analytical Laboratory.

Vista

Section I: Sample Inventory Report

Date Received: 4/2/2010
Project No.: 32547
Project Name: 60149294

Lab. Sample ID	Client Sample ID	Component ID
001	M23-XAD-C1-R1	BHR
		XAD
002	M23-PF-C1-R1	FHR
		FILTER
003	M23-XAD-C1-R2	BHR
		XAD
004	M23-PF-C1-R2	FHR
		FILTER
005	M23-XAD-C1-R3	BHR
		XAD
006	M23-PF-C1-R3	FHR
		FILTER

Smpinvgnmm5.rpt

SECTION II

Method Blank

Method 0023A

Matrix:	MM5	QC Batch No.:	2935	Lab Sample:	0-MB001
Sample Size:	Sample	Date Extracted:	9-Apr-10	Date Analyzed DB-5:	15-Apr-10
				Date Analyzed DB-225:	NA

Analyte	Conc. (pg/Sample)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	2.99		
1,2,3,7,8-PeCDD	ND	3.00		
1,2,3,4,7,8-HxCDD	ND	5.33		
1,2,3,6,7,8-HxCDD	ND	4.97		
1,2,3,7,8,9-HxCDD	ND	4.84		
1,2,3,4,6,7,8-HpCDD	ND	5.23		
OCDD	ND	9.96		
2,3,7,8-TCDF	ND	3.59		
1,2,3,7,8-PeCDF	ND	4.24		
2,3,4,7,8-PeCDF	ND	2.59		
1,2,3,4,7,8-HxCDF	ND	1.87		
1,2,3,6,7,8-HxCDF	ND	1.76		
2,3,4,6,7,8-HxCDF	ND	1.91		
1,2,3,7,8,9-HxCDF	ND	2.24		
1,2,3,4,6,7,8-HpCDF	ND	3.51		
1,2,3,4,7,8,9-HpCDF	ND	4.24		
OCDF	ND	11.0		

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	92.5	40 - 135	
	13C-1,2,3,7,8-PeCDD	92.0	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	87.3	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	84.1	40 - 135	
	13C-OCDD	77.3	40 - 135	
	13C-2,3,7,8-TCDF	92.7	40 - 135	
	13C-1,2,3,7,8-PeCDF	90.6	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	80.1	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	79.6	40 - 135	
	13C-OCDF	73.0	40 - 135	
PS	37Cl-2,3,7,8-TCDD	91.5	70 - 130	
	13C-2,3,4,7,8-PeCDF	98.2	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	102	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	99.8	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	95.1	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	81.7	40 - 135	

Totals		
Total TCDD	ND	2.98
Total PeCDD	ND	2.99
Total HxCDD	ND	5.02
Total HpCDD	ND	5.23
Total TCDF	ND	3.60
Total PeCDF	ND	4.32
Total HxCDF	ND	0.193
Total HpCDF	ND	3.84

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 0 - 8.80

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: WJL

Approved By: Martha M. Maier 20-Apr-2010 13:30

Vista

OPR Results — **Method 0023A**

Matrix:	MM5	QC Batch No.:	2935	Lab Sample:	0-OPR001
Sample Size:	Sample	Date Extracted:	9-Apr-10	Date Analyzed DB-5:	15-Apr-10
				Date Analyzed DB-225:	NA

Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits
2,3,7,8-TCDD	2.50	2.24	1.75 - 3.25
1,2,3,7,8-PeCDD	12.5	11.0	8.75 - 16.25
1,2,3,4,7,8-HxCDD	12.5	12.0	8.75 - 16.25
1,2,3,6,7,8-HxCDD	12.5	11.9	8.75 - 16.25
1,2,3,7,8,9-HxCDD	12.5	12.8	8.75 - 16.25
1,2,3,4,6,7,8-HpCDD	12.5	11.5	8.75 - 16.25
OCDD	25.0	23.5	17.5 - 32.5
2,3,7,8-TCDF	2.50	2.32	1.75 - 3.25
1,2,3,7,8-PeCDF	12.5	11.6	8.75 - 16.25
2,3,4,7,8-PeCDF	12.5	11.6	8.75 - 16.25
1,2,3,4,7,8-HxCDF	12.5	12.6	8.75 - 16.25
1,2,3,6,7,8-HxCDF	12.5	12.6	8.75 - 16.25
2,3,4,6,7,8-HxCDF	12.5	12.2	8.75 - 16.25
1,2,3,7,8,9-HxCDF	12.5	12.6	8.75 - 16.25
1,2,3,4,6,7,8-HpCDF	12.5	11.8	8.75 - 16.25
1,2,3,4,7,8,9-HpCDF	12.5	11.4	8.75 - 16.25
OCDF	25.0	23.4	17.5 - 32.5

	Labeled Standard	%R	LCL-UCL	Qualifier
IS	13C-2,3,7,8-TCDD	93.4	40 - 135	
	13C-1,2,3,7,8-PeCDD	92.9	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	82.4	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	85.4	40 - 135	
	13C-OCDD	76.5	40 - 135	
	13C-2,3,7,8-TCDF	90.1	40 - 135	
	13C-1,2,3,7,8-PeCDF	94.3	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	76.3	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	78.9	40 - 135	
	13C-OCDF	73.9	40 - 135	
AS	13C-1,2,3,7,8,9-HxCDF	77.5	40 - 135	

Analyst: WJL

Approved By: Martha M. Maier 20-Apr-2010 13:30

Vista

Sample ID: M23-XAD-C1-R1 **Method 0023A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32547-001	Date Received:	2-Apr-10
Project:	60149294	Sample Size:	Sample	QC Batch No.:	2935	Date Extracted:	9-Apr-10
Date Collected:	31-Mar-10			Date Analyzed DB-5:	16-Apr-10	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	4.20		
1,2,3,7,8-PeCDD	ND	5.33		
1,2,3,4,7,8-HxCDD	ND	7.23		
1,2,3,6,7,8-HxCDD	ND	6.73		
1,2,3,7,8,9-HxCDD	ND	6.56		
1,2,3,4,6,7,8-HpCDD	ND	4.65		
OCDD	10.9			J
2,3,7,8-TCDF	4.84			J
1,2,3,7,8-PeCDF	15.0			J
2,3,4,7,8-PeCDF	11.7			J
1,2,3,4,7,8-HxCDF	14.7			J
1,2,3,6,7,8-HxCDF	16.4			J
2,3,4,6,7,8-HxCDF	5.12			J
1,2,3,7,8,9-HxCDF	ND	2.22		
1,2,3,4,6,7,8-HpCDF	27.2			J
1,2,3,4,7,8,9-HpCDF	ND	3.15		
OCDF	ND	7.38		

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	101	40 - 135	
	13C-1,2,3,7,8-PeCDD	97.4	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	88.3	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	93.6	40 - 135	
	13C-OCDD	83.6	40 - 135	
	13C-2,3,7,8-TCDF	93.2	40 - 135	
	13C-1,2,3,7,8-PeCDF	96.3	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	103	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	84.8	40 - 135	
	13C-OCDF	80.7	40 - 135	
PS	37Cl-2,3,7,8-TCDD	79.7	70 - 130	
	13C-2,3,4,7,8-PeCDF	73.1	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	86.6	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	52.8	70 - 130	H
	13C-1,2,3,4,7,8,9-HpCDF	8.44	70 - 130	H
AS	13C-1,2,3,7,8,9-HxCDF	83.7	40 - 135	

Totals			
Total TCDD	35.3		40.6
Total PeCDD	21.8		40.6
Total HxCDD	25.7		31.2
Total HpCDD	ND	4.65	
Total TCDF	334		419
Total PeCDF	317		358
Total HxCDF	144		149
Total HpCDF	27.2		

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 11.0 - 20.2

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: WJL

Approved By: Martha M. Maier 20-Apr-2010 13:30

Vista

Sample ID: M23-PF-C1-R1 **Method 0023A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32547-002	Date Received:	2-Apr-10
Project:	60149294	Sample Size:	Sample	QC Batch No.:	2935	Date Extracted:	9-Apr-10
Date Collected:	31-Mar-10			Date Analyzed DB-5:	16-Apr-10	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	5.40		
1,2,3,7,8-PeCDD	ND	5.94		
1,2,3,4,7,8-HxCDD	ND	3.48		
1,2,3,6,7,8-HxCDD	ND	3.24		
1,2,3,7,8,9-HxCDD	ND	3.16		
1,2,3,4,6,7,8-HpCDD	11.0			J
OCDD	16.4			J
2,3,7,8-TCDF	ND	4.28		
1,2,3,7,8-PeCDF	ND		8.25	
2,3,4,7,8-PeCDF	ND		7.78	
1,2,3,4,7,8-HxCDF	ND		16.6	
1,2,3,6,7,8-HxCDF	ND		18.6	
2,3,4,6,7,8-HxCDF	11.7			J
1,2,3,7,8,9-HxCDF	ND	3.89		
1,2,3,4,6,7,8-HpCDF	60.7			
1,2,3,4,7,8,9-HpCDF	ND	6.62		
OCDF	18.0			J

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	93.2	40 - 135	
	13C-1,2,3,7,8-PeCDD	95.0	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	83.3	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	88.4	40 - 135	
	13C-OCDD	82.6	40 - 135	
	13C-2,3,7,8-TCDF	92.2	40 - 135	
	13C-1,2,3,7,8-PeCDF	96.9	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	81.1	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	81.4	40 - 135	
	13C-OCDF	75.2	40 - 135	
PS	37Cl-2,3,7,8-TCDD	NA	70 - 130	
	13C-2,3,4,7,8-PeCDF	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	NA	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	NA	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	82.0	40 - 135	

Totals	
Total TCDD	9.26
Total PeCDD	29.8
Total HxCDD	32.3
Total HpCDD	11.0
Total TCDF	18.0
Total PeCDF	95.1
Total HxCDF	100
Total HpCDF	60.7

	EMPC
Total HxCDD	45.3
Total HpCDD	22.1
Total PeCDF	119
Total HxCDF	136

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 1.92 - 20.0

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: WJL

Approved By: Martha M. Maier 20-Apr-2010 13:30

Vista

Sample ID: M23-XAD-C1-R2 **Method 0023A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32547-003	Date Received:	2-Apr-10
Project:	60149294	Sample Size:	Sample	QC Batch No.:	2935	Date Extracted:	9-Apr-10
Date Collected:	1-Apr-10			Date Analyzed DB-5:	16-Apr-10	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	4.54		
1,2,3,7,8-PeCDD	ND	4.21		
1,2,3,4,7,8-HxCDD	ND	6.25		
1,2,3,6,7,8-HxCDD	ND	5.82		
1,2,3,7,8,9-HxCDD	ND	5.68		
1,2,3,4,6,7,8-HpCDD	ND	4.76		
OCDD	ND		7.29	
2,3,7,8-TCDF	3.88			J
1,2,3,7,8-PeCDF	7.95			J
2,3,4,7,8-PeCDF	ND		6.39	
1,2,3,4,7,8-HxCDF	8.41			J
1,2,3,6,7,8-HxCDF	7.57			J
2,3,4,6,7,8-HxCDF	ND	4.23		
1,2,3,7,8,9-HxCDF	ND	4.98		
1,2,3,4,6,7,8-HpCDF	14.8			J
1,2,3,4,7,8,9-HpCDF	ND	3.43		
OCDF	ND	7.95		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	98.4	40 - 135	
	13C-1,2,3,7,8-PeCDD	97.9	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	93.3	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	94.1	40 - 135	
	13C-OCDD	86.0	40 - 135	
	13C-2,3,7,8-TCDF	96.0	40 - 135	
	13C-1,2,3,7,8-PeCDF	97.2	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	85.2	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	86.7	40 - 135	
	13C-OCDF	81.7	40 - 135	
PS	37Cl-2,3,7,8-TCDD	92.4	70 - 130	
	13C-2,3,4,7,8-PeCDF	98.7	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	99.6	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	98.3	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	97.7	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	85.3	40 - 135	

Totals	
Total TCDD	18.4
Total PeCDD	27.4
Total HxCDD	ND
Total HpCDD	ND
Total TCDF	210
Total PeCDF	142
Total HxCDF	67.5
Total HpCDF	14.8

	EMPC[b]
Total HxCDD	15.9
Total TCDF	232
Total PeCDF	168

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 2.53 - 15.2

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: WJL

Approved By: Martha M. Maier 20-Apr-2010 13:30

Vista

Sample ID: M23-PF-C1-R2 **Method 0023A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32547-004	Date Received:	2-Apr-10
Project:	60149294	Sample Size:	Sample	QC Batch No.:	2935	Date Extracted:	9-Apr-10
Date Collected:	1-Apr-10			Date Analyzed DB-5:	16-Apr-10	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	2.31		
1,2,3,7,8-PeCDD	ND	9.05		
1,2,3,4,7,8-HxCDD	ND	5.38		
1,2,3,6,7,8-HxCDD	ND	5.01		
1,2,3,7,8,9-HxCDD	ND	4.89		
1,2,3,4,6,7,8-HpCDD	ND	5.46		
OCDD	ND		9.66	
2,3,7,8-TCDF	ND	3.58		
1,2,3,7,8-PeCDF	ND	5.07		
2,3,4,7,8-PeCDF	ND	5.24		
1,2,3,4,7,8-HxCDF	ND	3.37		
1,2,3,6,7,8-HxCDF	ND	3.16		
2,3,4,6,7,8-HxCDF	ND	3.43		
1,2,3,7,8,9-HxCDF	ND	4.03		
1,2,3,4,6,7,8-HpCDF	22.1			J
1,2,3,4,7,8,9-HpCDF	ND	5.00		
OCDF	ND	8.73		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	99.5	40 - 135	
	13C-1,2,3,7,8-PeCDD	96.4	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	83.8	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	91.1	40 - 135	
	13C-OCDD	85.0	40 - 135	
	13C-2,3,7,8-TCDF	94.8	40 - 135	
	13C-1,2,3,7,8-PeCDF	98.7	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	81.5	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	83.3	40 - 135	
	13C-OCDF	80.2	40 - 135	
PS	37Cl-2,3,7,8-TCDD	NA	70 - 130	
	13C-2,3,4,7,8-PeCDF	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	NA	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	NA	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	81.7	40 - 135	

Totals	
Total TCDD	3.27
Total PeCDD	ND
Total HxCDD	9.61
Total HpCDD	7.80
Total TCDF	ND
Total PeCDF	4.25
Total HxCDF	6.38
Total HpCDF	22.1

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 0.221 - 13.3

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: WJL

Approved By: Martha M. Maier 20-Apr-2010 13:30

Vista

Sample ID: M23-XAD-C1-R3 **Method 0023A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32547-005	Date Received:	2-Apr-10
Project:	60149294	Sample Size:	Sample	QC Batch No.:	2935	Date Extracted:	9-Apr-10
Date Collected:	1-Apr-10			Date Analyzed DB-5:	16-Apr-10	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	4.71		
1,2,3,7,8-PeCDD	ND	5.23		
1,2,3,4,7,8-HxCDD	ND	6.07		
1,2,3,6,7,8-HxCDD	ND	5.66		
1,2,3,7,8,9-HxCDD	ND	5.51		
1,2,3,4,6,7,8-HpCDD	ND	6.37		
OCDD	17.9			J
2,3,7,8-TCDF	ND	4.25		
1,2,3,7,8-PeCDF	ND	7.53		
2,3,4,7,8-PeCDF	ND	7.77		
1,2,3,4,7,8-HxCDF	3.98			J
1,2,3,6,7,8-HxCDF	ND		4.30	
2,3,4,6,7,8-HxCDF	ND	2.42		
1,2,3,7,8,9-HxCDF	ND	2.85		
1,2,3,4,6,7,8-HpCDF	ND		4.82	
1,2,3,4,7,8,9-HpCDF	ND	3.85		
OCDF	ND	7.50		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	102	40 - 135	
	13C-1,2,3,7,8-PeCDD	98.5	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	89.6	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	89.7	40 - 135	
	13C-OCDD	86.2	40 - 135	
	13C-2,3,7,8-TCDF	96.4	40 - 135	
	13C-1,2,3,7,8-PeCDF	98.9	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	83.2	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	86.2	40 - 135	
	13C-OCDF	83.3	40 - 135	
PS	37Cl-2,3,7,8-TCDD	81.0	70 - 130	
	13C-2,3,4,7,8-PeCDF	75.1	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	77.8	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	76.8	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	69.6	70 - 130	H
AS	13C-1,2,3,7,8,9-HxCDF	82.6	40 - 135	

Totals			
Total TCDD	25.2		
Total PeCDD	8.54		21.2
Total HxCDD	12.1		
Total HpCDD	ND	6.35	
Total TCDF	83.4		114
Total PeCDF	22.8		56.5
Total HxCDF	22.7		30.8
Total HpCDF	ND		4.82

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 0.416 - 15.3

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: WJL

Approved By: Martha M. Maier 20-Apr-2010 13:30

Vista

Sample ID: M23-PF-C1-R3 **Method 0023A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32547-006	Date Received:	2-Apr-10
Project:	60149294	Sample Size:	Sample	QC Batch No.:	2935	Date Extracted:	9-Apr-10
Date Collected:	1-Apr-10			Date Analyzed DB-5:	16-Apr-10	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	3.26		
1,2,3,7,8-PeCDD	ND	9.66		
1,2,3,4,7,8-HxCDD	ND	7.83		
1,2,3,6,7,8-HxCDD	ND	7.30		
1,2,3,7,8,9-HxCDD	ND	7.12		
1,2,3,4,6,7,8-HpCDD	5.11			J
OCDD	ND		6.37	
2,3,7,8-TCDF	ND	3.77		
1,2,3,7,8-PeCDF	ND	5.67		
2,3,4,7,8-PeCDF	ND	5.85		
1,2,3,4,7,8-HxCDF	3.76			J
1,2,3,6,7,8-HxCDF	ND		3.75	
2,3,4,6,7,8-HxCDF	ND	2.56		
1,2,3,7,8,9-HxCDF	ND	3.02		
1,2,3,4,6,7,8-HpCDF	17.0			J
1,2,3,4,7,8,9-HpCDF	ND	4.77		
OCDF	ND	10.3		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	98.6	40 - 135	
	13C-1,2,3,7,8-PeCDD	98.8	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	86.6	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	94.3	40 - 135	
	13C-OCDD	83.2	40 - 135	
	13C-2,3,7,8-TCDF	95.3	40 - 135	
	13C-1,2,3,7,8-PeCDF	100	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	84.2	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	86.1	40 - 135	
	13C-OCDF	81.0	40 - 135	
PS	37Cl-2,3,7,8-TCDD	NA	70 - 130	
	13C-2,3,4,7,8-PeCDF	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	NA	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	NA	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	85.3	40 - 135	

Totals			
Total TCDD	ND	3.26	
Total PeCDD	ND		3.81
Total HxCDD	9.70		
Total HpCDD	5.11		
Total TCDF	ND	3.77	
Total PeCDF	ND	5.77	
Total HxCDF	12.8		24.9
Total HpCDF	17.0		

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 0.597 - 15.5

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: WJL

Approved By: Martha M. Maier 20-Apr-2010 13:30

APPENDIX

Vista

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	Dilution
E	The amount detected is above the High Calibration Limit.
P	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
H	Recovery was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Low Calibration Limit.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated detection limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that correspond to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-2008
State of Arizona	AZ0639
State of Arkansas, DEQ	08-043-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	N/A
State of Connecticut	PH-0182
State of Florida, DEP	E87777
State of Indiana Department of Health	C-CA-02
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA08000
State of Louisiana, DEQ	01977
State of Maine	2008024
State of Michigan	9932
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	NFESC413
State of Nevada	CA004132007A
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-006
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	TN02996
State of Texas	T104704189-08-TX
U.S. Army Corps of Engineers	N/A
State of Utah	CA16400
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q

AECOM

Sample Packing and Traceability List 32547 3.4°C Ambient COPY 1

Site of Program:	Heritage-WTI	Sample Date: 3/31/2010 - 4/1/2010	Project Location:	E. Liverpool, OH	P.O. #: 5729ACM
Type of Program:	2010 MACT CPT	Date Shipped: 4/1/2010	Laboratory:	Vista Analytical	
Project #:	60149294	Shipper / Doug Roeck /	Test Conditions:	C1 = Condition 1	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce		C2 = Condition 2	
Program Contact:	Doug Roeck		FedEx Air Bill #:		

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
1	M23-XAD-C1-R1	XAD RESIN	XAD Resin Trap, C1, Run 1	PCDDs / PCDFs	
2	M23-PF-C1-R1	FILTER	PM Filter, C1, Run 1	PCDDs / PCDFs	
3	M23-XAD-C1-R2	XAD RESIN	XAD Resin Trap, C1, Run 2	PCDDs / PCDFs	
4	M23-PF-C1-R2	FILTER	PM Filter, C1, Run 2	PCDDs / PCDFs	
5	M23-XAD-C1-R3	XAD RESIN	XAD Resin Trap, C1, Run 3	PCDDs / PCDFs	
6	M23-PF-C1-R3	FILTER	PM Filter, C1, Run 3	PCDDs / PCDFs	
7					
8	M23-XAD-C2-R1	XAD RESIN	XAD Resin Trap, C2, Run 1	PCDDs / PCDFs	
9	M23-PF-C2-R1	FILTER	PM Filter, C2, Run 1	PCDDs / PCDFs	
10	M23-XAD-C2-R2	XAD RESIN	XAD Resin Trap, C2, Run 2	PCDDs / PCDFs	
11	M23-PF-C2-R2	FILTER	PM Filter, C2, Run 2	PCDDs / PCDFs	
12	M23-XAD-C2-R3	XAD RESIN	XAD Resin Trap, C2, Run 3	PCDDs / PCDFs	
13	M23-PF-C2-R3	FILTER	PM Filter, C2, Run 3	PCDDs / PCDFs	
14					
15	M23-XAD-FB	XAD RESIN	XAD Resin Trap, Field Blank	PCDDs / PCDFs	
16	M23-PF-FB	FILTER	PM Filter, Field Blank	PCDDs / PCDFs	
17					
18					
19					
20					

Field Notes/ Comments
1. Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)
2. Testing for PCDDs/PCDFs performed during both Condition 1 and Condition 2

Page 1 of 2

Relinquished By (print): Douglas R. Roeck Date: 4/1/2010 Signature: Douglas R Roeck Time: 17:00	Relinquished By (print): Date: Signature: Time:	Relinquished By (print): Date: Signature: Time:	Received by Lab (print): Date: Signature: Time:
Received By (print): B. Benedict Date: 4/2/10 Signature: Bettina L Benedict Time: 1053	Received By (print): Date: Signature: Time:	Received By (print): Date: Signature: Time:	Analytical Laboratory Destination: Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Attn: Martha Maier, (916)-933-1640

AECOM

Sample Packing and Traceability List 32547

COPY 1

Site of Program:	Heritage-WTI	Sample Date: 3/31/2010 - 4/1/2010	Project Location:	E. Liverpool, OH	P.O. #: 5729ACM
Type of Program:	2010 MACT CPT	Date Shipped: 4/1/2010	Laboratory:	Vista Analytical	
Project #:	60149294	Shipper / Recovery: Doug Roeck / Fred Sanguedolce	Test Conditions:	C1 = Condition 1 C2 = Condition 2	
Program Office:	Westford, MA				
Program Contact:	Doug Roeck		FedEx Air Bill #:		

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
21	M23-FHR-C1-R1	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1, Run 1	PCDDs / PCDFs	
22	M23-FHR-C1-R2	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1, Run 2	PCDDs / PCDFs	
23	M23-FHR-C1-R3	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1, Run 3	PCDDs / PCDFs	
24					
25	M23-BHR-C1-R1	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1, Run 1	PCDDs / PCDFs	
26	M23-BHR-C1-R2	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1, Run 2	PCDDs / PCDFs	
27	M23-BHR-C1-R3	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1, Run 3	PCDDs / PCDFs	
28					
29	M23-FHR-C2-R1	Acetone/MeCl/Toluene	M23 Front Half Rinse, C2, Run 1	PCDDs / PCDFs	
30	M23-FHR-C2-R2	Acetone/MeCl/Toluene	M23 Front Half Rinse, C2, Run 2	PCDDs / PCDFs	
31	M23-FHR-C2-R3	Acetone/MeCl/Toluene	M23 Front Half Rinse, C2, Run 3	PCDDs / PCDFs	
32					
33	M23-BHR-C2-R1	Acetone/MeCl/Toluene	M23 Back Half Rinse, C2, Run 1	PCDDs / PCDFs	
34	M23-BHR-C2-R2	Acetone/MeCl/Toluene	M23 Back Half Rinse, C2, Run 2	PCDDs / PCDFs	
35	M23-BHR-C2-R3	Acetone/MeCl/Toluene	M23 Back Half Rinse, C2, Run 3	PCDDs / PCDFs	
36					
37	M23-FHR/BHR-FB	Acetone/MeCl/Toluene	M23 FH / BH Rinse Field Blank	PCDDs / PCDFs	
38					
39					
40					

Field Notes/ Comments

1. Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)
2. Testing for PCDDs/PCDFs performed during both Condition 1 and Condition 2

Page 2 of 2

Relinquished By (print): Douglas R. Roeck Date: 4/1/2010 Signature: Douglas R Roeck Time: 17:00	Relinquished By (print): Date: Signature: Time:	Relinquished By (print): Date: Signature: Time:	Received by Lab (print): Date: Signature: Time:
Received By (print): B. Benedict Date: 4/2/10 Signature: Bettina L Benedict Time: 1054	Received By (print): Date: Signature: Time:	Received By (print): Date: Signature: Time:	Analytical Laboratory Destination: Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Attn: Martha Maier, (916)-933-1640

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32547 TAT unspecified

Samples Arrival:	Date/Time 4/2/10 0842	Initials: RM	Location: WR-2 Shelf/Rack: N/A
Logged In:	Date/Time 4/2/10 1039	Initials: BSB	Location: R1 Shelf/Rack: N/A

Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	None		
Temp °C 3.4	Time: 0858	Thermometer ID: IR-2				

		YES	NO	NA
Adequate Sample Volume Received?		✓		
Holding Time Acceptable?		✓		
Shipping Container(s) Intact?		✓		
Shipping Custody Seals Intact?				✓
Shipping Documentation Present?		✓		
Airbill	Trk # 858713859412	✓		
Sample Container Intact?		✓		
Sample Custody Seals Intact?		✓		
Chain of Custody / Sample Documentation Present?		✓		
COC Anomaly/Sample Acceptance Form completed?			✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?				✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	None		
Shipping Container	Vista	Client	Retain	Return	Dispose

Comments:

M23A-XAD-C1-R1, -R2, -R3
M23A-PF-C1, -R1, -R2, -R3

Cooler has 6 unused XAD's and one XAD/Filter "Do Not Analyze"

Sample Login 3/2007 rmh

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32547 TAT Unspecified

Samples Arrival:	Date/Time 4/2/10 0842	Initials: EM	Location: WR 2 Shelf/Rack: N/A
Logged In:	Date/Time 4/2/10 1022	Initials: BDB	Location: R1 Shelf/Rack: N/A

Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	None		
Temp °C Amblant	Time: 0851	Thermometer ID: IR-2				

		YES	NO	NA
Adequate Sample Volume Received?		✓		
Holding Time Acceptable?		✓		
Shipping Container(s) Intact?		✓		
Shipping Custody Seals Intact?				✓
Shipping Documentation Present?		✓		
Airbill	Trk # 8587 1385 9397	✓		
Sample Container Intact?		✓		
Sample Custody Seals Intact?		✓		
Chain of Custody / Sample Documentation Present?		✓		
COC Anomaly/Sample Acceptance Form completed?			✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?				✓

$Na_2S_2O_3$ Preservation Documented?		COC	Sample Container	None	
Shipping Container	Vista	Client	Retain	Return	Dispose

Comments:

M23-FHR-C1-R1, -R2, -R3

M23-BHR-C1-R1, -R2, -R3

Sample Login 3/2007 rmh

Vista
Analytical Laboratory

May 6, 2010

Mr. Vince Waggle
(AECOM)
Heritage-WTI, Inc.
1250 St. George Street
E. Liverpool, OH 43920

Dear Mr. Waggle,

Enclosed are six cleaned and pre-spiked XAD cartridges. Each cartridge has been prepared for the analysis of polychlorinated dioxin/furans (PCDD's/PCDF's) by EPA Method 0023A using HRMS. Also enclosed are six cleaned 90mm glass fiber filters and six cleaned petri dish sets.

If you should have any questions about the enclosed items, please do not hesitate to call me at (916) 673-1520 or email me at fbishop@vista-analytical.com.

Sincerely,

Francie Bishop
Scientist
Vista Analytical Laboratory, Inc.

Vista
Analytical Laboratory

March 24, 2010

Mr. Doug Roeck
AECOM
2 Technology Park Drive
Westford, MA 01886

Dear Mr. Roeck,

Enclosed are ten cleaned and pre-spiked XAD cartridges. Each cartridge has been prepared for the analysis of polychlorinated dioxins/furans (PCDDs/PCDFs) by EPA Method 0023A. Also enclosed are ten cleaned 90mm glass fiber filters and ten cleaned petri dish sets.

If you should have any questions about the enclosed items, please do not hesitate to call me at (916) 673-1520 or email me at fbishop@vista-analytical.com.

Sincerely,

Francie Bishop
Scientist
Vista Analytical Laboratory, Inc.

Vista
Analytical Laboratory

4/2/2010

Vista Project ID: 32547

Mr. Doug Roeck
AECOM, Inc.
2 Technology Park Drive
Westford, MA 01886
USA

Dear Mr. Roeck,

The samples listed in the sample inventory were received by Vista Analytical Laboratory on 4/2/2010.

Please find attached:

- Terms and Conditions (reverse side of letter)
- Sample Inventory Report
- Chain-of-Custody
- Additional sample documentation (if applicable).
- Sample Log-In Checklist

Analytical results are scheduled to be reported to you on: 4/23/2010. All sample containers and their contents will be disposed of 90 days subsequent to issuance of a final report.

If you have any questions regarding the status of the work associated with these samples, please contact me at (916) 673-1520.

Sincerely,

Martha Maier

Martha M. Maier
Laboratory Director

Vista

Section I: Sample Inventory Report

Date Received: 4/2/2010
Project No.: 32547
Project Name: 60149294

Lab. Sample ID	Client Sample ID	Component ID
001	M23-XAD-C1-R1	BHR
		XAD
002	M23-PF-C1-R1	FHR
		FILTER
003	M23-XAD-C1-R2	BHR
		XAD
004	M23-PF-C1-R2	FHR
		FILTER
005	M23-XAD-C1-R3	BHR
		XAD
006	M23-PF-C1-R3	FHR
		FILTER

Supinvgnnm5.rpt

EXACT COPY OF ORIGINAL
Init BAB 4/2/10

AECOM

Sample Packing and Traceability List 32547 3.4°C Ambient COPY 1

Site of Program:	Heritage-WTI	Sample Date: 3/31/2010 - 4/1/2010	Project Location:	E. Liverpool, OH	P.O. #: 5729ACM
Type of Program:	2010 MACT CPT	Date Shipped: 4/1/2010	Laboratory:	Vista Analytical	
Project #:	60149294	Shipper / Doug Roeck /	Test Conditions:	C1 = Condition 1	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce		C2 = Condition 2	
Program Contact:	Doug Roeck		FedEx Air Bill #:		

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
1	M23-XAD-C1-R1	XAD RESIN	XAD Resin Trap, C1, Run 1	PCDDs / PCDFs	
2	M23-PF-C1-R1	FILTER	PM Filter, C1, Run 1	PCDDs / PCDFs	
3	M23-XAD-C1-R2	XAD RESIN	XAD Resin Trap, C1, Run 2	PCDDs / PCDFs	
4	M23-PF-C1-R2	FILTER	PM Filter, C1, Run 2	PCDDs / PCDFs	
5	M23-XAD-C1-R3	XAD RESIN	XAD Resin Trap, C1, Run 3	PCDDs / PCDFs	
6	M23-PF-C1-R3	FILTER	PM Filter, C1, Run 3	PCDDs / PCDFs	
7					
8	M23-XAD-C2-R1	XAD RESIN	XAD Resin Trap, C2, Run 1	PCDDs / PCDFs	
9	M23-PF-C2-R1	FILTER	PM Filter, C2, Run 1	PCDDs / PCDFs	
10	M23-XAD-C2-R2	XAD RESIN	XAD Resin Trap, C2, Run 2	PCDDs / PCDFs	
11	M23-PF-C2-R2	FILTER	PM Filter, C2, Run 2	PCDDs / PCDFs	
12	M23-XAD-C2-R3	XAD RESIN	XAD Resin Trap, C2, Run 3	PCDDs / PCDFs	
13	M23-PF-C2-R3	FILTER	PM Filter, C2, Run 3	PCDDs / PCDFs	
14					
15	M23-XAD-FB	XAD RESIN	XAD Resin Trap, Field Blank	PCDDs / PCDFs	
16	M23-PF-FB	FILTER	PM Filter, Field Blank	PCDDs / PCDFs	
17					
18					
19					
20					

Field Notes/ Comments
1. Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)
2. Testing for PCDDs/PCDFs performed during both Condition 1 and Condition 2

Page 1 of 2

Relinquished By (print): Douglas R. Roeck	Date: 4/1/2010	Relinquished By (print):	Date:	Relinquished By (print):	Date:	Received by Lab (print):	Date:
Signature: Douglas R Roeck	Time: 17:00	Signature:	Time:	Signature:	Time:	Signature:	Time:
Received By (print): B. Benedict	Date: 4/2/10	Received By (print):	Date:	Received By (print):	Date:	Analytical Laboratory Destination: Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Attn: Martha Maier, (916)-933-1640	
Signature: Bettina L Benedict	Time: 1053	Signature:	Time:	Signature:	Time:		

EXACT COPY OF ORIGINAL
Init BDD 4/2/10

AECOM

Sample Packing and Traceability List 32547

COPY 1

Site of Program:	Heritage-WTI	Sample Date: 3/31/2010 - 4/1/2010	Project Location:	E. Liverpool, OH	P.O. #: 5729ACM
Type of Program:	2010 MACT CPT	Date Shipped: 4/1/2010	Laboratory:	Vista Analytical	
Project #:	60149294	Shipper / Doug Roeck /	Test Conditions:	C1 = Condition 1	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce		C2 = Condition 2	
Program Contact:	Doug Roeck		FedEx Air Bill #:		

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
21	M23-FHR-C1-R1	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1, Run 1	PCDDs / PCDFs	
22	M23-FHR-C1-R2	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1, Run 2	PCDDs / PCDFs	
23	M23-FHR-C1-R3	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1, Run 3	PCDDs / PCDFs	
24					
25	M23-BHR-C1-R1	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1, Run 1	PCDDs / PCDFs	
26	M23-BHR-C1-R2	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1, Run 2	PCDDs / PCDFs	
27	M23-BHR-C1-R3	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1, Run 3	PCDDs / PCDFs	
28					
29	M23-FHR-C2-R1	Acetone/MeCl/Toluene	M23 Front Half Rinse, C2, Run 1	PCDDs / PCDFs	
30	M23-FHR-C2-R2	Acetone/MeCl/Toluene	M23 Front Half Rinse, C2, Run 2	PCDDs / PCDFs	
31	M23-FHR-C2-R3	Acetone/MeCl/Toluene	M23 Front Half Rinse, C2, Run 3	PCDDs / PCDFs	
32					
33	M23-BHR-C2-R1	Acetone/MeCl/Toluene	M23 Back Half Rinse, C2, Run 1	PCDDs / PCDFs	
34	M23-BHR-C2-R2	Acetone/MeCl/Toluene	M23 Back Half Rinse, C2, Run 2	PCDDs / PCDFs	
35	M23-BHR-C2-R3	Acetone/MeCl/Toluene	M23 Back Half Rinse, C2, Run 3	PCDDs / PCDFs	
36					
37	M23-FHR/BHR-FB	Acetone/MeCl/Toluene	M23 FH / BH Rinse Field Blank	PCDDs / PCDFs	
38					
39					
40					

Field Notes/ Comments
1. Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)
2. Testing for PCDDs/PCDFs performed during both Condition 1 and Condition 2

Page 2 of 2

Relinquished By (print): Douglas R. Roeck Date: 4/1/2010 Signature: Douglas R Roeck Time: 17:00	Relinquished By (print): Date: Signature: Time:	Relinquished By (print): Date: Signature: Time:	Received by Lab (print): Date: Signature: Time:
Received By (print): B. Benedict Date: 4/2/10 Signature: Bettina L Benedict Time: 1054	Received By (print): Date: Signature: Time:	Received By (print): Date: Signature: Time:	Analytical Laboratory Destination: Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Attn: Martha Maier, (916)-933-1640

EXACT COPY OF ORIGINAL
Init BJB 4/2/10

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32547 TAT Unspecified

Samples Arrival:	Date/Time 4/2/10 0842	Initials: JM	Location: WR-2 Shelf/Rack: N/A
Logged In:	Date/Time 4/2/10 1039	Initials: BJB	Location: R1 Shelf/Rack: N/A

Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	None		
Temp °C 3.4	Time: 0858	Thermometer ID: IR-2				

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill Trk # 858713859412	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?	✓		
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?		COC	Sample Container	None	
Shipping Container	Vista	Client	Retain	Return	Dispose

Comments:

M23A - XAD - C1 - R1, - R2, - R3
M23A - PF - C1, - R1, - R2, - R3

Cooler has 6 unused XAD's and one XAD/Filter "Do Not Analyze"

Sample Login 3/2007 rmh

EXACT COPY OF ORIGINAL
Init BLB 4/2/10

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32547 TAT unspecified

Samples Arrival:	Date/Time 4/2/10 0842		Initials: EM		Location: WR 2 Shelf/Rack: N/A	
Logged In:	Date/Time 4/2/10 1022		Initials: BLB		Location: R1 Shelf/Rack: N/A	
Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice		Dry Ice	None	
Temp °C Ambient	Time: 0851			Thermometer ID: IR-2		

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill Trk # 858713859397	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?	✓		
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?		COC	Sample Container	None	
Shipping Container	Vista	Client	Retain	Return	Dispose

Comments:

M23-FHR-C1-R1, -R2, -R3
M23-BHR-C1-R1, -R2, -R3

Sample Login 3/2007 rmh

Vista
Analytical Laboratory

May 31, 2010

Vista Project I.D.: 32626

Mr. Doug Roeck
AECOM, Inc.
2 Technology Park Drive
Westford, MA 01886

Dear Mr. Roeck,

Enclosed are the results for the four MM5 samples received at Vista Analytical Laboratory on May 13, 2010 under your Project Name "Heritage-WTI", Project Number "60149294". These samples were extracted and analyzed using Method 0023A for tetra-through-octa chlorinated dioxins and furans. The front and back halves of each sample train, except the Field Blank, were extracted and analyzed separately. A standard turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Vista's current certifications, and copies of the raw data (if requested).

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com. Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha M. Maier
Laboratory Director

Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista Analytical Laboratory.

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Section I: Sample Inventory Report

Date Received: 5/13/2010
Project No.: 32626
Project Name: 60149294

Lab. Sample ID	Client Sample ID	Component ID
001	M23-XAD-C2-R1	BHR
		XAD
002	M23-PF-C2-R1	FHR
		FILTER
003	M23-XAD-C2-R2	BHR
		XAD
004	M23-PF-C2-R2	FHR
		FILTER
005	M23-XAD-C2-R3	BHR
		XAD
006	M23-PF-C2-R3	FHR
		FILTER
007	M23-XAD/PF-FB	FHR/BHR
		FILTER
		XAD

Smpinvgnmm5.rpt

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SECTION II

Method Blank **Method 0023A**

Matrix:	MM5	QC Batch No.:	3022	Lab Sample:	0-MB001
Sample Size:	Sample	Date Extracted:	18-May-10	Date Analyzed DB-5:	20-May-10
				Date Analyzed DB-225:	NA

Analyte	Conc. (pg/Sample)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	3.25		
1,2,3,7,8-PeCDD	ND	3.27		
1,2,3,4,7,8-HxCDD	ND	4.68		
1,2,3,6,7,8-HxCDD	ND	4.36		
1,2,3,7,8,9-HxCDD	ND	4.25		
1,2,3,4,6,7,8-HpCDD	ND	5.88		
OCDD	ND	8.81		
2,3,7,8-TCDF	ND	2.93		
1,2,3,7,8-PeCDF	ND	3.87		
2,3,4,7,8-PeCDF	ND	4.00		
1,2,3,4,7,8-HxCDF	ND	1.56		
1,2,3,6,7,8-HxCDF	ND	1.47		
2,3,4,6,7,8-HxCDF	ND	1.59		
1,2,3,7,8,9-HxCDF	ND	1.87		
1,2,3,4,6,7,8-HpCDF	ND	2.86		
1,2,3,4,7,8,9-HpCDF	ND	3.45		
OCDF	ND	7.00		

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	94.9	40 - 135	
	13C-1,2,3,7,8-PeCDD	108	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	91.1	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	91.4	40 - 135	
	13C-OCDD	75.0	40 - 135	
	13C-2,3,7,8-TCDF	93.7	40 - 135	
	13C-1,2,3,7,8-PeCDF	97.3	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	99.4	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	89.2	40 - 135	
	13C-OCDF	82.8	40 - 135	
PS	37Cl-2,3,7,8-TCDD	98.2	70 - 130	
	13C-2,3,4,7,8-PeCDF	98.0	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	99.1	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	92.5	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	92.1	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	92.8	40 - 135	

Totals		
Total TCDD	ND	3.24
Total PeCDD	ND	3.26
Total HxCDD	ND	4.42
Total HpCDD	ND	5.86
Total TCDF	ND	2.94
Total PeCDF	ND	3.93
Total HxCDF	ND	1.61
Total HpCDF	ND	3.13

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 0 - 9.49

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: William J. Luksemburg 28-May-2010 09:11

Vista

OPR Results **Method 0023A**

Matrix:	MM5	QC Batch No.:	3022	Lab Sample:	0-OPR001		
Sample Size:	Sample	Date Extracted:	18-May-10	Date Analyzed DB-5:	20-May-10	Date Analyzed DB-225:	NA

Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits
2,3,7,8-TCDD	2.50	2.73	1.75 - 3.25
1,2,3,7,8-PeCDD	12.5	12.7	8.75 - 16.25
1,2,3,4,7,8-HxCDD	12.5	12.9	8.75 - 16.25
1,2,3,6,7,8-HxCDD	12.5	12.8	8.75 - 16.25
1,2,3,7,8,9-HxCDD	12.5	13.0	8.75 - 16.25
1,2,3,4,6,7,8-HpCDD	12.5	12.1	8.75 - 16.25
OCDD	25.0	25.2	17.5 - 32.5
2,3,7,8-TCDF	2.50	2.59	1.75 - 3.25
1,2,3,7,8-PeCDF	12.5	12.1	8.75 - 16.25
2,3,4,7,8-PeCDF	12.5	12.1	8.75 - 16.25
1,2,3,4,7,8-HxCDF	12.5	11.9	8.75 - 16.25
1,2,3,6,7,8-HxCDF	12.5	12.9	8.75 - 16.25
2,3,4,6,7,8-HxCDF	12.5	12.1	8.75 - 16.25
1,2,3,7,8,9-HxCDF	12.5	11.7	8.75 - 16.25
1,2,3,4,6,7,8-HpCDF	12.5	11.3	8.75 - 16.25
1,2,3,4,7,8,9-HpCDF	12.5	10.3	8.75 - 16.25
OCDF	25.0	22.9	17.5 - 32.5

	Labeled Standard	%R	LCL-UCL	Qualifier
IS	13C-2,3,7,8-TCDD	95.2	40 - 135	
	13C-1,2,3,7,8-PeCDD	107	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	88.5	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	88.4	40 - 135	
	13C-OCDD	74.7	40 - 135	
	13C-2,3,7,8-TCDF	93.4	40 - 135	
	13C-1,2,3,7,8-PeCDF	98.3	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	94.2	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	89.7	40 - 135	
	13C-OCDF	80.1	40 - 135	
AS	13C-1,2,3,7,8,9-HxCDF	89.0	40 - 135	

Analyst: DMS

Approved By: William J. Luksemburg 28-May-2010 09:11

Vista

Sample ID: M23-XAD-C2-R1 **Method 0023A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32626-001	Date Received:	13-May-10
Project:	60149294	Sample Size:	1 Sample	QC Batch No.:	3022	Date Extracted:	18-May-10
Date Collected:	11-May-10			Date Analyzed DB-5:	20-May-10	Dates Analyzed DB-225:	24-May-10
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	12.8			
1,2,3,7,8-PeCDD	13.5			J
1,2,3,4,7,8-HxCDD	ND	9.76		
1,2,3,6,7,8-HxCDD	ND	9.09		
1,2,3,7,8,9-HxCDD	ND	8.86		
1,2,3,4,6,7,8-HpCDD	5.17			J
OCDD	ND	13.5		
2,3,7,8-TCDF	72.1			
1,2,3,7,8-PeCDF	147			
2,3,4,7,8-PeCDF	107			
1,2,3,4,7,8-HxCDF	108			
1,2,3,6,7,8-HxCDF	106			
2,3,4,6,7,8-HxCDF	28.4			J
1,2,3,7,8,9-HxCDF	ND	3.05		
1,2,3,4,6,7,8-HpCDF	88.1			
1,2,3,4,7,8,9-HpCDF	ND	3.97		
OCDF	ND	9.89		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	97.2	40 - 135	
	13C-1,2,3,7,8-PeCDD	110	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	90.7	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	90.8	40 - 135	
	13C-OCDD	77.6	40 - 135	
	13C-2,3,7,8-TCDF	92.2	40 - 135	
	13C-1,2,3,7,8-PeCDF	100	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	95.2	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	89.2	40 - 135	
	13C-OCDF	82.8	40 - 135	
PS	37Cl-2,3,7,8-TCDD	103	70 - 130	
	13C-2,3,4,7,8-PeCDF	102	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	106	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	97.1	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	96.6	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	94.1	40 - 135	

Totals		
Total TCDD	398	406
Total PeCDD	153	270
Total HxCDD	62.1	
Total HpCDD	5.17	
Total TCDF	10200	
Total PeCDF	5740	
Total HxCDF	1400	
Total HpCDF	121	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 113 - 116

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: William J. Luksemburg 28-May-2010 09:11

Vista

Sample ID: M23-PF-C2-R1 **Method 0023A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32626-002	Date Received:	13-May-10
Project:	60149294	Sample Size:	1 Sample	QC Batch No.:	3022	Date Extracted:	18-May-10
Date Collected:	11-May-10			Date Analyzed DB-5:	20-May-10	Dates Analyzed DB-225:	24-May-10
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	24.2			
1,2,3,7,8-PeCDD	54.4			
1,2,3,4,7,8-HxCDD	25.8			J
1,2,3,6,7,8-HxCDD	29.1			J
1,2,3,7,8,9-HxCDD	20.3			J
1,2,3,4,6,7,8-HpCDD	58.6			
OCDD	58.8			J
2,3,7,8-TCDF	89.8			
1,2,3,7,8-PeCDF	361			
2,3,4,7,8-PeCDF	239			
1,2,3,4,7,8-HxCDF	462			
1,2,3,6,7,8-HxCDF	469			
2,3,4,6,7,8-HxCDF	163			
1,2,3,7,8,9-HxCDF	43.4			J
1,2,3,4,6,7,8-HpCDF	731			
1,2,3,4,7,8,9-HpCDF	68.8			
OCDF	102			

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	99.4	40 - 135	
	13C-1,2,3,7,8-PeCDD	113	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	92.5	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	95.4	40 - 135	
	13C-OCDD	78.3	40 - 135	
	13C-2,3,7,8-TCDF	92.5	40 - 135	
	13C-1,2,3,7,8-PeCDF	104	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	101	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	94.1	40 - 135	
	13C-OCDF	91.8	40 - 135	
PS	37Cl-2,3,7,8-TCDD	NA	70 - 130	
	13C-2,3,4,7,8-PeCDF	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	NA	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	NA	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	96.1	40 - 135	

Totals		
Total TCDD	292	308
Total PeCDD	449	483
Total HxCDD	344	
Total HpCDD	130	
Total TCDF	3920	3940
Total PeCDF	5600	
Total HxCDF	4190	
Total HpCDF	1100	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 328 - 328

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: William J. Luksemburg 02-Jun-2010 09:49

Sample ID: **M23-XAD-C2-R2** **Method 0023A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32626-003	Date Received:	13-May-10
Project:	60149294	Sample Size:	1 Sample	QC Batch No.:	3022	Date Extracted:	18-May-10
Date Collected:	12-May-10			Date Analyzed DB-5:	20-May-10	Dates Analyzed DB-225:	24-May-10
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	25.9			
1,2,3,7,8-PeCDD	46.8			J
1,2,3,4,7,8-HxCDD	17.7			J
1,2,3,6,7,8-HxCDD	18.8			J
1,2,3,7,8,9-HxCDD	8.40			J
1,2,3,4,6,7,8-HpCDD	20.0			J
OCDD	15.7			J
2,3,7,8-TCDF	195			
1,2,3,7,8-PeCDF	373			
2,3,4,7,8-PeCDF	282			
1,2,3,4,7,8-HxCDF	337			
1,2,3,6,7,8-HxCDF	321			
2,3,4,6,7,8-HxCDF	86.2			
1,2,3,7,8,9-HxCDF	11.5			J
1,2,3,4,6,7,8-HpCDF	362			
1,2,3,4,7,8,9-HpCDF	7.77			J
OCDF	ND		7.33	

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	102	40 - 135	
	13C-1,2,3,7,8-PeCDD	113	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	98.1	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	98.1	40 - 135	
	13C-OCDD	76.9	40 - 135	
	13C-2,3,7,8-TCDF	97.4	40 - 135	
	13C-1,2,3,7,8-PeCDF	109	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	104	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	94.3	40 - 135	
	13C-OCDF	87.3	40 - 135	
PS	37Cl-2,3,7,8-TCDD	104	70 - 130	
	13C-2,3,4,7,8-PeCDF	103	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	101	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	98.4	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	103	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	94.5	40 - 135	

Totals		
Total TCDD	959	1010
Total PeCDD	815	
Total HxCDD	297	
Total HpCDD	55.4	
Total TCDF	21300	
Total PeCDF	11600	11700
Total HxCDF	3770	
Total HpCDF	440	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 312 - 312

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: William J. Luksemburg 28-May-2010 09:11

Vista

Sample ID: M23-PF-C2-R2 **Method 0023A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32626-004	Date Received:	13-May-10
Project:	60149294	Sample Size:	1 Sample	QC Batch No.:	3022	Date Extracted:	18-May-10
Date Collected:	12-May-10			Date Analyzed DB-5:	20-May-10	Dates Analyzed DB-225:	24-May-10
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	56.8			
1,2,3,7,8-PeCDD	170			
1,2,3,4,7,8-HxCDD	105			
1,2,3,6,7,8-HxCDD	114			
1,2,3,7,8,9-HxCDD	107			
1,2,3,4,6,7,8-HpCDD	364			
OCDD	469			
2,3,7,8-TCDF	305			
1,2,3,7,8-PeCDF	1030			
2,3,4,7,8-PeCDF	767			
1,2,3,4,7,8-HxCDF	1470			
1,2,3,6,7,8-HxCDF	1510			
2,3,4,6,7,8-HxCDF	607			
1,2,3,7,8,9-HxCDF	152			
1,2,3,4,6,7,8-HpCDF	3360			
1,2,3,4,7,8,9-HpCDF	217			
OCDF	465			

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	100	40 - 135	
	13C-1,2,3,7,8-PeCDD	117	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	92.4	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	102	40 - 135	
	13C-OCDD	80.0	40 - 135	
	13C-2,3,7,8-TCDF	94.6	40 - 135	
	13C-1,2,3,7,8-PeCDF	101	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	101	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	102	40 - 135	
	13C-OCDF	89.8	40 - 135	
PS	37Cl-2,3,7,8-TCDD	NA	70 - 130	
	13C-2,3,4,7,8-PeCDF	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	NA	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	NA	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	93.9	40 - 135	

Totals		
Total TCDD	865	890
Total PeCDD	1460	
Total HxCDD	1370	1420
Total HpCDD	838	
Total TCDF	12500	12500
Total PeCDF	14900	
Total HxCDF	12000	
Total HpCDF	4560	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 1050 - 1050

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: William J. Luksemburg 02-Jun-2010 09:49

Sample ID: M23-XAD-C2-R3 **Method 0023A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32626-005	Date Received:	13-May-10
Project:	60149294	Sample Size:	1 Sample	QC Batch No.:	3022	Date Extracted:	18-May-10
Date Collected:	12-May-10			Date Analyzed DB-5:	20-May-10	Dates Analyzed DB-225:	24-May-10
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	5.34		
1,2,3,7,8-PeCDD	ND	6.43		
1,2,3,4,7,8-HxCDD	ND	6.69		
1,2,3,6,7,8-HxCDD	ND	6.24		
1,2,3,7,8,9-HxCDD	ND	6.08		
1,2,3,4,6,7,8-HpCDD	ND	16.4		
OCDD	ND		14.1	
2,3,7,8-TCDF	11.3			
1,2,3,7,8-PeCDF	37.9			J
2,3,4,7,8-PeCDF	46.8			J
1,2,3,4,7,8-HxCDF	72.0			
1,2,3,6,7,8-HxCDF	80.2			
2,3,4,6,7,8-HxCDF	43.5			J
1,2,3,7,8,9-HxCDF	ND	3.80		
1,2,3,4,6,7,8-HpCDF	212			
1,2,3,4,7,8,9-HpCDF	8.66			J
OCDF	ND		20.0	

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	99.5	40 - 135	
	13C-1,2,3,7,8-PeCDD	118	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	95.0	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	92.1	40 - 135	
	13C-OCDD	81.1	40 - 135	
	13C-2,3,7,8-TCDF	96.7	40 - 135	
	13C-1,2,3,7,8-PeCDF	106	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	103	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	91.5	40 - 135	
	13C-OCDF	84.1	40 - 135	
PS	37Cl-2,3,7,8-TCDD	100	70 - 130	
	13C-2,3,4,7,8-PeCDF	95.2	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	93.3	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	89.6	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	82.0	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	97.4	40 - 135	

Totals		
Total TCDD	77.8	
Total PeCDD	28.5	45.8
Total HxCDD	33.3	
Total HpCDD	11.4	
Total TCDF	2580	2600
Total PeCDF	2090	2110
Total HxCDF	1150	1180
Total HpCDF	289	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 48.2 - 59.2

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: William J. Luksemburg 28-May-2010 09:11

Vista

Sample ID: **M23-PF-C2-R3** **Method 0023A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32626-006	Date Received:	13-May-10
Project:	60149294	Sample Size:	1 Sample	QC Batch No.:	3022	Date Extracted:	18-May-10
Date Collected:	12-May-10			Date Analyzed DB-5:	20-May-10	Dates Analyzed DB-225:	24-May-10
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	13.9			
1,2,3,7,8-PeCDD	50.2			
1,2,3,4,7,8-HxCDD	55.2			
1,2,3,6,7,8-HxCDD	61.3			
1,2,3,7,8,9-HxCDD	42.4			J
1,2,3,4,6,7,8-HpCDD	323			
OCDD	789			
2,3,7,8-TCDF	62.1			
1,2,3,7,8-PeCDF	376			
2,3,4,7,8-PeCDF	448			
1,2,3,4,7,8-HxCDF	1340			
1,2,3,6,7,8-HxCDF	1460			
2,3,4,6,7,8-HxCDF	1110			
1,2,3,7,8,9-HxCDF	209			
1,2,3,4,6,7,8-HpCDF	7560			
1,2,3,4,7,8,9-HpCDF	861			
OCDF	4270			

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	99.6	40 - 135	
	13C-1,2,3,7,8-PeCDD	116	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	88.5	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	94.2	40 - 135	
	13C-OCDD	79.2	40 - 135	
	13C-2,3,7,8-TCDF	93.8	40 - 135	
	13C-1,2,3,7,8-PeCDF	105	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	98.1	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	96.3	40 - 135	
	13C-OCDF	90.2	40 - 135	
PS	37Cl-2,3,7,8-TCDD	NA	70 - 130	
	13C-2,3,4,7,8-PeCDF	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	NA	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	NA	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	94.4	40 - 135	

Totals		
Total TCDD	168	192
Total PeCDD	427	474
Total HxCDD	726	
Total HpCDD	713	
Total TCDF	4060	4070
Total PeCDF	8670	8680
Total HxCDF	14600	
Total HpCDF	12300	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 808 - 808

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: William J. Luksemburg 02-Jun-2010 09:49

Sample ID:	M23-XAD/PF-FB					Method 0023A
Client Data		**Sample Data**		**Laboratory Data**		
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32626-007	Date Received: 13-May-10
Project:	60149294	Sample Size:	1 Sample	QC Batch No.:	3022	Date Extracted: 18-May-10
Date Collected:	31-Mar-10			Date Analyzed DB-5:	20-May-10	Date Analyzed DB-225: NA
Time Collected:	NA					

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	3.07		
1,2,3,7,8-PeCDD	ND	2.92		
1,2,3,4,7,8-HxCDD	ND	3.83		
1,2,3,6,7,8-HxCDD	ND	3.56		
1,2,3,7,8,9-HxCDD	ND	3.47		
1,2,3,4,6,7,8-HpCDD	ND	3.66		
OCDD	ND	8.14		
2,3,7,8-TCDF	ND	2.75		
1,2,3,7,8-PeCDF	ND	4.25		
2,3,4,7,8-PeCDF	ND	4.39		
1,2,3,4,7,8-HxCDF	ND	1.47		
1,2,3,6,7,8-HxCDF	ND	1.38		
2,3,4,6,7,8-HxCDF	ND	1.50		
1,2,3,7,8,9-HxCDF	ND	1.76		
1,2,3,4,6,7,8-HpCDF	ND	2.57		
1,2,3,4,7,8,9-HpCDF	ND	3.10		
OCDF	ND	6.98		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	100	40 - 135	
	13C-1,2,3,7,8-PeCDD	112	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	102	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	94.0	40 - 135	
	13C-OCDD	80.6	40 - 135	
	13C-2,3,7,8-TCDF	95.6	40 - 135	
	13C-1,2,3,7,8-PeCDF	105	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	102	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	91.3	40 - 135	
	13C-OCDF	87.1	40 - 135	
PS	37Cl-2,3,7,8-TCDD	99.5	70 - 130	
	13C-2,3,4,7,8-PeCDF	104	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	97.9	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	101	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	102	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	93.6	40 - 135	

Totals		
Total TCDD	ND	3.06
Total PeCDD	ND	2.92
Total HxCDD	ND	3.62
Total HpCDD	ND	3.66
Total TCDF	ND	2.75
Total PeCDF	ND	4.31
Total HxCDF	ND	1.52
Total HpCDF	ND	2.81

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 0 - 9.02

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: William J. Luksemburg 28-May-2010 09:11

APPENDIX

Vista

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	Dilution
E	The amount detected is above the High Calibration Limit.
P	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
H	Recovery was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Low Calibration Limit.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated detection limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that correspond to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Vista

CERTIFICATIONS

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-2008
State of Arizona	AZ0639
State of Arkansas, DEQ	08-043-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	N/A
State of Connecticut	PH-0182
State of Florida, DEP	E87777
State of Indiana Department of Health	C-CA-02
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA08000
State of Louisiana, DEQ	01977
State of Maine	2008024
State of Michigan	9932
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	NFESC413
State of Nevada	CA004132007A
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-006
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	TN02996
State of Texas	T104704189-08-TX
U.S. Army Corps of Engineers	N/A
State of Utah	CA16400
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q

AECOM

Sample Packing and Traceability List

32626 5:6, Ambient

COPY 1

Site of Program:	Heritage-WTI	Sample Date: 5/11-12/2010	Project Location:	E. Liverpool, OH	P.O. #: 5729ACM
Type of Program:	2010 MACT CPT	Date Shipped: 5/12/2010	Laboratory:	Vista Analytical	
Project #:	60149294	Shipper / Doug Roeck /	Test Conditions:	C1 = Condition 1	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce		C2 = Condition 2	
Program Contact:	Doug Roeck		FedEx Air Bill #:	8587 1386 3323	

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
1					
2					
3					
4					
5					
6					
7					
8	M23-XAD-C2-R1	XAD RESIN	XAD Resin Trap, C2, Run 1	PCDDs / PCDFs	
9	M23-PF-C2-R1	FILTER	PM Filter, C2, Run 1	PCDDs / PCDFs	
10	M23-XAD-C2-R2	XAD RESIN	XAD Resin Trap, C2, Run 2	PCDDs / PCDFs	
11	M23-PF-C2-R2	FILTER	PM Filter, C2, Run 2	PCDDs / PCDFs	
12	M23-XAD-C2-R3	XAD RESIN	XAD Resin Trap, C2, Run 3	PCDDs / PCDFs	
13	M23-PF-C2-R3	FILTER	PM Filter, C2, Run 3	PCDDs / PCDFs	
14					
15	M23-XAD-FB	XAD RESIN	XAD Resin Trap, Field Blank	PCDDs / PCDFs	
16	M23-PF-FB	FILTER	PM Filter, Field Blank	PCDDs / PCDFs	
17					
18					
19					
20					

Field Notes/ Comments

1. Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)
2. Testing for PCDDs/PCDFs performed during both Condition 1 and Condition 2

Page 1 of 1

Relinquished By (print): Douglas R. Roeck Date: 5/12/10 Signature: Douglas R Roeck Time: 4 PM	Relinquished By (print): Date: Signature: Time:	Relinquished By (print): Date: Signature: Time:	Received by Lab (print): Date: Signature: Time:
Received By (print): Bettina Benedict Date: 5/13/10 Signature: Bettina Benedict Time: 1108	Received By (print): Date: Signature: Time:	Received By (print): Date: Signature: Time:	Analytical Laboratory Destination: Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Attn: Martha Maier, (916)-933-1640

COPY 1

AECOM

Sample Packing and Traceability List

32626

Site of Program:	Heritage-WTI	Sample Date:	5/11-12/10	Project Location:	E. Liverpool, OH	P.O. #:	5729ACM
Type of Program:	2010 MACT CPT	Date Shipped:	5/12/10	Laboratory:	Vista Analytical		
Project #:	60149294	Shipper /	Doug Roeck /	Test Conditions:	C1 = Condition 1		
Program Office:	Westford, MA	Recovery:	Fred Sanguedolce		C2 = Condition 2		
Program Contact:	Doug Roeck			FedEx Air Bill #:	8587 1385 9401		

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
21					
22					
23					
24					
25					
26					
27					
28					
29	M23-FHR-C2-R1	Acetone/MeCl/Toluene	M23 Front Half Rinse, C2, Run 1	PCDDs / PCDFs	
30	M23-FHR-C2-R2	Acetone/MeCl/Toluene	M23 Front Half Rinse, C2, Run 2	PCDDs / PCDFs	
31	M23-FHR-C2-R3	Acetone/MeCl/Toluene	M23 Front Half Rinse, C2, Run 3	PCDDs / PCDFs	
32					
33	M23-BHR-C2-R1	Acetone/MeCl/Toluene	M23 Back Half Rinse, C2, Run 1	PCDDs / PCDFs	
34	M23-BHR-C2-R2	Acetone/MeCl/Toluene	M23 Back Half Rinse, C2, Run 2	PCDDs / PCDFs	
35	M23-BHR-C2-R3	Acetone/MeCl/Toluene	M23 Back Half Rinse, C2, Run 3	PCDDs / PCDFs	
36					
37	M23-FHR/BHR-FB	Acetone/MeCl/Toluene	M23 FH / BH Rinse Field Blank	PCDDs / PCDFs	
38					
39					
40					

Field Notes/ Comments

1. Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)
2. Testing for PCDDs/PCDFs performed during both Condition 1 and Condition 2

Page 1 of 1

Relinquished By (print):	Date:	Relinquished By (print):	Date:	Relinquished By (print):	Date:	Received by Lab (print):	Date:
Douglas R. Roeck	5/12/10						
Signature:	Time:	Signature:	Time:	Signature:	Time:	Signature:	Time:
Douglas R. Roeck	4pm						
Received By (print):	Date:	Received By (print):	Date:	Received By (print):	Date:	Analytical Laboratory Destination:	
Bettina Benedict	5/13/10					Vista Analytical Laboratories, Inc.	
Signature:	Time:	Signature:	Time:	Signature:	Time:	1104 Windfield Way	
Bettina Benedict	1109					El Dorado Hills, CA 95762	
						Attn: Martha Maier, (916)-933-1640	

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32626 TAT Standard

Samples Arrival:	Date/Time 5/13/10 0845	Initials: CBB	Location: WR-2 Shelf/Rack: N/A
Logged In:	Date/Time 5/13/10 1056	Initials: CBB	Location: R1 Shelf/Rack: N/A

Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	None		
Temp °C Ambient	Time: 0853	Thermometer ID: IR-1				

		YES	NO	NA
Adequate Sample Volume Received?		✓		
Holding Time Acceptable?		✓		
Shipping Container(s) Intact?		✓		
Shipping Custody Seals Intact?				✓
Shipping Documentation Present?		✓		
Airbill	Trk # 8587 1385 9401	✓		
Sample Container Intact?		✓		
Sample Custody Seals Intact?		✓		
Chain of Custody / Sample Documentation Present?		✓		
COC Anomaly/Sample Acceptance Form completed?		✓		
If Chlorinated or Drinking Water Samples, Acceptable Preservation?				✓

$Na_2S_2O_3$ Preservation Documented?		COC	Sample Container	None	
Shipping Container	Vista	Client	Retain	Return	Dispose

Comments:

	FHR	BHR	Sample Collection date
M23-C2-R3	↓	↓	5/12/10
C2-R1			5/11/10
C2-R2			5/11/10
FB	FHR/BHR		3/31/10

Sample Login 3/2007 rmh

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32626 TAT Standard

Samples Arrival:	Date/Time 5/13/10 0845	Initials: BSB	Location: WR-2 Shelf/Rack: N/A
Logged In:	Date/Time 5/13/10 1029	Initials: BSB	Location: R1 Shelf/Rack: NA

Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	None		
Temp °C 5.6°	Time: 0855	Thermometer ID: IR-1				

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill Trk # 8587 1386 3323	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?	✓		
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?		COC	Sample Container	None	
Shipping Container	Vista	Client	Retain	Return	Dispose

Comments:

XAD Filter

M23A C2R1
C2R2
C2R3
M23 FB

Sample Login 3/2007 rmh

Vista
Analytical Laboratory

5/13/2010

Vista Project ID: 32626

Mr. Doug Roeck
AECOM, Inc.
2 Technology Park Drive
Westford, MA 01886
USA

Dear Mr. Roeck,

The samples listed in the sample inventory were received by Vista Analytical Laboratory on 5/13/2010.

Please find attached:

- Terms and Conditions (reverse side of letter)
- Sample Inventory Report
- Chain-of-Custody
- Additional sample documentation (if applicable).
- Sample Log-In Checklist

Analytical results are scheduled to be reported to you on: 6/3/2010. All sample containers and their contents will be disposed of 90 days subsequent to issuance of a final report.

If you have any questions regarding the status of the work associated with these samples, please contact me at (916) 673-1520.

Sincerely,

Martha Maier

Martha M. Maier
Laboratory Director

Vista

Section I: Sample Inventory Report

Date Received: 5/13/2010
Project No.: 32626
Project Name: 60149294

Lab. Sample ID	Client Sample ID	Component ID
001	M23-XAD-C2-R1	BHR
		XAD
002	M23-PF-C2-R1	FHR
		FILTER
003	M23-XAD-C2-R2	BHR
		XAD
004	M23-PF-C2-R2	FHR
		FILTER
005	M23-XAD-C2-R3	BHR
		XAD
006	M23-PF-C2-R3	FHR
		FILTER
007	M23-XAD/PF-FB	FHR/BHR
		FILTER
		XAD

Smplnvgnnm5.rpt

EXACT COPY OF ORIGINAL
Init BLD 5/13/10

COPY 1

AECOM

Sample Packing and Traceability List

32626 5.6, Ambient

Site of Program:	Heritage-WTI	Sample Date: 5/11-12/2010	Project Location:	E. Liverpool, OH	P.O. #: 5729ACM
Type of Program:	2010 MACT CPT	Date Shipped: 5/12/2010	Laboratory:	Vista Analytical	[redacted]
Project #:	60149294	Shipper / Doug Roeck /	Test Conditions:	C1 = Condition 1	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce		C2 = Condition 2	
Program Contact:	Doug Roeck	[redacted]	FedEx Air Bill #:	8587 1386 3323	

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
1					
2					
3					
4					
5					
6					
7					
8	M23-XAD-C2-R1	XAD RESIN	XAD Resin Trap, C2, Run 1	PCDDs / PCDFs	
9	M23-PF-C2-R1	FILTER	PM Filter, C2, Run 1	PCDDs / PCDFs	
10	M23-XAD-C2-R2	XAD RESIN	XAD Resin Trap, C2, Run 2	PCDDs / PCDFs	
11	M23-PF-C2-R2	FILTER	PM Filter, C2, Run 2	PCDDs / PCDFs	
12	M23-XAD-C2-R3	XAD RESIN	XAD Resin Trap, C2, Run 3	PCDDs / PCDFs	
13	M23-PF-C2-R3	FILTER	PM Filter, C2, Run 3	PCDDs / PCDFs	
14					
15	M23-XAD-FB	XAD RESIN	XAD Resin Trap, Field Blank	PCDDs / PCDFs	
16	M23-PF-FB	FILTER	PM Filter, Field Blank	PCDDs / PCDFs	
17					
18					
19					
20					

Field Notes/ Comments
1. Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)
2. Testing for PCDDs/PCDFs performed during both Condition 1 and Condition 2

Page 1 of 1

Relinquished By (print): Douglas R. Roeck Date: 5/12/10 Signature: Douglas R Roeck Time: 4 PM	Relinquished By (print): Date: Signature: Time:	Relinquished By (print): Date: Signature: Time:	Received by Lab (print): Date: Signature: Time:
Received By (print): Bettina Benedict Date: 5/13/10 Signature: Bettina Benedict Time: 1108	Received By (print): Date: Signature: Time:	Received By (print): Date: Signature: Time:	Analytical Laboratory Destination: Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Attn: Martha Maier, (916)-933-1640

EXACT COPY OF ORIGINAL
Init RBB 5/13/10

COPY 1

AECOM

Sample Packing and Traceability List

32626

Site of Program:	Heritage-WTI	Sample Date: 5/11-12/10	Project Location:	E. Liverpool, OH	P.O. #: 5729ACM
Type of Program:	2010 MACT CPT	Date Shipped: 5/12/10	Laboratory:	Vista Analytical	
Project #:	60149294	Shipper / Doug Roeck /	Test Conditions:	C1 = Condition 1	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce		C2 = Condition 2	
Program Contact:	Doug Roeck		FedEx Air Bill #:	8587 1385 9401	

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
21					
22					
23					
24					
25					
26					
27					
28					
29	M23-FHR-C2-R1	Acetone/MeCl/Toluene	M23 Front Half Rinse, C2, Run 1	PCDDs / PCDFs	
30	M23-FHR-C2-R2	Acetone/MeCl/Toluene	M23 Front Half Rinse, C2, Run 2	PCDDs / PCDFs	
31	M23-FHR-C2-R3	Acetone/MeCl/Toluene	M23 Front Half Rinse, C2, Run 3	PCDDs / PCDFs	
32					
33	M23-BHR-C2-R1	Acetone/MeCl/Toluene	M23 Back Half Rinse, C2, Run 1	PCDDs / PCDFs	
34	M23-BHR-C2-R2	Acetone/MeCl/Toluene	M23 Back Half Rinse, C2, Run 2	PCDDs / PCDFs	
35	M23-BHR-C2-R3	Acetone/MeCl/Toluene	M23 Back Half Rinse, C2, Run 3	PCDDs / PCDFs	
36					
37	M23-FHR/BHR-FB	Acetone/MeCl/Toluene	M23 FH / BH Rinse Field Blank	PCDDs / PCDFs	
38					
39					
40					

Field Notes/ Comments

1. Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)
2. Testing for PCDDs/PCDFs performed during both Condition 1 and Condition 2

Page 1 of 1

Relinquished By (print): Douglas R. Roeck Date: 5/12/10 Signature: [signature] Time: 4pm	Relinquished By (print): Date: Signature: Time:	Relinquished By (print): Date: Signature: Time:	Received by Lab (print): Date: Signature: Time:
Received By (print): Bettina Benedict Date: 5/13/10 Signature: [signature] Time: 1109	Received By (print): Date: Signature: Time:	Received By (print): Date: Signature: Time:	**Analytical Laboratory Destination:** Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Attn: Martha Maier, (916)-933-1640

EXACT COPY OF ORIGINAL
Init CBLB 5/13/10

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32626 TAT Standard

Samples Arrival:	Date/Time 5/13/10 0845		Initials: CBLB		Location: WR-2 Shelf/Rack: N/A	
Logged In:	Date/Time 5/13/10 1056		Initials: CBLB		Location: R1 Shelf/Rack: N/A	
Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	None		
Temp °C Ambient	Time: 0853		Thermometer ID: IR-1			

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill Trk # 8587 1385 9401	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?	✓		
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?	✓		
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?		COC	Sample Container		None
Shipping Container	Vista	Client	Retain	Return	Dispose

Comments:

	FHR	BHR	Sample Collection date
M23-C2-R3	↓	↓	5/12/10
C2-R1			5/11/10
C2-R2			5/11/10
FB	FHR/BHR		3/31/10

Sample Login 3/2007 rmh

EXACT COPY OF ORIGINAL
Init BSB 5/13/10

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32624 TAT Standard

Samples Arrival:	Date/Time 5/13/10 0845		Initials: BSB		Location: WR-2 Shelf/Rack: N/A	
Logged In:	Date/Time 5/13/10 1029		Initials: BSB		Location: R1 Shelf/Rack: NA	
Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	None		
Temp °C 5.6°	Time: 0855		Thermometer ID: IR-1			

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill Trk # 8587 1386 3323	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?	✓		
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?		COC	Sample Container	None	
Shipping Container	Vista	Client	Retain	Return	Dispose

Comments:

M23A C2R1
C2R2
C2R3
M23 FB

XAD

Filter

Sample Login 3/2007 rmh

Vista
Analytical Laboratory

September 23, 2010

Vista Project I.D.: 32819

Mr. Doug Roeck
AECOM, Inc.
2 Technology Park Drive
Westford, MA 01886

Dear Mr. Roeck,

Enclosed are the results for the four MM5 samples received at Vista Analytical Laboratory on September 17, 2010 under your Project Name "Heritage-WTI", Project No. "60149294". This work was authorized under your Purchase Order No. 5729ACM. These samples were extracted and analyzed using Method 0023A-8290A. The front and back halves of each sample train except the field blank were extracted and analyzed separately. A rush turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Vista's current certifications, and copies of the raw data (if requested).

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com. Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier

Martha M. Maier
Laboratory Director

ACCREDITED IN ACCORDANCE WITH nelac

Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista Analytical Laboratory.

Vista

Section I: Sample Inventory Report

Date Received: 9/17/2010
Project No.: 32819
Project Name: Heritage-WTI

Lab. Sample ID	Client Sample ID	Component ID
001	M23-XAD-C2RT-R1	BHR
		XAD
002	M23-PF-C2RT-R1	FHR
		FILTER
003	M23-XAD-C2RT-R2	BHR
		XAD
004	M23-PF-C2RT-R2	FHR
		FILTER
005	M23-XAD-C2RT-R3	BHR
		XAD
006	M23-PF-C2RT-R3	FHR
		FILTER
007	M23-XAD/PF-FB	FHR/BHR
		FILTER
		XAD

Smpinvgnmm5.rpt

Vista

SECTION II

Method Blank

Method 0023A-8290A

Matrix:	MM5	QC Batch No.:	3301	Lab Sample:	0-MB001
Sample Size:	Sample	Date Extracted:	19-Sep-10	Date Analyzed DB-5:	22-Sep-10
				Date Analyzed DB-225:	NA

Analyte	Conc. (pg/Sample)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	0.972		
1,2,3,7,8-PeCDD	ND	0.743		
1,2,3,4,7,8-HxCDD	ND	0.900		
1,2,3,6,7,8-HxCDD	ND	0.838		
1,2,3,7,8,9-HxCDD	ND	0.799		
1,2,3,4,6,7,8-HpCDD	ND	1.18		
OCDD	1.43			J
2,3,7,8-TCDF	ND	0.474		
1,2,3,7,8-PeCDF	ND	0.617		
2,3,4,7,8-PeCDF	ND	0.609		
1,2,3,4,7,8-HxCDF	ND	0.561		
1,2,3,6,7,8-HxCDF	ND	0.526		
2,3,4,6,7,8-HxCDF	ND	0.598		
1,2,3,7,8,9-HxCDF	ND	0.628		
1,2,3,4,6,7,8-HpCDF	0.711			J
1,2,3,4,7,8,9-HpCDF	ND		0.358	
OCDF	ND		2.02	

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	91.0	40 - 135	
	13C-1,2,3,7,8-PeCDD	77.4	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	91.0	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	97.9	40 - 135	
	13C-OCDD	101	40 - 135	
	13C-2,3,7,8-TCDF	90.3	40 - 135	
	13C-1,2,3,7,8-PeCDF	79.0	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	88.7	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	97.8	40 - 135	
	13C-OCDF	98.2	40 - 135	
PS	37Cl-2,3,7,8-TCDD	96.4	70 - 130	
	13C-2,3,4,7,8-PeCDF	93.9	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	104	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	98.4	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	97.4	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	93.5	40 - 135	

Totals			
Total TCDD	ND	0.529	
Total PeCDD	ND	0.743	
Total HxCDD	ND	0.844	
Total HpCDD	ND	1.18	
Total TCDF	ND	0.474	
Total PeCDF	ND	0.613	
Total HxCDF	ND	0.575	
Total HpCDF	0.711		1.07

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 0.00854 - 2.24

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: Martha M. Maier 23-Sep-2010 14:43

Vista

OPR Results **Method 0023A-8290A**

Matrix:	MM5	QC Batch No.:	3301	Lab Sample:	0-OPR001		
Sample Size:	Sample	Date Extracted:	19-Sep-10	Date Analyzed DB-5:	22-Sep-10	Date Analyzed DB-225:	NA

Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits
2,3,7,8-TCDD	2.50	2.33	1.75 - 3.25
1,2,3,7,8-PeCDD	12.5	12.1	8.75 - 16.25
1,2,3,4,7,8-HxCDD	12.5	12.0	8.75 - 16.25
1,2,3,6,7,8-HxCDD	12.5	11.9	8.75 - 16.25
1,2,3,7,8,9-HxCDD	12.5	12.2	8.75 - 16.25
1,2,3,4,6,7,8-HpCDD	12.5	11.7	8.75 - 16.25
OCDD	25.0	23.0	17.5 - 32.5
2,3,7,8-TCDF	2.50	2.25	1.75 - 3.25
1,2,3,7,8-PeCDF	12.5	12.3	8.75 - 16.25
2,3,4,7,8-PeCDF	12.5	11.5	8.75 - 16.25
1,2,3,4,7,8-HxCDF	12.5	12.9	8.75 - 16.25
1,2,3,6,7,8-HxCDF	12.5	12.8	8.75 - 16.25
2,3,4,6,7,8-HxCDF	12.5	13.5	8.75 - 16.25
1,2,3,7,8,9-HxCDF	12.5	13.1	8.75 - 16.25
1,2,3,4,6,7,8-HpCDF	12.5	12.7	8.75 - 16.25
1,2,3,4,7,8,9-HpCDF	12.5	12.1	8.75 - 16.25
OCDF	25.0	24.3	17.5 - 32.5

	Labeled Standard	%R	LCL-UCL	Qualifier
IS	13C-2,3,7,8-TCDD	92.8	40 - 135	
	13C-1,2,3,7,8-PeCDD	79.1	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	90.1	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	101	40 - 135	
	13C-OCDD	101	40 - 135	
	13C-2,3,7,8-TCDF	90.7	40 - 135	
	13C-1,2,3,7,8-PeCDF	80.3	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	87.5	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	100	40 - 135	
	13C-OCDF	96.0	40 - 135	
AS	13C-1,2,3,7,8,9-HxCDF	93.4	40 - 135	

Analyst: DMS

Approved By: Martha M. Maier 23-Sep-2010 14:43

Sample ID:	M23-XAD-C2RT-R1			Method 0023A-8290A
Client Data		**Sample Data**		**Laboratory Data**
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample: 32819-001 — Date Received: 17-Sep-10
Project:	Heritage-WTI	Sample Size:	1 Sample	QC Batch No.: 3301 — Date Extracted: 19-Sep-10
Date Collected:	15-Sep-10			Date Analyzed DB-5: 22-Sep-10 — Date Analyzed DB-225: NA
Time Collected:	NA			

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND		0.938	
1,2,3,7,8-PeCDD	ND		2.06	
1,2,3,4,7,8-HxCDD	ND		1.58	
1,2,3,6,7,8-HxCDD	3.83			J
1,2,3,7,8,9-HxCDD	ND		1.33	
1,2,3,4,6,7,8-HpCDD	7.49			J
OCDD	11.3			J,B
2,3,7,8-TCDF	3.96			J
1,2,3,7,8-PeCDF	9.96			J
2,3,4,7,8-PeCDF	9.07			J
1,2,3,4,7,8-HxCDF	14.3			J,P
1,2,3,6,7,8-HxCDF	14.2			J,P
2,3,4,6,7,8-HxCDF	6.95			J
1,2,3,7,8,9-HxCDF	0.473			J
1,2,3,4,6,7,8-HpCDF	33.5			J,B
1,2,3,4,7,8,9-HpCDF	1.52			J
OCDF	ND		3.19	

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	92.2	40 - 135	
	13C-1,2,3,7,8-PeCDD	81.4	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	95.0	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	103	40 - 135	
	13C-OCDD	100	40 - 135	
	13C-2,3,7,8-TCDF	92.5	40 - 135	
	13C-1,2,3,7,8-PeCDF	84.1	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	98.2	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	101	40 - 135	
	13C-OCDF	96.2	40 - 135	
PS	37Cl-2,3,7,8-TCDD	80.4	70 - 130	
	13C-2,3,4,7,8-PeCDF	74.0	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	79.1	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	75.2	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	71.5	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	97.6	40 - 135	

Totals			
Total TCDD	135	138	
Total PeCDD	99.7	102	
Total HxCDD	61.9	72.5	
Total HpCDD	16.8		
Total TCDF	263	280	
Total PeCDF	219		P
Total HxCDF	137	138	P
Total HpCDF	44.4		B

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 9.85 - 12.1

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: Martha M. Maier 23-Sep-2010 14:43

Vista

Sample ID: **M23-PF-C2RT-R1** **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32819-002	Date Received:	17-Sep-10
Project:	Heritage-WTI	Sample Size:	1 Sample	QC Batch No.:	3301	Date Extracted:	19-Sep-10
Date Collected:	15-Sep-10			Date Analyzed DB-5:	22-Sep-10	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	0.909		
1,2,3,7,8-PeCDD	ND		1.93	
1,2,3,4,7,8-HxCDD	1.99			J
1,2,3,6,7,8-HxCDD	4.62			J
1,2,3,7,8,9-HxCDD	2.93			J
1,2,3,4,6,7,8-HpCDD	23.0			J
OCDD	34.0			J,B
2,3,7,8-TCDF	1.61			J
1,2,3,7,8-PeCDF	4.95			J
2,3,4,7,8-PeCDF	ND		4.54	
1,2,3,4,7,8-HxCDF	11.0			J,P
1,2,3,6,7,8-HxCDF	11.2			J,P
2,3,4,6,7,8-HxCDF	8.18			J
1,2,3,7,8,9-HxCDF	2.25			J
1,2,3,4,6,7,8-HpCDF	42.1			J,B
1,2,3,4,7,8,9-HpCDF	4.78			J
OCDF	15.1			J

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	92.5	40 - 135	
	13C-1,2,3,7,8-PeCDD	81.4	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	90.4	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	101	40 - 135	
	13C-OCDD	98.6	40 - 135	
	13C-2,3,7,8-TCDF	92.5	40 - 135	
	13C-1,2,3,7,8-PeCDF	84.6	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	92.1	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	99.4	40 - 135	
	13C-OCDF	94.2	40 - 135	
PS	37Cl-2,3,7,8-TCDD	NA	70 - 130	
	13C-2,3,4,7,8-PeCDF	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	NA	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	NA	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	95.6	40 - 135	

Totals			
Total TCDD	36.6	41.4	
Total PeCDD	41.1	65.2	
Total HxCDD	104		
Total HpCDD	46.9		
Total TCDF	47.0	60.9	
Total PeCDF	66.8	73.8	P
Total HxCDF	90.2	91.4	P
Total HpCDF	46.8	62.8	B

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 5.37 - 9.52

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: Martha M. Maier 23-Sep-2010 14:43

Sample ID: M23-XAD-C2RT-R2 **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32819-003	Date Received:	17-Sep-10
Project:	Heritage-WTI	Sample Size:	1 Sample	QC Batch No.:	3301	Date Extracted:	19-Sep-10
Date Collected:	15-Sep-10			Date Analyzed DB-5:	22-Sep-10	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND		1.27	
1,2,3,7,8-PeCDD	ND		2.61	
1,2,3,4,7,8-HxCDD	ND		1.64	
1,2,3,6,7,8-HxCDD	4.57			J
1,2,3,7,8,9-HxCDD	1.81			J
1,2,3,4,6,7,8-HpCDD	10.1			J
OCDD	10.3			J,B
2,3,7,8-TCDF	4.58			J
1,2,3,7,8-PeCDF	13.0			J
2,3,4,7,8-PeCDF	13.2			J
1,2,3,4,7,8-HxCDF	25.0			J
1,2,3,6,7,8-HxCDF	28.5			J
2,3,4,6,7,8-HxCDF	14.2			J
1,2,3,7,8,9-HxCDF	0.837			J
1,2,3,4,6,7,8-HpCDF	88.3			B
1,2,3,4,7,8,9-HpCDF	5.96			J
OCDF	13.0			J

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	90.9	40 - 135	
	13C-1,2,3,7,8-PeCDD	78.6	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	91.3	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	100	40 - 135	
	13C-OCDD	101	40 - 135	
	13C-2,3,7,8-TCDF	90.4	40 - 135	
	13C-1,2,3,7,8-PeCDF	80.8	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	90.6	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	98.8	40 - 135	
	13C-OCDF	95.9	40 - 135	
PS	37Cl-2,3,7,8-TCDD	85.7	70 - 130	
	13C-2,3,4,7,8-PeCDF	80.5	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	84.7	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	82.6	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	74.0	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	94.7	40 - 135	

Totals			
Total TCDD	99.0	115	
Total PeCDD	67.7	105	
Total HxCDD	82.8	85.6	
Total HpCDD	25.3		
Total TCDF	320		
Total PeCDF	298	304	P
Total HxCDF	269	276	
Total HpCDF	128		B

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 16.3 - 19.0

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: Martha M. Maier 23-Sep-2010 14:43

Vista

Sample ID: **M23-PF-C2RT-R2** **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32819-004	Date Received:	17-Sep-10
Project:	Heritage-WTI	Sample Size:	1 Sample	QC Batch No.:	3301	Date Extracted:	19-Sep-10
Date Collected:	15-Sep-10			Date Analyzed DB-5:	22-Sep-10	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	0.718		
1,2,3,7,8-PeCDD	0.953			J
1,2,3,4,7,8-HxCDD	ND		0.810	
1,2,3,6,7,8-HxCDD	ND		1.82	
1,2,3,7,8,9-HxCDD	ND		0.870	
1,2,3,4,6,7,8-HpCDD	8.96			J
OCDD	12.1			J,B
2,3,7,8-TCDF	0.764			J
1,2,3,7,8-PeCDF	ND		1.42	
2,3,4,7,8-PeCDF	ND		1.60	
1,2,3,4,7,8-HxCDF	ND		3.50	
1,2,3,6,7,8-HxCDF	4.32			J
2,3,4,6,7,8-HxCDF	ND		3.00	
1,2,3,7,8,9-HxCDF	ND		0.836	
1,2,3,4,6,7,8-HpCDF	19.7			J,B
1,2,3,4,7,8,9-HpCDF	2.38			J
OCDF	9.74			J

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	88.7	40 - 135	
	13C-1,2,3,7,8-PeCDD	78.1	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	88.6	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	97.4	40 - 135	
	13C-OCDD	96.5	40 - 135	
	13C-2,3,7,8-TCDF	89.9	40 - 135	
	13C-1,2,3,7,8-PeCDF	82.4	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	89.6	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	94.9	40 - 135	
	13C-OCDF	91.0	40 - 135	
PS	37Cl-2,3,7,8-TCDD	NA	70 - 130	
	13C-2,3,4,7,8-PeCDF	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	NA	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	NA	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	92.0	40 - 135	

Totals			
Total TCDD	10.4		
Total PeCDD	15.2	24.4	
Total HxCDD	35.1	38.6	
Total HpCDD	18.2		
Total TCDF	17.0	21.7	
Total PeCDF	18.1	24.3	P
Total HxCDF	24.4	34.7	
Total HpCDF	31.4		B

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 1.32 - 3.99

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: Martha M. Maier 23-Sep-2010 14:43

vista

Sample ID: M23-XAD-C2RT-R3 **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32819-005	Date Received:	17-Sep-10
Project:	Heritage-WTI	Sample Size:	1 Sample	QC Batch No.:	3301	Date Extracted:	19-Sep-10
Date Collected:	16-Sep-10			Date Analyzed DB-5:	22-Sep-10	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	2.09		
1,2,3,7,8-PeCDD	1.95			J
1,2,3,4,7,8-HxCDD	ND		1.01	
1,2,3,6,7,8-HxCDD	3.19			J
1,2,3,7,8,9-HxCDD	1.19			J
1,2,3,4,6,7,8-HpCDD	ND		6.10	
OCDD	ND		8.99	
2,3,7,8-TCDF	3.42			J
1,2,3,7,8-PeCDF	8.15			J
2,3,4,7,8-PeCDF	9.26			J
1,2,3,4,7,8-HxCDF	13.4			J
1,2,3,6,7,8-HxCDF	15.5			J
2,3,4,6,7,8-HxCDF	8.97			J
1,2,3,7,8,9-HxCDF	ND		1.86	
1,2,3,4,6,7,8-HpCDF	51.6			B
1,2,3,4,7,8,9-HpCDF	2.66			J
OCDF	7.81			J

Totals				
Total TCDD	85.9		89.9	
Total PeCDD	67.9		72.3	
Total HxCDD	54.8		55.8	
Total HpCDD	9.71		15.8	
Total TCDF	206		219	
Total PeCDF	177		189	P
Total HxCDF	150		152	
Total HpCDF	73.5			B

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	92.2	40 - 135	
	13C-1,2,3,7,8-PeCDD	79.0	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	93.2	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	101	40 - 135	
	13C-OCDD	101	40 - 135	
	13C-2,3,7,8-TCDF	92.5	40 - 135	
	13C-1,2,3,7,8-PeCDF	82.3	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	95.9	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	98.9	40 - 135	
	13C-OCDF	96.4	40 - 135	
PS	37Cl-2,3,7,8-TCDD	94.7	70 - 130	
	13C-2,3,4,7,8-PeCDF	92.5	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	103	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	95.2	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	99.6	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	95.0	40 - 135	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 11.1 - 13.6

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: Martha M. Maier 23-Sep-2010 14:43

Vista

Sample ID: **M23-PF-C2RT-R3** **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32819-006	Date Received:	17-Sep-10
Project:	Heritage-WTI	Sample Size:	1 Sample	QC Batch No.:	3301	Date Extracted:	19-Sep-10
Date Collected:	16-Sep-10			Date Analyzed DB-5:	22-Sep-10	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	0.526		
1,2,3,7,8-PeCDD	ND	0.867		
1,2,3,4,7,8-HxCDD	ND	1.37		
1,2,3,6,7,8-HxCDD	ND	1.27		
1,2,3,7,8,9-HxCDD	ND	1.21		
1,2,3,4,6,7,8-HpCDD	5.20			J
OCDD	9.79			J,B
2,3,7,8-TCDF	ND		0.450	
1,2,3,7,8-PeCDF	1.39			J
2,3,4,7,8-PeCDF	1.63			J
1,2,3,4,7,8-HxCDF	2.83			J
1,2,3,6,7,8-HxCDF	3.51			J
2,3,4,6,7,8-HxCDF	ND		1.97	
1,2,3,7,8,9-HxCDF	ND	0.950		
1,2,3,4,6,7,8-HpCDF	14.2			J,B
1,2,3,4,7,8,9-HpCDF	1.62			J
OCDF	5.87			J

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	94.8	40 - 135	
	13C-1,2,3,7,8-PeCDD	82.9	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	93.1	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	102	40 - 135	
	13C-OCDD	101	40 - 135	
	13C-2,3,7,8-TCDF	92.2	40 - 135	
	13C-1,2,3,7,8-PeCDF	81.5	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	92.4	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	101	40 - 135	
	13C-OCDF	97.3	40 - 135	
PS	37Cl-2,3,7,8-TCDD	NA	70 - 130	
	13C-2,3,4,7,8-PeCDF	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	NA	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	NA	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	96.5	40 - 135	

Totals			
Total TCDD	3.80	5.08	
Total PeCDD	1.85	8.92	
Total HxCDD	15.7	19.1	
Total HpCDD	5.20	10.8	
Total TCDF	11.0	15.6	
Total PeCDF	15.1	17.6	
Total HxCDF	20.8	23.5	
Total HpCDF	18.8	21.8	B

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 1.74 - 3.43

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: Martha M. Maier 23-Sep-2010 14:43

Vista

Sample ID:	M23-XAD/PF-FB			Method 0023A-8290A
Client Data		**Sample Data**	**Laboratory Data**	
Name:	AECOM, Inc.	Matrix: MM5	Lab Sample: 32819-007	Date Received: 17-Sep-10
Project:	Heritage-WTI	Sample Size: 1 Sample	QC Batch No.: 3301	Date Extracted: 19-Sep-10
Date Collected:	14-Sep-10		Date Analyzed DB-5: 22-Sep-10	Date Analyzed DB-225: NA
Time Collected:	NA			

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	1.14		
1,2,3,7,8-PeCDD	ND	0.684		
1,2,3,4,7,8-HxCDD	ND	1.38		
1,2,3,6,7,8-HxCDD	ND	1.28		
1,2,3,7,8,9-HxCDD	ND	1.22		
1,2,3,4,6,7,8-HpCDD	ND	1.15		
OCDD	1.31			J,B
2,3,7,8-TCDF	ND	0.372		
1,2,3,7,8-PeCDF	ND	0.590		
2,3,4,7,8-PeCDF	ND	0.583		
1,2,3,4,7,8-HxCDF	ND	0.460		
1,2,3,6,7,8-HxCDF	ND	0.431		
2,3,4,6,7,8-HxCDF	ND	0.490		
1,2,3,7,8,9-HxCDF	ND	0.515		
1,2,3,4,6,7,8-HpCDF	ND	0.264		
1,2,3,4,7,8,9-HpCDF	ND	0.302		
OCDF	ND	0.635		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	95.6	40 - 135	
	13C-1,2,3,7,8-PeCDD	88.7	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	97.2	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	104	40 - 135	
	13C-OCDD	102	40 - 135	
	13C-2,3,7,8-TCDF	92.6	40 - 135	
	13C-1,2,3,7,8-PeCDF	88.8	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	96.4	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	101	40 - 135	
	13C-OCDF	97.3	40 - 135	
PS	37Cl-2,3,7,8-TCDD	96.9	70 - 130	
	13C-2,3,4,7,8-PeCDF	93.4	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	99.5	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	97.8	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	100	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	96.2	40 - 135	

Totals		
Total TCDD	ND	0.399
Total PeCDD	ND	0.685
Total HxCDD	ND	1.29
Total HpCDD	ND	1.15
Total TCDF	ND	0.373
Total PeCDF	ND	0.587
Total HxCDF	ND	0.472
Total HpCDF	ND	0.282

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 0.00131 - 2.44

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: Martha M. Maier 23-Sep-2010 14:43

APPENDIX

Vista

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	Dilution
E	The amount detected is above the High Calibration Limit.
P	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
H	Recovery was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Low Calibration Limit.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated detection limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that correspond to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Vista

CERTIFICATIONS

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-2008
State of Arizona	AZ0639
State of Arkansas, DEQ	08-043-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	N/A
State of Connecticut	PH-0182
State of Florida, DEP	E87777
State of Indiana Department of Health	C-CA-02
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA08000
State of Louisiana, DEQ	01977
State of Maine	2008024
State of Michigan	9932
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	NFESC413
State of Nevada	CA004132007A
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-006
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	TN02996
State of Texas	T104704189-08-TX
U.S. Army Corps of Engineers	N/A
State of Utah	CA16400
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q

32819, 3.8°C, ambient

AECOM

Sample Packing and Traceability List

COPY 1

Site of Program:	Heritage-WTI	Sample Date: 9/15-16/2010	Project Location:	E. Liverpool, OH	P.O. #: 5729ACM
Type of Program:	2010 MACT CPT	Date Shipped: 9/16/2010	Laboratory:	Vista Analytical	
Project #:	60149294	Shipper /	Test Conditions:	C2RT = Condition 2 Retest	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce			
Program Contact:	Doug Roeck		FedEx Air Bill #:		

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
1	M23-XAD-C2RT-R1	XAD RESIN	XAD Resin Trap, C2 Retest, Run 1	PCDDs / PCDFs	
2	M23-PF-C2RT-R1	FILTER	PM Filter, C2 Retest, Run 1	PCDDs / PCDFs	
3	M23-XAD-C2RT-R2	XAD RESIN	XAD Resin Trap, C2 Retest, Run 2	PCDDs / PCDFs	
4	M23-PF-C2RT-R2	FILTER	PM Filter, C2 Retest, Run 2	PCDDs / PCDFs	
5	M23-XAD-C2RT-R3	XAD RESIN	XAD Resin Trap, C2 Retest, Run 3	PCDDs / PCDFs	
6	M23-PF-C2RT-R3	FILTER	PM Filter, C2 Retest, Run 3	PCDDs / PCDFs	
7					
8	M23-XAD-FB	XAD RESIN	XAD Resin Trap, Field Blank	PCDDs / PCDFs	
9	M23-PF-FB	FILTER	PM Filter, Field Blank	PCDDs / PCDFs	
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Field Notes/ Comments 1. Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)

Page 1 of 1

Relinquished By (print): Fred Sanguedolce Date: 9/16/2010	Relinquished By (print): Date:	Relinquished By (print): Date:	Received by Lab (print): Date:
Signature: Fred Sanguedolce Time: 13:00	Signature: Time:	Signature: Time:	Signature: Time:
Received By (print): Ronda Burrell Date: 9/17/10	Received By (print): Date:	Received By (print): Date:	Analytical Laboratory Destination: Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Attn: Martha Maler, (916)-933-1640
Signature: Ronda Burrell Time: 1315	Signature: Time:	Signature: Time:	

32819

AECOM

Sample Packing and Traceability List

COPY 1

Site of Program:	Heritage-WTI	**Sample Date:**	**Project Location:**	E. Liverpool, OH	**P.O. #:** 5729ACM
Type of Program:	2010 MACT CPT/	**Date Shipped:**	**Laboratory:**	Vista Analytical	
Project #:	60149294	**Shipper /**	**Test Conditions:**	C2RT = Condition 2	
Program Office:	Westford, MA	**Recovery: Fred Sanguedolce**		Retest	
Program Contact:	Doug Roeck		**FedEx Air Bill #:**		

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
21	**M23-FHR-C2RT-R1**	Acetone/MeCl/Toluene	M23 FH Rinse, C2 Retest, Run 1	PCDDs / PCDFs	
22	**M23-FHR-C2RT-R2**	Acetone/MeCl/Toluene	M23 FH Rinse, C2 Retest, Run 2	PCDDs / PCDFs	
23	**M23-FHR-C2RT-R3**	Acetone/MeCl/Toluene	M23 FH Rinse, C2 Retest, Run 3	PCDDs / PCDFs	
24					
25	**M23-BHR-C2RT-R1**	Acetone/MeCl/Toluene	M23 BH Rinse, C2 Retest, Run 1	PCDDs / PCDFs	
26	**M23-BHR-C2RT-R2**	Acetone/MeCl/Toluene	M23 BH Rinse, C2 Retest, Run 2	PCDDs / PCDFs	
27	**M23-BHR-C2RT-R3**	Acetone/MeCl/Toluene	M23 BH Rinse, C2 Retest, Run 3	PCDDs / PCDFs	
28					
29	**M23-FHR/BHR-FB**	Acetone/MeCl/Toluene	M23 FH / BH Rinse Field Blank	PCDDs / PCDFs	
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					

Field Notes/ Comments **1. Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)**

Page 1 of 1

Relinquished By (print): **Fred Sanguedolce** Date: 9/16/2010	Relinquished By (print): Date:	Relinquished By (print): Date:	Received by Lab (print): Date:
Signature: Fred Sanguedolce Time: 13:00	Signature: Time:	Signature: Time:	Signature: Time:
Received By (print): Ronda Burrell Date: 9/17/10	Received By (print): Date:	Received By (print): Date:	**Analytical Laboratory Destination:** Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Attn: Martha Maier, (916)-933-1640
Signature: Ronda Burrell Time: 1315	Signature: Time:	Signature: Time:	

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32819 TAT not specified

Samples Arrival:	Date/Time 9/17/10 0859	Initials: RB	Location: WR-2 Shelf/Rack: N/A
Logged In:	Date/Time 9/17/10 1322	Initials: RB	Location: R-1 Shelf/Rack: N/A

Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	None		
Temp °C 3.8	Time: 0915	Thermometer ID: IR-1				

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill Trk # 8634 8764 8618	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?	✓		
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	None		
Shipping Container	Vista	Client	Retain	Return	Dispose

Comments:

M23-PF-C2RT-R1
XAD R1
PF R2
XAD R2
PF R3
XAD R3
M23-PF-FB
M23-XAD-FB

EMPTY PETRI DISH X2
2 unused XADs

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32819 TAT not specified

Samples Arrival:	Date/Time 9/17/10 0859	Initials: RB	Location: WR-2 Shelf/Rack: N/A
Logged In:	Date/Time 9/17/10 1322	Initials: RB	Location: ~~W~~ R-1 RB 9/17/10 Shelf/Rack: N/A

Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	None		
Temp °C Ambient	Time: 0910	Thermometer ID: IR-1				

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill Trk # 8634 8764 8630	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?	✓		
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	None		
Shipping Container	Vista	Client	Retain	Return	Dispose

Comments:

Sample ID			Date
M23-FHR-C2RT-R1			9/15/10
M23-BHR-C2RT-R1			
	FHR	R2	
	BHR	R2	
	FHR	R3	9/16/10
	BHR	R3	
~~M23~~ RB 9/17/10	M23-FHR/BHR-FB		9/14/10

Vista
Analytical Laboratory

September 9, 2010

Mr. Fred Sanguedolce, Jr.
AECOM Air Lab
325 Ayer Road
Harvard, MA 01451

Dear Mr. Sanguedolce,

Enclosed are six cleaned and pre-spiked XAD cartridges. Each cartridge has been prepared for the analysis of polychlorinated dioxins/furans (PCDDs/PCDFs) by EPA Method 0023A using HRMS. Also enclosed are six cleaned 90mm glass fiber filters and six cleaned petri dish sets.

If you have any questions regarding the enclosed items, please do not hesitate to contact me at (916)673-1520 or fbishop@vista-analytical.com.

Sincerely,

Francie Bishop
Scientist
Vista Analytical Laboratory, Inc.

Vista
Analytical Laboratory

9/17/2010

Vista Project ID: 32819

Mr. Doug Roeck
AECOM, Inc.
2 Technology Park Drive
Westford, MA 01886
USA

Dear Mr. Roeck,

The samples listed in the sample inventory were received by Vista Analytical Laboratory on 9/17/2010.

Please find attached:

- Terms and Conditions (reverse side of letter)
- Sample Inventory Report
- Chain-of-Custody
- Additional sample documentation (if applicable).
- Sample Log-In Checklist

Analytical results are scheduled to be reported to you on: 10/8/2010. All sample containers and their contents will be disposed of 90 days subsequent to issuance of a final report.

If you have any questions regarding the status of the work associated with these samples, please contact me at (916) 673-1520.

Sincerely,

RM Hanneson for

Martha M. Maier
Laboratory Director

Vista

Section I: Sample Inventory Report

Date Received: 9/17/2010
Project No.: 32819
Project Name: 60149294

Lab. Sample ID	Client Sample ID	Component ID
001	M23-XAD-C2RT-R1	BHR
		XAD
002	M23-PF-C2RT-R1	FHR
		FILTER
003	M23-XAD-C2RT-R2	BHR
		XAD
004	M23-PF-C2RT-R2	FHR
		FILTER
005	M23-XAD-C2RT-R3	BHR
		XAD
006	M23-PF-C2RT-R3	FHR
		FILTER
007	M23-XAD/PF-FB	FHR/BHR
		FILTER
		XAD

Smpinvgmm5.rpt

EXACT COPY OF ORIGINAL
Init RB 9/17/10

32819, 3.8°C, ambient

AECOM

Sample Packing and Traceability List

COPY 1

Site of Program:	Heritage-WTI	Sample Date: 9/15-16/2010		Project Location:	E. Liverpool, OH	P.O. #:	5729ACM
Type of Program:	2010 MACT CPT	Date Shipped: 9/16/2010		Laboratory:	Vista Analytical		
Project #:	60149294	Shipper / Recovery: Fred Sanguedolce		Test Conditions:	C2RT = Condition 2 Retest		
Program Office:	Westford, MA						
Program Contact:	Doug Roeck			FedEx Air Bill #:			

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
1	M23-XAD-C2RT-R1	XAD RESIN	XAD Resin Trap, C2 Retest, Run 1	PCDDs / PCDFs	
2	M23-PF-C2RT-R1	FILTER	PM Filter, C2 Retest, Run 1	PCDDs / PCDFs	
3	M23-XAD-C2RT-R2	XAD RESIN	XAD Resin Trap, C2 Retest, Run 2	PCDDs / PCDFs	
4	M23-PF-C2RT-R2	FILTER	PM Filter, C2 Retest, Run 2	PCDDs / PCDFs	
5	M23-XAD-C2RT-R3	XAD RESIN	XAD Resin Trap, C2 Retest, Run 3	PCDDs / PCDFs	
6	M23-PF-C2RT-R3	FILTER	PM Filter, C2 Retest, Run 3	PCDDs / PCDFs	
7					
8	M23-XAD-FB	XAD RESIN	XAD Resin Trap, Field Blank	PCDDs / PCDFs	
9	M23-PF-FB	FILTER	PM Filter, Field Blank	PCDDs / PCDFs	
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Field Notes/ Comments 1. Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)

Page 1 of 1

Relinquished By (print): Fred Sanguedolce Date: 9/16/2010 Signature: Fred Sanguedolce Time: 13:00	Relinquished By (print): Date: Signature: Time:	Relinquished By (print): Date: Signature: Time:	Received by Lab (print): Date: Signature: Time:
Received By (print): Ronda Burrell Date: 9/17/10 Signature: Ronda Burrell Time: 1315	Received By (print): Date: Signature: Time:	Received By (print): Date: Signature: Time:	Analytical Laboratory Destination: Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Attn: Martha Maier, (916)-933-1640

EXACT COPY OF ORIGINAL
Init RB 9/17/10

32819

AECOM

Sample Packing and Traceability List

COPY 1

Site of Program:	Heritage-WTI	Sample Date:		Project Location:	E. Liverpool, OH	P.O. #:	5729ACM
Type of Program:	2010 MACT CPT	Date Shipped:		Laboratory:	Vista Analytical		
Project #:	60149294	Shipper /		Test Conditions:	C2RT = Condition 2		
Program Office:	Westford, MA	Recovery: Fred Sanguedolce			Retest		
Program Contact:	Doug Roeck			FedEx Air Bill #:			

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
21	M23-FHR-C2RT-R1	Acetone/MeCl/Toluene	M23 FH Rinse, C2 Retest, Run 1	PCDDs / PCDFs	
22	M23-FHR-C2RT-R2	Acetone/MeCl/Toluene	M23 FH Rinse, C2 Retest, Run 2	PCDDs / PCDFs	
23	M23-FHR-C2RT-R3	Acetone/MeCl/Toluene	M23 FH Rinse, C2 Retest, Run 3	PCDDs / PCDFs	
24					
25	M23-BHR-C2RT-R1	Acetone/MeCl/Toluene	M23 BH Rinse, C2 Retest, Run 1	PCDDs / PCDFs	
26	M23-BHR-C2RT-R2	Acetone/MeCl/Toluene	M23 BH Rinse, C2 Retest, Run 2	PCDDs / PCDFs	
27	M23-BHR-C2RT-R3	Acetone/MeCl/Toluene	M23 BH Rinse, C2 Retest, Run 3	PCDDs / PCDFs	
28					
29	M23-FHR/BHR-FB	Acetone/MeCl/Toluene	M23 FH / BH Rinse Field Blank	PCDDs / PCDFs	
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					

Field Notes/ Comments 1. Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)

Page 1 of 1

Relinquished By (print): Fred Sanguedolce	Date: 9/16/2010	Relinquished By (print):	Date:	Relinquished By (print):	Date:	Received by Lab (print):	Date:
Signature: Fred Sanguedolce	Time: 13:00	Signature:	Time:	Signature:	Time:	Signature:	Time:
Received By (print): Ronda Burrell	Date: 9/17/10	Received By (print):	Date:	Received By (print):	Date:	Analytical Laboratory Destination: Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Attn: Martha Maier, (916)-933-1640	
Signature: Ronda Burrell	Time: 1315	Signature:	Time:	Signature:	Time:		

EXACT COPY OF ORIGINAL
Init RB 9/17/10

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32819 TAT not specified

Samples Arrival:	Date/Time 9/17/10 0859		Initials: RB		Location: WR-2 Shelf/Rack: N/A	
Logged In:	Date/Time 9/17/10 1322		Initials: RB		Location: R-1 Shelf/Rack: N/A	
Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	None		
Temp °C 3.8	Time: 0915			Thermometer ID: IR-1		

		YES	NO	NA
Adequate Sample Volume Received?		✓		
Holding Time Acceptable?		✓		
Shipping Container(s) Intact?		✓		
Shipping Custody Seals Intact?				✓
Shipping Documentation Present?		✓		
Airbill	Trk # 8634 8764 8618	✓		
Sample Container Intact?		✓		
Sample Custody Seals Intact?		✓		
Chain of Custody / Sample Documentation Present?		✓		
COC Anomaly/Sample Acceptance Form completed?			✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?				✓

$Na_2S_2O_3$ Preservation Documented?		COC	Sample Container	None	
Shipping Container	Vista	Client	Retain	Return	Dispose

Comments:

M23-PF-C2RT-R1
XAD R1
PF R2
XAD R2
PF R3
XAD R3
M23-PF-FB
M23-XAD-FB

EMPTY PETRI DISH X2
2 unused XADs

Sample Login 3/2007 rmh

EXACT COPY OF ORIGINAL
Init RB 9/17/10

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32819 TAT not specified

Samples Arrival:	Date/Time 9/17/10 0859	Initials: RB	Location: WR-2 Shelf/Rack: N/A
Logged In:	Date/Time 9/17/10 1322	Initials: RB	Location: ~~W~~ R-1 RB 9/17/10 Shelf/Rack: N/A

Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	None		
Temp °C Ambient	Time: 0910	Thermometer ID: IR-1				

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill Trk # 8634 8764 8630	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?	✓		
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	None		
Shipping Container	Vista	Client	Retain	Return	Dispose

Comments:

Sample ID	date
M23-FHR-C2RT-R1	9/15/10
M23-BHR-C2RT-R1	
FHR R2	
BHR R2	
FHR R3	9/16/10
BHR R3	
~~M23~~ M23-FHR/BHR-FB RB 9/17/10	9/14/10

Sample Login 3/2007 rmh

VOST Analysis for Monochlorobenzene (Air Toxics, Ltd.)

Air Toxics LTD.
Laboratory Services Since 1989

4/15/2010
Mr. Doug Roeck
AECOM Environment
2 Technology Drive

Westford MA 01886-3140

Project Name: Heritage-WTI
Project #: 60149294
Workorder #: 1004052A

Dear Mr. Doug Roeck

The following report includes the data for the above referenced project for sample(s) received on 4/2/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Modified VOST 5041A/8260B are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

A Scott

Ausha Scott
Project Manager

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 .FAX (916) 985-1020
Hours 6:30 A.M to 5:30 PST

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1004052A

Work Order Summary

CLIENT:	Mr. Doug Roeck AECOM Environment 2 Technology Drive Westford, MA 01886-3140	**BILL TO:**	Accounts Payable AECOM Environment 2 Technology Drive Westford, MA 01886-3140
PHONE:	978-589-3000	**P.O. #**	5724ACM
FAX:	978-589-3100	**PROJECT #**	60149294 Heritage-WTI
DATE RECEIVED:	04/02/2010	**CONTACT:**	Ausha Scott
DATE COMPLETED:	04/15/2010		

FRACTION #	NAME	TEST
01A	VOST-TX-C1-R1A	Modified VOST 5041A/8260B
01B	VOST-TX/C-C1-R1A	Modified VOST 5041A/8260B
02AB	VOST-TX-C1-R1B/VOST-TX/C-C1-R1B	Modified VOST 5041A/8260B
03A(on hold)	VOST-TX-C1-R1C	Modified VOST 5041A/8260B
03B(on hold)	VOST-TX/C-C1-R1C	Modified VOST 5041A/8260B
04AB	VOST-TX-C1-R1D/VOST-TX/C-C1-R1D	Modified VOST 5041A/8260B
05A	VOST-COND-C1-R1	Modified VOST 5041A/8260B
06A	VOST-TX-C1-R2A	Modified VOST 5041A/8260B
06B	VOST-TX/C-C1-2A	Modified VOST 5041A/8260B
07AB	VOST-TX-C1-R2B/VOST-TX/C-C1-R2B	Modified VOST 5041A/8260B
08A(on hold)	VOST-TX-C1-R2C	Modified VOST 5041A/8260B
08B(on hold)	VOST-TX/C-C1-R2C	Modified VOST 5041A/8260B
09AB	VOST-TX-C1-R2D/VOST-TX/C-C1-R2D	Modified VOST 5041A/8260B
10A	VOST-COND-C1-R2	Modified VOST 5041A/8260B
11A	Lab Blank	Modified VOST 5041A/8260B
11B	Lab Blank	Modified VOST 5041A/8260B
12A	LCS	Modified VOST 5041A/8260B

Continued on next page

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1004052A

Work Order Summary

CLIENT:	Mr. Doug Roeck AECOM Environment 2 Technology Drive Westford, MA 01886-3140	**BILL TO:**	Accounts Payable AECOM Environment 2 Technology Drive Westford, MA 01886-3140
PHONE:	978-589-3000	**P.O. #**	5724ACM
FAX:	978-589-3100	**PROJECT #**	60149294 Heritage-WTI
DATE RECEIVED:	04/02/2010	**CONTACT:**	Ausha Scott
DATE COMPLETED:	04/15/2010		

FRACTION #	NAME	TEST
12B	LCS	Modified VOST 5041A/8260B

CERTIFIED BY: Linda J. Freeman DATE: 04/15/10

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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

LABORATORY NARRATIVE
VOST 5041A
AECOM Environment
Workorder# 1004052A

Fifteen VOST Tube and two VOA Vial-40 mL samples were received on April 02, 2010. The laboratory performed the analysis via EPA SW-846 Method 5041A using GC/MS in the full scan mode. VOST sorbent tubes are thermally desorbed at 180 degrees centrigrade for ten minutes by UHP helium carrier gas. The gas stream is then bubbled through 5 mL of organic free water and trapped on the sorbent trap of the purge and trap system. The trap is thermally desorbed to elute the components into the GC/MS system for further separation. See the data sheets for the reporting limits for each compound.

Requirement	*VOST 5041A*	*ATL Modifications*
Batch Certification	Blanks from the same media as samples	Analysis of set of cartridges prior to onset of any project; Sampling media provided by the client is batch certified ahead of time, only if client provides blank cartridges.
Method blank	Cartridges from the same media batches as the samples	Media batch is certified prior to use in the field. Method Blank is used to certify instrument is contaminant free
Connection between cartridge thermal desorption apparatus & sample purge vessel	PTFE 1/16" Teflon tubing	Heated, 1/16" silica lined stainless steel tubing
Calibration Criteria for non-CCCs	RSD +- 15 % for all non-CCCs	RSD </= 30 % for some compounds: Acetone, Bromoform, Vinyl Acetate, Bromomethane, Chloromethane, 1,1,2,2-Tetracholoroethane, & 1,2,3-Trichloropropane

Receiving Notes

The temperature blank received with the shipment was outside acceptance criteria of 4±2 °C at 13C . Analysis proceeded.

Sample collection date was not provided on the Chain of Custody (COC) for all samples. The sampling dates were taken from the tags.

Samples VOST-TX-C1-R1C, VOST-TX/C-C1-R1C, VOST-TX-C1-R2C and VOST-TX/C-C1-R2C were placed on hold per the client's request.

Analytical Notes

The recovery of surrogate 4-Bromofluorobenzene in samples VOST-TX/C-C1-R2~~C~~ A DRR and VOST-TX-C1-R2D/VOST-TX/C-C1-R2D was outside control limits due. It is not possible to re-run to confirm matrix or dilute for matrix using sorbent tube media. Data is reported as qualified.

Lab Blank for each analytical batch was analyzed from the same batch used for sampling media.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank or tube certification greater than reporting limit (background

subtraction not performed).
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.
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

Air Toxics Ltd.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED VOST 5041A/8260B

Client Sample ID: VOST-TX-C1-R1A

Lab ID#: 1004052A-01A

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	84

Client Sample ID: VOST-TX/C-C1-R1A

Lab ID#: 1004052A-01B

No Detections Were Found.

Client Sample ID: VOST-TX-C1-R1B/VOST-TX/C-C1-R1B

Lab ID#: 1004052A-02AB

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	140

Client Sample ID: VOST-TX-C1-R1D/VOST-TX/C-C1-R1D

Lab ID#: 1004052A-04AB

No Detections Were Found.

Client Sample ID: VOST-COND-C1-R1

Lab ID#: 1004052A-05A

No Detections Were Found.

Client Sample ID: VOST-TX-C1-R2A

Lab ID#: 1004052A-06A

No Detections Were Found.

Client Sample ID: VOST-TX/C-C1-2A

Lab ID#: 1004052A-06B

No Detections Were Found.

Client Sample ID: VOST-TX-C1-R2B/VOST-TX/C-C1-R2B

Lab ID#: 1004052A-07AB

Compound	Rpt. Limit (ng)	Amount (ng)

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED VOST 5041A/8260B

Client Sample ID: VOST-TX-C1-R2B/VOST-TX/C-C1-R2B

Lab ID#: 1004052A-07AB

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	12

Client Sample ID: VOST-TX-C1-R2D/VOST-TX/C-C1-R2D

Lab ID#: 1004052A-09AB

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	13

Client Sample ID: VOST-COND-C1-R2

Lab ID#: 1004052A-10A

No Detections Were Found.

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX-C1-R1A

Lab ID#: 1004052A-01A

MODIFIED VOST 5041A/8260B

File Name:	4041324	Date of Collection:	3/31/10
Dil. Factor:	1.00	Date of Analysis:	4/13/10 07:14 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	84

Container Type: VOST Tube

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
4-Bromofluorobenzene	95	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX/C-C1-R1A

Lab ID#: 1004052A-01B

MODIFIED VOST 5041A/8260B

File Name:	**4041323**	**Date of Collection: 3/31/10**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/13/10 06:40 PM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	Not Detected

Container Type: VOST Tube

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
4-Bromofluorobenzene	103	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX-C1-R1B/VOST-TX/C-C1-R1B

Lab ID#: 1004052A-02AB

MODIFIED VOST 5041A/8260B

File Name:	4041325	Date of Collection:	3/31/10
Dil. Factor:	1.00	Date of Analysis:	4/13/10 07:45 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	140

Container Type: VOST Tube

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX-C1-R1D/VOST-TX/C-C1-R1D

Lab ID#: 1004052A-04AB

MODIFIED VOST 5041A/8260B

File Name:	4041326	Date of Collection:	3/31/10
Dil. Factor:	1.00	Date of Analysis:	4/13/10 09:21 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	Not Detected

Container Type: VOST Tube

Surrogates	%Recovery	Method Limits
Toluene-d8	114	70-130
4-Bromofluorobenzene	116	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-COND-C1-R1

Lab ID#: 1004052A-05A

MODIFIED VOST 5041A/8260B

File Name:	4040619	Date of Collection:	3/31/10
Dil. Factor:	1.00	Date of Analysis:	4/6/10 04:46 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	80	Not Detected

Container Type: VOA Vial-40 mL

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
4-Bromofluorobenzene	104	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX-C1-R2A

Lab ID#: 1004052A-06A

MODIFIED VOST 5041A/8260B

File Name:	4041328	Date of Collection:	4/1/10
Dil. Factor:	1.00	Date of Analysis:	4/13/10 10:25 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	Not Detected

Container Type: VOST Tube

Surrogates	%Recovery	Method Limits
Toluene-d8	91	70-130
4-Bromofluorobenzene	93	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX/C-C1-2A

Lab ID#: 1004052A-06B

MODIFIED VOST 5041A/8260B

File Name:	**4041327**	**Date of Collection:**	**4/1/10**
Dil. Factor:	**1.00**	**Date of Analysis:**	**4/13/10 09:51 PM**

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	Not Detected

Q = Exceeds Quality Control limits.

Container Type: VOST Tube

Surrogates	%Recovery	Method Limits
Toluene-d8	120	70-130
4-Bromofluorobenzene	132 Q	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX-C1-R2B/VOST-TX/C-C1-R2B

Lab ID#: 1004052A-07AB

MODIFIED VOST 5041A/8260B

File Name:	4041329	Date of Collection:	4/1/10
Dil. Factor:	1.00	Date of Analysis:	4/13/10 10:59 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	12

Container Type: VOST Tube

Surrogates	%Recovery	Method Limits
Toluene-d8	90	70-130
4-Bromofluorobenzene	125	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX-C1-R2D/VOST-TX/C-C1-R2D

Lab ID#: 1004052A-09AB

MODIFIED VOST 5041A/8260B

File Name:	**4041330**	**Date of Collection:**	**4/1/10**
Dil. Factor:	**1.00**	**Date of Analysis:**	**4/13/10 11:56 PM**

Compound	**Rpt. Limit (ng)**	**Amount (ng)**
Chlorobenzene	10	13

Q = Exceeds Quality Control limits.

Container Type: VOST Tube

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	104	70-130
4-Bromofluorobenzene	132 Q	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-COND-C1-R2

Lab ID#: 1004052A-10A

MODIFIED VOST 5041A/8260B

File Name:	4040618	Date of Collection:	4/1/10
Dil. Factor:	1.00	Date of Analysis:	4/6/10 04:19 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	80	Not Detected

Container Type: VOA Vial-40 mL

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1004052A-11A

MODIFIED VOST 5041A/8260B

File Name:	**4040615**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/6/10 02:42 PM**	

Compound	**Rpt. Limit (ng)**	**Amount (ng)**
Chlorobenzene	80	Not Detected

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	97	70-130
4-Bromofluorobenzene	96	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1004052A-11B

MODIFIED VOST 5041A/8260B

File Name:	4041322	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 4/13/10 05:58 PM	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
4-Bromofluorobenzene	95	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS
Lab ID#: 1004052A-12A
MODIFIED VOST 5041A/8260B

File Name:	4040614	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/6/10 02:08 PM

Compound	%Recovery
Chlorobenzene	105

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1004052A-12B

MODIFIED VOST 5041A/8260B

File Name:	4041321a	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 4/13/10 05:31 PM	

Compound	%Recovery
Chlorobenzene	92

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130

1004052

AECOM

Sample Packing and Traceability List

COPY 1

Site of Program:	Heritage-WTI	Sample Date:	Project Location:	E. Liverpool, OH	P.O. #: 5724ACM
Type of Program:	2010 MACT CPT	Date Shipped:	Laboratory:	Air Toxics, Ltd.	
Project #:	60149294	Shipper / Doug Roeck /	Test Conditions:	C1 – Condition 1	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce		C2 = Condition 2	
Program Contact:	Doug Roeck		FedEx Air Bill #:		

	Item	Sample ID Code	Sample Matrix	Sample Description	Analytical Parameters	Special Instructions
01A	1	VOST-TX-C1-R1A	Culture Tube	Tenax, Pair A, C1, Run 1	MCB	Analyze Individually
02A	2	VOST-TX/C-C1-R1A	Culture Tube	Tenax/Char, Pair A, C1, Run 1	MCB	Analyze Individually
03AB	3	VOST-TX-C1-R1B	Culture Tube	Tenax, Pair B, C1, Run 1	MCB	Codesorption
	4	VOST-TX/C-C1-R1B	Culture Tube	Tenax/Char, Pair B, C1, Run 1	MCB	Codesorption
05A	5	VOST-TX-C1-R1C	Culture Tube	Tenax, Pair C, C1, Run 1	MCB	Hold
06B	6	VOST-TX/C-C1-R1C	Culture Tube	Tenax/Char, Pair C, C1, Run 1	MCB	Hold
07AB	7	VOST-TX-C1-R1D	Culture Tube	Tenax, Pair D, C1, Run 1	MCB	Codesorption
	8	VOST-TX/C-C1-R1D	Culture Tube	Tenax/Char, Pair D, C1, Run 1	MCB	Codesorption
09A	9	VOST-COND-C1-R1	Water	Condensate C1, Run 1	MCB	
	10					
06A	11	VOST-TX-C1-R2A	Culture Tube	Tenax, Pair A, C1, Run 2	MCB	Analyze Individually
06B	12	VOST-TX/C-C1-R2A	Culture Tube	Tenax/Char, Pair A, C1, Run 2	MCB	Analyze Individually
07AB	13	VOST-TX-C1-R2B	Culture Tube	Tenax, Pair B, C1, Run 2	MCB	Codesorption
	14	VOST-TX/C-C1-R2B	Culture Tube	Tenax/Char, Pair B, C1, Run 2	MCB	Codesorption
08A	15	VOST-TX-C1-R2C	Culture Tube	Tenax, Pair C, C1, Run 2	MCB	Hold
08B	16	VOST-TX/C-C1-R2C	Culture Tube	Tenax/Char, Pair C, C1, Run 2	MCB	Hold
09AB	17	VOST-TX-C1-R2D	Culture Tube	Tenax, Pair D, C1, Run 2	MCB	Codesorption
	18	VOST-TX/C-C1-R2D	Culture Tube	Tenax/Char, Pair D, C1, Run 2	MCB	Codesorption
10A	19	VOST-COND-C1-R2	Water	Condensate, C1, Run 2	MCB	
	20					

Field Notes/ Comments

1. Analyze VOST tube pairs A, B and D. Hold Pair C and analyze only if necessary.
2. VOST sampling being done during Condition 1 only.
3. MCB = monochlorobenzene

Page 1 of 2

Relinquished By (print): Douglas R. Roeck Signature: Douglas R Roeck Date: 4-1-10 Time: 1600	Relinquished By (print): Signature: Date: CUSTODY SEAL INTACT? Y NONE TEMP 5°C	Relinquished By (print): Signature: Date: Time:	Received by Lab (print): Signature Date: Time:
Received By (print): Monica Greene Signature: ATL 4/2/10 Date: Time: 910	Received By (print): FedEx Signature: Time:	Received By (print) Signature: Date: Time:	Analytical Laboratory/ Destination: Air Toxics, Ltd. 180 Blue Ravine Road, Suite 3 Folsom, CA 95630 Attn: Bryanna Langley, (800)-985-5955

Air Toxics LTD.
Laboratory Services Since 1989

4/15/2010
Mr. Doug Roeck
AECOM Environment
2 Technology Drive

Westford MA 01886-3140

Project Name: Heritage-WTI
Project #: 60149294
Workorder #: 1004052B

Dear Mr. Doug Roeck

The following report includes the data for the above referenced project for sample(s) received on 4/2/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Modified VOST 5041A/8260B are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

A Scott

Ausha Scott
Project Manager

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 .FAX (916) 985-1020
Hours 6:30 A.M to 5:30 PST

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1004052B

Work Order Summary

CLIENT:	Mr. Doug Roeck AECOM Environment 2 Technology Drive Westford, MA 01886-3140	**BILL TO:**	Accounts Payable AECOM Environment 2 Technology Drive Westford, MA 01886-3140
PHONE:	978-589-3000	**P.O. #**	5724ACM
FAX:	978-589-3100	**PROJECT #**	60149294 Heritage-WTI
DATE RECEIVED:	04/02/2010	**CONTACT:**	Ausha Scott
DATE COMPLETED:	04/15/2010		

FRACTION #	NAME	TEST
11A	VOST-TX-C1-R3A	Modified VOST 5041A/8260B
11B	VOST-TX/C-C1-R3A	Modified VOST 5041A/8260B
12AB	VOST-TX-C1-R3B/VOST-TX/C-C1-R3B	Modified VOST 5041A/8260B
13A(on hold)	VOST-TX-C1-R3C	Modified VOST 5041A/8260B
13B(on hold)	VOST-TX/C-C1-R3C	Modified VOST 5041A/8260B
14AB	VOST-TX-C1-R3D/VOST-TX/C-C1-R3D	Modified VOST 5041A/8260B
15A	VOST-COND-C1-R3	Modified VOST 5041A/8260B
16A	VOST-COND-FB	Modified VOST 5041A/8260B
17AB	VOST-TX-FB # 1/VOST-TX/C-FB # 1	Modified VOST 5041A/8260B
18AB	VOST-TX-FB # 2/VOST-TX/C-FB #2	Modified VOST 5041A/8260B
19AB	VOST-TX-TB # 1/VOST-TX/C-TB # 1	Modified VOST 5041A/8260B
20A	Lab Blank	Modified VOST 5041A/8260B
20B	Lab Blank	Modified VOST 5041A/8260B
21A	LCS	Modified VOST 5041A/8260B
21B	LCS	Modified VOST 5041A/8260B

CERTIFIED BY: Linda L. Frumar DATE: 04/15/10

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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

LABORATORY NARRATIVE
VOST 5041A
AECOM Environment
Workorder# 1004052B

Fourteen VOST Tube and two VOA Vial-40 mL samples were received on April 02, 2010. The laboratory performed the analysis via EPA SW-846 Method 5041A using GC/MS in the full scan mode. VOST sorbent tubes are thermally desorbed at 180 degrees centrigrade for ten minutes by UHP helium carrier gas. The gas stream is then bubbled through 5 mL of organic free water and trapped on the sorbent trap of the purge and trap system. The trap is thermally desorbed to elute the components into the GC/MS system for further separation. See the data sheets for the reporting limits for each compound.

Requirement	*VOST 5041A*	*ATL Modifications*
Batch Certification	Blanks from the same media as samples	Analysis of set of cartridges prior to onset of any project; Sampling media provided by the client is batch certified ahead of time, only if client provides blank cartridges.
Method blank	Cartridges from the same media batches as the samples	Media batch is certified prior to use in the field. Method Blank is used to certify instrument is contaminant free
Connection between cartridge thermal desorption apparatus & sample purge vessel	PTFE 1/16" Teflon tubing	Heated, 1/16" silica lined stainless steel tubing
Calibration Criteria for non-CCCs	RSD +- 15 % for all non-CCCs	RSD </= 30 % for some compounds: Acetone, Bromoform, Vinyl Acetate, Bromomethane, Chloromethane, 1,1,2,2-Tetracholoroethane, & 1,2,3-Trichloropropane

Receiving Notes

VOST-TX-C1-R3C and VOST-TX/C-C1-R3C were placed on hold per the client's request.

The temperature blank received with the shipment was outside acceptance criteria of 4±2 °C at 13C. Analysis proceeded.

Sample collection date was not provided on the Chain of Custody (COC) for all samples. The sampling dates were taken from the tags.

Analytical Notes

Lab Blank for each analytical batch was analyzed from the same batch used for sampling media.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank or tube certification greater than reporting limit (background subtraction not performed).

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.
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

Air Toxics Ltd.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED VOST 5041A/8260B

Client Sample ID: VOST-TX-C1-R3A

Lab ID#: 1004052B-11A
No Detections Were Found.

Client Sample ID: VOST-TX/C-C1-R3A

Lab ID#: 1004052B-11B
No Detections Were Found.

Client Sample ID: VOST-TX-C1-R3B/VOST-TX/C-C1-R3B

Lab ID#: 1004052B-12AB
No Detections Were Found.

Client Sample ID: VOST-TX-C1-R3D/VOST-TX/C-C1-R3D

Lab ID#: 1004052B-14AB
No Detections Were Found.

Client Sample ID: VOST-COND-C1-R3

Lab ID#: 1004052B-15A
No Detections Were Found.

Client Sample ID: VOST-COND-FB

Lab ID#: 1004052B-16A
No Detections Were Found.

Client Sample ID: VOST-TX-FB # 1/VOST-TX/C-FB # 1

Lab ID#: 1004052B-17AB
No Detections Were Found.

Client Sample ID: VOST-TX-FB # 2/VOST-TX/C-FB #2

Lab ID#: 1004052B-18AB
No Detections Were Found.

Client Sample ID: VOST-TX-TB # 1/VOST-TX/C-TB # 1

Lab ID#: 1004052B-19AB
No Detections Were Found.

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX-C1-R3A

Lab ID#: 1004052B-11A

MODIFIED VOST 5041A/8260B

File Name:	**4041421**	**Date of Collection:**	**4/1/10**
Dil. Factor:	**1.00**	**Date of Analysis:**	**4/14/10 08:28 PM**

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	Not Detected

Container Type: VOST Tube

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
4-Bromofluorobenzene	110	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX/C-C1-R3A

Lab ID#: 1004052B-11B

MODIFIED VOST 5041A/8260B

File Name:	4041420	Date of Collection:	4/1/10
Dil. Factor:	1.00	Date of Analysis:	4/14/10 07:55 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	Not Detected

Container Type: VOST Tube

Surrogates	%Recovery	Method Limits
Toluene-d8	87	70-130
4-Bromofluorobenzene	96	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX-C1-R3B/VOST-TX/C-C1-R3B

Lab ID#: 1004052B-12AB

MODIFIED VOST 5041A/8260B

File Name:	4041422	Date of Collection:	4/1/10
Dil. Factor:	1.00	Date of Analysis:	4/14/10 09:10 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	Not Detected

Container Type: VOST Tube

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
4-Bromofluorobenzene	107	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX-C1-R3D/VOST-TX/C-C1-R3D

Lab ID#: 1004052B-14AB

MODIFIED VOST 5041A/8260B

File Name:	4041423	Date of Collection:	4/1/10
Dil. Factor:	1.00	Date of Analysis:	4/14/10 09:34 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	Not Detected

Container Type: VOST Tube

Surrogates	%Recovery	Method Limits
Toluene-d8	89	70-130
4-Bromofluorobenzene	92	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-COND-C1-R3

Lab ID#: 1004052B-15A

MODIFIED VOST 5041A/8260B

File Name:	4040617	Date of Collection:	4/1/10
Dil. Factor:	1.00	Date of Analysis:	4/6/10 03:48 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	80	Not Detected

Container Type: VOA Vial-40 mL

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
4-Bromofluorobenzene	101	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-COND-FB

Lab ID#: 1004052B-16A

MODIFIED VOST 5041A/8260B

File Name:	4040616	Date of Collection:	3/31/10
Dil. Factor:	1.00	Date of Analysis:	4/6/10 03:23 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	80	Not Detected

Container Type: VOA Vial-40 mL

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX-FB # 1/VOST-TX/C-FB # 1

Lab ID#: 1004052B-17AB

MODIFIED VOST 5041A/8260B

File Name:	4041424	Date of Collection:	3/31/10
Dil. Factor:	1.00	Date of Analysis:	4/14/10 10:03 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	Not Detected

Container Type: VOST Tube

Surrogates	%Recovery	Method Limits
Toluene-d8	114	70-130
4-Bromofluorobenzene	121	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX-FB # 2/VOST-TX/C-FB #2

Lab ID#: 1004052B-18AB

MODIFIED VOST 5041A/8260B

File Name:	4041425	Date of Collection:	4/1/10
Dil. Factor:	1.00	Date of Analysis:	4/14/10 10:42 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	Not Detected

Container Type: VOST Tube

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX-TB # 1/VOST-TX/C-TB # 1

Lab ID#: 1004052B-19AB

MODIFIED VOST 5041A/8260B

File Name:	4041426	Date of Collection:	3/31/10
Dil. Factor:	1.00	Date of Analysis:	4/14/10 11:30 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	Not Detected

Container Type: VOST Tube

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
4-Bromofluorobenzene	106	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1004052B-20A

MODIFIED VOST 5041A/8260B

File Name:	4040615	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 4/6/10 02:42 PM	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	80	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
4-Bromofluorobenzene	96	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1004052B-20B

MODIFIED VOST 5041A/8260B

File Name:	4041419	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 4/14/10 07:19 PM	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	10	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
4-Bromofluorobenzene	106	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1004052B-21A

MODIFIED VOST 5041A/8260B

File Name:	4040614	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/6/10 02:08 PM

Compound	%Recovery
Chlorobenzene	105

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS
Lab ID#: 1004052B-21B
MODIFIED VOST 5041A/8260B

File Name:	4041418	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/14/10 06:46 PM

Compound	%Recovery
Chlorobenzene	107

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	116	70-130
4-Bromofluorobenzene	116	70-130

1004052

AECOM

Sample Packing and Traceability List

COPY 1

Site of Program:	Heritage-WTI	Sample Date:	Project Location:	E. Liverpool, OH	P.O. #: 5724ACM
Type of Program:	2010 MACT CPT	Date Shipped:	Laboratory:	Air Toxics, Ltd.	[redacted]
Project #:	60149294	Shipper / Doug Roeck /	Test Conditions.	C1 – Condition 1	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce		C2 = Condition 2	
Program Contact:	Doug Roeck	[redacted]	FedEx Air Bill #:		

	Item	Sample ID Code	Sample Matrix	Sample Description	Analytical Parameters	Special Instructions
11A	21	VOST-TX-C1-R3A	Culture Tube	Tenax , Pair A, C1, Run 3	MCB	Analyze Individually
12B	22	VOST-TX/C-C1-R3A	Culture Tube	Tenax /Char. Pair A, C1, Run 3	MCB	Analyze Individually
13AB	23	VOST-TX-C1-R3B	Culture Tube	Tenax . Pair B, C1, Run 3	MCB	Codesorption
	24	VOST-TX/C-C1-R3B	Culture Tube	Tenax /Char. Pair B, C1, Run 3	MCB	Codesorption
13A	25	VOST-TX-C1-R3C	Culture Tube	Tenax , Pair C, C1, Run 3	MCB	Hold
13B	26	VOST-TX/C-C1-R3C	Culture Tube	Tenax /Char, Pair C, C1, Run 3	MCB	Hold
14AB	27	VOST-TX-C1-R3D	Culture Tube	Tenax , Pair D, C1, Run 3	MCB	Codesorption
	28	VOST-TX/C-C1-R3D	Culture Tube	Tenax /Char, Pair D, C1, Run 3	MCB	Codesorption
15A	29	VOST-COND-C1-R3	Water	Condensate, C1, Run 3	MCB	
	30					
16A	31	VOST-COND-FB	Water	Condensate, Field Blank	MCB	
	32					
17AB	33	VOST-TX-FB # 1	Culture Tube	VOST, Tenax Tube, Field Blank # 1	MCB	Codesorption
	34	VOST-TX/C-FB # 1	Culture Tube	VOST, T/C Tube, Field Blank # 1	MCB	Codesorption
18AB	35	VOST-TX-FB # 2	Culture Tube	VOST, Tenax Tube, Field Blank # 2	MCB	Codesorption
	36	VOST-TX/C-FB # 2	Culture Tube	VOST, T/C Tube, Field Blank # 2	MCB	Codesorption
19AB	37	VOST-TX-TB # 1	Culture Tube	VOST, Tenax Tube, Trip Blank # 1	MCB	Codesorption
	38	VOST-TX/C-TB # 1	Culture Tube	VOST, T/C Tube Trip Blank # 1	MCB	Codesorption
	39					
	40					

Field Notes/ Comments

1. Analyze VOST tube pairs A, B and D. Hold Pair C and analyze only if necessary.
2. VOST sampling being done during Condition 1 only.
3. MCB = monochlorobenzene

Page 2 of 2

Relinquished By (print): Douglas R. Roeck	Date: 4-1-10	Relinquished By (print):	Date:	Relinquished By (print):	Date:	Received by Lab (print):	Date:
Signature: Douglas R Roeck	Time: 1400	Signature: Fed Ex	Time:	Signature:	Time:	Signature:	Time:
Received By (print): Monica Greeson	Date:	Received By (print):	Date:	Received By (print):	Date:	Analytical Laboratory Destination: Air Toxics, Ltd. 180 Blue Ravine Road, Suite B Folsom CA 95630 Attn: Bryanna Langley, (800)-985-5955	
Signature: AIL	Time: 4/2/10	Signature:	Time: 910	Signature:	Time:		

CUSTODY SEAL INTACT NONE TEMP 13°C

Heritage-WTI VOST Results - MACT CPT - Part 1

LABSAMPID	CLIENTSAMPID	SAMPDATE	ANALDATE	Report Limit	UNITS	RESULTS	Data Flags	COMPOUND NAME
1004052A-01A	VOST-TX-C1-R1A	03/31/2010	04/13/2010	10	NG	84		Chlorobenzene
1004052A-01A	VOST-TX-C1-R1A	03/31/2010	04/13/2010		%R	94		Toluene-d8
1004052A-01A	VOST-TX-C1-R1A	03/31/2010	04/13/2010		%R	95		4-Bromofluorobenzene
1004052A-01B	VOST-TX/C-C1-R1A	03/31/2010	04/13/2010	10	NG		ND	Chlorobenzene
1004052A-01B	VOST-TX/C-C1-R1A	03/31/2010	04/13/2010		%R	106		Toluene-d8
1004052A-01B	VOST-TX/C-C1-R1A	03/31/2010	04/13/2010		%R	103		4-Bromofluorobenzene
1004052A-02AB	VOST-TX-C1-R1B/VOST-TX/C-C1-R1B	03/31/2010	04/13/2010	10	NG	140		Chlorobenzene
1004052A-02AB	VOST-TX-C1-R1B/VOST-TX/C-C1-R1B	03/31/2010	04/13/2010		%R	94		Toluene-d8
1004052A-02AB	VOST-TX-C1-R1B/VOST-TX/C-C1-R1B	03/31/2010	04/13/2010		%R	100		4-Bromofluorobenzene
1004052A-04AB	VOST-TX-C1-R1D/VOST-TX/C-C1-R1D	03/31/2010	04/13/2010	10	NG		ND	Chlorobenzene
1004052A-04AB	VOST-TX-C1-R1D/VOST-TX/C-C1-R1D	03/31/2010	04/13/2010		%R	114		Toluene-d8
1004052A-04AB	VOST-TX-C1-R1D/VOST-TX/C-C1-R1D	03/31/2010	04/13/2010		%R	116		4-Bromofluorobenzene
1004052A-05A	VOST-COND-C1-R1	03/31/2010	04/06/2010	80	NG		ND	Chlorobenzene
1004052A-05A	VOST-COND-C1-R1	03/31/2010	04/06/2010		%R	102		Toluene-d8
1004052A-05A	VOST-COND-C1-R1	03/31/2010	04/06/2010		%R	104		4-Bromofluorobenzene
1004052A-06A	VOST-TX-C1-R2A	04/01/2010	04/13/2010	10	NG		ND	Chlorobenzene
1004052A-06A	VOST-TX-C1-R2A	04/01/2010	04/13/2010		%R	91		Toluene-d8
1004052A-06A	VOST-TX-C1-R2A	04/01/2010	04/13/2010		%R	93		4-Bromofluorobenzene
1004052A-06B	VOST-TX/C-C1-2A	04/01/2010	04/13/2010	10	NG		ND	Chlorobenzene
1004052A-06B	VOST-TX/C-C1-2A	04/01/2010	04/13/2010		%R	120		Toluene-d8
1004052A-06B	VOST-TX/C-C1-2A	04/01/2010	04/13/2010		%R	132	Q	4-Bromofluorobenzene
1004052A-07AB	VOST-TX-C1-R2B/VOST-TX/C-C1-R2B	04/01/2010	04/13/2010	10	NG	12		Chlorobenzene
1004052A-07AB	VOST-TX-C1-R2B/VOST-TX/C-C1-R2B	04/01/2010	04/13/2010		%R	90		Toluene-d8
1004052A-07AB	VOST-TX-C1-R2B/VOST-TX/C-C1-R2B	04/01/2010	04/13/2010		%R	125		4-Bromofluorobenzene
1004052A-09AB	VOST-TX-C1-R2D/VOST-TX/C-C1-R2D	04/01/2010	04/13/2010	10	NG	13		Chlorobenzene
1004052A-09AB	VOST-TX-C1-R2D/VOST-TX/C-C1-R2D	04/01/2010	04/13/2010		%R	104		Toluene-d8
1004052A-09AB	VOST-TX-C1-R2D/VOST-TX/C-C1-R2D	04/01/2010	04/13/2010		%R	132	Q	4-Bromofluorobenzene
1004052A-10A	VOST-COND-C1-R2	04/01/2010	04/06/2010	80	NG		ND	Chlorobenzene
1004052A-10A	VOST-COND-C1-R2	04/01/2010	04/06/2010		%R	100		Toluene-d8
1004052A-10A	VOST-COND-C1-R2	04/01/2010	04/06/2010		%R	100		4-Bromofluorobenzene
1004052A-11A	Lab Blank		04/06/2010	80	NG		ND	Chlorobenzene
1004052A-11A	Lab Blank		04/06/2010		%R	97		Toluene-d8
1004052A-11A	Lab Blank		04/06/2010		%R	96		4-Bromofluorobenzene
1004052A-11B	Lab Blank		04/13/2010	10	NG		ND	Chlorobenzene

Heritage-WTI VOST Results - MACT CPT - Part 1

LABSAMPID	CLIENTSAMPID	SAMPDATE	ANALDATE	Report Limit	UNITS	RESULTS	Data Flags	COMPOUND NAME
1004052A-11B	Lab Blank		04/13/2010		%R	97		Toluene-d8
1004052A-11B	Lab Blank		04/13/2010		%R	95		4-Bromofluorobenzene
1004052A-12A	LCS		04/06/2010		%R	105		Chlorobenzene
1004052A-12A	LCS		04/06/2010		%R	102		Toluene-d8
1004052A-12A	LCS		04/06/2010		%R	100		4-Bromofluorobenzene
1004052A-12B	LCS		04/13/2010		%R	92		Chlorobenzene
1004052A-12B	LCS		04/13/2010		%R	102		Toluene-d8
1004052A-12B	LCS		04/13/2010		%R	102		4-Bromofluorobenzene

Heritage - WTI VOST Results - MACT CPT - Part 2

LABSAMPID	CLIENTSAMPID	SAMPDATE	ANALDATE	Report Limit	UNITS	RESULTS	Data Flags	COMPOUND NAME
1004052B-11A	VOST-TX-C1-R3A	04/01/2010	04/14/2010	10	NG		ND	Chlorobenzene
1004052B-11A	VOST-TX-C1-R3A	04/01/2010	04/14/2010		%R	104		Toluene-d8
1004052B-11A	VOST-TX-C1-R3A	04/01/2010	04/14/2010		%R	110		4-Bromofluorobenzene
1004052B-11B	VOST-TX/C-C1-R3A	04/01/2010	04/14/2010	10	NG		ND	Chlorobenzene
1004052B-11B	VOST-TX/C-C1-R3A	04/01/2010	04/14/2010		%R	87		Toluene-d8
1004052B-11B	VOST-TX/C-C1-R3A	04/01/2010	04/14/2010		%R	96		4-Bromofluorobenzene
1004052B-12AB	VOST-TX-C1-R3B/VOST-TX/C-C1-R3B	04/01/2010	04/14/2010	10	NG		ND	Chlorobenzene
1004052B-12AB	VOST-TX-C1-R3B/VOST-TX/C-C1-R3B	04/01/2010	04/14/2010		%R	100		Toluene-d8
1004052B-12AB	VOST-TX-C1-R3B/VOST-TX/C-C1-R3B	04/01/2010	04/14/2010		%R	107		4-Bromofluorobenzene
1004052B-14AB	VOST-TX-C1-R3D/VOST-TX/C-C1-R3D	04/01/2010	04/14/2010	10	NG		ND	Chlorobenzene
1004052B-14AB	VOST-TX-C1-R3D/VOST-TX/C-C1-R3D	04/01/2010	04/14/2010		%R	89		Toluene-d8
1004052B-14AB	VOST-TX-C1-R3D/VOST-TX/C-C1-R3D	04/01/2010	04/14/2010		%R	92		4-Bromofluorobenzene
1004052B-15A	VOST-COND-C1-R3	04/01/2010	04/06/2010	80	NG		ND	Chlorobenzene
1004052B-15A	VOST-COND-C1-R3	04/01/2010	04/06/2010		%R	103		Toluene-d8
1004052B-15A	VOST-COND-C1-R3	04/01/2010	04/06/2010		%R	101		4-Bromofluorobenzene
1004052B-16A	VOST-COND-FB	03/31/2010	04/06/2010	80	NG		ND	Chlorobenzene
1004052B-16A	VOST-COND-FB	03/31/2010	04/06/2010		%R	104		Toluene-d8
1004052B-16A	VOST-COND-FB	03/31/2010	04/06/2010		%R	100		4-Bromofluorobenzene
1004052B-17AB	VOST-TX-FB # 1/VOST-TX/C-FB # 1	03/31/2010	04/14/2010	10	NG		ND	Chlorobenzene
1004052B-17AB	VOST-TX-FB # 1/VOST-TX/C-FB # 1	03/31/2010	04/14/2010		%R	114		Toluene-d8
1004052B-17AB	VOST-TX-FB # 1/VOST-TX/C-FB # 1	03/31/2010	04/14/2010		%R	121		4-Bromofluorobenzene
1004052B-18AB	VOST-TX-FB # 2/VOST-TX/C-FB #2	04/01/2010	04/14/2010	10	NG		ND	Chlorobenzene
1004052B-18AB	VOST-TX-FB # 2/VOST-TX/C-FB #2	04/01/2010	04/14/2010		%R	96		Toluene-d8
1004052B-18AB	VOST-TX-FB # 2/VOST-TX/C-FB #2	04/01/2010	04/14/2010		%R	100		4-Bromofluorobenzene
1004052B-19AB	VOST-TX-TB # 1/VOST-TX/C-TB # 1	03/31/2010	04/14/2010	10	NG		ND	Chlorobenzene
1004052B-19AB	VOST-TX-TB # 1/VOST-TX/C-TB # 1	03/31/2010	04/14/2010		%R	99		Toluene-d8
1004052B-19AB	VOST-TX-TB # 1/VOST-TX/C-TB # 1	03/31/2010	04/14/2010		%R	106		4-Bromofluorobenzene
1004052B-20A	Lab Blank		04/06/2010	80	NG		ND	Chlorobenzene
1004052B-20A	Lab Blank		04/06/2010		%R	97		Toluene-d8
1004052B-20A	Lab Blank		04/06/2010		%R	96		4-Bromofluorobenzene
1004052B-20B	Lab Blank		04/14/2010	10	NG		ND	Chlorobenzene
1004052B-20B	Lab Blank		04/14/2010		%R	97		Toluene-d8
1004052B-20B	Lab Blank		04/14/2010		%R	106		4-Bromofluorobenzene
1004052B-21A	LCS		04/06/2010		%R	105		Chlorobenzene

Heritage - WTI VOST Results - MACT CPT - Part 2

LABSAMPID	CLIENTSAMPID	SAMPDATE	ANALDATE	Report Limit	UNITS	RESULTS	Data Flags	COMPOUND NAME
1004052B-21A	LCS		04/06/2010		%R	102		Toluene-d8
1004052B-21A	LCS		04/06/2010		%R	100		4-Bromofluorobenzene
1004052B-21B	LCS		04/14/2010		%R	107		Chlorobenzene
1004052B-21B	LCS		04/14/2010		%R	116		Toluene-d8
1004052B-21B	LCS		04/14/2010		%R	116		4-Bromofluorobenzene

Roeck, Doug

From: A.Scott@airtoxics.com
Sent: Friday, April 16, 2010 2:59 AM
To: Roeck, Doug
Subject: Proj. Name: Heritage-WTI, Project ID: 14109, Project #: 60149294, Final Report: WO# 1004052B, Air Toxics Ltd.
Attachments: 1004052B_d.pdf; 1004052BCOC.pdf; ATLSTDEDD_1004052B.xls

Air Toxics LTD.
Laboratory Services Since 1989
Accurate

Proj. Name: Heritage-WTI, Project ID: 14109, Project #: 60149294, Final Report: WO# 1004052B, Air Toxics Ltd.

Dear Mr. Doug Roeck,

Thank you for choosing Air Toxics Ltd. to provide your analytical services.

Your final report information appears below.

Project Name: Heritage-WTI
Date Received: 4/2/2010
Date Promised: 4/16/2010

Sample Listing

Sample	Analysis	Collection Date
VOST-TX-C1-R3A	Modified VOST 5041A/8260B	4/1/2010
VOST-TX/C-C1-R3A	Modified VOST 5041A/8260B	4/1/2010
VOST-TX-C1-R3B/VOST-TX/C-C1-R3B	Modified VOST 5041A/8260B	4/1/2010
VOST-TX-C1-R3C	Modified VOST 5041A/8260B	4/1/2010
VOST-TX/C-C1-R3C	Modified VOST 5041A/8260B	4/1/2010
VOST-TX-C1-R3D/VOST-TX/C-C1-R3D	Modified VOST 5041A/8260B	4/1/2010
VOST-COND-C1-R3	Modified VOST 5041A/8260B	4/1/2010
VOST-COND-FB	Modified VOST 5041A/8260B	3/31/2010
VOST-TX-FB # 1/VOST-TX/C-FB # 1	Modified VOST 5041A/8260B	3/31/2010
VOST-TX-FB # 2/VOST-TX/C-FB #2	Modified VOST 5041A/8260B	4/1/2010
VOST-TX-TB # 1/VOST-TX/C-TB # 1	Modified VOST 5041A/8260B	3/31/2010

Attached to this email are your Final Report and Chain of Custody. These documents are provided in Adobe PDF Format for your convenience. Additionally, we are pleased to provide the data as an EXCEL Report for your added convenience. This is an exciting new feature that will accompany all standard reports moving forward.

Adobe Reader is required to view PDF files. If you do not have Adobe Reader, you can download a free copy from the Adobe web site.

If you are expecting a Client Specific Electronic Data Deliverable (EDD) or Data Validation Package (eCVP), you will receive a separate notification when it is complete.

If you have any questions or concerns please contact me at your earliest convenience. My goal is to ensure that your project expectations are met with early and prompt resolution.

Your Final Report and EXCEL Report (as well as all project related documents) can also be accessed at http://data.airtoxics.com. Please contact me if you need assistance accessing this service.

Thank you for your continued business.

Notes:
This Workorder (1004052B) is one of a multipart workorder, consisting of the following fractions:
1004052A, 1004052B
Each Workorder Fraction will be delivered in a seperate report.

Sincerely,

Ausha Scott
Project Manager
Air Toxics Ltd.
180 Blue Ravine Road, Ste. B
Folsom, CA 95630

916-985-1000 Ext. 1044
A.Scott@airtoxics.com

www.airtoxics.com
800-985-5955
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