Wannalancit Mills
650 Suffolk Street, Suite 200
Lowell, MA 01854

978.970.5600 PHONE
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www.TRCsolutions.com

TRC Reference Number: 115058

December 18, 2013

Michele S.W. Paul
Department of Environmental Stewardship
City of New Bedford
133 William Street
New Bedford, Massachusetts 02740

Subject: Groundwater Monitoring Results - Keith Middle School, New Bedford, Massachusetts

Dear Michele:

In accordance with the August 2012 Revised Long-Term Monitoring and Maintenance Implementation Plan, Revision 5.5 (LTMMIP) for Keith Middle School (KMS), TRC Environmental Corporation (TRC) collected groundwater samples from three monitoring wells on October 25, 2013.

Review of the polychlorinated biphenyl (PCB) and dissolved metals data has been completed by TRC's Quality Assurance (QA) Chemist. The attached table and laboratory data reports provide the results from this sampling effort. All four (4) samples, including the duplicate sample, were non-detect for PCB Aroclors. As specified in the LTMMIP, there is the potential for a sample to contain what appears to be PCBs but still be reported as non-detect for the PCB Aroclors due to weathering, degradation, etc. of the PCBs causing an unclear match or "fingerprint" of the PCB Aroclor. Therefore, in accordance with the LTMMIP the chromatograms from was qualitatively evaluated for the presence of PCB peaks. TRC's QA Chemist found no evidence of PCB impacts and no additional extraction and analysis was necessary.

Low levels of dissolved metals including arsenic and barium were detected below applicable Massachusetts Department of Environmental Protection (MassDEP) standards. Pursuant to the EPA approved LTMMIP, further assessment is not required.

Please note that the data are compared to Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) Method 1 GW-2 and GW-3 groundwater cleanup criteria per the LTMMIP, but also to the GW-1 criteria because one of the groundwater monitoring wells (MW-3) is within 500 feet of a suspected potable private groundwater supply well at 249 Summit Street.

TRC appreciates the opportunity to support your project. If you have any questions or comments, please do not hesitate to contact me at 978-656-3565.

Sincerely,

TRC

David M. Sullivan, LSP
Senior Project Manager

Enclosure
cc with enclosure: K. Tisa, United States Environmental Protection Agency

Table

Table 1
Summary of Analytical Results for Groundwater Samples
(May and August 2013)
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte			Sample ID:	**MW-1**			**MW-2**		**MW-3**		
				Sample Date:	5/31/2013	5/31/2013 Field Dup	10/25/2013	5/31/2013	10/25/2013	5/31/2013	10/25/2013	10/25/2013 Field Dup
				Applicable Standard(s):	**GW-2/3**			**GW-2/3**		**GW-1/2/3**		
		GW-1	GW-2	GW-3								
PCBs												
(ug/L)	Aroclor 1016	0.5	5	10	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
	Aroclor 1221	0.5	5	10	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
	Aroclor 1232	0.5	5	10	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
	Aroclor 1242	0.5	5	10	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
	Aroclor 1248	0.5	5	10	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
	Aroclor 1254	0.5	5	10	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
	Aroclor 1260	0.5	5	10	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
	Total PCBs	0.5	5	10	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
Metals, dissolved												
(ug/L)	Antimony	6	NS	8,000	NA	NA	NA	NA	NA	NA	NA	NA
	Arsenic	10	NS	900	0.40 U	0.40 U	0.40 U	**1.2**	**1.2**	0.40 U	**0.85**	**1.0**
	Barium	2,000	NS	50,000	**52**	**49**	**60**	**810**	**1,200**	**140**	**300**	**300**
	Beryllium	4	NS	200	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	5	NS	4	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Chromium	100	NS	300	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Lead	15	NS	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**1.1**	1.0 U	1.0 U
	Mercury	2	NS	20	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
	Nickel	100	NS	200	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	50	NS	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Silver	100	NS	7	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Thallium	2	NS	3,000	NA	NA	NA	NA	NA	NA	NA	NA
	Vanadium	30	NS	4,000	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	5,000	NS	900	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

ug/L - micrograms per liter.

J - Estimated value.

NA - Sample not analyzed for the listed analyte.

NS - No MassDEP standards exist for this compound.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

PCBs - Polychlorinated Biphenyls.

Laboratory Analytical Data

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

October 31, 2013

David Sullivan
TRC Solutions - Lowell
650 Suffolk Street
Lowell, MA 01852

Project Location: KMS - New Bedford
Client Job Number:
Project Number: 115058
Laboratory Work Order Number: 13J1013

Enclosed are results of analyses for samples received by the laboratory on October 25, 2013. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

TRC Solutions - Lowell
650 Suffolk Street
Lowell, MA 01852
ATTN: David Sullivan

REPORT DATE: 10/31/2013

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 115058

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 13J1013

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: KMS - New Bedford

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-1	13J1013-01	Ground Water		SW-846 6020A	
				SW-846 7470A	
MW-2	13J1013-02	Ground Water		SW-846 6020A	
				SW-846 7470A	
MW-3	13J1013-03	Ground Water		SW-846 6020A	
				SW-846 7470A	
DUP-1	13J1013-04	Ground Water		SW-846 6020A	
				SW-846 7470A	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method 6020, only RCRA 8 metals were requested and reported.

SW-846 6020A

Qualifications:

Result is serial dilution as per MA CAM/ CT RCP regulation.

Analyte & Samples(s) Qualified:

B083695-DUP2

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Michael A. Erickson
Laboratory Director

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KMS - New Bedford
Sample Description:
Work Order: 13J1013

Date Received: 10/25/2013

Field Sample #: MW-1
Sampled: 10/25/2013 10:15

Sample ID: 13J1013-01

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	0.40	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:25	KSH
Barium	60	10	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:25	KSH
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:25	KSH
Chromium	ND	1.0	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:25	KSH
Lead	ND	1.0	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:25	KSH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	10/26/13	10/28/13 11:00	SAJ
Selenium	ND	5.0	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:25	KSH
Silver	ND	0.50	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:25	KSH

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Project Location: KMS - New Bedford
Sample Description:
Work Order: 13J1013

Date Received: 10/25/2013

Field Sample #: MW-2
Sampled: 10/25/2013 12:50

Sample ID: 13J1013-02

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	1.2	0.40	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:29	KSH
Barium	1200	200	µg/L	20		SW-846 6020A	10/25/13	10/30/13 11:59	KSH
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:29	KSH
Chromium	ND	1.0	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:29	KSH
Lead	ND	1.0	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:29	KSH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	10/26/13	10/28/13 11:02	SAJ
Selenium	ND	5.0	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:29	KSH
Silver	ND	0.50	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:29	KSH

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Project Location: KMS - New Bedford
Sample Description:
Work Order: 13J1013

Date Received: 10/25/2013

Field Sample #: MW-3
Sampled: 10/25/2013 14:42

Sample ID: 13J1013-03

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	0.85	0.40	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:33	KSH
Barium	300	50	µg/L	5		SW-846 6020A	10/25/13	10/30/13 12:03	KSH
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:33	KSH
Chromium	ND	1.0	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:33	KSH
Lead	ND	1.0	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:33	KSH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	10/26/13	10/28/13 11:03	SAJ
Selenium	ND	5.0	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:33	KSH
Silver	ND	0.50	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:33	KSH

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Project Location: KMS - New Bedford
Sample Description:
Work Order: 13J1013

Date Received: 10/25/2013

Field Sample #: DUP-1
Sampled: 10/25/2013 15:42

Sample ID: 13J1013-04

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	1.0	0.40	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:36	KSH
Barium	300	50	µg/L	5		SW-846 6020A	10/25/13	10/30/13 12:06	KSH
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:36	KSH
Chromium	ND	1.0	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:36	KSH
Lead	ND	1.0	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:36	KSH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	10/26/13	10/28/13 11:05	SAJ
Selenium	ND	5.0	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:36	KSH
Silver	ND	0.50	µg/L	1		SW-846 6020A	10/25/13	10/29/13 16:36	KSH

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Sample Extraction Data

Prep Method: SW-846 3005A Dissolved-SW-846 6020A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
13J1013-01 [MW-1]	B083695	50.0	50.0	10/25/13
13J1013-02 [MW-2]	B083695	50.0	50.0	10/25/13
13J1013-03 [MW-3]	B083695	50.0	50.0	10/25/13
13J1013-04 [DUP-1]	B083695	50.0	50.0	10/25/13

Prep Method: SW-846 7470A Prep-SW-846 7470A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
13J1013-01 [MW-1]	B083730	6.00	6.00	10/26/13
13J1013-02 [MW-2]	B083730	6.00	6.00	10/26/13
13J1013-03 [MW-3]	B083730	6.00	6.00	10/26/13
13J1013-04 [DUP-1]	B083730	6.00	6.00	10/26/13

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QUALITY CONTROL

Metals Analyses (Dissolved) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B083695 - SW-846 3005A Dissolved										
Blank (B083695-BLK1)				Prepared: 10/25/13 Analyzed: 10/29/13						
Arsenic	ND	0.40	µg/L							
Barium	ND	10	µg/L							
Cadmium	ND	0.50	µg/L							
Chromium	ND	1.0	µg/L							
Lead	ND	1.0	µg/L							
Selenium	ND	5.0	µg/L							
Silver	ND	0.50	µg/L							
LCS (B083695-BS1)				Prepared: 10/25/13 Analyzed: 10/29/13						
Arsenic	276	2.0	µg/L	250		110	80-120			
Barium	272	50	µg/L	250		109	80-120			
Cadmium	277	2.5	µg/L	250		111	80-120			
Chromium	269	5.0	µg/L	250		107	80-120			
Lead	272	5.0	µg/L	250		109	80-120			
Selenium	277	25	µg/L	250		111	80-120			
Silver	280	2.5	µg/L	250		112	80-120			
LCS Dup (B083695-BSD1)				Prepared: 10/25/13 Analyzed: 10/29/13						
Arsenic	270	2.0	µg/L	250		108	80-120	2.24	20	
Barium	274	50	µg/L	250		110	80-120	0.757	20	
Cadmium	276	2.5	µg/L	250		110	80-120	0.585	20	
Chromium	267	5.0	µg/L	250		107	80-120	0.777	20	
Lead	272	5.0	µg/L	250		109	80-120	0.0754	20	
Selenium	259	25	µg/L	250		104	80-120	6.63	20	
Silver	275	2.5	µg/L	250		110	80-120	1.87	20	
Duplicate (B083695-DUP1)	**Source: 13J1013-01**			Prepared: 10/25/13 Analyzed: 10/29/13						
Arsenic	ND	0.40	µg/L		ND			NC	20	
Barium	59.1	10	µg/L		60.2			1.83	20	
Cadmium	ND	0.50	µg/L		ND			NC	20	
Chromium	ND	1.0	µg/L		ND			NC	20	
Lead	ND	1.0	µg/L		ND			NC	20	
Selenium	ND	5.0	µg/L		ND			NC	20	
Silver	ND	0.50	µg/L		ND			NC	20	
Duplicate (B083695-DUP2)	**Source: 13J1013-01**			Prepared: 10/25/13 Analyzed: 10/29/13						**M-07**
Barium	61.2	50	µg/L		60.2			1.60	10	
Matrix Spike (B083695-MS1)	**Source: 13J1013-01**			Prepared: 10/25/13 Analyzed: 10/29/13						
Arsenic	278	4.0	µg/L	250	ND	111	75-125			
Barium	343	100	µg/L	250	60.2	113	75-125			
Cadmium	278	5.0	µg/L	250	ND	111	75-125			
Chromium	277	10	µg/L	250	0.772	110	75-125			
Lead	280	10	µg/L	250	ND	112	75-125			
Selenium	275	50	µg/L	250	ND	110	75-125			
Silver	278	5.0	µg/L	250	ND	111	75-125			

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QUALITY CONTROL

Metals Analyses (Dissolved) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B083730 - SW-846 7470A Prep										
Blank (B083730-BLK1)				Prepared: 10/26/13	Analyzed: 10/28/13					
Mercury	ND	0.00010	mg/L							
LCS (B083730-BS1)				Prepared: 10/26/13	Analyzed: 10/28/13					
Mercury	0.00186	0.00010	mg/L	0.00200		92.8	80-120			
LCS Dup (B083730-BSD1)				Prepared: 10/26/13	Analyzed: 10/28/13					
Mercury	0.00190	0.00010	mg/L	0.00200		94.9	80-120	2.23	20	
Duplicate (B083730-DUP1)		**Source: 13J1013-01**		Prepared: 10/26/13	Analyzed: 10/28/13					
Mercury	ND	0.00010	mg/L		ND			NC	20	
Matrix Spike (B083730-MS1)		**Source: 13J1013-01**		Prepared: 10/26/13	Analyzed: 10/28/13					
Mercury	0.00180	0.00010	mg/L	0.00200	ND	89.9	75-125			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
M-07	Result is serial dilution as per MA CAM/ CT RCP regulation.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 6020A in Water	
Arsenic	CT,NH,NY,NC,ME,VA
Barium	MA,NY,CT,NC,NH,ME,VA
Cadmium	CT,NH,NY,NC,ME,VA
Chromium	CT,NH,NY,NC,ME,VA
Lead	CT,NH,NY,NC,ME,VA
Selenium	CT,NH,NY,NC,ME,VA
Silver	CT,NC,NH,NY,ME,VA
SW-846 7470A in Water	
Mercury	CT,NH,NY,NC,ME,VA,NJ

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2014
MA	Massachusetts DEP	M-MA100	06/30/2014
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2014
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2014
RI	Rhode Island Department of Health	LAO00112	12/30/2013
NC	North Carolina Div. of Water Quality	652	12/31/2013
NJ	New Jersey DEP	MA007 NELAP	06/30/2014
FL	Florida Department of Health	E871027 NELAP	06/30/2014
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2014
WA	State of Washington Department of Ecology	C2065	02/23/2014
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2013
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2014

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Email: info@contestlabs.com
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CHAIN OF CUSTODY RECORD

13J1013

Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: TRC
Address: 650 Suffolk St.
Lowell, MA 01854
Attention: Jeff Saunders / David Sullivan
Project Location: KMS - New Bedford
Sampled By: KDJ

Telephone: 978-970-5600
Project # 115058
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☒ EMAIL ○ WEBSITE
Fax #
Email: dsullivan jsaunders@trcsolutions.com
Format: ☒ PDF ☒ EXCEL ☒ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	Dissolved RCRA 8 metals											# of Containers	** Preservation	***Container Code
-01	MW-1	10/25/13	1015		X	GW	U	X											6	N	A
-02	MW-2	10/25/13	1250		X	GW	U	X													
-03	MW-3	10/25/13	1442		X	GW	U	X													
-04	DUP-1	10/25/13	1542		X	GW	U	X													

Dissolved Metals
☒ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Comments: MS/DUP collected on MW-1

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
[signature] 10/25/13	15:35
Received by: (signature) [signature] 10-25-13	Date/Time: 15:35
Relinquished by: (signature) [signature] 10.25.13	Date/Time: 17:55
Received by: (signature) [signature] 2.5°C 10/25/13	Date/Time: 17:55

Turnaround ††
☐ 7-Day
☐ 10-Day
☒ Other 3-day
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: MW-1: MCP GW-3, MW-2 + MW-3: MCP GW-1/GW-2/GW-3
Connecticut:
Other:

Is your project MCP or RCP ?
☒ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

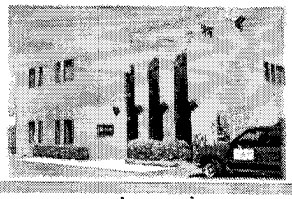
AIHA LAP, LLC ACCREDITED LABORATORY
nelac
NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

†† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY



Sample Receipt Checklist

CLIENT NAME: TRC **RECEIVED BY:** JMN **DATE:** 10/25/13

1) **Was the chain(s) of custody relinquished and signed?** (Yes) No **No CoC Included**
2) **Does the chain agree with the samples?** (Yes) No
   If not, explain:
3) **Are all the samples in good condition?** (Yes) No
   If not, explain:
4) **How were the samples received:**
   On Ice ☒ Direct from Sampling ☐ Ambient ☐ In Cooler(s) ☒
   Were the samples received in Temperature Compliance of (2-6°C)? (Yes) No N/A
   Temperature °C by Temp blank _____ Temperature °C by Temp gun 2.5°
5) **Are there Dissolved samples for the lab to filter?** Yes (No)
   Who was notified _____ Date _____ Time _____
6) **Are there any RUSH or SHORT HOLDING TIME samples?** Yes (No)
   Who was notified _____ Date _____ Time _____
7) **Location where samples are stored:** 19

   Permission to subcontract samples? Yes No
   (Walk-in clients only) if not already approved
   Client Signature: _____
8) **Do all samples have the proper Acid pH:** (Yes) No N/A _____
9) **Do all samples have the proper Base pH:** Yes No (N/A) _____
10) **Was the PC notified of any discrepancies with the CoC vs the samples:** Yes No (N/A)

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Plastic Bag / Ziploc	
500 mL Plastic		SOC Kit	
250 mL plastic	6	Non-ConTest Container	
40 mL Vial - type listed below		Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____
Bisulfate _____ # DI Water _____
Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Log-In Technician Initials: JMH **Date/Time:** 10/25/13 1755

Doc #277 Rev. 4 August 2013

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 13J1013
Project Location: KMS - New Bedford	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

13J1013-01 thru 13J1013-04

Matrices: Water

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D (X)	8082 PCB CAM V A ( )	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☑ Yes	☐ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: M Erickson Position: Laboratory Director

Printed Name: Michael A. Erickson Date: 10/31/13

Date Issued: November 04, 2013

Pace Analytical e-Report

***Issuance of this report is prior to full data package.**

Report prepared for:
TRC ENVIRONMENTAL
WANNALANCIT MILLS
650 SUFFOLK ST
LOWELL, MA 01854
CONTACT: DAVID SULLIVAN

Project ID: 115058
Sampling Date(s): October 25, 2013
Lab Report ID: 13100744
Client Service Contact: Kelly Miller (518) 346-4592 ext. 3844

Analysis Included:
PCB Analysis (Water)

Test results meet all National Environmental Laboratory Accreditation Conference (NELAC) requirements unless noted in the case narrative. The results contained within the document relate only to the samples included in this report. Pace Analytical is responsible only for the certified testing and is not directly responsible for the integrity of the sample before laboratory receipt. This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

Dan Pfalzer
Laboratory Director

Certifications: New York (EPA: NY00906, ELAP: 11078), New Jersey (NY026), Connecticut (PH-0337), Massachusetts (M-NY906), Virginia (1884)

Pace Analytical Services, Inc. | 2190 Technology Drive | Schenectady, NY 12308
Phone: 518.346.4592 | internet: www.pacelabs.com

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Table of Contents

Section 1: QUALIFIERS 4

Section 2: SAMPLE CHAIN OF CUSTODY 6

Section 3: SAMPLE RECEIPT 8

Section 4: GC - PCB 10

Section 5: Quality Control Samples (Field) 15

Section 6: Quality Control Samples (Lab) 20

Section 7: CHROMATOGRAMS 25

QUALIFIERS

Qualifier Definitions

Organic Laboratory Qualifiers

B - Denotes analyte observed in associated method blank or extraction blank. Analyte concentration should be considered as estimated.

D - Surrogate recovery not evaluated against control limits due to sample dilution.

E - Denotes analyte concentration exceeded calibration range of instrument. Sample could not be re-analyzed at secondary dilution due to insufficient sample amount, quick turn-around request, sample matrix interference or hold time excursion. Concentration result should be considered as estimated.

J - Denotes an estimated concentration. The concentration result is greater than or equal to the Method Detection Limit (MDL) but less than the Practical Quantitation Limit (PQL).

P - Indicates relative percent difference (RPD) between primary and secondary gas chromatograph (GC) column analysis exceeds 40 % or indicates percent difference (PD) between primary and secondary gas chromatograph (GC) column analysis exceeds 25 %.

U - Denotes analyte not detected at concentration greater than the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

Z - Chromatographic interference due to polychlorinated biphenyl (PCB) co-elution.

* - Value not within control limits.

Inorganic Laboratory Qualifiers

B - Denotes analyte observed in associated method blank or digestion blank. Analyte concentration should be considered as estimated.

E - Denotes analyte concentration exceeded calibration range of instrument. Sample could not be re-analyzed at secondary dilution due to insufficient sample amount, quick turn-around request, sample matrix interference or hold time excursion. Concentration result should be considered as estimated.

J - Denotes an estimated concentration. The concentration result is greater than or equal to the Method Detection Limit (MDL) but less than the Practical Quantitation Limit (PQL).

U - Denotes analyte not detected at concentration greater than the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

* - Value not within control limits.

SAMPLE CHAIN OF CUSTODY

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

<13100744P1>

131-307441

Page: of

1701659

Section A Required Client Information:

Company: TRC
Address: 650 Suffolk St. Lowell, MA 01854
Email To: dsullivan@trcsolutions.com
Phone: 978-970-5600 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: David Sullivan
Copy To: Jeff Saunders
Purchase Order No.: C115058
Project Name:
Project Number: C115058

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: MA

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start Date	Composite Start Time	Composite End/Grab Date	Composite End/Grab Time	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): PCBs	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-1	WT	G			10/25/13	1615		6	X								X		AQ34669
2	MW-2	↓	↓				1750		2	X								X		AQ34670
3	MW-3						1442		2	X								X		AQ34671
4	DUP-1					↓	1542		2	X								X		AQ34672
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

Preservatives: Unpreserved; H_2SO_4; HNO_3; HCl; NaOH; $Na_2S_2O_3$; Methanol; Other

Analysis Test: PCBs — Plus MS/MSD

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Kevin / TRC	10/25/13	1700	FedEx	10/25/13	1700				
	VIA FED EX →			F. Butler (PACE)	10/28/13	10:19	9.2 (IR)	Y	Y	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

10/25/13

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kevin Jordan

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 10/25/13

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5%

SAMPLE RECEIPT

SAMPLE RECEIPT REPORT
13100744

Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

CLIENT: TRC ENVIRONMENTAL
PROJECT: 115058
LRF: 13100744
REPORT: CLP-LIKE FORMS
EDD: YES
LRF TAT: 1 WEEK

RECEIVED DATE: 10/28/2013 10:19
SHIPPED VIA: FEDEX
SHIPPING ID: 8042 2936 5486
NUMBER OF COOLERS: 1
CUSTODY SEAL INTACT: YES
COOLER STATUS: CHILLED
TEMPERATURE(S):[5] 9.2 (IR) °C

SAMPLE SEALS INTACT: NA
[1,2]**SAMPLES PROPERLY PRESERVED:** NO
[3]**SAMPLES REC'D IN HOLDTIME:** YES
DISPOSAL: BY LAB (45 DAYS)
COC DISCREPANCY: NO

COMMENTS:
TEMPERATURE GREATER THAN 6C UPON RECEIPT IN THE LAB.

3

CLIENT ID (LAB ID)	TAT-DUE Date[4]	DATE-TIME SAMPLED	MATRIX	METHOD	TEST DESCRIPTION	QC REQUESTED
MW-1 (AQ34669)	1 WEEK 11-04-13	10/25/2013 10:15	Water	SW-846 8082A	PCB Analysis (Water)	MS, MSD
MW-2 (AQ34670)	1 WEEK 11-04-13	10/25/2013 12:50	Water	SW-846 8082A	PCB Analysis (Water)	
MW-3 (AQ34671)	1 WEEK 11-04-13	10/25/2013 14:42	Water	SW-846 8082A	PCB Analysis (Water)	
DUP-1 (AQ34672)	1 WEEK 11-04-13	10/25/2013 15:42	Water	SW-846 8082A	PCB Analysis (Water)	

[1]The pH preservation check of Oil and Grease (Method 1664) is performed as soon as possible after sample receipt and may not be included in this report.
[2]The pH preservation check of aqueous volatile samples is not performed until after the analysis of the sample to maintain zero headspace and is not included in this report.
[3]Samples received for pH analysis are not marked as a hold time exceedance here. SW-846 methods suggests analysis to be done within 15 minutes of sample collection. Because of transportation time it is not possible for the laboratory to perform the test in that time. Sample Certificates of Analysis reports are noted as such.
[4]Samples arriving at the laboratory after 4:00 pm are assigned a due date as if they arrived the following business day unless other arrangements have been made.
[5]All samples which require thermal preservation shall be considered acceptable when received greater than 6 degrees Celsius if they are collected on the same day as received and there is evidence that the chilling process has begun, such as arrival on ice.Control limits are between 0-6 Degrees Celsius. Control limits do not apply for metals analysis.

Reporting Parameters and Lists

SW-846 8082A - PCB Analysis (Water) - (ug/L)

Aroclor 1016
Aroclor 1221
Aroclor 1232
Aroclor 1242
Aroclor 1248
Aroclor 1254
Aroclor 1260
Total PCB Amount

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GC - PCB

4

Analytical Sample Results

Job Number: 13100744

Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

Client: TRC ENVIRONMENTAL
Project: 115058
Client Sample ID: MW-1
Lab Sample ID: 13100744-01 (AQ34669)

Collection Date: 10/25/2013 10:15
Sample Matrix: WATER
Received Date: 10/28/2013 10:19
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC23F-1379-20	SW-846 Method 8082A	11/01/2013 22:14	AJM	NA	NA	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	24758	EPA 3535A	10/31/2013 14:00	OCD	1030 mL	10.0 mL	NA

Analyte	CAS No.	Result (ug/L)	PQL	Dilution Factor	Flags	File ID
Aroclor 1016	12674-11-2	ND	0.0500	1.00	U	GC23F-1379-20
Aroclor 1221	11104-28-2	ND	0.0500	1.00	U	GC23F-1379-20
Aroclor 1232	11141-16-5	ND	0.0500	1.00	U	GC23F-1379-20
Aroclor 1242	53469-21-9	ND	0.0500	1.00	U	GC23F-1379-20
Aroclor 1248	12672-29-6	ND	0.0500	1.00	U	GC23F-1379-20
Aroclor 1254	11097-69-1	ND	0.0500	1.00	U	GC23F-1379-20
Aroclor 1260	11096-82-5	ND	0.0500	1.00	U	GC23F-1379-20
Total PCB Amount	1336-36-3	ND		1.00	U	GC23F-1379-20

Surrogate	CAS No.	% Recovery	Limits (%)	Q[1]	File ID
Tetrachloro-meta-xylene	877-09-8	103	60.0-140		GC23F-1379-20
Decachlorobiphenyl	2051-24-3	118	60.0-140		GC23F-1379-20
Tetrachloro-meta-xylene	877-09-8	91.1	60.0-140		GC23B-1392-20
Decachlorobiphenyl	2051-24-3	101	60.0-140		GC23B-1392-20

[1]Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

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Analytical Sample Results

Job Number: 13100744

Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

Client: TRC ENVIRONMENTAL
Project: 115058
Client Sample ID: MW-2
Lab Sample ID: 13100744-02 (AQ34670)

Collection Date: 10/25/2013 12:50
Sample Matrix: WATER
Received Date: 10/28/2013 10:19
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC23F-1379-23	SW-846 Method 8082A	11/01/2013 23:52	AJM	NA	NA	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	24758	EPA 3535A	10/31/2013 14:00	OCD	1000 mL	10.0 mL	NA

Analyte	CAS No.	Result (ug/L)	PQL	Dilution Factor	Flags	File ID
Aroclor 1016	12674-11-2	ND	0.0500	1.00	U	GC23F-1379-23
Aroclor 1221	11104-28-2	ND	0.0500	1.00	U	GC23F-1379-23
Aroclor 1232	11141-16-5	ND	0.0500	1.00	U	GC23F-1379-23
Aroclor 1242	53469-21-9	ND	0.0500	1.00	U	GC23F-1379-23
Aroclor 1248	12672-29-6	ND	0.0500	1.00	U	GC23F-1379-23
Aroclor 1254	11097-69-1	ND	0.0500	1.00	U	GC23F-1379-23
Aroclor 1260	11096-82-5	ND	0.0500	1.00	U	GC23F-1379-23
Total PCB Amount	1336-36-3	ND		1.00	U	GC23F-1379-23

Surrogate	CAS No.	% Recovery	Limits (%)	Q[1]	File ID
Tetrachloro-meta-xylene	877-09-8	105	60.0-140		GC23F-1379-23
Decachlorobiphenyl	2051-24-3	121	60.0-140		GC23F-1379-23
Tetrachloro-meta-xylene	877-09-8	92.9	60.0-140		GC23B-1392-23
Decachlorobiphenyl	2051-24-3	102	60.0-140		GC23B-1392-23

[1]Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted out.

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Analytical Sample Results

Job Number: 13100744

Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

Client: TRC ENVIRONMENTAL
Project: 115058
Client Sample ID: MW-3
Lab Sample ID: 13100744-03 (AQ34671)

Collection Date: 10/25/2013 14:42
Sample Matrix: WATER
Received Date: 10/28/2013 10:19
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC23F-1379-24	SW-846 Method 8082A	11/02/2013 00:25	AJM	NA	NA	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	24758	EPA 3535A	10/31/2013 14:00	OCD	1000 mL	10.0 mL	NA

Analyte	CAS No.	Result (ug/L)	PQL	Dilution Factor	Flags	File ID
Aroclor 1016	12674-11-2	ND	0.0500	1.00	U	GC23F-1379-24
Aroclor 1221	11104-28-2	ND	0.0500	1.00	U	GC23F-1379-24
Aroclor 1232	11141-16-5	ND	0.0500	1.00	U	GC23F-1379-24
Aroclor 1242	53469-21-9	ND	0.0500	1.00	U	GC23F-1379-24
Aroclor 1248	12672-29-6	ND	0.0500	1.00	U	GC23F-1379-24
Aroclor 1254	11097-69-1	ND	0.0500	1.00	U	GC23F-1379-24
Aroclor 1260	11096-82-5	ND	0.0500	1.00	U	GC23F-1379-24
Total PCB Amount	1336-36-3	ND		1.00	U	GC23F-1379-24

Surrogate	CAS No.	% Recovery	Limits (%)	Q[1]	File ID
Tetrachloro-meta-xylene	877-09-8	103	60.0-140		GC23F-1379-24
Decachlorobiphenyl	2051-24-3	123	60.0-140		GC23F-1379-24
Tetrachloro-meta-xylene	877-09-8	92.1	60.0-140		GC23B-1392-24
Decachlorobiphenyl	2051-24-3	104	60.0-140		GC23B-1392-24

[1]Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

4

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Analytical Sample Results

Job Number: 13100744

Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

Client: TRC ENVIRONMENTAL
Project: 115058
Client Sample ID: DUP-1
Lab Sample ID: 13100744-04 (AQ34672)

Collection Date: 10/25/2013 15:42
Sample Matrix: WATER
Received Date: 10/28/2013 10:19
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC23F-1379-25	SW-846 Method 8082A	11/02/2013 00:57	AJM	NA	NA	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	24758	EPA 3535A	10/31/2013 14:00	OCD	1080 mL	10.0 mL	NA

Analyte	CAS No.	Result (ug/L)	PQL	Dilution Factor	Flags	File ID
Aroclor 1016	12674-11-2	ND	0.0500	1.00	U	GC23F-1379-25
Aroclor 1221	11104-28-2	ND	0.0500	1.00	U	GC23F-1379-25
Aroclor 1232	11141-16-5	ND	0.0500	1.00	U	GC23F-1379-25
Aroclor 1242	53469-21-9	ND	0.0500	1.00	U	GC23F-1379-25
Aroclor 1248	12672-29-6	ND	0.0500	1.00	U	GC23F-1379-25
Aroclor 1254	11097-69-1	ND	0.0500	1.00	U	GC23F-1379-25
Aroclor 1260	11096-82-5	ND	0.0500	1.00	U	GC23F-1379-25
Total PCB Amount	1336-36-3	ND		1.00	U	GC23F-1379-25

Surrogate	CAS No.	% Recovery	Limits (%)	Q[1]	File ID
Tetrachloro-meta-xylene	877-09-8	103	60.0-140		GC23F-1379-25
Decachlorobiphenyl	2051-24-3	118	60.0-140		GC23F-1379-25
Tetrachloro-meta-xylene	877-09-8	91.0	60.0-140		GC23B-1392-25
Decachlorobiphenyl	2051-24-3	99.5	60.0-140		GC23B-1392-25

[1]Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

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Quality Control Samples (Field)

Quality Control Results
Matrix Spike Sample (MS)
Job Number: 13100744

Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

Client: TRC ENVIRONMENTAL
Project: 115058
Client Sample ID: MW-1 MS
Lab Sample ID: 13100744-01M (AQ34669M)-Confirm

Collection Date: N/A
Sample Matrix: WATER
Received Date: N/A
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC23B-1392-21	SW-846 Method 8082A	11/01/2013 22:47	AJM	NA	NA	Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	24758	EPA 3535A	10/31/2013 14:00	OCD	1030 mL	10.0 mL	NA

Analyte	CAS No.	Result (ug/L)	PQL	Dilution Factor	Flags	File ID
Aroclor 1016	12674-11-2	ND	0.0500	1.00	U	GC23B-1392-21
Aroclor 1221	11104-28-2	ND	0.0500	1.00	U	GC23B-1392-21
Aroclor 1232	11141-16-5	ND	0.0500	1.00	U	GC23B-1392-21
Aroclor 1242	53469-21-9	**0.474**	0.0500	1.00		GC23B-1392-21
Aroclor 1248	12672-29-6	ND	0.0500	1.00	U	GC23B-1392-21
Aroclor 1254	11097-69-1	ND	0.0500	1.00	U	GC23B-1392-21
Aroclor 1260	11096-82-5	ND	0.0500	1.00	U	GC23B-1392-21
Total PCB Amount	1336-36-3	**0.474**		1.00		GC23B-1392-21

Analyte Spiked	CAS No.	Sample (ug/L)	Added (ug/L)	MS (ug/L)	MS % Rec.	Q[1]	Limits (%)
Aroclor 1242	53469-21-9		0.485	0.474	97.6		70.0-130

[1]Qualifier column where '*' denotes value outside the control limits. Note: RPD criteria does not apply if either the sample and duplicate sample are not detected.

Surrogate	CAS No.	% Recovery	Limits (%)	Q[1]	File ID
Tetrachloro-meta-xylene	877-09-8	92.8	60.0-140		GC23B-1392-21
Decachlorobiphenyl	2051-24-3	101	60.0-140		GC23B-1392-21

[1]Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

5

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Quality Control Results
Matrix Spike Sample (MS)
Job Number: 13100744

Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

Client: TRC ENVIRONMENTAL
Project: 115058
Client Sample ID: MW-1 MS
Lab Sample ID: 13100744-01M (AQ34669M)-Primary

Collection Date: N/A
Sample Matrix: WATER
Received Date: N/A
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC23F-1379-21	SW-846 Method 8082A	11/01/2013 22:47	AJM	NA	NA	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	24758	EPA 3535A	10/31/2013 14:00	OCD	1030 mL	10.0 mL	NA

Analyte	CAS No.	Result (ug/L)	PQL	Dilution Factor	Flags	File ID
Aroclor 1016	12674-11-2	ND	0.0500	1.00	U	GC23F-1379-21
Aroclor 1221	11104-28-2	ND	0.0500	1.00	U	GC23F-1379-21
Aroclor 1232	11141-16-5	ND	0.0500	1.00	U	GC23F-1379-21
Aroclor 1242	53469-21-9	**0.544**	0.0500	1.00		GC23F-1379-21
Aroclor 1248	12672-29-6	ND	0.0500	1.00	U	GC23F-1379-21
Aroclor 1254	11097-69-1	ND	0.0500	1.00	U	GC23F-1379-21
Aroclor 1260	11096-82-5	ND	0.0500	1.00	U	GC23F-1379-21
Total PCB Amount	1336-36-3	**0.544**		1.00		GC23F-1379-21

Analyte Spiked	CAS No.	Sample (ug/L)	Added (ug/L)	MS (ug/L)	MS % Rec.	Q[1]	Limits (%)
Aroclor 1242	53469-21-9		0.485	0.544	112		70.0-130

[1]Qualifier column where '*' denotes value outside the control limits. Note: RPD criteria does not apply if either the sample and duplicate sample are not detected.

Surrogate	CAS No.	% Recovery	Limits (%)	Q[1]	File ID
Tetrachloro-meta-xylene	877-09-8	106	60.0-140		GC23F-1379-21
Decachlorobiphenyl	2051-24-3	119	60.0-140		GC23F-1379-21

[1]Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

5

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Quality Control Results
Matrix Spike Duplicate (MSD)
Job Number: 13100744

Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

Client: TRC ENVIRONMENTAL
Project: 115058
Client Sample ID: MW-1 MSD
Lab Sample ID: 13100744-01K (AQ34669K)-Primary

Collection Date: N/A
Sample Matrix: WATER
Received Date: N/A
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC23F-1379-22	SW-846 Method 8082A	11/01/2013 23:19	AJM	NA	NA	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	24758	EPA 3535A	10/31/2013 14:00	OCD	1020 mL	10.0 mL	NA

Analyte	CAS No.	Result (ug/L)	PQL	Dilution Factor	Flags	File ID
Aroclor 1016	12674-11-2	ND	0.0500	1.00	U	GC23F-1379-22
Aroclor 1221	11104-28-2	ND	0.0500	1.00	U	GC23F-1379-22
Aroclor 1232	11141-16-5	ND	0.0500	1.00	U	GC23F-1379-22
Aroclor 1242	53469-21-9	**0.552**	0.0500	1.00		GC23F-1379-22
Aroclor 1248	12672-29-6	ND	0.0500	1.00	U	GC23F-1379-22
Aroclor 1254	11097-69-1	ND	0.0500	1.00	U	GC23F-1379-22
Aroclor 1260	11096-82-5	ND	0.0500	1.00	U	GC23F-1379-22
Total PCB Amount	1336-36-3	**0.552**		1.00		GC23F-1379-22

								Precision			
Analyte Spiked	CAS No.	Sample (ug/L)	Added (ug/L)	MSD (ug/L)	MSD % Rec.	Q[1]	Limits (%)	MS % Rec.	RPD	Q[1]	Limits (%)
Aroclor 1242	53469-21-9		0.490	0.552	113		70.0-130	112	0.889		20

[1]Qualifier column where '*' denotes value outside the control limits. Note: RPD criteria does not apply if either the sample and duplicate sample are not detected.

Surrogate	CAS No.	% Recovery	Limits (%)	Q[1]	File ID
Tetrachloro-meta-xylene	877-09-8	106	60.0-140		GC23F-1379-22
Decachlorobiphenyl	2051-24-3	119	60.0-140		GC23F-1379-22

[1]Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

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Quality Control Results
Matrix Spike Duplicate (MSD)
Job Number: 13100744

Pace Analytical Services, Inc.
2190 Technology Drive
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Phone: 518.346.4592
Fax: 518.381.6055

Client: TRC ENVIRONMENTAL
Project: 115058
Client Sample ID: MW-1 MSD
Lab Sample ID: 13100744-01K (AQ34669K)-Confirm

Collection Date: N/A
Sample Matrix: WATER
Received Date: N/A
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC23B-1392-22	SW-846 Method 8082A	11/01/2013 23:20	AJM	NA	NA	Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	24758	EPA 3535A	10/31/2013 14:00	OCD	1020 mL	10.0 mL	NA

Analyte	CAS No.	Result (ug/L)	PQL	Dilution Factor	Flags	File ID
Aroclor 1016	12674-11-2	ND	0.0500	1.00	U	GC23B-1392-22
Aroclor 1221	11104-28-2	ND	0.0500	1.00	U	GC23B-1392-22
Aroclor 1232	11141-16-5	ND	0.0500	1.00	U	GC23B-1392-22
Aroclor 1242	53469-21-9	**0.481**	0.0500	1.00		GC23B-1392-22
Aroclor 1248	12672-29-6	ND	0.0500	1.00	U	GC23B-1392-22
Aroclor 1254	11097-69-1	ND	0.0500	1.00	U	GC23B-1392-22
Aroclor 1260	11096-82-5	ND	0.0500	1.00	U	GC23B-1392-22
Total PCB Amount	1336-36-3	**0.481**		1.00		GC23B-1392-22

								Precision			
Analyte Spiked	**CAS No.**	**Sample (ug/L)**	**Added (ug/L)**	**MSD (ug/L)**	**MSD % Rec.**	**Q[1]**	**Limits (%)**	**MS % Rec.**	**RPD**	**Q[1]**	**Limits (%)**
Aroclor 1242	53469-21-9		0.490	0.481	98.2		70.0-130	97.6	0.613		20

[1]Qualifier column where '*' denotes value outside the control limits. Note: RPD criteria does not apply if either the sample and duplicate sample are not detected.

Surrogate	CAS No.	% Recovery	Limits (%)	Q[1]	File ID
Tetrachloro-meta-xylene	877-09-8	93.5	60.0-140		GC23B-1392-22
Decachlorobiphenyl	2051-24-3	100	60.0-140		GC23B-1392-22

[1]Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

5

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Quality Control Samples (Lab)

6

Quality Control Results
Method Blank

Job Number: 13100744

Pace Analytical Services, Inc.
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Phone: 518.346.4592
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Client: TRC ENVIRONMENTAL
Project: 115058
Client Sample ID: Method Blank (AQ34669B)
Lab Sample ID: PBLK-31

Collection Date: N/A
Sample Matrix: WATER
Received Date: N/A
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC23B-1392-18	SW-846 Method 8082A	11/01/2013 21:09	AJM	NA	NA	Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	24758	EPA 3535A	10/31/2013 14:00	OCD	1000 mL	10.0 mL	NA

Analyte	CAS No.	Result (ug/L)	PQL	Dilution Factor	Flags	File ID
Aroclor 1016	12674-11-2	ND	0.0500	1.00	U	GC23B-1392-18
Aroclor 1221	11104-28-2	ND	0.0500	1.00	U	GC23B-1392-18
Aroclor 1232	11141-16-5	ND	0.0500	1.00	U	GC23B-1392-18
Aroclor 1242	53469-21-9	ND	0.0500	1.00	U	GC23B-1392-18
Aroclor 1248	12672-29-6	ND	0.0500	1.00	U	GC23B-1392-18
Aroclor 1254	11097-69-1	ND	0.0500	1.00	U	GC23B-1392-18
Aroclor 1260	11096-82-5	ND	0.0500	1.00	U	GC23B-1392-18
Total PCB Amount	1336-36-3	ND		1.00	U	GC23B-1392-18

Surrogate	CAS No.	% Recovery	Limits (%)	Q[1]	File ID
Tetrachloro-meta-xylene	877-09-8	92.0	60.0-140		GC23B-1392-18
Decachlorobiphenyl	2051-24-3	101	60.0-140		GC23B-1392-18

[1]Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

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Quality Control Results
Method Blank

Job Number: 13100744

Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

Client: TRC ENVIRONMENTAL
Project: 115058
Client Sample ID: Method Blank (AQ34669B)
Lab Sample ID: PBLK-31

Collection Date: N/A
Sample Matrix: WATER
Received Date: N/A
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC23F-1379-18	SW-846 Method 8082A	11/01/2013 21:09	AJM	NA	NA	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	24758	EPA 3535A	10/31/2013 14:00	OCD	1000 mL	10.0 mL	NA

Analyte	CAS No.	Result (ug/L)	PQL	Dilution Factor	Flags	File ID
Aroclor 1016	12674-11-2	ND	0.0500	1.00	U	GC23F-1379-18
Aroclor 1221	11104-28-2	ND	0.0500	1.00	U	GC23F-1379-18
Aroclor 1232	11141-16-5	ND	0.0500	1.00	U	GC23F-1379-18
Aroclor 1242	53469-21-9	ND	0.0500	1.00	U	GC23F-1379-18
Aroclor 1248	12672-29-6	ND	0.0500	1.00	U	GC23F-1379-18
Aroclor 1254	11097-69-1	ND	0.0500	1.00	U	GC23F-1379-18
Aroclor 1260	11096-82-5	ND	0.0500	1.00	U	GC23F-1379-18
Total PCB Amount	1336-36-3	ND		1.00	U	GC23F-1379-18

Surrogate	CAS No.	% Recovery	Limits (%)	Q[1]	File ID
Tetrachloro-meta-xylene	877-09-8	102	60.0-140		GC23F-1379-18
Decachlorobiphenyl	2051-24-3	118	60.0-140		GC23F-1379-18

[1]Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

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Quality Control Results
Lab Control Sample (LCS)
Job Number: 13100744

Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

Client: TRC ENVIRONMENTAL
Project: 115058
Client Sample ID: Lab Control Sample (AQ34669L)
Lab Sample ID: LCS-31

Collection Date: N/A
Sample Matrix: WATER
Received Date: N/A
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC23B-1392-19	SW-846 Method 8082A	11/01/2013 21:42	AJM	NA	NA	Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	24758	EPA 3535A	10/31/2013 14:00	OCD	1000 mL	10.0 mL	NA

Analyte Spiked	CAS No.	Added (ug/L)	LCS (ug/L)	LCS % Rec.	Q[1]	Limits (%)
Aroclor 1242	53469-21-9	0.500	0.489	97.8		70.0-130

[1]Qualifier column where '*' denotes value outside the control limits. Note: RPD criteria does not apply if either the sample and duplicate sample are not detected.

Surrogate	CAS No.	% Recovery	Limits (%)	Q[1]	File ID
Tetrachloro-meta-xylene	877-09-8	90.7	60.0-140		GC23B-1392-19
Decachlorobiphenyl	2051-24-3	103	60.0-140		GC23B-1392-19

[1]Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

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Quality Control Results
Lab Control Sample (LCS)
Job Number: 13100744

Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

Client: TRC ENVIRONMENTAL
Project: 115058
Client Sample ID: Lab Control Sample (AQ34669L)
Lab Sample ID: LCS-31

Collection Date: N/A
Sample Matrix: WATER
Received Date: N/A
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC23F-1379-19	SW-846 Method 8082A	11/01/2013 21:42	AJM	NA	NA	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	24758	EPA 3535A	10/31/2013 14:00	OCD	1000 mL	10.0 mL	NA

Analyte Spiked	CAS No.	Added (ug/L)	LCS (ug/L)	LCS % Rec.	Q[1]	Limits (%)
Aroclor 1242	53469-21-9	0.500	0.553	111		70.0-130

[1]Qualifier column where '*' denotes value outside the control limits. Note: RPD criteria does not apply if either the sample and duplicate sample are not detected.

Surrogate	CAS No.	% Recovery	Limits (%)	Q[1]	File ID
Tetrachloro-meta-xylene	877-09-8	102	60.0-140		GC23F-1379-19
Decachlorobiphenyl	2051-24-3	121	60.0-140		GC23F-1379-19

[1]Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

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CHROMATOGRAMS

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Phone: (518) 346-4592 Fax: (518) 381-6055
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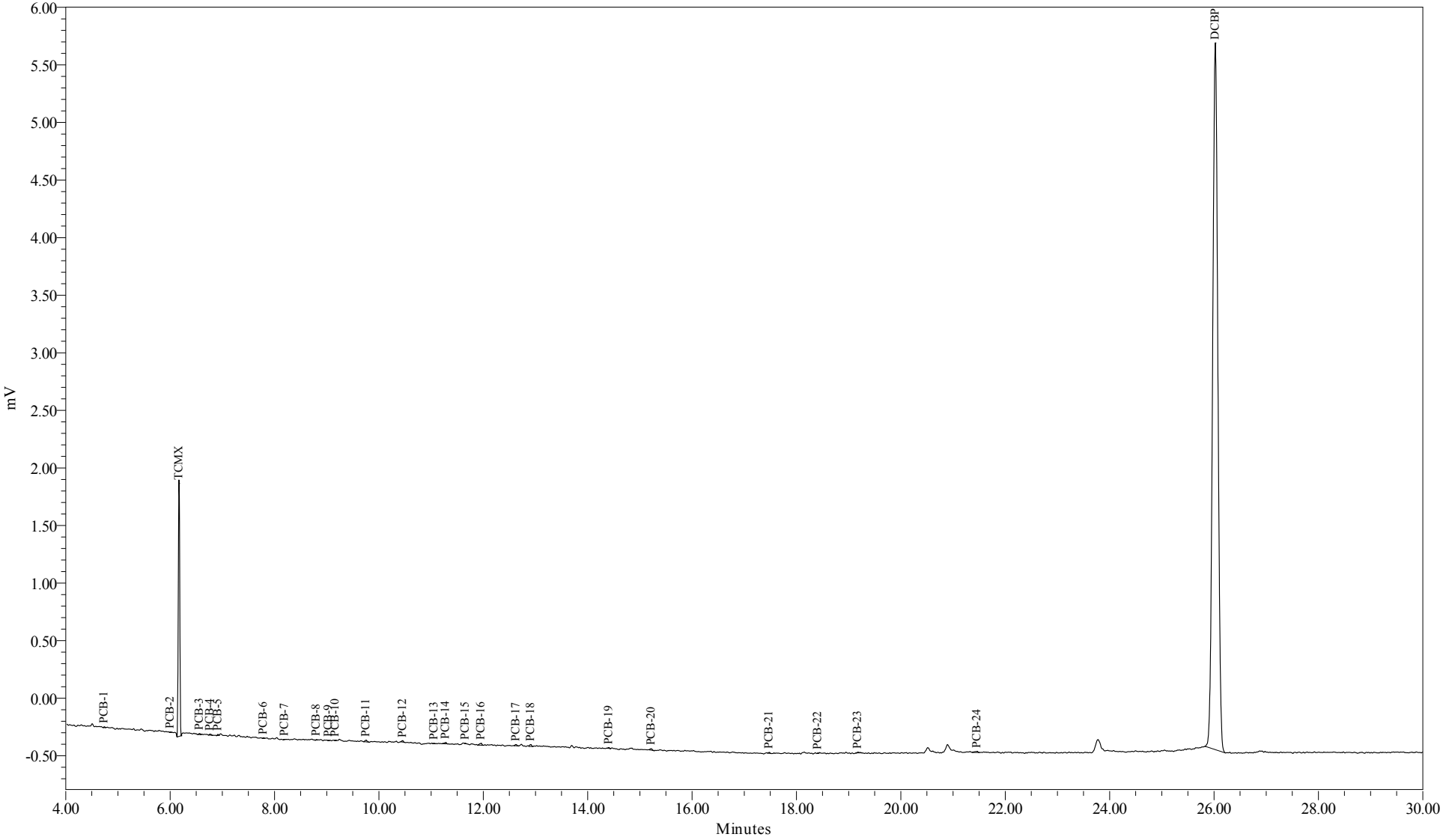

Sample Name:	AQ34669	Sample Amount (L) :	1.0300
Sample ID:	MW-1	Dilution:	10
Date Acquired:	11/1/2013 10:14:42 PM EDT	Processing Method:	GC23F_CCLL_062913
		LIMS File ID:	GC23F-1379-20

Sample Name: AQ34669

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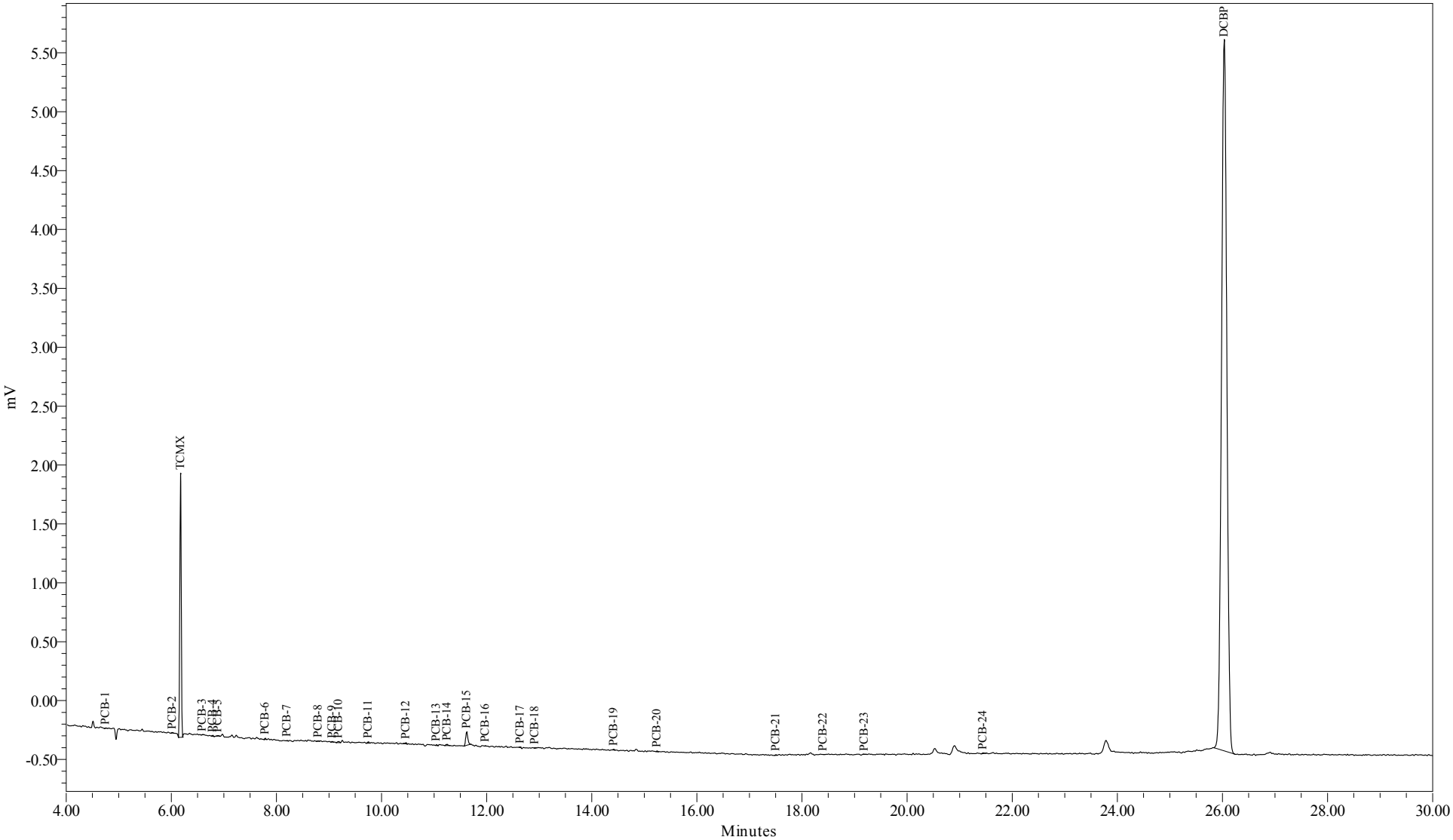

Sample Name:	AQ34669B	Sample Amount (L) :	1.0000
Sample ID:	METHOD BLANK	Dilution:	10
Date Acquired:	11/1/2013 9:09:23 PM EDT	Processing Method:	GC23F_CCLL_062913
		LIMS File ID:	GC23F-1379-18

Sample Name: AQ34669B

7

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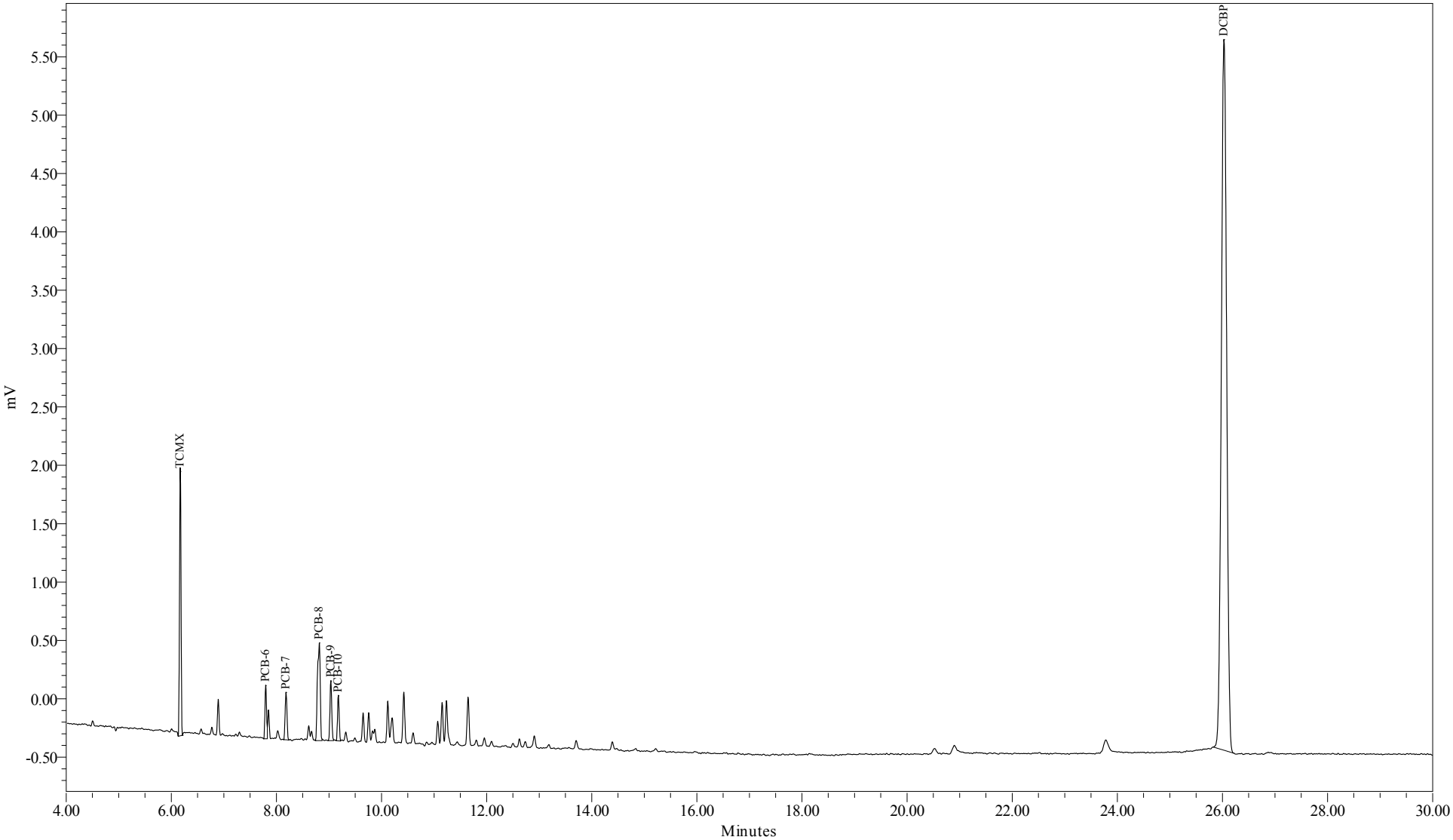

Sample Name:	AQ34669K	Sample Amount (L) :	1.0200
Sample ID:	MW-1 MSD	Dilution:	10
Date Acquired:	11/1/2013 11:19:56 PM EDT	Processing Method:	GC23F_CCLL_062913
		LIMS File ID:	GC23F-1379-22

Sample Name: AQ34669K

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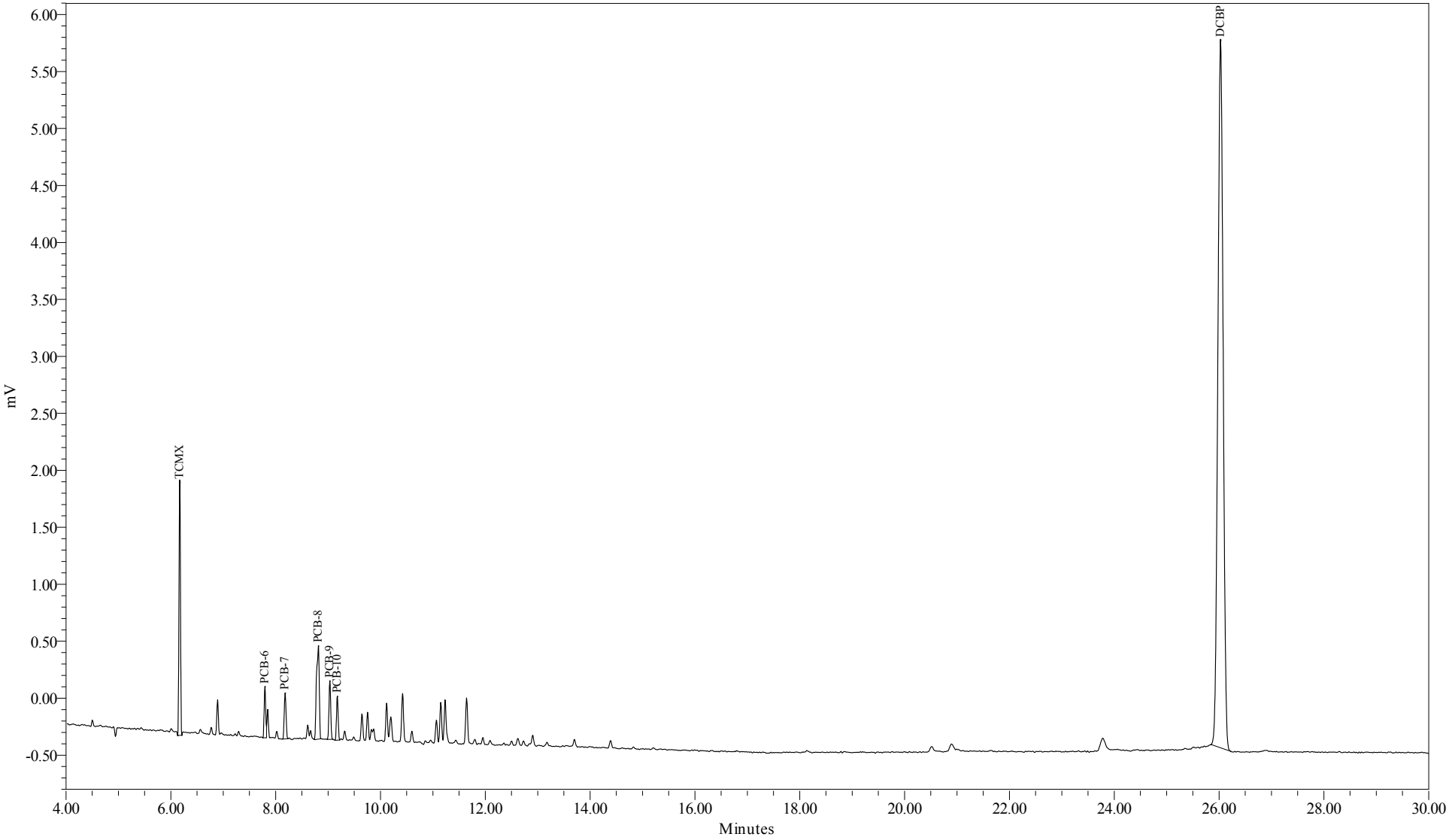

Sample Name:	AQ34669L	Sample Amount (L) :	1.0000
Sample ID:	LAB CONTROL SPIKE	Dilution:	10
Date Acquired:	11/1/2013 9:42:05 PM EDT	Processing Method:	GC23F_CCLL_062913
		LIMS File ID:	GC23F-1379-19

Sample Name: AQ34669L

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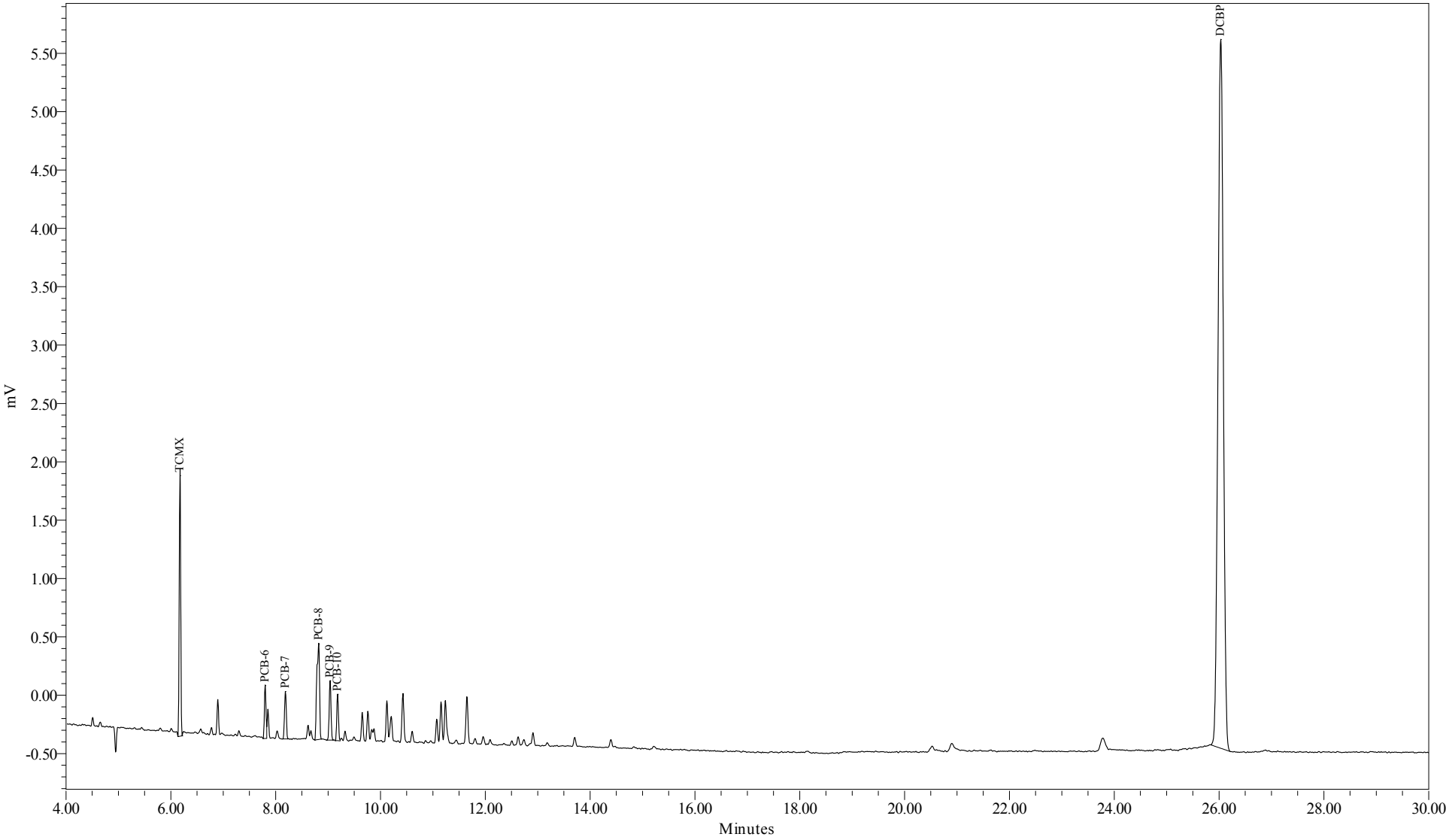

Sample Name:	AQ34669M	Sample Amount (L) :	1.0300
Sample ID:	MW-1 MS	Dilution:	10
Date Acquired:	11/1/2013 10:47:19 PM EDT	Processing Method:	GC23F_CCLL_062913
		LIMS File ID:	GC23F-1379-21

Sample Name: AQ34669M

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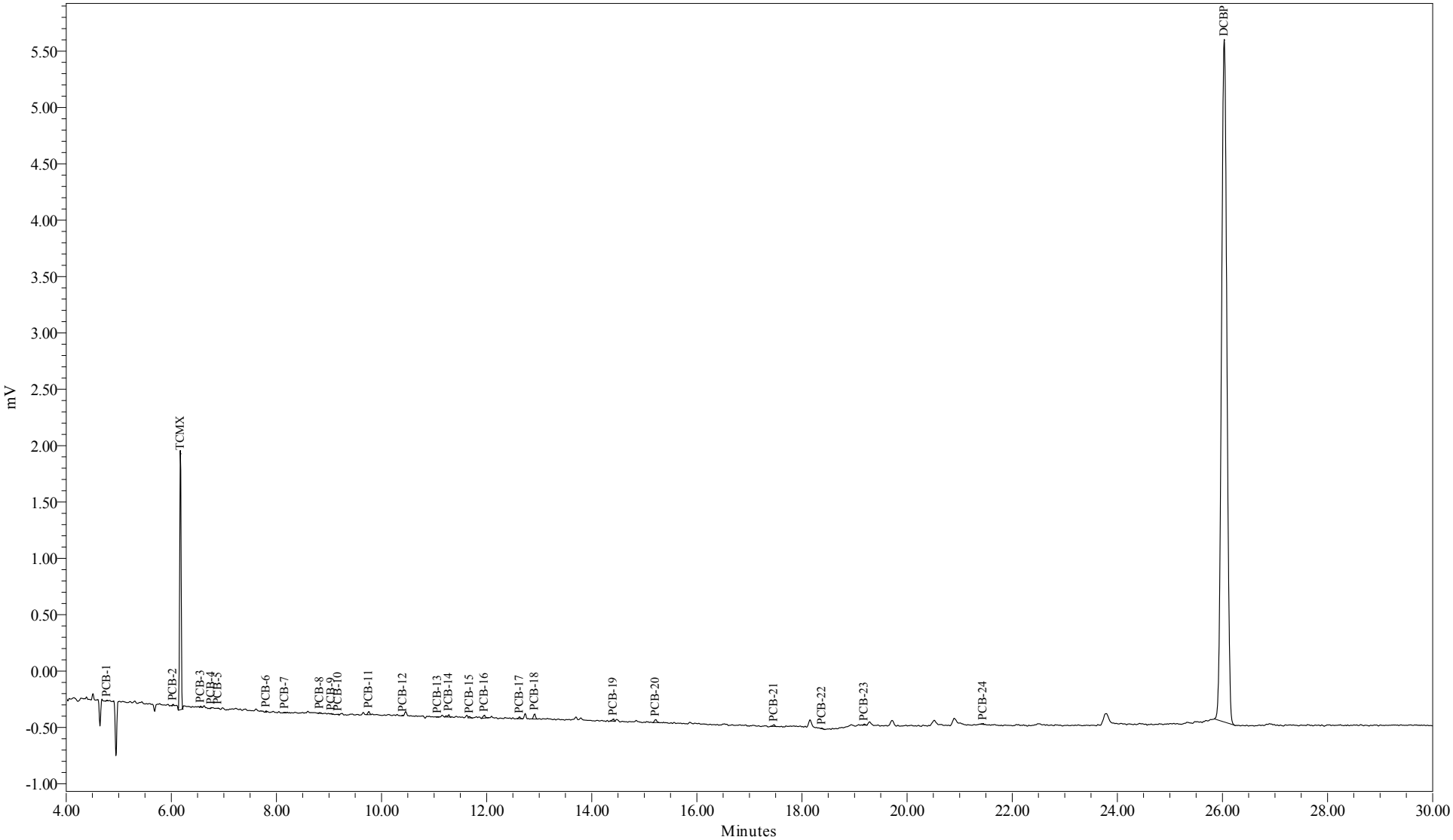

Sample Name:	AQ34670	Sample Amount (L) :	1.0000
Sample ID:	MW-2	Dilution:	10
Date Acquired:	11/1/2013 11:52:31 PM EDT	Processing Method:	GC23F_CCLL_062913
		LIMS File ID:	GC23F-1379-23

Sample Name: AQ34670

7

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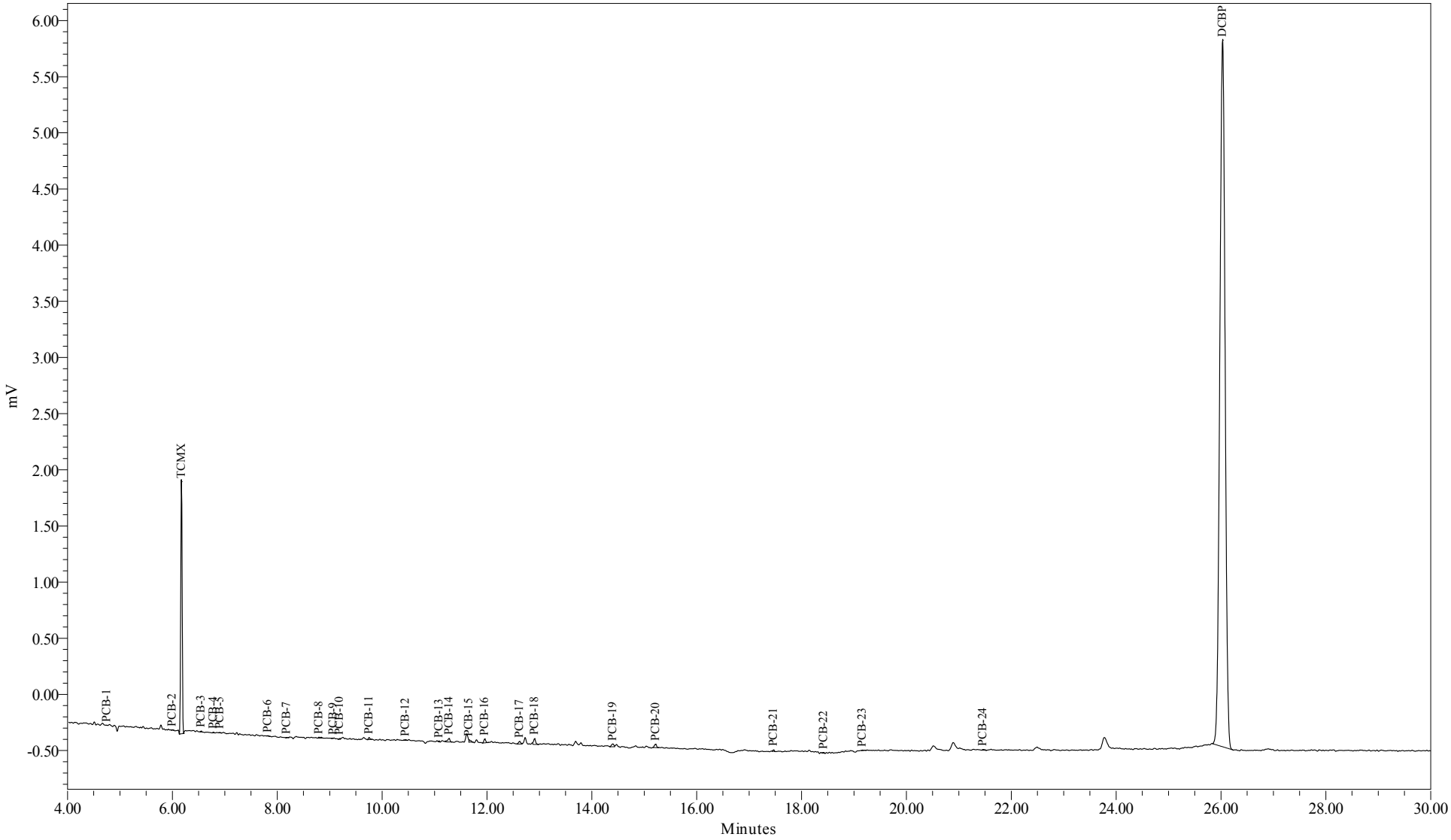

Sample Name:	AQ34671	Sample Amount (L) :	1.0000
Sample ID:	MW-3	Dilution:	10
Date Acquired:	11/2/2013 12:25:09 AM EDT	Processing Method:	GC23F_CCLL_062913
		LIMS File ID:	GC23F-1379-24

Sample Name: AQ34671

Pace Analytical Services - NY Lab , 2190 Technology Drive, Schenectady, NY 12308
Phone: (518) 346-4592 Fax: (518) 381-6055
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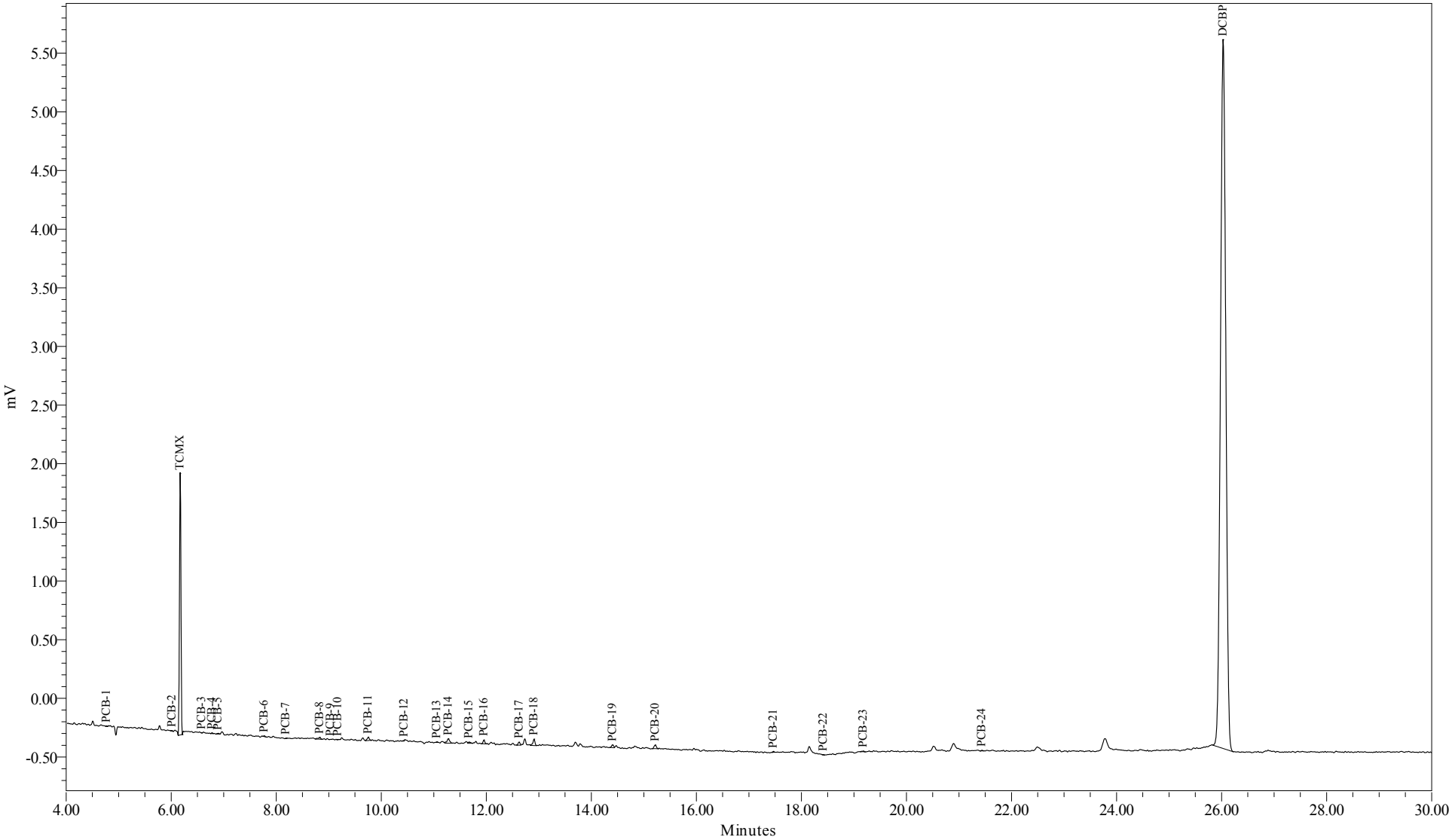

Sample Name:	AQ34672	Sample Amount (L) :	1.0800
Sample ID:	DUP-1	Dilution:	10
Date Acquired:	11/2/2013 12:57:45 AM EDT	Processing Method:	GC23F_CCLL_062913
		LIMS File ID:	GC23F-1379-25

Sample Name: AQ34672

7

Date Issued: November 21, 2013

Pace Analytical e-Report

Report prepared for:
TRC ENVIRONMENTAL
WANNALANCIT MILLS
650 SUFFOLK ST
LOWELL, MA 01854
CONTACT: DAVID SULLIVAN

Project ID: 115058
Sampling Date(s): October 25, 2013
Lab Report ID: 13100744
Client Service Contact: Kelly Miller (518) 346-4592 ext. 3844

Analysis Included:
PCB Analysis (Water)

Test results meet all National Environmental Laboratory Accreditation Conference (NELAC) requirements unless noted in the case narrative. The results contained within this document relate only to the samples included in this report. Pace Analytical is responsible only for the certified testing and is not directly responsible for the integrity of the sample before laboratory receipt. This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

Dan Pfalzer
Laboratory Director

Certifications: New York (EPA: NY00906, ELAP: 11078), New Jersey (NY026), Connecticut (PH-0337), Massachusetts (M-NY906), Virgi nia (1884)

Pace Analytical Services, Inc.| 2190 Technology Drive | Schenectady, NY 12308
Phone: 518.346.4592 | internet: www.pacelabs.com

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Table of Contents

Section 1: CASE NARRATIVE 4

Section 2: SAMPLE CHAIN OF CUSTODY 8

Section 3: SAMPLE RECEIPT 10

Section 4: INTERNAL SAMPLE TRACKING RECORD 12

Section 5: SURROGATE % RECOVERY SUMMARY 15

Section 6: MATRIX SPIKE/MATRIX SPIKE DUPLICATE SUMMARY 17

Section 7: LABORATORY CONTROL SPIKE SUMMARY 20

Section 8: METHOD BLANK SUMMARY 23

Section 9: SAMPLE ANALYSIS DATA 26

Section 10: ANALYTICAL SEQUENCE (GC23F) 31

Section 11: INITIAL CALIBRATION DATA (GC23F) 34

Section 12: INITIAL/CONTINUING CALIBRATION DATA (GC23F) 37

Section 13: ANALYTICAL SEQUENCE (GC23B) 42

Section 14: INITIAL CALIBRATION DATA (GC23B) 45

Section 15: INITIAL/CONTINUING CALIBRATION DATA (GC23B) 48

Section 16: QC SAMPLE RAW DATA 53

CASE NARRATIVE

November 19, 2013

CASE NARRATIVE

This data package (SDG ID: 13100744) consists of 4 water samples received on 10/28/2013. The samples are from Project Name: 115058.

This sample delivery group consists of the following samples:

Lab Sample ID	Client ID	Collection Date
AQ34669	MW-1	10/25/2013 10:15
AQ34670	MW-2	10/25/2013 12:50
AQ34671	MW-3	10/25/2013 14:42
AQ34672	DUP-1	10/25/2013 15:42

1

Sample Delivery and Receipt Conditions

(1.) All samples were delivered to the laboratory via FEDEX delivery service on 10/28/2013.

(2.) All samples were received at the laboratory intact and within holding times.

(3.) All samples were received at the laboratory properly preserved with any exceptions listed below:
The temperature exceeded limits. Please see communication log for more details.

PCB Aroclor Analysis

Analysis for PCB Aroclors was performed by method SW-846 8082 using a dual column GC system. Samples were extracted by USEPA SW-846 Method 3535 Solid Phase Extraction. One-liter water samples were extracted by PACE SOP NE178_04. The following technical and administrative items were noted for the analysis:

(1.) All quality assurance parameters were met for the analysis.

Qualifier Summary

(1.) B-Denotes analyte observed in associated method blank or extraction blank at a concentration exceeding the MDL.

(2.) J-Denotes concentration result greater than the MDL but less than the RL.

(3.) U-Denotes analyte not observed at a concentration greater than the MDL.

Respectfully submitted,

Kelly A. Miller

Kelly A. Miller
Project Manager

S:\Lims Data\1310\13100744\Package\CN_13100744_Rev00.doc

November 19, 2013

Communication Log

From: Saunders, Jeffry [<mailto:JSaunders@trcsolutions.com>]
Sent: Monday, October 28, 2013 11:05 AM
To: Denly, Elizabeth
Cc: Sullivan, Dave; Kelly Miller; Jordan, Kevin
Subject: RE: Fedex

1

Thanks Liz!

Jeffry B. Saunders, PG
Project Geologist
(978) 656-3610

From: Denly, Elizabeth
Sent: Monday, October 28, 2013 11:04 AM
To: Saunders, Jeffry
Cc: Sullivan, Dave; Kelly Miller; Jordan, Kevin
Subject: RE: Fedex

I think the lab can proceed with analysis.

Elizabeth Denly Senior QA Chemist Environmental Sector and Remediation Practice Quality Coordinator

650 Suffolk Street, Lowell, MA 01854 T: 978.656.3577 | F: 978.453.1995 | C: 978.328.2551 LinkedIn <http://www.linkedin.com/company/trc-companies-inc> | Twitter <http://twitter.com/TRC_Companies> | Blog <http://blog.trcsolutions.com/> | Flickr <http://www.flickr.com/photos/trcsolutions/> | www.trcsolutions.com <http://www.trcsolutions.com/>

From: Saunders, Jeffry
Sent: Monday, October 28, 2013 11:04 AM
To: Denly, Elizabeth
Cc: Sullivan, Dave; Kelly Miller; Jordan, Kevin
Subject: RE: Fedex

Groundwater samples for PCB analysis (KMS long-term monitoring samples).

Jeffry B. Saunders, PG
Project Geologist
(978) 656-3610

From: Denly, Elizabeth
Sent: Monday, October 28, 2013 11:03 AM
To: Saunders, Jeffry
Cc: Sullivan, Dave; Kelly Miller; Jordan, Kevin
Subject: RE: Fedex

What were the samples? Matrix and analysis?

Elizabeth Denly Senior QA Chemist Environmental Sector and Remediation Practice Quality Coordinator

650 Suffolk Street, Lowell, MA 01854 T: 978.656.3577 | F: 978.453.1995 | C: 978.328.2551 LinkedIn <http://www.linkedin.com/company/trc-companies-inc> | Twitter <http://twitter.com/TRC_Companies> | Blog <http://blog.trcsolutions.com/> | Flickr <http://www.flickr.com/photos/trcsolutions/> | www.trcsolutions.com <http://www.trcsolutions.com/>

From: Saunders, Jeffry
Sent: Monday, October 28, 2013 10:58 AM
To: Denly, Elizabeth
Cc: Sullivan, Dave; Kelly Miller; Jordan, Kevin
Subject: RE: Fedex
Importance: High

Liz, thoughts??? Thanks.

Jeffry B. Saunders, PG
Project Geologist
(978) 656-3610

From: Kelly Miller [<mailto:KellyM@nealab.com>]
Sent: Monday, October 28, 2013 10:55 AM
To: Saunders, Jeffry; Jordan, Kevin
Cc: Sullivan, Dave
Subject: Fedex

Jeff/Dave,
I have been on the phone with fedex trying to determine why the package (804229365486) shipped for Sat. delivery was not received until this morning. They are claiming they tried to deliver it, and we were closed, however we had staff here and they successfully delivered samples at 10:47 on Saturday (all air shipments). I am waiting on a phone call from the local branch regarding what happened.
Unfortunately, the samples were 9.2C upon receipt. Would you like us to proceed with analysis, or send out a bottle order for re-sampling?
I will let you know as soon as I hear more.
My apologies,
Kelly Miller
Project Manager/ Sample Receiving Supervisor

SAMPLE CHAIN OF CUSTODY

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

<13100744P1>

131-307441

Page: of

1701659

Section A Required Client Information:

Company: TRC
Address: 650 Suffolk St. Lowell, MA 01854
Email To: dsullivan@trcsolutions.com
Phone: 978-970-5600 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: David Sullivan
Copy To: Jeff Saunders
Purchase Order No.: C115058
Project Name:
Project Number: C115058

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: MA

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start Date	Composite Start Time	Composite End/Grab Date	Composite End/Grab Time	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	PCBs	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-1	WT	G			10/25/13	1615		6	X								X	PCBs plus MS/MSD		AQ34669
2	MW-2	↓	↓				1750		2	X								X			AQ34670
3	MW-3					↓	1442		2	X								X			AQ34671
4	DUP-1						1542		2	X								X			AQ34672
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Kevin / TRC	10/25/13	1700	FedEx	10/25/13	1700				
	VIA FED EX →			J. Butler (PACE)	10/28/13	10:19	9.2 (IR)	Y	Y	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

10/25/13

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kevin Jordan

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 10/25/13

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% ...

SAMPLE RECEIPT

SAMPLE RECEIPT REPORT
13100744

Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

CLIENT: TRC ENVIRONMENTAL
PROJECT: 115058
LRF: 13100744
REPORT: CLP-LIKE FORMS
EDD: YES
LRF TAT: 1 WEEK

RECEIVED DATE: 10/28/2013 10:19
SHIPPED VIA: FEDEX
SHIPPING ID: 8042 2936 5486
NUMBER OF COOLERS: 1
CUSTODY SEAL INTACT: YES
COOLER STATUS: CHILLED
TEMPERATURE(S):[5] 9.2 (IR) °C

SAMPLE SEALS INTACT: NA
[1,2]**SAMPLES PROPERLY PRESERVED:** NO
[3]**SAMPLES REC'D IN HOLDTIME:** YES
DISPOSAL: BY LAB (45 DAYS)
COC DISCREPANCY: NO

COMMENTS:
TEMPERATURE GREATER THAN 6C UPON RECEIPT IN THE LAB.

3

CLIENT ID (LAB ID)	TAT-DUE Date[4]	DATE-TIME SAMPLED	MATRIX	METHOD	TEST DESCRIPTION	QC REQUESTED
MW-1 (AQ34669)	1 WEEK 11-04-13	10/25/2013 10:15	Water	SW-846 8082A	PCB Analysis (Water)	MS, MSD
MW-2 (AQ34670)	1 WEEK 11-04-13	10/25/2013 12:50	Water	SW-846 8082A	PCB Analysis (Water)	
MW-3 (AQ34671)	1 WEEK 11-04-13	10/25/2013 14:42	Water	SW-846 8082A	PCB Analysis (Water)	
DUP-1 (AQ34672)	1 WEEK 11-04-13	10/25/2013 15:42	Water	SW-846 8082A	PCB Analysis (Water)	

[1]The pH preservation check of Oil and Grease (Method 1664) is performed as soon as possible after sample receipt and may not be included in this report.
[2]The pH preservation check of aqueous volatile samples is not performed until after the analysis of the sample to maintain zero headspace and is not included in this report.
[3]Samples received for pH analysis are not marked as a hold time exceedance here. SW-846 methods suggests analysis to be done within 15 minutes of sample collection. Because of transportation time it is not possible for the laboratory to perform the test in that time. Sample Certificates of Analysis reports are noted as such.
[4]Samples arriving at the laboratory after 4:00 pm are assigned a due date as if they arrived the following business day unless other arrangements have been made.
[5]All samples which require thermal preservation shall be considered acceptable when received greater than 6 degrees Celsius if they are collected on the same day as received and there is evidence that the chilling process has begun, such as arrival on ice.Control limits are between 0-6 Degrees Celsius. Control limits do not apply for metals analysis.

Reporting Parameters and Lists

SW-846 8082A - PCB Analysis (Water) - (ug/L)

Aroclor 1016
Aroclor 1221
Aroclor 1232
Aroclor 1242
Aroclor 1248
Aroclor 1254
Aroclor 1260
Total PCB Amount

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2190 Technology Drive Schenectady, NY 12308 Phone 518.346.4592 Fax 518.381.6055

INTERNAL SAMPLE TRACKING RECORD

4

PCB EXTRACTION LOG

Pace Analytical®

Prep Date: 10/31/13 **Batch ID: 24758**

	Prep ID	LAB Sample ID	Alt Sample ID	Matrix	pH	Analysis Required	Extract Type / Unit	Percent Total Solids	Sample Amount (g or mL)	Extract Time On - 1	Extract Time Off - 1	Extract Time On - 2	Extract Time Off - 2	Date Acid Cleaned (MM/DD)	Date TBA Cleaned (MM/DD)	Date Florisil Shake (MM/DD)	Date Hg Shake (MM/DD)	Final Ext. Vol (mL)	Date Conc (MM/DD)	Comments
														Initial for required Clean Up Steps: EPC		EPC	EPC			
1	243102	PBLK-31	AQ34669B	Water	5	E PCB W	SPE-1L	N/A	1000	NA	NA	NA	NA	11/01	NA	11/01	11/01	10	10/31	
2	243101	LCS-31	AQ34669L	Water	5	E PCB W	SPE-1L	N/A	1000	NA	NA	NA	NA	11/01	NA	11/01	11/01	10	10/31	
3	243095	13100744-01MS	AQ34669M	Water	6	E PCB W	SPE-1L	N/A	1030	NA	NA	NA	NA	11/01	NA	11/01	11/01	10	10/31	
4	243096	13100744-01MSD	AQ34669K	Water	6	E PCB W	SPE-1L	N/A	1020	NA	NA	NA	NA	11/01	NA	11/01	11/01	10	10/31	
5	243097	13100744-01	AQ34669	Water	6	E PCB W	SPE-1L	N/A	1030	NA	NA	NA	NA	11/01	NA	11/01	11/01	10	10/31	
6	243098	13100744-02	AQ34670	Water	6	E PCB W	SPE-1L	N/A	1000	NA	NA	NA	NA	11/01	NA	11/01	11/01	10	10/31	
7	243099	13100744-03	AQ34671	Water	6	E PCB W	SPE-1L	N/A	1000	NA	NA	NA	NA	11/01	NA	11/01	11/01	10	10/31	
8	243100	13100744-04	AQ34672	Water	6	E PCB W	SPE-1L	N/A	1080	NA	NA	NA	NA	11/01	NA	11/01	11/01	10	10/31	
9	243103	13100781-01	AQ34913	Water	6	E PCB W	SPE-1L	N/A	1080	NA	NA	NA	NA	11/01	11/01	11/01	11/01	10	10/31	Additional Acid, Florisil, TBA shakes were needed
10	243104	13100782-01	AQ34914	Water	6	E PCB W	SPE-1L	N/A	1080	NA	NA	NA	NA	11/01	NA	11/01	11/01	10	10/31	Additional Acid, florisil and mercury shakes

Solvent, Surrogate, Spike, and Acid Information

Item	Lot Number	Amount (uL)	Conc (ug/mL)	B	L	LD	S	D	M	K
Sulfuric acid (Water Lab)	L12057	NA		☑	☑	☐	☑	☐	☑	☑
Mercury CURRENT	042613Hg	NA		☑	☑	☐	☑	☐	☑	☑
A1242 @ 0.5 PPM in Acetone	060513B034P183A1-3	1000	0.5	☐	☑	☐	☐	☐	☑	☑
Dichloromethane	DI744	NA		☑	☑	☐	☑	☐	☑	☑
0.05ppm TCMX/0.5ppm DCBP in Acetone	072313B035P048A1-10	1000	0.05/0.5	☑	☑	☐	☑	☐	☑	☑
Methanol (Burdick & Jackson)	DI942	NA		☑	☑	☐	☑	☐	☑	☑
1:1 Sulfuric Acid SPE ONLY (CURRENT)	090513	NA		☑	☑	☐	☑	☐	☑	☑
Acetone (Dewar) CURRENT	DJ137	NA		☑	☑	☐	☑	☐	☑	☑
Hexane (Dewar)	DJ066B	NA		☑	☑	☐	☑	☐	☑	☑
10% Florisil Water Lab (CURRENT)	092313F8082A	NA		☑	☑	☐	☑	☐	☑	☑
TBA Solution CURRENT	102213MLB3P5B	NA		☐	☐	☐	☑	☐	☐	☐
Speedisk	0000051762	NA		☑	☑	☐	☑	☐	☑	☑

4

Analyst Review: Kaitlyn Nedo

Peer Review: Elizabeth Cipriana

Print Date: 11/19/2013
Lims Version : 5.0.8.2
_EXT - LOGBOOK_GC-SV; Rev 02; 1.18.2010; EXTRACTION

PCB SCREEN SHEET

LRF: 13100744 **Batch ID:24758**

Lab Sample ID	File ID	Matrix	Prep Date	Wet Weight (g or mL)	Set Volume (mL)	Screen Dilution	Screen Result	Bench Dilution	Dilution Sequence	Final Multiplier	Dilution Analyst
AQ34669B	GC23B-1392-18	Water	**10/31/13**	1000	10	NA	NA	1	NA	10x	Anthony Maiello
	GC23F-1379-18	Water	**10/31/13**	1000	10	NA	NA	1	NA	10x	Anthony Maiello
AQ34669L	GC23B-1392-19	Water	**10/31/13**	1000	10	NA	NA	1	NA	10x	Anthony Maiello
	GC23F-1379-19	Water	**10/31/13**	1000	10	NA	NA	1	NA	10x	Anthony Maiello
AQ34669M	GC23B-1392-21	Water	**10/31/13**	1030	10	NA	0.075977	1	NA	10x	Anthony Maiello
	GC23F-1379-21	Water	**10/31/13**	1030	10	NA	0.075977	1	NA	10x	Anthony Maiello
AQ34669K	GC23B-1392-22	Water	**10/31/13**	1020	10	NA	0.076514	1	NA	10x	Anthony Maiello
	GC23F-1379-22	Water	**10/31/13**	1020	10	NA	0.076514	1	NA	10x	Anthony Maiello
AQ34669	GC23B-1392-20	Water	**10/31/13**	1030	10	NA	0.011307	1	NA	10x	Anthony Maiello
	GC23F-1379-20	Water	**10/31/13**	1030	10	NA	0.011307	1	NA	10x	Anthony Maiello
AQ34670	GC23B-1392-23	Water	**10/31/13**	1000	10	NA	0.0056756	1	NA	10x	Anthony Maiello
	GC23F-1379-23	Water	**10/31/13**	1000	10	NA	0.0056756	1	NA	10x	Anthony Maiello
AQ34671	GC23B-1392-24	Water	**10/31/13**	1000	10	NA	0.0070259	1	NA	10x	Anthony Maiello
	GC23F-1379-24	Water	**10/31/13**	1000	10	NA	0.0070259	1	NA	10x	Anthony Maiello
AQ34672	GC23B-1392-25	Water	**10/31/13**	1080	10	NA	0.0035257	1	NA	10x	Anthony Maiello
	GC23F-1379-25	Water	**10/31/13**	1080	10	NA	0.0035257	1	NA	10x	Anthony Maiello
AQ34913RR1	GC28F-1167-7	Water	**10/31/13**	1080	10	NA	0.13843	1	NA	10x	Anthony Maiello
AQ34914RR1	GC28F-1167-9	Water	**10/31/13**	1080	10	NA	0.018282	1	NA	10x	Anthony Maiello

4

COMMENTS: _____

Page 1 of 1

Print Date: 11/19/2013
Lims Version : 5.0.8.2
_EXT-INJSHEET_NL; Rev 00; 09.29.2010; EXTRACTION

SURROGATE % RECOVERY SUMMARY

2E-1
PCB SURROGATE RECOVERY

Laboratory Name: Pace Analytical Services, Inc. SDG: 13100744

ELAP ID No: 11078

GC Column (1): Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm

GC Column (2): Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm

LRF ID	LAB SAMPLE ID	LAB FILE ID	SURR 1 (Col 1) % REC #	SURR 2 (Col 1) % REC #	SURR 1 (Col 2) % REC #	SURR 2 (Col 2) % REC #	OTHER (1)	OTHER (2)	TOTAL OUT
PBLK-31	AQ34669B	GC23F-1379-18	102	118					0
PBLK-31	AQ34669B	GC23B-1392-18			92.0	101			0
LCS-31	AQ34669L	GC23F-1379-19	102	121					0
LCS-31	AQ34669L	GC23B-1392-19			90.7	103			0
13100744-01	AQ34669	GC23F-1379-20	103	118					0
13100744-01	AQ34669	GC23B-1392-20			91.1	101			0
13100744-02	AQ34670	GC23F-1379-23	105	121					0
13100744-02	AQ34670	GC23B-1392-23			92.9	102			0
13100744-03	AQ34671	GC23F-1379-24	103	123					0
13100744-03	AQ34671	GC23B-1392-24			92.1	104			0
13100744-04	AQ34672	GC23F-1379-25	103	118					0
13100744-04	AQ34672	GC23B-1392-25			91.0	99.5			0
13100744-01MS	AQ34669M	GC23F-1379-21	106	119					0
13100744-01MS	AQ34669M	GC23B-1392-21			92.8	101			0
13100744-01MSD	AQ34669K	GC23F-1379-22	106	119					0
13100744-01MSD	AQ34669K	GC23B-1392-22			93.5	100			0

5

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

	Advisory QC Limits.
SURR1 = TETRACHLORO-META-XYLENE	(60.0-140)
SURR2 = DECACHLOROBIPHENYL	(60.0-140)

Form II-CLP-PCB(PACE)

Print Date: 11/19/2013
Lims Version : 5.0.8.2

MATRIX SPIKE/MATRIX SPIKE DUPLICATE SUMMARY

6

3F-1
MATRIX SPIKE (MS) / MATRIX SPIKE DUPLICATE (MSD) RECOVERY

Laboratory Name: Pace Analytical Services, Inc.

ELAP ID No: 11078 SDG No: 13100744

MS LRF ID: 13100744-01MS MSD LRF ID: 13100744-01MSD Sample LRF ID: 13100744-01

MS Lab File ID: GC23F-1379-21 MSD Lab File ID: GC23F-1379-22 Sample File ID: GC23F-1379-20

MS Sample Inj Date: 11/01/2013 22:47:19 MSD Sample Inj Date: 11/01/2013 23:19:56 Sample Inj Date: 11/01/2013 22:14:42

MS Lab Sample ID: AQ34669M MSD Lab Sample ID: AQ34669K Sample ID: AQ34669

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS PERCENT RECOVERY #	QC LIMITS[1] PERCENT RECOVERY
Aroclor 1242	0.485	0.00	0.544	112	(70.0-130)

COMPOUND	SPIKE ADDED	MSD CONCENTRATION	MSD PERCENT RECOVERY #	RPD #	QC LIMITS[1] RPD	REC
Aroclor 1242	0.490	0.552	113	0.889	20	(70.0-130)

6

Column to be used to flag recovery values

* Values outside of QC limits

[1] QC Limits based upon laboratory defaults.

Spike Recovery: 0 out of 2 outside limits.

RPD: 0 out of 1 outside limits.

COMMENTS:

Form III-CLP

Lims Version : 5.0.8.2

3F-1
MATRIX SPIKE (MS) / MATRIX SPIKE DUPLICATE (MSD) RECOVERY

Laboratory Name: Pace Analytical Services, Inc.

ELAP ID No: 11078 SDG No: 13100744

MS LRF ID: 13100744-01MS MSD LRF ID: 13100744-01MSD Sample LRF ID: 13100744-01

MS Lab File ID: GC23B-1392-21 MSD Lab File ID: GC23B-1392-22 Sample File ID: GC23B-1392-20

MS Sample Inj Date: 11/01/2013 22:47:23 MSD Sample Inj Date: 11/01/2013 23:20:00 Sample Inj Date: 11/01/2013 22:14:46

MS Lab Sample ID: AQ34669M MSD Lab Sample ID: AQ34669K Sample ID: AQ34669

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS PERCENT RECOVERY #	QC LIMITS[1] PERCENT RECOVERY
Aroclor 1242	0.485	0.00	0.474	97.6	(70.0-130)

COMPOUND	SPIKE ADDED	MSD CONCENTRATION	MSD PERCENT RECOVERY #	RPD #	QC LIMITS[1] RPD	QC LIMITS[1] REC
Aroclor 1242	0.490	0.481	98.2	0.613	20	(70.0-130)

6

Column to be used to flag recovery values

* Values outside of QC limits

[1] QC Limits based upon laboratory defaults.

Spike Recovery: 0 out of 2 outside limits.

RPD: 0 out of 1 outside limits.

COMMENTS:

Form III-CLP

Lims Version : 5.0.8.2

LABORATORY CONTROL SPIKE SUMMARY

7

3F-2
LABORATORY CONTROL SPIKE (LCS) RECOVERY

Laboratory Name: Pace Analytical Services, Inc.

ELAP ID No: 11078 SDG No: 13100744

LCS Lab ID: LCS-31 Blank Sample ID: PBLK-31

LCS File ID: GC23F-1379-19 Method Blank File ID: GC23F-1379-18

LCS Inj Date: 11/01/2013 21:42:05 Method Blank Inj Date: 11/01/2013 21:09:23

LCS ID: AQ34669L Method Blank ID: AQ34669B

LCS Matrix: Water Method Blank Matrix: Water

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS PERCENT RECOVERY #	QC LIMITS[1] PERCENT RECOVERY
Aroclor 1242	0.500	0.553	111	70.0-130

Column to be used to flag recovery values

* Values outside of QC limits

[1]QC Limits based upon laboratory defaults.

Spike Recovery: 0 out of 1 outside limits.

7

COMMENTS:

Form III-CLP-PCB (PACE)

Lims Version : 5.0.8.2

3F-2
LABORATORY CONTROL SPIKE (LCS) RECOVERY

Laboratory Name: Pace Analytical Services, Inc.

ELAP ID No: 11078 SDG No: 13100744

LCS Lab ID: LCS-31 Blank Sample ID: PBLK-31

LCS File ID: GC23B-1392-19 Method Blank File ID: GC23B-1392-18

LCS Inj Date: 11/01/2013 21:42:09 Method Blank Inj Date: 11/01/2013 21:09:27

LCS ID: AQ34669L Method Blank ID: AQ34669B

LCS Matrix: Water Method Blank Matrix: Water

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS PERCENT RECOVERY #	QC LIMITS[1] PERCENT RECOVERY
Aroclor 1242	0.500	0.489	97.8	70.0-130

Column to be used to flag recovery values

* Values outside of QC limits

[1]QC Limits based upon laboratory defaults.

Spike Recovery: 0 out of 1 outside limits.

7

COMMENTS:

Form III-CLP-PCB (PACE)

Lims Version : 5.0.8.2

METHOD BLANK SUMMARY

8

4C-1
PCB METHOD BLANK SUMMARY

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	Blank Sample ID:	PBLK-31
Matrix:	Water	Method Blank ID:	AQ34669B
Instrument ID:	GC23F	Lab File ID:	GC23F-1379-18
Extraction Type:	1L - Solid Phase Extraction	Date Extracted:	10/31/2013
GC Column (1):	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm	Date Analyzed:	11/01/2013
		Time Analyzed:	21:09:23

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE / TIME ANALYZED
LCS-31(LAB CONTROL SPIKE)	AQ34669L	GC23F-1379-19	11/01/2013 21:42:05
MW-1	AQ34669	GC23F-1379-20	11/01/2013 22:14:42
MW-1 MS	AQ34669M	GC23F-1379-21	11/01/2013 22:47:19
MW-1 MSD	AQ34669K	GC23F-1379-22	11/01/2013 23:19:56
MW-2	AQ34670	GC23F-1379-23	11/01/2013 23:52:31
MW-3	AQ34671	GC23F-1379-24	11/02/2013 00:25:09
DUP-1	AQ34672	GC23F-1379-25	11/02/2013 00:57:45

4C-1
PCB METHOD BLANK SUMMARY

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	Blank Sample ID:	PBLK-31
Matrix:	Water	Method Blank ID:	AQ34669B
Instrument ID:	GC23B	Lab File ID:	GC23B-1392-18
Extraction Type:	1L - Solid Phase Extraction	Date Extracted:	10/31/2013
GC Column (1):	Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm	Date Analyzed:	11/01/2013
		Time Analyzed:	21:09:27

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE / TIME ANALYZED
LCS-31(LAB CONTROL SPIKE)	AQ34669L	GC23B-1392-19	11/01/2013 21:42:09
MW-1	AQ34669	GC23B-1392-20	11/01/2013 22:14:46
MW-1 MS	AQ34669M	GC23B-1392-21	11/01/2013 22:47:23
MW-1 MSD	AQ34669K	GC23B-1392-22	11/01/2013 23:20:00
MW-2	AQ34670	GC23B-1392-23	11/01/2013 23:52:35
MW-3	AQ34671	GC23B-1392-24	11/02/2013 00:25:13
DUP-1	AQ34672	GC23B-1392-25	11/02/2013 00:57:49

SAMPLE ANALYSIS DATA

9

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	LRF ID:	13100744-01
Matrix:	Water	Client ID:	MW-1
Sample wt(Dry)/vol:	1030 mL	Lab Sample ID:	AQ34669
Percent Moisture:	100	Date Received:	10/28/2013
Extraction:	1L - Solid Phase Extraction	Date Extracted:	10/31/2013
Conc. Extract Volume:	NA	Date Analyzed:	11/01/2013
Method:	SW-846 Method 8082A	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm

Injection Volume: 1.0 uL

Lab File ID: GC23F-1379-20

Column 2 Information:

GC Column: Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm

Injection Volume: 1.0 uL

Lab File ID: GC23B-1392-20

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

9

FORM I-CLP-PCB

Print Date: 11/19/2013
Lims Version : 5.0.8.2

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	LRF ID:	13100744-02
Matrix:	Water	Client ID:	MW-2
Sample wt(Dry)/vol:	1000 mL	Lab Sample ID:	AQ34670
Percent Moisture:	100	Date Received:	10/28/2013
Extraction:	1L - Solid Phase Extraction	Date Extracted:	10/31/2013
Conc. Extract Volume:	NA	Date Analyzed:	11/01/2013
Method:	SW-846 Method 8082A	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm

Injection Volume: 1.0 uL

Lab File ID: GC23F-1379-23

Column 2 Information:

GC Column: Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm

Injection Volume: 1.0 uL

Lab File ID: GC23B-1392-23

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

9

FORM I-CLP-PCB

Print Date: 11/19/2013
Lims Version : 5.0.8.2

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	LRF ID:	13100744-03
Matrix:	Water	Client ID:	MW-3
Sample wt(Dry)/vol:	1000 mL	Lab Sample ID:	AQ34671
Percent Moisture:	100	Date Received:	10/28/2013
Extraction:	1L - Solid Phase Extraction	Date Extracted:	10/31/2013
Conc. Extract Volume:	NA	Date Analyzed:	11/02/2013
Method:	SW-846 Method 8082A	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm

Injection Volume: 1.0 uL

Lab File ID: GC23F-1379-24

Column 2 Information:

GC Column: Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm

Injection Volume: 1.0 uL

Lab File ID: GC23B-1392-24

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

9

FORM I-CLP-PCB

Print Date: 11/19/2013
Lims Version : 5.0.8.2

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	LRF ID:	13100744-04
Matrix:	Water	Client ID:	DUP-1
Sample wt(Dry)/vol:	1080 mL	Lab Sample ID:	AQ34672
Percent Moisture:	100	Date Received:	10/28/2013
Extraction:	1L - Solid Phase Extraction	Date Extracted:	10/31/2013
Conc. Extract Volume:	NA	Date Analyzed:	11/02/2013
Method:	SW-846 Method 8082A	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm

Injection Volume: 1.0 uL

Lab File ID: GC23F-1379-25

Column 2 Information:

GC Column: Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm

Injection Volume: 1.0 uL

Lab File ID: GC23B-1392-25

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

9

FORM I-CLP-PCB

Print Date: 11/19/2013
Lims Version : 5.0.8.2

ANALYTICAL SEQUENCE (GC23F)

8-D-1
PCB ANALYTICAL SEQUENCE

Laboratory Name: Pace Analytical Services, Inc. SDG No: 13100744

ELAP ID No: 11078

Instrument ID: GC23F Init. Calib. Date(s): 05/22/13,05/23/13,05/25/13,05/26/13,06/29/13

GC Column (1): Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm

THE ANALYTICAL SEQUENCE OF SAMPLES, QC, AND STANDARDS IS GIVEN BELOW:

SURROGATE RETENTION TIME (RT) FROM INITIAL OR CONTINUING CALIBRATION
TCMX RT: 6.17 DCBP RT: 26.06

	CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE / TIME ANALYZED	TCMX RT # (+/-0.05 min)	DCBP RT # (+/-0.10 min)
01	A1016 5 PPB	052216A	GC23F-1255-40	05/22/2013 15:48:32	6.17	26.07
02	A1016 10 PPB	052216B	GC23F-1255-41	05/22/2013 16:21:10	6.17	26.07
03	A1016 20 PPB	052216C	GC23F-1255-42	05/22/2013 16:53:48	6.17	26.07
04	A1016 50 PPB	052216D	GC23F-1255-43	05/22/2013 17:26:26	6.17	26.07
05	A1016 100 PPB	052216E	GC23F-1255-44	05/22/2013 17:59:04	6.17	26.07
06	A1221 5 PPB	052221A	GC23F-1255-45	05/22/2013 18:31:41	6.17	26.07
07	A1221 10 PPB	052221B	GC23F-1255-46	05/22/2013 19:04:19	6.17	26.07
08	A1221 20 PPB	052221C	GC23F-1255-47	05/22/2013 19:36:57	6.17	26.07
09	A1221 50 PPB	052221D	GC23F-1255-48	05/22/2013 20:09:34	6.17	26.07
10	A1221 100 PPB	052221E	GC23F-1255-49	05/22/2013 20:42:17	6.17	26.07
11	A1232 5 PPB	052232A	GC23F-1255-50	05/22/2013 21:14:54	6.17	26.07
12	A1232 10 PPB	052232B	GC23F-1255-51	05/22/2013 21:47:31	6.17	26.07
13	A1232 20 PPB	052232C	GC23F-1255-52	05/22/2013 22:20:09	6.17	26.07
14	A1232 50 PPB	052232D	GC23F-1255-53	05/22/2013 22:52:48	6.17	26.07
15	A1232 100 PPB	052232E	GC23F-1255-54	05/22/2013 23:25:31	6.17	26.07
16	A1242 5 PPB	052242A	GC23F-1255-55	05/22/2013 23:58:16	6.17	26.07
17	A1242 10 PPB	052242B	GC23F-1255-56	05/23/2013 00:30:53	6.17	26.07
18	A1242 20 PPB	052242C	GC23F-1255-57	05/23/2013 01:03:35	6.17	26.07
19	A1242 50 PPB	052242D	GC23F-1255-58	05/23/2013 01:36:12	6.17	26.07
20	A1242 100 PPB	052242E	GC23F-1255-59	05/23/2013 02:08:50	6.17	26.07
21	A1248 5 PPB	052248A	GC23F-1255-60	05/23/2013 02:41:28	6.17	26.07
22	A1248 10 PPB	052248B	GC23F-1255-61	05/23/2013 03:14:11	6.17	26.07
23	A1248 20 PPB	052248C	GC23F-1255-62	05/23/2013 03:46:54	6.17	26.07
24	A1248 50 PPB	052248D	GC23F-1255-63	05/23/2013 04:19:30	6.17	26.07
25	A1248 100 PPB	052248E	GC23F-1255-64	05/23/2013 04:52:14	6.17	26.07
26	A1260 5 PPB	052560A	GC23F-1255-25	05/25/2013 22:39:57	6.17	26.07
27	A1260 10 PPB	052560B	GC23F-1255-26	05/25/2013 23:12:32	6.17	26.07
28	A1260 20 PPB	052560C	GC23F-1255-27	05/25/2013 23:45:07	6.17	26.07
29	A1260 50 PPB	052560D	GC23F-1255-28	05/26/2013 00:17:43	6.17	26.07
30	A1260 100 PPB	052560E	GC23F-1255-29	05/26/2013 00:50:20	6.17	26.07
31	A1262 5 PPB	052562A	GC23F-1255-30	05/26/2013 01:22:57	6.17	26.07
32	A1262 10 PPB	052562B	GC23F-1255-31	05/26/2013 01:55:33	6.17	26.07
33	A1262 20 PPB	052562C	GC23F-1255-32	05/26/2013 02:28:10	6.17	26.07
34	A1262 50 PPB	052562D	GC23F-1255-33	05/26/2013 03:00:46	6.17	26.07
35	A1262 100 PPB	052562E	GC23F-1255-34	05/26/2013 03:33:23	6.17	26.07
36	A1268 5 PPB	052568A	GC23F-1255-35	05/26/2013 04:05:59	6.17	26.07
37	A1268 10 PPB	052568B	GC23F-1255-36	05/26/2013 04:38:34	6.17	26.07
38	A1268 20 PPB	052568C	GC23F-1255-37	05/26/2013 05:11:09	6.17	26.07

Column used to flag surrogate retention times outside expected range.

FORM VIII-CLP-PCB(PACE)

Print Date: 11/19/2013
Lims Version : 5.0.8.2

8-D-1
PCB ANALYTICAL SEQUENCE

Laboratory Name: Pace Analytical Services, Inc. SDG No: 13100744

ELAP ID No: 11078

Instrument ID: GC23F Init. Calib. Date(s): 05/22/13,05/23/13,05/25/13,05/26/13,06/29/13

GC Column (1): Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm

THE ANALYTICAL SEQUENCE OF SAMPLES, QC, AND STANDARDS IS GIVEN BELOW:

SURROGATE RETENTION TIME (RT) FROM INITIAL OR CONTINUING CALIBRATION
TCMX RT: 6.17 DCBP RT: 26.06

	CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE / TIME ANALYZED	TCMX RT # (+/-0.05 min)	DCBP RT # (+/-0.10 min)
39	A1268 50 PPB	052568D	GC23F-1255-38	05/26/2013 05:43:52	6.17	26.07
40	A1268 100 PPB	052568E	GC23F-1255-39	05/26/2013 06:16:29	6.17	26.07
41	A1254 5 PPB	062954A	GC23F-1255-10	06/29/2013 18:49:18	6.17	25.99
42	A1254 10 PPB	062954B	GC23F-1255-11	06/29/2013 19:21:54	6.17	26.00
43	A1254 20 PPB	062954C	GC23F-1255-12	06/29/2013 19:54:31	6.16	25.98
44	A1254 50 PPB	062954D	GC23F-1255-13	06/29/2013 20:27:09	6.17	25.99
45	A1254 100 PPB	062954E	GC23F-1255-14	06/29/2013 20:59:47	6.16	25.99
46	A1016 50 PPB	CS160629A	GC23F-1255-16	06/29/2013 22:05:00	6.17	25.99
47	A1221 50 PPB	CS210629C	GC23F-1255-17	06/29/2013 22:37:36	6.17	25.99
48	A1232 50 PPB	CS320629B	GC23F-1255-18	06/29/2013 23:10:18	6.17	25.99
49	A1242 50 PPB	CS420629A	GC23F-1255-19	06/29/2013 23:42:53	6.17	25.99
50	A1248 50 PPB	CS480629A	GC23F-1255-20	06/30/2013 00:15:29	6.17	26.00
51	A1254 50 PPB	CS540629A	GC23F-1255-21	06/30/2013 00:48:07	6.17	25.99
52	A1260 50 PPB	CS600629A	GC23F-1255-22	06/30/2013 01:20:49	6.17	26.00
53	A1262 50 PPB	CS620629A	GC23F-1255-23	06/30/2013 01:53:26	6.17	25.99
54	A1268 50 PPB	CS680629A	GC23F-1255-24	06/30/2013 02:26:03	6.17	25.99
55	A1232 50 PPB	CS321101A	GC23F-1379-17	11/01/2013 20:36:40	6.17	26.04
56	PBLK-31(METHOD BLANK)	AQ34669B	GC23F-1379-18	11/01/2013 21:09:23	6.18	26.04
57	LCS-31(LAB CONTROL SPIKE)	AQ34669L	GC23F-1379-19	11/01/2013 21:42:05	6.17	26.03
58	MW-1	AQ34669	GC23F-1379-20	11/01/2013 22:14:42	6.17	26.03
59	MW-1 MS	AQ34669M	GC23F-1379-21	11/01/2013 22:47:19	6.18	26.03
60	MW-1 MSD	AQ34669K	GC23F-1379-22	11/01/2013 23:19:56	6.17	26.03
61	MW-2	AQ34670	GC23F-1379-23	11/01/2013 23:52:31	6.17	26.03
62	MW-3	AQ34671	GC23F-1379-24	11/02/2013 00:25:09	6.17	26.03
63	DUP-1	AQ34672	GC23F-1379-25	11/02/2013 00:57:45	6.17	26.03
64	A1242 50 PPB	CS421101A	GC23F-1379-26	11/02/2013 01:30:21	6.17	26.03

10

Column used to flag surrogate retention times outside expected range.

FORM VIII-CLP-PCB(PACE)

Print Date: 11/19/2013
Lims Version : 5.0.8.2

INITIAL CALIBRATION DATA (GC23F)

6F-1
PCB INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Laboratory Name: Pace Analytical Services, Inc.
SDG NO: 13100744
ELAP ID No: 11078
Date(s) Analyzed: 05/22/13,05/23/13,05/25/13,05/26/13,06/29/13
Instrument ID: GC23F
GC Column: Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm

COMPOUND	LAB FILE ID	LAB SAMPLE ID	AMOUNT (ppb)	TOTAL[1] RF	MEAN RF	% RSD
Aroclor 1016	GC23F-1255-40	052216A	5.00	176.800		
	GC23F-1255-41	052216B	10.0	168.912		
	GC23F-1255-42	052216C	20.0	166.705		
	GC23F-1255-43	052216D	50.0	157.829		
	GC23F-1255-44	052216E	100	156.322	165.314	5.1
Aroclor 1221	GC23F-1255-45	052221A	5.00	48.726		
	GC23F-1255-46	052221B	10.0	47.250		
	GC23F-1255-47	052221C	20.0	47.637		
	GC23F-1255-48	052221D	50.0	44.995		
	GC23F-1255-49	052221E	100	42.840	46.290	5.1
Aroclor 1232	GC23F-1255-50	052232A	5.00	75.734		
	GC23F-1255-51	052232B	10.0	77.164		
	GC23F-1255-52	052232C	20.0	74.533		
	GC23F-1255-53	052232D	50.0	72.343		
	GC23F-1255-54	052232E	100	69.885	73.932	3.9
Aroclor 1242	GC23F-1255-55	052242A	5.00	149.206		
	GC23F-1255-56	052242B	10.0	132.957		
	GC23F-1255-57	052242C	20.0	131.628		
	GC23F-1255-58	052242D	50.0	128.398		
	GC23F-1255-59	052242E	100	121.975	132.833	7.6
Aroclor 1248	GC23F-1255-60	052248A	5.00	142.983		
	GC23F-1255-61	052248B	10.0	144.414		
	GC23F-1255-62	052248C	20.0	131.223		
	GC23F-1255-63	052248D	50.0	128.786		
	GC23F-1255-64	052248E	100	124.478	134.377	6.6
Aroclor 1254	GC23F-1255-10	062954A	5.00	231.226		
	GC23F-1255-11	062954B	10.0	221.513		
	GC23F-1255-12	062954C	20.0	229.685		
	GC23F-1255-13	062954D	50.0	208.963		
	GC23F-1255-14	062954E	100	223.699	223.017	4.0
Aroclor 1260	GC23F-1255-25	052560A	5.00	258.176		
	GC23F-1255-26	052560B	10.0	241.535		
	GC23F-1255-27	052560C	20.0	247.407		
	GC23F-1255-28	052560D	50.0	246.218		
	GC23F-1255-29	052560E	100	252.020	249.071	2.5
Aroclor 1262	GC23F-1255-30	052562A	5.00	265.998		
	GC23F-1255-31	052562B	10.0	253.863		
	GC23F-1255-32	052562C	20.0	260.795		
	GC23F-1255-33	052562D	50.0	247.150		
	GC23F-1255-34	052562E	100	267.861	259.133	3.3

FORM VI-CLP-PCB(PACE)

Print Date: 11/19/2013
Lims Version : 5.0.8.2

6F-1
PCB INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Laboratory Name: Pace Analytical Services, Inc.
SDG NO: 13100744
ELAP ID No: 11078
Date(s) Analyzed: 05/22/13,05/23/13,05/25/13,05/26/13,06/29/13
Instrument ID: GC23F
GC Column: Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm

COMPOUND	LAB FILE ID	LAB SAMPLE ID	AMOUNT (ppb)	TOTAL[1] RF	MEAN RF	% RSD
Aroclor 1268	GC23F-1255-35	052568A	5.00	466.103		
	GC23F-1255-36	052568B	10.0	454.824		
	GC23F-1255-37	052568C	20.0	442.817		
	GC23F-1255-38	052568D	50.0	435.747		
	GC23F-1255-39	052568E	100	426.902	445.279	3.5
TCMX	GC23F-1255-10	062954A	1.00	975.776		
	GC23F-1255-11	062954B	2.50	897.245		
	GC23F-1255-12	062954C	4.00	877.629		
	GC23F-1255-13	062954D	5.00	843.775		
	GC23F-1255-14	062954E	8.00	836.712	886.227	6.3
DCBP	GC23F-1255-10	062954A	10.0	895.486		
	GC23F-1255-11	062954B	25.0	783.776		
	GC23F-1255-12	062954C	40.0	758.571		
	GC23F-1255-13	062954D	50.0	727.022		
	GC23F-1255-14	062954E	80.0	705.128	773.997	9.6

% RSD Limit <= 20%
TCMX=TETRACHLOROMETAXYLENE
DCBP=DECACHLOROBIPHENYL

[1] Response factor calculated using total area of 5 peaks used to quantitate each Aroclor. Mean response factor not used in Aroclor quantitation, calibration curve by linear regression used for quantitation. Concentrations are nominal values, please see Calibration Curve Report Point Table for actual values.

11

INITIAL/CONTINUING CALIBRATION DATA (GC23F)

12

7E-1
PCB CALIBRATION VERIFICATION SUMMARY

Laboratory Name: Pace Analytical Services, Inc. SDG NO: 13100744

ELAP ID No: 11078

Instrument ID: GC23F

GC Column: Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm

COMPOUND	LAB FILE ID	LAB SAMPLE ID	CALIB TYPE	CALC AMOUNT (ng/mL)	NOM AMOUNT (ng/mL)	PERCENT DIFFERENCE	Q	DATE / TIME ANALYZED
Aroclor 1016	GC23F-1255-16	CS160629A	ICV	53.8	50	7.61		06/29/2013 22:05:00
Aroclor 1221	GC23F-1255-17	CS210629C	ICV	53.1	50	6.19		06/29/2013 22:37:36
Aroclor 1232	GC23F-1255-18	CS320629B	ICV	56.0	50	11.9		06/29/2013 23:10:18
Aroclor 1242	GC23F-1255-19	CS420629A	ICV	51.1	50	2.18		06/29/2013 23:42:53
Aroclor 1248	GC23F-1255-20	CS480629A	ICV	57.4	50	14.7		06/30/2013 00:15:29
Aroclor 1254	GC23F-1255-21	CS540629A	ICV	48.7	50	-2.57		06/30/2013 00:48:07
Aroclor 1260	GC23F-1255-22	CS600629A	ICV	48.0	50	-4.04		06/30/2013 01:20:49
Aroclor 1262	GC23F-1255-23	CS620629A	ICV	52.3	50	4.58		06/30/2013 01:53:26
Aroclor 1268	GC23F-1255-24	CS680629A	ICV	51.6	50	3.14		06/30/2013 02:26:03
Aroclor 1232	GC23F-1379-17	CS321101A	CCV	59.7	50	19.3		11/01/2013 20:36:40
Aroclor 1242	GC23F-1379-26	CS421101A	CCV	55.1	50	10.1		11/02/2013 01:30:21

% Difference must be less than or equal to +/- 20.0 percent.

ICV = Initial Calibration Verification

CCV = Continuing Calibration Verification

12

7E-2
PCB CALIBRATION VERIFICATION SUMMARY

Laboratory Name: Pace Analytical Services, Inc.
SGD NO: 13100744
ELAP ID No: 11078
Instrument ID: GC23F
GC Column: Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm

COMPOUND	LAB FILE ID	LAB SAMPLE ID	CALIB* TYPE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO
Aroclor 1016	GC23F-1255-16	CS160629A	ICV	1	7.79	7.71	7.87
		CS160629A	ICV	2	8.18	8.10	8.26
		CS160629A	ICV	3	8.81	8.73	8.89
		CS160629A	ICV	4	9.03	8.95	9.11
		CS160629A	ICV	5	9.17	9.09	9.25
Aroclor 1221	GC23F-1255-17	CS210629C	ICV	1	4.75	4.67	4.83
		CS210629C	ICV	2	6.01	5.93	6.09
		CS210629C	ICV	3	6.57	6.49	6.65
		CS210629C	ICV	4	6.77	6.69	6.85
		CS210629C	ICV	5	6.89	6.81	6.97
Aroclor 1232	GC23F-1255-18	CS320629B	ICV	1	6.89	6.81	6.97
		CS320629B	ICV	2	8.18	8.10	8.26
		CS320629B	ICV	3	8.81	8.73	8.89
		CS320629B	ICV	4	9.03	8.95	9.11
		CS320629B	ICV	5	9.17	9.09	9.25
Aroclor 1242	GC23F-1255-19	CS420629A	ICV	1	7.79	7.71	7.87
		CS420629A	ICV	2	8.18	8.10	8.26
		CS420629A	ICV	3	8.81	8.73	8.89
		CS420629A	ICV	4	9.03	8.95	9.11
		CS420629A	ICV	5	9.17	9.09	9.25
Aroclor 1248	GC23F-1255-20	CS480629A	ICV	1	9.75	9.67	9.83
		CS480629A	ICV	2	10.42	10.34	10.50
		CS480629A	ICV	3	11.06	10.98	11.14
		CS480629A	ICV	4	11.23	11.15	11.31
		CS480629A	ICV	5	11.64	11.56	11.72
Aroclor 1254	GC23F-1255-21	CS540629A	ICV	1	11.95	11.87	12.03
		CS540629A	ICV	2	12.62	12.54	12.70
		CS540629A	ICV	3	12.90	12.82	12.98
		CS540629A	ICV	4	14.39	14.31	14.47
		CS540629A	ICV	5	15.21	15.13	15.29
Aroclor 1260	GC23F-1255-22	CS600629A	ICV	1	15.21	15.13	15.29
		CS600629A	ICV	2	17.46	17.38	17.54
		CS600629A	ICV	3	18.38	18.30	18.46
		CS600629A	ICV	4	19.16	19.08	19.24
		CS600629A	ICV	5	21.41	21.33	21.49
Aroclor 1262	GC23F-1255-23	CS620629A	ICV	1	15.20	15.12	15.28
		CS620629A	ICV	2	17.45	17.37	17.53
		CS620629A	ICV	3	18.37	18.29	18.45

12

FORM VII-CLP-PCB(PACE)

Print Date: 11/19/2013
Lims Version : 5.0.8.2

7E-2
PCB CALIBRATION VERIFICATION SUMMARY

Laboratory Name: Pace Analytical Services, Inc.
SGD NO: 13100744
ELAP ID No: 11078
Instrument ID: GC23F
GC Column: Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm

COMPOUND	LAB FILE ID	LAB SAMPLE ID	CALIB TYPE*	PEAK	RT	RT WINDOW FROM	RT WINDOW TO
Aroclor 1262		CS620629A	ICV	4	19.15	19.07	19.23
		CS620629A	ICV	5	21.40	21.32	21.48
Aroclor 1268	GC23F-1255-24	CS680629A	ICV	1	19.16	19.08	19.24
		CS680629A	ICV	2	21.41	21.33	21.49
		CS680629A	ICV	3	18.93	18.85	19.01
		CS680629A	ICV	4	20.49	20.41	20.57
		CS680629A	ICV	5	20.87	20.79	20.95

* ICV = Initial Calibration Verification
CCV = Continuing Calibration Verification

12

7E-2
PCB CALIBRATION VERIFICATION SUMMARY

Laboratory Name: Pace Analytical Services, Inc.
SGD NO: 13100744
ELAP ID No: 11078
Instrument ID: GC23F
GC Column: Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm

COMPOUND	LAB FILE ID	LAB SAMPLE ID	CALIB TYPE*	PEAK	RT	RT WINDOW FROM	RT WINDOW TO
Aroclor 1232	GC23F-1379-17	CS321101A	CCV	1	6.89	6.81	6.97
		CS321101A	CCV	2	8.18	8.10	8.26
		CS321101A	CCV	3	8.82	8.73	8.89
		CS321101A	CCV	4	9.03	8.95	9.11
		CS321101A	CCV	5	9.18	9.09	9.25
Aroclor 1242	GC23F-1379-26	CS421101A	CCV	1	7.80	7.71	7.87
		CS421101A	CCV	2	8.18	8.10	8.26
		CS421101A	CCV	3	8.82	8.73	8.89
		CS421101A	CCV	4	9.04	8.95	9.11
		CS421101A	CCV	5	9.18	9.09	9.25

* ICV = Initial Calibration Verification
CCV = Continuing Calibration Verification

12

ANALYTICAL SEQUENCE (GC23B)

8-D-1
PCB ANALYTICAL SEQUENCE

Laboratory Name: Pace Analytical Services, Inc. SDG No: 13100744

ELAP ID No: 11078

Instrument ID: GC23B Init. Calib. Date(s): 05/22/13,05/23/13,05/25/13,05/26/13,06/29/13

GC Column (1): Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm

THE ANALYTICAL SEQUENCE OF SAMPLES, QC, AND STANDARDS IS GIVEN BELOW:

SURROGATE RETENTION TIME (RT) FROM INITIAL OR CONTINUING CALIBRATION
TCMX RT: 6.54 DCBP RT: 27.46

	CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE / TIME ANALYZED	TCMX RT # (+/-0.05 min)	DCBP RT # (+/-0.10 min)
01	A1016 5 PPB	052216A	GC23B-1268-40	05/22/2013 15:48:36	6.54	27.47
02	A1016 10 PPB	052216B	GC23B-1268-41	05/22/2013 16:21:15	6.54	27.47
03	A1016 20 PPB	052216C	GC23B-1268-42	05/22/2013 16:53:52	6.54	27.47
04	A1016 50 PPB	052216D	GC23B-1268-43	05/22/2013 17:26:30	6.54	27.47
05	A1016 100 PPB	052216E	GC23B-1268-44	05/22/2013 17:59:08	6.54	27.47
06	A1221 5 PPB	052221A	GC23B-1268-45	05/22/2013 18:31:46	6.54	27.47
07	A1221 10 PPB	052221B	GC23B-1268-46	05/22/2013 19:04:22	6.54	27.47
08	A1221 20 PPB	052221C	GC23B-1268-47	05/22/2013 19:37:00	6.54	27.47
09	A1221 50 PPB	052221D	GC23B-1268-48	05/22/2013 20:09:37	6.54	27.47
10	A1221 100 PPB	052221E	GC23B-1268-49	05/22/2013 20:42:21	6.54	27.47
11	A1232 5 PPB	052232A	GC23B-1268-50	05/22/2013 21:14:57	6.54	27.47
12	A1232 10 PPB	052232B	GC23B-1268-51	05/22/2013 21:47:36	6.54	27.47
13	A1232 20 PPB	052232C	GC23B-1268-52	05/22/2013 22:20:13	6.54	27.47
14	A1232 50 PPB	052232D	GC23B-1268-53	05/22/2013 22:52:52	6.54	27.47
15	A1232 100 PPB	052232E	GC23B-1268-54	05/22/2013 23:25:36	6.54	27.47
16	A1242 5 PPB	052242A	GC23B-1268-55	05/22/2013 23:58:20	6.54	27.47
17	A1242 10 PPB	052242B	GC23B-1268-56	05/23/2013 00:30:57	6.54	27.47
18	A1242 20 PPB	052242C	GC23B-1268-57	05/23/2013 01:03:40	6.54	27.47
19	A1242 50 PPB	052242D	GC23B-1268-58	05/23/2013 01:36:17	6.54	27.47
20	A1242 100 PPB	052242E	GC23B-1268-59	05/23/2013 02:08:54	6.54	27.47
21	A1248 5 PPB	052248A	GC23B-1268-60	05/23/2013 02:41:32	6.54	27.47
22	A1248 10 PPB	052248B	GC23B-1268-61	05/23/2013 03:14:15	6.54	27.47
23	A1248 20 PPB	052248C	GC23B-1268-62	05/23/2013 03:46:59	6.54	27.47
24	A1248 50 PPB	052248D	GC23B-1268-63	05/23/2013 04:19:35	6.54	27.47
25	A1248 100 PPB	052248E	GC23B-1268-64	05/23/2013 04:52:18	6.54	27.47
26	A1260 5 PPB	052560A	GC23B-1268-25	05/25/2013 22:40:01	6.54	27.47
27	A1260 10 PPB	052560B	GC23B-1268-26	05/25/2013 23:12:36	6.54	27.47
28	A1260 20 PPB	052560C	GC23B-1268-27	05/25/2013 23:45:12	6.54	27.47
29	A1260 50 PPB	052560D	GC23B-1268-28	05/26/2013 00:17:46	6.54	27.47
30	A1260 100 PPB	052560E	GC23B-1268-29	05/26/2013 00:50:23	6.54	27.47
31	A1262 5 PPB	052562A	GC23B-1268-30	05/26/2013 01:23:00	6.54	27.47
32	A1262 10 PPB	052562B	GC23B-1268-31	05/26/2013 01:55:36	6.54	27.47
33	A1262 20 PPB	052562C	GC23B-1268-32	05/26/2013 02:28:14	6.54	27.47
34	A1262 50 PPB	052562D	GC23B-1268-33	05/26/2013 03:00:50	6.54	27.47
35	A1262 100 PPB	052562E	GC23B-1268-34	05/26/2013 03:33:26	6.54	27.47
36	A1268 5 PPB	052568A	GC23B-1268-35	05/26/2013 04:06:02	6.54	27.47
37	A1268 10 PPB	052568B	GC23B-1268-36	05/26/2013 04:38:38	6.54	27.47
38	A1268 20 PPB	052568C	GC23B-1268-37	05/26/2013 05:11:14	6.54	27.47

Column used to flag surrogate retention times outside expected range.

FORM VIII-CLP-PCB(PACE)

Print Date: 11/19/2013
Lims Version : 5.0.8.2

8-D-1
PCB ANALYTICAL SEQUENCE

Laboratory Name: Pace Analytical Services, Inc. SDG No: 13100744

ELAP ID No: 11078

Instrument ID: GC23B Init. Calib. Date(s): 05/22/13,05/23/13,05/25/13,05/26/13,06/29/13

GC Column (1): Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm

THE ANALYTICAL SEQUENCE OF SAMPLES, QC, AND STANDARDS IS GIVEN BELOW:

SURROGATE RETENTION TIME (RT) FROM INITIAL OR CONTINUING CALIBRATION
TCMX RT: 6.54 DCBP RT: 27.46

	CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE / TIME ANALYZED	TCMX RT # (+/-0.05 min)	DCBP RT # (+/-0.10 min)
39	A1268 50 PPB	052568D	GC23B-1268-38	05/26/2013 05:43:56	6.54	27.47
40	A1268 100 PPB	052568E	GC23B-1268-39	05/26/2013 06:16:34	6.54	27.47
41	A1254 5 PPB	062954A	GC23B-1268-10	06/29/2013 18:49:23	6.53	27.39
42	A1254 10 PPB	062954B	GC23B-1268-11	06/29/2013 19:21:59	6.54	27.40
43	A1254 20 PPB	062954C	GC23B-1268-12	06/29/2013 19:54:35	6.53	27.40
44	A1254 50 PPB	062954D	GC23B-1268-13	06/29/2013 20:27:13	6.54	27.40
45	A1254 100 PPB	062954E	GC23B-1268-14	06/29/2013 20:59:51	6.53	27.39
46	A1016 50 PPB	CS160629A	GC23B-1268-16	06/29/2013 22:05:04	6.54	27.40
47	A1221 50 PPB	CS210629C	GC23B-1268-17	06/29/2013 22:37:40	6.53	27.40
48	A1232 50 PPB	CS320629B	GC23B-1268-18	06/29/2013 23:10:21	6.53	27.40
49	A1242 50 PPB	CS420629A	GC23B-1268-19	06/29/2013 23:42:56	6.53	27.40
50	A1248 50 PPB	CS480629A	GC23B-1268-20	06/30/2013 00:15:33	6.53	27.40
51	A1254 50 PPB	CS540629A	GC23B-1268-21	06/30/2013 00:48:11	6.54	27.41
52	A1260 50 PPB	CS600629A	GC23B-1268-22	06/30/2013 01:20:53	6.54	27.41
53	A1262 50 PPB	CS620629A	GC23B-1268-23	06/30/2013 01:53:30	6.53	27.40
54	A1268 50 PPB	CS680629A	GC23B-1268-24	06/30/2013 02:26:07	6.54	27.40
55	A1232 50 PPB	CS321101A	GC23B-1392-17	11/01/2013 20:36:44	6.53	27.42
56	PBLK-31(METHOD BLANK)	AQ34669B	GC23B-1392-18	11/01/2013 21:09:27	6.54	27.43
57	LCS-31(LAB CONTROL SPIKE)	AQ34669L	GC23B-1392-19	11/01/2013 21:42:09	6.54	27.42
58	MW-1	AQ34669	GC23B-1392-20	11/01/2013 22:14:46	6.54	27.42
59	MW-1 MS	AQ34669M	GC23B-1392-21	11/01/2013 22:47:23	6.54	27.42
60	MW-1 MSD	AQ34669K	GC23B-1392-22	11/01/2013 23:20:00	6.54	27.42
61	MW-2	AQ34670	GC23B-1392-23	11/01/2013 23:52:35	6.53	27.43
62	MW-3	AQ34671	GC23B-1392-24	11/02/2013 00:25:13	6.53	27.42
63	DUP-1	AQ34672	GC23B-1392-25	11/02/2013 00:57:49	6.54	27.42
64	A1242 50 PPB	CS421101A	GC23B-1392-26	11/02/2013 01:30:25	6.54	27.43

13

Column used to flag surrogate retention times outside expected range.

FORM VIII-CLP-PCB(PACE)

Print Date: 11/19/2013
Lims Version : 5.0.8.2

INITIAL CALIBRATION DATA (GC23B)

14

6F-1
PCB INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Laboratory Name: Pace Analytical Services, Inc.
SDG NO: 13100744
ELAP ID No: 11078
Date(s) Analyzed: 05/22/13,05/23/13,05/25/13,05/26/13,06/29/13
Instrument ID: GC23B
GC Column: Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm

COMPOUND	LAB FILE ID	LAB SAMPLE ID	AMOUNT (ppb)	TOTAL[1] RF	MEAN RF	% RSD
Aroclor 1016	GC23B-1268-40	052216A	5.00	175.469		
	GC23B-1268-41	052216B	10.0	176.499		
	GC23B-1268-42	052216C	20.0	178.575		
	GC23B-1268-43	052216D	50.0	169.821		
	GC23B-1268-44	052216E	100	163.409	172.755	3.6
Aroclor 1221	GC23B-1268-45	052221A	5.00	50.509		
	GC23B-1268-46	052221B	10.0	49.844		
	GC23B-1268-47	052221C	20.0	51.815		
	GC23B-1268-48	052221D	50.0	48.084		
	GC23B-1268-49	052221E	100	46.289	49.308	4.4
Aroclor 1232	GC23B-1268-50	052232A	5.00	88.223		
	GC23B-1268-51	052232B	10.0	95.270		
	GC23B-1268-52	052232C	20.0	83.133		
	GC23B-1268-53	052232D	50.0	80.194		
	GC23B-1268-54	052232E	100	76.774	84.719	8.5
Aroclor 1242	GC23B-1268-55	052242A	5.00	148.714		
	GC23B-1268-56	052242B	10.0	152.146		
	GC23B-1268-57	052242C	20.0	154.971		
	GC23B-1268-58	052242D	50.0	141.333		
	GC23B-1268-59	052242E	100	136.090	146.651	5.3
Aroclor 1248	GC23B-1268-60	052248A	5.00	143.323		
	GC23B-1268-61	052248B	10.0	156.336		
	GC23B-1268-62	052248C	20.0	148.253		
	GC23B-1268-63	052248D	50.0	146.814		
	GC23B-1268-64	052248E	100	141.729	147.291	3.9
Aroclor 1254	GC23B-1268-10	062954A	5.00	230.909		
	GC23B-1268-11	062954B	10.0	221.522		
	GC23B-1268-12	062954C	20.0	233.672		
	GC23B-1268-13	062954D	50.0	215.022		
	GC23B-1268-14	062954E	100	224.935	225.212	3.3
Aroclor 1260	GC23B-1268-25	052560A	5.00	240.109		
	GC23B-1268-26	052560B	10.0	263.512		
	GC23B-1268-27	052560C	20.0	259.440		
	GC23B-1268-28	052560D	50.0	255.311		
	GC23B-1268-29	052560E	100	262.091	256.093	3.7
Aroclor 1262	GC23B-1268-30	052562A	5.00	280.048		
	GC23B-1268-31	052562B	10.0	267.159		
	GC23B-1268-32	052562C	20.0	274.877		
	GC23B-1268-33	052562D	50.0	255.984		
	GC23B-1268-34	052562E	100	279.669	271.547	3.7

FORM VI-CLP-PCB(PACE)

Print Date: 11/19/2013
Lims Version : 5.0.8.2

6F-1
PCB INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Laboratory Name: Pace Analytical Services, Inc.
SDG NO: 13100744
ELAP ID No: 11078
Date(s) Analyzed: 05/22/13,05/23/13,05/25/13,05/26/13,06/29/13
Instrument ID: GC23B
GC Column: Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm

COMPOUND	LAB FILE ID	LAB SAMPLE ID	AMOUNT (ppb)	TOTAL[1] RF	MEAN RF	% RSD
Aroclor 1268	GC23B-1268-35	052568A	5.00	462.060		
	GC23B-1268-36	052568B	10.0	457.553		
	GC23B-1268-37	052568C	20.0	446.707		
	GC23B-1268-38	052568D	50.0	439.282		
	GC23B-1268-39	052568E	100	434.306	447.981	2.6
TCMX	GC23B-1268-10	062954A	1.00	1061.123		
	GC23B-1268-11	062954B	2.50	977.478		
	GC23B-1268-12	062954C	4.00	953.261		
	GC23B-1268-13	062954D	5.00	922.092		
	GC23B-1268-14	062954E	8.00	907.559	964.303	6.3
DCBP	GC23B-1268-10	062954A	10.0	1043.359		
	GC23B-1268-11	062954B	25.0	933.855		
	GC23B-1268-12	062954C	40.0	901.345		
	GC23B-1268-13	062954D	50.0	863.698		
	GC23B-1268-14	062954E	80.0	831.411	914.734	8.9

% RSD Limit <= 20%
TCMX=TETRACHLOROMETAXYLENE
DCBP=DECACHLOROBIPHENYL

[1] Response factor calculated using total area of 5 peaks used to quantitate each Aroclor. Mean response factor not used in Aroclor quantitation, calibration curve by linear regression used for quantitation. Concentrations are nominal values, please see Calibration Curve Report Point Table for actual values.

INITIAL/CONTINUING CALIBRATION DATA (GC23B)

15

7E-1
PCB CALIBRATION VERIFICATION SUMMARY

Laboratory Name: Pace Analytical Services, Inc. SDG NO: 13100744

ELAP ID No: 11078

Instrument ID: GC23B

GC Column: Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm

COMPOUND	LAB FILE ID	LAB SAMPLE ID	CALIB TYPE	CALC AMOUNT (ng/mL)	NOM AMOUNT (ng/mL)	PERCENT DIFFERENCE	Q	DATE / TIME ANALYZED
Aroclor 1016	GC23B-1268-16	CS160629A	ICV	55.5	50	10.9		06/29/2013 22:05:04
Aroclor 1221	GC23B-1268-17	CS210629C	ICV	51.5	50	3.07		06/29/2013 22:37:40
Aroclor 1232	GC23B-1268-18	CS320629B	ICV	55.5	50	11.0		06/29/2013 23:10:21
Aroclor 1242	GC23B-1268-19	CS420629A	ICV	49.8	50	-0.415		06/29/2013 23:42:56
Aroclor 1248	GC23B-1268-20	CS480629A	ICV	53.7	50	7.45		06/30/2013 00:15:33
Aroclor 1254	GC23B-1268-21	CS540629A	ICV	49.8	50	-0.498		06/30/2013 00:48:11
Aroclor 1260	GC23B-1268-22	CS600629A	ICV	49.7	50	-0.613		06/30/2013 01:20:53
Aroclor 1262	GC23B-1268-23	CS620629A	ICV	54.1	50	8.13		06/30/2013 01:53:30
Aroclor 1268	GC23B-1268-24	CS680629A	ICV	52.3	50	4.62		06/30/2013 02:26:07
Aroclor 1232	GC23B-1392-17	CS321101A	CCV	54.6	50	9.19		11/01/2013 20:36:44
Aroclor 1242	GC23B-1392-26	CS421101A	CCV	49.4	50	-1.20		11/02/2013 01:30:25

% Difference must be less than or equal to +/- 20.0 percent.

ICV = Initial Calibration Verification

CCV = Continuing Calibration Verification

15

7E-2
PCB CALIBRATION VERIFICATION SUMMARY

Laboratory Name: Pace Analytical Services, Inc.
SGD NO: 13100744
ELAP ID No: 11078
Instrument ID: GC23B
GC Column: Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm

COMPOUND	LAB FILE ID	LAB SAMPLE ID	CALIB* TYPE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO
Aroclor 1016	GC23B-1268-16	CS160629A	ICV	1	8.16	8.08	8.24
		CS160629A	ICV	2	8.57	8.49	8.65
		CS160629A	ICV	3	9.17	9.09	9.25
		CS160629A	ICV	4	9.40	9.32	9.48
		CS160629A	ICV	5	9.58	9.50	9.66
Aroclor 1221	GC23B-1268-17	CS210629C	ICV	1	5.34	5.26	5.42
		CS210629C	ICV	2	6.48	6.40	6.56
		CS210629C	ICV	3	6.97	6.89	7.05
		CS210629C	ICV	4	7.18	7.10	7.26
		CS210629C	ICV	5	7.30	7.22	7.38
Aroclor 1232	GC23B-1268-18	CS320629B	ICV	1	7.30	7.22	7.38
		CS320629B	ICV	2	8.56	8.48	8.64
		CS320629B	ICV	3	9.17	9.09	9.25
		CS320629B	ICV	4	9.40	9.32	9.48
		CS320629B	ICV	5	9.58	9.50	9.66
Aroclor 1242	GC23B-1268-19	CS420629A	ICV	1	8.15	8.07	8.23
		CS420629A	ICV	2	8.57	8.49	8.65
		CS420629A	ICV	3	9.18	9.10	9.26
		CS420629A	ICV	4	9.40	9.32	9.48
		CS420629A	ICV	5	9.58	9.50	9.66
Aroclor 1248	GC23B-1268-20	CS480629A	ICV	1	10.10	10.02	10.18
		CS480629A	ICV	2	10.84	10.76	10.92
		CS480629A	ICV	3	11.45	11.37	11.53
		CS480629A	ICV	4	11.65	11.57	11.73
		CS480629A	ICV	5	12.12	12.04	12.20
Aroclor 1254	GC23B-1268-21	CS540629A	ICV	1	12.31	12.23	12.39
		CS540629A	ICV	2	13.08	13.00	13.16
		CS540629A	ICV	3	13.38	13.30	13.46
		CS540629A	ICV	4	14.85	14.77	14.93
		CS540629A	ICV	5	15.72	15.64	15.80
Aroclor 1260	GC23B-1268-22	CS600629A	ICV	1	15.72	15.64	15.80
		CS600629A	ICV	2	17.99	17.91	18.07
		CS600629A	ICV	3	19.17	19.09	19.25
		CS600629A	ICV	4	19.82	19.74	19.90
		CS600629A	ICV	5	22.45	22.37	22.53
Aroclor 1262	GC23B-1268-23	CS620629A	ICV	1	15.71	15.63	15.79
		CS620629A	ICV	2	17.98	17.90	18.06
		CS620629A	ICV	3	19.17	19.09	19.25

FORM VII-CLP-PCB(PACE)

Print Date: 11/19/2013
Lims Version : 5.0.8.2

7E-2
PCB CALIBRATION VERIFICATION SUMMARY

Laboratory Name: Pace Analytical Services, Inc.
SGD NO: 13100744
ELAP ID No: 11078
Instrument ID: GC23B
GC Column: Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm

COMPOUND	LAB FILE ID	LAB SAMPLE ID	CALIB TYPE*	PEAK	RT	RT WINDOW FROM	RT WINDOW TO
Aroclor 1262		CS620629A	ICV	4	19.81	19.73	19.89
		CS620629A	ICV	5	22.44	22.36	22.52
Aroclor 1268	GC23B-1268-24	CS680629A	ICV	1	19.81	19.73	19.89
		CS680629A	ICV	2	22.45	22.37	22.53
		CS680629A	ICV	3	19.57	19.49	19.65
		CS680629A	ICV	4	21.24	21.16	21.32
		CS680629A	ICV	5	21.68	21.60	21.76

* ICV = Initial Calibration Verification
CCV = Continuing Calibration Verification

15

7E-2
PCB CALIBRATION VERIFICATION SUMMARY

Laboratory Name: Pace Analytical Services, Inc.
SGD NO: 13100744
ELAP ID No: 11078
Instrument ID: GC23B
GC Column: Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm

COMPOUND	LAB FILE ID	LAB SAMPLE ID	CALIB TYPE*	PEAK	RT	RT WINDOW FROM	RT WINDOW TO
Aroclor 1232	GC23B-1392-17	CS321101A	CCV	1	7.30	7.22	7.38
		CS321101A	CCV	2	8.57	8.48	8.64
		CS321101A	CCV	3	9.18	9.09	9.25
		CS321101A	CCV	4	9.40	9.32	9.48
		CS321101A	CCV	5	9.58	9.50	9.66
Aroclor 1242	GC23B-1392-26	CS421101A	CCV	1	8.16	8.07	8.23
		CS421101A	CCV	2	8.57	8.49	8.65
		CS421101A	CCV	3	9.18	9.10	9.26
		CS421101A	CCV	4	9.41	9.32	9.48
		CS421101A	CCV	5	9.59	9.50	9.66

* ICV = Initial Calibration Verification
CCV = Continuing Calibration Verification

15

QC SAMPLE RAW DATA

16

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	LRF ID:	PBLK-31
Matrix:	Water	Client ID:	METHOD BLANK
Sample wt(Dry)/vol:	1000 mL	Lab Sample ID:	AQ34669B
Percent Moisture:	100	Lab File ID:	GC23F-1379-18
Extraction:	1L - Solid Phase Extraction	Date Received:	NA
Conc. Extract Volume:	NA	Date Extracted:	10/31/2013
Injection Volume:	1.0 uL	Date Analyzed:	11/01/2013
Method:	SW-846 Method 8082A	Dilution Factor:	1
GC Column:	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm	Sulfur Cleanup:	YES

CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
12674-11-2	Aroclor 1016	0.0500	U
11104-28-2	Aroclor 1221	0.0500	U
11141-16-5	Aroclor 1232	0.0500	U
53469-21-9	Aroclor 1242	0.0500	U
12672-29-6	Aroclor 1248	0.0500	U
11097-69-1	Aroclor 1254	0.0500	U
11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

16

FORM I-CLP-PCB

Print Date: 11/19/2013
Lims Version : 5.0.8.2

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	LRF ID:	PBLK-31
Matrix:	Water	Client ID:	METHOD BLANK
Sample wt(Dry)/vol:	1000 mL	Lab Sample ID:	AQ34669B
Percent Moisture:	100	Lab File ID:	GC23B-1392-18
Extraction:	1L - Solid Phase Extraction	Date Received:	NA
Conc. Extract Volume:	NA	Date Extracted:	10/31/2013
Injection Volume:	1.0 uL	Date Analyzed:	11/01/2013
Method:	SW-846 Method 8082A	Dilution Factor:	1
GC Column:	Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm	Sulfur Cleanup:	YES

CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
12674-11-2	Aroclor 1016	0.0500	U
11104-28-2	Aroclor 1221	0.0500	U
11141-16-5	Aroclor 1232	0.0500	U
53469-21-9	Aroclor 1242	0.0500	U
12672-29-6	Aroclor 1248	0.0500	U
11097-69-1	Aroclor 1254	0.0500	U
11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

16

FORM I-CLP-PCB

Print Date: 11/19/2013
Lims Version : 5.0.8.2

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	LRF ID:	LCS-31
Matrix:	Water	Client ID:	LAB CONTROL SPIKE
Sample wt(Dry)/vol:	1000 mL	Lab Sample ID:	AQ34669L
Percent Moisture:	100	Lab File ID:	GC23F-1379-19
Extraction:	1L - Solid Phase Extraction	Date Received:	NA
Conc. Extract Volume:	NA	Date Extracted:	10/31/2013
Injection Volume:	1.0 uL	Date Analyzed:	11/01/2013
Method:	SW-846 Method 8082A	Dilution Factor:	1
GC Column:	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm	Sulfur Cleanup:	YES

CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
12674-11-2	Aroclor 1016	0.0500	U
11104-28-2	Aroclor 1221	0.0500	U
11141-16-5	Aroclor 1232	0.0500	U
53469-21-9	Aroclor 1242	0.553	
12672-29-6	Aroclor 1248	0.0500	U
11097-69-1	Aroclor 1254	0.0500	U
11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

16

FORM I-CLP-PCB

Print Date: 11/19/2013
Lims Version : 5.0.8.2

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	LRF ID:	LCS-31
Matrix:	Water	Client ID:	LAB CONTROL SPIKE
Sample wt(Dry)/vol:	1000 mL	Lab Sample ID:	AQ34669L
Percent Moisture:	100	Lab File ID:	GC23B-1392-19
Extraction:	1L - Solid Phase Extraction	Date Received:	NA
Conc. Extract Volume:	NA	Date Extracted:	10/31/2013
Injection Volume:	1.0 uL	Date Analyzed:	11/01/2013
Method:	SW-846 Method 8082A	Dilution Factor:	1
GC Column:	Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm	Sulfur Cleanup:	YES

CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
12674-11-2	Aroclor 1016	0.0500	U
11104-28-2	Aroclor 1221	0.0500	U
11141-16-5	Aroclor 1232	0.0500	U
53469-21-9	Aroclor 1242	0.489	
12672-29-6	Aroclor 1248	0.0500	U
11097-69-1	Aroclor 1254	0.0500	U
11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

16

FORM I-CLP-PCB

Print Date: 11/19/2013
Lims Version : 5.0.8.2

10-B
PCB Identification Summary

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	Client ID:	LCS-31(LAB CONTROL SPIKE)
LRF Sample ID:	LCS-31	Lab Sample ID:	AQ34669L
Instrument 1 ID:	GC23F	Instrument 2 ID:	GC23B
Date Analyzed:	11/01/2013 9:42:05 PM	Date Analyzed:	11/01/2013 9:42:09 PM
GC Column 1:	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm	GC Column 2:	Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm
Lab File ID 1:	GC23F-1379-19	Lab File ID 2:	GC23B-1392-19
Matrix:	Water		

Analyte	Column	Peak	RT (min)	RT Window From	RT Window To	Concentration (ug/L)	RPD (%)	*
Aroclor 1016	1	1	7.80	7.71	7.87			
		2	8.18	8.10	8.26			
		3	8.82	8.73	8.89			
		4	9.03	8.95	9.11			
		5	9.18	9.09	9.25			
	2	1	8.16	8.08	8.24			
		2	8.57	8.49	8.65			
		3	9.18	9.09	9.25			
		4	9.40	9.32	9.48			
		5	9.58	9.50	9.66			
Aroclor 1221	1	1	NA	4.67	4.83			
		2	NA	5.93	6.09			
		3	NA	6.49	6.65			
		4	NA	6.69	6.85			
		5	NA	6.81	6.97			
	2	1	NA	5.26	5.42			
		2	NA	6.40	6.56			
		3	NA	6.89	7.05			
		4	NA	7.10	7.26			
		5	NA	7.22	7.38			
Aroclor 1232	1	1	NA	6.81	6.97			
		2	8.18	8.10	8.26			
		3	8.82	8.73	8.89			
		4	9.03	8.95	9.11			
		5	9.18	9.09	9.25			
	2	1	NA	7.22	7.38			
		2	8.57	8.48	8.64			
		3	9.18	9.09	9.25			
		4	9.40	9.32	9.48			
		5	9.58	9.50	9.66			
Aroclor 1242	1	1	7.80	7.71	7.87			
		2	8.18	8.10	8.26			
		3	8.82	8.73	8.89			
		4	9.03	8.95	9.11			
		5	9.18	9.09	9.25	0.553		
	2	1	8.16	8.07	8.23			
		2	8.57	8.49	8.65			
		3	9.18	9.10	9.26			
		4	9.40	9.32	9.48			
		5	9.58	9.50	9.66	0.489	12.3	

Relative Percent Difference Limit = 40.0%

FORM 10-CLP-PCB(PACE)

Print Date: 11/19/2013
Lims Version : 5.0.8.2

16

10-B
PCB Identification Summary

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	Client ID:	LCS-31(LAB CONTROL SPIKE)
LRF Sample ID:	LCS-31	Lab Sample ID:	AQ34669L
Instrument 1 ID:	GC23F	Instrument 2 ID:	GC23B
Date Analyzed:	11/01/2013 9:42:05 PM	Date Analyzed:	11/01/2013 9:42:09 PM
GC Column 1:	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm	GC Column 2:	Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm
Lab File ID 1:	GC23F-1379-19	Lab File ID 2:	GC23B-1392-19
Matrix:	Water		

Analyte	Column	Peak	RT (min)	RT Window		Concentration (ug/L)	RPD (%)	*
				From	To			
Aroclor 1248	1	1	NA	9.67	9.83			
		2	NA	10.34	10.50			
		3	NA	10.98	11.14			
		4	NA	11.15	11.31			
		5	NA	11.56	11.72			
	2	1	NA	10.02	10.18			
		2	NA	10.76	10.92			
		3	NA	11.37	11.53			
		4	NA	11.57	11.73			
		5	NA	12.04	12.20			
Aroclor 1254	1	1	NA	11.87	12.03			
		2	NA	12.54	12.70			
		3	NA	12.82	12.98			
		4	NA	14.31	14.47			
		5	NA	15.13	15.29			
	2	1	NA	12.23	12.39			
		2	NA	13.00	13.16			
		3	NA	13.30	13.46			
		4	NA	14.77	14.93			
		5	NA	15.64	15.80			
Aroclor 1260	1	1	NA	15.13	15.29			
		2	NA	17.38	17.54			
		3	NA	18.30	18.46			
		4	NA	19.08	19.24			
		5	NA	21.33	21.49			
	2	1	NA	15.64	15.80			
		2	NA	17.91	18.07			
		3	NA	19.09	19.25			
		4	NA	19.74	19.90			
		5	NA	22.37	22.53			

16

Relative Percent Difference Limit = 40.0%

FORM 10-CLP-PCB(PACE)

Print Date: 11/19/2013
Lims Version : 5.0.8.2

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	LRF ID:	13100744-01MS
Matrix:	Water	Client ID:	MW-1 MS
Sample wt(Dry)/vol:	1030 mL	Lab Sample ID:	AQ34669M
Percent Moisture:	100	Lab File ID:	GC23F-1379-21
Extraction:	1L - Solid Phase Extraction	Date Received:	10/28/2013
Conc. Extract Volume:	NA	Date Extracted:	10/31/2013
Injection Volume:	1.0 uL	Date Analyzed:	11/01/2013
Method:	SW-846 Method 8082A	Dilution Factor:	1
GC Column:	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm	Sulfur Cleanup:	YES

CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
12674-11-2	Aroclor 1016	0.0500	U
11104-28-2	Aroclor 1221	0.0500	U
11141-16-5	Aroclor 1232	0.0500	U
53469-21-9	Aroclor 1242	0.544	
12672-29-6	Aroclor 1248	0.0500	U
11097-69-1	Aroclor 1254	0.0500	U
11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

16

FORM I-CLP-PCB

Print Date: 11/19/2013
Lims Version : 5.0.8.2

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	LRF ID:	13100744-01MS
Matrix:	Water	Client ID:	MW-1 MS
Sample wt(Dry)/vol:	1030 mL	Lab Sample ID:	AQ34669M
Percent Moisture:	100	Lab File ID:	GC23B-1392-21
Extraction:	1L - Solid Phase Extraction	Date Received:	10/28/2013
Conc. Extract Volume:	NA	Date Extracted:	10/31/2013
Injection Volume:	1.0 uL	Date Analyzed:	11/01/2013
Method:	SW-846 Method 8082A	Dilution Factor:	1
GC Column:	Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm	Sulfur Cleanup:	YES

CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
12674-11-2	Aroclor 1016	0.0500	U
11104-28-2	Aroclor 1221	0.0500	U
11141-16-5	Aroclor 1232	0.0500	U
53469-21-9	Aroclor 1242	0.474	
12672-29-6	Aroclor 1248	0.0500	U
11097-69-1	Aroclor 1254	0.0500	U
11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

16

FORM I-CLP-PCB

Print Date: 11/19/2013
Lims Version : 5.0.8.2

10-B
PCB Identification Summary

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	Client ID:	MW-1 MS
LRF Sample ID:	13100744-01MS	Lab Sample ID:	AQ34669M
Instrument 1 ID:	GC23F	Instrument 2 ID:	GC23B
Date Analyzed:	11/01/2013 10:47:19 PM	Date Analyzed:	11/01/2013 10:47:23 PM
GC Column 1:	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm	GC Column 2:	Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm
Lab File ID 1:	GC23F-1379-21	Lab File ID 2:	GC23B-1392-21
Matrix:	Water		

Analyte	Column	Peak	RT (min)	RT Window From	RT Window To	Concentration (ug/L)	RPD (%)	*
Aroclor 1016	1	1	7.80	7.71	7.87			
		2	8.19	8.10	8.26			
		3	8.82	8.73	8.89			
		4	9.04	8.95	9.11			
		5	9.18	9.09	9.25			
	2	1	8.16	8.08	8.24			
		2	8.57	8.49	8.65			
		3	9.18	9.09	9.25			
		4	9.41	9.32	9.48			
		5	9.59	9.50	9.66			
Aroclor 1221	1	1	NA	4.67	4.83			
		2	NA	5.93	6.09			
		3	NA	6.49	6.65			
		4	NA	6.69	6.85			
		5	NA	6.81	6.97			
	2	1	NA	5.26	5.42			
		2	NA	6.40	6.56			
		3	NA	6.89	7.05			
		4	NA	7.10	7.26			
		5	NA	7.22	7.38			
Aroclor 1232	1	1	NA	6.81	6.97			
		2	8.19	8.10	8.26			
		3	8.82	8.73	8.89			
		4	9.04	8.95	9.11			
		5	9.18	9.09	9.25			
	2	1	NA	7.22	7.38			
		2	8.57	8.48	8.64			
		3	9.18	9.09	9.25			
		4	9.41	9.32	9.48			
		5	9.59	9.50	9.66			
Aroclor 1242	1	1	7.80	7.71	7.87			
		2	8.19	8.10	8.26			
		3	8.82	8.73	8.89			
		4	9.04	8.95	9.11			
		5	9.18	9.09	9.25	0.544		
	2	1	8.16	8.07	8.23			
		2	8.57	8.49	8.65			
		3	9.18	9.10	9.26			
		4	9.41	9.32	9.48			
		5	9.59	9.50	9.66	0.474	13.8	

Relative Percent Difference Limit = 40.0%

FORM 10-CLP-PCB(PACE)

Print Date: 11/19/2013
Lims Version : 5.0.8.2

16

10-B
PCB Identification Summary

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	Client ID:	MW-1 MS
LRF Sample ID:	13100744-01MS	Lab Sample ID:	AQ34669M
Instrument 1 ID:	GC23F	Instrument 2 ID:	GC23B
Date Analyzed:	11/01/2013 10:47:19 PM	Date Analyzed:	11/01/2013 10:47:23 PM
GC Column 1:	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm	GC Column 2:	Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm
Lab File ID 1:	GC23F-1379-21	Lab File ID 2:	GC23B-1392-21
Matrix:	Water		

Analyte	Column	Peak	RT (min)	RT Window		Concentration (ug/L)	RPD (%)	*
				From	To			
Aroclor 1248	1	1	NA	9.67	9.83			
		2	NA	10.34	10.50			
		3	NA	10.98	11.14			
		4	NA	11.15	11.31			
		5	NA	11.56	11.72			
	2	1	NA	10.02	10.18			
		2	NA	10.76	10.92			
		3	NA	11.37	11.53			
		4	NA	11.57	11.73			
		5	NA	12.04	12.20			
Aroclor 1254	1	1	NA	11.87	12.03			
		2	NA	12.54	12.70			
		3	NA	12.82	12.98			
		4	NA	14.31	14.47			
		5	NA	15.13	15.29			
	2	1	NA	12.23	12.39			
		2	NA	13.00	13.16			
		3	NA	13.30	13.46			
		4	NA	14.77	14.93			
		5	NA	15.64	15.80			
Aroclor 1260	1	1	NA	15.13	15.29			
		2	NA	17.38	17.54			
		3	NA	18.30	18.46			
		4	NA	19.08	19.24			
		5	NA	21.33	21.49			
	2	1	NA	15.64	15.80			
		2	NA	17.91	18.07			
		3	NA	19.09	19.25			
		4	NA	19.74	19.90			
		5	NA	22.37	22.53			

16

Relative Percent Difference Limit = 40.0%

FORM 10-CLP-PCB(PACE)

Print Date: 11/19/2013
Lims Version : 5.0.8.2

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	LRF ID:	13100744-01MSD
Matrix:	Water	Client ID:	MW-1 MSD
Sample wt(Dry)/vol:	1020 mL	Lab Sample ID:	AQ34669K
Percent Moisture:	100	Lab File ID:	GC23F-1379-22
Extraction:	1L - Solid Phase Extraction	Date Received:	10/28/2013
Conc. Extract Volume:	NA	Date Extracted:	10/31/2013
Injection Volume:	1.0 uL	Date Analyzed:	11/01/2013
Method:	SW-846 Method 8082A	Dilution Factor:	1
GC Column:	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm	Sulfur Cleanup:	YES

CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
12674-11-2	Aroclor 1016	0.0500	U
11104-28-2	Aroclor 1221	0.0500	U
11141-16-5	Aroclor 1232	0.0500	U
53469-21-9	Aroclor 1242	0.552	
12672-29-6	Aroclor 1248	0.0500	U
11097-69-1	Aroclor 1254	0.0500	U
11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

16

FORM I-CLP-PCB

Print Date: 11/19/2013
Lims Version : 5.0.8.2

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	LRF ID:	13100744-01MSD
Matrix:	Water	Client ID:	MW-1 MSD
Sample wt(Dry)/vol:	1020 mL	Lab Sample ID:	AQ34669K
Percent Moisture:	100	Lab File ID:	GC23B-1392-22
Extraction:	1L - Solid Phase Extraction	Date Received:	10/28/2013
Conc. Extract Volume:	NA	Date Extracted:	10/31/2013
Injection Volume:	1.0 uL	Date Analyzed:	11/01/2013
Method:	SW-846 Method 8082A	Dilution Factor:	1
GC Column:	Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm	Sulfur Cleanup:	YES

CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
12674-11-2	Aroclor 1016	0.0500	U
11104-28-2	Aroclor 1221	0.0500	U
11141-16-5	Aroclor 1232	0.0500	U
53469-21-9	Aroclor 1242	0.481	
12672-29-6	Aroclor 1248	0.0500	U
11097-69-1	Aroclor 1254	0.0500	U
11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

16

FORM I-CLP-PCB

Print Date: 11/19/2013
Lims Version : 5.0.8.2

10-B
PCB Identification Summary

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	Client ID:	MW-1 MSD
LRF Sample ID:	13100744-01MSD	Lab Sample ID:	AQ34669K
Instrument 1 ID:	GC23F	Instrument 2 ID:	GC23B
Date Analyzed:	11/01/2013 11:19:56 PM	Date Analyzed:	11/01/2013 11:20:00 PM
GC Column 1:	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm	GC Column 2:	Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm
Lab File ID 1:	GC23F-1379-22	Lab File ID 2:	GC23B-1392-22
Matrix:	Water		

Analyte	Column	Peak	RT (min)	RT Window From	RT Window To	Concentration (ug/L)	RPD (%)	*
Aroclor 1016	1	1	7.80	7.71	7.87			
		2	8.18	8.10	8.26			
		3	8.82	8.73	8.89			
		4	9.04	8.95	9.11			
		5	9.18	9.09	9.25			
	2	1	8.16	8.08	8.24			
		2	8.57	8.49	8.65			
		3	9.18	9.09	9.25			
		4	9.41	9.32	9.48			
		5	9.58	9.50	9.66			
Aroclor 1221	1	1	NA	4.67	4.83			
		2	NA	5.93	6.09			
		3	NA	6.49	6.65			
		4	NA	6.69	6.85			
		5	NA	6.81	6.97			
	2	1	NA	5.26	5.42			
		2	NA	6.40	6.56			
		3	NA	6.89	7.05			
		4	NA	7.10	7.26			
		5	NA	7.22	7.38			
Aroclor 1232	1	1	NA	6.81	6.97			
		2	8.18	8.10	8.26			
		3	8.82	8.73	8.89			
		4	9.04	8.95	9.11			
		5	9.18	9.09	9.25			
	2	1	NA	7.22	7.38			
		2	8.57	8.48	8.64			
		3	9.18	9.09	9.25			
		4	9.41	9.32	9.48			
		5	9.58	9.50	9.66			
Aroclor 1242	1	1	7.80	7.71	7.87			
		2	8.18	8.10	8.26			
		3	8.82	8.73	8.89			
		4	9.04	8.95	9.11			
		5	9.18	9.09	9.25	0.552		
	2	1	8.16	8.07	8.23			
		2	8.57	8.49	8.65			
		3	9.18	9.10	9.26			
		4	9.41	9.32	9.48			
		5	9.58	9.50	9.66	0.481	13.7	

Relative Percent Difference Limit = 40.0%

FORM 10-CLP-PCB(PACE)

Print Date: 11/19/2013
Lims Version : 5.0.8.2

16

10-B
PCB Identification Summary

Laboratory Name:	Pace Analytical Services, Inc.	SDG No:	13100744
ELAP ID No:	11078	Client ID:	MW-1 MSD
LRF Sample ID:	13100744-01MSD	Lab Sample ID:	AQ34669K
Instrument 1 ID:	GC23F	Instrument 2 ID:	GC23B
Date Analyzed:	11/01/2013 11:19:56 PM	Date Analyzed:	11/01/2013 11:20:00 PM
GC Column 1:	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm	GC Column 2:	Phenomenex, Zebron ZB-5, 30 m, 0.25 mm ID, 0.25 µm
Lab File ID 1:	GC23F-1379-22	Lab File ID 2:	GC23B-1392-22
Matrix:	Water		

Analyte	Column	Peak	RT (min)	RT Window		Concentration (ug/L)	RPD (%)	*
				From	To			
Aroclor 1248	1	1	NA	9.67	9.83			
		2	NA	10.34	10.50			
		3	NA	10.98	11.14			
		4	NA	11.15	11.31			
		5	NA	11.56	11.72			
	2	1	NA	10.02	10.18			
		2	NA	10.76	10.92			
		3	NA	11.37	11.53			
		4	NA	11.57	11.73			
		5	NA	12.04	12.20			
Aroclor 1254	1	1	NA	11.87	12.03			
		2	NA	12.54	12.70			
		3	NA	12.82	12.98			
		4	NA	14.31	14.47			
		5	NA	15.13	15.29			
	2	1	NA	12.23	12.39			
		2	NA	13.00	13.16			
		3	NA	13.30	13.46			
		4	NA	14.77	14.93			
		5	NA	15.64	15.80			
Aroclor 1260	1	1	NA	15.13	15.29			
		2	NA	17.38	17.54			
		3	NA	18.30	18.46			
		4	NA	19.08	19.24			
		5	NA	21.33	21.49			
	2	1	NA	15.64	15.80			
		2	NA	17.91	18.07			
		3	NA	19.09	19.25			
		4	NA	19.74	19.90			
		5	NA	22.37	22.53			

16

Relative Percent Difference Limit = 40.0%

FORM 10-CLP-PCB(PACE)

Print Date: 11/19/2013
Lims Version : 5.0.8.2