COMMITMENT & INTEGRITY
DRIVE RESULTS

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MEMORANDUM

TO: Kimberly Tisa
FROM: Jeff Hamel
DATE: July 10, 2009
RE: Status Update – Interior Window Glazing
UMass Amherst – Lederle Graduate Research Center

The following is a brief status update on the interior window glazing project at the Lederle Graduate Research Center (LGRC) on the UMass Amherst campus. UMass became aware of PCBs in the window glazing from a hazardous material assessment being performed as part of an upcoming electrical upgrade project to be conducted within the buildings. This report was issued on March 25, 2009 and included only one sample of the glazing for PCBs. Since that time a number of activities have been and continue to be conducted, as summarized below.

INSPECTIONS/SAMPLING

April 6 and 16-17, 2009 - site inspections were conducted by UMass and W&C personnel to visually inspect interior windows/glazing in the low-rise and Tower A of the LGRC. A sampling plan was developed to collect representatives samples of the glazing to confirm the initial results and an inventory of the windows completed.

April 20-21, 2009 - 12 samples of glazing and interior replacement caulking were collected and analyzed for PCBs. Results of the glazing ranged from 4,040 to 14,000 ppm. A summary table of the results is provided in Attachment 1.

May 5, 2009 - additional samples collected in support of the development of options to address this condition. Six samples were collected and consisted of surface wipe samples from the glazing/window frame (pre and post cleaning), surface wipe samples of the adjacent window ledge (pre and post cleaning), and bulk samples of accumulated particulate matter adjacent to the windows and exterior window glazing. A summary of the results is provided in Attachment 2.

May 26, 2009 - 11 indoor air samples were collected from the low-rise and Tower A following EPA Method TO-10A procedures. Concentrations were decreased from those detected in July 2008 and ranged from 0.033 ug/m^3 to 0.16 ug/m^3. A summary of the results is provided in Attachment 3.

June 5, 2009 – As a follow-up to the May 27, 2009 Informational Meeting (see below), four wipe samples were collected for PCB analysis from window ledges in select rooms of the low rise building. A summary of the results is provided in Attachment 4.

PUBLIC NOTIFICATIONS/OUTREACH

May 15, 2009 - UMass sent/posted a notice to all GRC occupants and other interested parties describing the findings known to date regarding this issue.

May 15, 2009 - Summary memorandum prepared documenting the April and May 2009 sample results as well as presenting all interior surface wipe and indoor air sample results collected within the building during the exterior abatement project (including post-abatement sample results). Memorandum posted to UMass EH&S project web-site.

May 27, 2009 - Informational Meeting held on campus for all GRC occupants and interested parties. Findings and next steps discussed.

SUMMARY

The results of the data collected to date indicate the following:

- Interior window glazing on the majority of the windows at the low-rise and Tower A contain PCBs in excess of 50 ppm.
- Overall, the glazing appears in good condition and is present at over 800 separate window units throughout the buildings. There are some areas (e.g., bottom frame exposed to direct sunlight) that exhibit signs of deterioration.
- Potential transport and exposure pathways for the PCB containing glazing to potential receptors include direct contact and/or generation of dust or particulate matter that may become airborne of rest on interior surfaces.
- Existing indoor data indicate minimal exposures to building occupants:
    - All post Exterior Building Abatement Project indoor air samples (July 2008 and May 2009) collected from Tower A and the low-rise building show a decrease in concentration with time compared to the samples collected during the Exterior Building Abatement Project. For general comparison purposes, these results are also below the site specific risk-based criteria derived as part of the exterior work (0.29 ug/m^3).
    - Interior surface wipe samples collected during the Exterior Building Abatement Project exhibited higher concentrations of PCBs on the window ledges than on other interior surfaces (tables, desks, etc.). The majority of the sample results were below EPA's high occupancy criteria. Surface cleaning of the ledges has been shown to be effective in reducing PCB concentrations. All 19 post Exterior Building Abatement Project samples and the June 2009 window ledge wipe samples were below EPA's high occupancy criteria.

NEXT STEPS

- Assess Interim Actions to potentially include cleaning of windows and ledges, HEPA vacuuming of dust/particulate matter, interim sealing of glazing, and indoor air monitoring.
    - Developed list of potential "sealers" to pilot test, including paints/coatings, new caulking, and physical barriers.
    - Met with remediation contractors to develop work scope, schedule, and costs. Bid walks conducted on June 4th and 5th. Selected contractor to perform a pilot test of various techniques.
    - A pilot test was performed on July 9, 2009 to conduct tests on cleaning agents and "sealing" products prior to potentially implementing on a full-scale. The goal is to determine the best products and techniques based first on the results of verification sampling and then ease of application and aesthetics.
    - Prepare and submit workplan to EPA for conducting interim action.
- Once above tasks completed, implement an interim action to contain glazing until long-term and permanent remedial action can be developed and implemented.

ATTACHMENT 1

Summary of Interior Window Glazing Sample Locations
LGRC low Rise and High Rise Tower A
UMass Amherst

Building	Sample Location	Sample ID	Analytical Results (mg/kg)	Sealant Observed	Notes
Low-Rise Library	First floor eastern most window. Lower horizontal joint, 0-50" from bottom left corner.	LGRC-GZ-002	82.2 J	Black caulking material, dissimilar to glazing observed elsewhere. High level of plasticity, approximate 1/4" bead.	Material observed on windows with different construction. Metal framing along edges of panes different than that of the majority of windows.
	First floor second window from east. Lower left side vertical joint, 0-16" from bottom.	LGRC-GZ-003	7,520	Black glazing material, hard, varying condition. Approximately 1/4" bead.	Green paint observed on window frames.
	Second floor library study area. Eastern most window, lower horizontal joint (0-16") and lower right vertical joint (0-5") as measured from lower right corner	LGRC-GZ-012	12,900	Black glazing material, hard, varying condition. Approximately 1/4" bead.	Green paint observed on window frames.
	Third Floor Conference Room 365A. Lower horizontal joint, Center Window, 2.0 ft from bottom left corner.	LGRC-GZ-001	14,000	Black glazing material, hard, varying condition. Approximately 1/4" bead.	Collected from same window as original glazing sample to confirm sample results.
Low-Rise North Wing	First floor Room 141A, middle window pane, right vertical joint, 0-18" from bottom right corner.	LGRC-GZ-005	11,700	Black glazing material, hard, varying condition. Approximately 1/4" bead.	No paint on frames.
	Second floor Room A251 office space, Lower horizontal and lower left vertical joint, 0-12" in both directions from lower left corner.	LGRC-GZ-006	9,080	Black glazing material, hard, varying condition. Approximately 1/4" bead.	Black window frame finish wearing off, bronze appearance underneath.
	Third Floor Classroom A301, southern most window. Lower horizontal joint and lower left vertical joint 0-12" along both joints.	LGRC-GZ-004	4,040	Black glazing material, hard, varying condition. Approximately 1/4" bead.	No paint on frames.
Walkway	Third window grouping on north side from east end of walkway, large window pane, lower left horizontal joint, 0-24" from bottom left corner and lower left vertical joint 0-10" from lower left corner.	LGRC-GZ-007	129	Black caulking material, dissimilar to glazing observed elsewhere. High level of plasticity, approximate 1/4" bead.	Material observed on windows with different construction. Metal framing along edges of panes different than that of the majority of windows.
High Rise Tower A	Fifth floor window units south of elevators (over walkway). Second window from south, entire lower horizontal joint.	LGRC-GZ-008	12,400	Black glazing material, hard, varying condition. Approximately 1/4" bead.	Material has increased plasticity underneath.
	Third floor window units north of elevators. Right window, 0-12" along horizontal and vertical joint from lower left corner.	LGRC-GZ-011	6,480	Black glazing material, hard, varying condition. Approximately 1/4" bead.	Glazing appears to be more brittle than other samples of similar material.
	West side laboratory window, Room 1212. Crankcase type window. 0-12" along lower horizontal joint and 0-18" along right vertical joint as measured from bottom right corner.	LGRC-GZ-009	7,070	Black glazing material, hard, varying condition. Approximately 1/4" bead.	Lab space recently renovated. Windows not included in renovation.
	East side conference Room 701E. Entire lower horizontal joint and lower 6" of both vertical joints.	LGRC-GZ-010	11,400	Black glazing material, hard, varying condition. Approximately 1/4" bead.	

mg/kg = milligrams per kilogram
J = estimated concentration

analytics environmental laboratory LLC

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April 24, 2009

Mr. George Franklin
Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

RE: Analytical Results Case Narrative
Analytics # 63658
UMASS LGRC Proj# 210918

Dear Mr. Franklin;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

Case Narrative/Non-Conformance Summary
Sample Log Sheet - Cover Page
PCB Form 1 Data Sheet for Samples and Blanks
Chromatograms
PCB Form 10 Confirmation Results
PCB Form 3 MS/MSD (LCS) Recoveries
Chain of Custody (COC) Forms

QC NON CONFORMANCE SUMMARY

Sample Receipt:
No exceptions.

PCBs by EPA Method 8082:
All samples except 63658-13 required dilution due to high concentrations of PCB 1254 detected in the sample.

Sincerely,
ANALYTICS Environmental Laboratory, LLC

Stephen Knollmeyer
Laboratory Director

analytics environmental laboratory LLC

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Mr. George Franklin
Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

Report Number: 63658

Revision: Rev. 0

Re: UMASS-LGRC **210918**

Enclosed are the results of the analyses on your sample(s). Samples were received on 21 April 2009 and analyzed for the tests listed below. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

Lab Number	Sample Date	Station Location	Analysis	Comments
63658-1	04/20/09	LGRC-GZ-001	EPA 8082 (PCBs only)	
63658-2	04/20/09	LGRC-GZ-002	EPA 8082 (PCBs only)	
63658-3	04/20/09	LGRC-GZ-003	EPA 8082 (PCBs only)	
63658-4	04/20/09	LGRC-GZ-004	EPA 8082 (PCBs only)	
63658-5	04/20/09	LGRC-GZ-005	EPA 8082 (PCBs only)	
63658-6	04/20/09	LGRC-GZ-006	EPA 8082 (PCBs only)	
63658-7	04/20/09	LGRC-GZ-007	EPA 8082 (PCBs only)	
63658-8	04/20/09	LGRC-GZ-008	EPA 8082 (PCBs only)	
63658-9	04/20/09	LGRC-GZ-050	EPA 8082 (PCBs only)	
63658-10	04/20/09	LGRC-GZ-009	EPA 8082 (PCBs only)	
63658-11	04/20/09	LGRC-GZ-010	EPA 8082 (PCBs only)	

Sample Receipt Exceptions: None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, New York, Virginia, Maryland, and is validated by the U.S. Navy (NFESC). A list of actual certified parameters is available upon request.

If you have any further question on the analytical methods or these results, do not hesitate to call.

Authorized signature _____
Stephen L. Knollmeyer Lab. Director

Date 4/24/2009

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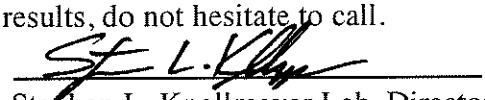
Enclosed are the results of the analyses on your sample(s). Samples were received on 21 April 2009 and analyzed for the tests listed below. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

Lab Number	Sample Date	Station Location	Analysis	Comments
63658-12	04/20/09	LGRC-GZ-011	EPA 8082 (PCBs only)	
63658-13	04/20/09	LGRC-GZ-090	EPA 8082 (PCBs only)	

Sample Receipt Exceptions: None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, New York, Virginia, Maryland, and is validated by the U.S. Navy (NFESC). A list of actual certified parameters is available upon request.

If you have any further question on the analytical methods or these results, do not hesitate to call.

Authorized signature 

Stephen L. Knollmeyer Lab. Director

Date 4/29/2009

analytics environmental laboratory LLC

Surrogate Compound Limits

Matrix: / Units:	Aqueous % Recovery	Solid % Recovery	Method
Volatile Organic Compounds - Drinking Water			
1,4-Difluorobenzene	70-130		EPA 524.2
Bromofluorobenzene	70-130		
1,2-Dichlorobenzene-d4	70-130		
Volatile Organic Compounds			
1,2-Dichloroethane-d4	70-130	70-130	EPA 8260B
Toluene-d8	70-130	70-130	
Bromofluorobenzene	70-130	70-130	
Semi-Volatile Organic Compounds			
2-Fluorophenol	20-110	35-105	EPA 624/8270C
d5-Phenol	15-110	40-100	
d5-nitrobenzene	40-110	35-100	
2-Fluorobiphenyl	50-110	45-105	
2,4,6-Tribromophenol	40-110	40-125	
d14-p-terphenyl	50-130	30-125	
PAH's by SIM			
d5-nitrobenzene	21-110	35-110	EPA 8270C
2-Fluorobiphenyl	36-121	45-105	
d14-p-terphenyl	33-141	30-125	
Pesticides and PCBs			
2,4,5,6-Tetrachloro-m-xylene (TCX)	46-122	40-130	EPA 608/8082
Decachlorobiphenyl (DCB)	40-135	40-130	
Herbicides			
Dichloroacetic acid (DCAA0	30-150	30-150	
Gasoline Range Organics/TPH Gasoline			
Trifluorotoluene TFT (FID)	60-140	60-140	MEDEP 4217/EPA 8015
Bromofluorobenzene (BFB) (FID)	60-140	60-140	
Trifluorotoluene TFT (PID)	60-140	60-140	
Bromofluorobenzene (BFB) (PID)	60-140	60-140	
Diesel Range Organics/TPH Diesel			
m-terphenyl	60-140	60-140	MEDEP 4125/EPA 8015/CT ETPH

PCB
DATA SUMMARIES

analytics environmental laboratory LLC

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Mr. George Franklin
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April 24, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B04219PSOX
Matrix: Soil
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 04/21/09
Analysis Date: 04/23/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	124	%
Decachlorobiphenyl	111	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB Report

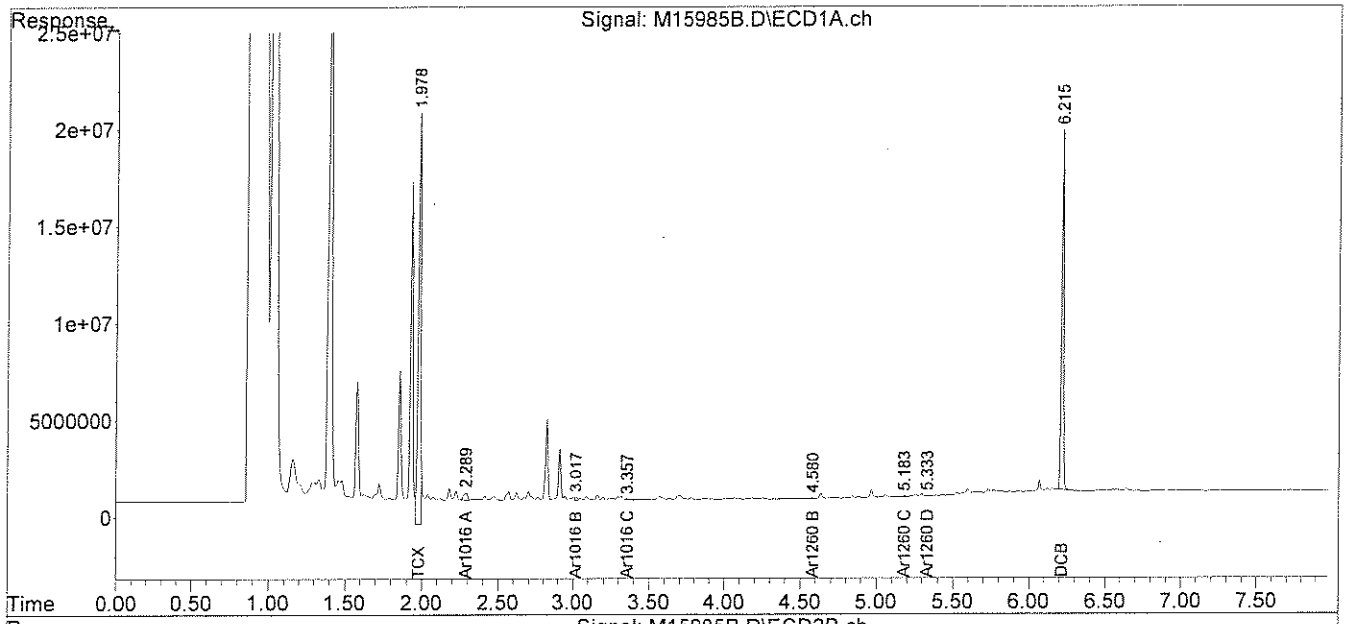
Authorized signature

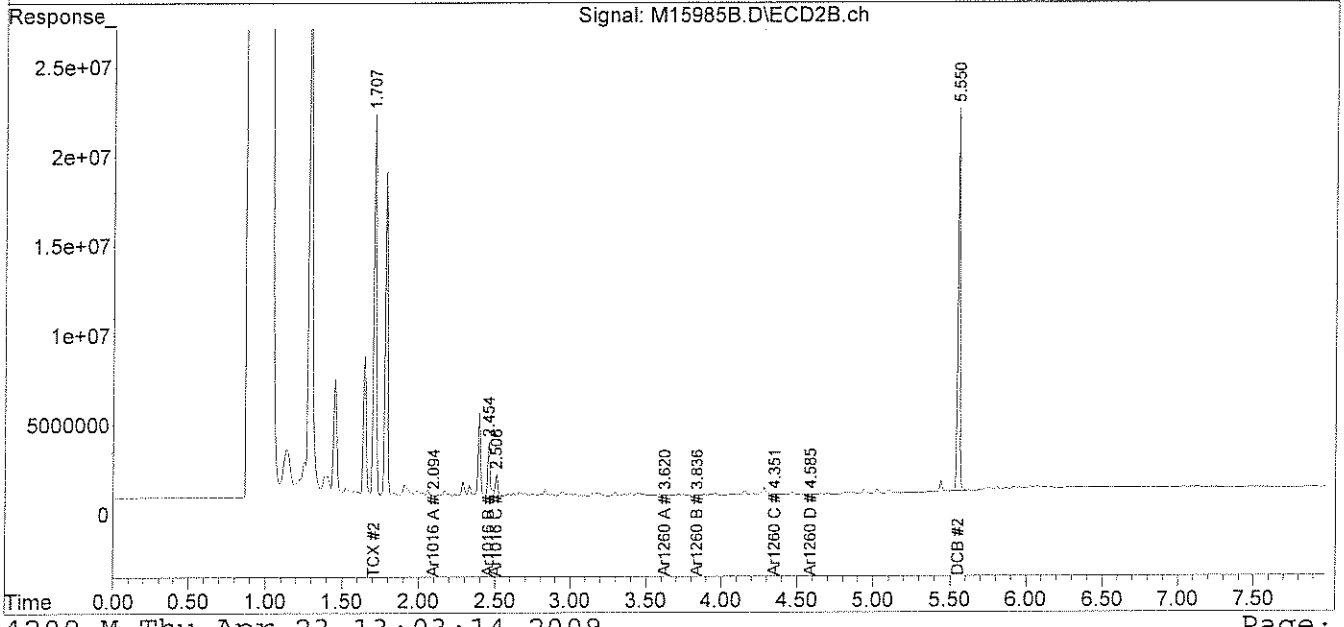
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\042209-M\
Data File : M15985B.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 23 Apr 2009 8:20 am
Operator :
Sample : B04219PSOX,,A/C
Misc : SOIL
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 23 13:03:07 2009
Quant Method : C:\msdchem\1\METHODS\PCB04209.M
Quant Title : Aroclor 1016/1260
QLast Update : Mon Apr 20 10:39:38 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





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April 24, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B04219PSOX RR
Matrix: Soil
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 04/21/09
Analysis Date: 04/23/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	104	%
Decachlorobiphenyl	104	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB Report

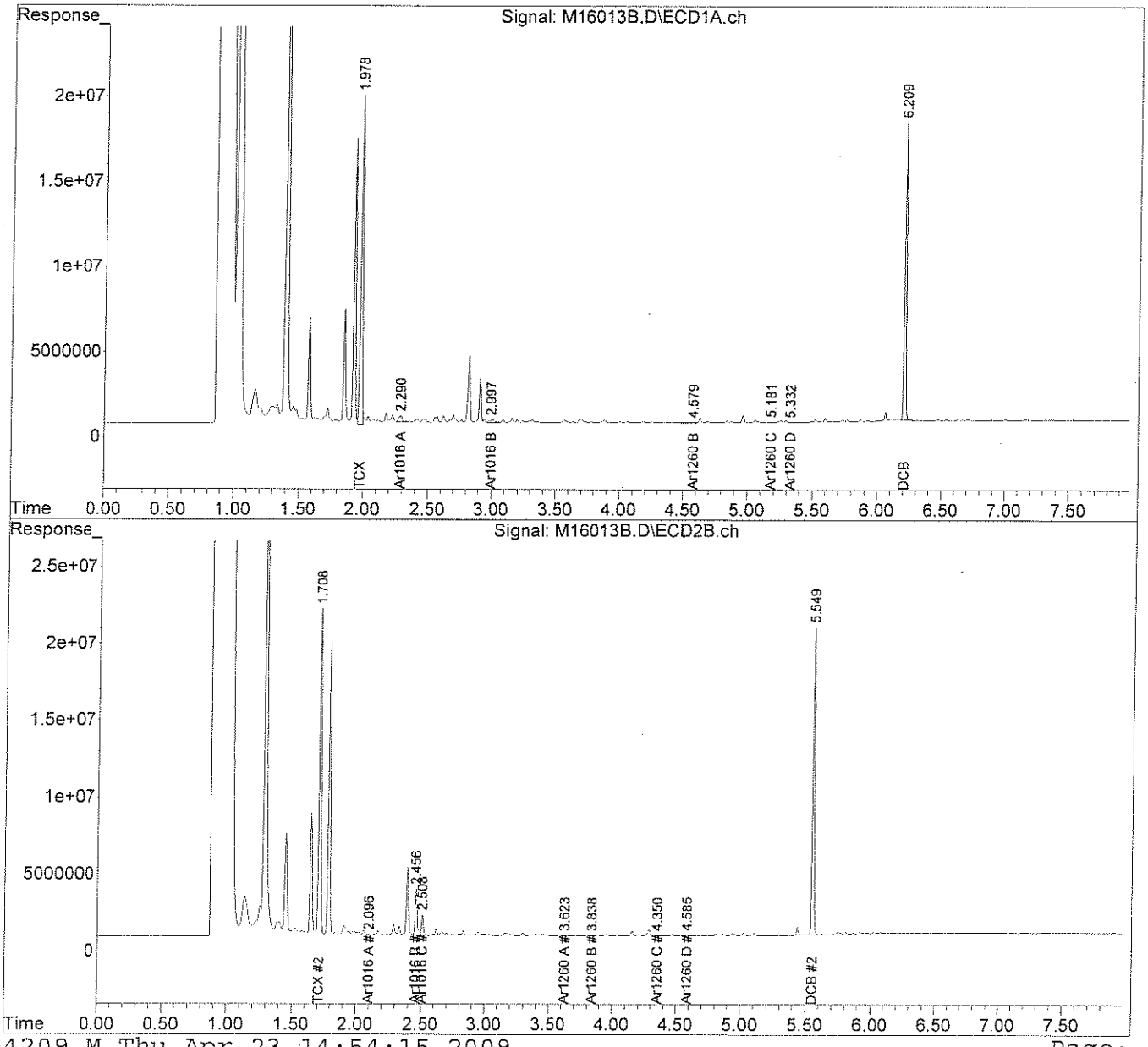
Authorized signature

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\042209-M\
Data File : M16013B.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 23 Apr 2009 2:38 pm
Operator :
Sample : B04219PSOX,RR,,A/C
Misc : SOIL
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 23 14:54:09 2009
Quant Method : C:\msdchem\1\METHODS\PCB04209.M
Quant Title : Aroclor 1016/1260
QLast Update : Mon Apr 20 10:39:46 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



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April 24, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-001

SAMPLE DATA

Lab Sample ID: 63658-1
Matrix: Solid
Percent Solid: 98
Dilution Factor: 20500
Collection Date: 04/20/09
Lab Receipt Date: 04/21/09
Extraction Date: 04/21/09
Analysis Date: 04/23/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	677000	U
PCB-1221	677000	U
PCB-1232	677000	U
PCB-1242	677000	U
PCB-1248	677000	U
PCB-1254	677000	**14000000**
PCB-1260	677000	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.
* The surrogates were diluted out.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63658
Sample: 63658-1,1:2000,,A/C
Data File: M16006.D
Dilution Factor: 20504.4

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	13123103	14033371	6.7	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

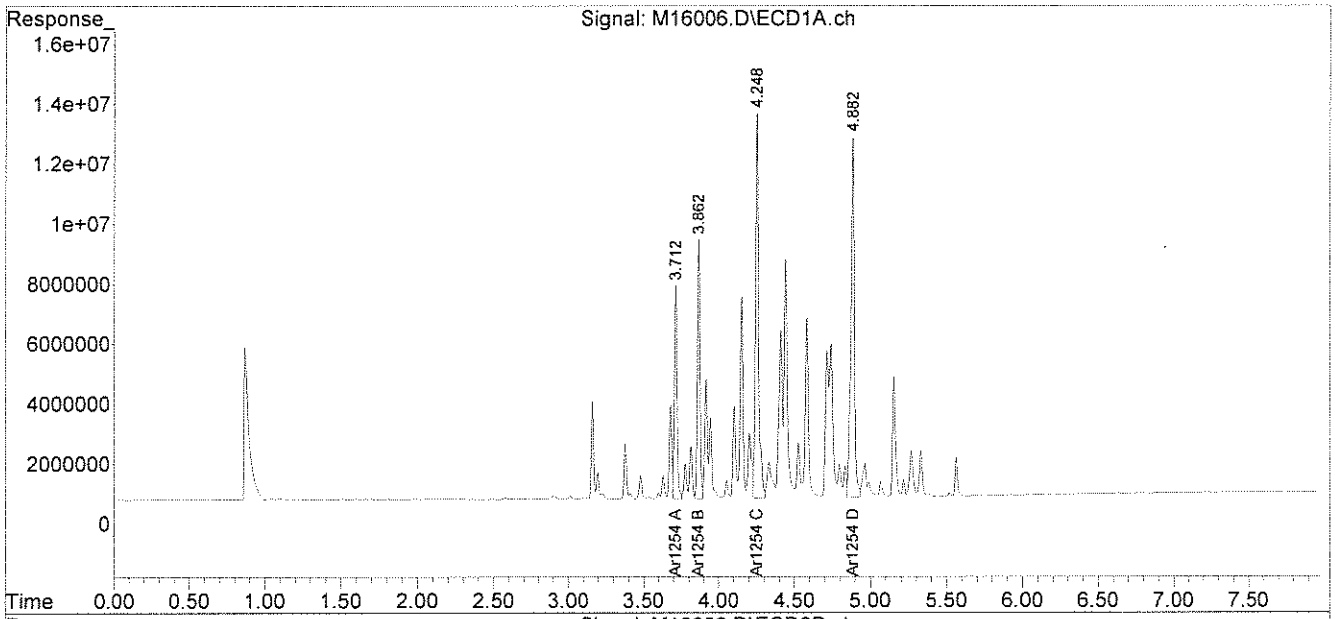
Comments: _____

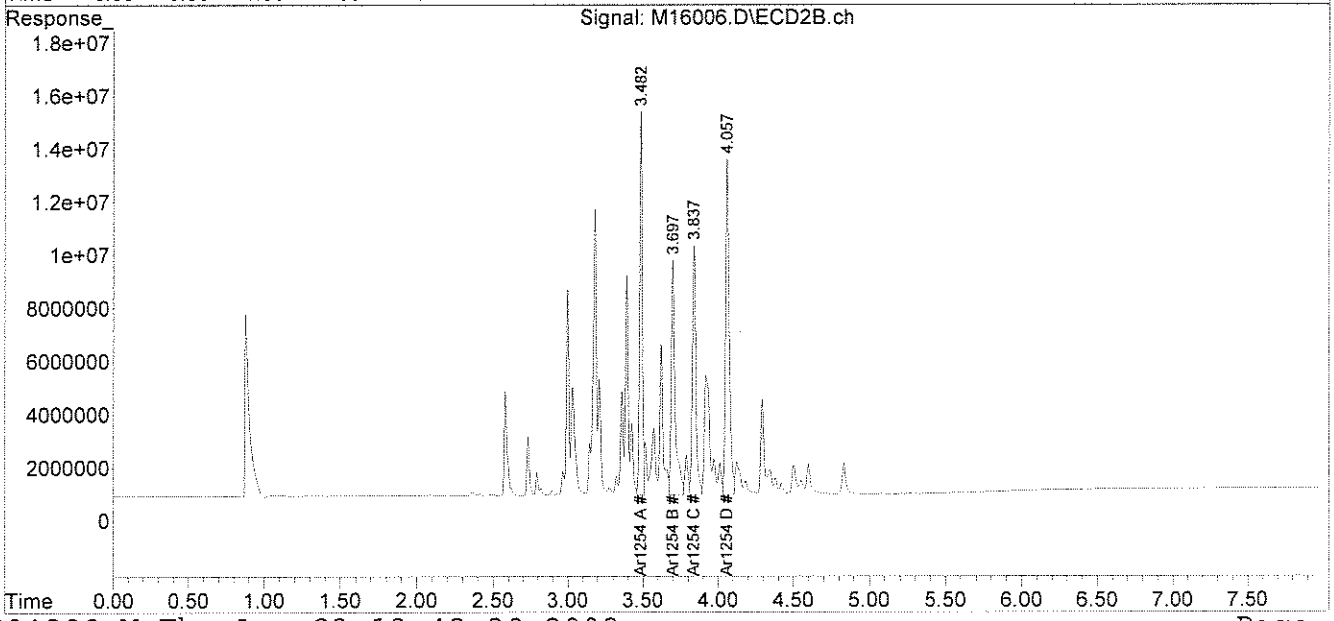
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\042209-M\
Data File : M16006.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 23 Apr 2009 1:20 pm
Operator :
Sample : 63658-1,1:2000,,A/C
Misc : SOIL
ALS Vial : 41 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 23 13:42:30 2009
Quant Method : C:\msdchem\1\METHODS\54SP04209.M
Quant Title :
QLast Update : Tue Apr 21 10:03:18 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





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Andover MA 01810

April 24, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-002

SAMPLE DATA

Lab Sample ID: 63658-2
Matrix: Solid
Percent Solid: 98
Dilution Factor: 182
Collection Date: 04/20/09
Lab Receipt Date: 04/21/09
Extraction Date: 04/21/09
Analysis Date: 04/23/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	6010	U
PCB-1221	6010	U
PCB-1232	6010	U
PCB-1242	6010	U
PCB-1248	6010	U
PCB-1254	6010	**82200**
PCB-1260	6010	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.
* The surrogates were diluted out.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63658
Sample: 63658-2,1:20,,A/C
Data File: M16012.D
Dilution Factor: 182.3

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	82153	58251	34.0	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

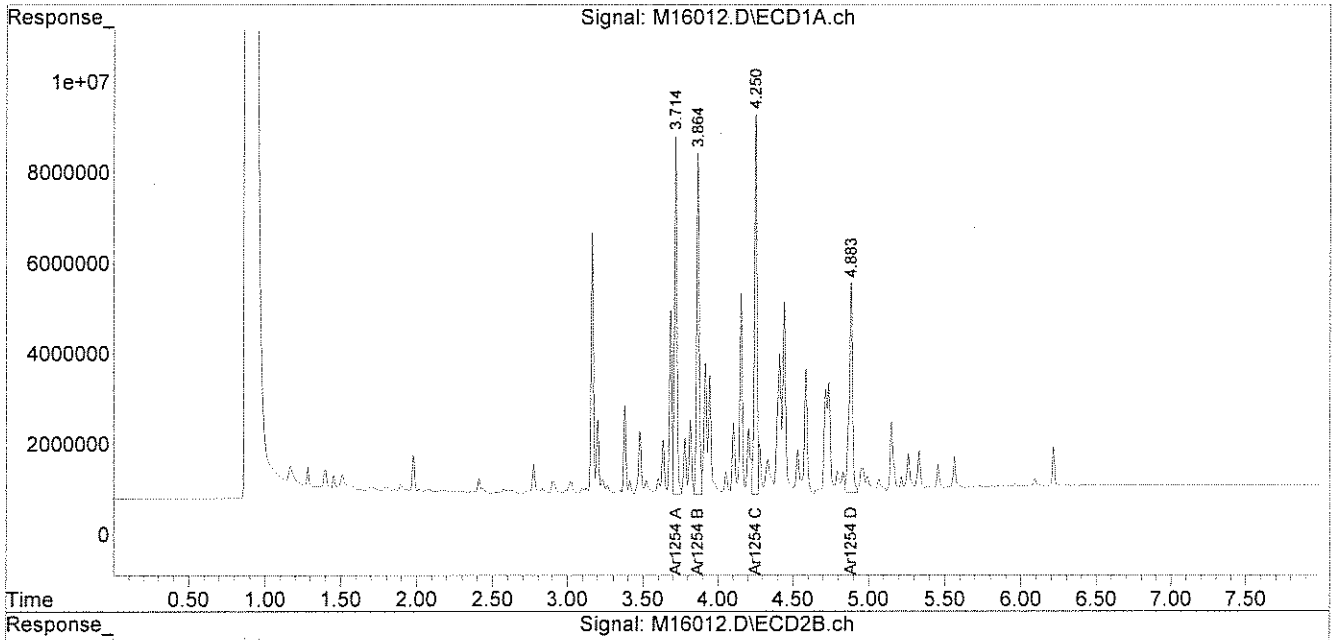
Comments: _____

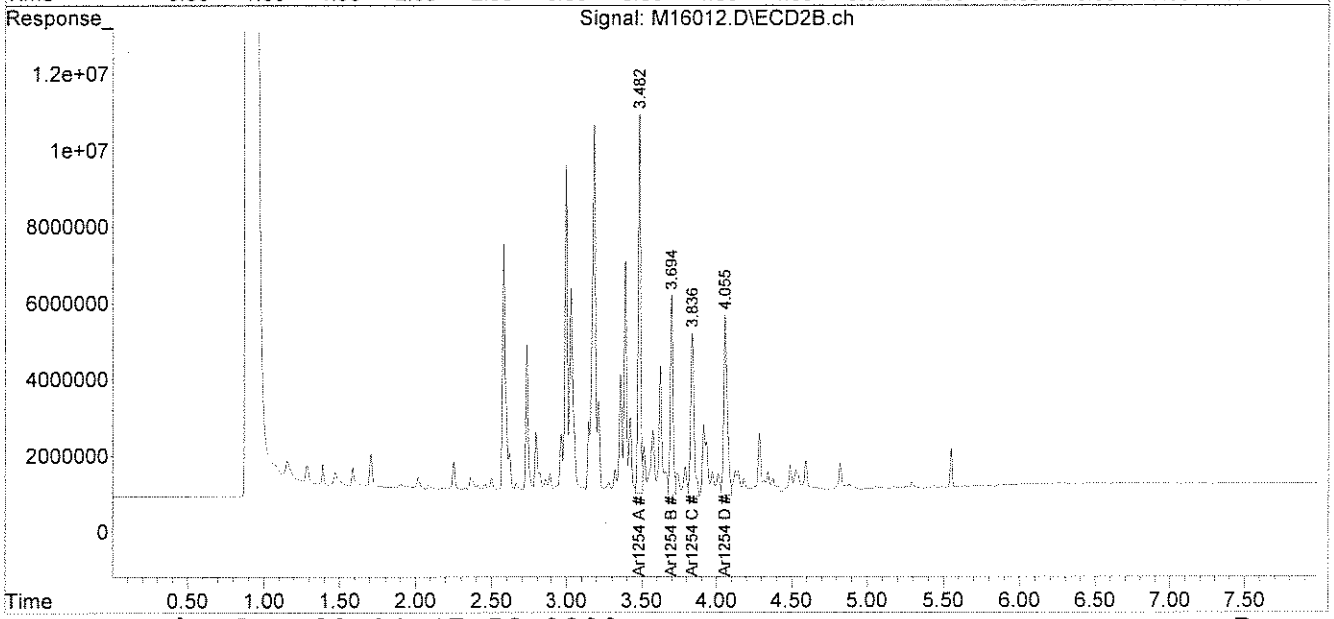
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\042209-M\
Data File : M16012.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 23 Apr 2009 2:28 pm
Operator :
Sample : 63658-2,1:20,,A/C
Misc : SOIL
ALS Vial : 45 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 23 14:37:06 2009
Quant Method : C:\msdchem\1\METHODS\54SP04209.M
Quant Title :
QLast Update : Tue Apr 21 10:03:18 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





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April 24, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-003

SAMPLE DATA

Lab Sample ID: 63658-3
Matrix: Solid
Percent Solid: 97
Dilution Factor: 10200
Collection Date: 04/20/09
Lab Receipt Date: 04/21/09
Extraction Date: 04/21/09
Analysis Date: 04/23/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	337000	U
PCB-1221	337000	U
PCB-1232	337000	U
PCB-1242	337000	U
PCB-1248	337000	U
PCB-1254	337000	**7520000**
PCB-1260	337000	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.
* The surrogates were diluted out.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63658
Sample: 63658-3,1:1000,,A/C
Data File: M15991.D
Dilution Factor: 10149.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	6843627	7521973	9.4	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

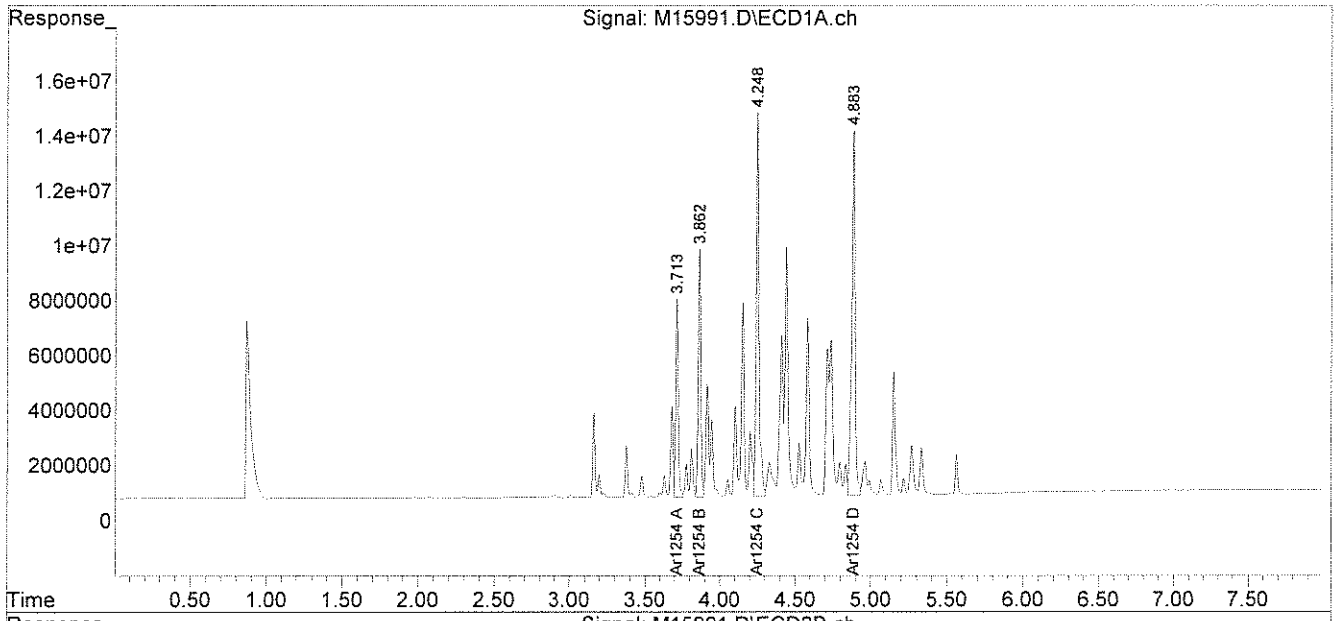
Comments: _____

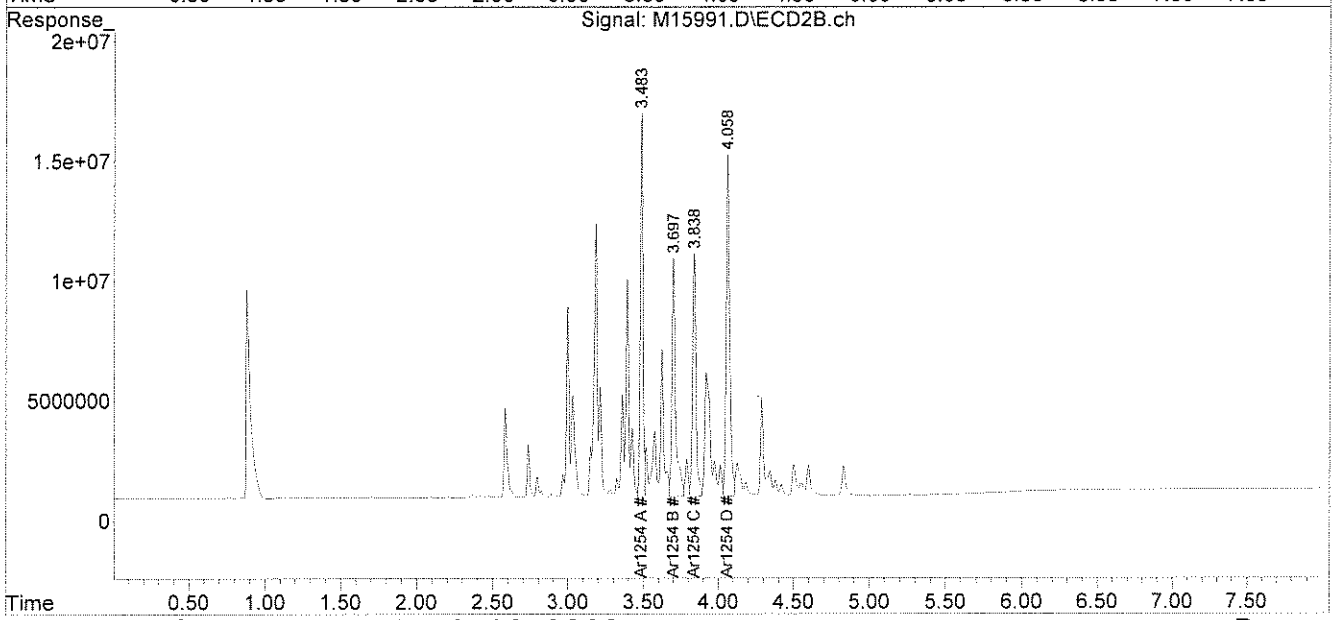
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\042209-M\
Data File : M15991.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 23 Apr 2009 9:31 am
Operator :
Sample : 63658-3,1:1000,,A/C
Misc : SOIL
ALS Vial : 27 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 23 13:42:12 2009
Quant Method : C:\msdchem\1\METHODS\54SP04209.M
Quant Title :
QLast Update : Tue Apr 21 10:03:18 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





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April 24, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-004

SAMPLE DATA

Lab Sample ID: 63658-4
Matrix: Solid
Percent Solid: 98
Dilution Factor: 9790
Collection Date: 04/20/09
Lab Receipt Date: 04/21/09
Extraction Date: 04/21/09
Analysis Date: 04/23/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	323000	U
PCB-1221	323000	U
PCB-1232	323000	U
PCB-1242	323000	U
PCB-1248	323000	U
PCB-1254	323000	**4040000**
PCB-1260	323000	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.
* The surrogates were diluted out.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63658
Sample: 63658-4,1:1000,,A/C
Data File: M15992.D
Dilution Factor: 9786.7

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	4037067	3942401	2.4	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

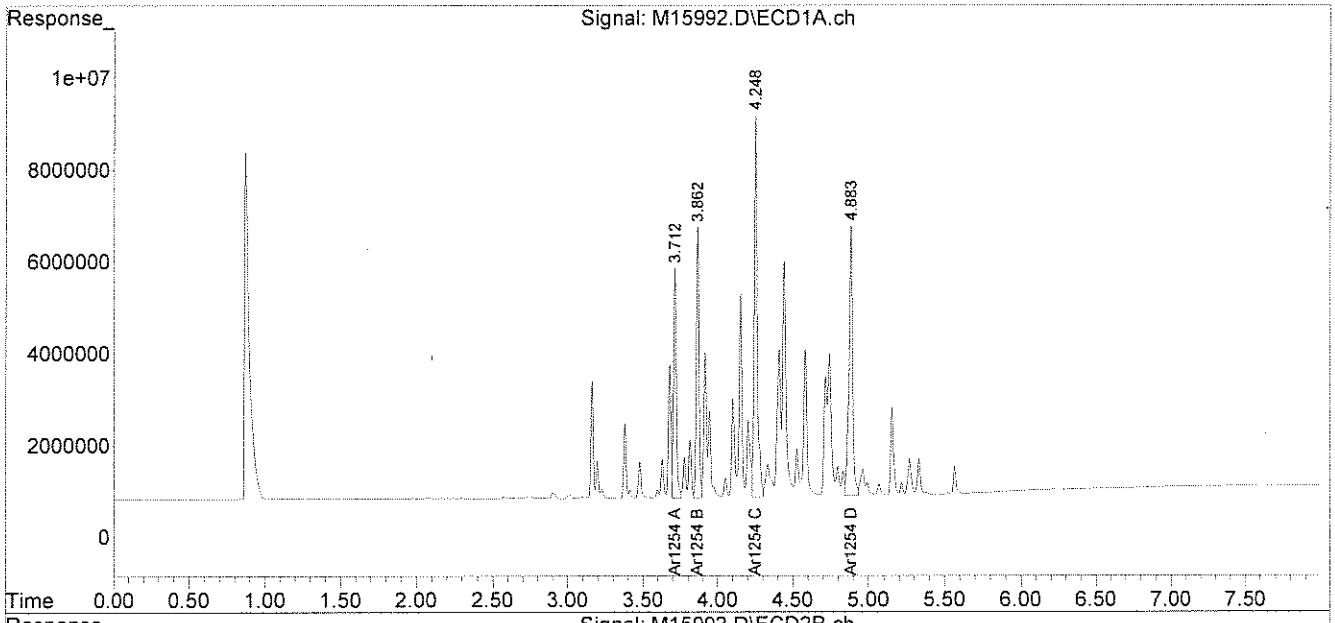
Comments: _____

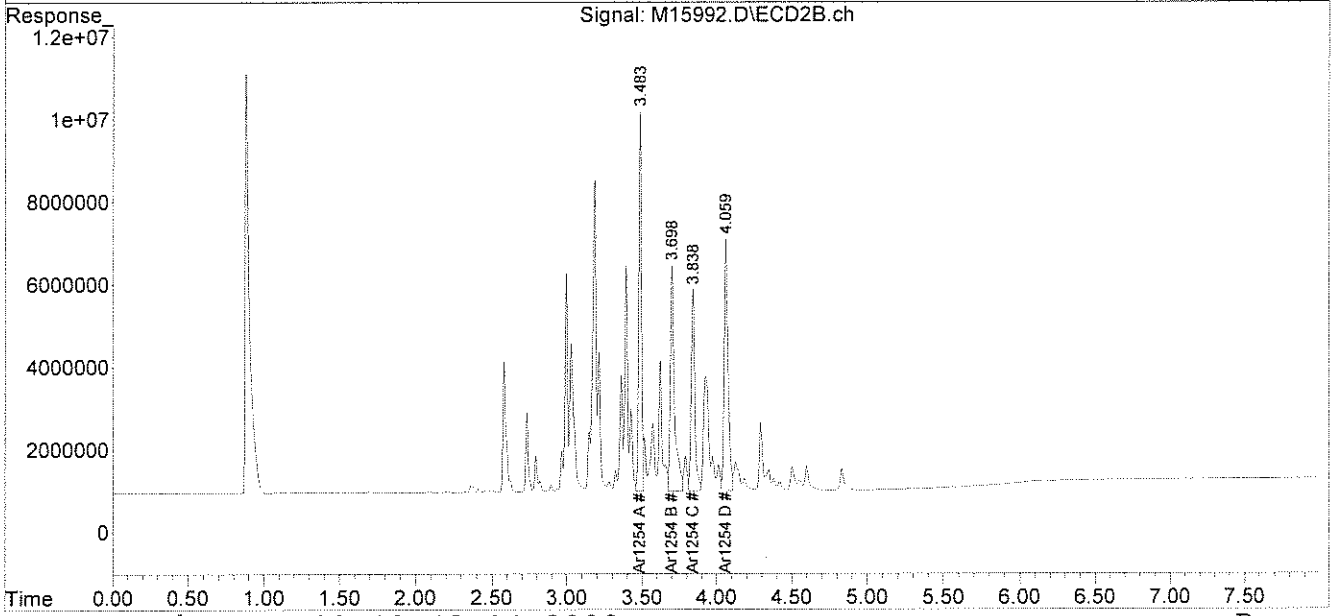
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\042209-M\
Data File : M15992.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 23 Apr 2009 9:41 am
Operator :
Sample : 63658-4,1:1000,,A/C
Misc : SOIL
ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 23 13:42:14 2009
Quant Method : C:\msdchem\1\METHODS\54SP04209.M
Quant Title :
QLast Update : Tue Apr 21 10:03:18 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





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April 24, 2009

SAMPLE DATA

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-005

Lab Sample ID: 63658-5
Matrix: Solid
Percent Solid: 98
Dilution Factor: 18000
Collection Date: 04/20/09
Lab Receipt Date: 04/21/09
Extraction Date: 04/21/09
Analysis Date: 04/23/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	594000	U
PCB-1221	594000	U
PCB-1232	594000	U
PCB-1242	594000	U
PCB-1248	594000	U
PCB-1254	594000	**11700000**
PCB-1260	594000	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.
* The surrogates were diluted out.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63658
Sample: 63658-5,1:2000,,A/C
Data File: M16004.D
Dilution Factor: 17974.1

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	11541451	11746042	1.8	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

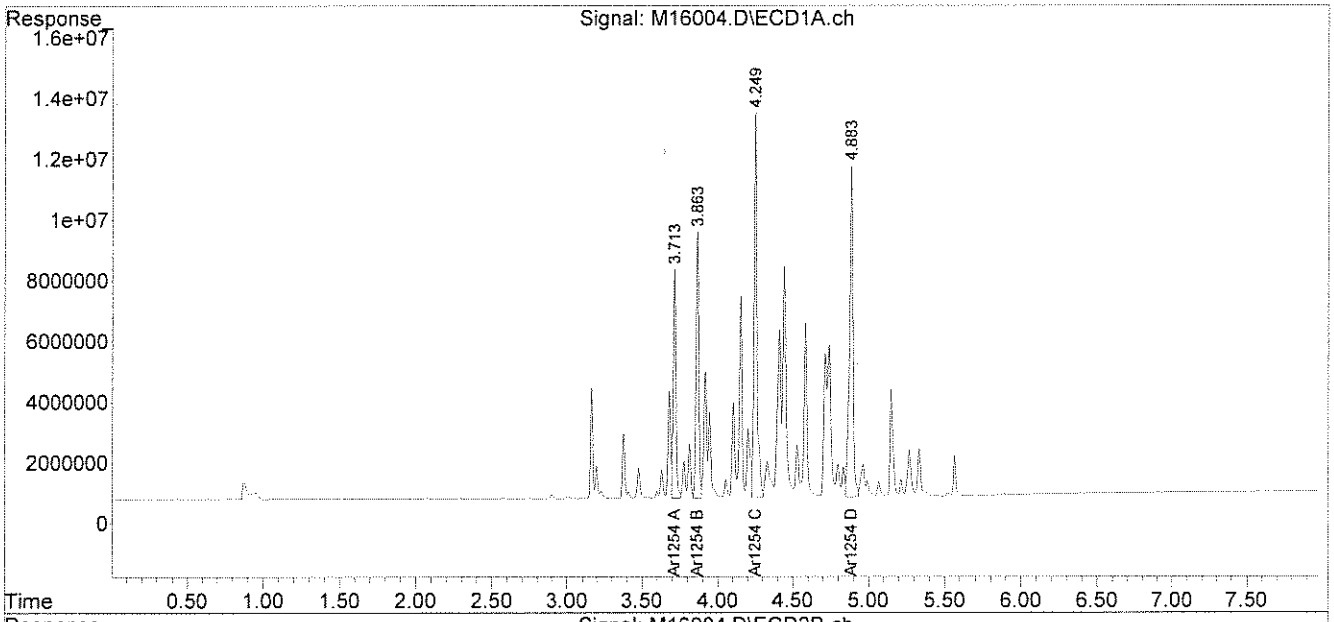
Comments: _____

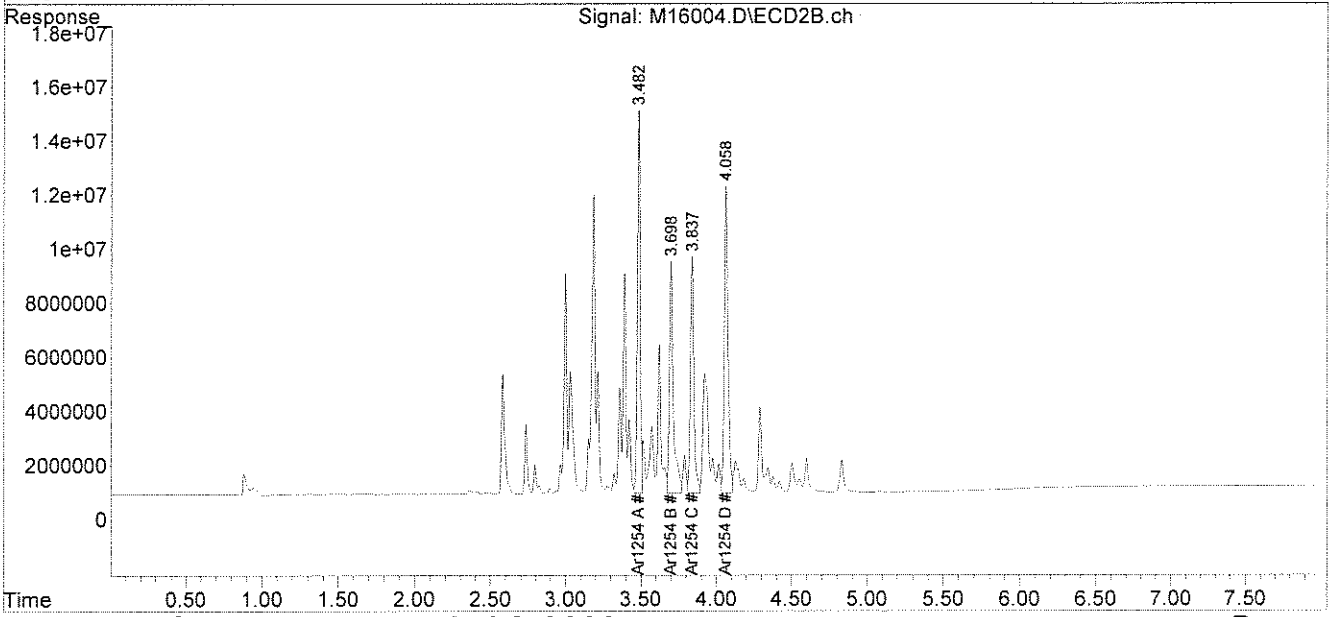
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\042209-M\
Data File : M16004.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 23 Apr 2009 1:00 pm
Operator :
Sample : 63658-5,1:2000,,A/C
Misc : SOIL
ALS Vial : 39 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 23 13:42:26 2009
Quant Method : C:\msdchem\1\METHODS\54SP04209.M
Quant Title :
QLast Update : Tue Apr 21 10:03:18 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





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April 24, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-006

SAMPLE DATA

Lab Sample ID: 63658-6
Matrix: Solid
Percent Solid: 96
Dilution Factor: 10100
Collection Date: 04/20/09
Lab Receipt Date: 04/21/09
Extraction Date: 04/21/09
Analysis Date: 04/23/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	333000	U
PCB-1221	333000	U
PCB-1232	333000	U
PCB-1242	333000	U
PCB-1248	333000	U
PCB-1254	333000	**9080000**
PCB-1260	333000	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.
* The surrogates were diluted out.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63658
Sample: 63658-6,1:1000,,A/C
Data File: M15994.D
Dilution Factor: 10052.7

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	9059811	9078320	0.2	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

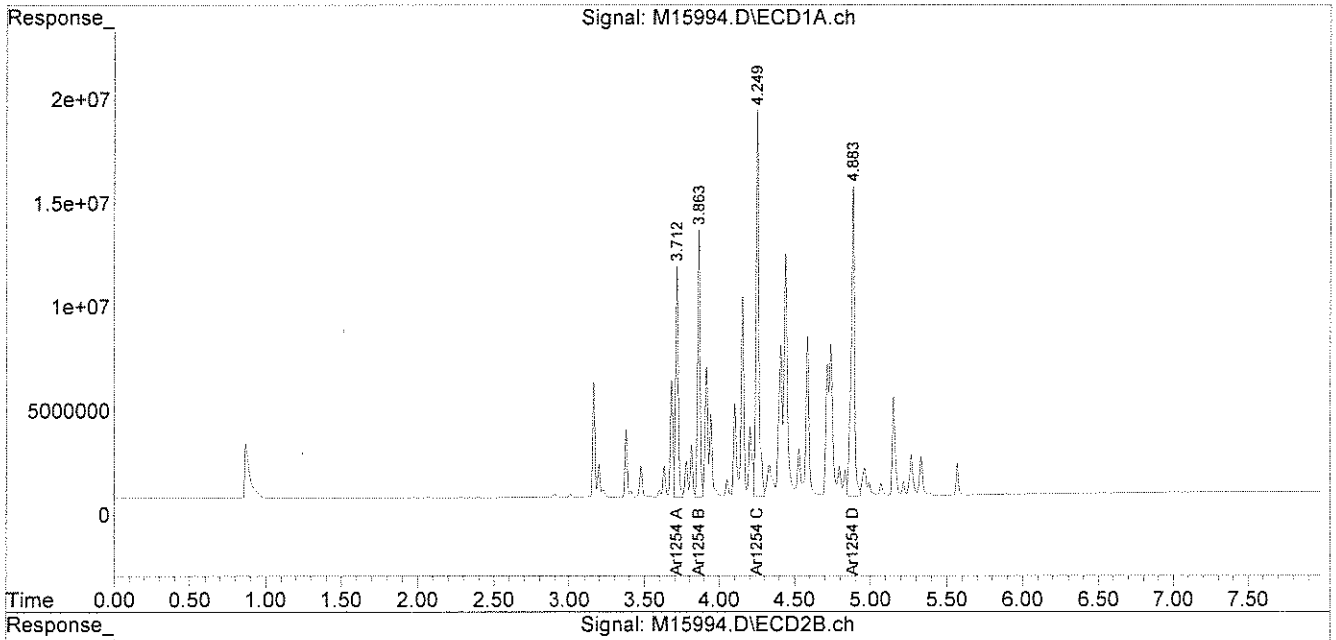
Comments: _____

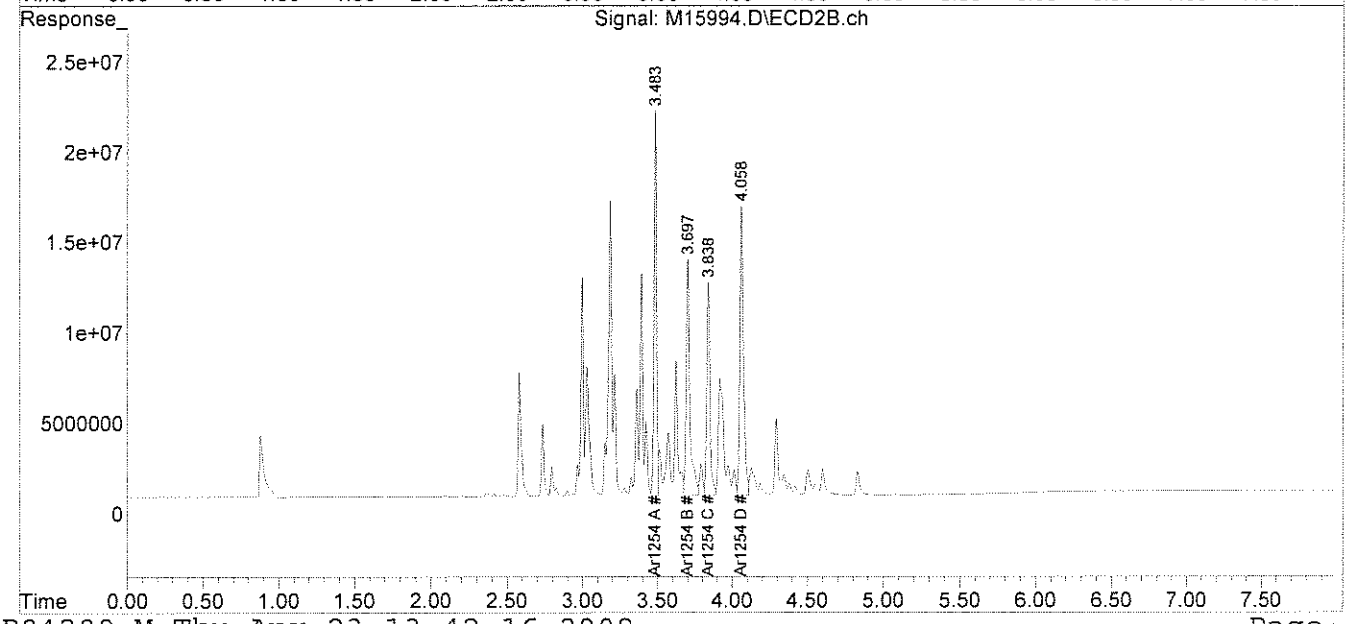
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\042209-M\
Data File : M15994.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 23 Apr 2009 10:02 am
Operator :
Sample : 63658-6,1:1000,,A/C
Misc : SOIL
ALS Vial : 30 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 23 13:42:16 2009
Quant Method : C:\msdchem\1\METHODS\54SP04209.M
Quant Title :
QLast Update : Tue Apr 21 10:03:18 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





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April 24, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-007

SAMPLE DATA

Lab Sample ID: 63658-7
Matrix: Solid
Percent Solid: 100
Dilution Factor: 488
Collection Date: 04/20/09
Lab Receipt Date: 04/21/09
Extraction Date: 04/21/09
Analysis Date: 04/23/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	16100	U
PCB-1221	16100	U
PCB-1232	16100	U
PCB-1242	16100	U
PCB-1248	16100	U
PCB-1254	16100	**129000**
PCB-1260	16100	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.
* The surrogates were diluted out.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63658
Sample: 63658-7,1:50,,A/C
Data File: M16008.D
Dilution Factor: 487.6

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	128919	107632	18.0	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

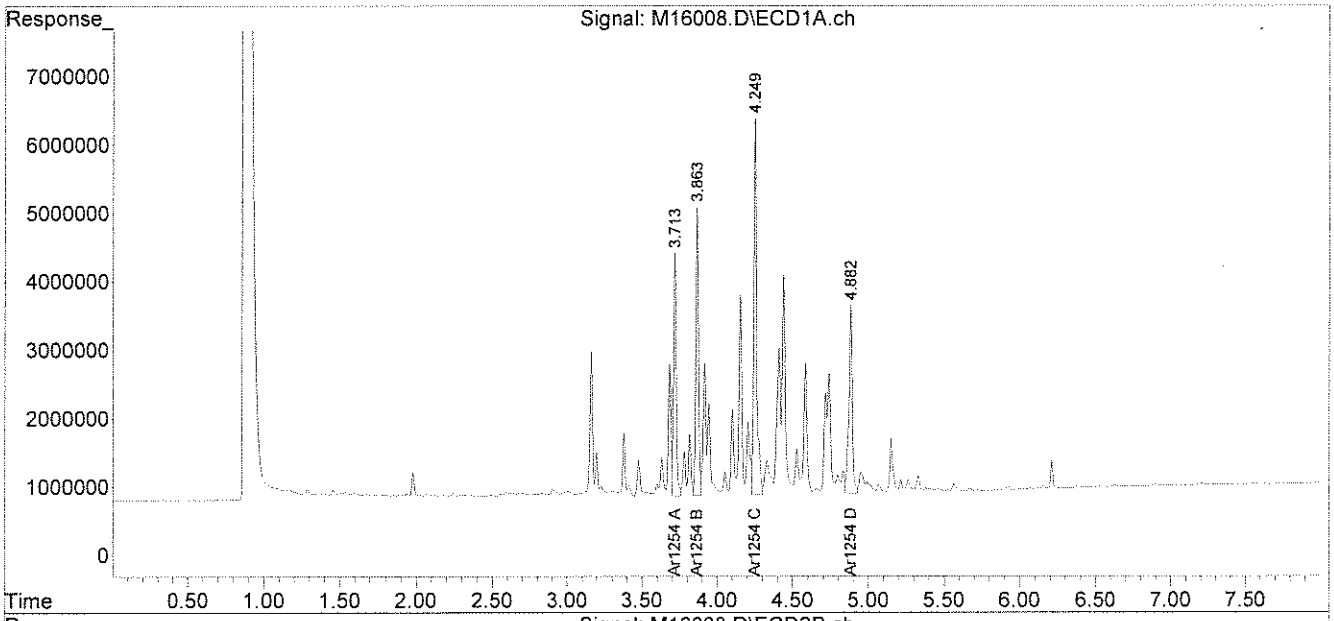
Comments: _____

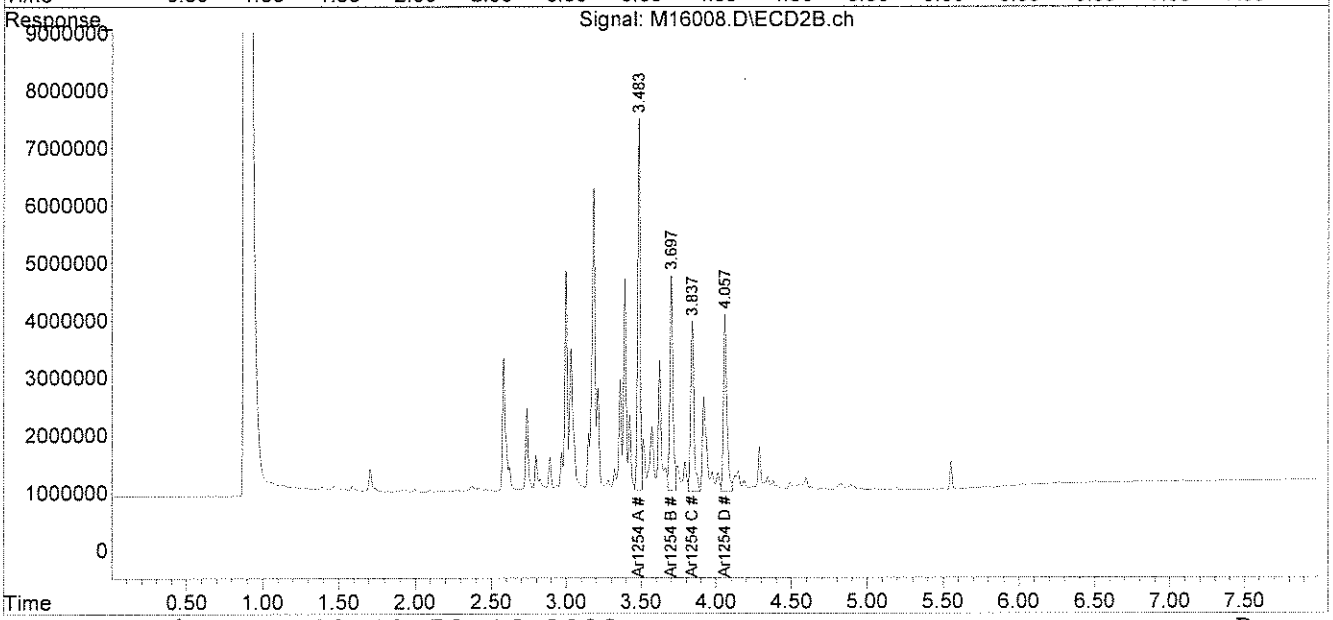
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\042209-M\
Data File : M16008.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 23 Apr 2009 1:40 pm
Operator :
Sample : 63658-7,1:50,,A/C
Misc : SOIL
ALS Vial : 43 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 23 13:59:46 2009
Quant Method : C:\msdchem\1\METHODS\54SP04209.M
Quant Title :
QLast Update : Tue Apr 21 10:03:18 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





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April 24, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-008

SAMPLE DATA

Lab Sample ID: 63658-8
Matrix: Solid
Percent Solid: 97
Dilution Factor: 17800
Collection Date: 04/20/09
Lab Receipt Date: 04/21/09
Extraction Date: 04/21/09
Analysis Date: 04/23/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	587000	U
PCB-1221	587000	U
PCB-1232	587000	U
PCB-1242	587000	U
PCB-1248	587000	U
PCB-1254	587000	**12400000**
PCB-1260	587000	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.
* The surrogates were diluted out.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63658
Sample: 63658-8,1:2000,,A/C
Data File: M16007.D
Dilution Factor: 17805.8

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	11632945	12433250	6.7	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

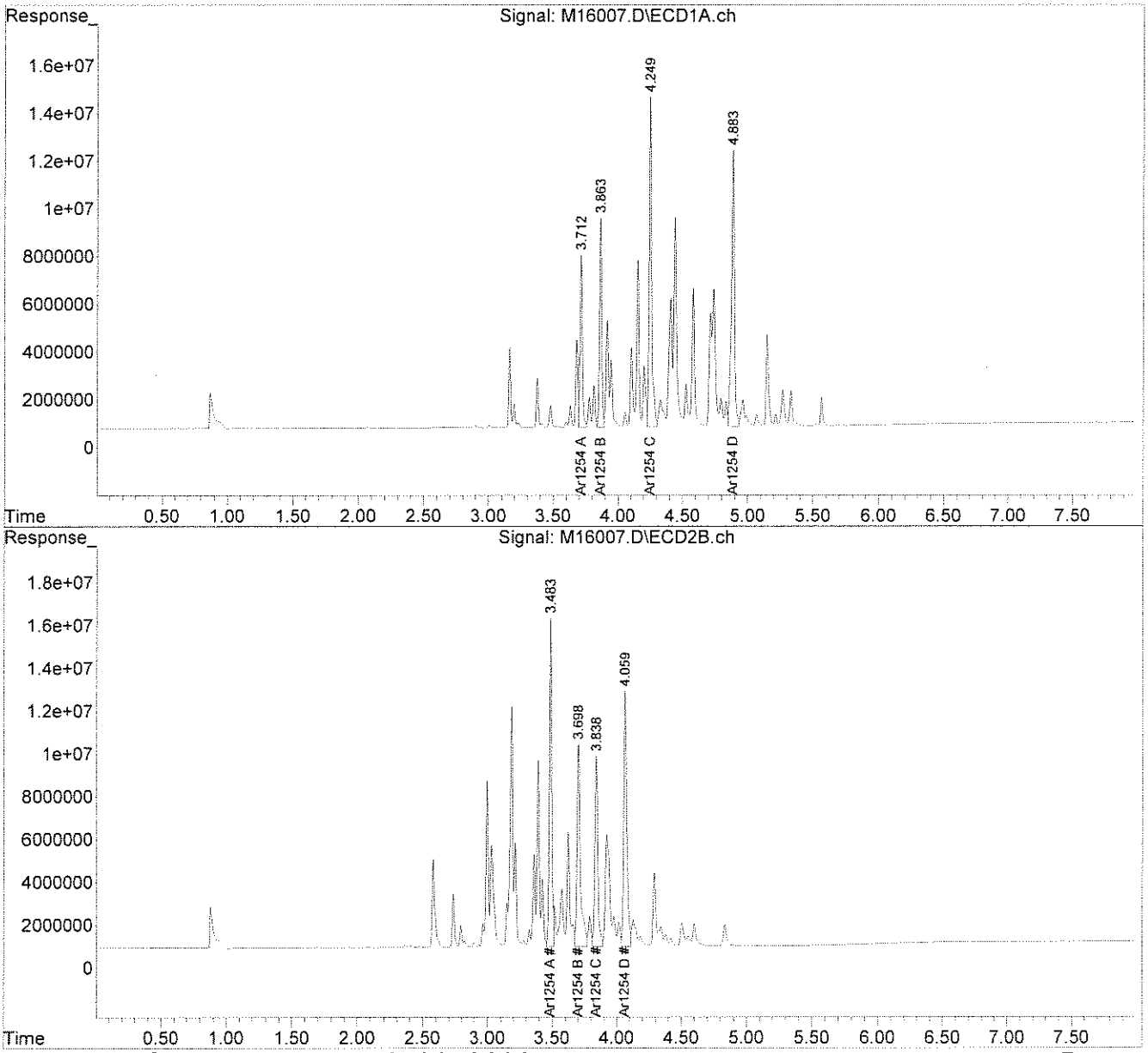
Comments: _____

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\042209-M\
Data File : M16007.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 23 Apr 2009 1:30 pm
Operator :
Sample : 63658-8,1:2000,,A/C
Misc : SOIL
ALS Vial : 42 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 23 13:42:32 2009
Quant Method : C:\msdchem\1\METHODS\54SP04209.M
Quant Title :
QLast Update : Tue Apr 21 10:03:18 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



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April 24, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-050

SAMPLE DATA

Lab Sample ID: 63658-9
Matrix: Solid
Percent Solid: 96
Dilution Factor: 18000
Collection Date: 04/20/09
Lab Receipt Date: 04/21/09
Extraction Date: 04/21/09
Analysis Date: 04/23/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	594000	U
PCB-1221	594000	U
PCB-1232	594000	U
PCB-1242	594000	U
PCB-1248	594000	U
PCB-1254	594000	**10600000**
PCB-1260	594000	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.
* The surrogates were diluted out.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63658
Sample: 63658-9,1:2000,,A/C
Data File: M16003.D
Dilution Factor: 18025.8

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	9965143	10584172	6.0	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

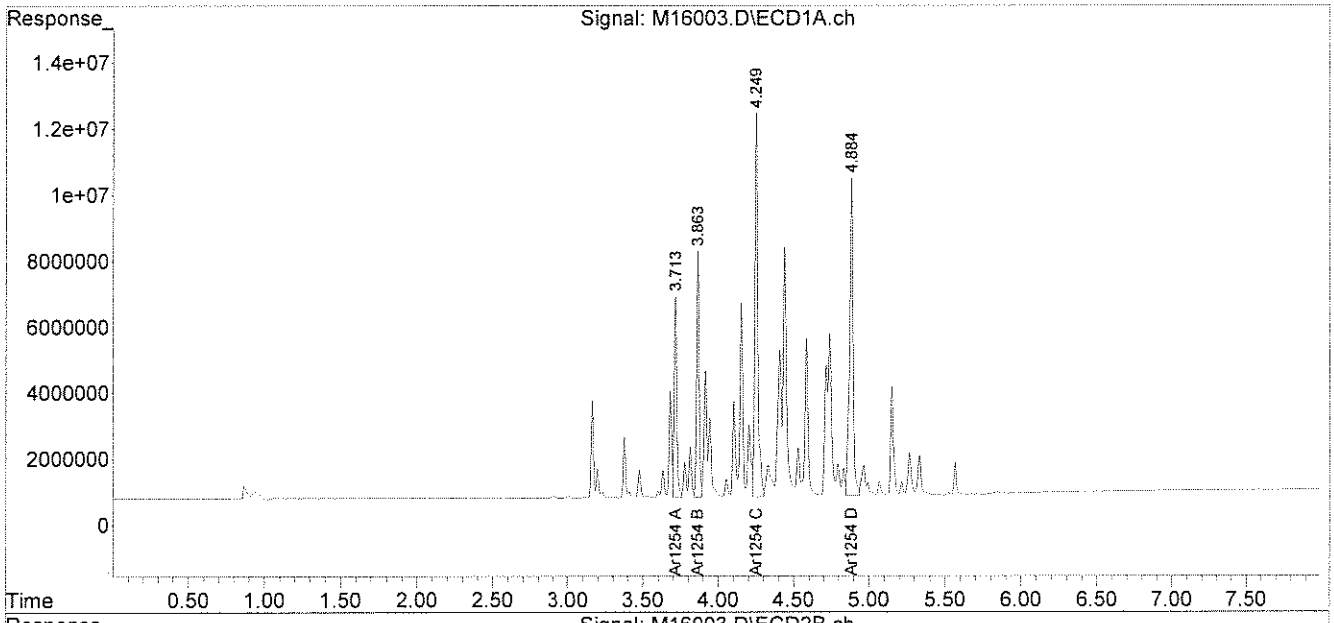
Comments: _____

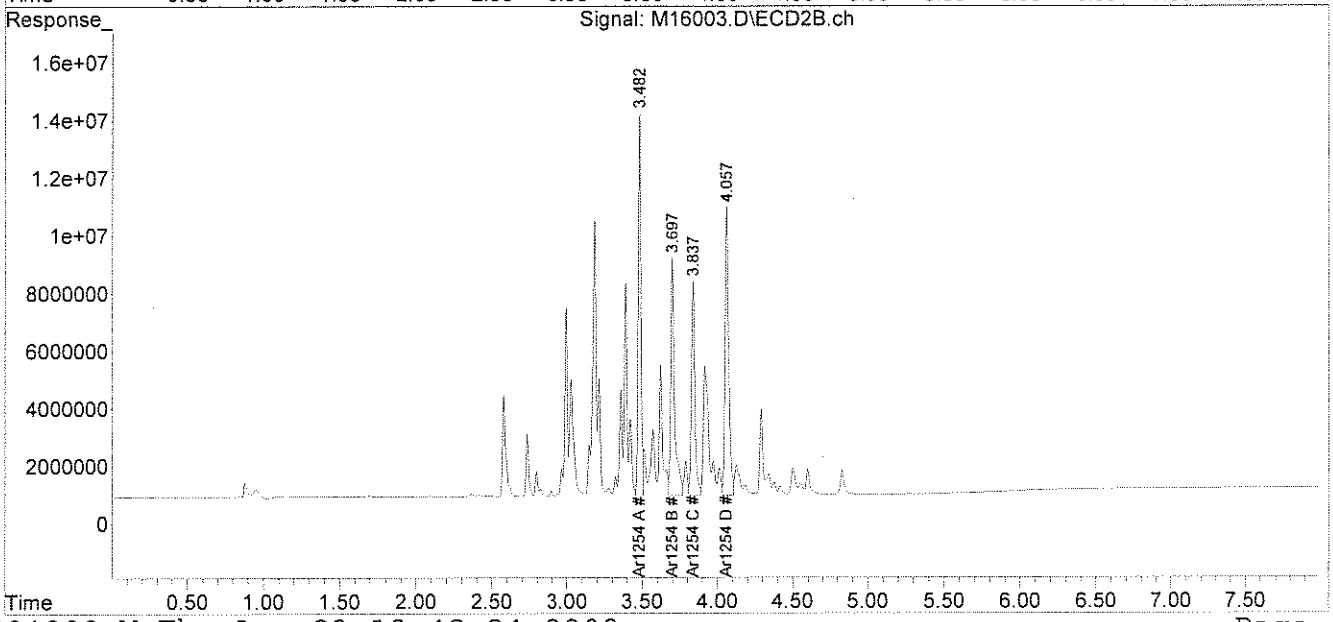
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\042209-M\
Data File : M16003.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 23 Apr 2009 12:50 pm
Operator :
Sample : 63658-9,1:2000,,A/C
Misc : SOIL
ALS Vial : 38 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 23 13:42:24 2009
Quant Method : C:\msdchem\1\METHODS\54SP04209.M
Quant Title :
QLast Update : Tue Apr 21 10:03:18 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. George Franklin
Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

April 24, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-009

SAMPLE DATA

Lab Sample ID: 63658-10
Matrix: Solid
Percent Solid: 98
Dilution Factor: 9780
Collection Date: 04/20/09
Lab Receipt Date: 04/21/09
Extraction Date: 04/21/09
Analysis Date: 04/23/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	323000	U
PCB-1221	323000	U
PCB-1232	323000	U
PCB-1242	323000	U
PCB-1248	323000	U
PCB-1254	323000	**7070000**
PCB-1260	323000	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.
* The surrogates were diluted out.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63658
Sample: 63658-10,1:1000,,A/C
Data File: M15998.D
Dilution Factor: 9783.7

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	6743696	7072207	4.8	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

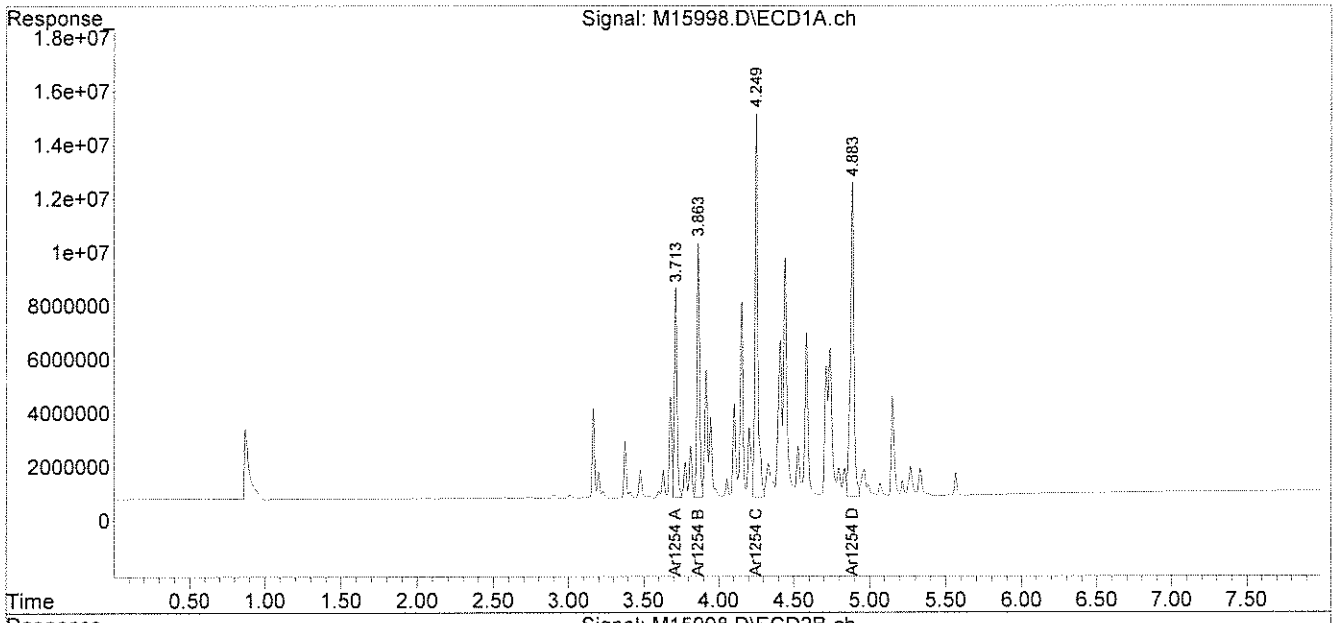
Comments: _____

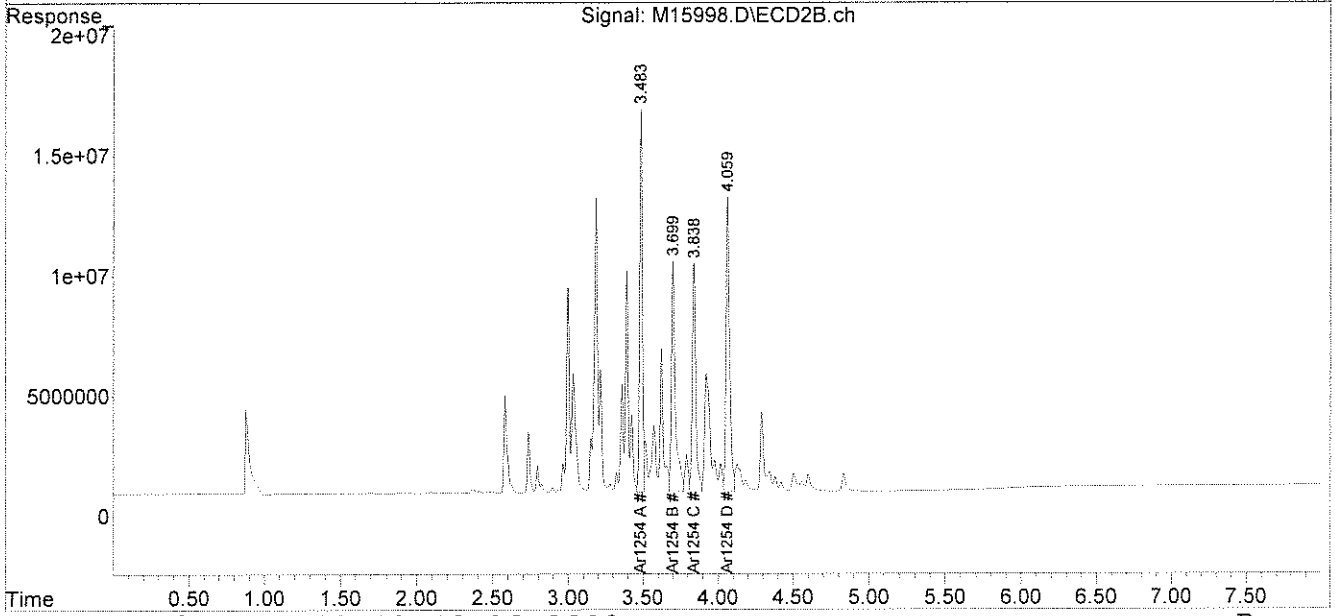
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\042209-M\
Data File : M15998.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 23 Apr 2009 10:42 am
Operator :
Sample : 63658-10,1:1000,,A/C
Misc : SOIL
ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 23 13:42:18 2009
Quant Method : C:\msdchem\1\METHODS\54SP04209.M
Quant Title :
QLast Update : Tue Apr 21 10:03:18 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





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Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

April 24, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-010

SAMPLE DATA

Lab Sample ID: 63658-11
Matrix: Solid
Percent Solid: 99
Dilution Factor: 19900
Collection Date: 04/20/09
Lab Receipt Date: 04/21/09
Extraction Date: 04/21/09
Analysis Date: 04/23/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	657000	U
PCB-1221	657000	U
PCB-1232	657000	U
PCB-1242	657000	U
PCB-1248	657000	U
PCB-1254	657000	**11400000**
PCB-1260	657000	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.
* The surrogates were diluted out.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63658
Sample: 63658-11,1:2000,,A/C
Data File: M16005.D
Dilution Factor: 19939.6

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	10977353	11407075	3.8	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

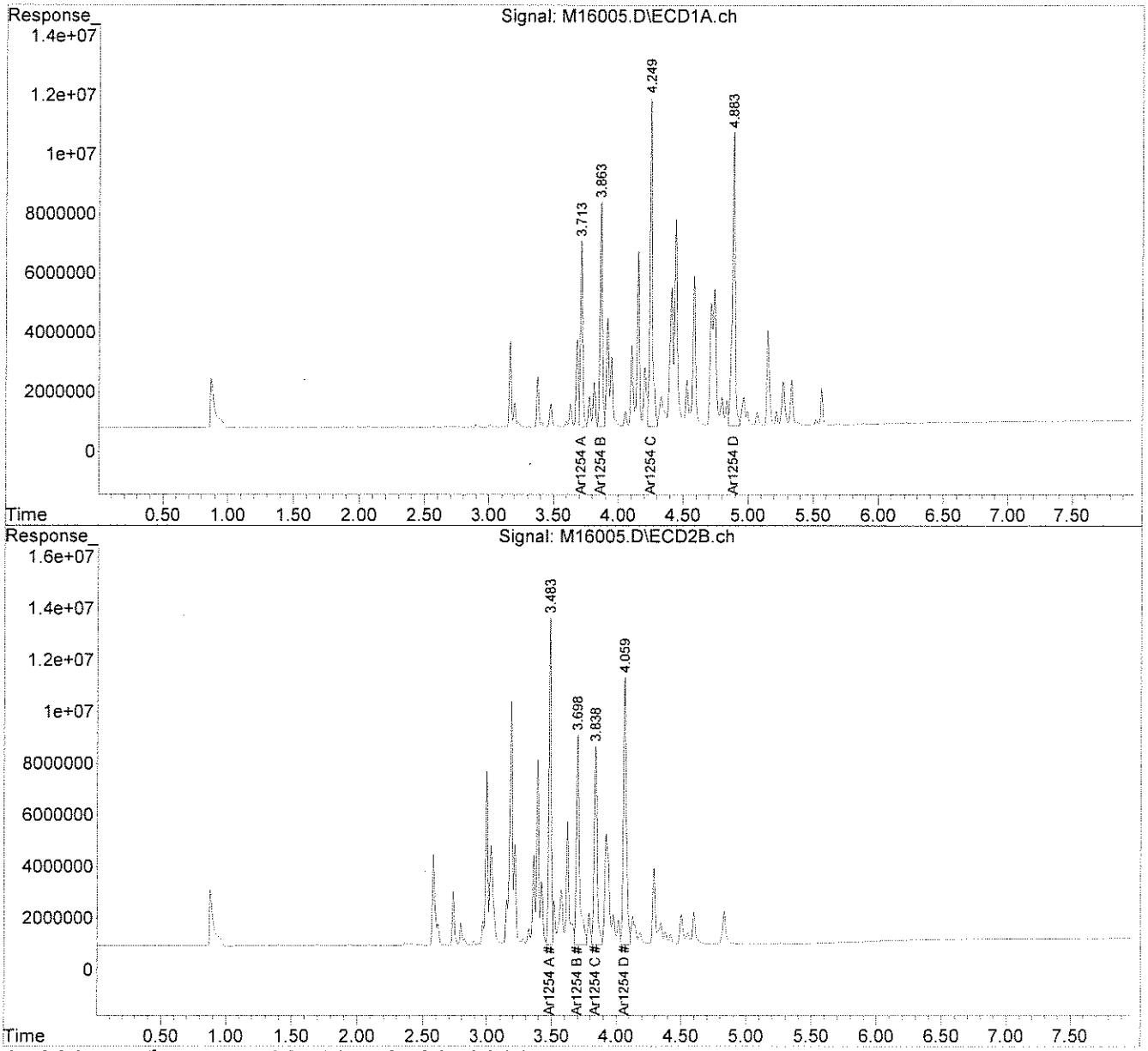
Comments: _____

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\042209-M\
Data File : M16005.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 23 Apr 2009 1:10 pm
Operator :
Sample : 63658-11,1:2000,,A/C
Misc : SOIL
ALS Vial : 40 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 23 13:42:28 2009
Quant Method : C:\msdchem\1\METHODS\54SP04209.M
Quant Title :
QLast Update : Tue Apr 21 10:03:18 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



analytics environmental laboratory LLC

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800-929-9906

Mr. George Franklin
Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

April 24, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-011

SAMPLE DATA

Lab Sample ID: 63658-12
Matrix: Solid
Percent Solid: 98
Dilution Factor: 9870
Collection Date: 04/20/09
Lab Receipt Date: 04/21/09
Extraction Date: 04/21/09
Analysis Date: 04/23/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	326000	U
PCB-1221	326000	U
PCB-1232	326000	U
PCB-1242	326000	U
PCB-1248	326000	U
PCB-1254	326000	**6480000**
PCB-1260	326000	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.
* The surrogates were diluted out.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63658
Sample: 63658-12,1:1000,,A/C
Data File: M16000.D
Dilution Factor: 9870.6

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	6469177	6482058	0.2	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

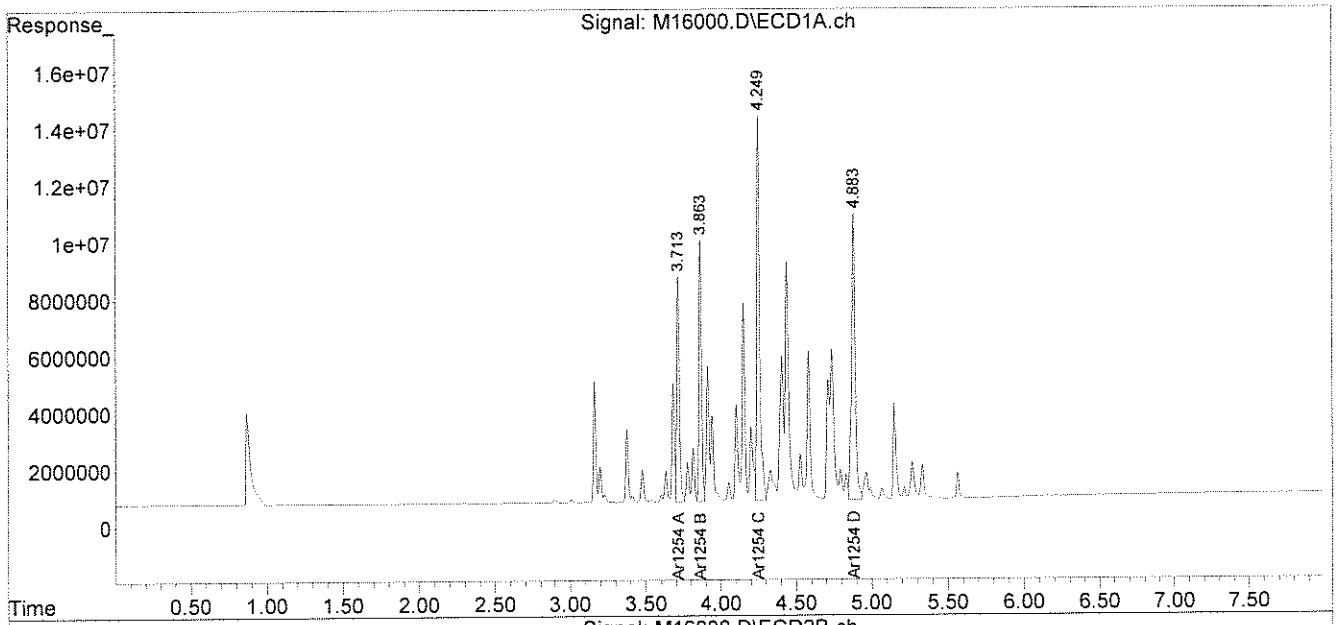
Comments: _____

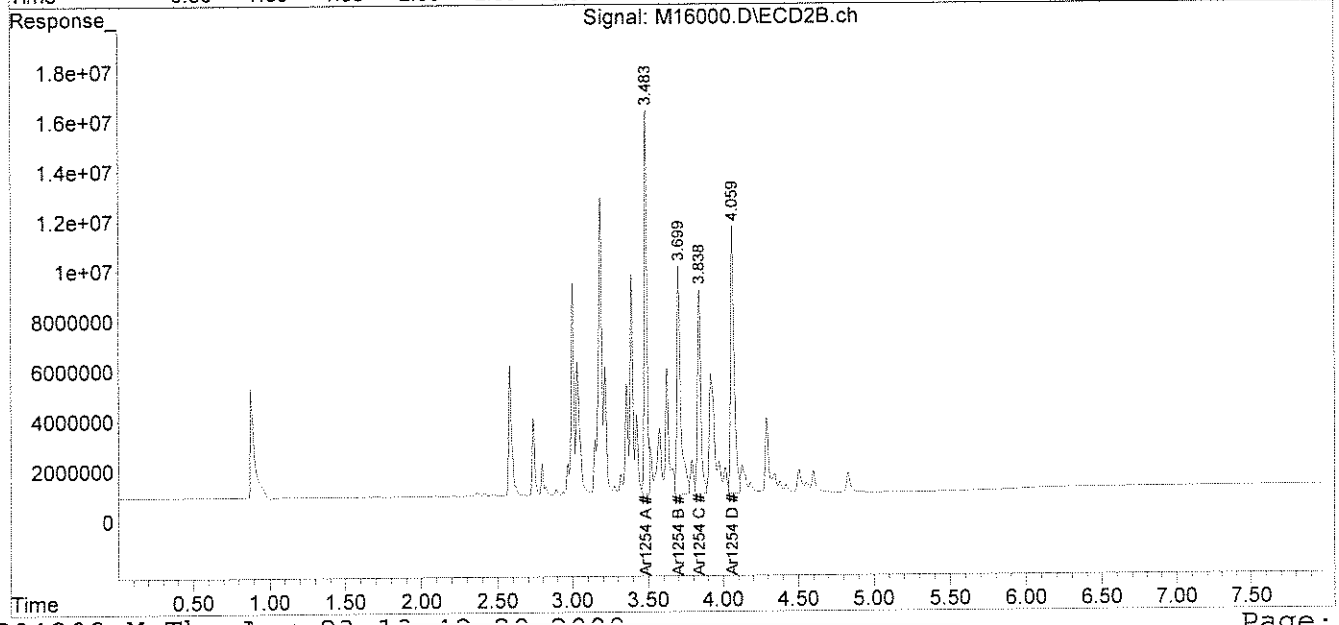
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\042209-M\
Data File : M16000.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 23 Apr 2009 11:02 am
Operator :
Sample : 63658-12,1:1000,,A/C
Misc : SOIL
ALS Vial : 36 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 23 13:42:20 2009
Quant Method : C:\msdchem\1\METHODS\54SP04209.M
Quant Title :
QLast Update : Tue Apr 21 10:03:18 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





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Mr. George Franklin
Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

April 24, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-090

SAMPLE DATA

Lab Sample ID: 63658-13
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 04/20/09
Lab Receipt Date: 04/21/09
Extraction Date: 04/21/09
Analysis Date: 04/23/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	98	%
Decachlorobiphenyl	110	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

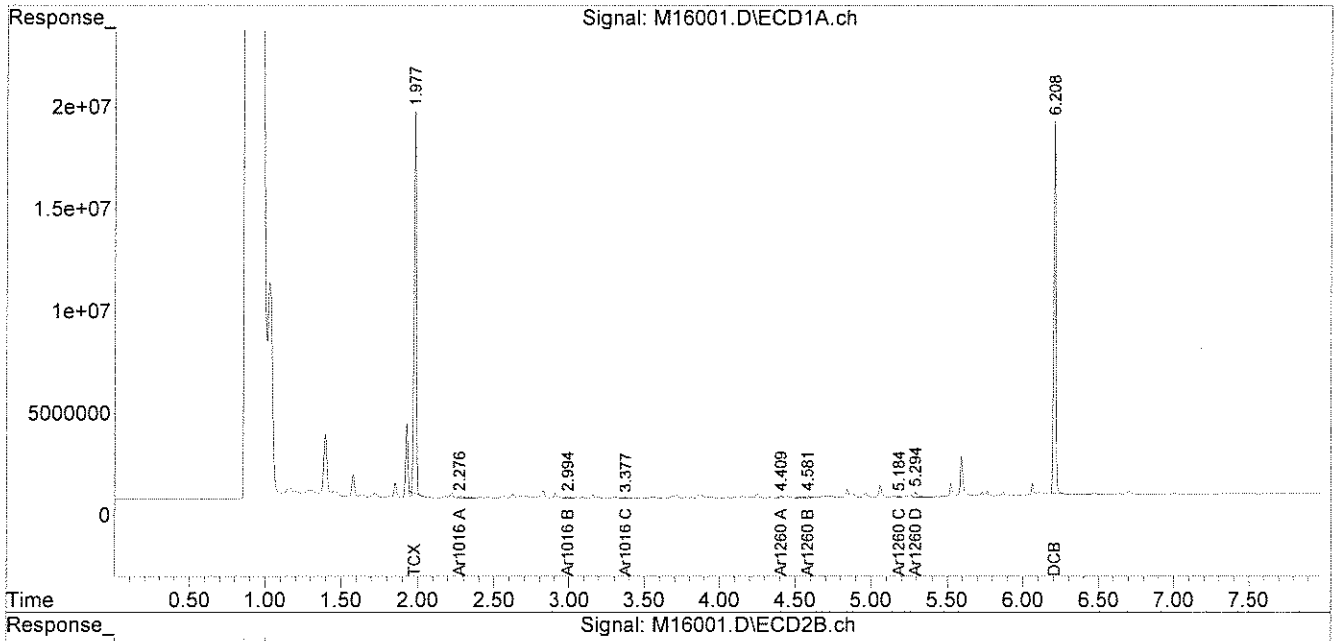
Authorized signature

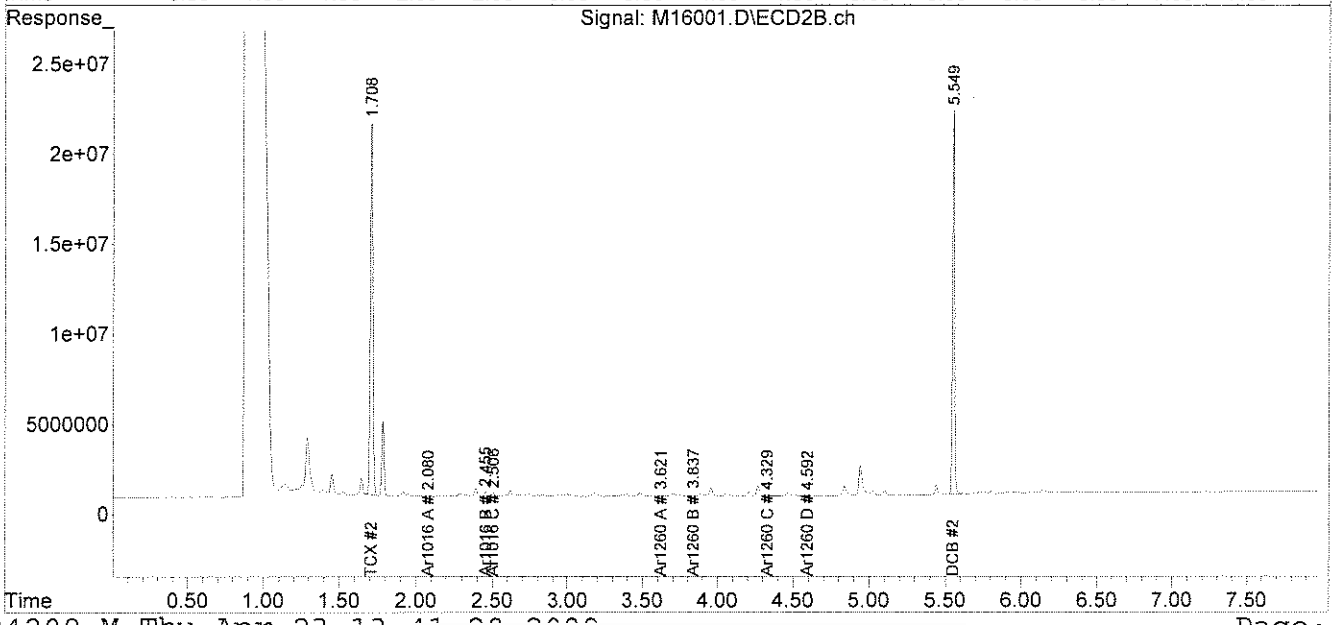
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\042209-M\
Data File : M16001.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 23 Apr 2009 11:12 am
Operator :
Sample : 63658-13,,A/C
Misc : SOIL
ALS Vial : 37 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 23 13:41:28 2009
Quant Method : C:\msdchem\1\METHODS\PCB04209.M
Quant Title : Aroclor 1016/1260
QLast Update : Mon Apr 20 10:39:38 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





PCB
QC FORMS

PCB SOIL
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63658

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B04219PSOX,,A/C	124		111		100		110	
L04219PSOX,,A/C	98		118		107		119	
LD04219PSOX,,A/C	89		108		97		108	
63658-3,1:1000,,A/C	D		D		D		D	
63658-4,1:1000,,A/C	D		D		D		D	
63658-6,1:1000,,A/C	D		D		D		D	
63658-10,1:1000,,A/C	D		D		D		D	
63658-13,,A/C	98		110		102		111	
63658-9,1:2000,,A/C	D		D		D		D	
63658-5,1:2000,,A/C	D		D		D		D	
63658-11,1:2000,,A/C	D		D		D		D	
63658-1,1:2000,,A/C	D		D		D		D	
63658-8,1:2000,,A/C	D		D		D		D	
63658-7,1:50,,A/C	D		D		D		D	

		Lower Limit	Upper Limit
SMC #1 =	TCX	40	130
SMC #2 =	DCB	40	130

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB SOIL
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63658

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B04219PSOX,RR,,A/C	104		104		96		102	
63658-2,1:20,,A/C	D		D		D		D	

		Lower Limit	Upper Limit
SMC #1 =	TCX	40	130
SMC #2 =	DCB	40	130

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB SOIL
LABORATORY CONTROL SAMPLE/DUPLICATE
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 63658

Non-spiked sample: B04219PSOX,,A/C

Spike: L04219PSOX,,A/C

Spike duplicate: LD04219PSOX,,A/C

COMPOUND	LCS SPIKE ADDED (ug/kg)	LCSD SPIKE ADDED (ug/kg)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE RESULT (ug/kg)	SPIKE % REC	#	SPIKE DUP RESULT (ug/kg)	SPIKE DUP % REC	#	RPD	#
PCB 1016	200	200	65	140	30	0	263	132		243	121		8.1	
PCB 1260	200	200	60	130	30	0	230	115		206	103		11.0	
PCB 1016 #2	200	200	65	140	30	0	276	138		259	129		6.5	
PCB 1260 #2	200	200	60	130	30	0	236	118		212	106		10.4	

Column to be used to flag recovery and RPD values outside of QC limits

* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

_____

CHAIN OF CUSTODIES

Chain Of Custody Form

analytics environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, NH 03801
Phone (603) 436-5111
Fax (603) 430-2151

For Analytics Use Only Rev. 5 06/18/08

Samples were:
1) Shipped or hand-delivered
2) Temp blank °C 3.5
3) Received in good condition (Y) or N
4) pH checked by: N/A
5) Labels checked by: RM 4/21/09

Project#: 210918 Proj. Name: UMASS - LGRC

Company: Woodard & Curran

Contact: GEORGE FRANKLIN/AMY WALLACE

Address: 35 New England Business Ctr.
Andover, MA 01810

Phone: (866)702-6371 PO# Quote # WCI 8091001

Sampler (Signature):

Matrix Key:
C = Concrete
WP = Wipe
WW = Wastewater
SW = Surface Water
GW = Groundwater
DW = Drinking Water
S = Soil/Sludge
O = Oil
E = Extract
X = Other

Container Key
P=plastic G=glass

Station Identification	Sample Date	Sample Time	Analysis	Preservation: Unpres	4°C	HNO3	H2SO4	HCL	Methanol	Other	Matrix	Container number/type		pH	Analytics Sample #
LRC-GZ-001	4/20/09	0854	PCBs		✓						X	1	G		63658 -1
LRC-GZ-002	4/20/09	0934	PCBs		✓						X	1	G		-2
LRC-GZ-003	4/20/09	0940	PCBs		✓						X	1	G		-3
LRC-GZ-004	4/20/09	1010	PCBs		✓						X	1	G		-4
LRC-GZ-005	4/20/09	1107	PCBs		✓						X	1	G		-5
LRC-GZ-006	4/20/09	~~1135~~ 1130	PCBs		✓						X	1	G		-6
LRC-GZ-007	4/20/09	1208	PCBs		✓						X	1	G		-7
LRC-GZ-008	4/20/09	1229	PCBs		✓						X	1	G		-8
LRC-GZ-050	4/20/09	1229	PCBs		✓						X	1	G		-9
LRC-GZ-009	4/20/09	1315	PCBs		✓						X	1	G		-10
LRC-GZ-010	4/20/09	1333	PCBs		✓						X	1	G		-11

Received By:	Received By:	Received By:
Time: 1800	Time: 9:00	Time:
Date: 4/21/09	Date: 4/21/09	Date:

Email Results to:
George Franklin
Jeff Hamel
Amy Wallace

Comments / Instructions:
PCBs by 8082
Soxhlet Extraction
X = Window Glazing

STD TAT

Turnaround Time (TAT)
- ☐ 24hr*
- ☐ 48hr*
- ☐ 72hr*
- ☑ 5 Days*
- ☐ 10 Days

*Fee may apply; lab approval required

Project Requirements:
*Fee may apply

Report Type:
- ☐ MCP* ☑ Level II*
- ☐ CTRCP* ☐ Level III*
- ☐ DOD* ☐ Level IV*
- ☐ Standard

State:
- ☐ NH
- ☐ MA
- ☐ ME
- ☐ CT
- ☐ RI

Other: TSCA

State Standard: _____ (eg. S-1 or GW-1)

EDD Required: Y* N

Type: _____

Relinquished By Sampler:	Relinquished By:	Relinquished By:

Analytics Report 63658 page 0054 of 56

Chain Of Custody Form

Analytics environmental laboratory LLC
195 Commerce Way Suite E
Portsmouth, NH 03801
Phone (603) 436-5111
Fax (603) 430-2151

For Analytics Use Only Rev. 5 06/18/08

Samples were:
1) Shipped or hand-delivered
2) Temp blank °C 3.5
3) Received in good condition Y or N
4) pH checked by: N/A
5) Labels checked by: RM 4/21/09

Project#: 210918 Proj. Name: UMASS - LGRC
Company: Woodard & Curran
Contact: GEORGE FRANKLIN/AMY WALLACE
Address: 35 New England Business Ctr.
Andover, MA 01810
Phone: (866)702-6371 PO# Quote # WCI 8091001
Sampler (Signature):

Matrix Key:
C = Concrete
WP = Wipe
WW = Wastewater
SW = Surface Water
GW = Groundwater
DW = Drinking Water
S = Soil/Sludge
O = Oil
E = Extract
X = Other

Container Key
P=plastic G=glass

Preservation: Unpres | 4°C | HNO3 | H2SO4 | HCL | Methanol | Other

Station Identification	Sample Date	Sample Time	Analysis	Matrix	Container number/type		pH	Analytics Sample #
LL-GZ-011	4/20/09	1355	PCBs	X	1	G		63658-12
LL-GZ-090	4/20/09	1453	PCBs	WP	1	G		-13

Received By: Time: 1820 Date: 4/20/09
Received By: Time: 9:00 Date: 4/21/09
Received By: Time: Date:

Relinquished By Sampler: Date: 4/20/09
Relinquished By: Date: 4/21/09
Relinquished By: Date:

Email Results to:
George Franklin
Jeff Hamel
Amy Wallace

Comments / Instructions:
PCBs by 8082
Soxhlet Extraction
X = Window Glazing

STD TAT

Turnaround Time (TAT)
- [ ] 24hr*
- [ ] 48hr*
- [ ] 72hr*
- [x] 5 Days*
- [ ] 10 Days

*Fee may apply; lab approval required

Project Requirements:
*Fee may apply

Report Type:
- [ ] MCP*
- [x] Level II*
- [ ] CTRCP*
- [ ] Level III*
- [ ] DOD*
- [ ] Level IV*
- [ ] Standard

State:
- [ ] NH
- [ ] MA
- [ ] ME
- [ ] CT
- [ ] RI

Other: TSCA

State Standard: _____ (eg. S-1 or GW-1)

EDD Required: Y* N

Type: _____

Analytics Report 63658 page 0055 of 56

analytics environmental laboratory LLC

ANALYTICS SAMPLE RECEIPT CHECKLIST

AEL LAB#: 63658

CLIENT: Woodard + Curran

PROJECT: UMASS - LGRC

COOLER NUMBER: _____

NUMBER OF COOLERS: 1

DATE RECEIVED: 4/21/09

A: PRELIMINARY EXAMINATION:

DATE COOLER OPENED: 4/21/09

1. Cooler received by(initials) — Date Received: NF 4/21/09

2. Circle one: (Hand delivered) Shipped (If so, skip 3)

	Y	N
3. Did cooler come with a shipping slip?		
3a. Enter carrier name and airbill number here: _____		
4. Were custody seals on the outside of cooler? How many & where: _____ Seal Date: _____ Seal Name: _____	Y	(N/A)
5. Did the custody seals arrive unbroken and intact upon arrival?	Y	(N/A)
6. COC#: _____		
7. Were Custody papers filled out properly (ink,signed, etc)?	(Y)	N
8. Were custody papers sealed in a plastic bag?	(Y)	N
9. Did you sign the COC in the appropriate place?	(Y)	N
10. Was the project identifiable from the COC papers?	(Y)	N
11. Was enough ice used to chill the cooler? (Y) N — Temp. of cooler: 3.5°C		

B. Log-In: Date samples were logged in: 4/21/09 By: NF

12. Type of packing in cooler (bubble wrap) popcorn)	(Y)	N
13. Were all bottles sealed in separate plastic bags?	Y	(N)
14. Did all bottles arrive unbroken and were labels in good condition?	(Y)	N
15. Were all bottle labels complete(ID,Date,time,etc.)	(Y)	N
16. Did all bottle labels agree with custody papers?	(Y)	N
17. Were the correct containers used for the tests indicated:	(Y)	N
18. Were samples received at the correct pH?	Y	(N/A)
19. Was sufficient amount of sample sent for the tests indicated?	(Y)	N
20. Were bubbles absent in VOA samples?	Y	(N/A)

If NO, List sample #'s: _____

21. Laboratory labeling verified by (initials): Date: RM 4/21/09

analytics environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

April 29, 2009

Mr. George Franklin
Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

RE: Analytical Results Case Narrative
Analytics # 63674
UMASS LGRC Proj# 210918

Dear Mr. Franklin;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

Case Narrative/Non-Conformance Summary
Sample Log Sheet - Cover Page
PCB Form 1 Data Sheet for Samples and Blanks
Chromatograms
PCB Form 10 Confirmation Results
PCB Form 3 MS/MSD (LCS) Recoveries
Chain of Custody (COC) Forms

QC NON CONFORMANCE SUMMARY

Sample Receipt:
No exceptions.

PCBs by EPA Method 8082:
Samples 63674-1 required dilution due to high concentrations of PCB 1254 detected in the sample.

Sincerely,
ANALYTICS Environmental Laboratory, LLC

Stephen Knollmeyer
Laboratory Director

analytics environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
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Mr. George Franklin
Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

Report Number: 63674

Revision: Rev. 0

Re: UMASS-LGRC **210918**

Enclosed are the results of the analyses on your sample(s). Samples were received on 23 April 2009 and analyzed for the tests listed below. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

Lab Number	Sample Date	Station Location	Analysis	Comments
63674-1	04/21/09	LGRC-GZ-012	EPA 8082 (PCBs only)	

Sample Receipt Exceptions: None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, New York, Virginia, Maryland, and is validated by the U.S. Navy (NFESC). A list of actual certified parameters is available upon request.

If you have any further question on the analytical methods or these results, do not hesitate to call.

Authorized signature _____
Stephen L. Knollmeyer Lab. Director

Date 04/29/09

analytics environmental laboratory LLC

Surrogate Compound Limits

Matrix: / Units:	Aqueous % Recovery	Solid % Recovery	Method
Volatile Organic Compounds - Drinking Water			
1,4-Difluorobenzene	70-130		EPA 524.2
Bromofluorobenzene	70-130		
1,2-Dichlorobenzene-d4	70-130		
Volatile Organic Compounds			
1,2-Dichloroethane-d4	70-130	70-130	EPA 8260B
Toluene-d8	70-130	70-130	
Bromofluorobenzene	70-130	70-130	
Semi-Volatile Organic Compounds			
2-Fluorophenol	20-110	35-105	EPA 624/8270C
d5-Phenol	15-110	40-100	
d5-nitrobenzene	40-110	35-100	
2-Fluorobiphenyl	50-110	45-105	
2,4,6-Tribromophenol	40-110	40-125	
d14-p-terphenyl	50-130	30-125	
PAH's by SIM			
d5-nitrobenzene	21-110	35-110	EPA 8270C
2-Fluorobiphenyl	36-121	45-105	
d14-p-terphenyl	33-141	30-125	
Pesticides and PCBs			
2,4,5,6-Tetrachloro-m-xylene (TCX)	46-122	40-130	EPA 608/8082
Decachlorobiphenyl (DCB)	40-135	40-130	
Herbicides			
Dichloroacetic acid (DCAA0	30-150	30-150	
Gasoline Range Organics/TPH Gasoline			
Trifluorotoluene TFT (FID)	60-140	60-140	MEDEP 4217/EPA 8015
Bromofluorobenzene (BFB) (FID)	60-140	60-140	
Trifluorotoluene TFT (PID)	60-140	60-140	
Bromofluorobenzene (BFB) (PID)	60-140	60-140	
Diesel Range Organics/TPH Diesel			
m-terphenyl	60-140	60-140	MEDEP 4125/EPA 8015/CT ETPH

PCB
DATA SUMMARIES

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
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800-929-9906

Mr. George Franklin
Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

April 29, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B04239PSOX
Matrix: Soil
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 04/23/09
Analysis Date: 04/27/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	95	%
Decachlorobiphenyl	105	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS: Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C. Results are expressed on a dry weight basis.

PCB Report

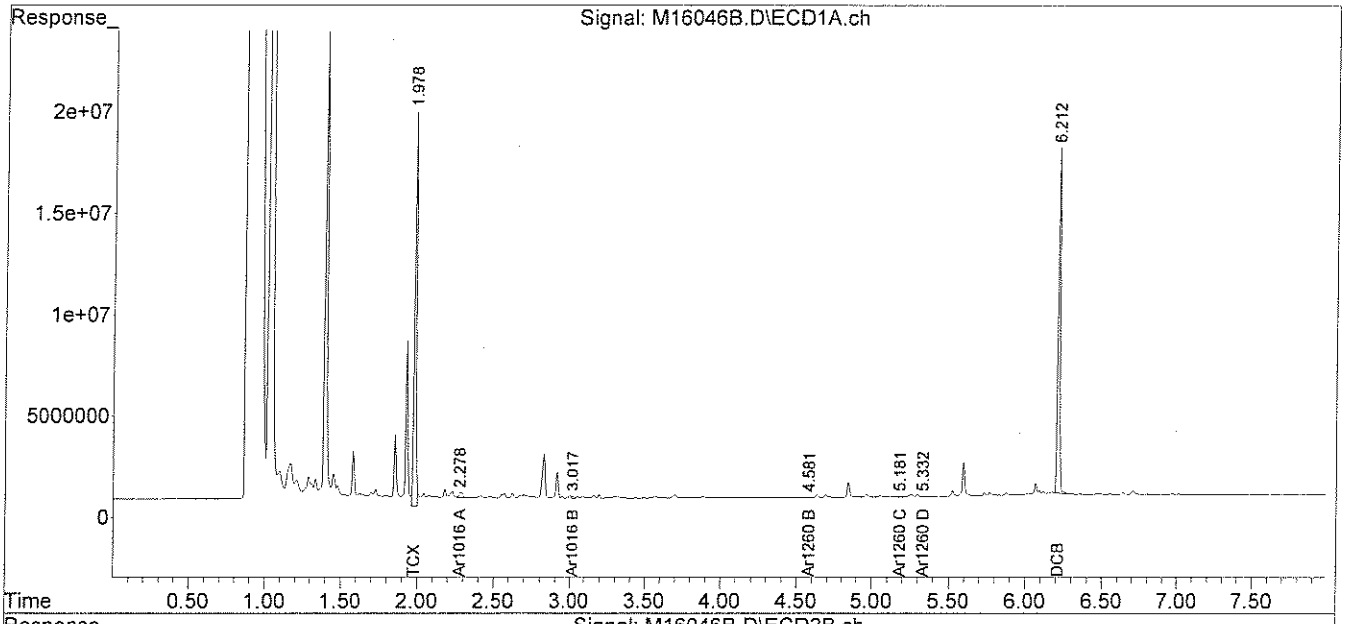
Authorized signature

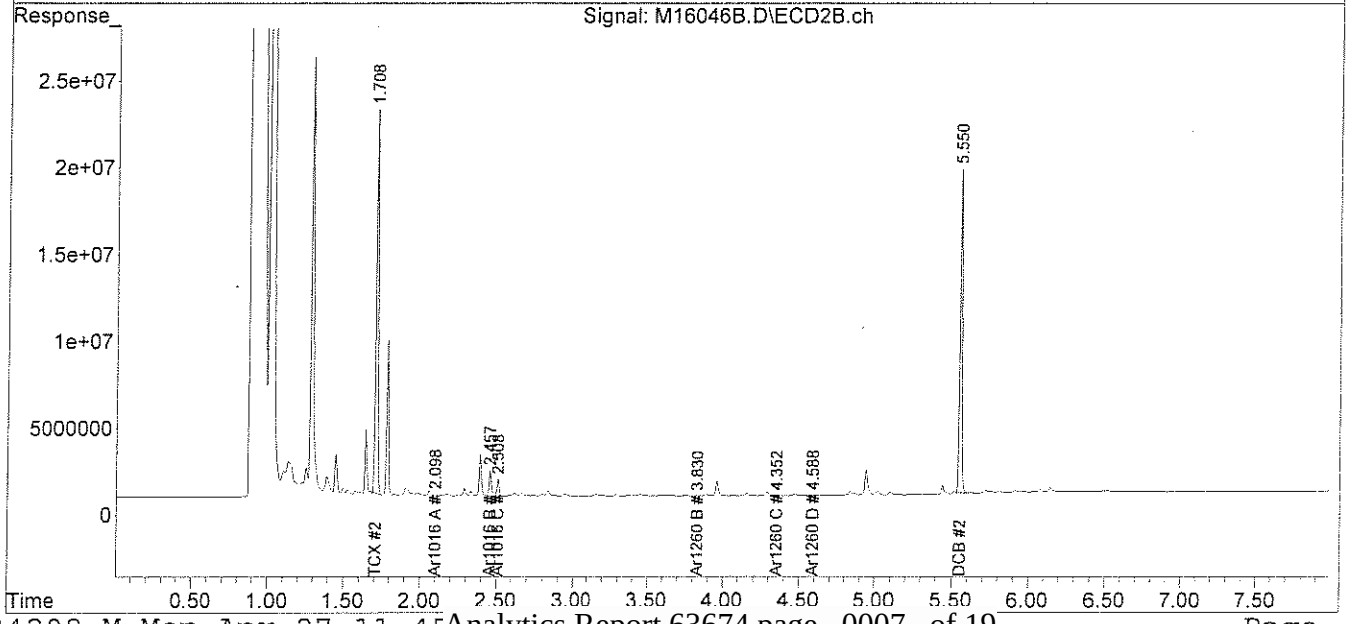
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\042709-M\
Data File : M16046B.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 27 Apr 2009 10:29 am
Operator :
Sample : B04239PSOX,,A/C
Misc : SOIL
ALS Vial : 54 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 27 11:45:42 2009
Quant Method : C:\msdchem\1\METHODS\PCB04209.M
Quant Title : Aroclor 1016/1260
QLast Update : Mon Apr 20 10:39:38 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





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Mr. George Franklin
Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

April 29, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B04249PSOX RR
Matrix: Soil
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 04/24/09
Analysis Date: 04/28/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	94	%
Decachlorobiphenyl	117	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS: Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C. Results are expressed on a dry weight basis.

PCB Report

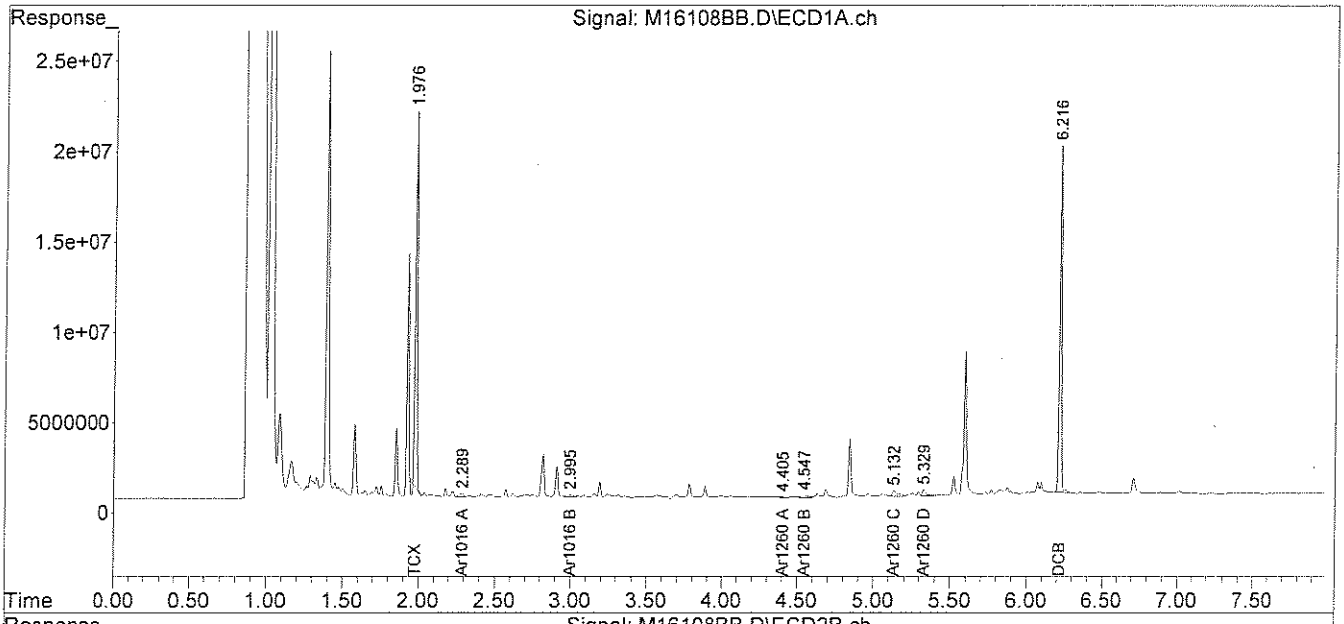
Authorized signature

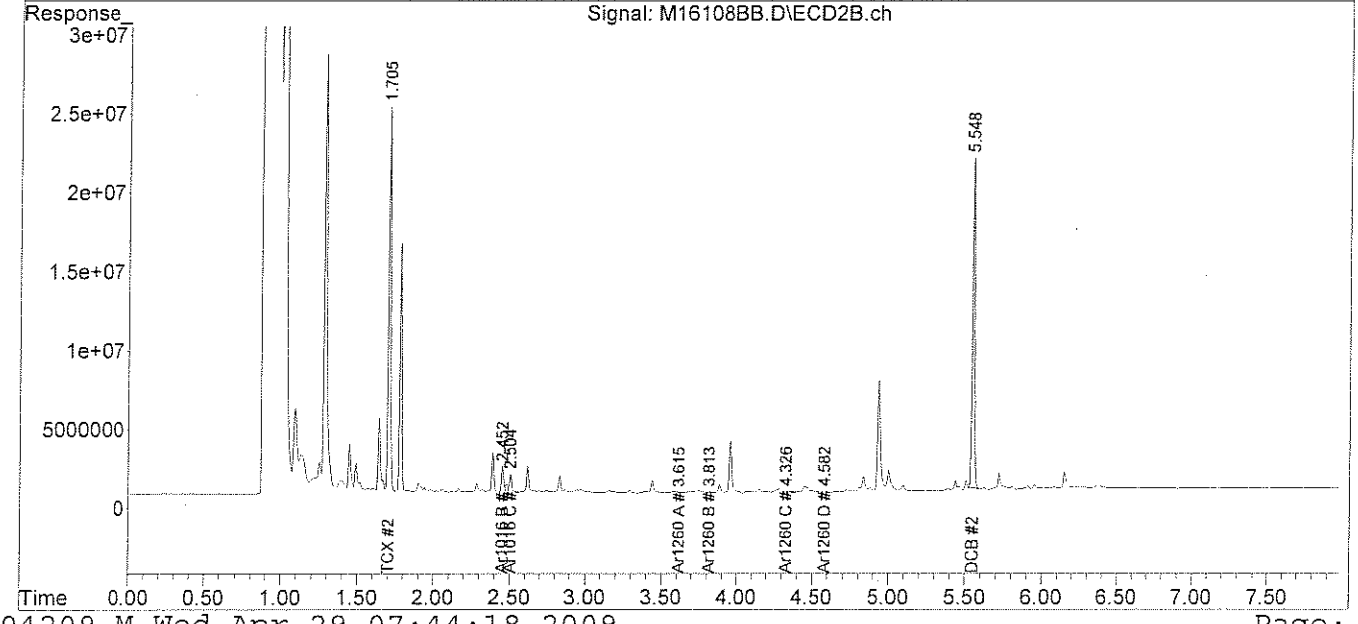
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\042709-M\
Data File : M16108BB.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 28 Apr 2009 6:03 pm
Operator :
Sample : B04249PSOX,RR,,A/C (Sig #1); ~~B04249PSOX (Sig #2)~~
Misc : SOIL
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 07:44:18 2009
Quant Method : C:\msdchem\1\METHODS\PCB04209.M
Quant Title : Aroclor 1016/1260
QLast Update : Mon Apr 20 10:39:38 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





analytics environmental laboratory LLC

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800-929-9906

Mr. George Franklin
Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

April 29, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-012

SAMPLE DATA

Lab Sample ID: 63674-1
Matrix: Solid
Percent Solid: 99
Dilution Factor: 16210
Collection Date: 04/21/09
Lab Receipt Date: 04/23/09
Extraction Date: 04/23/09
Analysis Date: 04/28/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	535000	U
PCB-1221	535000	U
PCB-1232	535000	U
PCB-1242	535000	U
PCB-1248	535000	U
PCB-1254	535000	**12900000**
PCB-1260	535000	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.
* The surrogates were diluted out.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63674
Sample: 63674-1, 2000X,,A/C
Data File: M16110.D
Dilution Factor: 16213.3

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	11894878	12874285	7.9	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

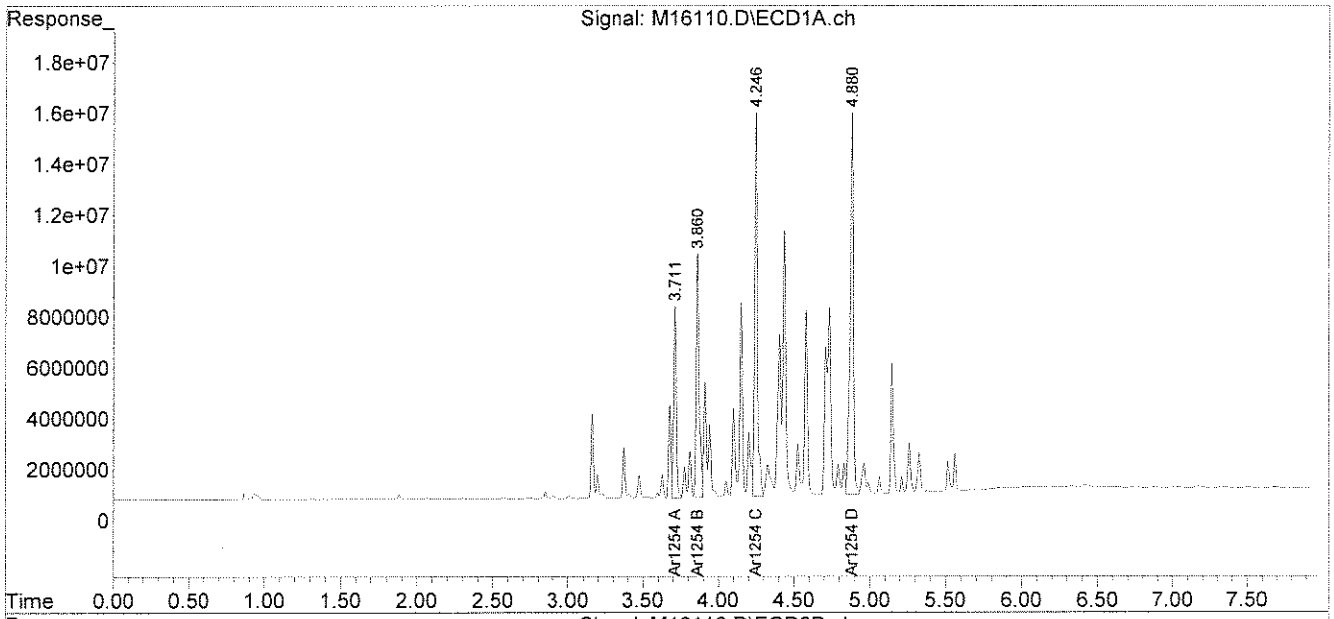
Comments: _____

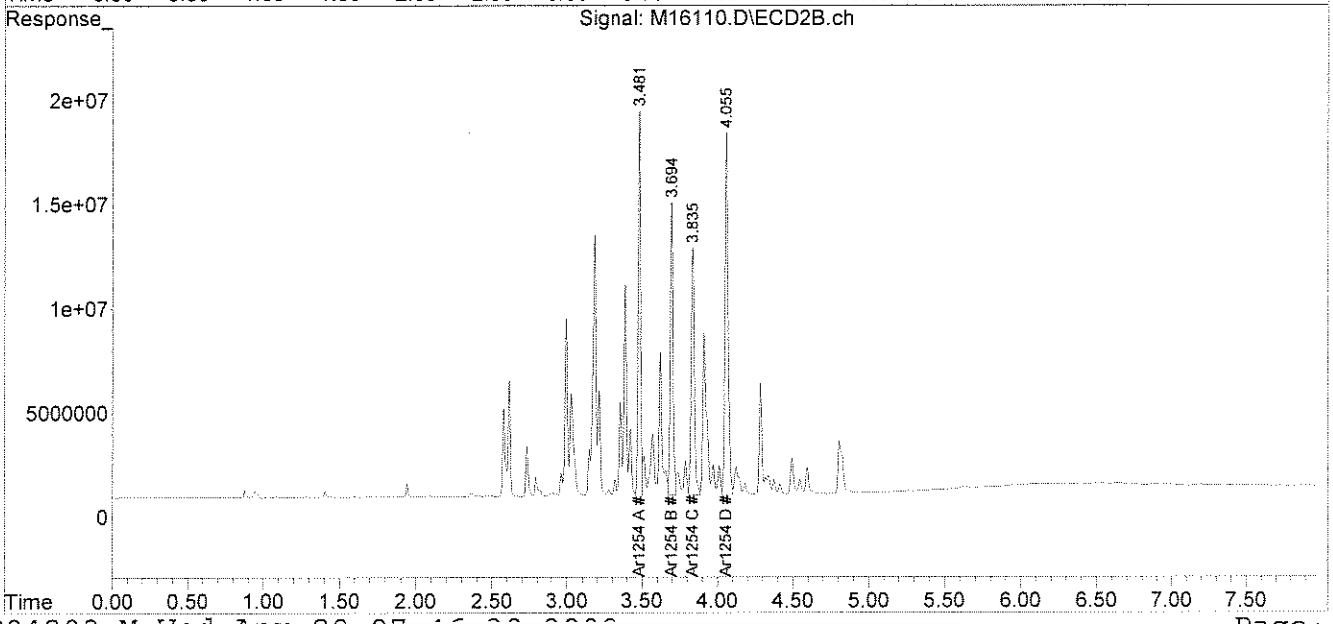
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\042709-M\
Data File : M16110.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 28 Apr 2009 6:23 pm
Operator :
Sample : 63674-1, 2000X,,A/C (Sig #1); ~~63674-1, 2000X (Sig #2)~~
Misc : SOIL
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 07:46:38 2009
Quant Method : C:\msdchem\1\METHODS\54SP04209.M
Quant Title :
QLast Update : Tue Apr 21 10:03:18 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





PCB
QC FORMS

PCB SOIL
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63674

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B04239PSOX,,A/C	95		105		90		97	
L04239PSOX,,A/C	92		108		97		102	
LD04239PSOX,,A/C	86		109		95		101	

		Lower Limit	Upper Limit
SMC #1 =	TCX	40	130
SMC #2 =	DCB	40	130

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB SOIL
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63674

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B04249PSOX,RR,,A/C	94		117		99		107	
63674-1, 2000X,,A/C	D		D		D		D	

		Lower Limit	Upper Limit
SMC #1 =	TCX	40	130
SMC #2 =	DCB	40	130

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB SOIL
LABORATORY CONTROL SAMPLE/DUPLICATE
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 63674

Non-spiked sample: B04239PSOX,,A/C

Spike: L04239PSOX,,A/C

Spike duplicate: LD04239PSOX,,A/C

COMPOUND	LCS SPIKE ADDED (ug/kg)	LCSD SPIKE ADDED (ug/kg)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE RESULT (ug/kg)	SPIKE % REC	#	SPIKE DUP RESULT (ug/kg)	SPIKE DUP % REC	#	RPD	#
PCB 1016	200	200	65	140	30	0	215	107		223	111		3.8	
PCB 1260	200	200	60	130	30	0	194	97		191	95		1.8	
PCB 1016 #2	200	200	65	140	30	0	257	129		265	132		2.8	
PCB 1260 #2	200	200	60	130	30	0	195	98		192	96		1.5	

Column to be used to flag recovery and RPD values outside of QC limits

* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

_____

PCB FORM 3

CHAIN OF CUSTODIES

Chain Of Custody Form

analytics environmental laboratory LLC
195 Commerce Way Suite E
Portsmouth, NH 03801
Phone (603) 436-5111
Fax (603) 430-2151

For Analytics Use Only Rev. 5 06/18/08

Samples were:
1) Shipped or hand-delivered
2) Temp blank °C 3°C
3) Received in good condition (Y) or N
4) pH checked by: N/A
5) Labels checked by: hg 4/22/09

Project#: 210918 Proj. Name: UMASS - LGRC
Company: Woodard & Curran
Contact: GEORGE FRANKLIN/AMY WALLACE
Address: 35 New England Business Ctr.
Andover, MA 01810
Phone: (866)702-6371 PO# Quote # WCI 8091001
Sampler (Signature):

Matrix Key:
C = Concrete
WP = Wipe
WW = Wastewater
SW = Surface Water
GW = Groundwater
DW = Drinking Water
S = Soil/Sludge
O = Oil
E = Extract
X = Other

Container Key
P=plastic G=glass

Preservation

Location Identification	Sample Date	Sample Time	Analysis	Unpres	4°C	HNO_3	H_2SO_4	HCL	Methanol	Other	Matrix	Container number/type		pH	Analytics Sample #
LC-GSGZ-012	4/21/09	0720	PCBs		✓						X	1	G		63674-1

Received By: Kim B. Nunes Time: 0900 Date: 4/21/09
Received By: Time: 1400 Date: 4/22/09
Received By: Time: Date:

Comments / Instructions:
PCBs by 8082
SOXHLET EXTRACTION
X: WINDOW GLAZING

Email Results to:
George Franklin
Jeff Hamel
Amy Wallace

Turnaround Time (TAT)
☐ 24hr* ☐ 48hr* ☐ 72hr* ☑ 5 Days* ☐ 10 Days
*Fee may apply; lab approval required

Project Requirements:
*Fee may apply

Report Type:
☐ MCP* ☑ Level II* ☐ CTRCP* ☐ Level III* ☐ DOD* ☐ Level IV* ☐ Standard

State:
☐ NH ☐ MA ☐ ME ☐ CT ☐ RI
Other: TSCA

State Standard: _____ (eg. S-1 or GW-1)
EDD Required: Y* N
Type: _____

Relinquished By Sampler:
Relinquished By: Kim B. Nunes
Relinquished By:

Analytics Report 63674 page 0018 of 19

analytics environmental laboratory LLC

ANALYTICS SAMPLE RECEIPT CHECKLIST

AEL LAB#: 63674
CLIENT: Woodard + Curran
PROJECT: UMASS - LGRC

COOLER NUMBER: _____
NUMBER OF COOLERS: 1
DATE RECEIVED: 4/22/09

A: PRELIMINARY EXAMINATION:

DATE COOLER OPENED: 4/22/09

1. Cooler received by(initials) — Date Received: JF 4/22/09

2. Circle one: (Hand delivered (If so, skip 3)) Shipped

	Y	N
3. Did cooler come with a shipping slip?		
3a. Enter carrier name and airbill number here: _____		
4. Were custody seals on the outside of cooler? How many & where: _____ Seal Date: _____ Seal Name: _____	Y	(N/A)
5. Did the custody seals arrive unbroken and intact upon arrival?	Y	(N/A)
6. COC#: _____		
7. Were Custody papers filled out properly (ink,signed, etc)?	(Y)	N
8. Were custody papers sealed in a plastic bag?	(Y)	N
9. Did you sign the COC in the appropriate place?	(Y)	N
10. Was the project identifiable from the COC papers?	(Y)	N
11. Was enough ice used to chill the cooler? (Y) N — Temp. of cooler: 3°C		

B. Log-In: Date samples were logged in: 4/22/09 By: NF

12. Type of packing in cooler(bubble wrap, popcorn)	(Y)	N
13. Were all bottles sealed in separate plastic bags?	(Y)	N
14. Did all bottles arrive unbroken and were labels in good condition?	(Y)	N
15. Were all bottle labels complete(ID,Date,time,etc.)	(Y)	N
16. Did all bottle labels agree with custody papers?	(Y)	N
17. Were the correct containers used for the tests indicated:	(Y)	N
18. Were samples received at the correct pH?	Y	(N/A)
19. Was sufficient amount of sample sent for the tests indicated?	(Y)	N
20. Were bubbles absent in VOA samples?	Y	(N/A)

If NO, List sample #'s: _____

21. Laboratory labeling verified by (initials): Date: 4.22.09

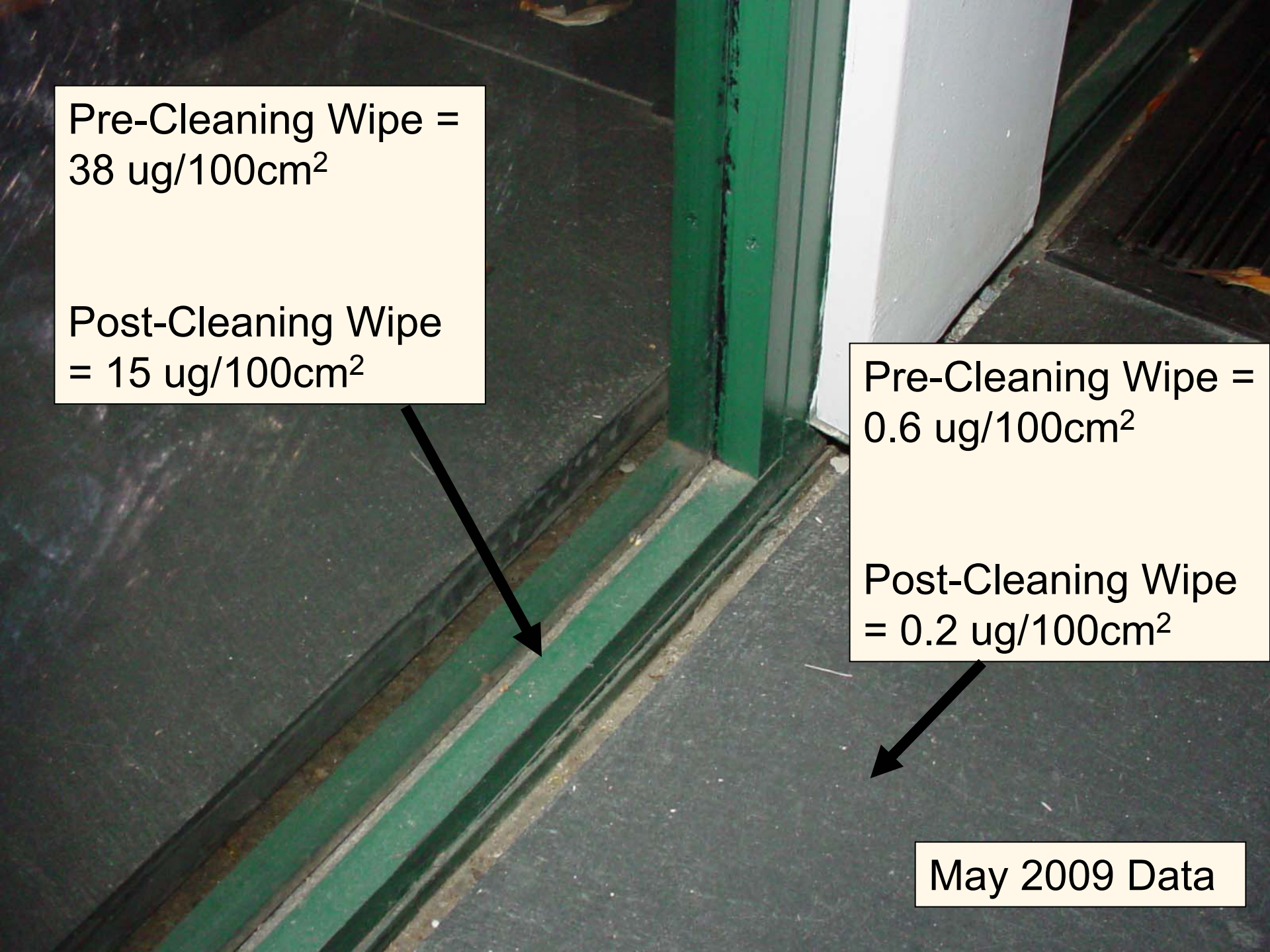
ATTACHMENT 2

Additional Sampling Conducted in May 2009

A set of samples from the glazing and adjacent materials at the LGRC complex was collected on May 5, 2009 to support the development of options to address this condition. The scope was developed based upon an evaluation of potential exposure pathways and with the intent of gathering data that will assist in developing potential abatement/mitigation plans. The location for the sampling was the previous sample location LGRC-GZ-003 collected from the first floor library (second window from east wall). The location was selected because this area is easily accessible, a bulk glazing sample has already been collected from this unit (7,520 ppm PCBs), and an exterior glazing sample can easily be collected from the outside first floor. A photograph of a typical window unit is provided on the following page.

Specifically, six samples were collected and included:

1. Surface wipe samples of the interior glazing and adjacent window framing to assess the potential for PCB exposure through direct contact with the glazing.
    a. Pre-Cleaning Wipe: One wipe sample was collected to assess current "as-is" potential exposures.
        i. A total PCB concentration of 38 ug/100cm^2 was detected in the sample.
    b. Post-Cleaning Wipe: One wipe sample was collected after cleaning of the window frame and glazing with a commercially available general cleaner to assess the effectiveness of standard cleaning methods in reducing potential exposure.
        i. A total PCB concentration of 15 ug/100cm^2 was detected in the sample.
    c. Discussion: Both wipe samples exceed EPA's cleanup level for high occupancy areas (10 ug/100cm^2). Concentrations decreased after surface cleaning, which suggests that the PCBs may be related to particulates on the surface that can be removed by general cleaning.
2. Surface wipe samples of the adjacent window ledge to assess the presence of PCBs away from the glazing and to compare this result to the total and surface wipe sample results of the glazing from the same window unit.
    a. Pre-Cleaning Wipe: One wipe sample was collected to assess current "as-is" potential exposures.
        i. A total PCB concentration of 0.6 ug/100cm^2 was detected in the sample.
    b. Post-Cleaning Wipe: One wipe sample was collected after cleaning of the ledge with a commercially available general cleaner to assess the effectiveness of standard cleaning methods in reducing potential exposure.
        i. A total PCB concentration of 0.2 ug/100cm^2 was detected in the sample.
    c. Discussion: Both samples were much lower in PCB concentration compared to the wipe samples of the glazing/frame and were detected at concentrations below the EPA's cleanup level for high occupancy areas. The data also showed a decrease in concentration following general surface cleaning.
3. Bulk Sample of Dust: A bulk sample of dust and particulate matter found in the narrow recessed area adjacent to the window frame located adjacent to the window was collected to assess the presence of PCBs in accumulated material that may require removal.
    a. A total PCB concentration of 671 ppm was detected in this sample, which indicates that accumulated dust/particulate from the glazing is present in this recessed portion of the window system in excess of EPA cleanup levels.
4. Bulk Sample of Exterior Glazing: Engineering drawings of the window construction details indicate that the glazing appears to have been installed in the base of the frame and around both the interior and exterior portions of the window. The exterior glazing appears visually different from the interior, although this may be a result of weathering. This sample result aids in the understanding and development of potential actions to address the PCB impacted glazing (both interior and exterior locations).
    a. A total PCB concentration of 82.7 ppm was detected in the sample. This sample is two orders of magnitude lower than the interior glazing sample; however, the concentration is still in excess of the 50 ppm regulatory threshold.


Pre-Cleaning Wipe = 38 ug/100cm2
Post-Cleaning Wipe = 15 ug/100cm2
Pre-Cleaning Wipe = 0.6 ug/100cm2
Post-Cleaning Wipe = 0.2 ug/100cm2
May 2009 Data

analytics environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

May 8, 2009

Mr. George Franklin
Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

RE: Analytical Results Case Narrative
Analytics # 63804
UMASS LGRC Proj# 210918

Dear Mr. Franklin;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

Case Narrative/Non-Conformance Summary
Sample Log Sheet - Cover Page
PCB Form 1 Data Sheet for Samples and Blanks
Chromatograms
PCB Form 10 Confirmation Results
PCB Form 3 MS/MSD (LCS) Recoveries
Chain of Custody (COC) Forms

QC NON CONFORMANCE SUMMARY

Sample Receipt:
No exceptions.

PCBs by EPA Method 8082:
Samples 63804-1, 63804-2, 63804-5 and 63804-6 required dilutions due to high concentrations of PCB 1254 detected in the sample.

Results for sample 63804-6 (LGR-GZ-013) were reported off of column #2 due to interferences on column #1.

Sincerely,
ANALYTICS Environmental Laboratory, LLC

Stephen Knollmeyer
Laboratory Director

analytics environmental laboratory LLC

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Report Number: 63804

Revision: Rev. 0

Re: UMASS-LGRC **210918**

Enclosed are the results of the analyses on your sample(s). Samples were received on 06 May 2009 and analyzed for the tests listed below. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

Lab Number	Sample Date	Station Location	Analysis	Comments
63804-1	05/05/09	LGRC-GZ-WP-001	EPA 8082 (PCBs only)	
63804-2	05/05/09	LGRC-GZ-WP-002	EPA 8082 (PCBs only)	
63804-3	05/05/09	LGRC-GZ-WP-003	EPA 8082 (PCBs only)	
63804-4	05/05/09	LGRC-GZ-WP-004	EPA 8082 (PCBs only)	
63804-5	05/05/09	LGRC-GZ-BD-001	EPA 8082 (PCBs only)	
63804-6	05/05/09	LGRC-GZ-013	EPA 8082 (PCBs only)	

Sample Receipt Exceptions: None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, New York, Virginia, Maryland, and is validated by the U.S. Navy (NFESC). A list of actual certified parameters is available upon request.

If you have any further question on the analytical methods or these results, do not hesitate to call.

Authorized signature _____
Stephen L. Knollmeyer Lab. Director

Date 5/7/2009

analytics environmental laboratory LLC

Surrogate Compound Limits

Matrix: / Units:	Aqueous % Recovery	Solid % Recovery	Method
Volatile Organic Compounds - Drinking Water			
1,4-Difluorobenzene	70-130		EPA 524.2
Bromofluorobenzene	70-130		
1,2-Dichlorobenzene-d4	70-130		
Volatile Organic Compounds			
1,2-Dichloroethane-d4	70-130	70-130	EPA 8260B
Toluene-d8	70-130	70-130	
Bromofluorobenzene	70-130	70-130	
Semi-Volatile Organic Compounds			
2-Fluorophenol	20-110	35-105	EPA 624/8270C
d5-Phenol	15-110	40-100	
d5-nitrobenzene	40-110	35-100	
2-Fluorobiphenyl	50-110	45-105	
2,4,6-Tribromophenol	40-110	40-125	
d14-p-terphenyl	50-130	30-125	
PAH's by SIM			
d5-nitrobenzene	21-110	35-110	EPA 8270C
2-Fluorobiphenyl	36-121	45-105	
d14-p-terphenyl	33-141	30-125	
Pesticides and PCBs			
2,4,5,6-Tetrachloro-m-xylene (TCX)	46-122	40-130	EPA 608/8082
Decachlorobiphenyl (DCB)	40-135	40-130	
Herbicides			
Dichloroacetic acid (DCAA0	30-150	30-150	
Gasoline Range Organics/TPH Gasoline			
Trifluorotoluene TFT (FID)	60-140	60-140	MEDEP 4217/EPA 8015
Bromofluorobenzene (BFB) (FID)	60-140	60-140	
Trifluorotoluene TFT (PID)	60-140	60-140	
Bromofluorobenzene (BFB) (PID)	60-140	60-140	
Diesel Range Organics/TPH Diesel			
m-terphenyl	60-140	60-140	MEDEP 4125/EPA 8015/CT ETPH

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PCB
DATA SUMMARIES

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May 7, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B05069PSOX
Matrix: Soil
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 05/06/09
Analysis Date: 05/07/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	113	%
Decachlorobiphenyl	97	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

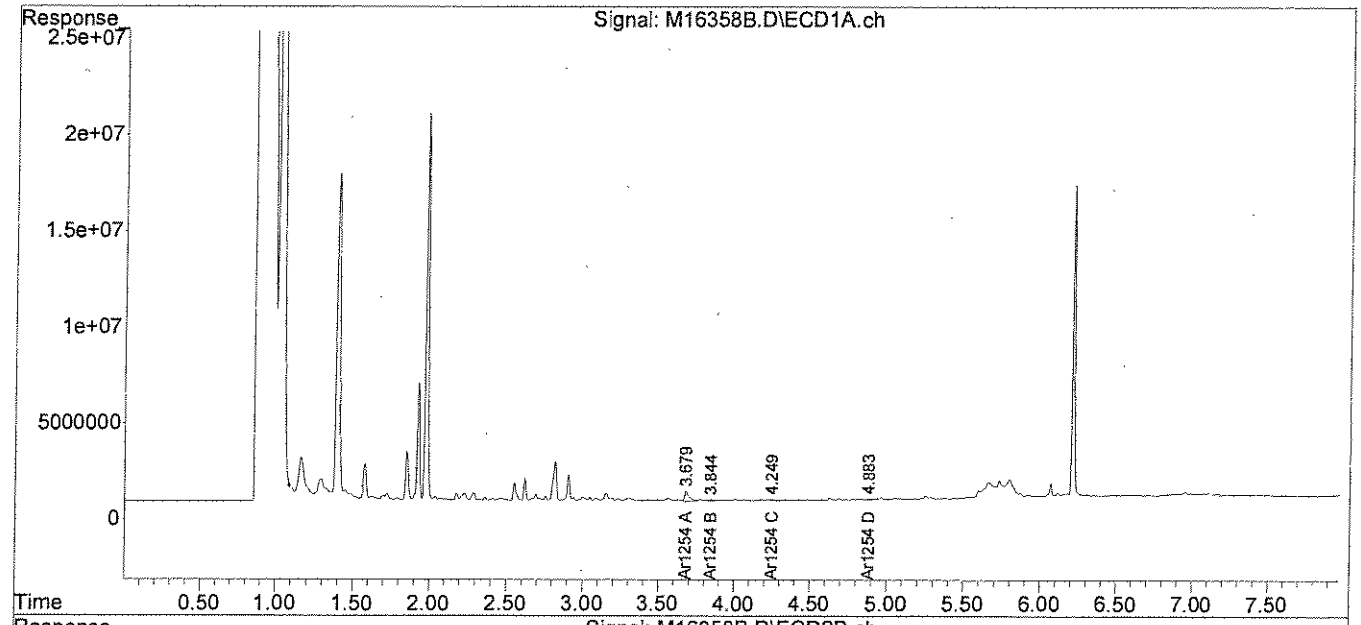
PCB Report

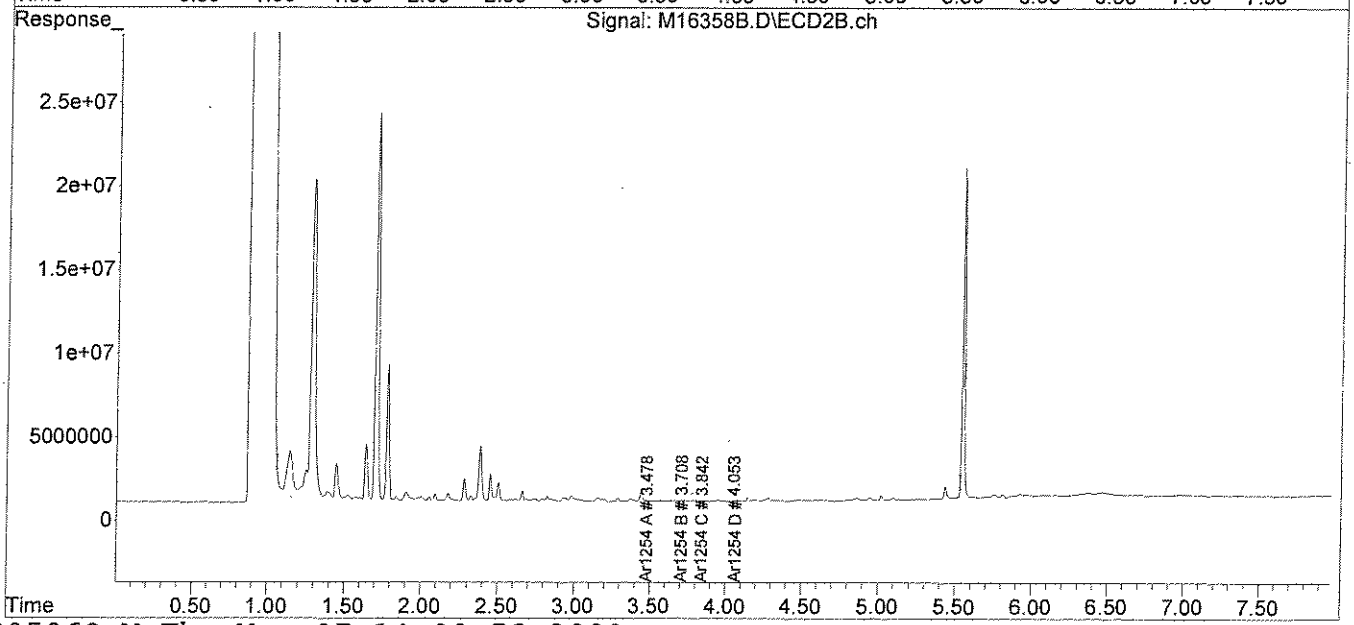
Authorized signature

Data Path : C:\msdchem\1\DATA\050609-M\
Data File : M16358B.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2009 12:18 pm
Operator :
Sample : B05069PSOX,,A/C
Misc : SOIL
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: May 07 14:00:58 2009
Quant Method : C:\msdchem\1\METHODS\54SP05069.M
Quant Title :
QLast Update : Thu May 07 09:55:14 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





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May 8, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B04299PAS RR
Matrix: Soil
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 04/29/09
Analysis Date: 05/08/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	80	%
Decachlorobiphenyl	89	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB Report

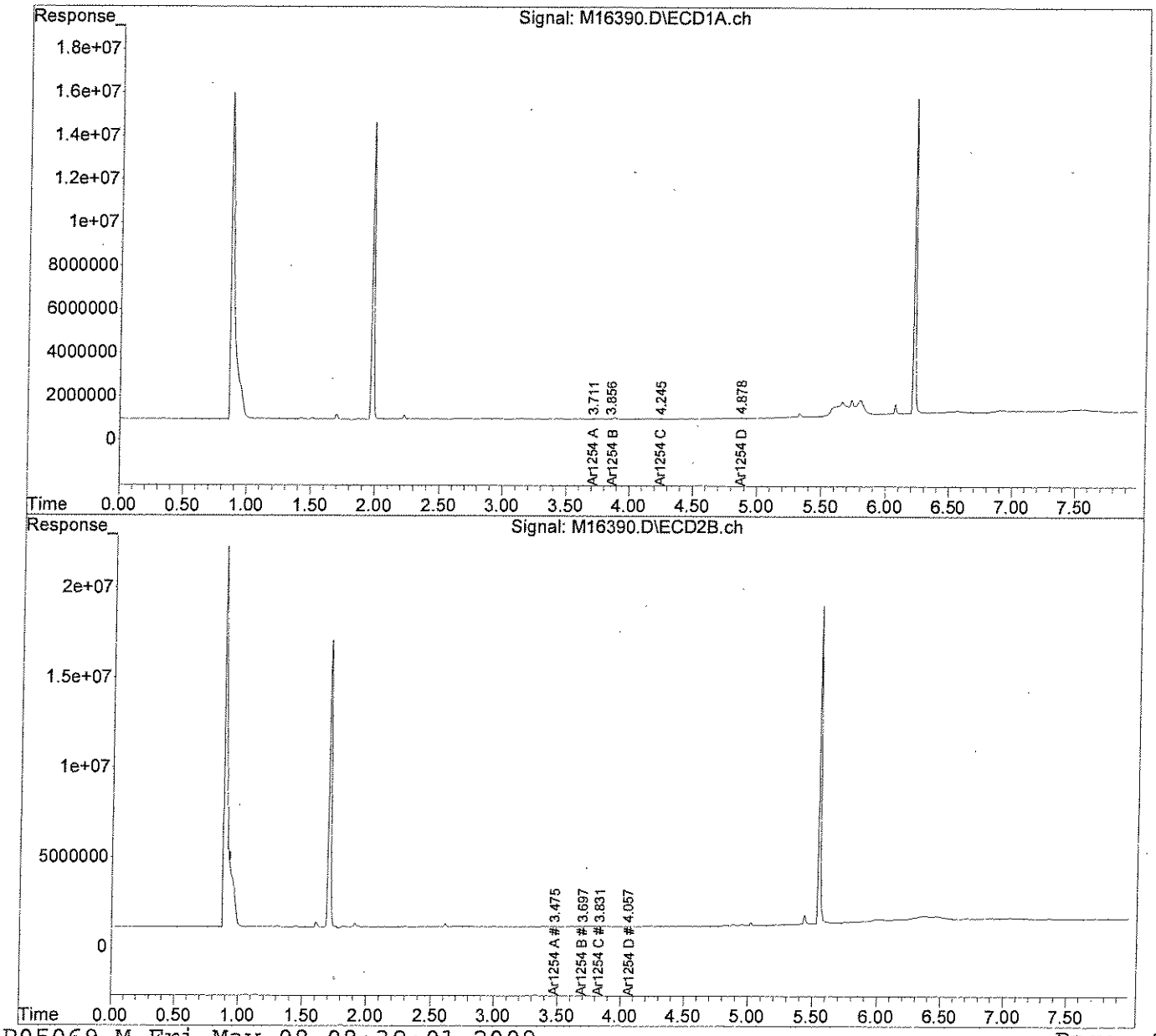
Authorized signature

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\050609-M\
Data File : M16390.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 8 May 2009 7:57 am
Operator :
Sample : B04299PAS,RR,,A/C
Misc : SOIL
ALS Vial : 25 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: May 08 08:39:01 2009
Quant Method : C:\msdchem\1\METHODS\54SP05069.M
Quant Title :
QLast Update : Thu May 07 09:55:14 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



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May 7, 2009

SAMPLE DATA

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-WP-001

Lab Sample ID: 63804-1
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 05/05/09
Lab Receipt Date: 05/06/09
Extraction Date: 05/06/09
Analysis Date: 05/07/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit ug/wipe	Results ug/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**38**
PCB-1260	0.5	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	104	%
Decachlorobiphenyl	92	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS:

PCBWipe

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63804
Sample: 63804-1,1:5,,A/C
Data File: M16366.D
Dilution Factor: 5.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	27.7	38.1	31.6	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

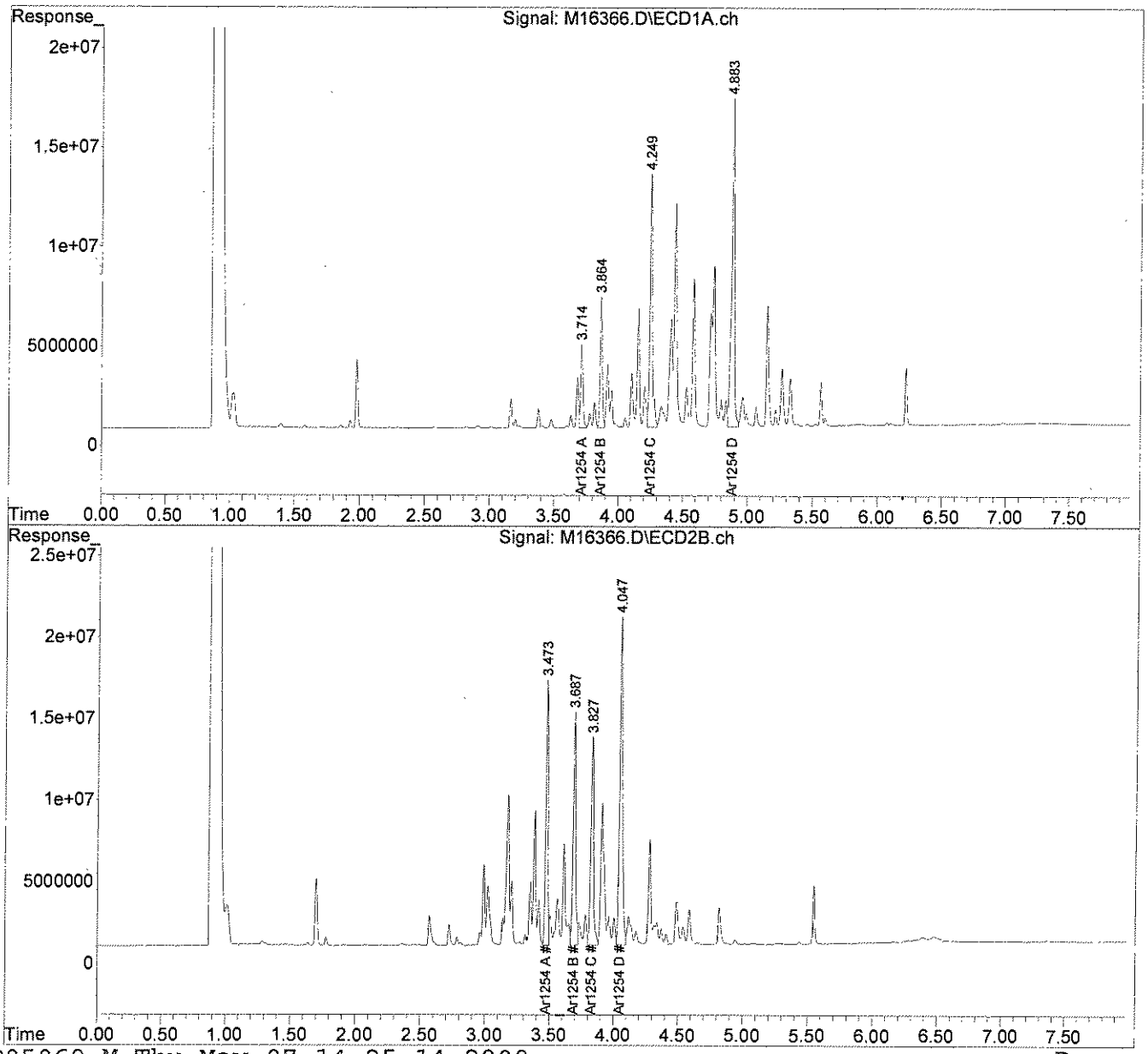
PCB FORM 10

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\050609-M\
Data File : M16366.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2009 2:00 pm
Operator :
Sample : 63804-1,1:5,,A/C
Misc : SOIL
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: May 07 14:25:14 2009
Quant Method : C:\msdchem\1\METHODS\54SP05069.M
Quant Title :
QLast Update : Thu May 07 09:55:14 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



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May 7, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-WP-002

SAMPLE DATA

Lab Sample ID: 63804-2
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 05/05/09
Lab Receipt Date: 05/06/09
Extraction Date: 05/06/09
Analysis Date: 05/07/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit ug/wipe	Results ug/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**15**
PCB-1260	0.5	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	100	%
Decachlorobiphenyl	91	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS:

PCBWipe

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 63804

Sample: 63804-2,1:2,,A/C

Data File: M16367.D

Dilution Factor: 2.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	10.1	15.3	40.5	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

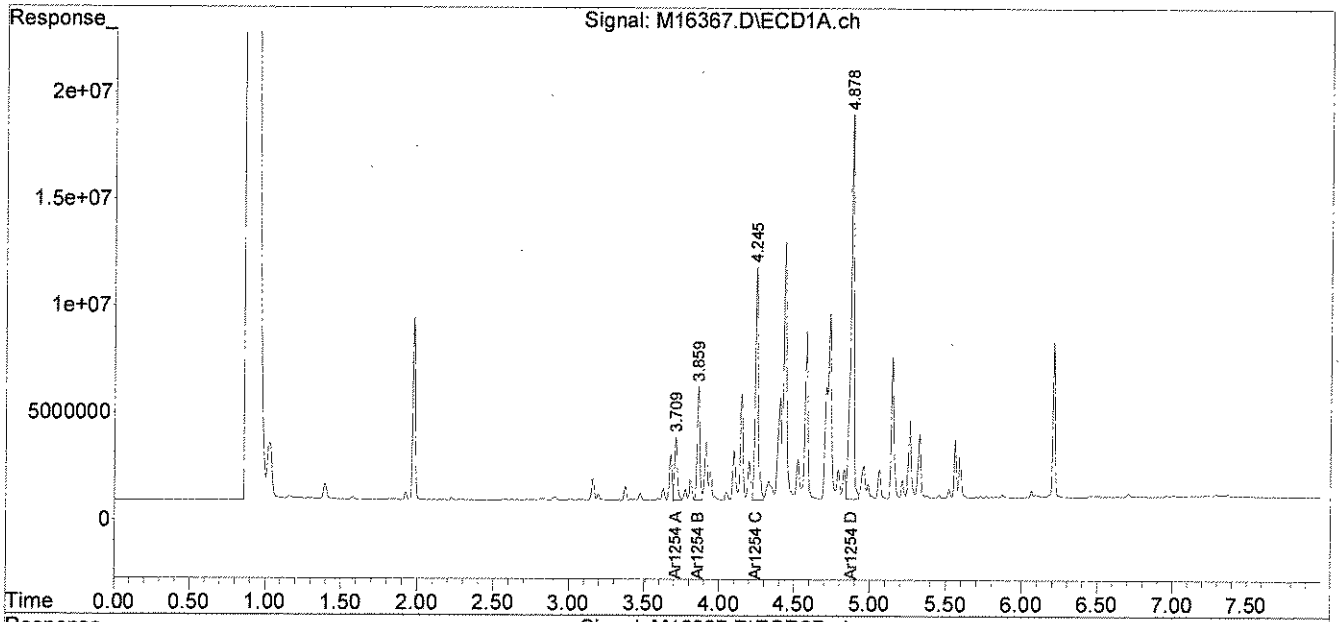
PCB FORM 10

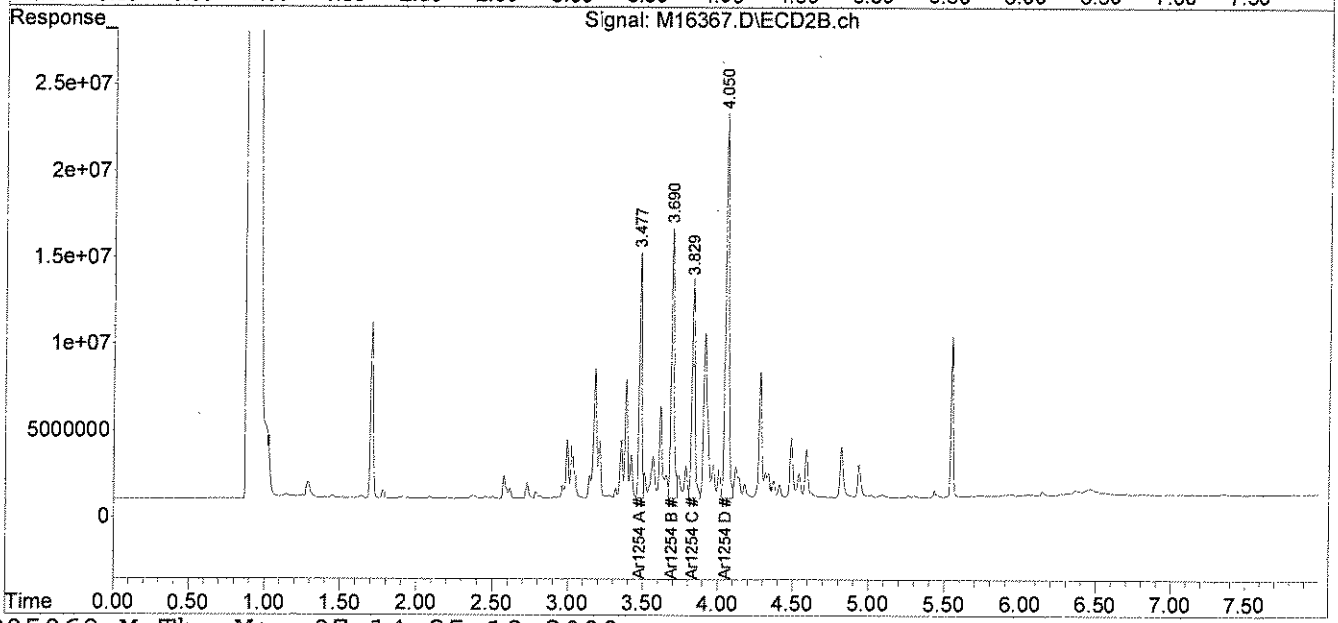
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\050609-M\
Data File : M16367.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2009 2:10 pm
Operator :
Sample : 63804-2,1:2,,A/C
Misc : SOIL
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: May 07 14:25:17 2009
Quant Method : C:\msdchem\1\METHODS\54SP05069.M
Quant Title :
QLast Update : Thu May 07 09:55:14 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





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May 7, 2009

SAMPLE DATA

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-WP-003

Lab Sample ID: 63804-3
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 05/05/09
Lab Receipt Date: 05/06/09
Extraction Date: 05/06/09
Analysis Date: 05/07/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit ug/wipe	Results ug/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**0.6**
PCB-1260	0.5	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	100	%
Decachlorobiphenyl	88	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS:

PCBWipe

Authorized signature 

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63804
Sample: 63804-3,,A/C
Data File: M16363.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	0.5	0.6	21.5	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

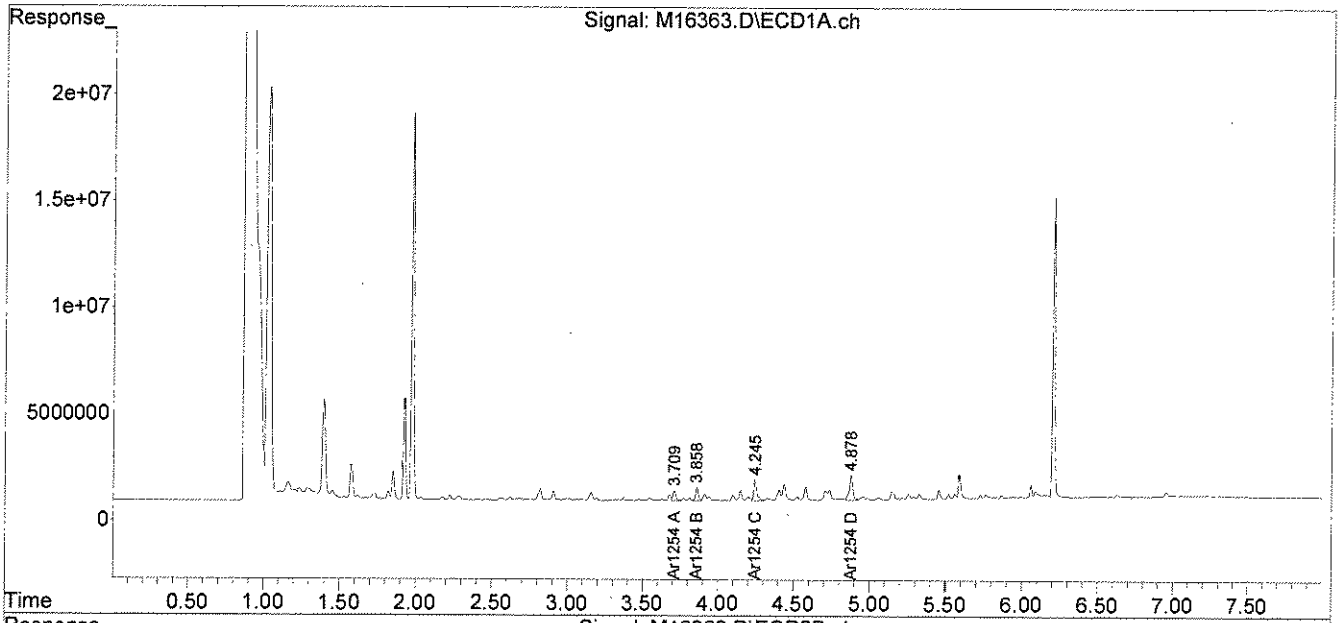
PCB FORM 10

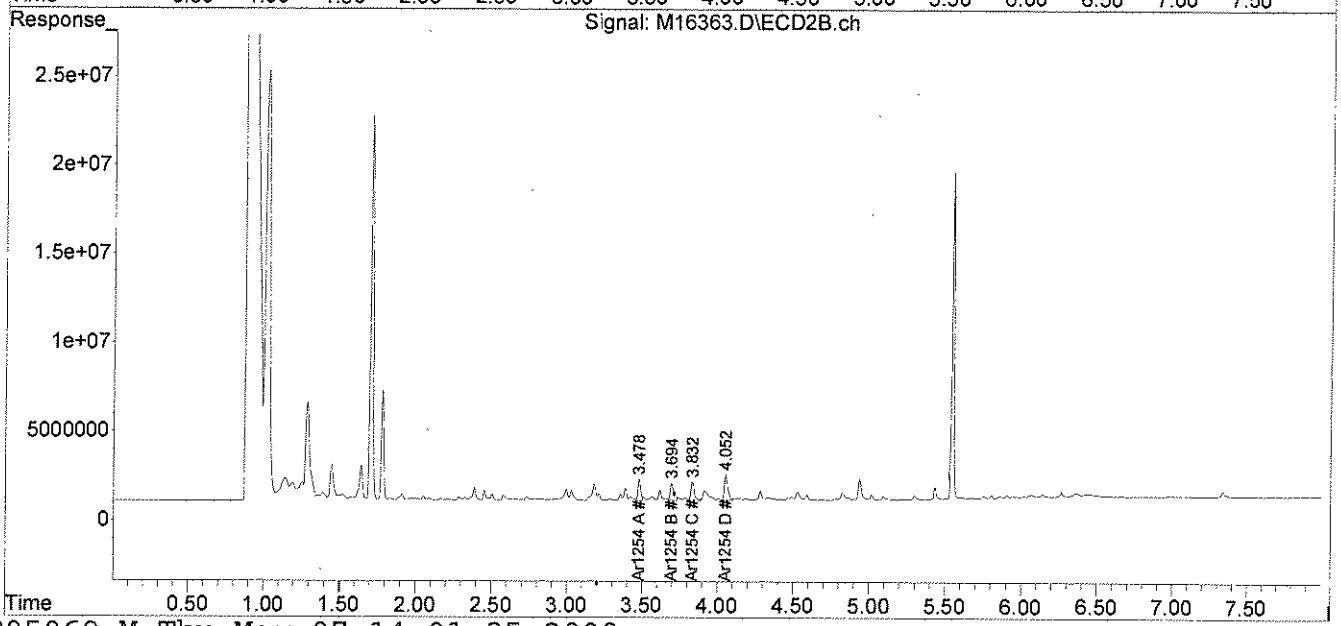
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\050609-M\
Data File : M16363.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2009 1:08 pm
Operator :
Sample : 63804-3,,A/C
Misc : SOIL
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: May 07 14:01:24 2009
Quant Method : C:\msdchem\1\METHODS\54SP05069.M
Quant Title :
QLast Update : Thu May 07 09:55:14 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





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May 7, 2009

SAMPLE DATA

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-WP-004

Lab Sample ID: 63804-4
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 05/05/09
Lab Receipt Date: 05/06/09
Extraction Date: 05/06/09
Analysis Date: 05/07/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit ug/wipe	Results ug/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	**0.2 J**
PCB-1260	0.5	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	100	%
Decachlorobiphenyl	90	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS:

PCBWipe

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG:
Sample: 63804-4,,A/C
Data File: M16364.D
Dilution Factor: 1.0

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	0.1 J	0.2 J	20.0	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

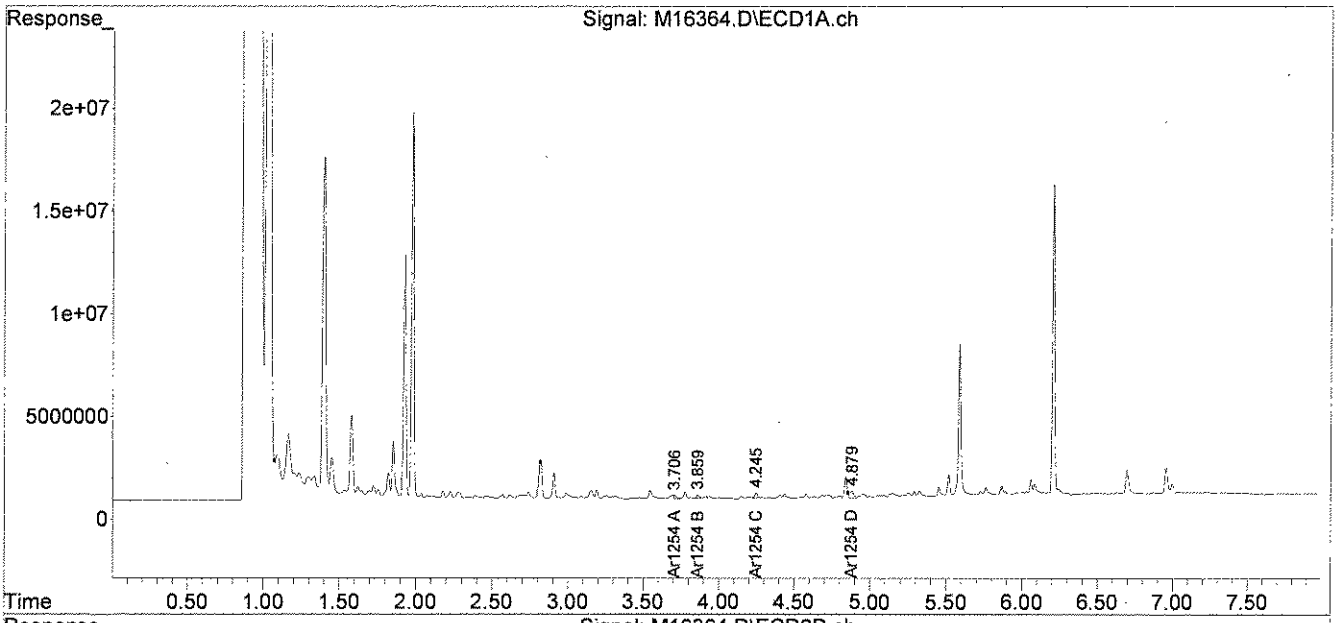
PCB FORM 10

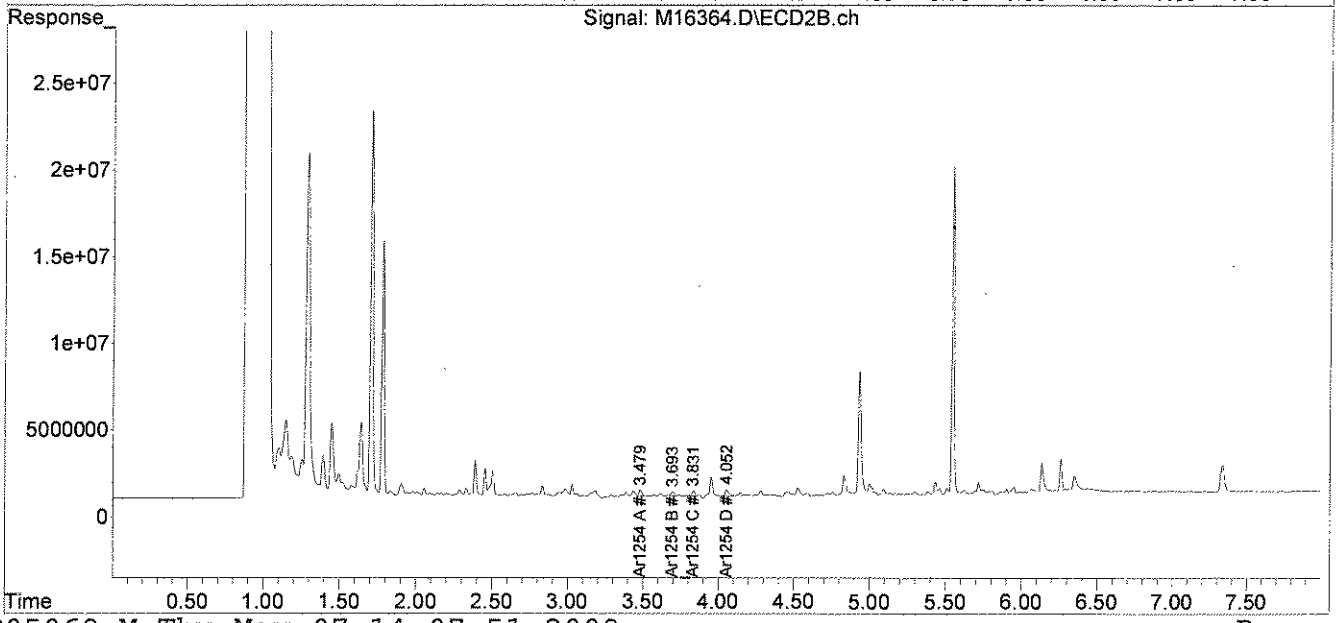
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\050609-M\
Data File : M16364.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2009 1:18 pm
Operator :
Sample : 63804-4,,A/C
Misc : SOIL
ALS Vial : 7 Sample Multiplier: 1

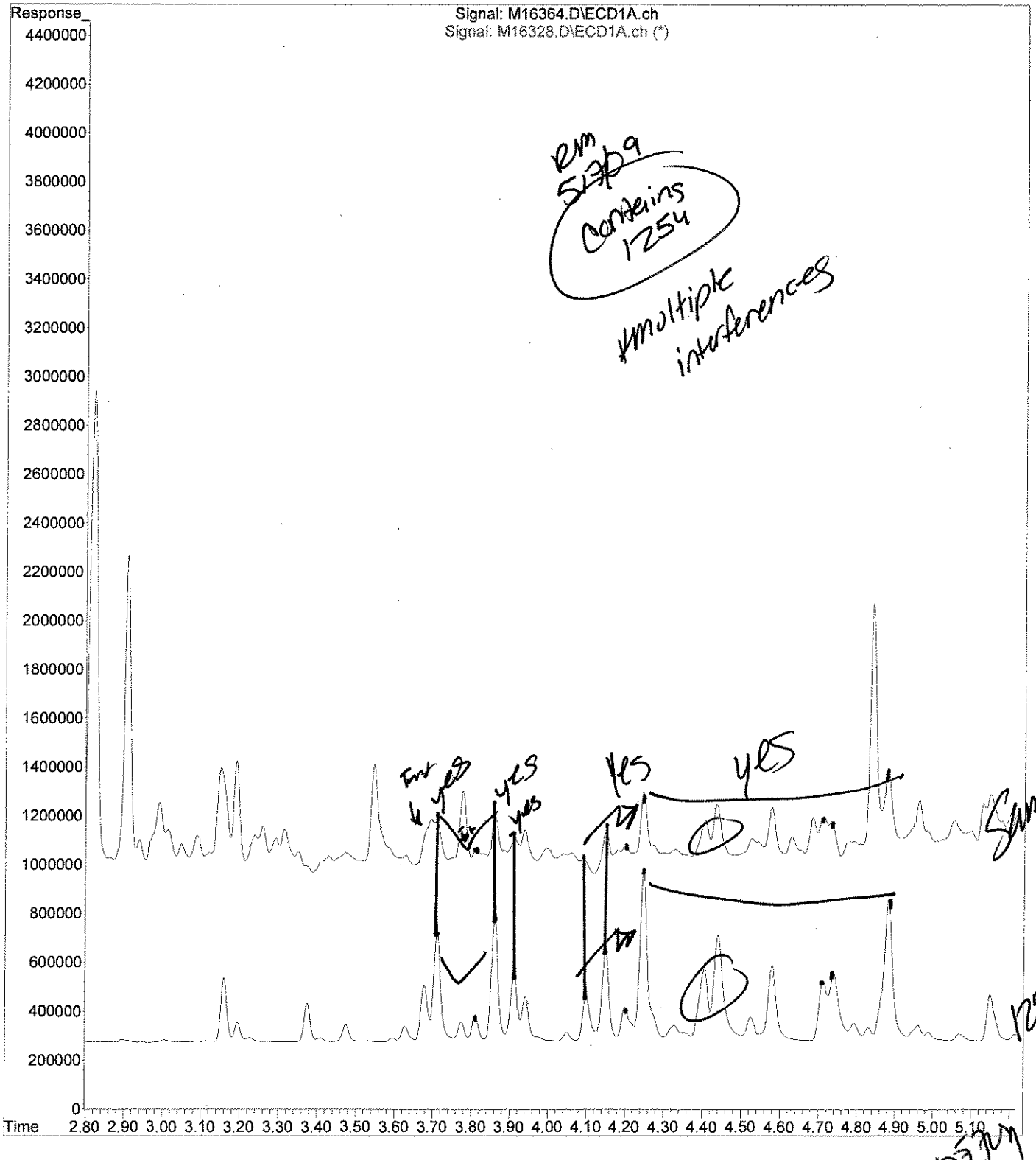
Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: May 07 14:07:36 2009
Quant Method : C:\msdchem\1\METHODS\54SP05069.M
Quant Title :
QLast Update : Thu May 07 09:55:14 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





File :C:\msdchem\1\DATA\050609-M\M16364.D
Operator :
Acquired : 7 May 2009 1:18 pm using AcqMethod PCB.M
Instrument : Instrument M
Sample Name: 63804-4,,A/C
Misc Info : SOIL
Vial Number: 7



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May 7, 2009

SAMPLE DATA

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-BD-001

Lab Sample ID: 63804-5
Matrix: Solid
Percent Solid: 97
Dilution Factor: 863
Collection Date: 05/05/09
Lab Receipt Date: 05/06/09
Extraction Date: 05/06/09
Analysis Date: 05/07/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	28500	U
PCB-1221	28500	U
PCB-1232	28500	U
PCB-1242	28500	U
PCB-1248	28500	U
PCB-1254	28500	**671000**
PCB-1260	28500	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.
* The surrogates were diluted out.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63804
Sample: 63804-5,1:100,,A/C
Data File: M16369.D
Dilution Factor: 863.1

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	671097	752201	11.4	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

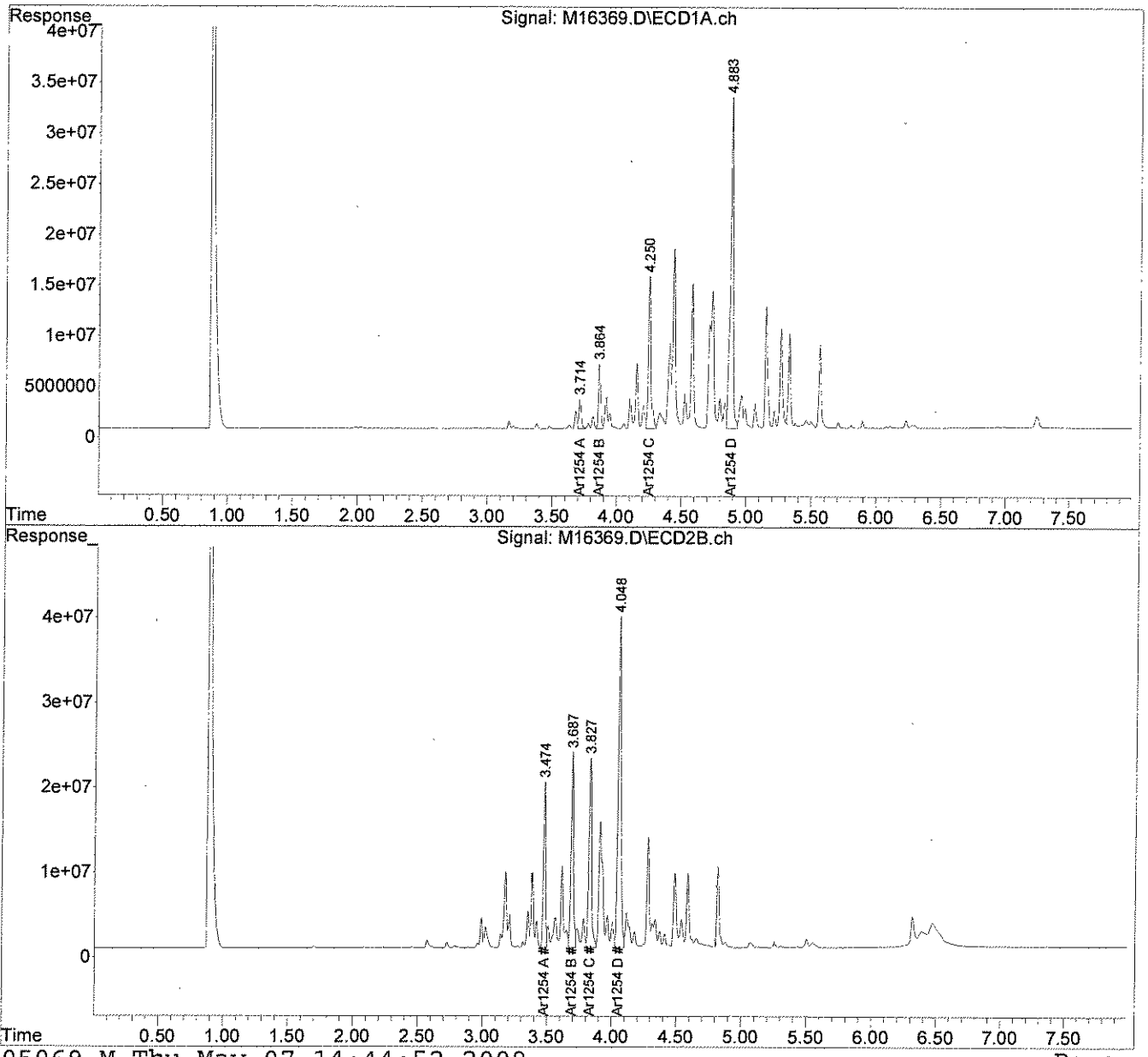
PCB FORM 10

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\050609-M\
Data File : M16369.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2009 2:36 pm
Operator :
Sample : 63804-5,1:100,,A/C
Misc : SOIL
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: May 07 14:44:52 2009
Quant Method : C:\msdchem\1\METHODS\54SP05069.M
Quant Title :
QLast Update : Thu May 07 09:55:14 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. George Franklin
Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

May 8, 2009

CLIENT SAMPLE ID

Project Name: UMASS-LGRC

Project Number: 210918

Field Sample ID: LGRC-GZ-013

SAMPLE DATA

Lab Sample ID: 63804-6
Matrix: Solid
Percent Solid: 99
Dilution Factor: 379
Collection Date: 05/05/09
Lab Receipt Date: 05/06/09
Extraction Date: 05/06/09
Analysis Date: 05/08/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	12500	U
PCB-1221	12500	U
PCB-1232	12500	U
PCB-1242	12500	U
PCB-1248	12500	U
PCB-1254	12500	**82700**
PCB-1260	12500	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.
* The surrogates were diluted out.

PCB Report

Authorized signature

PCB
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63804
Sample: 63804-6,1:50,,A/C
Data File: M16393.D
Dilution Factor: 379.4

	Column #1	Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	88028	82742	6.2	

Column to be used to flag RPD values greater than QC limit of 40%

* Values outside QC limits

Comments: _____

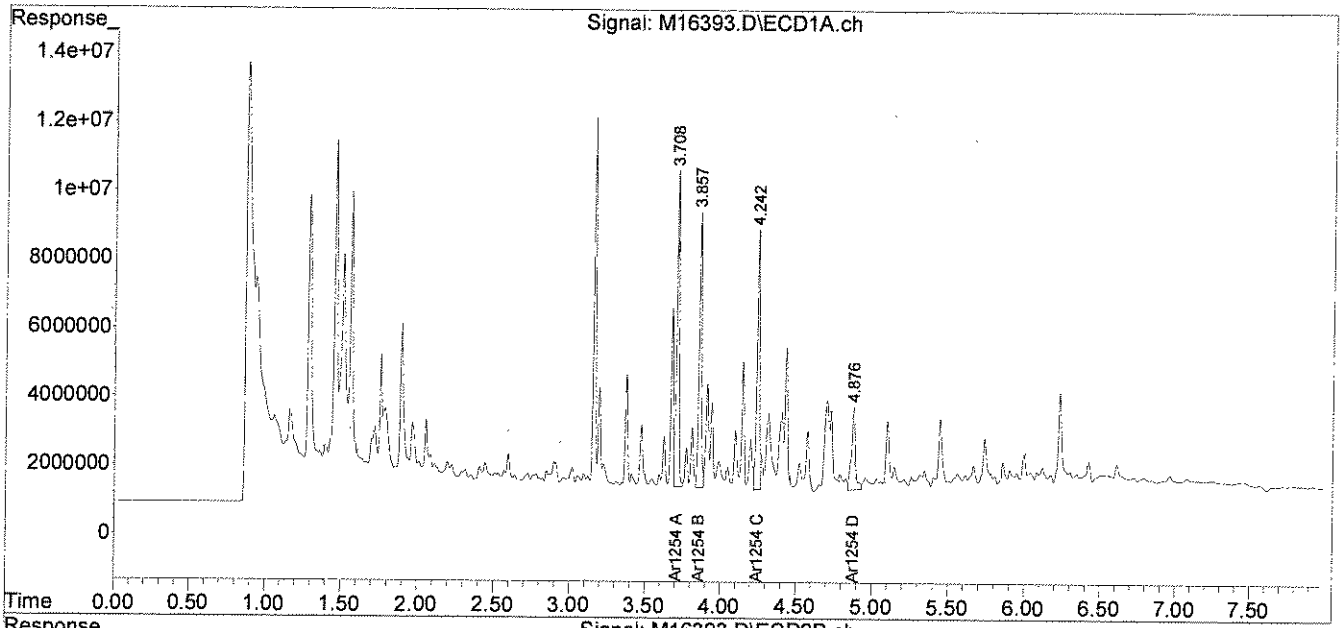
PCB FORM 10

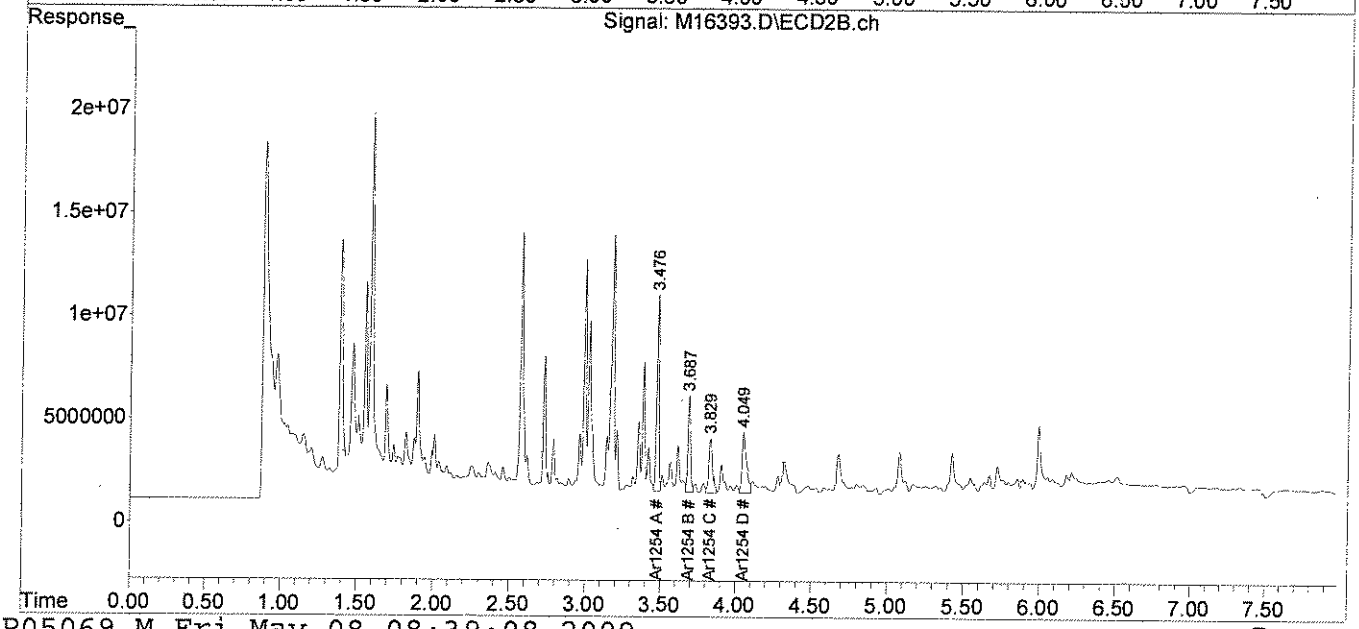
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\050609-M\
Data File : M16393.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 8 May 2009 8:27 am
Operator :
Sample : 63804-6,1:50,,A/C
Misc : SOIL
ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: May 08 08:39:08 2009
Quant Method : C:\msdchem\1\METHODS\54SP05069.M
Quant Title :
QLast Update : Thu May 07 09:55:14 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





PCB
QC FORMS

PCB SOIL
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63804

	Column #1				Column #2			
SAMPLE ID	SMC I (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B05069PSOX,,A/C	113		97		116		98	
L05069PSOX,,A/C	96		82		98		86	
LD05069PSOX,,A/C	95		85		101		90	
63804-3,,A/C	96		84		100		88	
63804-4,,A/C	93		92		100		90	
63804-1,1:5,,A/C	105		91		104		92	
63804-2,1:2,,A/C	98		89		100		91	
63804-5,1:100,,A/C	D		D		D		D	

	Lower Limit	Upper Limit
SMC #1 = TCX	40	130
SMC #2 = DCB	40	130

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB SOIL
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: M
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 63804

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B04299PAS,RR,,A/C	80		89		82		92	
63804-6,1:50,,A/C	D		D		D		D	

	Lower Limit	Upper Limit
SMC #1 = TCX	40	130
SMC #2 = DCB	40	130

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB SOIL
LABORATORY CONTROL SAMPLE/DUPLICATE
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides 1

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 63804

Non-spiked sample: B05069PSOX,,A/C

Spike: L05069PSOX,,A/C

Spike duplicate: LD05069PSOX,,A/C

COMPOUND	LCS SPIKE ADDED (ug/kg)	LCSD SPIKE ADDED (ug/kg)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE RESULT (ug/kg)	SPIKE % REC	#	SPIKE DUP RESULT (ug/kg)	SPIKE DUP % REC	#	RPD	#
PCB 1016	200	200	65	140	30	0	202	101		250	125		21.3	
PCB 1260	200	200	60	130	30	0	182	91		194	97		6.3	
PCB 1016 #2	200	200	65	140	30	0	265	132		278	139		4.7	
PCB 1260 #2	200	200	60	130	30	0	203	101		210	105		3.5	

Column to be used to flag recovery and RPD values outside of QC limits

* Values outside QC limits

LCS/LCSD spike added values have been weigbt adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

_____

CHAIN OF CUSTODIES

Chain Of Custody Form

analytics environmental laboratory LLC
195 Commerce Way Suite E
Portsmouth, NH 03801
Phone (603) 436-5111
Fax (603) 430-2151

For Analytics Use Only Rev. 5 06/18/08

Samples were:
1) Shipped or ~~hand-delivered~~
2) Temp blank °C 3.2
3) Received in good condition Y or N
4) pH checked by: N/A
5) Labels checked by: RM 5/6/09

oject#: 210918 Proj. Name: UMASS - LGRC
ompany: Woodard & Curran
ontact: GEORGE FRANKLIN/AMY WALLACE
ddress: 35 New England Business Ctr.
Andover, MA 01810
one: (866)702-6371 PO# Quote # WCI8091001
r (Signature):

Matrix Key:
C = Concrete
WP = Wipe
WW = Wastewater
SW = Surface Water
GW = Groundwater
DW = Drinking Water
S = Soil/Sludge
O = Oil
E = Extract
X = Other

Container Key
P=plastic G=glass

Preservation

tion Identification	Sample Date	Sample Time	Analysis	Unpres	4°C	HNO_3	H_2SO_4	HCl	Methanol	Other	Matrix	Container number/type		pH	Analytics Sample #
C-GZ-WP-001	5/5/09	0747	PCB							X	WP	1	G		G3804-1
C-GZ-WP-002	5/5/09	0758	PCB							X	WP	1	G		-2
C-GZ-WP-003	5/5/09	0753	PCB							X	WP	1	G		-3
C-GZ-WP-004	5/5/09	0802	PCB							X	WP	1	G		-4
C-GZ-BD-001	5/5/09	0810	PCB		X						DUST	1	G		-5
C-GZ-013	5/5/09	1033	PCB		X						CAULK	1	G		-6

Received By: Time: 11:50
Received By: Time:
Received By: Time:
Date: 5/6/09 1150
Date:
Date:

Analytics Report 63804 page 0034 of 35

Comments / Instructions:
PCBs by 8082
SOXHLET EXTRACTION
X: Hexane
LGRC-GZ-013 MAY CONTAIN 1,000s PPM PCBs
~~SOILS~~ THESE TO TAKE PRIORITY OVER SOILS THIS SET
3-5 DAY TAT
5/6/09 PER GF @ WOODARD these are 1st priority then soils

Project Requirements:
*Fee may apply

Report Type:
- MCP* ☑ Level II*
- CTRCP* ☐ Level III*
- DOD* ☐ Level IV*
- ☐ Standard

State:
- ☐ NH
- ☐ MA
- ☐ ME
- ☐ CT
- ☐ RI
- Other: TSCA

State Standard: _____ (eg. S-1 or GW-1)

EDD Required: Y* N

Type: _____

Relinquished By Sampler:
Relinquished By:
Relinquished By:

Turnaround Time (TAT)
- ☐ 24hr* ☐ 48hr*
- ☐ 72hr* ☐ 5 Days*
- ☐ 10 Days

ee may apply; tab approval required

nail Results to:
George Franklin
Jeff Hamel
Amy Wallace

alytics\AEL Documents\AEL COC

analytics environmental laboratory LLC

ANALYTICS SAMPLE RECEIPT CHECKLIST

AEL LAB#: 63804
CLIENT: Woodard
PROJECT: UMASS-LGRC

COOLER NUMBER: _____
NUMBER OF COOLERS: 1
DATE RECEIVED: 5-6-09

A: PRELIMINARY EXAMINATION:

DATE COOLER OPENED: 5-6-09

1. Cooler received by(initials) SF — Date Received: 5-6-09

2. Circle one: Hand delivered (If so, skip 3) — Shipped

	Y	N
3. Did cooler come with a shipping slip?		
3a. Enter carrier name and airbill number here: _____		
4. Were custody seals on the outside of cooler? How many & where: _____ Seal Date: _____ Seal Name: _____		
5. Did the custody seals arrive unbroken and intact upon arrival?		
6. COC#: _____		
7. Were Custody papers filled out properly (ink,signed, etc)?	(Y)	
8. Were custody papers sealed in a plastic bag?	(Y)	
9. Did you sign the COC in the appropriate place?	(Y)	
10. Was the project identifiable from the COC papers?	(Y)	
11. Was enough ice used to chill the cooler?	(Y)	N — Temp. of cooler: 3.2°C

B. Log-In: Date samples were logged in: 5-6-09 By: [signature]

12. Type of packing in cooler(bubble wrap, popcorn)	(Y)	N
13. Were all bottles sealed in separate plastic bags?	(Y)	N
14. Did all bottles arrive unbroken and were labels in good condition?	(Y)	N
15. Were all bottle labels complete(ID,Date,time,etc.)	(Y)	N
16. Did all bottle labels agree with custody papers?	(Y)	N
17. Were the correct containers used for the tests indicated:	(Y)	N
18. Were samples received at the correct pH?	Y	(N/A)
19. Was sufficient amount of sample sent for the tests indicated?	(Y)	(N/A)
20. Were bubbles absent in VOA samples?	Y	N
If NO, List sample #'s: _____		

21. Laboratory labeling verified by (initials): Date: RM5/6/09

ATTACHMENT 3

Results of the Interior Air Monitoring
UMass Amherst Lederle Graduate Research Center

A summary of the interior air sampling for PCBs conducted at the low rise building and Tower A of the Lederle Graduate Research Center (LGRC) is presented below. The specific objectives for the air sampling were:

- To evaluate indoor air concentrations of PCBs at representative locations in the high rise Tower A, the low rise north wing, and the low rise library with respect to risk-based levels; and
- To obtain data over time for comparison and trend analysis.

On May 26, 2009 Woodard & Curran personnel collected eleven air samples from designated locations throughout the low rise and Tower A of the LGRC. The eleven air samples were collected in accordance with the procedures described in the May 2009 Interior Air Monitoring Plan. The locations were selected based on three primary factors:

- Locations of existing glazing samples with known PCB concentrations;
- Distribution throughout the LGRC complex to obtain representative data from rooms of varying uses (classrooms, office space, etc.); and
- Location of previous air samples collected, primarily Post-Abatement (exterior façade project) air samples collected on July 22 and 23, 2008.

Air samples were collected in accordance with USEPA Compendium Method TO-10A *"Determination of Pesticides and Polychlorinated Biphenyls In Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling Followed by Gas Chromatographic/Multi-Detector Detection (GC/MD)"* and submitted for laboratory analysis of PCBs homologs.

At each of the sample locations an individually certified low volume PUF cartridge was connected to a personal air pump (SKC AIRCHEK Sampler) with flexible tubing. The cartridge was positioned at the appropriate height using a telescoping tubing stand or placed on a desk or tables as specified on Table 1 below.

To achieve the desired minimum laboratory reporting limit of 50 nanograms/m^3, samples were collected at a rate of 2.5 L/min for the desired timeframe for a total sample volume of approximately 300 liters. One duplicate sample was collected as part of the overall project Quality Assurance and Quality Control measures. At the end of the time interval, the pump was shut off and the cartridge was placed in aluminum foil, labeled, and placed on ice for delivery to the analytical laboratory.

Sample Results

A summary of the air sample results are presented on the following page with the laboratory report attached. Analytical results indicate that the concentrations of PCBs reported in the samples ranged from 0.033 to 0.160 µg/m^3. These results are slightly lower than the results from the July 2008 post-abatement air sampling results, which ranged from 0.101 to 0.269 µg/m^3. Where applicable, a direct comparison between the July 2008 and May 2009 data points is included on Table 1. As a general comparison, the analytical results were also below the post-abatement re-occupancy criteria developed as part of the exterior abatement project (0.29 µg/m^3).

Table 1

Building	Air Sample	Sample Location	Total PCBs (µg/m^3)	
			26-May-09	22-23- Jul-08
Low-Rise Library	LGCR-IA-005	First floor, Southeast corner. Placement on table adjacent to windows.	0.160 J	0.239/0.256
	LGRC-IA-006	Second floor, Main study area to west of library desks. Placement on tables.	0.045 J	0.237
	LGRC-IA-004	Third Floor, Conference Room 365A. Placement on conference table.	0.110	0.257
Low-Rise North Wing	LGRC-IA-001	First floor, Room 125C, Office Space. Placement near windows at a height of 3-5 feet.	0.055 J	0.224
	LGRC-IA-003	Second floor, Room A251 office space. Placement near window at a height of 3-5 feet.	0.061 J	none
	LGRC-IA-002	Third Floor, Classroom A301; placement on first row of desks near windows.	0.058 J	none
High Rise Tower A	LGRC-IA-007	Fifth floor, elevator lobby. Placement near windows south of elevators at height of 3-5 feet.	0.065 J	none
	LGRC-IA-009/500	Room 801, Laboratory office space. Placement 3-5 feet.	0.033/<0.033	0.101
	LGRC-IA-010	West side laboratory Room 1208. Placement at 3-5 feet.	0.127	none
	LGRC-IA-011	Room 1606, Common study area. Placement at 3-5 feet.	0.037 J	0.200
	LGRC-IA-008	East side conference Room 701E. Placement on conference room table.	0.035	none

Note: Flow rates ranged from 2.52 – 2.57 liters/minute over a 120 to 134 minute duration.
µg/m^3 = micrograms per cubic meter
J = estimated concentration due to surrogate recovery

These results are being evaluated as part of the ongoing activities associated with the PCB containing glazing materials identified in the LGRC complex.

ANALYTICAL REPORT

Lab Number:	L0906828
Client:	Woodard & Curran 35 New England Business Center Suite 180 Andover, MA 01810
ATTN:	Jeff Hamel
Project Name:	UMASS LGRC
Project Number:	210918.01
Report Date:	06/15/09

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: UMASS LGRC
Project Number: 210918.01

Lab Number: L0906828
Report Date: 06/15/09

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0906828-01	LGRC-IA-001	AMHERST, MA	05/26/09 15:19
L0906828-02	LGRC-IA-002	AMHERST, MA	05/26/09 15:25
L0906828-03	LGRC-IA-003	AMHERST, MA	05/26/09 15:34
L0906828-04	LGRC-IA-004	AMHERST, MA	05/26/09 15:43
L0906828-05	LGRC-IA-005	AMHERST, MA	05/26/09 15:49
L0906828-06	LGRC-IA-006	AMHERST, MA	05/26/09 15:58
L0906828-07	LGRC-IA-007	AMHERST, MA	05/26/09 16:14
L0906828-08	LGRC-IA-008	AMHERST, MA	05/26/09 16:26
L0906828-09	LGRC-IA-009	AMHERST, MA	05/26/09 16:44
L0906828-10	LGRC-IA-010	AMHERST, MA	05/26/09 16:54
L0906828-11	LGRC-IA-011	AMHERST, MA	05/26/09 17:08
L0906828-12	LGRC-IA-500	AMHERST, MA	05/26/09 16:44

Project Name: UMASS LGRC
Project Number: 210918.01

Lab Number: L0906828
Report Date: 06/15/09

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

PCB Homologs

L0906828-01 through -03 and -05 through -07 had the surrogate Cl3-BZ#19-Cl3 recovered below the QC limits. The surrogate Cl8-BZ#202-Cl3 was recovered within QC limits.

L0906828-11 and -12 had both surrogates Cl3-BZ#19-Cl3 and Cl8-BZ#202-Cl3 recovered below the QC limits. The entire sample was utilized in the extraction; therefore, a re-extraction was not possible.

The WG366366-2 LCS had several compounds recovered below the QC limits. In addition, the surrogate Cl3-BZ#19-Cl3 was recovered below the QC limits. Since the entire sample was utilized during the extraction a re-extraction was not possible.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 06/15/09

ORGANICS

SEMIVOLATILES

Project Name: UMASS LGRC
Project Number: 210918.01
Lab Number: L0906828
Report Date: 06/15/09

SAMPLE RESULTS

Lab ID:	L0906828-01	Date Collected:	05/26/09 15:19
Client ID:	LGRC-IA-001	Date Received:	05/27/09
Sample Location:	AMHERST, MA	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	06/07/09 16:45
Analytical Date:	06/09/09 17:30		
Analyst:	SE		

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab					
Monochlorobiphenyls	ND		ng/cart	10.0	1
Dichlorobiphenyls	ND		ng/cart	10.0	1
Trichlorobiphenyls	ND		ng/cart	10.0	1
Tetrachlorobiphenyls	ND		ng/cart	10.0	1
Pentachlorobiphenyls	18.6		ng/cart	10.0	1
Hexachlorobiphenyls	ND		ng/cart	10.0	1
Heptachlorobiphenyls	ND		ng/cart	10.0	1
Octachlorobiphenyls	ND		ng/cart	10.0	1
Nonachlorobiphenyls	ND		ng/cart	10.0	1
Decachlorobiphenyl	ND		ng/cart	10.0	1
Total Homologs	18.6		ng/cart	10.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	**41**		50-125
Cl8-BZ#202-C13	64		50-125

Project Name: UMASS LGRC
Project Number: 210918.01
Lab Number: L0906828
Report Date: 06/15/09

SAMPLE RESULTS

Lab ID:	L0906828-02	Date Collected:	05/26/09 15:25
Client ID:	LGRC-IA-002	Date Received:	05/27/09
Sample Location:	AMHERST, MA	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	06/07/09 16:45
Analytical Date:	06/09/09 18:26		
Analyst:	SE		

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab					
Monochlorobiphenyls	ND		ng/cart	10.0	1
Dichlorobiphenyls	ND		ng/cart	10.0	1
Trichlorobiphenyls	ND		ng/cart	10.0	1
Tetrachlorobiphenyls	ND		ng/cart	10.0	1
Pentachlorobiphenyls	18.4		ng/cart	10.0	1
Hexachlorobiphenyls	ND		ng/cart	10.0	1
Heptachlorobiphenyls	ND		ng/cart	10.0	1
Octachlorobiphenyls	ND		ng/cart	10.0	1
Nonachlorobiphenyls	ND		ng/cart	10.0	1
Decachlorobiphenyl	ND		ng/cart	10.0	1
Total Homologs	18.4		ng/cart	10.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	**45**		50-125
Cl8-BZ#202-C13	68		50-125

Project Name: UMASS LGRC
Project Number: 210918.01
Lab Number: L0906828
Report Date: 06/15/09

SAMPLE RESULTS

Lab ID:	L0906828-03	Date Collected:	05/26/09 15:34
Client ID:	LGRC-IA-003	Date Received:	05/27/09
Sample Location:	AMHERST, MA	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	06/07/09 16:45
Analytical Date:	06/09/09 19:23		
Analyst:	SE		

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab					
Monochlorobiphenyls	ND		ng/cart	10.0	1
Dichlorobiphenyls	ND		ng/cart	10.0	1
Trichlorobiphenyls	ND		ng/cart	10.0	1
Tetrachlorobiphenyls	ND		ng/cart	10.0	1
Pentachlorobiphenyls	19.0		ng/cart	10.0	1
Hexachlorobiphenyls	ND		ng/cart	10.0	1
Heptachlorobiphenyls	ND		ng/cart	10.0	1
Octachlorobiphenyls	ND		ng/cart	10.0	1
Nonachlorobiphenyls	ND		ng/cart	10.0	1
Decachlorobiphenyl	ND		ng/cart	10.0	1
Total Homologs	19.0		ng/cart	10.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	**45**		50-125
Cl8-BZ#202-C13	64		50-125

Project Name: UMASS LGRC
Project Number: 210918.01
Lab Number: L0906828
Report Date: 06/15/09

SAMPLE RESULTS

Lab ID:	L0906828-04	Date Collected:	05/26/09 15:43
Client ID:	LGRC-IA-004	Date Received:	05/27/09
Sample Location:	AMHERST, MA	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	06/07/09 16:45
Analytical Date:	06/09/09 20:20		
Analyst:	SE		

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab					
Monochlorobiphenyls	ND		ng/cart	10.0	1
Dichlorobiphenyls	ND		ng/cart	10.0	1
Trichlorobiphenyls	ND		ng/cart	10.0	1
Tetrachlorobiphenyls	11.8		ng/cart	10.0	1
Pentachlorobiphenyls	22.0		ng/cart	10.0	1
Hexachlorobiphenyls	ND		ng/cart	10.0	1
Heptachlorobiphenyls	ND		ng/cart	10.0	1
Octachlorobiphenyls	ND		ng/cart	10.0	1
Nonachlorobiphenyls	ND		ng/cart	10.0	1
Decachlorobiphenyl	ND		ng/cart	10.0	1
Total Homologs	33.8		ng/cart	10.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	71		50-125
Cl8-BZ#202-C13	65		50-125

Project Name: UMASS LGRC
Project Number: 210918.01
Lab Number: L0906828
Report Date: 06/15/09

SAMPLE RESULTS

Lab ID:	L0906828-05	Date Collected:	05/26/09 15:49
Client ID:	LGRC-IA-005	Date Received:	05/27/09
Sample Location:	AMHERST, MA	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	06/07/09 16:45
Analytical Date:	06/09/09 21:16		
Analyst:	SE		

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab					
Monochlorobiphenyls	ND		ng/cart	10.0	1
Dichlorobiphenyls	ND		ng/cart	10.0	1
Trichlorobiphenyls	ND		ng/cart	10.0	1
Tetrachlorobiphenyls	11.7		ng/cart	10.0	1
Pentachlorobiphenyls	26.9		ng/cart	10.0	1
Hexachlorobiphenyls	10.1		ng/cart	10.0	1
Heptachlorobiphenyls	ND		ng/cart	10.0	1
Octachlorobiphenyls	ND		ng/cart	10.0	1
Nonachlorobiphenyls	ND		ng/cart	10.0	1
Decachlorobiphenyl	ND		ng/cart	10.0	1
Total Homologs	48.7		ng/cart	10.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	**49**		50-125
Cl8-BZ#202-C13	67		50-125

Project Name: UMASS LGRC
Project Number: 210918.01
Lab Number: L0906828
Report Date: 06/15/09

SAMPLE RESULTS

Lab ID:	L0906828-06	Date Collected:	05/26/09 15:58
Client ID:	LGRC-IA-006	Date Received:	05/27/09
Sample Location:	AMHERST, MA	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	06/07/09 16:45
Analytical Date:	06/09/09 22:13		
Analyst:	SE		

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab					
Monochlorobiphenyls	ND		ng/cart	10.0	1
Dichlorobiphenyls	ND		ng/cart	10.0	1
Trichlorobiphenyls	ND		ng/cart	10.0	1
Tetrachlorobiphenyls	ND		ng/cart	10.0	1
Pentachlorobiphenyls	13.8		ng/cart	10.0	1
Hexachlorobiphenyls	ND		ng/cart	10.0	1
Heptachlorobiphenyls	ND		ng/cart	10.0	1
Octachlorobiphenyls	ND		ng/cart	10.0	1
Nonachlorobiphenyls	ND		ng/cart	10.0	1
Decachlorobiphenyl	ND		ng/cart	10.0	1
Total Homologs	13.8		ng/cart	10.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	**41**		50-125
Cl8-BZ#202-C13	63		50-125

Project Name: UMASS LGRC
Project Number: 210918.01
Lab Number: L0906828
Report Date: 06/15/09

SAMPLE RESULTS

Lab ID:	L0906828-07	Date Collected:	05/26/09 16:14
Client ID:	LGRC-IA-007	Date Received:	05/27/09
Sample Location:	AMHERST, MA	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	06/07/09 16:45
Analytical Date:	06/09/09 23:10		
Analyst:	SE		

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab					
Monochlorobiphenyls	ND		ng/cart	10.0	1
Dichlorobiphenyls	ND		ng/cart	10.0	1
Trichlorobiphenyls	ND		ng/cart	10.0	1
Tetrachlorobiphenyls	ND		ng/cart	10.0	1
Pentachlorobiphenyls	19.9		ng/cart	10.0	1
Hexachlorobiphenyls	ND		ng/cart	10.0	1
Heptachlorobiphenyls	ND		ng/cart	10.0	1
Octachlorobiphenyls	ND		ng/cart	10.0	1
Nonachlorobiphenyls	ND		ng/cart	10.0	1
Decachlorobiphenyl	ND		ng/cart	10.0	1
Total Homologs	19.9		ng/cart	10.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	**31**		50-125
Cl8-BZ#202-C13	61		50-125

Project Name: UMASS LGRC
Project Number: 210918.01
Lab Number: L0906828
Report Date: 06/15/09

SAMPLE RESULTS

Lab ID:	L0906828-08	Date Collected:	05/26/09 16:26
Client ID:	LGRC-IA-008	Date Received:	05/27/09
Sample Location:	AMHERST, MA	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	06/07/09 16:45
Analytical Date:	06/10/09 00:07		
Analyst:	SE		

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab					
Monochlorobiphenyls	ND		ng/cart	10.0	1
Dichlorobiphenyls	ND		ng/cart	10.0	1
Trichlorobiphenyls	ND		ng/cart	10.0	1
Tetrachlorobiphenyls	ND		ng/cart	10.0	1
Pentachlorobiphenyls	10.8		ng/cart	10.0	1
Hexachlorobiphenyls	ND		ng/cart	10.0	1
Heptachlorobiphenyls	ND		ng/cart	10.0	1
Octachlorobiphenyls	ND		ng/cart	10.0	1
Nonachlorobiphenyls	ND		ng/cart	10.0	1
Decachlorobiphenyl	ND		ng/cart	10.0	1
Total Homologs	10.8		ng/cart	10.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	65		50-125
Cl8-BZ#202-C13	66		50-125

Project Name: UMASS LGRC
Project Number: 210918.01
Lab Number: L0906828
Report Date: 06/15/09

SAMPLE RESULTS

Lab ID:	L0906828-09	Date Collected:	05/26/09 16:44
Client ID:	LGRC-IA-009	Date Received:	05/27/09
Sample Location:	AMHERST, MA	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	06/07/09 16:45
Analytical Date:	06/10/09 01:03		
Analyst:	SE		

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab					
Monochlorobiphenyls	ND		ng/cart	10.0	1
Dichlorobiphenyls	ND		ng/cart	10.0	1
Trichlorobiphenyls	ND		ng/cart	10.0	1
Tetrachlorobiphenyls	ND		ng/cart	10.0	1
Pentachlorobiphenyls	10.1		ng/cart	10.0	1
Hexachlorobiphenyls	ND		ng/cart	10.0	1
Heptachlorobiphenyls	ND		ng/cart	10.0	1
Octachlorobiphenyls	ND		ng/cart	10.0	1
Nonachlorobiphenyls	ND		ng/cart	10.0	1
Decachlorobiphenyl	ND		ng/cart	10.0	1
Total Homologs	10.1		ng/cart	10.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	52		50-125
Cl8-BZ#202-C13	63		50-125

Project Name: UMASS LGRC
Project Number: 210918.01
Lab Number: L0906828
Report Date: 06/15/09

SAMPLE RESULTS

Lab ID:	L0906828-10	Date Collected:	05/26/09 16:54
Client ID:	LGRC-IA-010	Date Received:	05/27/09
Sample Location:	AMHERST, MA	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	06/07/09 16:45
Analytical Date:	06/10/09 03:29		
Analyst:	SE		

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab					
Monochlorobiphenyls	ND		ng/cart	10.0	1
Dichlorobiphenyls	ND		ng/cart	10.0	1
Trichlorobiphenyls	ND		ng/cart	10.0	1
Tetrachlorobiphenyls	ND		ng/cart	10.0	1
Pentachlorobiphenyls	26.6		ng/cart	10.0	1
Hexachlorobiphenyls	12.2		ng/cart	10.0	1
Heptachlorobiphenyls	ND		ng/cart	10.0	1
Octachlorobiphenyls	ND		ng/cart	10.0	1
Nonachlorobiphenyls	ND		ng/cart	10.0	1
Decachlorobiphenyl	ND		ng/cart	10.0	1
Total Homologs	38.8		ng/cart	10.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	53		50-125
Cl8-BZ#202-C13	70		50-125

Project Name: UMASS LGRC
Project Number: 210918.01
Lab Number: L0906828
Report Date: 06/15/09

SAMPLE RESULTS

Lab ID:	L0906828-11	Date Collected:	05/26/09 17:08
Client ID:	LGRC-IA-011	Date Received:	05/27/09
Sample Location:	AMHERST, MA	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	06/07/09 16:45
Analytical Date:	06/10/09 04:26		
Analyst:	SE		

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab					
Monochlorobiphenyls	ND		ng/cart	10.0	1
Dichlorobiphenyls	ND		ng/cart	10.0	1
Trichlorobiphenyls	ND		ng/cart	10.0	1
Tetrachlorobiphenyls	ND		ng/cart	10.0	1
Pentachlorobiphenyls	11.3		ng/cart	10.0	1
Hexachlorobiphenyls	ND		ng/cart	10.0	1
Heptachlorobiphenyls	ND		ng/cart	10.0	1
Octachlorobiphenyls	ND		ng/cart	10.0	1
Nonachlorobiphenyls	ND		ng/cart	10.0	1
Decachlorobiphenyl	ND		ng/cart	10.0	1
Total Homologs	11.3		ng/cart	10.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	**45**		50-125
Cl8-BZ#202-C13	**44**		50-125

Project Name: UMASS LGRC
Project Number: 210918.01
Lab Number: L0906828
Report Date: 06/15/09

SAMPLE RESULTS

Lab ID:	L0906828-12	Date Collected:	05/26/09 16:44
Client ID:	LGRC-IA-500	Date Received:	05/27/09
Sample Location:	AMHERST, MA	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	06/07/09 16:45
Analytical Date:	06/10/09 05:23		
Analyst:	SE		

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab					
Monochlorobiphenyls	ND		ng/cart	10.0	1
Dichlorobiphenyls	ND		ng/cart	10.0	1
Trichlorobiphenyls	ND		ng/cart	10.0	1
Tetrachlorobiphenyls	ND		ng/cart	10.0	1
Pentachlorobiphenyls	ND		ng/cart	10.0	1
Hexachlorobiphenyls	ND		ng/cart	10.0	1
Heptachlorobiphenyls	ND		ng/cart	10.0	1
Octachlorobiphenyls	ND		ng/cart	10.0	1
Nonachlorobiphenyls	ND		ng/cart	10.0	1
Decachlorobiphenyl	ND		ng/cart	10.0	1
Total Homologs	ND		ng/cart	10.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	**18**		50-125
Cl8-BZ#202-C13	**18**		50-125

Project Name: UMASS LGRC
Project Number: 210918.01
Lab Number: L0906828
Report Date: 06/15/09

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270C-SIM
Analytical Date: 06/09/09 14:39
Analyst: SE

Extraction Method: EPA 3540C
Extraction Date: 06/07/09 16:45

Parameter	Result	Qualifier	Units	RDL
PCB Homologs by GC/MS-SIM - Mansfield Lab for sample(s): 01-12 Batch: WG366366-1				
Monochlorobiphenyls	ND		ng/cart	10.0
Dichlorobiphenyls	ND		ng/cart	10.0
Trichlorobiphenyls	ND		ng/cart	10.0
Tetrachlorobiphenyls	ND		ng/cart	10.0
Pentachlorobiphenyls	ND		ng/cart	10.0
Hexachlorobiphenyls	ND		ng/cart	10.0
Heptachlorobiphenyls	ND		ng/cart	10.0
Octachlorobiphenyls	ND		ng/cart	10.0
Nonachlorobiphenyls	ND		ng/cart	10.0
Decachlorobiphenyl	ND		ng/cart	10.0
Total Homologs	ND		ng/cart	10.0

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	51		50-125
Cl8-BZ#202-C13	63		50-125

Lab Control Sample Analysis

Batch Quality Control

Project Name: UMASS LGRC

Project Number: 210918.01

Lab Number: L0906828

Report Date: 06/15/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01-12 Batch: WG366366-2					
Cl1-BZ#1	**37**	-	40-140	-	30
CL1-BZ#3	45	-	40-140	-	30
Cl2-BZ#4/#10	41	-	40-140	-	30
Cl2-BZ#5/#8	**37**	-	40-140	-	30
Cl3-BZ#19	**36**	-	40-140	-	30
Cl3-BZ#18	**36**	-	40-140	-	30
Cl2-BZ#15	**39**	-	40-140	-	30
Cl4-BZ#54	**36**	-	40-140	-	30
Cl3-BZ#29	**39**	-	40-140	-	30
Cl4-BZ#50	41	-	40-140	-	30
Cl3-BZ#28/#31	41	-	40-140	-	30
Cl4-BZ#45	44	-	40-140	-	30
Cl4-BZ#52	44	-	40-140	-	30
Cl4-BZ#43/#49	45	-	40-140	-	30
Cl4-Bz#47/#48	42	-	40-140	-	30
Cl5-BZ#104	**39**	-	40-140	-	30
Cl4-BZ#44	45	-	40-140	-	30
Cl3-BZ#37	46	-	40-140	-	30
Cl4-BZ#74	49	-	40-140	-	30
Cl6-BZ#155	49	-	40-140	-	30
Cl4-BZ#70	52	-	40-140	-	30

Lab Control Sample Analysis

Batch Quality Control

Project Name: UMASS LGRC

Project Number: 210918.01

Lab Number: L0906828

Report Date: 06/15/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01-12 Batch: WG366366-2					
Cl4-BZ#66	50	-	40-140	-	30
Cl5-BZ#95	45	-	40-140	-	30
Cl4-BZ#56/#60	50	-	40-140	-	30
Cl5-BZ#101/#84	61	-	40-140	-	30
Cl5-BZ#99	52	-	40-140	-	30
Cl6-BZ#154	52	-	40-140	-	30
Cl5-BZ#110	56	-	40-140	-	30
Cl4-BZ#81	61	-	40-140	-	30
Cl6-BZ#151	54	-	40-140	-	30
Cl4-BZ#77	60	-	40-140	-	30
Cl5-BZ#123	57	-	40-140	-	30
Cl6-BZ#149	58	-	40-140	-	30
Cl7-BZ#188	50	-	40-140	-	30
Cl5-BZ#118	66	-	40-140	-	30
Cl6-BZ#146	62	-	40-140	-	30
Cl5-BZ#114	62	-	40-140	-	30
Cl6-BZ#153	64	-	40-140	-	30
Cl6-BZ#138/#163	61	-	40-140	-	30
Cl6-BZ#158	68	-	40-140	-	30
Cl5-BZ#105	60	-	40-140	-	30
Cl7-BZ#182/#187	62	-	40-140	-	30

Lab Control Sample Analysis

Batch Quality Control

Project Name: UMASS LGRC

Project Number: 210918.01

Lab Number: L0906828

Report Date: 06/15/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01-12 Batch: WG366366-2					
Cl7-BZ#183	64	-	40-140	-	30
Cl6-BZ#167/#128	68	-	40-140	-	30
Cl5-BZ#126	54	-	40-140	-	30
Cl7-BZ#174	68	-	40-140	-	30
Cl8-BZ#202	58	-	40-140	-	30
Cl7-BZ#177	66	-	40-140	-	30
Cl6-BZ#156	67	-	40-140	-	30
Cl6-BZ#157	64	-	40-140	-	30
Cl7-BZ#180	62	-	40-140	-	30
Cl7-BZ#170/#190	56	-	40-140	-	30
Cl8-BZ#201	63	-	40-140	-	30
Cl6-BZ#169	76	-	40-140	-	30
Cl9-BZ#208	64	-	40-140	-	30
Cl7-BZ#189	74	-	40-140	-	30
Cl8-BZ#195	64	-	40-140	-	30
Cl8-BZ#194	67	-	40-140	-	30
Cl8-BZ#205	68	-	40-140	-	30
Cl9-BZ#206	65	-	40-140	-	30
Cl10-BZ#209	62	-	40-140	-	30

Lab Control Sample Analysis

Batch Quality Control

Project Name: UMASS LGRC

Project Number: 210918.01

Lab Number: L0906828

Report Date: 06/15/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01-12 Batch: WG366366-2					

Surrogate	LCS %Recovery	Qualifier	LCSD %Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	42				50-125
Cl8-BZ#202-C13	64				50-125

Project Name: UMASS LGRC
Project Number: 210918.01

Lab Number: L0906828
Report Date: 06/15/09

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0906828-01A	PUF Air Cartridge - High or Low	A	N/A	4	Y	Absent	PUF-LO(),A2-PCBHOMS-8270SIM(14),PUF-EXT(7)
L0906828-02A	PUF Air Cartridge - High or Low	A	N/A	4	Y	Absent	PUF-LO(),A2-PCBHOMS-8270SIM(14),PUF-EXT(7)
L0906828-03A	PUF Air Cartridge - High or Low	A	N/A	4	Y	Absent	PUF-LO(),A2-PCBHOMS-8270SIM(14),PUF-EXT(7)
L0906828-04A	PUF Air Cartridge - High or Low	A	N/A	4	Y	Absent	PUF-LO(),A2-PCBHOMS-8270SIM(14),PUF-EXT(7)
L0906828-05A	PUF Air Cartridge - High or Low	A	N/A	4	Y	Absent	PUF-LO(),A2-PCBHOMS-8270SIM(14),PUF-EXT(7)
L0906828-06A	PUF Air Cartridge - High or Low	A	N/A	4	Y	Absent	PUF-LO(),A2-PCBHOMS-8270SIM(14),PUF-EXT(7)
L0906828-07A	PUF Air Cartridge - High or Low	A	N/A	4	Y	Absent	PUF-LO(),A2-PCBHOMS-8270SIM(14),PUF-EXT(7)
L0906828-08A	PUF Air Cartridge - High or Low	A	N/A	4	Y	Absent	PUF-LO(),A2-PCBHOMS-8270SIM(14),PUF-EXT(7)
L0906828-09A	PUF Air Cartridge - High or Low	B	N/A	2	Y	Absent	PUF-LO(),A2-PCBHOMS-8270SIM(14),PUF-EXT(7)
L0906828-10A	PUF Air Cartridge - High or Low	B	N/A	2	Y	Absent	PUF-LO(),A2-PCBHOMS-8270SIM(14),PUF-EXT(7)
L0906828-11A	PUF Air Cartridge - High or Low	B	N/A	2	Y	Absent	PUF-LO(),A2-PCBHOMS-8270SIM(14),PUF-EXT(7)
L0906828-12A	PUF Air Cartridge - High or Low	B	N/A	2	Y	Absent	PUF-LO(),A2-PCBHOMS-8270SIM(14),PUF-EXT(7)

*Hold days indicated by values in parentheses

Project Name:	UMASS LGRC	**Lab Number:**	L0906828
Project Number:	210918.01	**Report Date:**	06/15/09

GLOSSARY

Acronyms

EPA	· Environmental Protection Agency.
LCS	· Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	· Laboratory Control Sample Duplicate: Refer to LCS.
MS	· Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	· Matrix Spike Sample Duplicate: Refer to MS.
NA	· Not Applicable.
NC	· Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
ND	· Not detected at the reported detection limit for the sample.
NI	· Not Ignitable.
RDL	· Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	· Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

*****	- The batch duplicate RPD exceeds the acceptance criteria. This flag is not applicable when the sample concentrations are less than 5x the RDL. (Metals only.)
A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
N	- The matrix spike recovery exceeds the acceptance criteria. This flag is not applicable when the sample concentration is greater than 4x the spike added. (Metals only.)
P	- The RPD between the results for the two columns exceeds the method-specified criteria.
R	- Analytical results are from sample re-analysis.
RE	- Analytical results are from sample re-extraction.
J	- Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report

Project Name:	UMASS LGRC	**Lab Number:**	L0906828
Project Number:	210918.01	**Report Date:**	06/15/09

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised June 9, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814.

Non-Potable Water (Inorganic Parameters: SM2320B, 4500NH3-F, EPA 120.1, SM2510B, 2340B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, 420.1, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090.

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206.

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7471. Organic Parameters: EPA 8015, 8270.)

U.S. Army Corps of Engineers

Certificate/Approval Program Summary

Last revised June 9, 2009 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574.

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Haloacetic Acids, Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB).)
Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Calcium Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)
Solid Waste/Soil (Inorganic Parameters: Lead in Paint, pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), Reactivity. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9221E, 9222B, 9222D, 9223B, EPA 150.1, 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B,4500NO3-F, EPA 200.7, EPA 200.8, 245.1. Organic Parameters: 504.1, 524.2, SM 6251B.)
Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
Drinking Water
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Nitrite-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, EPA 150.1, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), SM6251B, 314.0.

Non-Potable Water
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Tl,Ti,V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Nitrate-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CN-CE, 2540D, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)
(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCB-Water)
600/4-81-045-PCB-Oil

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
Drinking Water
Microbiology Parameters: SM9215B; MF-SM9222B; ENZ. SUB. SM9223; EC-SM9221E; MF-SM9222D; ENZ. SUB. SM9223;

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307.
Drinking Water (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 110.2, 120.1, 150.1, 300.0, 325.2, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 150.1, 300.0, 305.1, 310.1, 325.2, 340.2, 350.1, 350.2, 351.1, 353.2, 354.1, 365.2, 375.4, 376.2, 405.1, 415.1, 420.1, 425.1, 1664A, SW-846 9010, 9030, 9040B, EPA 160.1, 160.2, 160.3, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935.
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, 331.0, 110.2, SM2120B, 2510B, 5310C, EPA 150.1, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.1, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.2/.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
Solid & Chemical Materials (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

New York Department of Health Certificate/Lab ID: 11148.
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 8215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 331.0, SM2320B, EPA 300.0, 325.2, 110.2, SM2120B, 4500CN-E, 4500F-C, EPA 150.1, SM4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1, SM6251B.)
Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, EPA 405.1, SM5210B, EPA 410.4, SM5220D, EPA 305.1, SM2310B-4a, EPA 310.1, SM2320B, EPA 200.7, 300.0, 325.2, LACHAT 10-117-07-1A or B, SM4500Cl-E, EPA 340.2, SM4500F-C, EPA 375.4, SM15 426C, EPA 350.1, 350.2, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO30F, EPA 354.1, SM4500-NO2-B, EPA 365.2, SM4500P-E, EPA 160.3, EPA 160.1, SM2540C, EPA 160.2, SM2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, 110.2, SM2120B, 335.2, LACHAT 10-204-00-1-A, EPA 150.1, 9040B, SM4500-HB, EPA 1664A, EPA 415.1, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, EPA 376.2, SM4500S-D, EPA 425.1, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, 8021B, EPA 3510C, 5030B, 9010B, 9030B.)
Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 3005A, 3050B, 3051, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 8021B, 3540C, 3545, 3580, 5030B, 5035.)
Analytical Services Protocol: CLP Volatile Organics, CLP Inorganics, CLP PCB/Pesticides.

Rhode Island Department of Health Certificate/Lab ID: LAO00065.
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671.
Non-Potable Water (Organic Parameters: EPA 3510C, 625, 608, 8081A, 8082, 8151A, 8270C, 8330)
Solid & Hazardous Waste (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 5/27/09

ALPHA Job #: L0906828

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Woodard & Curran
Address: 35 New England Bus Ctr
Andover MA
Phone: 978 557 8150
Fax:
Email: gfranklin@woodardcurran.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: UMass LGRC
Project Location: Amherst MA
Project #: Z10918.01
Project Manager: Jeff Hamel
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☑ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☑ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program	Criteria
PCBs	≤ 50 nanograms/m³ [10 nanograms/cartridge]

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO-

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
PCBs via TO-4A. Require 50 nanograms/m³ RL
Samples collected for ~2 hrs at 2.5 L/min (10 nanograms/cartridge)

ANALYSIS: PCBs (TO-10A)

SAMPLE HANDLING
Filtration
☐ Done ☐ Not needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCBs (TO-10A)	Time Start	Flow Start	Time Stop	Flow Stop	Sample Specific Comments	TOTAL # BOTTLES
06628 -01	LGRC-IA-001	5/26/09	1519	AIR	GJF	X	1305	2.53	1519	2.54		
-02	LGRC-IA-002	5/26/09	1525	AIR	GJF	X	1320	2.52	1525	2.51		
-03	LGRC-IA-003	5/26/09	1534	AIR	GJF	X	1333	2.57	1534	2.56		
-04	LGRC-IA-004	5/26/09	1543	AIR	GJF	X	1343	2.55	1543	2.57		
-05	LGRC-IA-005	5/26/09	1549	AIR	GJF	X	1349	2.54	1549	2.54		
-06	LGRC-IA-006	5/26/09	1555	AIR	GJF	X	1358	2.56	1550	2.55		
-07	LGRC-IA-007	5/26/09	1614	AIR	GJF	X	1414	2.55	1614	2.55		
-08	LGRC-IA-008	5/26/09	1626	AIR	GJF	X	1426	2.54	1626	2.50		
-09	LGRC-IA-009	5/26/09	1644	AIR	GJF	X	1444	2.56	1644	2.57		
-10	LGRC-IA-010	5/26/09	1654	AIR	GJF	X	1454 1458 1465	2.54	1654	2.49		
					Container Type	C						
					Preservative	A						

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01 (rev. 14-OCT-07)

Relinquished By:	Date/Time	Received By:	Date/Time
Jeff Hamel	5/26/09 1205	Ken B. Stevens	5/27/09 1205
Ken B. Stevens	5/27/09 1235		5/27/09 1235
	5/27/09 14:20		5/29/09 14:20

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 5/27/09

ALPHA Job #: L0906820

ALPHA TECHNICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Woodard + Curran
Address: 35 NE Bus. Ctr
Andover MA
Phone: 978 557 8150
Fax:
Email: gfranklin@woodardcurran.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: UMass LGRC
Project Location: Amherst MA
Project #: 210918.01
Project Manager: Jeff Hamel
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☑ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☑ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program: Criteria: ≤ 50 nanograms/m³ [10 nanograms/cartridge]

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO-

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
PCBs via TO-10A. 50 nanograms/m³ RL Required 10 nanograms/cartridge based on 2 hr collection at 2.5 L/min

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: PCBs TO-10A	Time Start	Flow Start	Time Stop	Flow Stop	SAMPLE HANDLING	TOTAL # BOTTLES
06820-11	LGRC-IA-011	5/26/09	1700	AIR	GJF	X	1503	2.55	1708	2.52		
-12	LGRC-IA-500	5/26/09	1644	AIR	GJF	X	1444	2.55	1644	2.57		
Container Type						O						
Preservative						A						

Sample Specific Comments

SAMPLE HANDLING
Filtration
☐ Done ☐ Not needed ☐ Lab to do
Preservation
☐ Lab to do (Please specify below)

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP *or* CT RCP?

FORM NO: 01-01 (rev. 14-OCT-07)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/27/09 1205		5/27/09 1205
	5/27/09 1235		5/27/09 12:3
	5/27/09 14:26		5/27/09 14:20

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 5/27/09 — ALPHA Job #: L0906828

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: WOODARD & CURRAN
Address: 35 NEW ENGLAND BUS CTR ANDOVER MA
Phone: 978 557 8150
Fax:
Email: gfranklin@woodardcurran.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: UMass LGRC
Project Location: AMHERST MA
Project #: 210918.01
Project Manager: JEFF HAMEL
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☑ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☑ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program	Criteria
PCBs	≤ 50 nanograms/m³ [10 nanograms/cartridge]

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO-

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
PCBs via TO-10A. Require 50 nanograms/m³ RL
Samples Collected for ~2 hrs at 2.5 L/min (10 nanograms/cartridge)
Extracts for Mansfield -KB

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCBs (TO-10A)		Time Start	Flow Start	Time Stop	Flow Stop	Sample Specific Comments
06828-01	LGRC-IA-001	5/26/09	1519	AIR	GJF	X		1305	2.53	1519	2.54	
-02	LGRC-IA-002	5/26/09	1525	AIR	GJF	X		1320	2.52	1525	2.51	
-03	LGRC-IA-003	5/26/09	1534	AIR	GJF	X		1333	2.57	1534	2.56	
-04	LGRC-IA-004	5/26/09	1543	AIR	GJF	X		1343	2.55	1543	2.57	
-05	LGRC-IA-005	5/26/09	1549	AIR	GJF	X		1349	2.54	1549	2.54	
-06	LGRC-IA-006	5/26/09	1553	AIR	GJF	X		1358	2.56	1558	2.55	
-07	LGRC-IA-007	5/26/09	1614	AIR	GJF	X		1414	2.55	1614	2.55	
-08	LGRC-IA-008	5/26/09	1626	AIR	GJF	X		1426	2.54	1626	2.50	
-09	LGRC-IA-009	5/26/09	1644	AIR	GJF	X		1444	2.52	1644	2.57	
-10	LGRC-IA-010	5/26/09	1654	AIR	GJF	X		1454 / 1458	2.54	1654	2.49	

Container Type	O
Preservative	A

SAMPLE HANDLING
Filtration ______
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	5/26/09 1205	Kevin B. Stevens	5/27/09 1205
Kevin B. Stevens	5/27/09 1235	[illegible]	5/27/09 12[illegible]
[illegible]	5/27/09 14:20	[illegible]	5/29/09 14:20
[illegible]	6/9/09 900	[illegible]	6/9/09 0925
[illegible]	6/9/09 - 1035	[illegible]	6/9/09 1035

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 14-OCT-07)

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/27/09 | ALPHA Job #: L0906820

Client Information

Client: Woodard + Curran
Address: 35 No Bus. Gr
Andover MA
Phone: 978 557 8150
Fax:
Email: gfranklin@woodardcurran.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: UMass LGRC
Project Location: Amherst MA
Project #: 210918.01
Project Manager: Jeff Hamel
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☑ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☑ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria
≤ 50 nanograms/m³ [10 nanograms/cartridge]

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO-

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
PCBs via TO-10A. 50 nanograms/m³ R.L. Requires 10 nanograms/cartridge based on 2 hr Collection at 2.5 L/Min

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: PCBs TO-10A	Time Start	Flow Start	Time Stop	Flow Stop	SAMPLE HANDLING	TOTAL # BOTTLES
06820 -11	LGRC-IA-011	5/26/09	1700	AIR	GJF	X	1504	2.55	1708	2.52		
-12	LGRC-IA-500	5/26/09	1644	AIR	GJF	X	1444	2.55	1644	2.57		

Filtration: ☐ Done ☐ Not needed ☐ Lab to do
Preservation: ☐ Lab to do (Please specify below)
Sample Specific Comments

Container Type	O											
Preservative	A											

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01 (rev. 14-OCT-07)

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	5/27/09 1205	[signature]	5/27/09 1205
[signature]	5/27/09 1235	[signature]	5/27/09 12[illegible]
[signature]	5/27/09 14:26	[signature]	5/27/09 14:20
[signature]	6/9/09 900	[signature]	6/9/09 0945
[signature]	6/9/09 1035	[signature]	6/9/09 1035

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

ATTACHMENT 4

Results of Interior Wipe Samples
UMass Amherst Lederle Graduate Research Center

On June 5, 2009 at the request of UMass, Woodard & Curran personnel collected four wipe samples for PCB analysis from window ledges in the Lederle Graduate Research Center (LGRC) low rise building. Wipe samples were collected in accordance with standard wipe test methods. At each sample location, a 2-inch square gauze pad, saturated with hexane, was wiped across a 100 square centimeter sample area. All samples were transported to the laboratory under standard Chain of Custody procedures, extracted using USEPA Method 3540C (Soxhlet extraction), and analyzed for PCBs using USEPA Method 8082. A summary of the sample locations and analytical results is presented in the table below.

Summary of Interior Wipe Samples

Sample Identification	Sample Location	Analytical Results (µg/100cm^2)
LGRC-WP-A331	Room A331 Window Ledge	<0.5
LGRC-WP-A221	Room A221 Window Ledge	<0.5
LGRC-WP-A217	Room A217 Window Ledge	<0.5
LGRC-WP-A117	Room A117 Window Ledge	<0.5

As indicated on the table above, analytical results indicate that the concentrations of PCBs in all four of the wipe samples collected were below the minimum laboratory reporting limits and below the high occupancy cleanup criteria for non-porous surfaces of 10 µg/100cm^2.

analytics environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

June 16, 2009

Mr. George Franklin
Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

RE: Analytical Results Case Narrative
Analytics # 64035
UMass LGRC Proj# 210918

Dear Mr. Franklin;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

Case Narrative/Non-Conformance Summary
Sample Log Sheet - Cover Page
PCB Form 1 Data Sheet for Samples and Blanks
Chromatograms
PCB Form 10 Confirmation Results
PCB Form 3 MS/MSD (LCS) Recoveries
Chain of Custody (COC) Forms

QC NON CONFORMANCE SUMMARY

Sample Receipt:
No exceptions.

PCBs by EPA Method 8082:
No QC deviations.

If you have any questions on this data submittal, please do not hesitate to contact me.

Sincerely,
ANALYTICS Environmental Laboratory, LLC

Stephen Knollmeyer
Laboratory Director

analytics environmental laboratory LLC

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Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

Mr. George Franklin
Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

Report Number: 64035

Revision: Rev. 0

Re: UMASS LGRC **210918.01**

Enclosed are the results of the analyses on your sample(s). Samples were received on 08 June 2009 and analyzed for the tests listed below. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

Lab Number	Sample Date	Station Location	Analysis	Comments
64035-1	06/05/09	LGRC-WP-A331	EPA 8082 (PCBs only)	
64035-2	06/05/09	LGRC-WP-A221	EPA 8082 (PCBs only)	
64035-3	06/05/09	LGRC-WP-A217	EPA 8082 (PCBs only)	
64035-4	06/05/09	LGRC-WP-A117	EPA 8082 (PCBs only)	

Sample Receipt Exceptions: None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, New York, Virginia, Maryland, and is validated by the U.S. Navy (NFESC). A list of actual certified parameters is available upon request.

If you have any further question on the analytical methods or these results, do not hesitate to call.

Authorized signature _____
Stephen L. Knollmeyer Lab. Director

Date 6/16/2009

Surrogate Compound Limits

Matrix: / Units:	Aqueous % Recovery	Solid % Recovery	Method
Volatile Organic Compounds - Drinking Water			
1,4-Difluorobenzene	70-130		EPA 524.2
Bromofluorobenzene	70-130		
1,2-Dichlorobenzene-d4	70-130		
Volatile Organic Compounds			
1,2-Dichloroethane-d4	70-120	70-120	EPA 624/8260B
Toluene-d8	85-120	85-120	
Bromofluorobenzene	75-120	75-120	
Semi-Volatile Organic Compounds			
2-Fluorophenol	20-110	35-105	EPA 625/8270C
d5-Phenol	15-110	40-100	
d5-nitrobenzene	40-110	35-100	
2-Fluorobiphenyl	50-110	45-105	
2,4,6-Tribromophenol	40-110	40-125	
d14-p-terphenyl	50-130	30-125	
PAH's by SIM			
d5-nitrobenzene	21-110	35-110	EPA 8270C
2-Fluorobiphenyl	36-121	45-105	
d14-p-terphenyl	33-141	30-125	
Pesticides and PCBs			
2,4,5,6-Tetrachloro-m-xylene (TCX)	46-122	40-130	EPA 608/8082
Decachlorobiphenyl (DCB)	40-135	40-130	
Herbicides			
Dichloroacetic acid (DCAA0	30-150	30-150	
Gasoline Range Organics/TPH Gasoline			
Trifluorotoluene TFT (FID)	60-140	60-140	MEDEP 4217/EPA 8015
Bromofluorobenzene (BFB) (FID)	60-140	60-140	
Trifluorotoluene TFT (PID)	60-140	60-140	
Bromofluorobenzene (BFB) (PID)	60-140	60-140	
Diesel Range Organics/TPH Diesel			
m-terphenyl	60-140	60-140	MEDEP 4125/EPA 8015/CT ETPH

PCB
DATA SUMMARIES

analytics environmental laboratory LLC

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Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. George Franklin
Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

June 16, 2009

CLIENT SAMPLE ID

Project Name: UMASS LGRC

Project Number: 210918.01

Field Sample ID: Lab QC

SAMPLE DATA

Lab Sample ID: B06109PSOX
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date:
Lab Receipt Date:
Extraction Date: 06/10/09
Analysis Date: 06/12/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit ug/wipe	Results ug/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	77	%
Decachlorobiphenyl	84	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS:

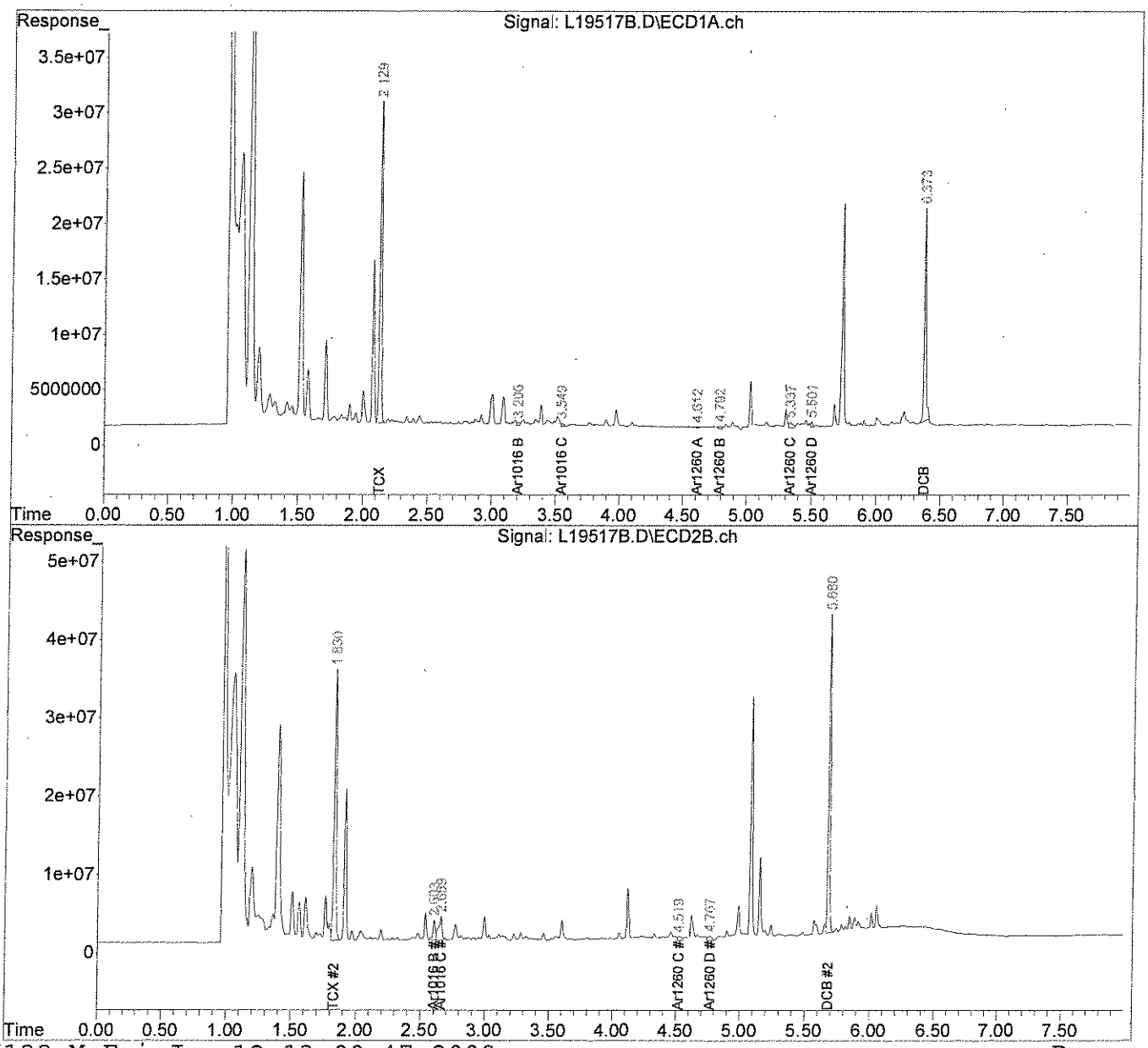
PCBWipe

Authorized signature

Data Path : C:\msdchem\1\DATA\061209-L\
Data File : L19517B.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 12 Jun 09 10:46 am
Operator :
Sample : B06109PSOX,,A/C
Misc : SOIL
ALS Vial : 35 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Jun 12 13:00:46 2009
Quant Method : C:\msdchem\1\METHODS\PB06129.M
Quant Title : Aroclor 1016/1260
QLast Update : Fri Jun 12 09:05:46 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



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603-436-5111 Fax 603-430-2151
800-929-9906

Mr. George Franklin
Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

June 16, 2009

CLIENT SAMPLE ID

Project Name: UMASS LGRC

Project Number: 210918.01

Field Sample ID: LGRC-WP-A331

SAMPLE DATA

Lab Sample ID: 64035-1
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 06/05/09
Lab Receipt Date: 06/08/09
Extraction Date: 06/10/09
Analysis Date: 06/12/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit ug/wipe	Results ug/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	96	%
Decachlorobiphenyl	78	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS:

PCBWipe

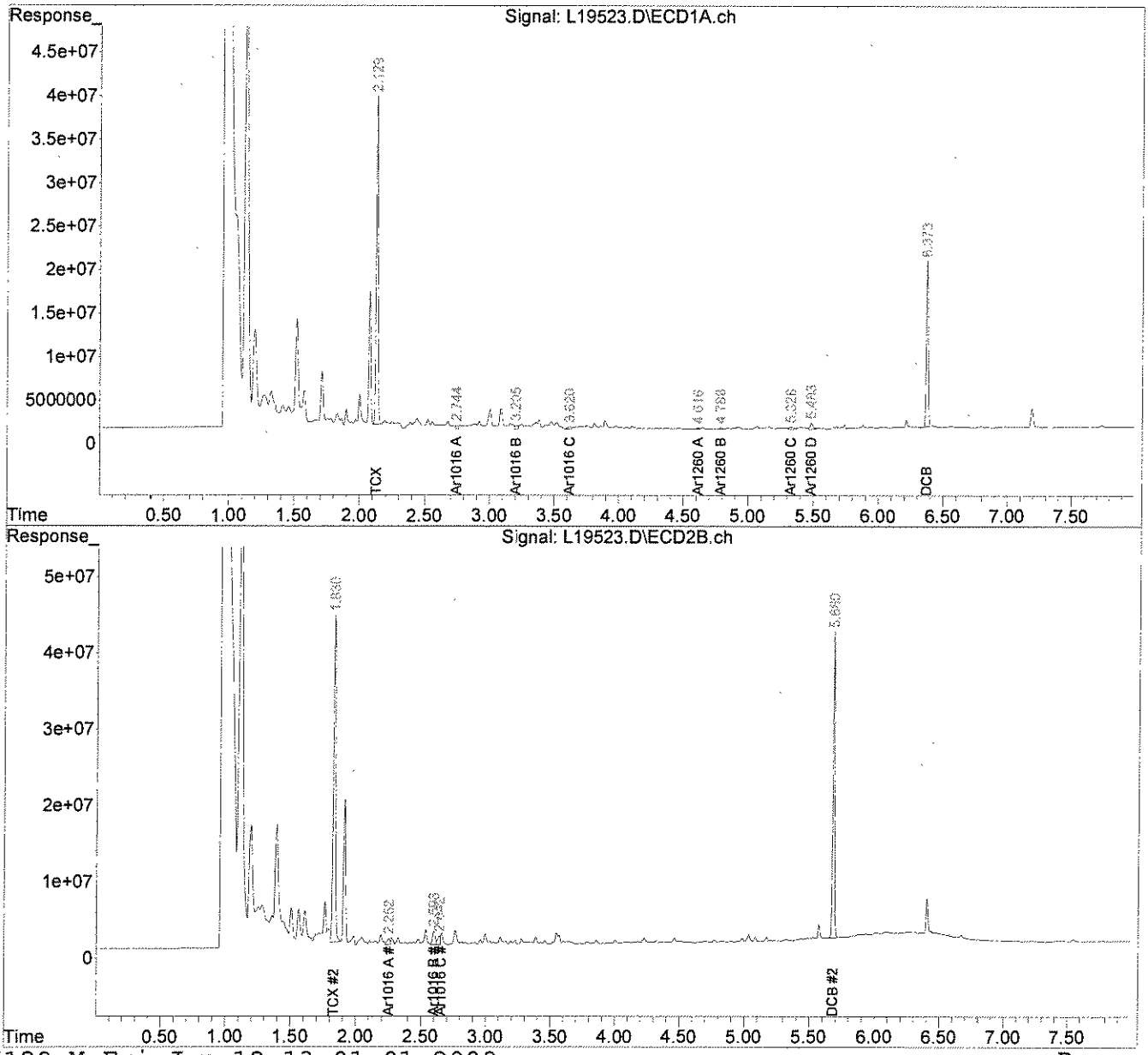
Authorized signature MPlimsoll

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\061209-L\
Data File : L19523.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 12 Jun 09 11:49 am
Operator :
Sample : 64035-1,,A/C
Misc : SOIL
ALS Vial : 41 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Jun 12 13:01:01 2009
Quant Method : C:\msdchem\1\METHODS\PB06129.M
Quant Title : Aroclor 1016/1260
QLast Update : Fri Jun 12 09:05:46 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



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Mr. George Franklin
Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

June 16, 2009

CLIENT SAMPLE ID

Project Name: UMASS LGRC

Project Number: 210918.01

Field Sample ID: LGRC-WP-A221

SAMPLE DATA

Lab Sample ID: 64035-2
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 06/05/09
Lab Receipt Date: 06/08/09
Extraction Date: 06/10/09
Analysis Date: 06/12/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit ug/wipe	Results ug/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	97	%
Decachlorobiphenyl	81	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS:

PCBWipe

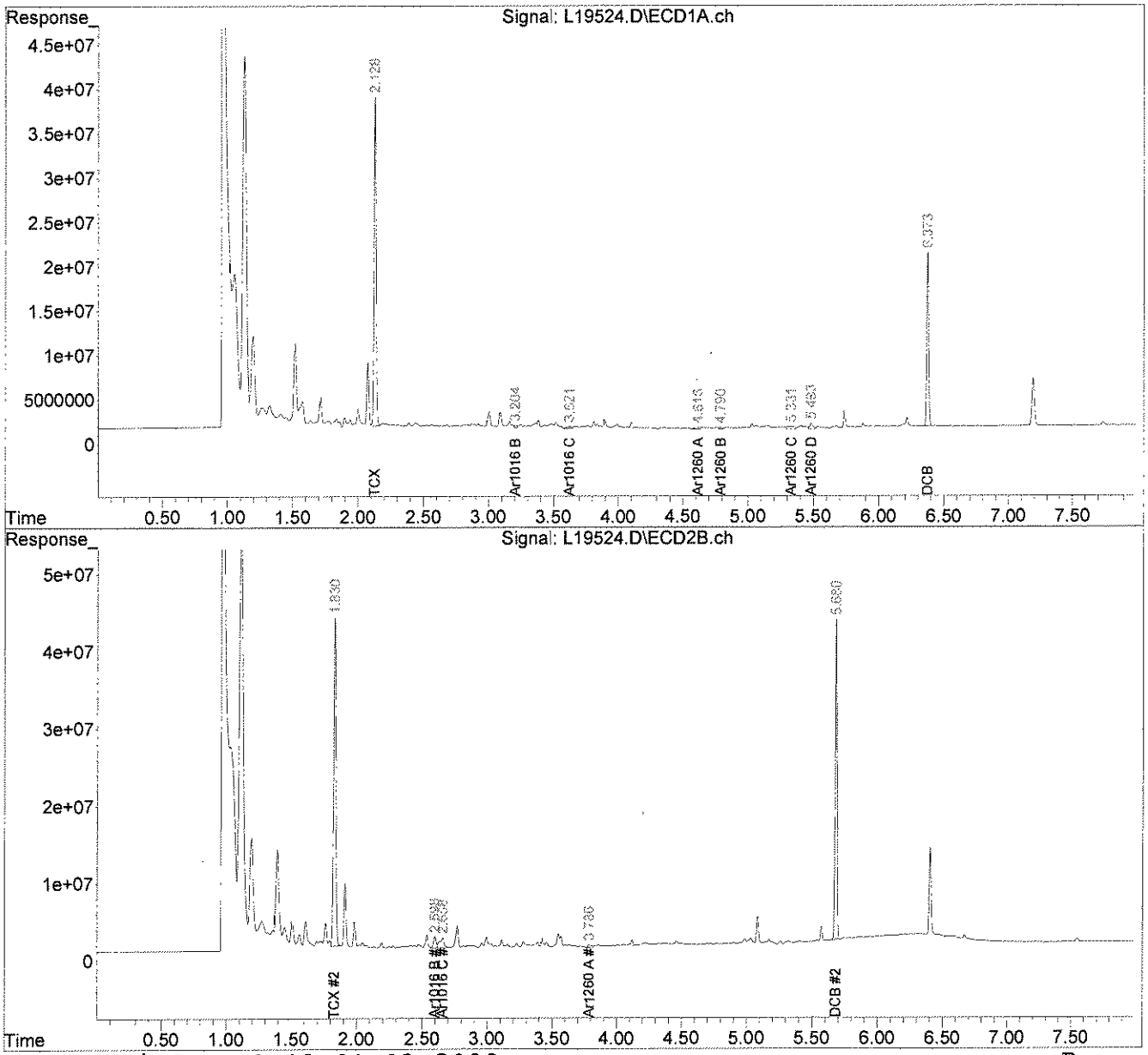
Authorized signature

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\061209-L\
Data File : L19524.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 12 Jun 09 11:59 am
Operator :
Sample : 64035-2,,A/C
Misc : SOIL
ALS Vial : 42 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Jun 12 13:01:03 2009
Quant Method : C:\msdchem\1\METHODS\PB06129.M
Quant Title : Aroclor 1016/1260
QLast Update : Fri Jun 12 09:05:46 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. George Franklin
Woodard & Curran
35 NE Business Center Suite 180
Andover MA 01810

June 16, 2009

CLIENT SAMPLE ID

Project Name: UMASS LGRC

Project Number: 210918.01

Field Sample ID: LGRC-WP-A217

SAMPLE DATA

Lab Sample ID: 64035-3
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 06/05/09
Lab Receipt Date: 06/08/09
Extraction Date: 06/10/09
Analysis Date: 06/12/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit ug/wipe	Results ug/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	92	%
Decachlorobiphenyl	76	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS:

PCBWipe

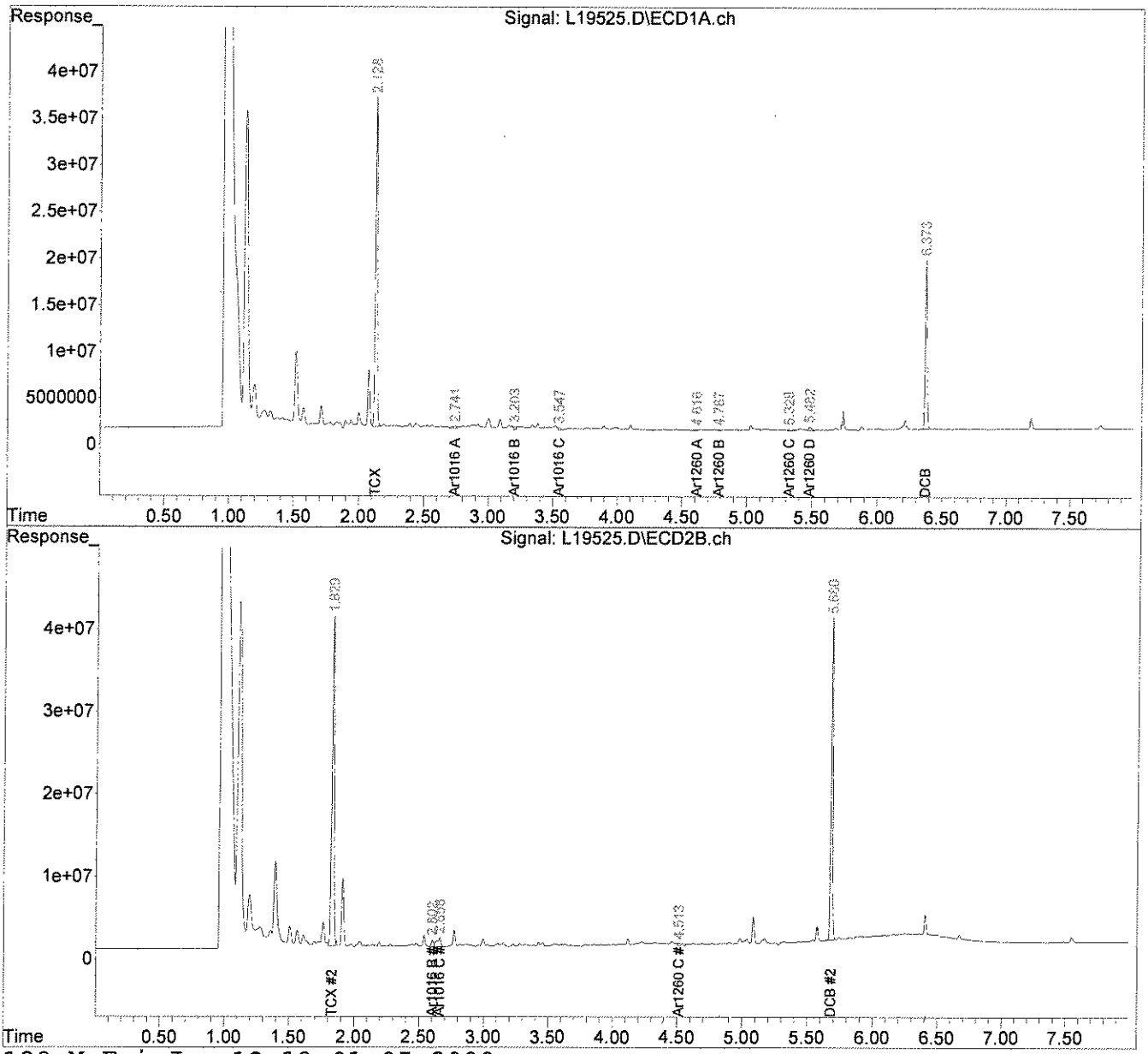
Authorized signature

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\061209-L\
Data File : L19525.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 12 Jun 09 12:09 pm
Operator :
Sample : 64035-3,,A/C
Misc : SOIL
ALS Vial : 43 Sample Multiplier: 1

Integration File signal 1: PCBINT.E
Integration File signal 2: PCBINT2.E
Quant Time: Jun 12 13:01:05 2009
Quant Method : C:\msdchem\1\METHODS\PB06129.M
Quant Title : Aroclor 1016/1260
QLast Update : Fri Jun 12 09:05:46 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 3 ul
Signal #1 Phase : DB-1701 Widebore Signal #2 Phase: DB-5 Widebore
Signal #1 Info : 0.53 mm , 1.0um f Signal #2 Info : 0.53 mm, 1.5um film



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June 16, 2009

CLIENT SAMPLE ID

Project Name: UMASS LGRC

Project Number: 210918.01

Field Sample ID: LGRC-WP-A117

SAMPLE DATA

Lab Sample ID: 64035-4
Matrix: Wipe
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 06/05/09
Lab Receipt Date: 06/08/09
Extraction Date: 06/10/09
Analysis Date: 06/12/09

PCB ANALYTICAL RESULTS

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U

Surrogate Standard Recovery

2,4,5,6-Tetrachloro-m-xylene	97	%
Decachlorobiphenyl	82	%

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

PCB Report

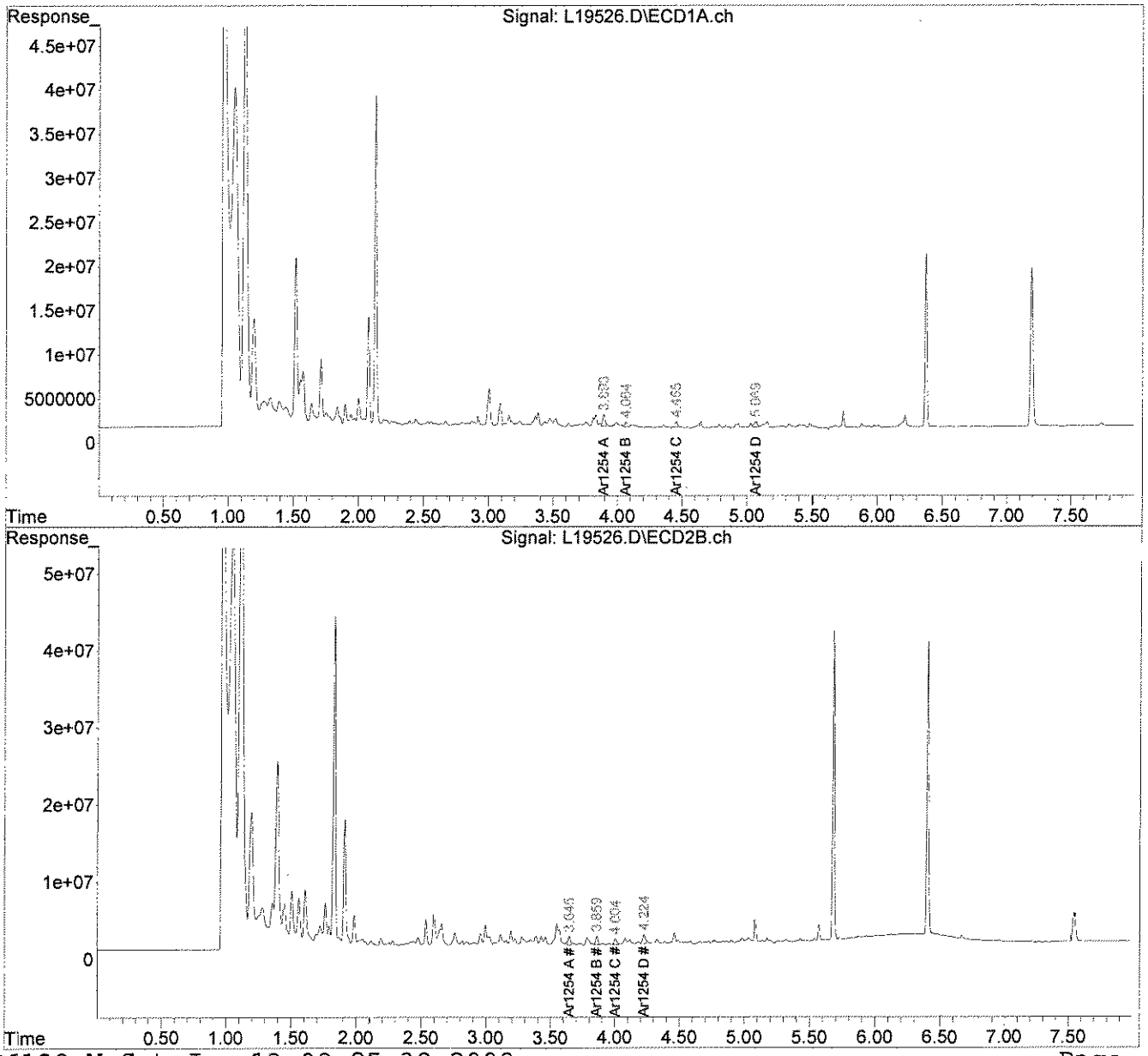
Authorized signature

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\061209-L\
Data File : L19526.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 12 Jun 09 12:20 pm
Operator :
Sample : 64035-4,,A/C
Misc : SOIL
ALS Vial : 44 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jun 13 09:25:28 2009
Quant Method : C:\msdchem\1\METHODS\54SP6129.M
Quant Title :
QLast Update : Sat Jun 13 09:24:01 2009
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



analytics environmental laboratory LLC

PCB
QC FORMS

AnalyticsLLC:AEL Documents LLC:Pkg Dividers:PCBQC.doc

PCB SOIL
SYSTEM MONITORING COMPOUNDS
SUMMARY

Instrument ID: L
GC Column #1: STX-CLPesticides I
Column ID: 0.25 mm
GC Column #2: STX-CLPesticides II
Column ID: 0.25 mm

SDG: 64035

	Column #1				Column #2			
SAMPLE ID	SMC 1 (%)	#	SMC 2 (%)	#	SMC 1 (%)	#	SMC 2 (%)	#
B06109PSOX,,A/C	77		84		76		81	
L06109PSOX,,A/C	92		85		89		85	
LD06109PSOX,,A/C	81		82		79		79	
64035-1,,A/C	96		78		92		77	
64035-2,,A/C	97		81		90		80	
64035-3,,A/C	92		76		86		75	
64035-4,,A/C	97		82		89		78	

		Lower Limit	Upper Limit
SMC #1 =	TCX	40	130
SMC #2 =	DCB	40	I30

\# Column to be used to flag recovery values outside of QC limits
* Values outside QC limits
D System Monitoring Compound diluted out

PCB SOIL
LABORATORY CONTROL SAMPLE/DUPLICATE
PERCENT RECOVERY

Instrument ID: L

GC Column #1: STX-CLPesticides 1

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 64035

Non-spiked sample: B06109PSOX,,A/C

Spike: L06109PSOX,,A/C

Spike duplicate: LD06109PSOX,,A/C

COMPOUND	LCS SPIKE ADDED (ug/kg)	LCSD SPIKE ADDED (ug/kg)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE RESULT (ug/kg)	SPIKE % REC	#	SPIKE DUP RESULT (ug/kg)	SPIKE DUP % REC	#	RPD	#
PCB 1016	200	200	65	140	30	0	185	92		167	84		9.8	
PCB 1260	200	200	60	130	30	0	195	97		181	90		7.4	
PCB 1016 #2	200	200	65	140	30	0	269	134		260	130		3.2	
PCB 1260 #2	200	200	60	130	30	0	189	94		174	87		8.5	

Column to be used to flag recovery and RPD values outside of QC limits

* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

_____

CHAIN OF CUSTODIES

Chain Of Custody Form

analytics environmental laboratory LLC

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Phone (603) 436-5111
Fax (603) 430-2151

Project#: 210918.01 Proj. Name: UMass LGRC

Company: Woodard & Curran

Contact: George Franklin

Address: 35 New England Business Ctr.

Andover, MA 01810

Phone: (866)702-6371 PO# Quote #

Sampler (Signature): George Franklin

Matrix Key:
C = Concrete
WP = Wipe
WW = Wastewater
SW = Surface Water
GW = Groundwater
DW = Orinking Water
S = Soil/Sludge
O = Oil
E = Extract

Preservation

Container Key
P=plastic G=glass

For Analytics Use Only Rev. 5 06/18/08

Samples were:
1) Shipped or hand-delivered
2) Temp blank °C 2.5
3) Received in good condition (Y) or N
4) pH checked by: N/A
5) Labels checked by: CP 6/5/09

Station Identification	Sample Date	Sample Time	Analysis	Unpres	4° C	HNO_3	H_2SO_4	HCL	Methanol	Other	Matrix	Container number/type		pH	Analytics Sample #
GRC-WP-A331	6/5/09	1515	PCBs							✓	WP	1	G		64035-1
GRC-WP-A221	6/5/09	1518	PCBs							✓	WP	1	G		2
GRC-WP-A217	6/5/09	1525	PCBs							✓	WP	1	G		3
GRC-WP-A117	6/5/09	1530	PCBs							✓	WP	1	G		4

Received By: Time: 1440 Date: 6/8/09

Received By: Time: Date:

Received By: Time: Date:

Relinquished By: Sampler: George Franklin

Relinquished By:

Relinquished By:

Email Results to:
gfranklin@woodardcurran.com
jhamelet@woodardcurran.com

Comments / Instructions:
PCBs 8082 w/ Soxhlet Extraction

STD TAT 5-7 days

Turnaround Time (TAT)
- [ ] 24hr*
- [ ] 48hr*
- [ ] 72hr*
- [x] 5 Days*
- [ ] 10 Days

*Fee may apply; lab approval required

Project Requirements:
*Fee may apply

Report Type:
- [ ] MCP*
- [x] Level II*
- [ ] CTRCP*
- [ ] Level III*
- [ ] DOD*
- [ ] Level IV*
- [ ] Standard

State:
- [ ] NH
- [ ] MA
- [ ] ME
- [ ] CT
- [ ] RI
- Other: TSCA

State Standard: _____ (eg. S-1 or GW-1)

EDD Required: Y* N

Type: _____

Analytics\AEL Documents\AEL COC

analytics environmental laboratory LLC

ANALYTICS SAMPLE RECEIPT CHECKLIST

AEL LAB#: 64035 COOLER NUMBER: _____

CLIENT: W+C NUMBER OF COOLERS: 1

PROJECT: UMASS LGRC DATE RECEIVED: 6/8/09

A: PRELIMINARY EXAMINATION: DATE COOLER OPENED: 6/8/09

1. Cooler received by(initials) Date Received: NF 6/8/09

2. Circle one: (Hand delivered (If so, skip 3)) Shipped

3. Did cooler come with a shipping slip?	Y	N
3a. Enter carrier name and airbill number here:		
4. Were custody seals on the outside of cooler? How many & where: _____ Seal Date: _____ Seal Name: _____	Y	(N/A)
5. Did the custody seals arrive unbroken and intact upon arrival?	Y	(N/A)
6. COC#: _____		
7. Were Custody papers filled out properly (ink,signed, etc)?	(Y)	N
8. Were custody papers sealed in a plastic bag?	(Y)	N
9. Did you sign the COC in the appropriate place?	(Y)	N
10. Was the project identifiable from the COC papers?	(Y)	N
11. Was enough ice used to chill the cooler? (Y) N Temp. of cooler:		2.5°

B. Log-In: Date samples were logged in: 6/8/09 By: NF

12. Type of packing in cooler (bubble wrap) popcorn)	(Y)	N
13. Were all bottles sealed in separate plastic bags?	(Y)	N
14. Did all bottles arrive unbroken and were labels in good condition?	(Y)	N
15. Were all bottle labels complete(ID,Date,time,etc.)	(Y)	N
16. Did all bottle labels agree with custody papers?	(Y)	N
17. Were the correct containers used for the tests indicated:	(Y)	N
18. Were samples received at the correct pH?	Y	(N/A)
19. Was sufficient amount of sample sent for the tests indicated?	(Y)	N
20. Were bubbles absent in VOA samples?	Y	(N/A)
If NO, List sample #'s:		

21. Laboratory labeling verified by (initials): Date: CP 6/8/09