APPENDIX G

PCB TMDL Sampling Results

February 14, 2014

Wilamena Harback, Industrial Stormwater Contracting Officer Representative (COR)
Pamela Couch, MS4 Stormwater Contracting Officer Representative (COR)
Jay Nellis, Contracting Officer (KO)
U.S. Army Garrison Fort Belvoir
Directorate of Public Works
9430 Jackson Loop
Bldg. 1425
Fort Belvoir, Virginia 22060-5116

RE: Ft. Belvoir Industrial Stormwater Permit Water Quality Sampling and Analysis and MS4 Permit PCB TMDL Sampling and Analysis
Contract Number: W91QV1-13-P-0259

Dear Contracting Officer Representatives,

In response to paragraph 5.4 of the PWS, Angler Environmental (Angler) is pleased to present you with this sampling results report for PCBs from sampling events conducted at the Hazmat Building in November 2013 and with results obtained in December 2013. All results were obtained from Cape Fear Analytical, LLC. Here is a summary of the findings:

Location #	Common Name	Sample Date	Results Obtained	Total PCB Congeners with EMPCs
SW 001	Hazmat Bldg, Rear	11-26-13	12-13-13	4,470 pg
SW 003	Hazmat Bldg, Front	11-27-13	12-13-13	910 pg

From the Virginia Department of Environmental Quality's TMDL Guidance Memo No. 14-2004, Virginia's Water Quality Criterion (WQC) in relation to PCBs is 640 pg/l, expressed as Total PCBs (tPCB). This criterion was also confirmed in a meeting with the Bryant Thomas, Susan Mackert, Beth Biller and Jennifer Carlson with the Virginia Department of Environmental Quality (DEQ).

A simple comparison of the above sampling results from the November sampling event to the Accotink WLA shows that the Hazmat Building PCB results are at a higher concentration than the WQC.

Furthermore, during the above mentioned meeting with DEQ it was determined that the PCB concentrations found during sampling were of actionable levels. The DEQ will soon be issuing a new guidance document for the Chesapeake Bay TMDL. This forthcoming document will establish new criterion for the Chesapeake Bay TMDL that should take precedence over the established WQC. It was suggested in the meeting that any remediation efforts and targeted

goals should be focused toward the Chesapeake Bay TMDL as they will likely be more stringent.

In a discussion with one of the laboratory analysts from Cape Fear Analytical, the total PCB Congeners value reported in these results is sum total of the values identified for each of the 200+ congeners tested. Any of the single congeners designated by a "J" value in the data means that particular congener was identified below the calibrated detection limit of the equipment, meaning the value listed is an estimated value using a mathematical equation. It may or may not actually be that value reported, which means the total value for PCBs is likely less than what was reported.

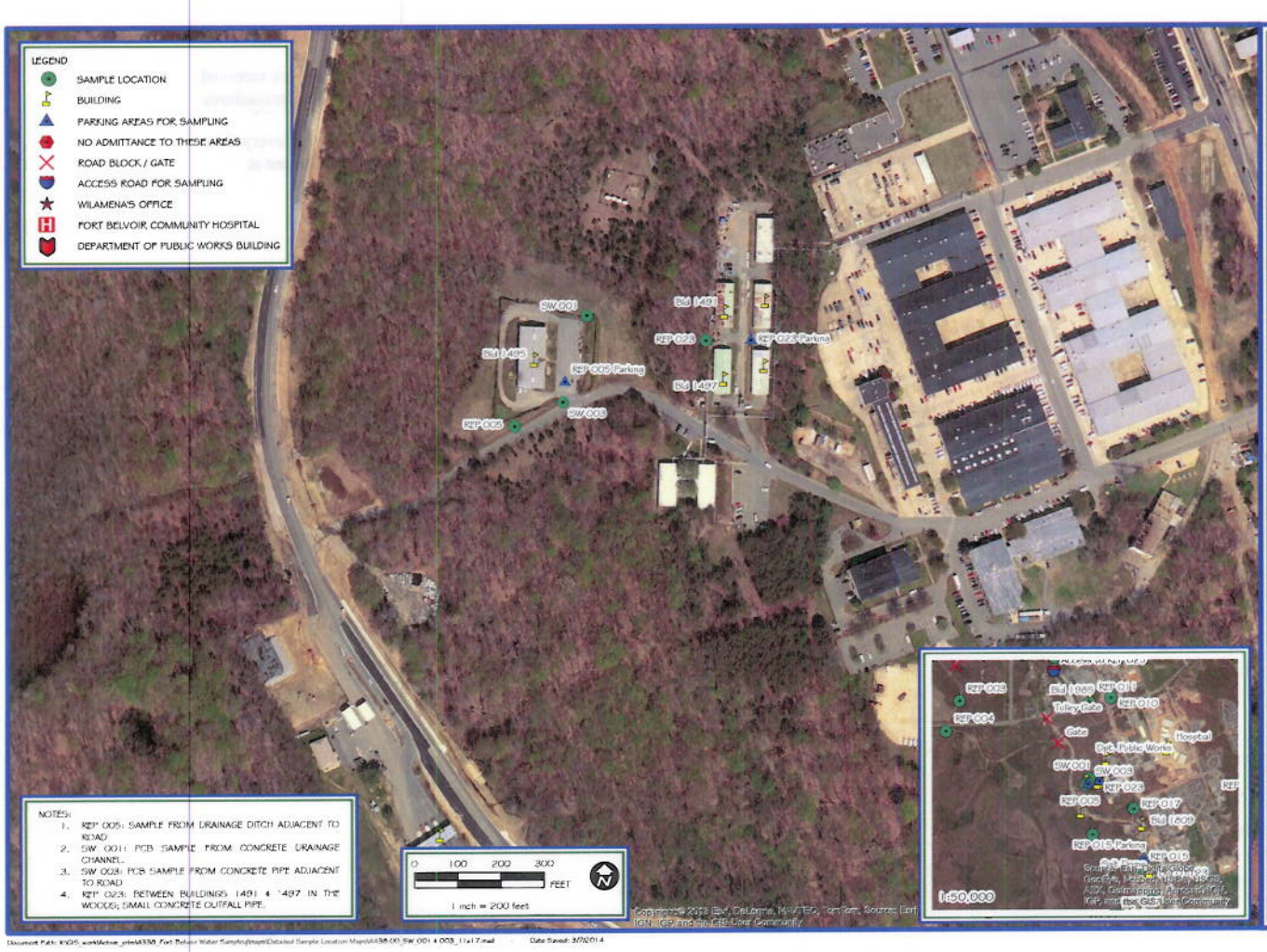
Please do not hesitate to contact me or your Alternate Project Manager, Heather Haynes, if you have any questions or need more information. I can be reached at 571-264-3786 (cell) or jmurnock@anglerenvironmental.com. Heather Haynes can be reached at 703-393-4844 x237 or hhaynes@anglerenvironmental.com.

Prepared by:

Jason Murnock, CPESC
Stormwater Compliance Division Manager

Cc: Ms. Dorothy Keough, Division Chief

Sent via email, with attachments: PCB Analysis Results



ANGLER ENVIRONMENTAL

CORPORATE | 5407 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187
P 703 393 8644 | F 703 393 2934

REGIONAL OFFICE | 3751 WESTERRE PARKWAY SUITE A, RICHMOND, VIRGINIA 23233
P 804 553 6619 | F 804 343 6038

MARYLAND | 1444 GORSUCH RD, CORBETTON, MD 21111
P 410 472 4236 | F 410 472 4236

PROJECT: FORT BELVOIR
DETAILED SAMPLE LOCATION MAP
REP 005, SW 001 & SW 003
HAZWASTE BUILDING
&
REP 023
PESTICIDE WAREHOUSE
FAIRFAX COUNTY, VIRGINIA

PROJECT MANAGER:	JM
DRAWN:	SW
JOB NUMBER:	4336
DESIGN FILE:	4336 Location 1 1017
DATE:	03/03/14
REVISIONS:	NONE

Document Path: K:\GIS_work\Active_jobs\4336_Fort Belvoir Water Samples\maps\Detailed Sample Location Maps\4336-00_SW 001 & 003_11x17.mxd Date Saved: 3/7/2014

CFA | Cape Fear Analytical LLC
an affiliate of The GEL Group INC

3306 Kitty Hawk Road, Suite 120 Wilmington, NC 28405
P 910.795.0421

www.capefearanalytical.com

December 13, 2013

Mr. Jason Murnock
Angler Environmental
5367 Telephone Road
Warrenton, Virginia 20187

Re: 1668 VADEQ PCB's
Work Order: 5665

Dear Mr. Murnock:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on December 02, 2013. This original data report has been prepared and reviewed in accordance with CFA's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at 910-795-0421.

Sincerely,

Cynthia Larkins

Cynthia Larkins
Project Manager

Enclosures

problem solved

Page: 1 of 1
Project #:
CFA Quote #:
COC Number (1):
PO Number:

Cape Fear Analytical, LLC
Chain of Custody and Analytical Request

CFA Work Order Number: 5665

Cape Fear Analytical, LLC
3306 Kitty Hawk Rd. Suite 120
Wilmington, NC 28405
Phone: (910) 795-0421

Client Name: US Army Garrison Ft. Belvoir / Angler Environmental Phone #:
Project/Site Name: Ft. Belvoir - MS4 PCB 1495-SW1 Fax #: 703-393-2934
Address: Building 1495, Fort Belvoir, VA
Collected by: Heather Haynes Send Results To: Jason Murnock

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Total number of containers	PCB	<-- Preservative Type (6)	Comments
1 - PCB	11/26/2013	11:46	G	No	SW	1	1		Note: extra sample is required for sample specific QC
2 - PCB	11/26/2013	11:48	G	No	SW	1	1		
3 - PCB	11/26/2013	11:50	G	No	SW	1	1		
4 - PCB	11/26/2013	11:52	G	No	SW	1	1		

TAT Requested: Normal: X Rush: Specify: (Subject to Surcharge) Fax Results: Yes / No Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone: Eastern Central Mountain Pacific Other

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	11/26/13	15:00	1	11/26/13	15:00
2	11/26/13	17:00	2	11/26/13	17:06
3	11/27/13	11:32	3	11/27/13	11:32

Sample Shipping and Delivery Details

CFA PM:
Method of Shipment: FedEx Ground Date Shipped: 11/27/13
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite
3.) Field Filtered: For liquid matrices, indicate with a- Y - for yes the sample was field filtered or- N - for sample was not field filtered.
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e.8290B, 1668B) and number of containers provided for each (i.e. 8290B - 3, 1668B - 1).
6.) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact? YES NO
Cooler Temp: 1.8 C

WHITE = LABORATORY YELLOW = FILE PINK = CLIENT

Received at CFA by Cynde Larkins 02DEC13 @ 1245

SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

Client: Angler Env.	Work Order: 51665
Received By: Cynde Larkins	Date/Time Received: 02DEC13 1245

Suspected Hazard Information	Yes	NA	No
Shipped as DOT Hazardous?			✓
Samples identified as Foreign Soil?			✓

DOE Site Sample Packages	Yes	NA	No*
Screened <0.5 mR/hr?		✓	
Samples < 2x background?		✓	

* Notify RSO of any responses in this column immediately.

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other(describe)
2	Chain of Custody documents included with shipment?	✓			
3	Samples requiring cold preservation within 0-6°C?	✓			Preservation Method: (ice bags) blue ice dry ice none other (describe) 1.8°
4	Samples requiring chemical preservation at proper pH?	✓			Sample IDs, containers affected and pH observed: If preservative added, Lot#: pH=7 on all samples
5	Samples requiring preservation have no residual chlorine?	✓			Sample IDs, containers affected: If preservative added, Lot#:
6	Samples received within holding time?	✓			Sample IDs, tests affected:
7	Sample IDs on COC match IDs on containers?	✓			Sample IDs, containers affected:
8	Date & time of COC match date & time on containers?	✓			Sample IDs, containers affected:
9	Number of containers received match number indicated on COC?	✓			Sample IDs, containers affected:
10	COC form is properly signed in relinquished/received sections?	✓			

Comments:

Checklist performed by: Initials: CL Date: 02DEC13

PCB Congeners Analysis

Case Narrative

PCBC Case Narrative
Angler Environmental (ANGL)
SDG 5665

Method/Analysis Information

Product:	**PCB Congeners VDEQ by EPA Method 1668A in Liquids**
Analytical Method:	EPA Method 1668A
Extraction Method:	SW846 3520C
Analytical Batch Number:	24982
Clean Up Batch Number:	24981
Extraction Batch Number:	24980

Sample Analysis

The following samples were analyzed using the analytical protocol as established in EPA Method 1668A:

Sample ID	Client ID
5665001	MS4-PCB-1495-SW1
12009538	Method Blank (MB)
12009539	Laboratory Control Sample (LCS)
12009540	Laboratory Control Sample Duplicate (LCSD)

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by Cape Fear Analytical LLC (CFA) as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with CF-OA-E-003 REV# 6.

Raw data reports are processed and reviewed by the analyst using the TargetLynx software package.

Calibration Information

Initial Calibration
All initial calibration requirements have been met for this sample delivery group (SDG).

Continuing Calibration Verification (CCV) Requirements
All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria.

Quality Control (QC) Information

Certification Statement
The test results presented in this document are certified to meet all requirements of the 2003 NELAC Standard. Any known exceptions are discussed in the narrative.

Method Blank (MB) Statement
The MB(s) analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries
All surrogate recoveries were within the established acceptance criteria for this SDG.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Laboratory Control Sample Duplicate (LCSD) Recovery
The LCSD spike recoveries met the acceptance limits.

LCS/LCSD Relative Percent Difference (RPD) Statement
The RPD(s) between the LCS and LCSD met the acceptance limits.

QC Sample Designation
A matrix spike and matrix spike duplicate analysis was not required for this SDG.

Technical Information

Holding Time Specifications
CFA assigns holding times based on the associated methodology, which assigns the date and time from sample collection. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis
Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information

Nonconformance (NCR) Documentation
A NCR was not required for this SDG.

Manual Integrations
Manual integrations were required for data files in this SDG. Certain standards and QC samples required manual integrations to correctly position the baseline as set in the calibration standard injections. Where manual integrations were performed, copies of all manual integration peak profiles are included in the raw data section of this fraction.

System Configuration
This analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description
HRP791_1	High-Resolution GC/MS System	PCB Analysis	SPB-Octyl	30m x 0.25mm, 0.25um

Electronic Packaging Comment

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative will include the data validator's signature and title. The signature page also includes the data qualifiers used in the fractional package. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Sample Data Summary

Cape Fear Analytical, LLC

3306 Kitty Hawk Road Suite 120, Wilmington, NC 28405 - (910) 795-0421 - www.capefearanalytical.com

Qualifier Definition Report
for

ANGL001 Angler Environmental

Client SDG: 5665 CFA Work Order: 5665

The Qualifiers in this report are defined as follows:

*	A quality control analyte recovery is outside of specified acceptance criteria
**	Analyte is a surrogate compound
C	Congener has coeluters. When Cxxx, refer to congener number xxx for data
J	Value is estimated
K	Estimated Maximum Possible Concentration
U	Analyte was analyzed for, but not detected above the specified detection limit.
DL	Indicates that sample is diluted.
RA	Indicates that sample is re-analyzed without re-extraction.
RE	Indicates that sample is re-extracted.

Review/Validation

Cape Fear Analytical requires all analytical data to be verified by a qualified data reviewer.

The following data validator verified the information presented in this case narrative:

Signature: Heather Patterson **Name: Heather Patterson**

Date: 13 DEC 2013 **Title: Analyst III**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**5665**	**Client:**	**ANGL001**	**Project:**	**ANGL00113**
Lab Sample ID:	**5665001**	**Date Collected:**	**11/26/2013 11:52**	**Matrix:**	**Water (whole)**
Client Sample:	**1668 VADEQ**	**Date Received:**	**12/02/2013 12:45**		
Client ID:	**MS4-PCB-1495-SW1**			**Prep Basis:**	**As Received**
Batch ID:	**24982**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/09/2013 22:40**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09dec13a-7**			**Dilution:**	**1**
Prep Batch:	**24980**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**06-DEC-13**	**Aliquot:**	**1970 mL**		

CAS No.	Parmname	Qual	Result	Units	DRBC EDL	PQL
2051-60-7	1-MoCB	U	.559	pg/L	0.559	10.2
2051-61-8	2-MoCB	J	0.924	pg/L	0.517	10.2
2051-62-9	3-MoCB	J	0.690	pg/L	0.540	10.2
13029-08-8	4-DiCB	U	2.16	pg/L	2.16	10.2
16605-91-7	5-DiCB	U	2.61	pg/L	2.61	10.2
25569-80-6	6-DiCB	U	1.65	pg/L	1.65	10.2
33284-50-3	7-DiCB	U	2.41	pg/L	2.41	10.2
34883-43-7	8-DiCB	U	1.7	pg/L	1.70	10.2
34883-39-1	9-DiCB	U	1.67	pg/L	1.67	10.2
33146-45-1	10-DiCB	U	1.03	pg/L	1.03	10.2
2050-67-1	11-DiCB		180	pg/L	2.27	50.8
2974-92-7	12-DiCB	CU	4.08	pg/L	4.08	20.3
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	2.06	pg/L	2.06	10.2
2050-68-2	15-DiCB	U	2.24	pg/L	2.24	10.2
38444-78-9	16-TrCB	J	2.78	pg/L	0.862	10.2
37680-66-3	17-TrCB	J	2.00	pg/L	0.637	10.2
37680-65-2	18-TrCB	CJ	4.89	pg/L	0.549	20.3
38444-73-4	19-TrCB	J	0.802	pg/L	0.734	10.2
38444-84-7	20-TrCB	CJ	10.2	pg/L	0.676	20.3
55702-46-0	21-TrCB	CJ	5.47	pg/L	0.820	20.3
38444-85-8	22-TrCB	J	5.82	pg/L	0.839	10.2
55720-44-0	23-TrCB	U	.747	pg/L	0.747	10.2
55702-45-9	24-TrCB	U	.664	pg/L	0.664	10.2
55712-37-3	25-TrCB	JK	0.893	pg/L	0.586	10.2
38444-81-4	26-TrCB	CJ	1.74	pg/L	0.753	20.3
38444-76-7	27-TrCB	U	.439	pg/L	0.439	10.2
7012-37-5	28-TrCB	C20				
15862-07-4	29-TrCB	C26				
35693-92-6	30-TrCB	C18				
16606-02-3	31-TrCB	J	7.57	pg/L	0.541	10.2
38444-77-8	32-TrCB	JK	1.55	pg/L	0.432	10.2

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**5665**	**Client:**	**ANGL001**	**Project:**	**ANGL00113**
Lab Sample ID:	**5665001**	**Date Collected:**	**11/26/2013 11:52**	**Matrix:**	**Water (whole)**
Client Sample:	**1668 VADEQ**	**Date Received:**	**12/02/2013 12:45**		
Client ID:	**MS4-PCB-1495-SW1**			**Prep Basis:**	**As Received**
Batch ID:	**24982**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/09/2013 22:40**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09dec13a-7**			**Dilution:**	**1**
Prep Batch:	**24980**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**06-DEC-13**	**Aliquot:**	**1970 mL**		

CAS No.	Parmname	Qual	Result	Units	DRBC EDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	.515	pg/L	0.515	10.2
37680-69-6	35-TrCB	J	2.16	pg/L	1.84	10.2
38444-87-0	36-TrCB	U	1.51	pg/L	1.51	10.2
38444-90-5	37-TrCB		12.6	pg/L	1.86	10.2
53555-66-1	38-TrCB	U	1.71	pg/L	1.71	10.2
38444-88-1	39-TrCB	U	2.18	pg/L	2.18	10.2
38444-93-8	40-TeCB	CJ	14.6	pg/L	1.32	20.3
52663-59-9	41-TeCB	J	2.62	pg/L	1.10	10.2
36559-22-5	42-TeCB	J	6.30	pg/L	1.21	10.2
70362-46-8	43-TeCB	U	1.29	pg/L	1.29	10.2
41464-39-5	44-TeCB	C	39.9	pg/L	1.31	30.5
70362-45-7	45-TeCB	CJ	4.89	pg/L	1.78	20.3
41464-47-5	46-TeCB	J	1.60	pg/L	1.06	10.2
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	J	3.99	pg/L	1.36	10.2
41464-40-8	49-TeCB	CJ	12.5	pg/L	1.05	20.3
62796-65-0	50-TeCB	CJ	3.19	pg/L	1.32	20.3
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB		43.2	pg/L	0.936	10.2
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	.659	pg/L	0.659	10.2
74338-24-2	55-TeCB	U	4.36	pg/L	4.36	10.2
41464-43-1	56-TeCB		26.5	pg/L	3.56	10.2
70424-67-8	57-TeCB	U	2.82	pg/L	2.82	10.2
41464-49-7	58-TeCB	U	4.12	pg/L	4.12	10.2
74472-33-6	59-TeCB	CJ	2.44	pg/L	1.27	30.5
33025-41-1	60-TeCB		16.1	pg/L	4.42	10.2
33284-53-6	61-TeCB	C	108	pg/L	5.80	40.6
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	2.84	pg/L	2.84	10.2
52663-58-8	64-TeCB		13.9	pg/L	0.895	10.2

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**5665**	**Client:**	**ANGL001**	**Project:**	**ANGL00113**
Lab Sample ID:	**5665001**	**Date Collected:**	**11/26/2013 11:52**	**Matrix:**	**Water (whole)**
Client Sample:	**1668 VADEQ**	**Date Received:**	**12/02/2013 12:45**		
Client ID:	**MS4-PCB-1495-SW1**			**Prep Basis:**	**As Received**
Batch ID:	**24982**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/09/2013 22:40**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09dec13a-7**			**Dilution:**	**1**
Prep Batch:	**24980**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**06-DEC-13**	**Aliquot:**	**1970 mL**		

CAS No.	Parmname	Qual	Result	Units	DRBC EDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB		38.6	pg/L	2.91	10.2
73575-53-8	67-TeCB	U	2.95	pg/L	2.95	10.2
73575-52-7	68-TeCB	U	3.77	pg/L	3.77	10.2
60233-24-1	69-TeCB	C49				
32598-11-1	70-TeCB	C61				
41464-46-4	71-TeCB	C40				
41464-42-0	72-TeCB	U	2.67	pg/L	2.67	10.2
74338-23-1	73-TeCB	U	1.04	pg/L	1.04	10.2
32690-93-0	74-TeCB	C61				
32598-12-2	75-TeCB	C59				
70362-48-0	76-TeCB	C61				
32598-13-3	77-TeCB		15.7	pg/L	3.55	10.2
70362-49-1	78-TeCB	U	3.35	pg/L	3.35	10.2
41464-48-6	79-TeCB	U	3.05	pg/L	3.05	10.2
33284-52-5	80-TeCB	U	3.02	pg/L	3.02	10.2
70362-50-4	81-TeCB	U	3.57	pg/L	3.57	10.2
52663-62-4	82-PeCB		43.4	pg/L	3.84	10.2
60145-20-2	83-PeCB		20.9	pg/L	3.65	10.2
52663-60-2	84-PeCB		64.5	pg/L	3.44	10.2
65510-45-4	85-PeCB	C	40.7	pg/L	4.08	30.5
55312-69-1	86-PeCB	C	215	pg/L	4.78	60.9
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	C	29.1	pg/L	5.60	20.3
73575-57-2	89-PeCB	U	3.2	pg/L	3.20	10.2
68194-07-0	90-PeCB	C	248	pg/L	4.43	30.5
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB		37.1	pg/L	3.05	10.2
73575-56-1	93-PeCB	CU	3.42	pg/L	3.42	20.3
73575-55-0	94-PeCB	U	4.25	pg/L	4.25	10.2
38379-99-6	95-PeCB		150	pg/L	2.84	10.2
73575-54-9	96-PeCB	JK	1.11	pg/L	0.935	10.2

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**5665**	**Client:**	**ANGL001**	**Project:**	**ANGL00113**
Lab Sample ID:	**5665001**	**Date Collected:**	**11/26/2013 11:52**	**Matrix:**	**Water (whole)**
Client Sample:	**1668 VADEQ**	**Date Received:**	**12/02/2013 12:45**		
Client ID:	**MS4-PCB-1495-SW1**			**Prep Basis:**	**As Received**
Batch ID:	**24982**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/09/2013 22:40**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09dec13a-7**			**Dilution:**	**1**
Prep Batch:	**24980**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**06-DEC-13**	**Aliquot:**	**1970 mL**		

CAS No.	Parmname	Qual	Result	Units	DRBC EDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	5.06	pg/L	5.06	20.3
38380-01-7	99-PeCB		121	pg/L	3.62	10.2
39485-83-1	100-PeCB	C93				
37680-73-2	101-PeCB	C90				
68194-06-9	102-PeCB	C98				
60145-21-3	103-PeCB	U	2.57	pg/L	2.57	10.2
56558-16-8	104-PeCB	U	1.09	pg/L	1.09	10.2
32598-14-4	105-PeCB		147	pg/L	4.58	10.2
70424-69-0	106-PeCB	U	3.75	pg/L	3.75	10.2
70424-68-9	107-PeCB		16.0	pg/L	3.75	10.2
70362-41-3	108-PeCB	CJ	11.9	pg/L	4.75	20.3
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	C	420	pg/L	5.21	20.3
39635-32-0	111-PeCB	U	3.45	pg/L	3.45	10.2
74472-36-9	112-PeCB	U	2.44	pg/L	2.44	10.2
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	J	7.87	pg/L	4.46	10.2
74472-38-1	115-PeCB	C110				
18259-05-7	116-PeCB	C85				
68194-11-6	117-PeCB	C85				
31508-00-6	118-PeCB		265	pg/L	4.07	10.2
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	2.41	pg/L	2.41	10.2
56558-18-0	121-PeCB	U	3.29	pg/L	3.29	10.2
76842-07-4	122-PeCB	U	4.2	pg/L	4.20	10.2
65510-44-3	123-PeCB	U	3.75	pg/L	3.75	10.2
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	5.67	pg/L	5.67	10.2
39635-33-1	127-PeCB	U	4.32	pg/L	4.32	10.2
38380-07-3	128-HxCB	C	71.5	pg/L	4.09	20.3

Comments:

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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**5665**	**Client:**	**ANGL001**	**Project:**	**ANGL00113**
Lab Sample ID:	**5665001**	**Date Collected:**	**11/26/2013 11:52**	**Matrix:**	**Water (whole)**
Client Sample:	**1668 VADEQ**	**Date Received:**	**12/02/2013 12:45**		
Client ID:	**MS4-PCB-1495-SW1**			**Prep Basis:**	**As Received**
Batch ID:	**24982**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/09/2013 22:40**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09dec13a-7**			**Dilution:**	**1**
Prep Batch:	**24980**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**06-DEC-13**	**Aliquot:**	**1970 mL**		

CAS No.	Parmname	Qual	Result	Units	DRBC EDL	PQL
55215-18-4	129-HxCB	C	386	pg/L	4.38	30.5
52663-66-8	130-HxCB		25.2	pg/L	4.29	10.2
61798-70-7	131-HxCB	J	6.83	pg/L	4.55	10.2
38380-05-1	132-HxCB		180	pg/L	5.84	10.2
35694-04-3	133-HxCB	U	4.08	pg/L	4.08	10.2
52704-70-8	134-HxCB		17.5	pg/L	4.33	10.2
52744-13-5	135-HxCB	C	92.8	pg/L	2.44	20.3
38411-22-2	136-HxCB		32.8	pg/L	1.16	10.2
35694-06-5	137-HxCB		33.5	pg/L	5.01	10.2
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CJ	7.32	pg/L	4.49	20.3
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB		59.3	pg/L	4.00	10.2
41411-61-4	142-HxCB	U	4.13	pg/L	4.13	10.2
68194-15-0	143-HxCB	U	3.65	pg/L	3.65	10.2
68194-14-9	144-HxCB		11.9	pg/L	1.58	10.2
74472-40-5	145-HxCB	U	1.65	pg/L	1.65	10.2
51908-16-8	146-HxCB		39.8	pg/L	3.67	10.2
68194-13-8	147-HxCB	C	257	pg/L	4.33	20.3
74472-41-6	148-HxCB	U	1.68	pg/L	1.68	10.2
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	1.6	pg/L	1.60	10.2
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	1.08	pg/L	1.08	10.2
35065-27-1	153-HxCB	C	249	pg/L	4.29	20.3
60145-22-4	154-HxCB	J	2.50	pg/L	1.44	10.2
33979-03-2	155-HxCB	U	1.23	pg/L	1.23	10.2
38380-08-4	156-HxCB	C	58.5	pg/L	4.95	20.3
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB		41.4	pg/L	2.97	10.2
39635-35-3	159-HxCB	U	3.45	pg/L	3.45	10.2
41411-62-5	160-HxCB	U	4.18	pg/L	4.18	10.2

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data

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K Estimated Maximum Possible Concentration

U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**5665**	**Client:**	**ANGL001**	**Project:**	**ANGL00113**
Lab Sample ID:	**5665001**	**Date Collected:**	**11/26/2013 11:52**	**Matrix:**	**Water (whole)**
Client Sample:	**1668 VADEQ**	**Date Received:**	**12/02/2013 12:45**		
Client ID:	**MS4-PCB-1495-SW1**			**Prep Basis:**	**As Received**
Batch ID:	**24982**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/09/2013 22:40**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09dec13a-7**			**Dilution:**	**1**
Prep Batch:	**24980**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**06-DEC-13**	**Aliquot:**	**1970 mL**		

CAS No.	Parmname	Qual	Result	Units	DRBC EDL	PQL
74472-43-8	161-HxCB	U	2.89	pg/L	2.89	10.2
39635-34-2	162-HxCB	U	4.7	pg/L	4.70	10.2
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB		21.8	pg/L	3.12	10.2
74472-46-1	165-HxCB	U	4.58	pg/L	4.58	10.2
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB		17.5	pg/L	4.25	10.2
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	4.6	pg/L	4.60	10.2
35065-30-6	170-HpCB		44.3	pg/L	2.80	10.2
52663-71-5	171-HpCB	CJ	13.5	pg/L	3.48	20.3
52663-74-8	172-HpCB	J	7.76	pg/L	2.67	10.2
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB		42.2	pg/L	2.60	10.2
40186-70-7	175-HpCB	U	2.71	pg/L	2.71	10.2
52663-65-7	176-HpCB	J	5.44	pg/L	2.00	10.2
52663-70-4	177-HpCB		24.4	pg/L	2.71	10.2
52663-67-9	178-HpCB	J	9.22	pg/L	2.75	10.2
52663-64-6	179-HpCB		16.0	pg/L	2.01	10.2
35065-29-3	180-HpCB	C	90.9	pg/L	3.34	20.3
74472-47-2	181-HpCB	U	3.59	pg/L	3.59	10.2
60145-23-5	182-HpCB	U	2.74	pg/L	2.74	10.2
52663-69-1	183-HpCB	C	29.9	pg/L	3.85	20.3
74472-48-3	184-HpCB	U	2.58	pg/L	2.58	10.2
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	2.93	pg/L	2.93	10.2
52663-68-0	187-HpCB		61.8	pg/L	3.52	10.2
74487-85-7	188-HpCB	U	2.52	pg/L	2.52	10.2
39635-31-9	189-HpCB	JK	3.29	pg/L	3.11	10.2
41411-64-7	190-HpCB	J	8.84	pg/L	2.16	10.2
74472-50-7	191-HpCB	J	2.58	pg/L	2.06	10.2
74472-51-8	192-HpCB	U	3.09	pg/L	3.09	10.2

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**5665**	**Client:**	**ANGL001**	**Project:**	**ANGL00113**
Lab Sample ID:	**5665001**	**Date Collected:**	**11/26/2013 11:52**	**Matrix:**	**Water (whole)**
Client Sample:	**1668 VADEQ**	**Date Received:**	**12/02/2013 12:45**		
Client ID:	**MS4-PCB-1495-SW1**			**Prep Basis:**	**As Received**
Batch ID:	**24982**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/09/2013 22:40**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09dec13a-7**			**Dilution:**	**1**
Prep Batch:	**24980**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**06-DEC-13**	**Aliquot:**	**1970 mL**		

CAS No.	Parmname	Qual	Result	Units	DRBC EDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB		15.4	pg/L	2.19	10.2
52663-78-2	195-OcCB	J	4.73	pg/L	2.18	10.2
42740-50-1	196-OcCB	J	5.48	pg/L	2.23	10.2
33091-17-7	197-OcCB	CJ	3.11	pg/L	2.60	20.3
68194-17-2	198-OcCB	CJ	17.1	pg/L	3.32	20.3
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	J	1.62	pg/L	1.61	10.2
2136-99-4	202-OcCB	J	3.73	pg/L	2.20	10.2
52663-76-0	203-OcCB		10.8	pg/L	3.02	10.2
74472-52-9	204-OcCB	U	1.58	pg/L	1.58	10.2
74472-53-0	205-OcCB	U	1.9	pg/L	1.90	10.2
40186-72-9	206-NoCB	J	5.38	pg/L	2.34	10.2
52663-79-3	207-NoCB	U	1.49	pg/L	1.49	10.2
52663-77-1	208-NoCB	U	2.01	pg/L	2.01	10.2
2051-24-3	209-DeCB	JK	3.13	pg/L	2.17	10.2
1336-36-3	Total PCB Congeners with EMPCs		4470	pg/L		10.2

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		549	1020	pg/L	54.1	(15%-150%)
13C-3-MoCB		639	1020	pg/L	62.9	(15%-150%)
13C-4-DiCB		678	1020	pg/L	66.8	(25%-150%)
13C-15-DiCB		768	1020	pg/L	75.7	(25%-150%)
13C-19-TrCB		821	1020	pg/L	80.9	(25%-150%)
13C-37-TrCB		822	1020	pg/L	80.9	(25%-150%)
13C-54-TeCB		736	1020	pg/L	72.5	(25%-150%)
13C-77-TeCB		770	1020	pg/L	75.9	(25%-150%)
13C-81-TeCB		751	1020	pg/L	74.0	(25%-150%)
13C-104-PeCB		688	1020	pg/L	67.8	(25%-150%)
13C-105-PeCB		654	1020	pg/L	64.5	(25%-150%)
13C-114-PeCB		630	1020	pg/L	62.0	(25%-150%)
13C-118-PeCB		667	1020	pg/L	65.7	(25%-150%)
13C-123-PeCB		677	1020	pg/L	66.7	(25%-150%)
13C-126-PeCB		619	1020	pg/L	61.0	(25%-150%)
13C-155-HxCB		840	1020	pg/L	82.7	(25%-150%)
13C-156-HxCB	C	1300	2030	pg/L	64.1	(25%-150%)
13C-157-HxCB	C156L					
13C-167-HxCB		619	1020	pg/L	61.0	(25%-150%)
13C-169-HxCB		722	1020	pg/L	71.2	(25%-150%)
13C-188-HpCB		759	1020	pg/L	74.7	(25%-150%)
13C-189-HpCB		646	1020	pg/L	63.6	(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**5665**	**Client:**	**ANGL001**	**Project:**	**ANGL00113**
Lab Sample ID:	**5665001**	**Date Collected:**	**11/26/2013 11:52**	**Matrix:**	**Water (whole)**
Client Sample:	**1668 VADEQ**	**Date Received:**	**12/02/2013 12:45**		
Client ID:	**MS4-PCB-1495-SW1**			**Prep Basis:**	**As Received**
Batch ID:	**24982**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/09/2013 22:40**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09dec13a-7**			**Dilution:**	**1**
Prep Batch:	**24980**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**06-DEC-13**	**Aliquot:**	**1970 mL**		

CAS No.	Parmname	Qual	Result	Units	DRBC EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		776	1020	pg/L	76.4	(25%-150%)
13C-205-OcCB		896	1020	pg/L	88.3	(25%-150%)
13C-206-NoCB		970	1020	pg/L	95.5	(25%-150%)
13C-208-NoCB		910	1020	pg/L	89.6	(25%-150%)
13C-209-DeCB		933	1020	pg/L	91.9	(25%-150%)
13C-28-TrCB		1010	1020	pg/L	99.8	(30%-135%)
13C-111-PeCB		913	1020	pg/L	89.9	(30%-135%)
13C-178-HpCB		912	1020	pg/L	89.8	(30%-135%)

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

CFA | Cape Fear Analytical LLC
an affiliate of The GEL Group INC

3306 Kitty Hawk Road, Suite 120 Wilmington, NC 28405
P 910.795.0421
www.capefearanalytical.com

December 13, 2013

Mr. Jason Murnock
Angler Environmental
5367 Telephone Road
Warrenton, Virginia 20187

Re: 1668 VADEQ PCB's
Work Order: 5666

Dear Mr. Murnock:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on December 02, 2013. This original data report has been prepared and reviewed in accordance with CFA's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at 910-795-0421.

Sincerely,

Cynthia Larkins
Project Manager

Enclosures

problem solved

Page: 1 of 1
Project #:
CFA Quote #:
COC Number (1):
PO Number:

Cape Fear Analytical, LLC
Chain of Custody and Analytical Request

CFA Work Order Number: 51666

Cape Fear Analytical, LLC
3306 Kitty Hawk Rd. Suite 120
Wilmington, NC 28405
Phone: (910) 795-0421

Client Name: U.S. Army Garrison Ft. Belvoir/Angler Environmental Phone #:
Project/Site Name: Ft. Belvoir MS4-PCB-1495-SW3 Fax #: (703) 393-2934
Address: Building 1495, Fort Belvoir, VA
Collected by: Kelsey Gray Send Results To: Jason Murnock

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Total number of containers	PCB	<-- Preservative Type (6)	Comments
1 - PCB	11-27-13	0900	G	No	SW	1	1		Note: extra sample is required for sample specific QC
2 - PCB	11-27-13	0900	G	No	SW	1	1		
3 - PCB	11-27-13	0905	G	No	SW	1	1		

TAT Requested: Normal: X Rush: Specify: (Subject to Surcharge) Fax Results: Yes / No
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone: Eastern Central Mountain Pacific Other

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1 Kelsey Gray	11-27-13	11:32	1 [illegible]		11:32
2			2 Cynde Larkins	02DEC13	1245
3			3		

Sample Shipping and Delivery Details

CFA PM:
Method of Shipment: FedEx Ground Date Shipped: 11/27/13
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite
3.) Field Filtered: For liquid matrices, indicate with a- Y - for yes the sample was field filtered or- N - for sample was not field filtered.
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e.8290B, 1668B) and number of containers provided for each (i.e. 8290B - 3, 1668B - 1).
6.) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact? YES NO
Cooler Temp: 1.8 C

WHITE = LABORATORY YELLOW = FILE PINK = CLIENT

SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

Client: Angler Env.	Work Order: 5666
Received By: Cynde Larkins	Date/Time Received: 02Dec13 1245

Suspected Hazard Information	Yes	NA	No
Shipped as DOT Hazardous?			✓
Samples identified as Foreign Soil?			✓

DOE Site Sample Packages	Yes	NA	No*
Screened <0.5 mR/hr?		✓	
Samples < 2x background?		✓	

* Notify RSO of any responses in this column immediately.

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other(describe)
2	Chain of Custody documents included with shipment?	✓			
3	Samples requiring cold preservation within 0-6°C?	✓			Preservation Method: (ice bags) blue ice dry ice none other (describe) 1.8° C
4	Samples requiring chemical preservation at proper pH?	✓			Sample IDs, containers affected and pH observed: If preservative added, Lot#: PH = 7 on all samples
5	Samples requiring preservation have no residual chlorine?	✓			Sample IDs, containers affected: If preservative added, Lot#:
6	Samples received within holding time?	✓			Sample IDs, tests affected:
7	Sample IDs on COC match IDs on containers?	✓			Sample IDs, containers affected:
8	Date & time of COC match date & time on containers?	✓			Sample IDs, containers affected:
9	Number of containers received match number indicated on COC?	✓			Sample IDs, containers affected:
10	COC form is properly signed in relinquished/received sections?	✓			

Comments:

Checklist performed by: Initials: CL Date: 02Dec13

PCB Congeners Analysis

Case Narrative

PCBC Case Narrative
Angler Environmental (ANGL)
SDG 5666

Method/Analysis Information

Product:	**PCB Congeners VDEQ by EPA Method 1668A in Liquids**
Analytical Method:	EPA Method 1668A
Extraction Method:	SW846 3520C
Analytical Batch Number:	24982
Clean Up Batch Number:	24981
Extraction Batch Number:	24980

Sample Analysis

The following samples were analyzed using the analytical protocol as established in EPA Method 1668A:

Sample ID	Client ID
5666001	MS4-PCB-1495-SW3
12009538	Method Blank (MB)
12009539	Laboratory Control Sample (LCS)
12009540	Laboratory Control Sample Duplicate (LCSD)

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by Cape Fear Analytical LLC (CFA) as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with CF-OA-E-003 REV# 6.

Raw data reports are processed and reviewed by the analyst using the TargetLynx software package.

Calibration Information

Initial Calibration
All initial calibration requirements have been met for this sample delivery group (SDG).

Continuing Calibration Verification (CCV) Requirements
All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria.

Quality Control (QC) Information

Certification Statement
The test results presented in this document are certified to meet all requirements of the 2003 NELAC Standard. Any known exceptions are discussed in the narrative.

Method Blank (MB) Statement
The MB(s) analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries
All surrogate recoveries were within the established acceptance criteria for this SDG.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Laboratory Control Sample Duplicate (LCSD) Recovery
The LCSD spike recoveries met the acceptance limits.

LCS/LCSD Relative Percent Difference (RPD) Statement
The RPD(s) between the LCS and LCSD met the acceptance limits.

QC Sample Designation
A matrix spike and matrix spike duplicate analysis was not required for this SDG.

Technical Information

Holding Time Specifications
CFA assigns holding times based on the associated methodology, which assigns the date and time from sample collection. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis
Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information

Nonconformance (NCR) Documentation
A NCR was not required for this SDG.

Manual Integrations
Manual integrations were required for data files in this SDG. Certain standards and QC samples required manual integrations to correctly position the baseline as set in the calibration standard injections. Where manual integrations were performed, copies of all manual integration peak profiles are included in the raw data section of this fraction.

System Configuration
This analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description
HRP791_1	High-Resolution GC/MS System	PCB Analysis	SPB-Octyl	30m x 0.25mm, 0.25um

Electronic Packaging Comment

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative will include the data validator's signature and title. The signature page also includes the data qualifiers used in the fractional package. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Sample Data Summary

Cape Fear Analytical, LLC

3306 Kitty Hawk Road Suite 120, Wilmington, NC 28405 - (910) 795-0421 - www.capefearanalytical.com

Qualifier Definition Report
for

ANGL001 Angler Environmental

Client SDG: 5666 CFA Work Order: 5666

The Qualifiers in this report are defined as follows:

*	A quality control analyte recovery is outside of specified acceptance criteria
**	Analyte is a surrogate compound
C	Congener has coeluters. When Cxxx, refer to congener number xxx for data
J	Value is estimated
K	Estimated Maximum Possible Concentration
U	Analyte was analyzed for, but not detected above the specified detection limit.
DL	Indicates that sample is diluted.
RA	Indicates that sample is re-analyzed without re-extraction.
RE	Indicates that sample is re-extracted.

Review/Validation

Cape Fear Analytical requires all analytical data to be verified by a qualified data reviewer.

The following data validator verified the information presented in this case narrative:

Signature: Heather Patterson **Name: Heather Patterson**

Date: 13 DEC 2013 **Title: Analyst III**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**5666**	**Client:**	**ANGL001**	**Project:**	**ANGL00113**
Lab Sample ID:	**5666001**	**Date Collected:**	**11/27/2013 09:05**	**Matrix:**	**Water (whole)**
Client Sample:	**1668 VADEQ**	**Date Received:**	**12/02/2013 12:45**		
Client ID:	**MS4-PCB-1495-SW3**			**Prep Basis:**	**As Received**
Batch ID:	**24982**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/09/2013 23:44**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09dec13a-8**			**Dilution:**	**1**
Prep Batch:	**24980**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**06-DEC-13**	**Aliquot:**	**1997.7 mL**		

CAS No.	Parmname	Qual	Result	Units	DRBC EDL	PQL
2051-60-7	1-MoCB	U	.622	pg/L	0.622	10.0
2051-61-8	2-MoCB	U	.614	pg/L	0.614	10.0
2051-62-9	3-MoCB	U	.681	pg/L	0.681	10.0
13029-08-8	4-DiCB	U	2.84	pg/L	2.84	10.0
16605-91-7	5-DiCB	U	3.33	pg/L	3.33	10.0
25569-80-6	6-DiCB	U	2.11	pg/L	2.11	10.0
33284-50-3	7-DiCB	U	3.08	pg/L	3.08	10.0
34883-43-7	8-DiCB	U	2.17	pg/L	2.17	10.0
34883-39-1	9-DiCB	U	2.14	pg/L	2.14	10.0
33146-45-1	10-DiCB	U	1.52	pg/L	1.52	10.0
2050-67-1	11-DiCB	J	15.8	pg/L	2.91	50.1
2974-92-7	12-DiCB	CU	5.22	pg/L	5.22	20.0
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	2.64	pg/L	2.64	10.0
2050-68-2	15-DiCB	U	3.02	pg/L	3.02	10.0
38444-78-9	16-TrCB	U	1.21	pg/L	1.21	10.0
37680-66-3	17-TrCB	U	.895	pg/L	0.895	10.0
37680-65-2	18-TrCB	CJ	2.53	pg/L	0.772	20.0
38444-73-4	19-TrCB	U	.986	pg/L	0.986	10.0
38444-84-7	20-TrCB	CJK	2.96	pg/L	0.950	20.0
55702-46-0	21-TrCB	CJK	1.19	pg/L	1.15	20.0
38444-85-8	22-TrCB	J	1.59	pg/L	1.18	10.0
55720-44-0	23-TrCB	U	1.05	pg/L	1.05	10.0
55702-45-9	24-TrCB	U	.933	pg/L	0.933	10.0
55712-37-3	25-TrCB	U	.823	pg/L	0.823	10.0
38444-81-4	26-TrCB	CU	1.06	pg/L	1.06	20.0
38444-76-7	27-TrCB	U	.617	pg/L	0.617	10.0
7012-37-5	28-TrCB	C20				
15862-07-4	29-TrCB	C26				
35693-92-6	30-TrCB	C18				
16606-02-3	31-TrCB	JK	2.15	pg/L	0.761	10.0
38444-77-8	32-TrCB	JK	0.671	pg/L	0.607	10.0

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	5666	**Client:**	ANGL001	**Project:**	ANGL00113
Lab Sample ID:	5666001	**Date Collected:**	11/27/2013 09:05	**Matrix:**	Water (whole)
Client Sample:	1668 VADEQ	**Date Received:**	12/02/2013 12:45		
Client ID:	MS4-PCB-1495-SW3			**Prep Basis:**	As Received
Batch ID:	24982	**Method:**	EPA Method 1668A		
Run Date:	12/09/2013 23:44	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09dec13a-8			**Dilution:**	1
Prep Batch:	24980	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	06-DEC-13	**Aliquot:**	1997.7 mL		

CAS No.	Parmname	Qual	Result	Units	DRBC EDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	.723	pg/L	0.723	10.0
37680-69-6	35-TrCB	U	1.49	pg/L	1.49	10.0
38444-87-0	36-TrCB	U	1.22	pg/L	1.22	10.0
38444-90-5	37-TrCB	U	1.55	pg/L	1.55	10.0
53555-66-1	38-TrCB	U	1.38	pg/L	1.38	10.0
38444-88-1	39-TrCB	U	1.77	pg/L	1.77	10.0
38444-93-8	40-TeCB	CU	2.2	pg/L	2.20	20.0
52663-59-9	41-TeCB	U	1.83	pg/L	1.83	10.0
36559-22-5	42-TeCB	U	2.01	pg/L	2.01	10.0
70362-46-8	43-TeCB	U	2.15	pg/L	2.15	10.0
41464-39-5	44-TeCB	CJ	7.52	pg/L	2.18	30.0
70362-45-7	45-TeCB	CU	1.8	pg/L	1.80	20.0
41464-47-5	46-TeCB	U	1.08	pg/L	1.08	10.0
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	2.27	pg/L	2.27	10.0
41464-40-8	49-TeCB	CJ	2.97	pg/L	1.74	20.0
62796-65-0	50-TeCB	CU	1.34	pg/L	1.34	20.0
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB	J	5.32	pg/L	1.56	10.0
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	.821	pg/L	0.821	10.0
74338-24-2	55-TeCB	U	2.09	pg/L	2.09	10.0
41464-43-1	56-TeCB	JK	2.49	pg/L	1.71	10.0
70424-67-8	57-TeCB	U	1.35	pg/L	1.35	10.0
41464-49-7	58-TeCB	U	1.97	pg/L	1.97	10.0
74472-33-6	59-TeCB	CU	2.11	pg/L	2.11	30.0
33025-41-1	60-TeCB	U	2.12	pg/L	2.12	10.0
33284-53-6	61-TeCB	CJ	7.27	pg/L	2.78	40.0
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	1.36	pg/L	1.36	10.0
52663-58-8	64-TeCB	JK	2.44	pg/L	1.49	10.0

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**5666**	**Client:**	**ANGL001**	**Project:**	**ANGL00113**
Lab Sample ID:	**5666001**	**Date Collected:**	**11/27/2013 09:05**	**Matrix:**	**Water (whole)**
Client Sample:	**1668 VADEQ**	**Date Received:**	**12/02/2013 12:45**		
Client ID:	**MS4-PCB-1495-SW3**			**Prep Basis:**	**As Received**
Batch ID:	**24982**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/09/2013 23:44**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09dec13a-8**			**Dilution:**	**1**
Prep Batch:	**24980**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**06-DEC-13**	**Aliquot:**	**1997.7 mL**		

CAS No.	Parmname	Qual	Result	Units	DRBC EDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	J	2.80	pg/L	1.39	10.0
73575-53-8	67-TeCB	U	1.41	pg/L	1.41	10.0
73575-52-7	68-TeCB	U	1.81	pg/L	1.81	10.0
60233-24-1	69-TeCB	C49				
32598-11-1	70-TeCB	C61				
41464-46-4	71-TeCB	C40				
41464-42-0	72-TeCB	U	1.28	pg/L	1.28	10.0
74338-23-1	73-TeCB	U	1.72	pg/L	1.72	10.0
32690-93-0	74-TeCB	C61				
32598-12-2	75-TeCB	C59				
70362-48-0	76-TeCB	C61				
32598-13-3	77-TeCB	U	1.63	pg/L	1.63	10.0
70362-49-1	78-TeCB	U	1.6	pg/L	1.60	10.0
41464-48-6	79-TeCB	U	1.46	pg/L	1.46	10.0
33284-52-5	80-TeCB	U	1.45	pg/L	1.45	10.0
70362-50-4	81-TeCB	U	1.57	pg/L	1.57	10.0
52663-62-4	82-PeCB	U	2.46	pg/L	2.46	10.0
60145-20-2	83-PeCB	U	2.34	pg/L	2.34	10.0
52663-60-2	84-PeCB	J	3.46	pg/L	2.20	10.0
65510-45-4	85-PeCB	CJ	8.18	pg/L	2.62	30.0
55312-69-1	86-PeCB	CJ	17.0	pg/L	3.06	60.1
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CU	3.59	pg/L	3.59	20.0
73575-57-2	89-PeCB	U	2.05	pg/L	2.05	10.0
68194-07-0	90-PeCB	C	43.4	pg/L	2.84	30.0
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	J	4.15	pg/L	1.96	10.0
73575-56-1	93-PeCB	CU	2.19	pg/L	2.19	20.0
73575-55-0	94-PeCB	U	2.72	pg/L	2.72	10.0
38379-99-6	95-PeCB		12.6	pg/L	1.82	10.0
73575-54-9	96-PeCB	U	.999	pg/L	0.999	10.0

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**5666**	**Client:**	**ANGL001**	**Project:**	**ANGL00113**
Lab Sample ID:	**5666001**	**Date Collected:**	**11/27/2013 09:05**	**Matrix:**	**Water (whole)**
Client Sample:	**1668 VADEQ**	**Date Received:**	**12/02/2013 12:45**		
Client ID:	**MS4-PCB-1495-SW3**			**Prep Basis:**	**As Received**
Batch ID:	**24982**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/09/2013 23:44**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09dec13a-8**			**Dilution:**	**1**
Prep Batch:	**24980**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**06-DEC-13**	**Aliquot:**	**1997.7 mL**		

CAS No.	Parmname	Qual	Result	Units	DRBC EDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	3.24	pg/L	3.24	20.0
38380-01-7	99-PeCB		26.6	pg/L	2.32	10.0
39485-83-1	100-PeCB	C93				
37680-73-2	101-PeCB	C90				
68194-06-9	102-PeCB	C98				
60145-21-3	103-PeCB	U	1.65	pg/L	1.65	10.0
56558-16-8	104-PeCB	U	1.57	pg/L	1.57	10.0
32598-14-4	105-PeCB		16.1	pg/L	2.76	10.0
70424-69-0	106-PeCB	U	2.38	pg/L	2.38	10.0
70424-68-9	107-PeCB	J	3.18	pg/L	2.38	10.0
70362-41-3	108-PeCB	CU	3.01	pg/L	3.01	20.0
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	C	35.6	pg/L	3.34	20.0
39635-32-0	111-PeCB	U	2.21	pg/L	2.21	10.0
74472-36-9	112-PeCB	U	1.57	pg/L	1.57	10.0
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	U	2.68	pg/L	2.68	10.0
74472-38-1	115-PeCB	C110				
18259-05-7	116-PeCB	C85				
68194-11-6	117-PeCB	C85				
31508-00-6	118-PeCB		35.9	pg/L	2.51	10.0
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	1.55	pg/L	1.55	10.0
56558-18-0	121-PeCB	U	2.11	pg/L	2.11	10.0
76842-07-4	122-PeCB	U	2.66	pg/L	2.66	10.0
65510-44-3	123-PeCB	U	2.26	pg/L	2.26	10.0
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	3	pg/L	3.00	10.0
39635-33-1	127-PeCB	U	2.74	pg/L	2.74	10.0
38380-07-3	128-HxCB	CJ	12.4	pg/L	2.76	20.0

Comments:

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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**5666**	**Client:**	**ANGL001**	**Project:**	**ANGL00113**
Lab Sample ID:	**5666001**	**Date Collected:**	**11/27/2013 09:05**	**Matrix:**	**Water (whole)**
Client Sample:	**1668 VADEQ**	**Date Received:**	**12/02/2013 12:45**		
Client ID:	**MS4-PCB-1495-SW3**			**Prep Basis:**	**As Received**
Batch ID:	**24982**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/09/2013 23:44**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09dec13a-8**			**Dilution:**	**1**
Prep Batch:	**24980**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**06-DEC-13**	**Aliquot:**	**1997.7 mL**		

CAS No.	Parmname	Qual	Result	Units	DRBC EDL	PQL
55215-18-4	129-HxCB	C	110	pg/L	2.96	30.0
52663-66-8	130-HxCB	JK	4.16	pg/L	2.90	10.0
61798-70-7	131-HxCB	U	3.07	pg/L	3.07	10.0
38380-05-1	132-HxCB		15.5	pg/L	3.95	10.0
35694-04-3	133-HxCB	U	2.76	pg/L	2.76	10.0
52704-70-8	134-HxCB	U	2.93	pg/L	2.93	10.0
52744-13-5	135-HxCB	CJ	17.0	pg/L	3.02	20.0
38411-22-2	136-HxCB	JK	3.99	pg/L	1.44	10.0
35694-06-5	137-HxCB	J	5.35	pg/L	3.39	10.0
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	3.03	pg/L	3.03	20.0
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB		14.1	pg/L	2.71	10.0
41411-61-4	142-HxCB	U	2.79	pg/L	2.79	10.0
68194-15-0	143-HxCB	U	2.47	pg/L	2.47	10.0
68194-14-9	144-HxCB	U	1.96	pg/L	1.96	10.0
74472-40-5	145-HxCB	U	2.04	pg/L	2.04	10.0
51908-16-8	146-HxCB	J	9.68	pg/L	2.48	10.0
68194-13-8	147-HxCB	C	38.7	pg/L	2.93	20.0
74472-41-6	148-HxCB	U	2.08	pg/L	2.08	10.0
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	1.98	pg/L	1.98	10.0
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	1.41	pg/L	1.41	10.0
35065-27-1	153-HxCB	C	143	pg/L	3.06	20.0
60145-22-4	154-HxCB	U	1.89	pg/L	1.89	10.0
33979-03-2	155-HxCB	U	1.98	pg/L	1.98	10.0
38380-08-4	156-HxCB	CJ	13.3	pg/L	3.28	20.0
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	J	5.83	pg/L	2.12	10.0
39635-35-3	159-HxCB	U	2.62	pg/L	2.62	10.0
41411-62-5	160-HxCB	U	2.99	pg/L	2.99	10.0

Comments:

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J Value is estimated
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PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**5666**	**Client:**	**ANGL001**	**Project:**	**ANGL00113**
Lab Sample ID:	**5666001**	**Date Collected:**	**11/27/2013 09:05**	**Matrix:**	**Water (whole)**
Client Sample:	**1668 VADEQ**	**Date Received:**	**12/02/2013 12:45**		
Client ID:	**MS4-PCB-1495-SW3**			**Prep Basis:**	**As Received**
Batch ID:	**24982**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/09/2013 23:44**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09dec13a-8**			**Dilution:**	**1**
Prep Batch:	**24980**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**06-DEC-13**	**Aliquot:**	**1997.7 mL**		

CAS No.	Parmname	Qual	Result	Units	DRBC EDL	PQL
74472-43-8	161-HxCB	U	2.06	pg/L	2.06	10.0
39635-34-2	162-HxCB	U	3.57	pg/L	3.57	10.0
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	J	4.06	pg/L	2.11	10.0
74472-46-1	165-HxCB	U	3.1	pg/L	3.10	10.0
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	J	6.20	pg/L	2.86	10.0
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	3.24	pg/L	3.24	10.0
35065-30-6	170-HpCB		17.1	pg/L	1.96	10.0
52663-71-5	171-HpCB	CJ	4.15	pg/L	2.44	20.0
52663-74-8	172-HpCB	J	3.33	pg/L	1.87	10.0
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB		14.5	pg/L	1.83	10.0
40186-70-7	175-HpCB	U	2.42	pg/L	2.42	10.0
52663-65-7	176-HpCB	U	1.78	pg/L	1.78	10.0
52663-70-4	177-HpCB	J	8.97	pg/L	1.90	10.0
52663-67-9	178-HpCB	J	4.04	pg/L	2.45	10.0
52663-64-6	179-HpCB	J	5.25	pg/L	1.79	10.0
35065-29-3	180-HpCB	C	49.5	pg/L	2.34	20.0
74472-47-2	181-HpCB	U	2.52	pg/L	2.52	10.0
60145-23-5	182-HpCB	U	2.44	pg/L	2.44	10.0
52663-69-1	183-HpCB	CJ	9.20	pg/L	2.70	20.0
74472-48-3	184-HpCB	U	2.3	pg/L	2.30	10.0
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	2.61	pg/L	2.61	10.0
52663-68-0	187-HpCB		32.5	pg/L	3.14	10.0
74487-85-7	188-HpCB	U	2.28	pg/L	2.28	10.0
39635-31-9	189-HpCB	U	2.27	pg/L	2.27	10.0
41411-64-7	190-HpCB	J	3.94	pg/L	1.51	10.0
74472-50-7	191-HpCB	U	1.44	pg/L	1.44	10.0
74472-51-8	192-HpCB	U	2.17	pg/L	2.17	10.0

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**5666**	**Client:**	**ANGL001**	**Project:**	**ANGL00113**
Lab Sample ID:	**5666001**	**Date Collected:**	**11/27/2013 09:05**	**Matrix:**	**Water (whole)**
Client Sample:	**1668 VADEQ**	**Date Received:**	**12/02/2013 12:45**		
Client ID:	**MS4-PCB-1495-SW3**			**Prep Basis:**	**As Received**
Batch ID:	**24982**	**Method:**	**EPA Method 1668A**		
Run Date:	**12/09/2013 23:44**	**Analyst:**	**MJC**	**Instrument:**	**HRP791**
Data File:	**c09dec13a-8**			**Dilution:**	**1**
Prep Batch:	**24980**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**06-DEC-13**	**Aliquot:**	**1997.7 mL**		

CAS No.	Parmname	Qual	Result	Units	DRBC EDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	J	9.11	pg/L	2.29	10.0
52663-78-2	195-OcCB	J	3.51	pg/L	2.27	10.0
42740-50-1	196-OcCB	J	3.46	pg/L	2.11	10.0
33091-17-7	197-OcCB	CU	2.46	pg/L	2.46	20.0
68194-17-2	198-OcCB	CJ	12.0	pg/L	3.14	20.0
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	U	1.52	pg/L	1.52	10.0
2136-99-4	202-OcCB	J	3.14	pg/L	1.97	10.0
52663-76-0	203-OcCB	J	8.49	pg/L	2.86	10.0
74472-52-9	204-OcCB	U	1.5	pg/L	1.50	10.0
74472-53-0	205-OcCB	U	2.09	pg/L	2.09	10.0
40186-72-9	206-NoCB		12.9	pg/L	3.66	10.0
52663-79-3	207-NoCB	U	2.22	pg/L	2.22	10.0
52663-77-1	208-NoCB	J	7.58	pg/L	2.89	10.0
2051-24-3	209-DeCB		30.7	pg/L	2.66	10.0
1336-36-3	Total PCB Congeners with EMPCs		910	pg/L		10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		646	1000	pg/L	64.5	(15%-150%)
13C-3-MoCB		661	1000	pg/L	66.0	(15%-150%)
13C-4-DiCB		681	1000	pg/L	68.0	(25%-150%)
13C-15-DiCB		648	1000	pg/L	64.8	(25%-150%)
13C-19-TrCB		741	1000	pg/L	74.0	(25%-150%)
13C-37-TrCB		706	1000	pg/L	70.5	(25%-150%)
13C-54-TeCB		647	1000	pg/L	64.6	(25%-150%)
13C-77-TeCB		871	1000	pg/L	87.0	(25%-150%)
13C-81-TeCB		889	1000	pg/L	88.8	(25%-150%)
13C-104-PeCB		555	1000	pg/L	55.4	(25%-150%)
13C-105-PeCB		753	1000	pg/L	75.2	(25%-150%)
13C-114-PeCB		722	1000	pg/L	72.1	(25%-150%)
13C-118-PeCB		748	1000	pg/L	74.7	(25%-150%)
13C-123-PeCB		775	1000	pg/L	77.4	(25%-150%)
13C-126-PeCB		809	1000	pg/L	80.8	(25%-150%)
13C-155-HxCB		640	1000	pg/L	63.9	(25%-150%)
13C-156-HxCB	C	1400	2000	pg/L	70.0	(25%-150%)
13C-157-HxCB	C156L					
13C-167-HxCB		655	1000	pg/L	65.5	(25%-150%)
13C-169-HxCB		734	1000	pg/L	73.3	(25%-150%)
13C-188-HpCB		801	1000	pg/L	80.0	(25%-150%)
13C-189-HpCB		698	1000	pg/L	69.7	(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	5666	**Client:**	ANGL001	**Project:**	ANGL00113
Lab Sample ID:	5666001	**Date Collected:**	11/27/2013 09:05	**Matrix:**	Water (whole)
Client Sample:	1668 VADEQ	**Date Received:**	12/02/2013 12:45		
Client ID:	MS4-PCB-1495-SW3			**Prep Basis:**	As Received
Batch ID:	24982	**Method:**	EPA Method 1668A		
Run Date:	12/09/2013 23:44	**Analyst:**	MJC	**Instrument:**	HRP791
Data File:	c09dec13a-8			**Dilution:**	1
Prep Batch:	24980	**Prep Method:**	SW846 3520C	**Prep SOP Ref:**	CF-OA-E-001
Prep Date:	06-DEC-13	**Aliquot:**	1997.7 mL		

CAS No.	Parmname	Qual	Result	Units	DRBC EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		904	1000	pg/L	90.3	(25%-150%)
13C-205-OcCB		944	1000	pg/L	94.3	(25%-150%)
13C-206-NoCB		979	1000	pg/L	97.7	(25%-150%)
13C-208-NoCB		996	1000	pg/L	99.5	(25%-150%)
13C-209-DeCB		904	1000	pg/L	90.3	(25%-150%)
13C-28-TrCB		874	1000	pg/L	87.3	(30%-135%)
13C-111-PeCB		982	1000	pg/L	98.1	(30%-135%)
13C-178-HpCB		943	1000	pg/L	94.2	(30%-135%)

Comments:

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