Badin Business Park LLC

c/o Alcoa Corporation
201 Isabella Street
Suite 500
Pittsburgh, PA 15212-5858 USA
Tel: 1 412 315 2900

May 28, 2019

Robert C. McDaniel
Facility Management Branch
Hazardous Waste Section
North Carolina Department of Environmental Quality
217 West Jones Street
Raleigh, North Carolina 27603

VIA ELECTRONIC MAIL

Re: Little Mountain Creek Confirmatory Sampling Report
Badin Business Park (f/k/a Alcoa - Badin Works)
Badin, North Carolina
EPA ID: NCD 003 162 542

Dear Mr. McDaniel:

The April 28, 2017 *Investigative Work Plan for the Phase 4 and 5 Corrective Measures Study, Alcoa/Badin Landfill, and Former Ball Field* (Work Plan) was developed as a guidance document in support of sampling and investigative activities at the Badin Business Park LLC, formerly known as the Alcoa Badin Works facility. The Work Plan was prepared following receipt of the North Carolina Department of Environmental Quality (NCDEQ) January 23, 2017 correspondence concerning the review of *Phase 4 and 5 of the Corrective Measures Study* (CMS), the *Expanded Pre-CERCLIS Screening Assessment* (EPSA) for the Former Ball Field, and the *Site Inspection Report* (SIR) for the Alcoa/Badin Landfill.

NCDEQ determined that further evaluation was warranted and requested that a demonstration be made that identified items had been evaluated or prepare a work plan to evaluate those items. Select items were addressed in a March 3, 2017 written response and in a meeting with NCDEQ on March 28, 2017. On April 2, 2018, the Work Plan was revised incorporating requirements from the January 31, 2018 conditional approval letter and the instream monitoring study requirements of the September 29, 2017 Final National Pollutant Discharge Elimination System (NPDES) Permit, Condition A. (8.). Implementation of the Work Plan began in April 2018.

One objective of the Work Plan included an assessment of the variation on constituent levels in Little Mountain Creek as intended by the instream monitoring study requirements of the September 29, 2017 Final NPDES Permit Renewal, Condition A. (8.). To complete this objective, surface water samples were collected from Little Mountain Creek. As reported in the December 5, 2018, the *Investigative Report for the Little Mountain Creek Area* (Report), surface water samples collected from the sampling location downstream of North Carolina (NC) Highway 740 indicated concentrations of constituents above regulatory levels. The sum of polychlorinated biphenyl (PCB)

congener concentrations was reported above regulatory levels in one of the surface water samples collected from Little Mountain Creek. However, the sum of the congener concentrations in the duplicate sample collected at the same time and same location were below laboratory detection limits.

The 40 Code of Federal Regulations (CFR) 423 Appendix A (Priority Pollutant) analysis of surface water samples from Little Mountain Creek indicated concentrations of polycyclic aromatic hydrocarbons (PAHs) above regulatory limits. The sample location containing the detections was east of NC Highway 740 which has the potential to be influenced from offsite sources to include distressed asphalt, an operating electrical substation, and a county-operating satellite waste collection and recycling facility.

During a March 19, 2019 follow-up meeting with the NCDEQ Hazardous Waste Section, it was discussed that confirmation samples should be collected and analyzed for PCB congeners and 40 CFR 423 Appendix A PAHs from the location where the detections occurred. On April 10, 2019, ENVIRONEERING, Inc. personnel collected confirmation samples from the sample location containing the detections. No constituents were detected above regulatory levels in the confirmation surface water sample or the duplicate confirmation surface water sample collected from Little Mountain Creek. A map showing the location of the samples is provided as Figure 1. Surface water confirmation analytical results are summarized in Tables 1 and 2. The laboratory report and completed chain of custody form is provided in Appendix A.

Badin Business Park LLC appreciates the time and effort your office has spent on this project, and we look forward to working with you in the future. Should you have any questions or comments, please contact Jason Mibroda of Alcoa at (412) 315-2783 at your convenience.

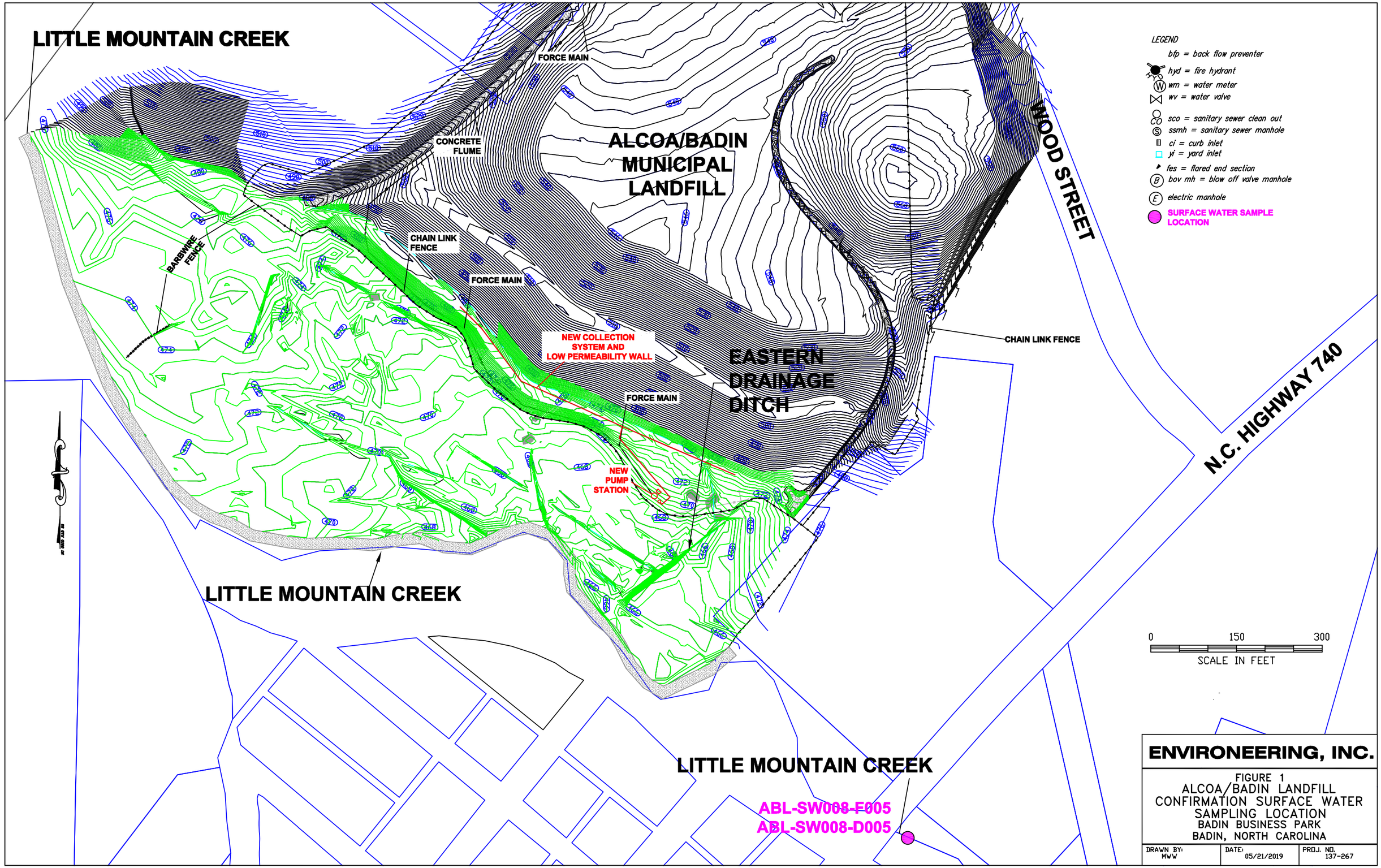
Sincerely,

Ronald M. Morosky
Director, Corporate Remediation

Attachments

cc: Qais Banihani, NCDEQ
Julie Grzyb, NCDEQ
Robyn Gross, Alcoa
Jason Mibroda, Alcoa
Michael W. Worden, Environeering

Figure


LITTLE MOUNTAIN CREEK
FORCE MAIN
CONCRETE FLUME
ALCOA/BADIN MUNICIPAL LANDFILL
WOOD STREET
BARBWIRE FENCE
CHAIN LINK FENCE
FORCE MAIN
NEW COLLECTION SYSTEM AND LOW PERMEABILITY WALL
EASTERN DRAINAGE DITCH
CHAIN LINK FENCE
FORCE MAIN
NEW PUMP STATION
N.C. HIGHWAY 740
LITTLE MOUNTAIN CREEK
LITTLE MOUNTAIN CREEK
ABL-SW008-F005
ABL-SW008-D005
LEGEND
bfp = back flow preventer
hyd = fire hydrant
wm = water meter
wv = water valve
sco = sanitary sewer clean out
ssmh = sanitary sewer manhole
ci = curb inlet
yi = yard inlet
fes = flared end section
bov mh = blow off valve manhole
electric manhole
SURFACE WATER SAMPLE LOCATION
0
150
300
SCALE IN FEET
ENVIRONEERING, INC.
FIGURE 1
ALCOA/BADIN LANDFILL
CONFIRMATION SURFACE WATER
SAMPLING LOCATION
BADIN BUSINESS PARK
BADIN, NORTH CAROLINA
DRAWN BY: MWW
DATE: 05/21/2019
PROJ. NO. 137-267

Table

Table 1
Little Mountain Creek Surface Water Sample Confirmation Analytical Results - Congener Analysis
Alcoa/Badin Landfill
Badin Business Park Facility
Badin, North Carolina

Compound	IUPAC	Coelution	CAS	Method	Units	ABL-SW008-F005	ABL-SW008-D005	15A NCAC 2B Surface Water Standard
						Downstream from NC740 4/10/2019 10:50	Downstream from NC740 4/10/2019 10:55	
2-MoCB	PCB-001		2051-60-7	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
3-MoCB	PCB-002		2051-61-8	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
4-MoCB	PCB-003		2051-62-9	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
2,2'-DiCB	PCB-004		13029-08-8	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
2,3-DiCB	PCB-005		16605-91-7	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
2,3'-DiCB	PCB-006		25569-80-6	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
2,4-DiCB	PCB-007		33284-50-3	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
2,4'-DiCB	PCB-008		34883-43-7	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
2,5-DiCB	PCB-009		34883-39-1	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
2,6-DiCB	PCB-010		33146-45-1	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
3,3'-DiCB	PCB-011		2050-67-1	EPA 1668A	*mg/l*	ND <0.00000244	ND <0.00000243	NE
3,4-DiCDB	PCB-012	12/13	2974-92-7	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
3,5-DiCB	PCB-014		34883-41-5	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
4,4'-DiCB	PCB-015		2050-68-2	EPA 1668A	*mg/l*	ND <0.000000329	ND <0.000000328	NE
2,2',3-TrCB	PCB-016		38444-78-9	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
2,2',4-TrCB	PCB-017		37680-66-3	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
2,2',5-TrCB	PCB-018	18/30	37680-65-2	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',6-TrCB	PCB-019		38444-73-4	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
2,3,3'-TrCB	PCB-020	20/28	38444-84-7	EPA 1668A	*mg/l*	ND <0.00000129	ND <0.00000128	NE
2,3,4-TrCB	PCB-021	21/33	55702-46-0	EPA 1668A	*mg/l*	ND <0.00000135	ND <0.00000134	NE
2,3,4'-TrCB	PCB-022		38444-85-8	EPA 1668A	*mg/l*	ND <0.000000948	ND <0.000000943	NE
2,3,5-TrCB	PCB-023		55720-44-0	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
2,3,6-TrCB	PCB-024		55702-45-9	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
2,3',4-TrCB	PCB-025		55712-37-3	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
2,3',5-TrCB	PCB-026	26/29	38444-81-4	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3',6-TrCB	PCB-027		38444-76-7	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
2,4',5-TrCB	PCB-031		16606-02-3	EPA 1668A	*mg/l*	ND <0.0000013	ND <0.00000129	NE
2,4',6-TrCB	PCB-032		38444-77-8	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
2,3',5'-TrCB	PCB-034		37680-68-5	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
3,3',4-TrCB	PCB-035		37680-69-6	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
3,3',5-TrCB	PCB-036		38444-87-0	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
3,4,4'-TrCB	PCB-037		38444-90-5	EPA 1668A	*mg/l*	ND <0.000000529	ND <0.000000526	NE
3,4,5-TrCB	PCB-038		53555-66-1	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
3,4',5-TrCB	PCB-039		38444-88-1	EPA 1668A	*mg/l*	ND <0.000000249	ND <0.000000248	NE
2,2',3,3'-TeCB	PCB-040	40/41/71	38444-93-8	EPA 1668A	*mg/l*	ND <0.0000015	ND <0.00000149	NE
2,2',3,4'-TeCB	PCB-042		36559-22-5	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,5-TeCB	PCB-043	43/73	70362-46-8	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,5'-TeCB	PCB-044	44/47/65	41464-39-5	EPA 1668A	*mg/l*	ND <0.0000015	ND <0.00000149	NE
2,2',3,6-TeCB	PCB-045	45/51	70362-45-7	EPA 1668A	*mg/l*	ND <0.000000998	ND <0.000000993	NE
2,2',3,6'-TeCB	PCB-046		41464-47-5	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',4,5-TeCB	PCB-048		70362-47-9	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',4,5'-CB	PCB-049	49/69	41464-40-8	EPA 1668A	*mg/l*	ND <0.000000998	ND <0.000000993	NE
2,2',4,6-TeCB	PCB-050	50/53	62796-65-0	EPA 1668A	*mg/l*	ND <0.000000998	ND <0.000000993	NE
2,2',5,5'-TeCB	PCB-052		35693-99-3	EPA 1668A	*mg/l*	ND <0.00000154	ND <0.00000153	NE
2,2',6,6'-TeCB	PCB-054		15968-05-5	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',4-TeCB	PCB-055		74338-24-2	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',4'-TeCB	PCB-056		41464-43-1	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',5-TeCB	PCB-057		70424-67-8	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',5'-TeCB	PCB-058		41464-49-7	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',6-TeCB	PCB-059	59/62/75	74472-33-6	EPA 1668A	*mg/l*	ND <0.0000015	ND <0.00000149	NE
2,3,4,4'-TeCB	PCB-060		33025-41-1	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,4,5-TeCB	PCB-061	61/70/74/76	33284-53-6	EPA 1668A	*mg/l*	ND <0.000002	ND <0.00000199	NE
2,3,4',5-TeCB	PCB-063		74472-34-7	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,4',6-TeCB	PCB-064		52663-58-8	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3',4,4'-TeCB	PCB-066		32598-10-0	EPA 1668A	*mg/l*	ND <0.000000838	ND <0.000000834	NE
2,3',4,5-TeCB	PCB-067		73575-53-8	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3',4,5'-TeCB	PCB-068		73575-52-7	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3',5,5'-TeCB	PCB-072		41464-42-0	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
3,3',4,4'-TeCB	PCB-077		32598-13-3	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
3,3',4,5-TeCB	PCB-078		70362-49-1	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
3,3',4,5'-TeCB	PCB-079		41464-48-6	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
3,3',5,5'-TeCB	PCB-080		33284-52-5	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
3,4,4',5-TeCB	PCB-081		70362-50-4	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,3',4-PeCB	PCB-082		52663-62-4	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,3',5-PeCB	PCB-083		60145-20-2	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,3',6-PeCB	PCB-084		52663-60-2	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,4,4'-PeCB	PCB-085	85/116/117	65510-45-4	EPA 1668A	*mg/l*	ND <0.0000015	ND <0.00000149	NE
2,2',3,4,5-PeCB	PCB-086	86/87/97/108/11	55312-69-1	EPA 1668A	*mg/l*	ND <0.00000299	ND <0.00000298	NE
2,2',3,4,6-PeCB	PCB-088	88/91	55215-17-3	EPA 1668A	*mg/l*	ND <0.000000998	ND <0.000000993	NE
2,2',3,4,6'-PeCB	PCB-089		73575-57-2	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,4',5-PeCB	PCB-090	90/101/113	68194-07-0	EPA 1668A	*mg/l*	ND <0.0000015	ND <0.00000149	NE
2,2',3,5,5'-PeCB	PCB-092		52663-61-3	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,5,6-PeCB	PCB-093	93/98/100/102	73575-56-1	EPA 1668A	*mg/l*	ND <0.000002	ND <0.00000199	NE
2,2',3,5,6'-PeCB	PCB-094		73575-55-0	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,5',6-PeCB	PCB-095		38379-99-6	EPA 1668A	*mg/l*	ND <0.000000948	ND <0.000000943	NE
2,2',3,6,6'-PeCB	PCB-096		73575-54-9	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',4,4',5-PeCB	PCB-099		38380-01-7	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',4,5',6-PeCB	PCB-103		60145-21-3	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',4,6,6'-PeCB	PCB-104		56558-16-8	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',4,4'-PeCB	PCB-105		32598-14-4	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',4,5-PeCB	PCB-106		70424-69-0	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',4',5-PeCB	PCB-107	107/124	70424-68-9	EPA 1668A	*mg/l*	ND <0.000000998	ND <0.000000993	NE
2,3,3',4,6-PeCB	PCB-109		74472-35-8	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',4',6-PeCB	PCB-110	110/115	38380-03-9	EPA 1668A	*mg/l*	ND <0.000000998	ND <0.000000993	NE
2,3,3',5,5'-PeCB	PCB-111		39635-32-0	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',5,6-PeCB	PCB-112		74472-36-9	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,4,4',5-PeCB	PCB-114		74472-37-0	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3',4,4',5-PeCB	PCB-118		31508-00-6	EPA 1668A	*mg/l*	ND <0.000000638	ND <0.000000635	NE
2,3',4,5,5'-PeCB	PCB-120		68194-12-7	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3',4,5',6-PeCB	PCB-121		56558-18-0	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',4',5'-PeCB	PCB-122		76842-07-4	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3',4,4',5'-PeCB	PCB-123		65510-44-3	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE

Table 1
Little Mountain Creek Surface Water Sample Confirmation Analytical Results - Congener Analysis
Alcoa/Badin Landfill
Badin Business Park Facility
Badin, North Carolina

Compound	IUPAC	Coelution	CAS	Method	Units	ABL-SW008-F005	ABL-SW008-D005	15A NCAC 2B Surface Water Standard
						Downstream from NC740 4/10/2019 10:50	Downstream from NC740 4/10/2019 10:55	
3,3',4,4',5-PeCB	PCB-126		57465-28-8	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
3,3',4,5,5'-PeCB	PCB-127		39635-33-1	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,3',4,4'-HxCB	PCB-128	128/166	38380-07-3	EPA 1668A	*mg/l*	ND <0.000000998	ND <0.000000993	NE
2,2',3,3',4,5-HxCB	PCB-129	129/138/163	55215-18-4	EPA 1668A	*mg/l*	ND <0.0000015	ND <0.00000149	NE
2,2',3,3',4,5'-HxCB	PCB-130		52663-66-8	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,3',4,6-HxCB	PCB-131		61798-70-7	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,3',4,6'-HxCB	PCB-132		38380-05-1	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,3',5,5'-HxCB	PCB-133		35694-04-3	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,3',5,6-HxCB	PCB-134	134/143	52704-70-8	EPA 1668A	*mg/l*	ND <0.000000998	ND <0.000000993	NE
2,2',3,3',5,6'-HxCB	PCB-135	135/151	52744-13-5	EPA 1668A	*mg/l*	ND <0.000000998	ND <0.000000993	NE
2,2',3,3',6,6'-HxCB	PCB-136		38411-22-2	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,4,4',5-HxCB	PCB-137		35694-06-5	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,4,4',6-HxCB	PCB-139	139/140	56030-56-9	EPA 1668A	*mg/l*	ND <0.000000998	ND <0.000000993	NE
2,2',3,4,5,5'-HxCB	PCB-141		52712-04-6	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,4,5,6-HxCB	PCB-142		41411-61-4	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,4,5',6-HxCB	PCB-144		68194-14-9	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,4,6,6'-HxCB	PCB-145		74472-40-5	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,4',5,5'-HxCB	PCB-146		51908-16-8	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,4',5,6-HxCB	PCB-147	147/149	68194-13-8	EPA 1668A	*mg/l*	ND <0.000000998	ND <0.000000993	NE
2,2',3,4',5,6'-HxCB	PCB-148		74472-41-6	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,4',6,6'-HxCB	PCB-150		68194-08-1	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,5,6,6'-HxCB	PCB-152		68194-09-2	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',4,4',5,5'-HxCB	PCB-153	153/168	35065-27-1	EPA 1668A	*mg/l*	ND <0.000000998	ND <0.000000993	NE
2,2',4,4',5,6'-HxCB	PCB-154		60145-22-4	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',4,4',6,6'-HxCB	PCB-155		33979-03-2	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',4,4',5-HxCB	PCB-156	156/157	38380-08-4	EPA 1668A	*mg/l*	ND <0.000000998	ND <0.000000993	NE
2,3,3',4,4',6-HxCB	PCB-158		74472-42-7	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',4,5,5'-HxCB	PCB-159		39635-35-3	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',4,5,6-HxCB	PCB-160		41411-62-5	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',4,5',6-HxCB	PCB-161		74472-43-8	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',4',5,5'-HxCB	PCB-162		39635-34-2	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',4',5',6-HxCB	PCB-164		74472-45-0	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',5,5',6-HxCB	PCB-165		74472-46-1	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3',4,4',5,5'-HxCB	PCB-167		52663-72-6	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
3,3',4,4',5,5'-HxCB	PCB-169		32774-16-6	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,3',4,4',5-HpCB	PCB-170		35065-30-6	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,3',4,4',6-HpCB	PCB-171	171/173	52663-71-5	EPA 1668A	*mg/l*	ND <0.000000998	ND <0.000000993	NE
2,2',3,3',4,5,5'-HpCB	PCB-172		52663-74-8	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,3',4,5,6'-HpCB	PCB-174		38411-25-5	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,3',4,5',6-HpCB	PCB-175		40186-70-7	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,3',4,6,6'-HpCB	PCB-176		52663-65-7	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,3',4,5',6'-HpCB	PCB-177		52663-70-4	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,3',5,5',6-HpCB	PCB-178		52663-67-9	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,3',5,6,6'-HpCB	PCB-179		52663-64-6	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,4,4',5,5'-HpCB	PCB-180	180/193	35065-29-3	EPA 1668A	*mg/l*	ND <0.000000998	ND <0.000000993	NE
2,2',3,4,4',5,6-HpCB	PCB-181		74472-47-2	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,4,4',5,6'-HpCB	PCB-182		60145-23-5	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,4,4',5',6-HpCB	PCB-183	183/185	52663-69-1	EPA 1668A	*mg/l*	ND <0.000000998	ND <0.000000993	NE
2,2',3,4,4',6,6'-HpCB	PCB-184		74472-48-3	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,4,5,6,6'-HpCB	PCB-186		74472-49-4	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,4',5,5',6-HpCB	PCB-187		52663-68-0	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,4',5,6,6'-HpCB	PCB-188		74487-85-7	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',4,4',5,5'-HpCB	PCB-189		39635-31-9	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',4,4',5,6-HpCB	PCB-190		41411-64-7	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',4,4',5',6-HpCB	PCB-191		74472-50-7	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,3,3',4,5,5',6-HpCB	PCB-192		74472-51-8	EPA 1668A	*mg/l*	ND <0.000000499	ND <0.000000496	NE
2,2',3,3',4,4',5,5'-OcCB	PCB-194		35694-08-7	EPA 1668A	*mg/l*	ND <0.000000748	ND <0.000000745	NE
2,2',3,3',4,4',5,6-OcCB	PCB-195		52663-78-2	EPA 1668A	*mg/l*	ND <0.000000748	ND <0.000000745	NE
2,2',3,3',4,4',5,6'-OcCB	PCB-196		42740-50-1	EPA 1668A	*mg/l*	ND <0.000000748	ND <0.000000745	NE
2,2',3,3',4,4',6,6'-OcCB	PCB-197	197/200	33091-17-7	EPA 1668A	*mg/l*	ND <0.0000015	ND <0.00000149	NE
2,2',3,3',4,5,5',6-OcCB	PCB-198	198/199	68194-17-2	EPA 1668A	*mg/l*	ND <0.0000015	ND <0.00000149	NE
2,2',3,3',4,5',6,6'-OcCB	PCB-201		40186-71-8	EPA 1668A	*mg/l*	ND <0.000000748	ND <0.000000745	NE
2,2',3,3',5,5',6,6'-OcCB	PCB-202		2136-99-4	EPA 1668A	*mg/l*	ND <0.000000748	ND <0.000000745	NE
2,2',3,4,4',5,5',6-OcCB	PCB-203		52663-76-0	EPA 1668A	*mg/l*	ND <0.000000748	ND <0.000000745	NE
2,2',3,4,4',5,6,6'-OcCB	PCB-204		74472-52-9	EPA 1668A	*mg/l*	ND <0.000000748	ND <0.000000745	NE
2,3,3',4,4',5,5',6-OcCB	PCB-205		74472-53-0	EPA 1668A	*mg/l*	ND <0.000000748	ND <0.000000745	NE
2,2',3,3',4,4',5,5',6-NoCB	PCB-206		40186-72-9	EPA 1668A	*mg/l*	ND <0.000000748	ND <0.000000745	NE
2,2',3,3',4,4',5,6,6'-NoCB	PCB-207		52663-79-3	EPA 1668A	*mg/l*	ND <0.000000748	ND <0.000000745	NE
2,2',3,3',4,5,5',6,6'-NoCB	PCB-208		52663-77-1	EPA 1668A	*mg/l*	ND <0.000000748	ND <0.000000745	NE
Decachlorobiphenyl	PCB-209		2051-24-3	EPA 1668A	*mg/l*	ND <0.000000748	ND <0.000000745	NE
Total Polychlorinated Biphenyls			1336-36-3		*mg/l*	ND	ND	0.000001

ND - The analyte was not detected above laboratory detection limits. Subscript indicates compound-specific Method Specified Reporting Limit (EML) in mg/kg.
NE - Not established.

Table 2
Little Mountain Creek Surface Water Sample Confirmation Results - PAH Analysis
Alcoa/Badin Municipal Landfill
Badin Business Park Facility
Badin, North Carolina

Sample ID	Method	40 CFR 423 Appendix A Number	CAS	Units	ABL-SW008-F0005	ABL-SW008-D0005	15A NCAC 2B Surface Water Standard
Location					**Downstream from NC740**	**Downstream from NC740**	
Date					**4/10/2019**	**4/10/2019**	
Time					**10:50**	**10:55**	
1,2,4-Trichlorobenzene	**EPA 625.1**	**8**	**120-82-1**	*mg/l*	ND $_{<0.0015}$	ND $_{<0.0015}$	**NE**
1,2-Dichlorobenzene	**EPA 625.1**	**25**	**95-50-1**	*mg/l*	ND $_{<0.0013}$	ND $_{<0.0013}$	**NE**
1,3-Dichlorobenzene	**EPA 625.1**	**26**	**541-73-1**	*mg/l*	ND $_{<0.0015}$	ND $_{<0.0015}$	**NE**
1,4-Dichlorobenzene	**EPA 625.1**	**27**	**106-46-7**	*mg/l*	0.0030 J B	0.0024 J B	**NE**
1,2-Diphenylhydrazine	**EPA 625.1**	**37**	**122-66-7**	*mg/l*	ND $_{<0.0023}$	ND $_{<0.0023}$	**NE**
2,4,6-Trichlorophenol	**EPA 625.1**	**21**	**88-06-2**	*mg/l*	ND $_{<0.0015}$	ND $_{<0.0015}$	**NE**
2,4-Dichlorophenol	**EPA 625.1**	**31**	**120-83-2**	*mg/l*	ND $_{<0.0014}$	ND $_{<0.0014}$	**NE**
2,4-Dimethylphenol	**EPA 625.1**	**34**	**105-67-9**	*mg/l*	ND $_{<0.0014}$	ND $_{<0.0014}$	**NE**
2,4-Dinitrophenol	**EPA 625.1**	**59**	**51-28-5**	*mg/l*	ND $_{<0.0405}$	ND $_{<0.0405}$	**NE**
2,4-Dinitrotoluene	**EPA 625.1**	**35**	**121-14-2**	*mg/l*	ND $_{<0.0012}$	ND $_{<0.0012}$	**NE**
2,6-Dinitrotoluene	**EPA 625.1**	**36**	**606-20-2**	*mg/l*	ND $_{<0.0014}$	ND $_{<0.0014}$	**NE**
2-Chloronaphthalene	**EPA 625.1**	**20**	**91-58-7**	*mg/l*	ND $_{<0.0015}$	ND $_{<0.0015}$	**NE**
2-Chlorophenol	**EPA 625.1**	**24**	**95-57-8**	*mg/l*	ND $_{<0.0012}$	ND $_{<0.0012}$	**NE**
2-Nitrophenol	**EPA 625.1**	**57**	**88-75-5**	*mg/l*	ND $_{<0.0014}$	ND $_{<0.0014}$	**NE**
3,3'-Dichlorobenzidine	**EPA 625.1**	**28**	**91-94-1**	*mg/l*	ND $_{<0.0030}$	ND $_{<0.0030}$	**NE**
4,6-Dinitro-2-methylphenol	**EPA 625.1**	**60**	**534-52-1**	*mg/l*	ND $_{<0.0152}$	ND $_{<0.0152}$	**NE**
4-Bromophenylphenyl ether	**EPA 625.1**	**41**	**101-55-3**	*mg/l*	ND $_{<0.0016}$	ND $_{<0.0016}$	**NE**
4-Chloro-3-methylphenol	**EPA 625.1**	**22**	**59-50-7**	*mg/l*	ND $_{<0.0028}$	ND $_{<0.0028}$	**NE**
4-Chlorophenylphenyl ether	**EPA 625.1**	**40**	**7005-72-3**	*mg/l*	ND $_{<0.0016}$	ND $_{<0.0016}$	**NE**
4-Nitrophenol	**EPA 625.1**	**58**	**100-02-7**	*mg/l*	ND $_{<0.0035}$	ND $_{<0.0035}$	**NE**
Acenaphthene	**EPA 625.1**	**1**	**83-32-9**	*mg/l*	ND $_{<0.0016}$	ND $_{<0.0016}$	**NE**
Acenaphthylene	**EPA 625.1**	**77**	**208-96-8**	*mg/l*	ND $_{<0.0016}$	ND $_{<0.0016}$	**NE**
Anthracene	**EPA 625.1**	**78**	**120-12-7**	*mg/l*	ND $_{<0.0017}$	ND $_{<0.0017}$	**NE**
Benzidine	**EPA 625.1**	**5**	**92-87-5**	*mg/l*	ND $_{<0.0027}$	ND $_{<0.0027}$	**NE**
Benzo(a)anthracene	**EPA 625.1**	**72**	**56-55-3**	*mg/l*	ND $_{<0.0018}$	ND $_{<0.0018}$	**NE**
Benzo(a)pyrene	**EPA 625.1**	**73**	**50-32-8**	*mg/l*	ND $_{<0.0021}$	ND $_{<0.0021}$	**NE**
Benzo(b)fluoranthene	**EPA 625.1**	**74**	**205-99-2**	*mg/l*	ND $_{<0.0019}$	ND $_{<0.0019}$	**NE**
Benzo(g,h,i)perylene	**EPA 625.1**	**79**	**191-24-2**	*mg/l*	ND $_{<0.0014}$	ND $_{<0.0014}$	**NE**
Benzo(k)fluoranthene	**EPA 625.1**	**75**	**207-08-9**	*mg/l*	ND $_{<0.0019}$	ND $_{<0.0019}$	**NE**
bis(2-Chloroethoxy)methane	**EPA 625.1**	**43**	**111-91-1**	*mg/l*	ND $_{<0.0018}$	ND $_{<0.0018}$	**NE**
bis(2-Chloroethyl) ether	**EPA 625.1**	**18**	**111-44-4**	*mg/l*	ND $_{<0.0018}$	ND $_{<0.0018}$	**NE**
bis(2-Ethylhexyl)phthalate	**EPA 625.1**	**66**	**117-81-7**	*mg/l*	0.0024 J B	ND $_{<0.0021}$	**NE**
Butylbenzylphthalate	**EPA 625.1**	**67**	**85-68-7**	*mg/l*	ND $_{<0.0016}$	ND $_{<0.0016}$	**NE**
Chrysene	**EPA 625.1**	**76**	**218-01-9**	*mg/l*	ND $_{<0.0017}$	ND $_{<0.0017}$	**NE**
Dibenz(a,h)anthracene	**EPA 625.1**	**82**	**53-70-3**	*mg/l*	ND $_{<0.0016}$	ND $_{<0.0016}$	**NE**
Diethylphthalate	**EPA 625.1**	**70**	**84-66-2**	*mg/l*	ND $_{<0.0024}$	ND $_{<0.0024}$	**NE**
Dimethylphthalate	**EPA 625.1**	**71**	**131-11-3**	*mg/l*	ND $_{<0.0016}$	ND $_{<0.0016}$	**NE**
Di-n-butylphthalate	**EPA 625.1**	**68**	**84-74-2**	*mg/l*	ND $_{<0.0018}$	ND $_{<0.0018}$	**NE**
Di-n-octylphthalate	**EPA 625.1**	**69**	**117-84-0**	*mg/l*	ND $_{<0.0018}$	ND $_{<0.0018}$	**NE**
Fluoranthene	**EPA 625.1**	**39**	**206-44-0**	*mg/l*	ND $_{<0.0017}$	ND $_{<0.0017}$	**NE**
Fluorene	**EPA 625.1**	**80**	**86-73-7**	*mg/l*	ND $_{<0.0016}$	ND $_{<0.0016}$	**NE**
Hexachloro-1,3-butadiene	**EPA 625.1**	**52**	**87-68-3**	*mg/l*	ND $_{<0.0020}$	ND $_{<0.0020}$	**0.00044**
Hexachlorobenzene	**EPA 625.1**	**9**	**118-74-1**	*mg/l*	ND $_{<0.0017}$	ND $_{<0.0017}$	**NE**
Hexachlorocyclopentadiene	**EPA 625.1**	**53**	**77-47-4**	*mg/l*	ND $_{<0.0017}$	ND $_{<0.0017}$	**NE**
Hexachloroethane	**EPA 625.1**	**12**	**67-72-1**	*mg/l*	ND $_{<0.0020}$	ND $_{<0.0020}$	**NE**
Indeno(1,2,3-cd)pyrene	**EPA 625.1**	**83**	**193-39-5**	*mg/l*	ND $_{<0.0016}$	ND $_{<0.0016}$	**NE**
Isophorone	**EPA 625.1**	**54**	**78-59-1**	*mg/l*	ND $_{<0.0016}$	ND $_{<0.0016}$	**NE**
Naphthalene	**EPA 625.1**	**55**	**91-20-3**	*mg/l*	ND $_{<0.0014}$	ND $_{<0.0014}$	**NE**
Nitrobenzene	**EPA 625.1**	**56**	**98-95-3**	*mg/l*	ND $_{<0.0021}$	ND $_{<0.0021}$	**NE**
N-Nitrosodimethylamine	**EPA 625.1**	**61**	**62-75-9**	*mg/l*	ND $_{<0.0012}$	ND $_{<0.0012}$	**NE**
N-Nitroso-di-n-propylamine	**EPA 625.1**	**63**	**621-64-7**	*mg/l*	ND $_{<0.0022}$	ND $_{<0.0022}$	**NE**
N-Nitrosodiphenylamine	**EPA 625.1**	**62**	**86-30-6**	*mg/l*	ND $_{<0.0017}$	ND $_{<0.0017}$	**NE**
2,2'-Oxybis(1-chloropropane) [1]	**EPA 625.1**	**42**	**108-60-1**	*mg/l*	ND $_{<0.0028}$	ND $_{<0.0028}$	**NE**
Pentachlorophenol	**EPA 625.1**	**64**	**87-86-5**	*mg/l*	ND $_{<0.0022}$	ND $_{<0.0022}$	**NE**
Phenanthrene	**EPA 625.1**	**81**	**85-01-8**	*mg/l*	ND $_{<0.0017}$	ND $_{<0.0017}$	**NE**
Phenol	**EPA 625.1**	**65**	**108-95-2**	*mg/l*	ND $_{<0.00091}$	ND $_{<0.00091}$	**NE**
Pyrene	**EPA 625.1**	**84**	**129-00-0**	*mg/l*	ND $_{<0.0021}$	ND $_{<0.0021}$	**NE**
Total PAHs [2]	**EPA 625.1**	**--**	**--**	*mg/l*	ND	ND	**0.0000028**

ND - The analyte was not detected above laboratory detection limits. Subscript indicates compound-specific MDL in mg/l.
NE - Not established.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
B - Analyte was detected in the associated method blank.
[1] - Per EPA correspondence, 40 CFR 423 Appendix A Number 42 (misidentified as bis(2-Chloroisopropyl)ether) is associated with CAS Number 108-60-1 (2, 2'-oxybis (1-chloropropane)).
[2] - Total PAHs are the sum of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene and indeno(1,2,3-cd)pyrene detections.

Appendix A

Laboratory Report and Chain of Custody Form

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

May 22, 2019

Michael W. Worden
Environeering, Inc.
16100 Cairnway
Suite 320
Houston, TX 77084

RE: Project: LITTLE MOUNTAIN CREE-CONFIRMAT
Pace Project No.: 92424944

Dear Michael Worden:
Enclosed are the analytical results for sample(s) received by the laboratory on April 10, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

A revised laboratory report is being submitted on 5/22/19 to report full list 625, per client request.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angela M. Baioni

Angela Baioni
angela.baioni@pacelabs.com
(704)875-9092
Project Manager

Enclosures

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: LITTLE MOUNTAIN CREE-CONFIRMAT
Pace Project No.: 92424944

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: LITTLE MOUNTAIN CREE-CONFIRMAT
Pace Project No.: 92424944

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92424944001	**ABL-SW008-F008**	Water	04/10/19 10:50	04/10/19 16:11
92424944002	**ABL-SW008-D008**	Water	04/10/19 10:55	04/10/19 16:11

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: LITTLE MOUNTAIN CREE-CONFIRMAT
Pace Project No.: 92424944

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92424944001	**ABL-SW008-F008**	EPA 625.1	PKS	63	PASI-C
92424944002	**ABL-SW008-D008**	EPA 625.1	PKS	63	PASI-C

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: LITTLE MOUNTAIN CREE-CONFIRMAT
Pace Project No.: 92424944

Sample: ABL-SW008-F008 **Lab ID: 92424944001** Collected: 04/10/19 10:50 Received: 04/10/19 16:11 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
625 RVE	Analytical Method: EPA 625.1 Preparation Method: EPA 625.1								
Acenaphthene	ND	ug/L	5.0	1.6	1	04/11/19 22:29	04/12/19 19:39	83-32-9	
Acenaphthylene	ND	ug/L	5.0	1.6	1	04/11/19 22:29	04/12/19 19:39	208-96-8	
Anthracene	ND	ug/L	5.0	1.7	1	04/11/19 22:29	04/12/19 19:39	120-12-7	
Benzidine	ND	ug/L	50.0	2.7	1	04/11/19 22:29	04/12/19 19:39	92-87-5	
Benzo(a)anthracene	ND	ug/L	5.0	1.8	1	04/11/19 22:29	04/12/19 19:39	56-55-3	
Benzo(a)pyrene	ND	ug/L	5.0	2.1	1	04/11/19 22:29	04/12/19 19:39	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	5.0	1.9	1	04/11/19 22:29	04/12/19 19:39	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	5.0	1.4	1	04/11/19 22:29	04/12/19 19:39	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	5.0	1.9	1	04/11/19 22:29	04/12/19 19:39	207-08-9	
4-Bromophenylphenyl ether	ND	ug/L	5.0	1.6	1	04/11/19 22:29	04/12/19 19:39	101-55-3	
Butylbenzylphthalate	ND	ug/L	5.0	1.6	1	04/11/19 22:29	04/12/19 19:39	85-68-7	
4-Chloro-3-methylphenol	ND	ug/L	5.0	2.8	1	04/11/19 22:29	04/12/19 19:39	59-50-7	M1
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.8	1	04/11/19 22:29	04/12/19 19:39	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	5.0	1.8	1	04/11/19 22:29	04/12/19 19:39	111-44-4	
2-Chloronaphthalene	ND	ug/L	5.0	1.5	1	04/11/19 22:29	04/12/19 19:39	91-58-7	
2-Chlorophenol	ND	ug/L	5.0	1.2	1	04/11/19 22:29	04/12/19 19:39	95-57-8	M1
4-Chlorophenylphenyl ether	ND	ug/L	5.0	1.6	1	04/11/19 22:29	04/12/19 19:39	7005-72-3	
Chrysene	ND	ug/L	5.0	1.7	1	04/11/19 22:29	04/12/19 19:39	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	5.0	1.6	1	04/11/19 22:29	04/12/19 19:39	53-70-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	1.3	1	04/11/19 22:29	04/12/19 19:39	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1.5	1	04/11/19 22:29	04/12/19 19:39	541-73-1	
1,4-Dichlorobenzene	**3.0J**	ug/L	5.0	2.1	1	04/11/19 22:29	04/12/19 19:39	106-46-7	B
3,3'-Dichlorobenzidine	ND	ug/L	25.0	3.0	1	04/11/19 22:29	04/12/19 19:39	91-94-1	
2,4-Dichlorophenol	ND	ug/L	5.0	1.4	1	04/11/19 22:29	04/12/19 19:39	120-83-2	
Diethylphthalate	ND	ug/L	5.0	2.4	1	04/11/19 22:29	04/12/19 19:39	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	1.4	1	04/11/19 22:29	04/12/19 19:39	105-67-9	
Dimethylphthalate	ND	ug/L	5.0	1.6	1	04/11/19 22:29	04/12/19 19:39	131-11-3	
Di-n-butylphthalate	ND	ug/L	5.0	1.8	1	04/11/19 22:29	04/12/19 19:39	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	15.2	1	04/11/19 22:29	04/12/19 19:39	534-52-1	M1
2,4-Dinitrophenol	ND	ug/L	50.0	40.5	1	04/11/19 22:29	04/12/19 19:39	51-28-5	M1
2,4-Dinitrotoluene	ND	ug/L	5.0	1.2	1	04/11/19 22:29	04/12/19 19:39	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	5.0	1.4	1	04/11/19 22:29	04/12/19 19:39	606-20-2	
Di-n-octylphthalate	ND	ug/L	5.0	1.8	1	04/11/19 22:29	04/12/19 19:39	117-84-0	
1,2-Diphenylhydrazine	ND	ug/L	5.0	2.3	1	04/11/19 22:29	04/12/19 19:39	122-66-7	
bis(2-Ethylhexyl)phthalate	**2.4J**	ug/L	5.0	2.1	1	04/11/19 22:29	04/12/19 19:39	117-81-7	B
Fluoranthene	ND	ug/L	5.0	1.7	1	04/11/19 22:29	04/12/19 19:39	206-44-0	
Fluorene	ND	ug/L	5.0	1.6	1	04/11/19 22:29	04/12/19 19:39	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	2.0	1	04/11/19 22:29	04/12/19 19:39	87-68-3	
Hexachlorobenzene	ND	ug/L	5.0	1.7	1	04/11/19 22:29	04/12/19 19:39	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.7	1	04/11/19 22:29	04/12/19 19:39	77-47-4	
Hexachloroethane	ND	ug/L	5.0	2.0	1	04/11/19 22:29	04/12/19 19:39	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	5.0	1.6	1	04/11/19 22:29	04/12/19 19:39	193-39-5	
Isophorone	ND	ug/L	10.0	1.6	1	04/11/19 22:29	04/12/19 19:39	78-59-1	
Naphthalene	ND	ug/L	5.0	1.4	1	04/11/19 22:29	04/12/19 19:39	91-20-3	
Nitrobenzene	ND	ug/L	5.0	2.1	1	04/11/19 22:29	04/12/19 19:39	98-95-3	
2-Nitrophenol	ND	ug/L	5.0	1.4	1	04/11/19 22:29	04/12/19 19:39	88-75-5	M1

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: LITTLE MOUNTAIN CREE-CONFIRMAT
Pace Project No.: 92424944

Sample: ABL-SW008-F008 **Lab ID: 92424944001** Collected: 04/10/19 10:50 Received: 04/10/19 16:11 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
625 RVE	Analytical Method: EPA 625.1 Preparation Method: EPA 625.1								
4-Nitrophenol	ND	ug/L	50.0	3.5	1	04/11/19 22:29	04/12/19 19:39	100-02-7	M1
N-Nitrosodimethylamine	ND	ug/L	5.0	1.2	1	04/11/19 22:29	04/12/19 19:39	62-75-9	
N-Nitroso-di-n-propylamine	ND	ug/L	5.0	2.2	1	04/11/19 22:29	04/12/19 19:39	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	1.7	1	04/11/19 22:29	04/12/19 19:39	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/L	5.0	2.8	1	04/11/19 22:29	04/12/19 19:39	108-60-1	
Pentachlorophenol	ND	ug/L	10.0	2.2	1	04/11/19 22:29	04/12/19 19:39	87-86-5	M1
Phenanthrene	ND	ug/L	5.0	1.7	1	04/11/19 22:29	04/12/19 19:39	85-01-8	
Phenol	ND	ug/L	5.0	0.91	1	04/11/19 22:29	04/12/19 19:39	108-95-2	M1
Pyrene	ND	ug/L	5.0	2.1	1	04/11/19 22:29	04/12/19 19:39	129-00-0	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	1.5	1	04/11/19 22:29	04/12/19 19:39	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	10.0	1.5	1	04/11/19 22:29	04/12/19 19:39	88-06-2	M1
Surrogates									
Nitrobenzene-d5 (S)	74	%	10-120		1	04/11/19 22:29	04/12/19 19:39	4165-60-0	
2-Fluorobiphenyl (S)	64	%	15-120		1	04/11/19 22:29	04/12/19 19:39	321-60-8	
Terphenyl-d14 (S)	78	%	11-131		1	04/11/19 22:29	04/12/19 19:39	1718-51-0	
Phenol-d6 (S)	4	%	10-120		1	04/11/19 22:29	04/12/19 19:39	13127-88-3	P2,S0
2-Fluorophenol (S)	0	%	10-120		1	04/11/19 22:29	04/12/19 19:39	367-12-4	S0
2,4,6-Tribromophenol (S)	1	%	10-137		1	04/11/19 22:29	04/12/19 19:39	118-79-6	S0

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: LITTLE MOUNTAIN CREE-CONFIRMAT
Pace Project No.: 92424944

Sample: ABL-SW008-D008 **Lab ID: 92424944002** Collected: 04/10/19 10:55 Received: 04/10/19 16:11 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
625 RVE	Analytical Method: EPA 625.1 Preparation Method: EPA 625.1								
Acenaphthene	ND	ug/L	5.0	1.6	1	04/11/19 22:29	04/12/19 20:42	83-32-9	
Acenaphthylene	ND	ug/L	5.0	1.6	1	04/11/19 22:29	04/12/19 20:42	208-96-8	
Anthracene	ND	ug/L	5.0	1.7	1	04/11/19 22:29	04/12/19 20:42	120-12-7	
Benzidine	ND	ug/L	50.0	2.7	1	04/11/19 22:29	04/12/19 20:42	92-87-5	
Benzo(a)anthracene	ND	ug/L	5.0	1.8	1	04/11/19 22:29	04/12/19 20:42	56-55-3	
Benzo(a)pyrene	ND	ug/L	5.0	2.1	1	04/11/19 22:29	04/12/19 20:42	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	5.0	1.9	1	04/11/19 22:29	04/12/19 20:42	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	5.0	1.4	1	04/11/19 22:29	04/12/19 20:42	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	5.0	1.9	1	04/11/19 22:29	04/12/19 20:42	207-08-9	
4-Bromophenylphenyl ether	ND	ug/L	5.0	1.6	1	04/11/19 22:29	04/12/19 20:42	101-55-3	
Butylbenzylphthalate	ND	ug/L	5.0	1.6	1	04/11/19 22:29	04/12/19 20:42	85-68-7	
4-Chloro-3-methylphenol	ND	ug/L	5.0	2.8	1	04/11/19 22:29	04/12/19 20:42	59-50-7	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.8	1	04/11/19 22:29	04/12/19 20:42	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	5.0	1.8	1	04/11/19 22:29	04/12/19 20:42	111-44-4	
2-Chloronaphthalene	ND	ug/L	5.0	1.5	1	04/11/19 22:29	04/12/19 20:42	91-58-7	
2-Chlorophenol	ND	ug/L	5.0	1.2	1	04/11/19 22:29	04/12/19 20:42	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	5.0	1.6	1	04/11/19 22:29	04/12/19 20:42	7005-72-3	
Chrysene	ND	ug/L	5.0	1.7	1	04/11/19 22:29	04/12/19 20:42	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	5.0	1.6	1	04/11/19 22:29	04/12/19 20:42	53-70-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	1.3	1	04/11/19 22:29	04/12/19 20:42	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1.5	1	04/11/19 22:29	04/12/19 20:42	541-73-1	
1,4-Dichlorobenzene	**2.4J**	ug/L	5.0	2.1	1	04/11/19 22:29	04/12/19 20:42	106-46-7	B
3,3'-Dichlorobenzidine	ND	ug/L	25.0	3.0	1	04/11/19 22:29	04/12/19 20:42	91-94-1	
2,4-Dichlorophenol	ND	ug/L	5.0	1.4	1	04/11/19 22:29	04/12/19 20:42	120-83-2	
Diethylphthalate	ND	ug/L	5.0	2.4	1	04/11/19 22:29	04/12/19 20:42	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	1.4	1	04/11/19 22:29	04/12/19 20:42	105-67-9	
Dimethylphthalate	ND	ug/L	5.0	1.6	1	04/11/19 22:29	04/12/19 20:42	131-11-3	
Di-n-butylphthalate	ND	ug/L	5.0	1.8	1	04/11/19 22:29	04/12/19 20:42	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	15.2	1	04/11/19 22:29	04/12/19 20:42	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	40.5	1	04/11/19 22:29	04/12/19 20:42	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	5.0	1.2	1	04/11/19 22:29	04/12/19 20:42	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	5.0	1.4	1	04/11/19 22:29	04/12/19 20:42	606-20-2	
Di-n-octylphthalate	ND	ug/L	5.0	1.8	1	04/11/19 22:29	04/12/19 20:42	117-84-0	
1,2-Diphenylhydrazine	ND	ug/L	5.0	2.3	1	04/11/19 22:29	04/12/19 20:42	122-66-7	
bis(2-Ethylhexyl)phthalate	ND	ug/L	5.0	2.1	1	04/11/19 22:29	04/12/19 20:42	117-81-7	
Fluoranthene	ND	ug/L	5.0	1.7	1	04/11/19 22:29	04/12/19 20:42	206-44-0	
Fluorene	ND	ug/L	5.0	1.6	1	04/11/19 22:29	04/12/19 20:42	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	2.0	1	04/11/19 22:29	04/12/19 20:42	87-68-3	
Hexachlorobenzene	ND	ug/L	5.0	1.7	1	04/11/19 22:29	04/12/19 20:42	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.7	1	04/11/19 22:29	04/12/19 20:42	77-47-4	
Hexachloroethane	ND	ug/L	5.0	2.0	1	04/11/19 22:29	04/12/19 20:42	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	5.0	1.6	1	04/11/19 22:29	04/12/19 20:42	193-39-5	
Isophorone	ND	ug/L	10.0	1.6	1	04/11/19 22:29	04/12/19 20:42	78-59-1	
Naphthalene	ND	ug/L	5.0	1.4	1	04/11/19 22:29	04/12/19 20:42	91-20-3	
Nitrobenzene	ND	ug/L	5.0	2.1	1	04/11/19 22:29	04/12/19 20:42	98-95-3	
2-Nitrophenol	ND	ug/L	5.0	1.4	1	04/11/19 22:29	04/12/19 20:42	88-75-5	

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: LITTLE MOUNTAIN CREE-CONFIRMAT
Pace Project No.: 92424944

Sample: ABL-SW008-D008 **Lab ID: 92424944002** Collected: 04/10/19 10:55 Received: 04/10/19 16:11 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
625 RVE	Analytical Method: EPA 625.1 Preparation Method: EPA 625.1								
4-Nitrophenol	ND	ug/L	50.0	3.5	1	04/11/19 22:29	04/12/19 20:42	100-02-7	
N-Nitrosodimethylamine	ND	ug/L	5.0	1.2	1	04/11/19 22:29	04/12/19 20:42	62-75-9	
N-Nitroso-di-n-propylamine	ND	ug/L	5.0	2.2	1	04/11/19 22:29	04/12/19 20:42	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	1.7	1	04/11/19 22:29	04/12/19 20:42	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/L	5.0	2.8	1	04/11/19 22:29	04/12/19 20:42	108-60-1	
Pentachlorophenol	ND	ug/L	10.0	2.2	1	04/11/19 22:29	04/12/19 20:42	87-86-5	
Phenanthrene	ND	ug/L	5.0	1.7	1	04/11/19 22:29	04/12/19 20:42	85-01-8	
Phenol	ND	ug/L	5.0	0.91	1	04/11/19 22:29	04/12/19 20:42	108-95-2	
Pyrene	ND	ug/L	5.0	2.1	1	04/11/19 22:29	04/12/19 20:42	129-00-0	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	1.5	1	04/11/19 22:29	04/12/19 20:42	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	10.0	1.5	1	04/11/19 22:29	04/12/19 20:42	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	66	%	10-120		1	04/11/19 22:29	04/12/19 20:42	4165-60-0	
2-Fluorobiphenyl (S)	55	%	15-120		1	04/11/19 22:29	04/12/19 20:42	321-60-8	
Terphenyl-d14 (S)	67	%	11-131		1	04/11/19 22:29	04/12/19 20:42	1718-51-0	
Phenol-d6 (S)	34	%	10-120		1	04/11/19 22:29	04/12/19 20:42	13127-88-3	
2-Fluorophenol (S)	49	%	10-120		1	04/11/19 22:29	04/12/19 20:42	367-12-4	
2,4,6-Tribromophenol (S)	64	%	10-137		1	04/11/19 22:29	04/12/19 20:42	118-79-6	

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: LITTLE MOUNTAIN CREE-CONFIRMAT
Pace Project No.: 92424944

QC Batch: 468936 | Analysis Method: EPA 625.1
QC Batch Method: EPA 625.1 | Analysis Description: 625 MSS
Associated Lab Samples: 92424944001, 92424944002

METHOD BLANK: 2546977 | Matrix: Water
Associated Lab Samples: 92424944001, 92424944002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	1.5	04/12/19 15:25	
1,2-Dichlorobenzene	ug/L	ND	5.0	1.3	04/12/19 15:25	
1,2-Diphenylhydrazine	ug/L	ND	5.0	2.3	04/12/19 15:25	
1,3-Dichlorobenzene	ug/L	ND	5.0	1.5	04/12/19 15:25	
1,4-Dichlorobenzene	ug/L	3.4J	5.0	2.1	04/12/19 15:25	
2,2'-Oxybis(1-chloropropane)	ug/L	ND	5.0	2.8	04/12/19 15:25	
2,4,6-Trichlorophenol	ug/L	ND	10.0	1.5	04/12/19 15:25	
2,4-Dichlorophenol	ug/L	ND	5.0	1.4	04/12/19 15:25	
2,4-Dimethylphenol	ug/L	ND	10.0	1.4	04/12/19 15:25	
2,4-Dinitrophenol	ug/L	ND	50.0	40.5	04/12/19 15:25	
2,4-Dinitrotoluene	ug/L	ND	5.0	1.2	04/12/19 15:25	
2,6-Dinitrotoluene	ug/L	ND	5.0	1.4	04/12/19 15:25	
2-Chloronaphthalene	ug/L	ND	5.0	1.5	04/12/19 15:25	
2-Chlorophenol	ug/L	ND	5.0	1.2	04/12/19 15:25	
2-Nitrophenol	ug/L	ND	5.0	1.4	04/12/19 15:25	
3,3'-Dichlorobenzidine	ug/L	ND	25.0	3.0	04/12/19 15:25	
4,6-Dinitro-2-methylphenol	ug/L	ND	20.0	15.2	04/12/19 15:25	
4-Bromophenylphenyl ether	ug/L	ND	5.0	1.6	04/12/19 15:25	
4-Chloro-3-methylphenol	ug/L	ND	5.0	2.8	04/12/19 15:25	
4-Chlorophenylphenyl ether	ug/L	ND	5.0	1.6	04/12/19 15:25	
4-Nitrophenol	ug/L	ND	50.0	3.5	04/12/19 15:25	
Acenaphthene	ug/L	ND	5.0	1.6	04/12/19 15:25	
Acenaphthylene	ug/L	ND	5.0	1.6	04/12/19 15:25	
Anthracene	ug/L	ND	5.0	1.7	04/12/19 15:25	
Benzidine	ug/L	ND	50.0	2.7	04/12/19 15:25	
Benzo(a)anthracene	ug/L	ND	5.0	1.8	04/12/19 15:25	
Benzo(a)pyrene	ug/L	ND	5.0	2.1	04/12/19 15:25	
Benzo(b)fluoranthene	ug/L	ND	5.0	1.9	04/12/19 15:25	
Benzo(g,h,i)perylene	ug/L	ND	5.0	1.4	04/12/19 15:25	
Benzo(k)fluoranthene	ug/L	ND	5.0	1.9	04/12/19 15:25	
bis(2-Chloroethoxy)methane	ug/L	ND	10.0	1.8	04/12/19 15:25	
bis(2-Chloroethyl) ether	ug/L	ND	5.0	1.8	04/12/19 15:25	
bis(2-Ethylhexyl)phthalate	ug/L	3.2J	5.0	2.1	04/12/19 15:25	
Butylbenzylphthalate	ug/L	ND	5.0	1.6	04/12/19 15:25	
Chrysene	ug/L	ND	5.0	1.7	04/12/19 15:25	
Di-n-butylphthalate	ug/L	ND	5.0	1.8	04/12/19 15:25	
Di-n-octylphthalate	ug/L	ND	5.0	1.8	04/12/19 15:25	
Dibenz(a,h)anthracene	ug/L	ND	5.0	1.6	04/12/19 15:25	
Diethylphthalate	ug/L	ND	5.0	2.4	04/12/19 15:25	
Dimethylphthalate	ug/L	ND	5.0	1.6	04/12/19 15:25	
Fluoranthene	ug/L	ND	5.0	1.7	04/12/19 15:25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: LITTLE MOUNTAIN CREE-CONFIRMAT
Pace Project No.: 92424944

METHOD BLANK: 2546977 Matrix: Water
Associated Lab Samples: 92424944001, 92424944002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluorene	ug/L	ND	5.0	1.6	04/12/19 15:25	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	2.0	04/12/19 15:25	
Hexachlorobenzene	ug/L	ND	5.0	1.7	04/12/19 15:25	
Hexachlorocyclopentadiene	ug/L	ND	10.0	1.7	04/12/19 15:25	
Hexachloroethane	ug/L	ND	5.0	2.0	04/12/19 15:25	
Indeno(1,2,3-cd)pyrene	ug/L	ND	5.0	1.6	04/12/19 15:25	
Isophorone	ug/L	ND	10.0	1.6	04/12/19 15:25	
N-Nitroso-di-n-propylamine	ug/L	ND	5.0	2.2	04/12/19 15:25	
N-Nitrosodimethylamine	ug/L	ND	5.0	1.2	04/12/19 15:25	
N-Nitrosodiphenylamine	ug/L	ND	10.0	1.7	04/12/19 15:25	
Naphthalene	ug/L	ND	5.0	1.4	04/12/19 15:25	
Nitrobenzene	ug/L	ND	5.0	2.1	04/12/19 15:25	
Pentachlorophenol	ug/L	ND	10.0	2.2	04/12/19 15:25	
Phenanthrene	ug/L	ND	5.0	1.7	04/12/19 15:25	
Phenol	ug/L	ND	5.0	0.91	04/12/19 15:25	
Pyrene	ug/L	ND	5.0	2.1	04/12/19 15:25	
2,4,6-Tribromophenol (S)	%	79	10-137		04/12/19 15:25	
2-Fluorobiphenyl (S)	%	76	15-120		04/12/19 15:25	
2-Fluorophenol (S)	%	50	10-120		04/12/19 15:25	
Nitrobenzene-d5 (S)	%	85	10-120		04/12/19 15:25	
Phenol-d6 (S)	%	43	10-120		04/12/19 15:25	
Terphenyl-d14 (S)	%	107	11-131		04/12/19 15:25	

LABORATORY CONTROL SAMPLE: 2546978

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	26.3	53	44-142	
1,2-Dichlorobenzene	ug/L	50	26.6	53	32-129	
1,2-Diphenylhydrazine	ug/L	50	39.4	79	25-150	
1,3-Dichlorobenzene	ug/L	50	25.8	52	1-172	
1,4-Dichlorobenzene	ug/L	50	29.2	58	20-124	
2,2'-Oxybis(1-chloropropane)	ug/L	50	32.4	65	36-166	
2,4,6-Trichlorophenol	ug/L	50	38.0	76	37-144	
2,4-Dichlorophenol	ug/L	50	34.9	70	1-191	
2,4-Dimethylphenol	ug/L	50	35.4	71	32-119	
2,4-Dinitrophenol	ug/L	250	ND	13	1-181	
2,4-Dinitrotoluene	ug/L	50	40.8	82	39-139	
2,6-Dinitrotoluene	ug/L	50	40.6	81	50-158	
2-Chloronaphthalene	ug/L	50	30.7	61	60-118	
2-Chlorophenol	ug/L	50	34.0	68	23-134	
2-Nitrophenol	ug/L	50	35.9	72	29-182	
3,3'-Dichlorobenzidine	ug/L	100	83.5	83	1-262	
4,6-Dinitro-2-methylphenol	ug/L	100	72.5	72	1-181	
4-Bromophenylphenyl ether	ug/L	50	38.9	78	53-127	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: LITTLE MOUNTAIN CREE-CONFIRMAT
Pace Project No.: 92424944

LABORATORY CONTROL SAMPLE: 2546978

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Chloro-3-methylphenol	ug/L	100	74.7	75	22-147	
4-Chlorophenylphenyl ether	ug/L	50	37.1	74	25-158	
4-Nitrophenol	ug/L	250	89.2	36	1-132	
Acenaphthene	ug/L	50	37.5	75	47-145	
Acenaphthylene	ug/L	50	40.3	81	33-145	
Anthracene	ug/L	50	45.6	91	1-166	
Benzidine	ug/L	100	35.3J	35	25-150	
Benzo(a)anthracene	ug/L	50	48.0	96	33-143	
Benzo(a)pyrene	ug/L	50	49.3	99	17-163	
Benzo(b)fluoranthene	ug/L	50	49.8	100	24-159	
Benzo(g,h,i)perylene	ug/L	50	48.6	97	1-219	
Benzo(k)fluoranthene	ug/L	50	49.5	99	11-162	
bis(2-Chloroethoxy)methane	ug/L	50	33.4	67	33-184	
bis(2-Chloroethyl) ether	ug/L	50	32.8	66	12-158	
bis(2-Ethylhexyl)phthalate	ug/L	50	52.3	105	8-158	
Butylbenzylphthalate	ug/L	50	50.2	100	1-152	
Chrysene	ug/L	50	46.7	93	17-168	
Di-n-butylphthalate	ug/L	50	48.8	98	1-118	
Di-n-octylphthalate	ug/L	50	51.7	103	4-146	
Dibenz(a,h)anthracene	ug/L	50	48.5	97	1-227	
Diethylphthalate	ug/L	50	43.5	87	1-114	
Dimethylphthalate	ug/L	50	39.5	79	1-112	
Fluoranthene	ug/L	50	49.0	98	26-137	
Fluorene	ug/L	50	41.4	83	59-121	
Hexachloro-1,3-butadiene	ug/L	50	24.7	49	24-116	
Hexachlorobenzene	ug/L	50	37.8	76	1-152	
Hexachlorocyclopentadiene	ug/L	50	25.4	51	25-150	
Hexachloroethane	ug/L	50	25.2	50	40-113	
Indeno(1,2,3-cd)pyrene	ug/L	50	49.0	98	1-171	
Isophorone	ug/L	50	34.3	69	21-196	
N-Nitroso-di-n-propylamine	ug/L	50	31.5	63	1-230	
N-Nitrosodimethylamine	ug/L	50	30.6	61	25-150	
N-Nitrosodiphenylamine	ug/L	50	39.3	79	25-150	
Naphthalene	ug/L	50	33.3	67	21-133	
Nitrobenzene	ug/L	50	34.1	68	35-180	
Pentachlorophenol	ug/L	100	73.1	73	14-176	
Phenanthrene	ug/L	50	44.8	90	54-120	
Phenol	ug/L	50	21.3	43	5-112	
Pyrene	ug/L	50	48.6	97	52-115	
2,4,6-Tribromophenol (S)	%			95	10-137	
2-Fluorobiphenyl (S)	%			71	15-120	
2-Fluorophenol (S)	%			58	10-120	
Nitrobenzene-d5 (S)	%			78	10-120	
Phenol-d6 (S)	%			45	10-120	
Terphenyl-d14 (S)	%			90	11-131	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: LITTLE MOUNTAIN CREE-CONFIRMAT
Pace Project No.: 92424944

MATRIX SPIKE SAMPLE: 2546979

Parameter	Units	92424944001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	32.2	64	44-142	
1,2-Dichlorobenzene	ug/L	ND	50	32.1	64	32-129	
1,2-Diphenylhydrazine	ug/L	ND	50	41.8	84	25-150	
1,3-Dichlorobenzene	ug/L	ND	50	31.5	63	1-172	
1,4-Dichlorobenzene	ug/L	3.0J	50	35.4	65	20-124	
2,2'-Oxybis(1-chloropropane)	ug/L	ND	50	38.0	76	36-166	
2,4,6-Trichlorophenol	ug/L	ND	50	ND	0	37-144	M1
2,4-Dichlorophenol	ug/L	ND	50	2.0J	4	1-191	
2,4-Dimethylphenol	ug/L	ND	50	26.5	53	32-119	
2,4-Dinitrophenol	ug/L	ND	250	ND	0	1-181	M1
2,4-Dinitrotoluene	ug/L	ND	50	41.1	82	39-139	
2,6-Dinitrotoluene	ug/L	ND	50	43.7	87	50-158	
2-Chloronaphthalene	ug/L	ND	50	36.5	73	60-118	
2-Chlorophenol	ug/L	ND	50	2.3J	5	23-134	M1
2-Nitrophenol	ug/L	ND	50	ND	0	29-182	M1
3,3'-Dichlorobenzidine	ug/L	ND	100	79.0	79	1-262	
4,6-Dinitro-2-methylphenol	ug/L	ND	100	ND	0	1-181	M1
4-Bromophenylphenyl ether	ug/L	ND	50	41.3	83	53-127	
4-Chloro-3-methylphenol	ug/L	ND	100	16.9	17	22-147	M1
4-Chlorophenylphenyl ether	ug/L	ND	50	39.6	79	25-158	
4-Nitrophenol	ug/L	ND	250	ND	0	1-132	M1
Acenaphthene	ug/L	ND	50	42.5	85	47-145	
Acenaphthylene	ug/L	ND	50	46.0	92	33-145	
Anthracene	ug/L	ND	50	47.1	94	1-166	
Benzidine	ug/L	ND	100	42.1J	42	25-150	
Benzo(a)anthracene	ug/L	ND	50	48.2	96	33-143	
Benzo(a)pyrene	ug/L	ND	50	48.3	97	17-163	
Benzo(b)fluoranthene	ug/L	ND	50	47.4	95	24-159	
Benzo(g,h,i)perylene	ug/L	ND	50	47.1	94	1-219	
Benzo(k)fluoranthene	ug/L	ND	50	48.2	96	11-162	
bis(2-Chloroethoxy)methane	ug/L	ND	50	39.6	79	33-184	
bis(2-Chloroethyl) ether	ug/L	ND	50	39.0	78	12-158	
bis(2-Ethylhexyl)phthalate	ug/L	2.4J	50	50.8	97	8-158	
Butylbenzylphthalate	ug/L	ND	50	49.2	98	1-152	
Chrysene	ug/L	ND	50	46.3	93	17-168	
Di-n-butylphthalate	ug/L	ND	50	47.7	95	1-118	
Di-n-octylphthalate	ug/L	ND	50	52.2	104	4-146	
Dibenz(a,h)anthracene	ug/L	ND	50	47.7	95	1-227	
Diethylphthalate	ug/L	ND	50	42.9	86	1-114	
Dimethylphthalate	ug/L	ND	50	40.7	81	1-112	
Fluoranthene	ug/L	ND	50	49.7	99	26-137	
Fluorene	ug/L	ND	50	44.6	89	59-121	
Hexachloro-1,3-butadiene	ug/L	ND	50	31.7	63	24-116	
Hexachlorobenzene	ug/L	ND	50	38.9	78	1-152	
Hexachlorocyclopentadiene	ug/L	ND	50	30.5	61	25-150	
Hexachloroethane	ug/L	ND	50	30.7	61	40-113	
Indeno(1,2,3-cd)pyrene	ug/L	ND	50	48.4	97	1-171	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: LITTLE MOUNTAIN CREE-CONFIRMAT
Pace Project No.: 92424944

MATRIX SPIKE SAMPLE: 2546979

Parameter	Units	92424944001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Isophorone	ug/L	ND	50	39.6	79	21-196	
N-Nitroso-di-n-propylamine	ug/L	ND	50	36.4	73	1-230	
N-Nitrosodimethylamine	ug/L	ND	50	33.3	67	25-150	
N-Nitrosodiphenylamine	ug/L	ND	50	39.2	78	25-150	
Naphthalene	ug/L	ND	50	40.0	80	21-133	
Nitrobenzene	ug/L	ND	50	39.5	79	35-180	
Pentachlorophenol	ug/L	ND	100	ND	0	14-176	M1
Phenanthrene	ug/L	ND	50	45.8	92	54-120	
Phenol	ug/L	ND	50	2.0J	4	5-112	M1
Pyrene	ug/L	ND	50	48.0	96	52-115	
2,4,6-Tribromophenol (S)	%				3	10-137	S0
2-Fluorobiphenyl (S)	%				81	15-120	
2-Fluorophenol (S)	%				2	10-120	S0
Nitrobenzene-d5 (S)	%				89	10-120	
Phenol-d6 (S)	%				4	10-120	S0
Terphenyl-d14 (S)	%				86	11-131	

SAMPLE DUPLICATE: 2546980

Parameter	Units	92424944002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	ND		30	
1,2-Dichlorobenzene	ug/L	ND	ND		30	
1,2-Diphenylhydrazine	ug/L	ND	ND		30	
1,3-Dichlorobenzene	ug/L	ND	ND		30	
1,4-Dichlorobenzene	ug/L	2.4J	2.8J		30	
2,2'-Oxybis(1-chloropropane)	ug/L	ND	ND		30	
2,4,6-Trichlorophenol	ug/L	ND	ND		30	
2,4-Dichlorophenol	ug/L	ND	ND		30	
2,4-Dimethylphenol	ug/L	ND	ND		30	
2,4-Dinitrophenol	ug/L	ND	ND		30	
2,4-Dinitrotoluene	ug/L	ND	ND		30	
2,6-Dinitrotoluene	ug/L	ND	ND		30	
2-Chloronaphthalene	ug/L	ND	ND		30	
2-Chlorophenol	ug/L	ND	ND		30	
2-Nitrophenol	ug/L	ND	ND		30	
3,3'-Dichlorobenzidine	ug/L	ND	ND		30	
4,6-Dinitro-2-methylphenol	ug/L	ND	ND		30	
4-Bromophenylphenyl ether	ug/L	ND	ND		30	
4-Chloro-3-methylphenol	ug/L	ND	ND		30	
4-Chlorophenylphenyl ether	ug/L	ND	ND		30	
4-Nitrophenol	ug/L	ND	ND		30	
Acenaphthene	ug/L	ND	ND		30	
Acenaphthylene	ug/L	ND	ND		30	
Anthracene	ug/L	ND	ND		30	
Benzidine	ug/L	ND	ND		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: LITTLE MOUNTAIN CREE-CONFIRMAT
Pace Project No.: 92424944

SAMPLE DUPLICATE: 2546980

Parameter	Units	92424944002 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzo(a)anthracene	ug/L	ND	ND		30	
Benzo(a)pyrene	ug/L	ND	ND		30	
Benzo(b)fluoranthene	ug/L	ND	ND		30	
Benzo(g,h,i)perylene	ug/L	ND	ND		30	
Benzo(k)fluoranthene	ug/L	ND	ND		30	
bis(2-Chloroethoxy)methane	ug/L	ND	ND		30	
bis(2-Chloroethyl) ether	ug/L	ND	ND		30	
bis(2-Ethylhexyl)phthalate	ug/L	ND	ND		30	
Butylbenzylphthalate	ug/L	ND	ND		30	
Chrysene	ug/L	ND	ND		30	
Di-n-butylphthalate	ug/L	ND	ND		30	
Di-n-octylphthalate	ug/L	ND	ND		30	
Dibenz(a,h)anthracene	ug/L	ND	ND		30	
Diethylphthalate	ug/L	ND	ND		30	
Dimethylphthalate	ug/L	ND	ND		30	
Fluoranthene	ug/L	ND	ND		30	
Fluorene	ug/L	ND	ND		30	
Hexachloro-1,3-butadiene	ug/L	ND	ND		30	
Hexachlorobenzene	ug/L	ND	ND		30	
Hexachlorocyclopentadiene	ug/L	ND	ND		30	
Hexachloroethane	ug/L	ND	ND		30	
Indeno(1,2,3-cd)pyrene	ug/L	ND	ND		30	
Isophorone	ug/L	ND	ND		30	
N-Nitroso-di-n-propylamine	ug/L	ND	ND		30	
N-Nitrosodimethylamine	ug/L	ND	ND		30	
N-Nitrosodiphenylamine	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
Nitrobenzene	ug/L	ND	ND		30	
Pentachlorophenol	ug/L	ND	ND		30	
Phenanthrene	ug/L	ND	ND		30	
Phenol	ug/L	ND	ND		30	
Pyrene	ug/L	ND	ND		30	
2,4,6-Tribromophenol (S)	%	64	79			
2-Fluorobiphenyl (S)	%	55	67			
2-Fluorophenol (S)	%	49	57			
Nitrobenzene-d5 (S)	%	66	76			
Phenol-d6 (S)	%	34	41			
Terphenyl-d14 (S)	%	67	80			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: LITTLE MOUNTAIN CREE-CONFIRMAT
Pace Project No.: 92424944

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P2	Re-extraction or re-analysis could not be performed due to insufficient sample amount.
S0	Surrogate recovery outside laboratory control limits.

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LITTLE MOUNTAIN CREE-CONFIRMAT
Pace Project No.: 92424944

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92424944001	**ABL-SW008-F008**	EPA 625.1	468936	EPA 625.1	469086
92424944002	**ABL-SW008-D008**	EPA 625.1	468936	EPA 625.1	469086

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical	Sample Condition Upon Receipt(SCUR)	Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.06	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☑ Raleigh ☐ Mechanicsville ☐

Sample Condition Upon Receipt

Client Name: Alcoa-Badin

Project #:

WO# : 92424944
92424944

Courier: ☐ Commercial ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ Other:____

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☑ No

Date/Initials Person Examining Contents: SR 4-10-19

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☑ IR Gun ID: 92T048

Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp (°C): 5.8 **Correction Factor:** Add/Subtract (°C) 0.0

Cooler Temp Corrected (°C): 5.8

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☑ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: WT				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☑ No	☐ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

Field Data Required? ☐ Yes ☐ No

COMMENTS/SAMPLE DISCREPANCY

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: AMB **Date:** 4-11-19

Project Manager SRF Review: AMB **Date:** 4-11-19

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottle**

Project # WO#: 92424944

PM: AMB Due Date: 04/17/19

CLIENT: 92-Alcoa

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1										2																	2		
2										2																	2		
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A — Required Client Information:

Company:	Alcoa-Badin Works (Environeering)
Address:	~~130 Fort Jackson Road~~ 16100 CHANNAM ~~Morrisville, NC 27560~~ HOUSTON TX 77084
Email:	M. WORDEN
Phone:	919 341 1442 Fax:
Requested Due Date:	STD

Section B — Required Project Information:

Report To:	Worden, Michael
Copy To:	
Purchase Order #:	
Project Name:	Little Mountain Creek-Confirmation, 137-267
Project #:	

Section C — Invoice Information:

Attention:	M. WORDEN
Company Name:	ENVIRONEERING
Address:	HOUSTON TX
Pace Quote:	
Pace Project Manager:	angela.baioni@pacelabs.com,
Pace Profile #:	7478-7

Regulatory Agency
NCDEQ
State / Location
NC

Requested Analysis Filtered (Y/N): Y/N

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test: 625 (PPL PAHs)	1668A (PCB Congeners)	Residual Chlorine (Y/N)	9424944
1	ABL-SW008-F008	WT	C	—		4/10/19	1050		4	4								X	X		001
2	ABL-SW008-D008	WT	G	—		4/10/19	1055		4	4								X	X		002
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	ENVIRONEERING	4/10/19	1611	PACE	4-10-19	1611	5.8	Y	N	Y

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	M. WORDEN		
SIGNATURE of SAMPLER:		DATE Signed:	4/10/19

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Pace Analytical Services, LLC.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

Report Prepared for:

Angela Baioni
PACE Charlotte
9800 Kincey Ave.
Huntersville NC 28078

REPORT OF LABORATORY ANALYSIS FOR PCBs

Report Prepared Date:
May 6, 2019

Report Information:

Pace Project #: 10470569
Sample Receipt Date: 04/12/2019
Client Project #: 92424944
Client Sub PO #: N/A
State Cert #: 27700

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCB Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nathan Boberg, your Pace Project Manager.

This report has been reviewed by:

May 06, 2019

Nathan Boberg, Project Manager
612-360-0728
(612) 607-6444 (fax)
nathan.boberg@pacelabs.com

Report of Laboratory Analysis

This report should not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

The results relate only to the samples included in this report.

Pace Analytical Services, LLC.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on two samples submitted by a representative of Pace Analytical - NC. The samples were analyzed for the presence or absence of polychlorinated biphenyl (PCB) congeners using USEPA Method 1668A. Reporting limits were set to 0.25-0.75 parts-per-trillion and were adjusted for the amount of sample extracted.

The dilution level noted on the data tables is being adjusted to allow the correct data flags to populate the electronic deliverables as well as the data tables. Samples and MDL extracts were analyzed at elevated volumes. That volume is being treated as a 1x dilution for calculation purposes, with larger dilutions being factored from that volume. The standard reporting limits were not adjusted since the limits remained within the calibration range even after dilutions were applied.

The recoveries of the isotopically-labeled PCB internal standards in the sample extracts ranged from 11-63%. With nine exceptions, flagged "R" on the sample results tables, all of the labeled standard recoveries obtained for this project were within the target ranges specified in Method 1668A. Since the quantification of the native congeners was based on isotope dilution and internal standard methodology, the data were automatically corrected for variation in recovery and accurate values were obtained. Incorrect isotope ratios were obtained for selected PCB congeners. The affected congeners were flagged "I" on the results table.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCB congeners at the reporting limits. This indicates that the sample preparation procedures did not significantly contribute to the PCB content of the sample material.

Laboratory spike samples were also prepared with the sample batch using reference material that had been fortified with native standards. The results show that the spiked native compounds were recovered at 84-112%, with relative percent differences of 0.0-13.3%. These values were within method limits. Matrix spikes were not extracted with this sample batch.

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
A2LA	2926.01	Minnesota - Pet	1240
Alabama	40770	Mississippi	MN00064
Alaska - DW	MN00064	Missouri - DW	10100
Alaska - UST	17-009	Montana	CERT0092
Arizona	AZ0014	Nebraska	NE-OS-18-06
Arkansas - DW	MN00064	Nevada	MN00064
Arkansas - WW	88-0680	New Hampshire	2081
CNMI Saipan	MP0003	New Jersey (NE	MN002
California	2929	New York	11647
Colorado	MN00064	North Carolina	27700
Connecticut	PH-0256	North Carolina -	27700
EPA Region 8+	via MN 027-053	North Carolina -	530
Florida (NELAP	E87605	North Dakota	R-036
Georgia	959	Ohio - DW	41244
Guam	17-001r	Ohio - VAP	CL101
Hawaii	MN00064	Oklahoma	9507
Idaho	MN00064	Oregon - Primar	MN300001
Illinois	200011	Oregon - Secon	MN200001
Indiana	C-MN-01	Pennsylvania	68-00563
Iowa	368	Puerto Rico	MN00064
Kansas	E-10167	South Carolina	74003
Kentucky - DW	90062	South Dakota	NA
Kentucky - WW	90062	Tennessee	TN02818
Louisiana - DE	03086	Texas	T104704192
Louisiana - DW	MN00064	Utah (NELAP)	MN00064
Maine	MN00064	Virginia	460163
Maryland	322	Washington	C486
Massachusetts	M-MN064	West Virginia -	382
Michigan	9909	West Virginia -	9952C
Minnesota	027-053-137	Wisconsin	999407970
Minnesota - De	via MN 027-053	Wyoming - UST	2926.01

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Appendix A

Sample Management

Chain of Custody

Pace Analytical®
www.pacelabs.com

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: NC
Cert. Needed: ☐ Yes ☐ No

Workorder: 92424944 **Workorder Name:** LITTLE MOUNTAIN CREE-CONFIRMAT **Owner Received Date:** 4/10/2019 **Results Requested By:** 4/17/2019

Report To

Angela Baioni
Pace Analytical Charlotte
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
Phone (704)875-9092

Subcontract To

Pace Analytical Minnesota
1700 Elm Street SE
Suite 200
Minneapolis, MN 55414
Phone (612)607-1700

Requested Analysis

WO#: 10470569
10470569

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved		1613 - 2,3,7,8-TCDD only	LAB USE ONLY
1	ABL-SW008-F008	PS	4/10/2019 10:50	92424944001	Water	1	2	X	w1
2	ABL-SW008-D008	PS	4/10/2019 10:55	92424944002	Water	1	2	X	w1
3									
4									
5									

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	4/10/19 1800	Michael G Pace	4-11-19 8:40
2	Michael G Pace	4-11-19 1800	[signature]	4/12/19 9:15
3				

Comments

Cooler Temperature on Receipt 1.3 °C **Custody Seal** Y or (N) **Received on Ice** (Y) or N **Samples Intact** (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

Report No....10470569_1668_209_DFR

Page 5 of 33

Page 24 of 32

Pace Analytical	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 05Apr2019 Page 1 of 1
	Document No.: **F-MN-L-213-rev.27**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Pace, NC

Project #: **WO#: 10470569**

PM: NB3 **Due Date: 04/26/19**

CLIENT: PASI-CHRLT

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial **See Exception** ☐

Tracking Number: 4630 8716 2180

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: _____ **Temp Blank?** ☒ Yes ☐ No

Thermometer: ☐ T1(0461) ☒ T2(1336) ☐ T3(0459) ☐ T4(0254) ☐ T5(0048) **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Dry ☐ Melted

Note: Each West Virginia Sample must have temp taken (no temp blanks)

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 1.9 °C **Average Corrected Temp (no temp blank only):** _____ °C **See Exceptions** ☐

Correction Factor: TM **Cooler Temp Corrected w/temp blank:** 1.9 °C

USDA Regulated Soil: (☒ N/A, water sample/Other: _____) **Date/Initials of Person Examining Contents:** Clt 4/12/19

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present and Filled Out?	☒ Yes	☐ No		1.
Chain of Custody Relinquished?	☒ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☐ Yes	☐ No	☒ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other_____
Rush Turn Around Time Requested?	☒ Yes	☐ No		6.
Sufficient Volume?	☒ Yes	☐ No		7.
Correct Containers Used?	☒ Yes	☐ No		8.
-Pace Containers Used?	☒ Yes	☐ No		
Containers Intact?	☒ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC? Matrix: ☒ Water ☐ Soil ☐ Oil ☐ Other_____	☒ Yes	☐ No		11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☒ N/A	☐ NaOH ☐ HNO_3 ☐ H_2SO_4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☐ Yes	☐ No	☒ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** **See Exception** ☐
				Res. Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☒ N/A	13. **See Exception** ☐
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Nathan Boberg **Date:** 4/15/19

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled by: Clt

Chain of Custody

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: NC
Cert. Needed: ☐ Yes ☐ No

Pace Analytical®
www.pacelabs.com

Workorder: 92424944 **Workorder Name:** LITTLE MOUNTAIN CREE-CONFIRMAT **Owner Received Date:** 4/10/2019 **Results Requested By:** 4/17/2019

Report To

Angela Baioni
Pace Analytical Charlotte
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
Phone (704)875-9092

Subcontract To

Pace Analytical Minnesota
1700 Elm Street SE
Suite 200
Minneapolis, MN 55414
Phone (612)607-1700

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved						Requested Analysis: 1668 (PCB Congeners)												LAB USE ONLY
1	ABL-SW008-F008	PS	4/10/2019 10:50	92424944001	Water	1	2					X												
2	ABL-SW008-D008	PS	4/10/2019 10:55	92424944002	Water	1	2					X												
3																								
4																								
5																								

Transfers	Released By	Date/Time	Received By	Date/Time
1				
2				
3				

Comments

Cooler Temperature on Receipt ____ °C | **Custody Seal** Y or N | **Received on Ice** Y or N | **Samples Intact** Y or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

L = Suppressive interference, analyte may be biased low

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Appendix B

Sample Analysis Summary

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - PACE Charlotte

Client's Sample ID	ABL-SW008-F008		
Lab Sample ID	92424944001		
Filename	P190502B_15		
Injected By	ZMS		
Total Amount Extracted	1000 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	04/10/2019 10:50
ICAL ID	P190502B05	Received	04/12/2019 09:15
CCal Filename(s)	P190502B_06	Extracted	04/29/2019 12:50
Method Blank ID	BLANK-70188	Analyzed	05/03/2019 01:32

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	9.295	3.38	2.0	0.312	16	R
13C-4-MoCB	3	12.144	2.64	2.0	0.343	18	IR
13C-2,2'-DiCB	4	12.450	1.66	2.0	0.324	16	R
13C-4,4'-DiCB	15	19.700	1.79	2.0	0.607	30	
13C-2,2',6-TrCB	19	16.351	1.15	2.0	0.583	29	
13C-3,4,4'-TrCB	37	27.740	1.04	2.0	0.905	45	
13C-2,2',6,6'-TeCB	54	20.052	0.83	2.0	0.487	24	R
13C-3,4,4',5-TeCB	81	35.125	0.88	2.0	0.979	49	
13C-3,3',4,4'-TeCB	77	35.712	0.87	2.0	0.971	49	
13C-2,2',4,6,6'-PeCB	104	26.394	1.65	2.0	0.707	35	
13C-2,3,3',4,4'-PeCB	105	39.474	1.64	2.0	1.06	53	
13C-2,3,4,4',5-PeCB	114	38.787	1.57	2.0	1.06	53	
13C-2,3',4,4',5-PeCB	118	38.216	1.65	2.0	1.11	55	
13C-2,3',4,4',5'-PeCB	123	37.881	1.54	2.0	1.07	53	
13C-3,3',4,4',5-PeCB	126	42.744	1.66	2.0	0.960	48	
13C-2,2',4,4',6,6'-HxCB	155	32.650	1.28	2.0	0.941	47	
13C-HxCB(156/157)	156/157	45.935	1.30	4.0	2.15	54	
13C-2,3',4,4',5,5'-HxCB	167	44.745	1.31	2.0	1.10	55	
13C-3,3',4,4',5,5'-HxCB	169	49.356	1.26	2.0	0.980	49	
13C-2,2',3,4',5,6,6'-HpCB	188	38.770	1.06	2.0	1.26	63	
13C-2,3,3',4,4',5,5'-HpCB	189	51.991	1.03	2.0	1.20	60	
13C-2,2',3,3',5,5',6,6'-OcCB	202	44.477	0.87	2.0	1.19	60	
13C-2,3,3',4,4',5,5',6-OcCB	205	54.707	0.88	2.0	1.12	56	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	56.518	0.76	2.0	1.02	51	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	51.496	0.86	2.0	1.14	57	
13C-DeCB	209	58.199	0.72	2.0	1.08	54	
CleanupStandards							
13C-2,4,4'-TrCB	28	23.238	1.10	2.0	1.45	72	
13C-2,3,3',5,5'-PeCB	111	35.774	1.65	2.0	1.39	69	
13C-2,2',3,3',5,5',6-HpCB	178	42.006	1.09	2.0	1.51	75	
Recovery Standards							
13C-2,5-DiCB	9	14.958	1.65	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	25.295	0.87	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	32.882	1.62	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	41.537	1.42	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	54.211	0.92	2.0	NA	NA	

R = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID ABL-SW008-F008
Lab Sample ID 92424944001
Filename P190502B_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.249
2		---	---	ND	---	0.249
3		---	---	ND	---	0.249
4		---	---	ND	---	0.249
5		---	---	ND	---	0.249
6		---	---	ND	---	0.249
7		---	---	ND	---	0.249
8		---	---	ND	---	0.249
9		---	---	ND	---	0.249
10		---	---	ND	---	0.249
11		---	---	ND	---	2.44
12	12/13	---	---	ND	---	0.499
13	12/13	---	---	ND	---	0.499
14		---	---	ND	---	0.249
15		---	---	ND	---	0.329
16		---	---	ND	---	0.249
17		---	---	ND	---	0.249
18	18/30	---	---	ND	---	0.499
19		---	---	ND	---	0.249
20	20/28	---	---	ND	---	1.29
21	21/33	---	---	ND	---	1.35
22		---	---	ND	---	0.948
23		---	---	ND	---	0.249
24		---	---	ND	---	0.249
25		---	---	ND	---	0.249
26	26/29	---	---	ND	---	0.499
27		---	---	ND	---	0.249
28	20/28	---	---	ND	---	1.29
29	26/29	---	---	ND	---	0.499
30	18/30	---	---	ND	---	0.499
31		---	---	ND	---	1.30
32		---	---	ND	---	0.249
33	21/33	---	---	ND	---	1.35
34		---	---	ND	---	0.249
35		---	---	ND	---	0.249
36		---	---	ND	---	0.249
37		---	---	ND	---	0.529
38		---	---	ND	---	0.249
39		---	---	ND	---	0.249
40	40/41/71	---	---	ND	---	1.50
41	40/41/71	---	---	ND	---	1.50
42		---	---	ND	---	0.499
43	43/73	---	---	ND	---	0.499
44	44/47/65	---	---	ND	---	1.50

Conc = Concentration
EML =Method Reporting/Quantitation Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID ABL-SW008-F008
Lab Sample ID 92424944001
Filename P190502B_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
45	45/51	---	---	ND	---	0.998
46		---	---	ND	---	0.499
47	44/47/65	---	---	ND	---	1.50
48		---	---	ND	---	0.499
49	49/69	---	---	ND	---	0.998
50	50/53	---	---	ND	---	0.998
51	45/51	---	---	ND	---	0.998
52		---	---	ND	---	1.54
53	50/53	---	---	ND	---	0.998
54		---	---	ND	---	0.499
55		---	---	ND	---	0.499
56		---	---	ND	---	0.499
57		---	---	ND	---	0.499
58		---	---	ND	---	0.499
59	59/62/75	---	---	ND	---	1.50
60		---	---	ND	---	0.499
61	61/70/74/76	---	---	ND	---	2.00
62	59/62/75	---	---	ND	---	1.50
63		---	---	ND	---	0.499
64		---	---	ND	---	0.499
65	44/47/65	---	---	ND	---	1.50
66		---	---	ND	---	0.838
67		---	---	ND	---	0.499
68		---	---	ND	---	0.499
69	49/69	---	---	ND	---	0.998
70	61/70/74/76	---	---	ND	---	2.00
71	40/41/71	---	---	ND	---	1.50
72		---	---	ND	---	0.499
73	43/73	---	---	ND	---	0.499
74	61/70/74/76	---	---	ND	---	2.00
75	59/62/75	---	---	ND	---	1.50
76	61/70/74/76	---	---	ND	---	2.00
77		---	---	ND	---	0.499
78		---	---	ND	---	0.499
79		---	---	ND	---	0.499
80		---	---	ND	---	0.499
81		---	---	ND	---	0.499
82		---	---	ND	---	0.499
83		---	---	ND	---	0.499
84		---	---	ND	---	0.499
85	85/116/117	---	---	ND	---	1.50
86	86/87/97/108/119/125	---	---	ND	---	2.99
87	86/87/97/108/119/125	---	---	ND	---	2.99
88	88/91	---	---	ND	---	0.998

Conc = Concentration
EML =Method Reporting/Quantitation Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID ABL-SW008-F008
Lab Sample ID 92424944001
Filename P190502B_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
89		---	---	ND	---	0.499
90	90/101/113	---	---	ND	---	1.50
91	88/91	---	---	ND	---	0.998
92		---	---	ND	---	0.499
93	93/98/100/102	---	---	ND	---	2.00
94		---	---	ND	---	0.499
95		---	---	ND	---	0.948
96		---	---	ND	---	0.499
97	86/87/97/108/119/125	---	---	ND	---	2.99
98	93/98/100/102	---	---	ND	---	2.00
99		---	---	ND	---	0.499
100	93/98/100/102	---	---	ND	---	2.00
101	90/101/113	---	---	ND	---	1.50
102	93/98/100/102	---	---	ND	---	2.00
103		---	---	ND	---	0.499
104		---	---	ND	---	0.499
105		---	---	ND	---	0.499
106		---	---	ND	---	0.499
107	107/124	---	---	ND	---	0.998
108	86/87/97/108/119/125	---	---	ND	---	2.99
109		---	---	ND	---	0.499
110	110/115	---	---	ND	---	0.998
111		---	---	ND	---	0.499
112		---	---	ND	---	0.499
113	90/101/113	---	---	ND	---	1.50
114		---	---	ND	---	0.499
115	110/115	---	---	ND	---	0.998
116	85/116/117	---	---	ND	---	1.50
117	85/116/117	---	---	ND	---	1.50
118		---	---	ND	---	0.638
119	86/87/97/108/119/125	---	---	ND	---	2.99
120		---	---	ND	---	0.499
121		---	---	ND	---	0.499
122		---	---	ND	---	0.499
123		---	---	ND	---	0.499
124	107/124	---	---	ND	---	0.998
125	86/87/97/108/119/125	---	---	ND	---	2.99
126		---	---	ND	---	0.499
127		---	---	ND	---	0.499
128	128/166	---	---	ND	---	0.998
129	129/138/163	---	---	ND	---	1.50
130		---	---	ND	---	0.499
131		---	---	ND	---	0.499
132		---	---	ND	---	0.499

Conc = Concentration
EML =Method Reporting/Quantitation Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID ABL-SW008-F008
Lab Sample ID 92424944001
Filename P190502B_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
133		---	---	ND	---	0.499
134	134/143	---	---	ND	---	0.998
135	135/151	---	---	ND	---	0.998
136		---	---	ND	---	0.499
137		---	---	ND	---	0.499
138	129/138/163	---	---	ND	---	1.50
139	139/140	---	---	ND	---	0.998
140	139/140	---	---	ND	---	0.998
141		---	---	ND	---	0.499
142		---	---	ND	---	0.499
143	134/143	---	---	ND	---	0.998
144		---	---	ND	---	0.499
145		---	---	ND	---	0.499
146		---	---	ND	---	0.499
147	147/149	---	---	ND	---	0.998
148		---	---	ND	---	0.499
149	147/149	---	---	ND	---	0.998
150		---	---	ND	---	0.499
151	135/151	---	---	ND	---	0.998
152		---	---	ND	---	0.499
153	153/168	---	---	ND	---	0.998
154		---	---	ND	---	0.499
155		---	---	ND	---	0.499
156	156/157	---	---	ND	---	0.998
157	156/157	---	---	ND	---	0.998
158		---	---	ND	---	0.499
159		---	---	ND	---	0.499
160		---	---	ND	---	0.499
161		---	---	ND	---	0.499
162		---	---	ND	---	0.499
163	129/138/163	---	---	ND	---	1.50
164		---	---	ND	---	0.499
165		---	---	ND	---	0.499
166	128/166	---	---	ND	---	0.998
167		---	---	ND	---	0.499
168	153/168	---	---	ND	---	0.998
169		---	---	ND	---	0.499
170		---	---	ND	---	0.499
171	171/173	---	---	ND	---	0.998
172		---	---	ND	---	0.499
173	171/173	---	---	ND	---	0.998
174		---	---	ND	---	0.499
175		---	---	ND	---	0.499
176		---	---	ND	---	0.499

Conc = Concentration
EML =Method Reporting/Quantitation Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID ABL-SW008-F008
Lab Sample ID 92424944001
Filename P190502B_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
177		---	---	ND	---	0.499
178		---	---	ND	---	0.499
179		---	---	ND	---	0.499
180	180/193	---	---	ND	---	0.998
181		---	---	ND	---	0.499
182		---	---	ND	---	0.499
183	183/185	---	---	ND	---	0.998
184		---	---	ND	---	0.499
185	183/185	---	---	ND	---	0.998
186		---	---	ND	---	0.499
187		---	---	ND	---	0.499
188		---	---	ND	---	0.499
189		---	---	ND	---	0.499
190		---	---	ND	---	0.499
191		---	---	ND	---	0.499
192		---	---	ND	---	0.499
193	180/193	---	---	ND	---	0.998
194		---	---	ND	---	0.748
195		---	---	ND	---	0.748
196		---	---	ND	---	0.748
197	197/200	---	---	ND	---	1.50
198	198/199	---	---	ND	---	1.50
199	198/199	---	---	ND	---	1.50
200	197/200	---	---	ND	---	1.50
201		---	---	ND	---	0.748
202		---	---	ND	---	0.748
203		---	---	ND	---	0.748
204		---	---	ND	---	0.748
205		---	---	ND	---	0.748
206		---	---	ND	---	0.748
207		---	---	ND	---	0.748
208		---	---	ND	---	0.748
209		---	---	ND	---	0.748

Conc = Concentration
EML =Method Reporting/Quantitation Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	ABL-SW008-F008
Lab Sample ID	92424944001
Filename	P190502B_15

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
DecachloroBiphenyls	ND
Total PCBs	ND

ND = Not Detected

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - PACE Charlotte

Client's Sample ID	ABL-SW008-D008		
Lab Sample ID	92424944002		
Filename	P190502B_16		
Injected By	ZMS		
Total Amount Extracted	1010 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	04/10/2019 10:55
ICAL ID	P190502B05	Received	04/12/2019 09:15
CCal Filename(s)	P190502B_06	Extracted	04/29/2019 12:50
Method Blank ID	BLANK-70188	Analyzed	05/03/2019 02:36

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	9.317	3.36	2.0	0.220	11	R
13C-4-MoCB	3	12.156	3.47	2.0	0.270	13	R
13C-2,2'-DiCB	4	12.473	1.81	2.0	0.266	13	R
13C-4,4'-DiCB	15	19.723	1.38	2.0	0.563	28	
13C-2,2',6-TrCB	19	16.363	0.97	2.0	0.328	16	R
13C-3,4,4'-TrCB	37	27.741	1.20	2.0	0.962	48	
13C-2,2',6,6'-TeCB	54	20.053	0.90	2.0	0.373	20	IR
13C-3,4,4',5-TeCB	81	35.126	0.86	2.0	0.958	48	
13C-3,3',4,4'-TeCB	77	35.744	0.77	2.0	0.906	45	
13C-2,2',4,6,6'-PeCB	104	26.395	1.75	2.0	0.679	34	
13C-2,3,3',4,4'-PeCB	105	39.492	1.61	2.0	1.05	53	
13C-2,3,4,4',5-PeCB	114	38.788	1.63	2.0	1.08	54	
13C-2,3',4,4',5-PeCB	118	38.235	1.47	2.0	1.08	54	
13C-2,3',4,4',5'-PeCB	123	37.882	1.58	2.0	1.09	55	
13C-3,3',4,4',5-PeCB	126	42.762	1.66	2.0	1.01	51	
13C-2,2',4,4',6,6'-HxCB	155	32.651	1.29	2.0	0.770	39	
13C-HxCB(156/157)	156/157	45.954	1.35	4.0	2.07	52	
13C-2,3',4,4',5,5'-HxCB	167	44.746	1.24	2.0	1.03	52	
13C-3,3',4,4',5,5'-HxCB	169	49.358	1.18	2.0	0.936	47	
13C-2,2',3,4',5,6,6'-HpCB	188	38.805	1.09	2.0	1.14	57	
13C-2,3,3',4,4',5,5'-HpCB	189	52.015	1.08	2.0	1.22	61	
13C-2,2',3,3',5,5',6,6'-OcCB	202	44.478	0.87	2.0	1.11	56	
13C-2,3,3',4,4',5,5',6-OcCB	205	54.730	0.92	2.0	1.09	55	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	56.541	0.87	2.0	0.982	49	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	51.519	0.85	2.0	1.03	51	
13C-DeCB	209	58.222	0.78	2.0	0.994	50	
CleanupStandards							
13C-2,4,4'-TrCB	28	23.239	1.06	2.0	1.34	67	
13C-2,3,3',5,5'-PeCB	111	35.791	1.60	2.0	1.47	74	
13C-2,2',3,3',5,5',6-HpCB	178	42.025	1.11	2.0	1.51	75	
Recovery Standards							
13C-2,5-DiCB	9	14.970	1.62	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	25.312	0.83	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	32.883	1.65	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	41.538	1.21	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	54.235	0.95	2.0	NA	NA	

R = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID ABL-SW008-D008
Lab Sample ID 92424944002
Filename P190502B_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.248
2		---	---	ND	---	0.248
3		---	---	ND	---	0.248
4		---	---	ND	---	0.248
5		---	---	ND	---	0.248
6		---	---	ND	---	0.248
7		---	---	ND	---	0.248
8		---	---	ND	---	0.248
9		---	---	ND	---	0.248
10		---	---	ND	---	0.248
11		---	---	ND	---	2.43
12	12/13	---	---	ND	---	0.496
13	12/13	---	---	ND	---	0.496
14		---	---	ND	---	0.248
15		---	---	ND	---	0.328
16		---	---	ND	---	0.248
17		---	---	ND	---	0.248
18	18/30	---	---	ND	---	0.496
19		---	---	ND	---	0.248
20	20/28	---	---	ND	---	1.28
21	21/33	---	---	ND	---	1.34
22		---	---	ND	---	0.943
23		---	---	ND	---	0.248
24		---	---	ND	---	0.248
25		---	---	ND	---	0.248
26	26/29	---	---	ND	---	0.496
27		---	---	ND	---	0.248
28	20/28	---	---	ND	---	1.28
29	26/29	---	---	ND	---	0.496
30	18/30	---	---	ND	---	0.496
31		---	---	ND	---	1.29
32		---	---	ND	---	0.248
33	21/33	---	---	ND	---	1.34
34		---	---	ND	---	0.248
35		---	---	ND	---	0.248
36		---	---	ND	---	0.248
37		---	---	ND	---	0.526
38		---	---	ND	---	0.248
39		---	---	ND	---	0.248
40	40/41/71	---	---	ND	---	1.49
41	40/41/71	---	---	ND	---	1.49
42		---	---	ND	---	0.496
43	43/73	---	---	ND	---	0.496
44	44/47/65	---	---	ND	---	1.49

Conc = Concentration
EML =Method Reporting/Quantitation Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID ABL-SW008-D008
Lab Sample ID 92424944002
Filename P190502B_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
45	45/51	---	---	ND	---	0.993
46		---	---	ND	---	0.496
47	44/47/65	---	---	ND	---	1.49
48		---	---	ND	---	0.496
49	49/69	---	---	ND	---	0.993
50	50/53	---	---	ND	---	0.993
51	45/51	---	---	ND	---	0.993
52		---	---	ND	---	1.53
53	50/53	---	---	ND	---	0.993
54		---	---	ND	---	0.496
55		---	---	ND	---	0.496
56		---	---	ND	---	0.496
57		---	---	ND	---	0.496
58		---	---	ND	---	0.496
59	59/62/75	---	---	ND	---	1.49
60		---	---	ND	---	0.496
61	61/70/74/76	---	---	ND	---	1.99
62	59/62/75	---	---	ND	---	1.49
63		---	---	ND	---	0.496
64		---	---	ND	---	0.496
65	44/47/65	---	---	ND	---	1.49
66		---	---	ND	---	0.834
67		---	---	ND	---	0.496
68		---	---	ND	---	0.496
69	49/69	---	---	ND	---	0.993
70	61/70/74/76	---	---	ND	---	1.99
71	40/41/71	---	---	ND	---	1.49
72		---	---	ND	---	0.496
73	43/73	---	---	ND	---	0.496
74	61/70/74/76	---	---	ND	---	1.99
75	59/62/75	---	---	ND	---	1.49
76	61/70/74/76	---	---	ND	---	1.99
77		---	---	ND	---	0.496
78		---	---	ND	---	0.496
79		---	---	ND	---	0.496
80		---	---	ND	---	0.496
81		---	---	ND	---	0.496
82		---	---	ND	---	0.496
83		---	---	ND	---	0.496
84		---	---	ND	---	0.496
85	85/116/117	---	---	ND	---	1.49
86	86/87/97/108/119/125	---	---	ND	---	2.98
87	86/87/97/108/119/125	---	---	ND	---	2.98
88	88/91	---	---	ND	---	0.993

Conc = Concentration
EML =Method Reporting/Quantitation Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID ABL-SW008-D008
Lab Sample ID 92424944002
Filename P190502B_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
89		---	---	ND	---	0.496
90	90/101/113	---	---	ND	---	1.49
91	88/91	---	---	ND	---	0.993
92		---	---	ND	---	0.496
93	93/98/100/102	---	---	ND	---	1.99
94		---	---	ND	---	0.496
95		---	---	ND	---	0.943
96		---	---	ND	---	0.496
97	86/87/97/108/119/125	---	---	ND	---	2.98
98	93/98/100/102	---	---	ND	---	1.99
99		---	---	ND	---	0.496
100	93/98/100/102	---	---	ND	---	1.99
101	90/101/113	---	---	ND	---	1.49
102	93/98/100/102	---	---	ND	---	1.99
103		---	---	ND	---	0.496
104		---	---	ND	---	0.496
105		---	---	ND	---	0.496
106		---	---	ND	---	0.496
107	107/124	---	---	ND	---	0.993
108	86/87/97/108/119/125	---	---	ND	---	2.98
109		---	---	ND	---	0.496
110	110/115	---	---	ND	---	0.993
111		---	---	ND	---	0.496
112		---	---	ND	---	0.496
113	90/101/113	---	---	ND	---	1.49
114		---	---	ND	---	0.496
115	110/115	---	---	ND	---	0.993
116	85/116/117	---	---	ND	---	1.49
117	85/116/117	---	---	ND	---	1.49
118		---	---	ND	---	0.635
119	86/87/97/108/119/125	---	---	ND	---	2.98
120		---	---	ND	---	0.496
121		---	---	ND	---	0.496
122		---	---	ND	---	0.496
123		---	---	ND	---	0.496
124	107/124	---	---	ND	---	0.993
125	86/87/97/108/119/125	---	---	ND	---	2.98
126		---	---	ND	---	0.496
127		---	---	ND	---	0.496
128	128/166	---	---	ND	---	0.993
129	129/138/163	---	---	ND	---	1.49
130		---	---	ND	---	0.496
131		---	---	ND	---	0.496
132		---	---	ND	---	0.496

Conc = Concentration
EML =Method Reporting/Quantitation Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID ABL-SW008-D008
Lab Sample ID 92424944002
Filename P190502B_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
133		---	---	ND	---	0.496
134	134/143	---	---	ND	---	0.993
135	135/151	---	---	ND	---	0.993
136		---	---	ND	---	0.496
137		---	---	ND	---	0.496
138	129/138/163	---	---	ND	---	1.49
139	139/140	---	---	ND	---	0.993
140	139/140	---	---	ND	---	0.993
141		---	---	ND	---	0.496
142		---	---	ND	---	0.496
143	134/143	---	---	ND	---	0.993
144		---	---	ND	---	0.496
145		---	---	ND	---	0.496
146		---	---	ND	---	0.496
147	147/149	---	---	ND	---	0.993
148		---	---	ND	---	0.496
149	147/149	---	---	ND	---	0.993
150		---	---	ND	---	0.496
151	135/151	---	---	ND	---	0.993
152		---	---	ND	---	0.496
153	153/168	---	---	ND	---	0.993
154		---	---	ND	---	0.496
155		---	---	ND	---	0.496
156	156/157	---	---	ND	---	0.993
157	156/157	---	---	ND	---	0.993
158		---	---	ND	---	0.496
159		---	---	ND	---	0.496
160		---	---	ND	---	0.496
161		---	---	ND	---	0.496
162		---	---	ND	---	0.496
163	129/138/163	---	---	ND	---	1.49
164		---	---	ND	---	0.496
165		---	---	ND	---	0.496
166	128/166	---	---	ND	---	0.993
167		---	---	ND	---	0.496
168	153/168	---	---	ND	---	0.993
169		---	---	ND	---	0.496
170		---	---	ND	---	0.496
171	171/173	---	---	ND	---	0.993
172		---	---	ND	---	0.496
173	171/173	---	---	ND	---	0.993
174		---	---	ND	---	0.496
175		---	---	ND	---	0.496
176		---	---	ND	---	0.496

Conc = Concentration
EML =Method Reporting/Quantitation Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID ABL-SW008-D008
Lab Sample ID 92424944002
Filename P190502B_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
177		---	---	ND	---	0.496
178		---	---	ND	---	0.496
179		---	---	ND	---	0.496
180	180/193	---	---	ND	---	0.993
181		---	---	ND	---	0.496
182		---	---	ND	---	0.496
183	183/185	---	---	ND	---	0.993
184		---	---	ND	---	0.496
185	183/185	---	---	ND	---	0.993
186		---	---	ND	---	0.496
187		---	---	ND	---	0.496
188		---	---	ND	---	0.496
189		---	---	ND	---	0.496
190		---	---	ND	---	0.496
191		---	---	ND	---	0.496
192		---	---	ND	---	0.496
193	180/193	---	---	ND	---	0.993
194		---	---	ND	---	0.745
195		---	---	ND	---	0.745
196		---	---	ND	---	0.745
197	197/200	---	---	ND	---	1.49
198	198/199	---	---	ND	---	1.49
199	198/199	---	---	ND	---	1.49
200	197/200	---	---	ND	---	1.49
201		---	---	ND	---	0.745
202		---	---	ND	---	0.745
203		---	---	ND	---	0.745
204		---	---	ND	---	0.745
205		---	---	ND	---	0.745
206		---	---	ND	---	0.745
207		---	---	ND	---	0.745
208		---	---	ND	---	0.745
209		---	---	ND	---	0.745

Conc = Concentration
EML =Method Reporting/Quantitation Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	ABL-SW008-D008
Lab Sample ID	92424944002
Filename	P190502B_16

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
DecachloroBiphenyls	ND
Total PCBs	ND

ND = Not Detected

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID	BLANK-70188		
Filename	P190502B_14		
Injected By	ZMS	Matrix	Water (Non Potable)
Total Amount Extracted	947 mL	Extracted	04/29/2019 12:50
ICAL ID	P190502B05	Analyzed	05/03/2019 00:29
CCal Filename(s)	P190502B_06	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	9.306	3.01	2.0	1.00	50
13C-4-MoCB	3	12.156	3.19	2.0	0.940	47
13C-2,2'-DiCB	4	12.461	1.62	2.0	0.852	43
13C-4,4'-DiCB	15	19.712	1.62	2.0	1.01	51
13C-2,2',6-TrCB	19	16.351	1.03	2.0	1.07	54
13C-3,4,4'-TrCB	37	27.757	0.94	2.0	1.41	71
13C-2,2',6,6'-TeCB	54	20.052	0.81	2.0	0.948	47
13C-3,4,4',5-TeCB	81	35.128	0.79	2.0	1.34	67
13C-3,3',4,4'-TeCB	77	35.732	0.77	2.0	1.29	65
13C-2,2',4,6,6'-PeCB	104	26.380	1.66	2.0	1.15	58
13C-2,3,3',4,4'-PeCB	105	39.478	1.59	2.0	1.52	76
13C-2,3,4,4',5-PeCB	114	38.791	1.61	2.0	1.59	79
13C-2,3',4,4',5-PeCB	118	38.237	1.58	2.0	1.52	76
13C-2,3',4,4',5'-PeCB	123	37.868	1.61	2.0	1.55	78
13C-3,3',4,4',5-PeCB	126	42.765	1.52	2.0	1.38	69
13C-2,2',4,4',6,6'-HxCB	155	32.653	1.34	2.0	1.39	69
13C-HxCB (156/157)	156/157	45.956	1.25	4.0	3.05	76
13C-2,3',4,4',5,5'-HxCB	167	44.731	1.20	2.0	1.59	80
13C-3,3',4,4',5,5'-HxCB	169	49.359	1.31	2.0	1.37	68
13C-2,2',3,4',5,6,6'-HpCB	188	38.791	1.08	2.0	1.76	88
13C-2,3,3',4,4',5,5'-HpCB	189	52.016	1.03	2.0	1.70	85
13C-2,2',3,3',5,5',6,6'-OcCB	202	44.480	0.89	2.0	1.68	84
13C-2,3,3',4,4',5,5',6-OcCB	205	54.710	0.93	2.0	1.57	78
13C-2,2',3,3',4,4',5,5',6-NoCB	206	56.542	0.77	2.0	1.49	75
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	51.520	0.82	2.0	1.62	81
13C-DeCB	209	58.202	0.70	2.0	1.49	74
Cleanup Standards						
13C-2,4,4'-TrCB	28	23.240	1.07	2.0	1.49	75
13C-2,3,3',5,5'-PeCB	111	35.793	1.62	2.0	1.45	72
13C-2,2',3,3',5,5',6-HpCB	178	42.010	1.12	2.0	1.60	80
Recovery Standards						
13C-2,5-DiCB	9	14.969	1.68	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	25.313	0.88	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	32.885	1.56	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	41.541	1.34	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	54.215	0.94	2.0	NA	NA

R = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-70188
Filename P190502B_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.264
2		---	---	ND	---	0.264
3		---	---	ND	---	0.264
4		---	---	ND	---	0.264
5		---	---	ND	---	0.264
6		---	---	ND	---	0.264
7		---	---	ND	---	0.264
8		---	---	ND	---	0.264
9		---	---	ND	---	0.264
10		---	---	ND	---	0.264
11		---	---	ND	---	2.59
12	12/13	---	---	ND	---	0.528
13	12/13	---	---	ND	---	0.528
14		---	---	ND	---	0.264
15		---	---	ND	---	0.264
16		---	---	ND	---	0.264
17		---	---	ND	---	0.264
18	18/30	---	---	ND	---	0.528
19		---	---	ND	---	0.264
20	20/28	---	---	ND	---	1.36
21	21/33	---	---	ND	---	1.43
22		---	---	ND	---	1.00
23		---	---	ND	---	0.264
24		---	---	ND	---	0.264
25		---	---	ND	---	0.264
26	26/29	---	---	ND	---	0.528
27		---	---	ND	---	0.264
28	20/28	---	---	ND	---	1.36
29	26/29	---	---	ND	---	0.528
30	18/30	---	---	ND	---	0.528
31		---	---	ND	---	1.37
32		---	---	ND	---	0.264
33	21/33	---	---	ND	---	1.43
34		---	---	ND	---	0.264
35		---	---	ND	---	0.264
36		---	---	ND	---	0.264
37		---	---	ND	---	0.560
38		---	---	ND	---	0.264
39		---	---	ND	---	0.264
40	40/41/71	---	---	ND	---	1.58
41	40/41/71	---	---	ND	---	1.58
42		---	---	ND	---	0.528
43	43/73	---	---	ND	---	0.528
44	44/47/65	---	---	ND	---	1.58
45	45/51	---	---	ND	---	1.06

Conc = Concentration
EML =Method Reporting/Quantitation Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-70188
Filename P190502B_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
46		---	---	ND	---	0.528
47	44/47/65	---	---	ND	---	1.58
48		---	---	ND	---	0.528
49	49/69	---	---	ND	---	1.06
50	50/53	---	---	ND	---	1.06
51	45/51	---	---	ND	---	1.06
52		---	---	ND	---	1.63
53	50/53	---	---	ND	---	1.06
54		---	---	ND	---	0.528
55		---	---	ND	---	0.528
56		---	---	ND	---	0.528
57		---	---	ND	---	0.528
58		---	---	ND	---	0.528
59	59/62/75	---	---	ND	---	1.58
60		---	---	ND	---	0.528
61	61/70/74/76	---	---	ND	---	2.11
62	59/62/75	---	---	ND	---	1.58
63		---	---	ND	---	0.528
64		---	---	ND	---	0.528
65	44/47/65	---	---	ND	---	1.58
66		---	---	ND	---	0.887
67		---	---	ND	---	0.528
68		---	---	ND	---	0.528
69	49/69	---	---	ND	---	1.06
70	61/70/74/76	---	---	ND	---	2.11
71	40/41/71	---	---	ND	---	1.58
72		---	---	ND	---	0.528
73	43/73	---	---	ND	---	0.528
74	61/70/74/76	---	---	ND	---	2.11
75	59/62/75	---	---	ND	---	1.58
76	61/70/74/76	---	---	ND	---	2.11
77		---	---	ND	---	0.528
78		---	---	ND	---	0.528
79		---	---	ND	---	0.528
80		---	---	ND	---	0.528
81		---	---	ND	---	0.528
82		---	---	ND	---	0.528
83		---	---	ND	---	0.528
84		---	---	ND	---	0.528
85	85/116/117	---	---	ND	---	1.58
86	86/87/97/108/119/125	---	---	ND	---	3.17
87	86/87/97/108/119/125	---	---	ND	---	3.17
88	88/91	---	---	ND	---	1.06
89		---	---	ND	---	0.528
90	90/101/113	---	---	ND	---	1.58

Conc = Concentration
EML =Method Reporting/Quantitation Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-70188
Filename P190502B_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
91	88/91	---	---	ND	---	1.06
92		---	---	ND	---	0.528
93	93/98/100/102	---	---	ND	---	2.11
94		---	---	ND	---	0.528
95		---	---	ND	---	1.00
96		---	---	ND	---	0.528
97	86/87/97/108/119/125	---	---	ND	---	3.17
98	93/98/100/102	---	---	ND	---	2.11
99		---	---	ND	---	0.528
100	93/98/100/102	---	---	ND	---	2.11
101	90/101/113	---	---	ND	---	1.58
102	93/98/100/102	---	---	ND	---	2.11
103		---	---	ND	---	0.528
104		---	---	ND	---	0.528
105		---	---	ND	---	0.528
106		---	---	ND	---	0.528
107	107/124	---	---	ND	---	1.06
108	86/87/97/108/119/125	---	---	ND	---	3.17
109		---	---	ND	---	0.528
110	110/115	---	---	ND	---	1.06
111		---	---	ND	---	0.528
112		---	---	ND	---	0.528
113	90/101/113	---	---	ND	---	1.58
114		---	---	ND	---	0.528
115	110/115	---	---	ND	---	1.06
116	85/116/117	---	---	ND	---	1.58
117	85/116/117	---	---	ND	---	1.58
118		---	---	ND	---	0.676
119	86/87/97/108/119/125	---	---	ND	---	3.17
120		---	---	ND	---	0.528
121		---	---	ND	---	0.528
122		---	---	ND	---	0.528
123		---	---	ND	---	0.528
124	107/124	---	---	ND	---	1.06
125	86/87/97/108/119/125	---	---	ND	---	3.17
126		---	---	ND	---	0.528
127		---	---	ND	---	0.528
128	128/166	---	---	ND	---	1.06
129	129/138/163	---	---	ND	---	1.58
130		---	---	ND	---	0.528
131		---	---	ND	---	0.528
132		---	---	ND	---	0.528
133		---	---	ND	---	0.528
134	134/143	---	---	ND	---	1.06
135	135/151	---	---	ND	---	1.06

Conc = Concentration
EML =Method Reporting/Quantitation Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-70188
Filename P190502B_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
136		---	---	ND	---	0.528
137		---	---	ND	---	0.528
138	129/138/163	---	---	ND	---	1.58
139	139/140	---	---	ND	---	1.06
140	139/140	---	---	ND	---	1.06
141		---	---	ND	---	0.528
142		---	---	ND	---	0.528
143	134/143	---	---	ND	---	1.06
144		---	---	ND	---	0.528
145		---	---	ND	---	0.528
146		---	---	ND	---	0.528
147	147/149	---	---	ND	---	1.06
148		---	---	ND	---	0.528
149	147/149	---	---	ND	---	1.06
150		---	---	ND	---	0.528
151	135/151	---	---	ND	---	1.06
152		---	---	ND	---	0.528
153	153/168	---	---	ND	---	1.06
154		---	---	ND	---	0.528
155		---	---	ND	---	0.528
156	156/157	---	---	ND	---	1.06
157	156/157	---	---	ND	---	1.06
158		---	---	ND	---	0.528
159		---	---	ND	---	0.528
160		---	---	ND	---	0.528
161		---	---	ND	---	0.528
162		---	---	ND	---	0.528
163	129/138/163	---	---	ND	---	1.58
164		---	---	ND	---	0.528
165		---	---	ND	---	0.528
166	128/166	---	---	ND	---	1.06
167		---	---	ND	---	0.528
168	153/168	---	---	ND	---	1.06
169		---	---	ND	---	0.528
170		---	---	ND	---	0.528
171	171/173	---	---	ND	---	1.06
172		---	---	ND	---	0.528
173	171/173	---	---	ND	---	1.06
174		---	---	ND	---	0.528
175		---	---	ND	---	0.528
176		---	---	ND	---	0.528
177		---	---	ND	---	0.528
178		---	---	ND	---	0.528
179		---	---	ND	---	0.528
180	180/193	---	---	ND	---	1.06

Conc = Concentration
EML =Method Reporting/Quantitation Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-70188
Filename P190502B_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
181		---	---	ND	---	0.528
182		---	---	ND	---	0.528
183	183/185	---	---	ND	---	1.06
184		---	---	ND	---	0.528
185	183/185	---	---	ND	---	1.06
186		---	---	ND	---	0.528
187		---	---	ND	---	0.528
188		---	---	ND	---	0.528
189		---	---	ND	---	0.528
190		---	---	ND	---	0.528
191		---	---	ND	---	0.528
192		---	---	ND	---	0.528
193	180/193	---	---	ND	---	1.06
194		---	---	ND	---	0.792
195		---	---	ND	---	0.792
196		---	---	ND	---	0.792
197	197/200	---	---	ND	---	1.58
198	198/199	---	---	ND	---	1.58
199	198/199	---	---	ND	---	1.58
200	197/200	---	---	ND	---	1.58
201		---	---	ND	---	0.792
202		---	---	ND	---	0.792
203		---	---	ND	---	0.792
204		---	---	ND	---	0.792
205		---	---	ND	---	0.792
206		---	---	ND	---	0.792
207		---	---	ND	---	0.792
208		---	---	ND	---	0.792
209		---	---	ND	---	0.792

Conc = Concentration
EML =Method Reporting/Quantitation Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
R = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
X = Outside QC Limits
RT = Retention Time
I = Interference

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Client Sample ID	CBLKRJ
Lab Sample ID	BLANK-70188
Filename	P190502B_14

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
DecachloroBiphenyls	ND
Total PCBs	ND

ND = Not Detected

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCS-70189		
Filename	P190503B_03	Matrix	Water (Non Potable)
Total Amount Extracted	948 mL	Dilution	NA
ICAL ID	P190503B02	Extracted	04/29/2019 12:50
CCal Filename(s)	P190503B_01	Analyzed	05/04/2019 00:25
Method Blank ID	BLANK-70188	Injected By	BAL

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	0.990	99	2.0	1.02	51
3	1.0	0.988	99	2.0	1.03	52
4	1.0	1.12	112	2.0	0.889	44
15	1.0	0.961	96	2.0	1.12	56
19	1.0	0.971	97	2.0	0.978	49
37	1.0	0.864	86	2.0	1.34	67
54	1.0	0.890	89	2.0	0.982	49
81	1.0	0.885	89	2.0	1.49	74
77	1.0	0.839	84	2.0	1.44	72
104	1.0	0.916	92	2.0	1.17	58
105	1.0	0.952	95	2.0	1.54	77
114	1.0	0.886	89	2.0	1.52	76
118	1.0	0.923	92	2.0	1.56	78
123	1.0	0.895	90	2.0	1.54	77
126	1.0	0.951	95	2.0	1.43	72
155	1.0	0.953	95	2.0	1.33	67
156/157	2.0	1.84	92	4.0	2.96	74
167	1.0	0.920	92	2.0	1.52	76
169	1.0	0.927	93	2.0	1.41	71
188	1.0	0.912	91	2.0	1.71	85
189	1.0	0.915	91	2.0	1.65	82
202	1.0	0.983	98	2.0	1.58	79
205	1.0	0.915	92	2.0	1.57	78
206	1.0	0.943	94	2.0	1.42	71
208	1.0	0.891	89	2.0	1.52	76
209	1.0	0.946	95	2.0	1.56	78

R = Recovery outside of method 1668A control limits
Nn = Result obtained from alternate analysis
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
ng = Nanograms
I = Interference

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCSD-70190		
Filename	P190503B_04	Matrix	Water (Non Potable)
Total Amount Extracted	942 mL	Dilution	NA
ICAL ID	P190503B02	Extracted	04/29/2019 12:50
CCal Filename(s)	P190503B_01	Analyzed	05/04/2019 01:28
Method Blank ID	BLANK-70188	Injected By	BAL

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	0.890	89	2.0	0.888	44
3	1.0	0.870	87	2.0	0.968	48
4	1.0	0.978	98	2.0	0.849	42
15	1.0	0.917	92	2.0	1.07	54
19	1.0	0.859	86	2.0	0.966	48
37	1.0	0.861	86	2.0	1.21	60
54	1.0	0.886	89	2.0	0.875	44
81	1.0	0.836	84	2.0	1.38	69
77	1.0	0.864	86	2.0	1.34	67
104	1.0	0.899	90	2.0	0.983	49
105	1.0	0.939	94	2.0	1.35	68
114	1.0	0.883	88	2.0	1.35	67
118	1.0	0.908	91	2.0	1.40	70
123	1.0	0.908	91	2.0	1.35	67
126	1.0	0.880	88	2.0	1.29	65
155	1.0	0.912	91	2.0	1.12	56
156/157	2.0	1.79	89	4.0	2.59	65
167	1.0	0.882	88	2.0	1.31	65
169	1.0	0.889	89	2.0	1.24	62
188	1.0	0.900	90	2.0	1.44	72
189	1.0	0.900	90	2.0	1.43	72
202	1.0	0.981	98	2.0	1.32	66
205	1.0	0.889	89	2.0	1.35	68
206	1.0	0.867	87	2.0	1.22	61
208	1.0	0.876	88	2.0	1.29	64
209	1.0	0.850	85	2.0	1.31	66

R = Recovery outside of method 1668A control limits
Nn = Result obtained from alternate analysis
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
ng = Nanograms
I = Interference

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A

Spike Recovery Relative Percent Difference (RPD) Results

Client	PACE Charlotte		
Spike 1 ID	LCS-70189	Spike 2 ID	LCSD-70190
Spike 1 Filename	P190503B_03	Spike 2 Filename	P190503B_04

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	99	89	10.6
4-MoCB	3	99	87	12.9
2,2'-DiCB	4	112	98	13.3
4,4'-DiCB	15	96	92	4.3
2,2',6-TrCB	19	97	86	12.0
3,4,4'-TrCB	37	86	86	0.0
2,2',6,6'-TeCB	54	89	89	0.0
3,3',4,4'-TeCB	77	84	86	2.4
3,4,4',5-TeCB	81	89	84	5.8
2,2',4,6,6'-PeCB	104	92	90	2.2
2,3,3',4,4'-PeCB	105	95	94	1.1
2,3,4,4',5-PeCB	114	89	88	1.1
2,3',4,4',5-PeCB	118	92	91	1.1
2,3',4,4',5'-PeCB	123	90	91	1.1
3,3',4,4',5-PeCB	126	95	88	7.7
2,2',4,4',6,6'-HxCB	155	95	91	4.3
(156/157)	156/157	92	89	3.3
2,3',4,4',5,5'-HxCB	167	92	88	4.4
3,3',4,4',5,5'-HxCB	169	93	89	4.4
2,2',3,4',5,6,6'-HpCB	188	91	90	1.1
2,3,3',4,4',5,5'-HpCB	189	91	90	1.1
2,2',3,3',5,5',6,6'-OcCB	202	98	98	0.0
2,3,3',4,4',5,5',6-OcCB	205	92	89	3.3
2,2',3,3',4,4',5,5',6-NoCB	206	94	87	7.7
2,2',3,3',4,5,5',6,6'-NoCB	208	89	88	1.1
Decachlorobiphenyl	209	95	85	11.1

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.