



2013 ANNUAL FISH MONITORING REPORT

SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE

SME Project Number: 069638.00.002.002

May 12, 2014





1 North Commerce Park Dr.
Suite 318
Cincinnati, OH 45215-3187

T (513) 898-9430

www.sme-usa.com

April 14, 2015

Pablo Valentin
United States Environmental Protection Agency, Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

RE: SME Serial Letter #13
Response to Comments
2013 Fish Monitoring Report
Sheboygan River and Harbor Site
SME Project No. 069638.00.002.003

Dear Pablo:

SME is providing the revised 2013 Annual Fish Monitoring report based on your July 29, 2014 letter. The following provides are responses or explanations to your comments. The revised report is enclosed with this letter.

Comment 1: Report Cover. The left hand column of the report cover contains information potentially confusing to the reader and is not relevant to the fish monitoring results documentation. Please remove.

Response 1: SME has revised their cover page with one that does not provide confusing information.

Comment 2: Page 2, Section 1.2, third paragraph. Please add information on the Upper River sediment SWAC from the first post-dredging 5-year sediment sampling event collected in 2012 and contained in the Sediment Monitoring Report (PRS, 2013).

Response 2: This information has been added.

Comment 3: Pages 4 and 5, Section 1.4.1. The Biota to Sediment Accumulation Factor (BSAF) discussion is not relevant to the fish monitoring results documentation. Please keep the paragraph noting the Record of Decision (ROD) fish tissue target levels on page 5, but remove the remaining paragraphs starting with the last paragraph on page 4 through the last paragraph on page 5.

Response 3. This information was removed however SME believes all information relevant to fish tissue concentrations and target levels should be included in the report.

Comment 4: Page 7, Section 1.4.2, second paragraph. A temporary increase in PCB concentration due to remedial action is not unexpected and is well documented in the document referenced (Sediment Dredging at Superfund Megsites, Assessing the Effectiveness, National Academy of Sciences, 2007). Please remove the final three sentences in this paragraph as they are not relevant to the fish monitoring results documentation.

Response 4: The last three sentences were removed.

Comment 5: Page 8, Section 2.1, third paragraph and table. Longnose Dace were not eliminated from sampling. They are found in riffles and require seining with nets instead of electro-fishing to catch. High water in 2013 contributed to riffle flooding and reduced potential of collecting with seine nets. Longnose Dace should be added into the sample collection goals using the appropriate fish collection technique.

Response 5: While I have not been able to find the documentation demonstrating we all agreed to eliminate Longnose Dace as a target species, I do remember when it happened. PRS was unable to catch the species employing both the electroshock and seining methods. The 2012 report made the same statement about eliminating this species and it did not elicit a comment. We will add Longnose Dace to the future sample collection goals. The wording of this sentence and the next sentence was revised.

Comment 6: Page 11, Section 2.3. Deviations from the Plan should also note correspondence between PRS and EPA during the 2013 fish sampling event. PRS communicated several deviations to EPA, including the following communicated by Mark Mather of PRS on June 6, 2013:

- 1. PRS will not be sampling The UPPER RIVER beyond the riffles. The waterflow is in excess of two times the normal rate and it is dangerous.*
- 2. Due to the amount of waterflow, and the danger, PRS will possibly select fish samples that are outside the target range. This practice has been used in the past.*
- 3. Steve Graziano pointed out that we do not use ice in our on the boats cooler. For safety sake, again, we try to decrease the amount of weight in the boats. Having been in the commercial fishing business, I know that ice is used as a prevention for Pathogens and human consumption issues.*

Fish should be kept on ice as a standard field collection procedure.

Response 6: The deviations will be added to the report. According to Ken Aukerman, the fish storage method has been the practice since the start fish collection. This has been observed by Weston for several years and appeared to be an acceptable practice since I never received a comment about it. The fish are placed in a freezer twice a day during the collection period, at lunch and the end of the day.

Commercial fisherman do ice their catch for the reasons stated. They also have much larger boats than can be used on the Sheboygan River for fish collection; a picture of the boat used by PRS is provided below.



SME believes that samples should be kept cold once collected. However we do not believe that the fish sample results are biased when not preserved immediately and the data quality objectives are still met for the following reasons:

- In fish, the half-life of PCBs has been calculated to be 340 to 1,450 days¹.
- PCBs have an exceptionally low volatility. The average molecular weight for Aroclor 1260) is 375.7 g/mol; the vapor pressure is 4.05×10^{-5} mm Hg at 25 C².
- PCBs are very stable and have a long holding time due to this stability. USEPA Method 8082 states *PCBs are very stable in a variety of matrices, and holding times may be as long as a year.*

Based on the foregoing, failure to store fish on ice during the 4 – 5 hours from the start of collection until they are placed in the freezer at lunch or at the end of the day would not significantly affect the concentrations in the fish. However, SME will evaluate ways to preserve the fish while maintaining the safety of the collection team and make the appropriate recommendations to PRS.

Comment 7: Page 15, Section 4.2, paragraph 4. High river flow at the time of sampling would not cause higher PCB concentrations in fish. Please remove this statement. Also, the reference year for the data collection is listed as 2014, did you intend to list 2013? Please revise accordingly.

Response 7: The edit was made. Several research publications point to PCB levels in the water column as contributing to increased levels of PCBs in fish tissue. High river flow could lead to increases in the PCB levels in the water column due to scouring of the river banks and soft sediment deposits.

Comment 8: Page 16, Section 4.2, paragraphs 1 and 3. High river flow at the time of sampling would not cause higher PCB concentrations in fish tissue. Please remove this statement. Also, the reference year for the data collection is listed as 2014, did you intend to list 2013? Please revise accordingly.

Response 8: The sentence was removed.

¹ Oost R, Beyer J, Vermeulen N. Fish Bioaccumulation and Biomarkers In Environmental Risk Assessment: A Review. *Environmental Toxicology and Pharmacology*; 2003;13:57-149.

² Agency for Toxic Substances and Disease Registry (ATSDR). *Toxicological Profile for Polychlorinated Biphenyls*. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1997.

Comment 9: Page 17, Section 4.2, Middle River Site 2 paragraphs. The text describes PCB increases due to 2012 dredging. However, no dredging was done in the Middle River reach. Please provide further explanation or remove this discussion in support of the PCB concentration increases in the Middle River Site 2.

Response 9: As stated in the report, the increased levels were attributed to the dredging done in the Lower River reach and not the Middle River 2 reach. Much of the fish collected in the Middle River 2 reach were collected near the Lower River and these fish probably move between reaches routinely. The section was revised as requested.

Comment 10: Page 18, Section 4.2, Inner Harbor, First paragraph. The text appears to be missing the word "higher" after "significantly" when describing the adult carp concentration. Please clarify.

Response 10: The sentence was revised.

Comment 11: Page 19, Table. The table should include the Longnose Dace targets consistent with previous sampling plans.

Response 11: EPA agreed to drop Longnose Dace after repeated attempts to collect them failed. The 2012 fish monitoring report did not include Longnose Dace in the same table. SME has added them back to the table.

Comment 12: Tables 2 and 3. The tables have inconsistent number of fish in them. For example, only 6 Adult Carp are listed in Table 2 in the UR1 reach, however, Table 3 has 12 Adult Carp listed as collected for this reach. Table 3 Juvenile White Suckers lists 7 for the MR2 reach, however there are only 6 fish analyzed in Appendix 1. Please revise information provided to eliminate inconsistencies.

Response 12: The tables have revised accordingly.

Comment 13: Tables 2 and 3. Oversight field observations included 1 Juvenile White Sucker in UR1, 6 in MR2, 8 in LR, and 1 Walleye in the LR reach. The laboratory report noted receiving LR Juvenile White Suckers for analysis. The laboratory report also notes a LR Walleye analysis was canceled. Please include an explanation as to why the analysis was canceled. Please double check the quantities of fish documented in the analysis and update the tables and analysis as needed. Note changes in sampled and analyzed fish in Section 2.3, Deviations from the Plan.

Response 13: PRS does not recollect canceling the analysis. The fish may not have met the length requirements and with no other walleyes collected in the Lower River, PRS may have thought that analyzing this single fish was not important. No revisions will be made to the report.

Comment 14: Tables 2 and 3. It seems that there are inconsistencies between how the laboratory analyzes fish sizes when comparing MR2 Juvenile White Sucker sizes analyzed to LR Juvenile White Sucker sizes not analyzed by the laboratory. The LR Juvenile White Sucker lengths are consistent with the MR2 Juvenile White Sucker lengths that were analyzed and sampled in prior years. Clarify in the report the laboratory capabilities to avoid future inconsistencies. Document changes in sampled and analyzed fish in the Section 2.3, Deviations from the Plan and Section 5, Future Phase 1 Monitoring.

Response 14: SME requires clarification of this comment. Once clarification is provided, a letter addendum to the report will be provided.

Comment 15: Table 4. The table on page 3 of 3 is missing all of the Lower River and Inner Harbor data. Please add this information.

Response 15: The information has been added.

Comment 16: Appendix 1. Fish length is required to be documented in the report. Include the fish length in the fish tissue results in Appendix 1. Note any deviations from actual fish length compared to target fish length in the sampling plan. Also, include in the Deviations, Section 2.3.

Response 16: The data has been added.

Comment 17: Appendix 1. UR2 Smallmouth Bass is missing 2 sampling results. Similarly, MR2 Juvenile White Sucker only lists 6 while Table 3 lists 7. Please add these to the Appendix 1 documentation.

Response 17: The information was added as applicable.

Comment 18: Box and Whisker Plots. Please add the remediation target concentration to the graphs for the fish species that were included in the ROD.

Response 18: The target levels have been added.

Comment 19: Box and Whisker Plots. For the MR1 -Juvenile Sucker, no data for 2013 is shown; show zero for the 2013 data if no data was collected. Similarly show zero and add notes for: 2008 MR1-Rock Bass, 2012 MR1-Walleye, MR1-Channel Catfish for the years that these were not collected, 2008 MR2-Carp, LR-Carp, LR-Adult Sucker, LR-Smallmouth Bass, LR-Rock Bass, IHCarp, IH-Adult Sucker, IH-Rock Bass, and IH-Smallmouth Bass.

Response 19: The plots have been revised.

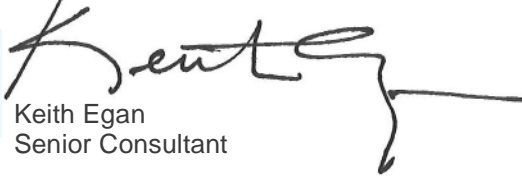
Comment 20: Appendix 5. Please add the additional species that have been tested to the table. Also include the ROD target PCB concentrations for applicable fish species.

Response 20: The revisions have been made as requested.

The requested revisions will be incorporated into the 2014 report as well. Please address questions or comments to me at (513) 319-8918.

Sincerely,

SME



Keith Egan
Senior Consultant

Enclosure

Distribution: Tom Wentland, WDNR
Mark Mather, PRS
Peter Johnson, Johnson Wright, Inc.
Kevin Shanoski, Chubb Corporation
Jason Smith, Tecumseh Products Company

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**2013 ANNUAL
FISH MONITORING REPORT**

May 2014

Prepared for
**United States Environmental Protection Agency Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604-3507**

SME Project No.: 069638.00.002.002

SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE

**2013 Annual
Fish Monitoring Report**

Prepared for
**United States Environmental Protection Agency
Region 5**

Prepared By
Soil and Materials Engineers, Inc.

May 2014

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1.0 INTRODUCTION

Monitoring of post-remedial fish tissue concentrations with polychlorinated biphenyls (PCBs) is being conducted on the Sheboygan River in accordance with the *Post-Remediation Monitoring Plan* (PMP). As stated in the PMP, the monitoring is being conducted in three phases consisting of the following:

- Baseline monitoring after remediation of the Upper River and prior to remediation of the Lower River reaches to determine the mean PCB concentration of each fish species of interest and establish a comparison point for future sampling,¹
- Phase 1 annual monitoring following remediation of each reach to establish a trend in mean PCB concentration for each fish species and track the progress of the fish in meeting the remedial goals, and
- Phase 2 confirmational sampling to verify the fish have reached the remedial goals.

This *2013 Fish Monitoring Report* documents the Phase 1 fish monitoring performed in 2013 on the Upper River, Middle River, Lower River, and Inner Harbor reaches. The Middle River reach fish monitoring was performed as data from the 2009 Pre-Design Investigation indicated remediation would not be performed. This decision was approved by the United States Environmental Protection Agency (USEPA) and Wisconsin Department of Natural Resources (WDNR), hereafter known as the agencies. Remediation of the Lower River and Inner Harbor reaches was completed in 2012 and the 2013 monitoring event is the first Phase 1 monitoring for those reaches.

The data obtained during the Phase 1 annual monitoring will allow post-remedial fish tissue concentrations to be compared to prior annual results to monitor remedial progress. Post-remedial monitoring will occur until fish consumption advisories are lifted by the Wisconsin Department of Health, fish fillet concentrations of PCBs decrease to the target levels specified on page 32 of the *Record of Decision* (ROD), or for 30 years, whichever comes first.

¹ The Upper River, Lower River, and Inner Harbor have already been remediated. The first annual event will be used as the baseline event. The *Baseline Upper and Lower River Fish Monitoring Report* documented the fish monitoring performed in 2008 for the Upper River, Middle River, Lower River, and Inner Harbor reaches.

1.1 Site Description

The Sheboygan River and Harbor Superfund Site (the Site) is located on the western shore of Lake Michigan approximately fifty-five miles north of Milwaukee, Wisconsin, in Sheboygan County (Figure 1). The Site includes the former Tecumseh Manufacturing site and the lower fourteen miles of the Sheboygan River from the Sheboygan Falls Dam downstream to, and including, the Inner Harbor. This segment of the river flows west to east through the cities of Sheboygan Falls, Kohler, and Sheboygan before entering Lake Michigan.

During the Remedial Investigations (RI), the river was segmented in separate sections, known as reaches, based on physical characteristics such as average depth, width, and level of polychlorinated biphenyl (PCB) sediment contamination. The Upper River extends from the Sheboygan Falls Dam downstream four miles to the Waelderhaus Dam in Kohler. The Middle River extends seven miles from the Waelderhaus Dam to the former Chicago & Northwestern (C&NW) railroad bridge. The Lower River extends two miles from the C&NW railroad bridge to the Pennsylvania Avenue Bridge in downtown Sheboygan. The Inner Harbor includes the Sheboygan River from the Pennsylvania Avenue Bridge to the river's outlet to the Outer Harbor. Figure 2 provides an overview of each river reach.

1.2 Site History

The USEPA placed the Sheboygan River and Harbor Site on the National Priorities List (NPL) in 1986. Remedial Design (RD) and Remedial Action (RA) work at the Site was phased.

Phase I² Source work included installing an interceptor trench and removing contaminated soils to reduce potential contaminated groundwater migration to the river. Phase I work was completed in 2004.

Phase II Upper River work included removing contaminated sediment from nine (9) Armored Area Remedial Management Units (RMUs) and 122 Soft Sediment RMUs. The Soft Sediment RMUs and Armored Areas contained the majority of the PCB mass within the Upper River. The Upper River remedial action removed 20,728 cubic yards of contaminated sediment and 552 pounds of PCBs for a total mass removal percentage of 94.1%, which exceeded the ROD PCB mass reduction objective of 88%. The Upper River SWAC was reduced from 5.2 ppm to 1.96 ppm. The Phase II Upper River work was completed in 2006 and 2007. The calculated SWAC in the Upper River following the 2012, 5-year sediment monitoring event was 0.78 ppm.

Phase II Floodplain work included removing contaminated soil from two areas in Floodplain 3, one area in Floodplain 4, and four areas in Floodplain 6. The Floodplain remedial action removed 10 cubic yards of contaminated soil. The Phase II Floodplain work was completed in 2012.

² Note- the Phase I, Phase II, and Phase III work activities described in Section 1.2 are not associated with the Phase I and Phase II monitoring activities described in Section 1.0.

Phase III Lower River work included removing sediment from 46 grids in the Lower River and 40 in the Inner Harbor. The Lower River remedial action removed 65,475.10 cubic yards of contaminated sediment, exceeding the ROD objective of 53,000 cubic yards³. Phase III Lower River work was completed in 2011 and 2012.

1.3 River Characteristics

1.3.1 Upper River/Middle River

The Upper River consists of discrete Soft Sediment deposits and non-Soft Sediment areas which include a mix of Soft Sediment, rocks, cobbles, and bare river bottom. The sediment contamination in the Upper River acts as a partial source of PCB-contaminated sediment for the rest of the river system during high river conditions in addition to the other sources identified in the Middle River, Lower River, and Inner Harbor.

The Middle River consists of Soft and non-Soft Sediment areas similar to the Upper River, but due to the hydrodynamics of this reach, the areas of Soft Sediment are shallower and more widely scattered. The Middle River sediments act as a source of PCB-contamination for the rest of the Lower River system in addition to any potential sources in the Lower River and Inner Harbor reaches.

1.3.2 Lower River/Inner Harbor

The flow velocity in the Lower River decreases leading to a more continuous layer of Soft Sediment throughout the reach. Based on the hydrodynamics of this reach, the Lower River is where much of the sediment released in the Middle River is deposited.

The Inner Harbor is generally the river reach where upstream Soft Sediment is deposited. However, while the Inner Harbor is generally depositional, deposition occurs primarily between the 8th Street Bridge and the harbor mouth. The area between the Pennsylvania Bridge and 8th Street Bridge has little deposition and shows evidence of scour.

1.4 Previous Evaluations

1.4.1 Pre-Remediation Evaluation

The consumption of the fish is the primary exposure route for human receptors of the PCBs in the river sediments. The PCBs in the river sediments bioaccumulate in the fish from contact with impacted sediment, surface water, or by ingesting prey that are impacted. An understanding of the process in developing the sediment PCB cleanup goals based on allowable fish PCB concentrations is important in the evaluation of long-term assessment of remedial success.

There is considerable seasonal fishing in the Middle River, Lower River, and Inner Harbor⁴. Fishing is more limited in the Upper River. According to WDNR surveys, most fishing occurs during spring and fall salmon and trout runs. Resident fish which are taken from the Sheboygan

³ As listed in Record of Decision (ROD) for the Upper River, May 2000, page 61 and for the Lower River/Inner Harbor May 2000, page 77).

⁴ Much of the information presented in this section was obtained from the ROD.

River, between the Sheboygan Falls dam and the mouth of the river, fall into the “do not eat” consumption advisory category. Migrating trout and salmon are subject to Lake Michigan advisories as they obtain most of their PCB body burden from Lake Michigan. One objective of the sediment removal is to reduce the concentrations of PCBs in the fish over time so all the consumption advisories are lifted.

There are several possible pathways of exposure to the contamination in the sediment: dermal contact, ingestion of contaminated surface water or sediment, and consumption of fish contaminated by sediment. However, the human health analysis assumed that for this Site, the pathway presenting the majority of the risk and likely to yield the most protective assessment of risks is consumption of contaminated fish and not dermal contact. This does not imply that no other exposure pathways are occurring at this Site, only that there is a focus on the pathway which contributes the majority of risk, the fish ingestion pathway.

An Interim Monitoring Program (IMP) was performed by Blasland, Bouck, and Lee, Inc. (BBL) that consisted of the collection of smallmouth bass and white suckers at Rochester Park in the Upper River reach and between the dams in the Upper River reach.⁵ During the baseline and subsequent post-remedial monitoring, these areas are known as Upper River 1 and Upper River 2 Sites. These fish were also collected near Kiwanis Park or in the Lower River reach. The range of smallmouth bass PCB concentrations detected is as follows:

- Upper River 1 2.1 to 10.3 ppm
- Upper River 2 1.1 to 7.3 ppm, and
- Lower River 0.82 to 3.7 ppm.

The PCB concentration decreased between 1994 and 2002. The results for smallmouth bass in the Upper River Site 1 show a general decreasing trend and the regression shows a decrease with a moderate correlation. For Upper River Site 2, the decrease has a very strong correlation for the regression. The range of white sucker concentrations detected is as follows:

- Upper River 1 2.7 to 18.3 ppm
- Upper River 2 1.9 to 8.7 ppm, and
- Lower River 1.4 to 3.9 ppm.

In order to address unacceptable risks at the Site, USEPA calculated sediment cleanup goals, protective of human health. The USEPA made a conscious decision to model and be protective of the more contaminated resident fish species of smallmouth bass and carp at the Site. By selecting a cleanup goal protective of bass (or carp), the cleanup will be protective of the lesser contaminated species such as walleye, trout, salmon, and steelhead. Target fish tissue levels corresponding to the SWAC Sediment Cleanup Goal include the following:

- Smallmouth Bass 0.31 ppm (skin on fillet)
- Walleye 0.63 ppm (skin on fillet)

⁵ Conducted in 1994, 1995, 1996, 1998, 1999, 2000, 2001, and 2002.

- Trout 0.09 ppm (skin on fillet)⁶
- Carp 2.58 ppm (skin on fillet)
- Catfish 2.53 ppm (skin off fillet)

1.4.2 Baseline Evaluation

The mean fish tissue PCB results for the 2008 baseline sampling event are provided below.

Fish Species	Fish Tissue Mean PCB Results Per River Reaches (mg/kg)					
	Upper (Site 1)	Upper (Site 2)	Middle (Site 1)	Middle (Site 2)	Lower	Inner Harbor
Smallmouth Bass	13.0	14.5	8.75	4.30	5.77	3.36
Adult Carp	25.9	14.7	4.44	1.27*	11.3	3.16
Adult White Suckers	12.4	8.92	8.77	3.96	4.31*	N/A
Juvenile White Suckers	6.01	6.82	N/A	1.37	1.04	N/A
Rock Bass	6.94	4.27	2.79*	2.49	2.60	N/A
Longnose Dace	7.67	N/A	9.47	8.51	N/A	N/A
Walleye	N/A	N/A	11.1	N/A	N/A	2.03*
Catfish	N/A	N/A	27.9	8.18	13.7	19.4*

N/A – Not Applicable, insufficient data
 * - Mean concentration was calculated using 3 fish or less

For adult White Suckers, the target collection goal was missed in Middle River 1, Lower River, and in the Inner Harbor which was attributed to lack of habitat. Very little areas with vegetation and warm shallows of estuaries and bays, the preferred habitat of white sucker, were observed in the Lower River and none were observed in the Inner Harbor. Information on habitat was obtained from *Fishes of Wisconsin* (1983). The WDNR has also not had much success collecting this species in the Lower River or Inner Harbor reaches.

The Sheboygan River does not appear to provide an abundance of quality habitat for Longnose Dace, being too deep in many areas. However, there are areas of suitable habitat where shallows are present (i.e. Upper River, Site 1 and Middle River, Site 1 and 2). The water is too deep in the Lower River and Inner Harbor reaches to provide suitable habitat. The habitat is also unsuitable in Site 2 of the Upper River reach.

The 2008 adult fish tissue PCB results tended to decrease moving from the Upper River to the Inner Harbor. An exception is that in almost every case, the PCB concentrations were higher in the Lower River reach than the Middle River Site 2. This would correspond to the increase in PCBs in the sediment in the Lower River and Inner Harbor due to the identified sources in these reaches.

Adult carp tended to have the highest mean PCB concentrations of the fish species. Although for the few caught, catfish had the highest mean concentration. These are bottom feeders and the results are not unexpected compared to the sport fish. The results were higher than the most recent Interim Monitoring results. The results were also higher than previous results from the Interim Monitoring Program. Adult carp had the highest mean concentration in the Upper

⁶ This is a migratory fish species and most PCB burden is from Lake Michigan.

River. However, in both sites of the Middle River, as well as the Lower River and Inner Harbor reaches, carp were the only fish caught where many of the fish results were less than the ROD goal.

The data was compared to the historical data, where available. A non-statistical comparison of the means showed the mean concentrations were higher than the most recent historical result. The differences were most extreme in the Upper River sites, the only areas remediated at the time of the baseline assessment. The smallmouth bass results and Upper River 2 white sucker were higher than the oldest of the Interim Monitoring results.

The statistical evaluation indicated that 5 of the 8 adult fish species evaluated had statistically different results in the Upper River sites compared to historical data. Based on the weight of evidence, it appears that the remediation of the Upper River caused a temporary increase in the PCB concentrations in the fish. Prior to the fish collection, it was anticipated that this may occur due to disturbance of the sediment causing increased suspension of sediment. The increase in biota concentrations following dredging was discussed in *Sediment Dredging at Superfund Megasites, Assessing the Effectiveness* (National Academy of Sciences, 2007).

2.0 SAMPLING AND ANALYSIS

2.1 Summary of Sampling Plan

The 2013 Phase 1 sampling and analysis of fish species was conducted consistent with the *Post Remedial Monitoring Plan (PMP)* and the *Quality Assurance Project Plan (QAPP)*. These plans were conditionally approved with comment on August 13, 2008. The *2012 Annual Fish Monitoring Report* determined the number of fish to collect at the two sites within the Upper River and Middle River reaches.

Smallmouth bass, carp, walleye, and catfish were selected as they have assigned target goals in the *Record of Decision (ROD)*. According to the ROD, smallmouth bass and carp are the more contaminated resident fish species and the USEPA selected these fish to determine cleanup goals believing that if these fish met the goals, the lesser contaminated species such as walleye, trout, salmon, and steelhead would be protected. Therefore the monitoring included these fish as well as walleye and catfish. Walleye and smallmouth bass will also help evaluate risk reduction for sport fisherman while carp and catfish for sustenance fisherman.

Rock bass were added because catfish and walleye are rarely caught according to WDNR. White suckers were added at the suggestion of the WDNR. The collection efforts have failed to catch Longnose Dace for several years. The following table outlines the final fish species collection goals for 2013.⁷

Fish Species	Number of Samples Per River Reach						Size Range
	Upper (Site 1)	Upper (Site 2)	Middle (Site 1)	Middle (Site 2)	Lower River	Inner Harbor	
Smallmouth Bass	12	12	8	8	8	8	10-17 inches
Adult Carp	12	8	8	8	8	8	18-22 inches
Adult Suckers	12	12	8	8	8	8	12-18 inches
Juvenile Suckers	12	12	8	6	8	8	3-8 inches
Rock Bass	12	12	8	8	9	9	5-9 inches
Walleye	0	0	8	0	9	9	12-22 inches

The WDNR requested that the Upper and Middle River be divided into two sites per reach. The rationale was stated as “Sampling stations should include the following number of sites per reach in order to represent the amount of contaminated sediment that will be removed and the variability expected. Specimens may be collected at different locations within a reach and

⁷ Prior to the 2010 fish collection event, the agencies approved dropping the requirement to collect juvenile carp, walleye, and catfish in the Upper River as a result of two years with unsuccessful collection but required that the number of each fish species be increased from 8 to 12 fish. The 2012 report has stated Longnose Dace would not be collected in the future due to the past inability to collect this species and as such, are also not provided in the table. The USEPA has requested that Longnose Dace collection to resume.

collections sites within a reach can vary in exact location and length of river sampled (distance and location data should be reported in annual reports).” The 2013 Phase 1 collection included two sites in the Upper River – one from the former Tecumseh facility to Riverbend reach and another from the Riverbend to Waelderhaus Dam in Kohler. The 2013 Phase 1 collection also included two sites in the Middle River – one from the Waelderhaus Dam in Kohler to the Kohler Landfill and another from the Kohler Landfill to the C&NW Railroad Bridge in Sheboygan. The Lower River from C&NW Railroad Bridge to Pennsylvania Avenue Bridge and the Inner Harbor from the Pennsylvania Avenue Bridge to the river mouth were also sampled during the 2013 Phase I collection.

The fish collection would target the habitats most conducive for each species. Table 1 presents a summary of the fish species, known habitat, and range. This information was primarily obtained from *Fishes in Wisconsin* (1983) and is intended to provide a summary of the characteristics of the target species and their typical habitat and is not intended to describe the habitats where the target species were actually encountered in the Sheboygan River.

2.2 Sampling Procedures

After receipt of the Scientific Collectors permit issued by the WDNR on June 1, 2013, collection began in the Upper River reach, continued to the Middle River reach, then the Lower River Reach, and finally the Inner Harbor reach. The fish collection occurred between June 3, 2013, and June 10, 2013. The discharge in river during the sampling period was up to 250% greater than normal according to United States Geological Survey gaging data. This may have influenced the habits of the fish and affected fish collection efforts. Due to an inability to initially collect all species, the Upper and Middle River reaches were sampled more than once. Table 2 provides a summary of the daily fish collection. Figure 3 and 4 show the locations where fish were collected in each site of the Upper River and Middle River. Figures 5 and 6 show the locations where fish were collected in each site of the Lower River and Inner Harbor.

All fish were collected using electro-fishing equipment. The electro-fishing equipment used to collect fish, a Smith Root, Inc. Model 2.5 GPP, was either a boat-mounted array set-up or a hand held wand, depending on the location and species to collect. Electro-fishing was performed by selecting the appropriate pulsed DC power setting to stun-fish. The appropriate DC pulse setting (30 or 60) was made based on what set-up was used (30 for the wand, 60 for the arrays). At that point the percentage of output power was adjusted from 0-100 to stun the fish size needed without stunning more fish than needed or killing the fish. This percentage was determined by trial and error. Current was then applied to the river water by closure of the operating switch (i.e. foot pedal) while the generator and control equipment were operative. Once fish were stunned, the fish were collected with dip nets. The fish collected in the dip nets were identified for targeted species, measured to confirm they met size requirement, and were either retained in a live well or on ice in an insulated cooler until collection was completed.

All fish samples were processed and packaged in accordance with the procedures described in the *WDNR's Division of Environmental Standards Field Procedures Manual* in addition to the PMP. During and after collection, samples were held in a live well or on ice in an insulated cooler. Samples remained whole and ungutted. Each fish was numbered and the following recorded in field log book:

- Length,
- Species⁸,
- Sex (if possible),
- Age (if possible),
- Sample location,
- Other distinguishing features,
- Sampler(s), and
- Any unusual skin lesions, tumors, or other irregularities should also be noted.

The individual fish were wrapped in aluminum foil, then in freezer paper, and finally taped securely so that the package did not open during shipment. All samples were frozen as soon as possible after collection. No composite samples were created or analyzed.

For shipment to the laboratory, all fish samples were placed in a Ziploc bag or industrial grade trash bag, a label affixed and placed into second Ziploc bag, and then into a cooler with double bagged ice on the bottom of the cooler. The cooler was filled with fish samples, leaving enough room for double bagged ice on top of samples. A chain-of-custody form was placed in a sealable plastic bag and taped to the inside of cooler lid. The coolers were collected by the laboratory and as such custody seals were not used.

The laboratory prepared and analyzed the samples in accordance with the analytical method USEPA SW846-8082 Modified and Laboratory Standard Operating Procedures (SOPs) developed in accordance with method 8082 including the following:

- GB-L-001, Rev .0 – Tissue Preparation
- GB-L-003, Rev. 0 – Lipids
- GB-O-031, Rev. 1 – Extraction
- GB-O-034, Rev. 1 – Sulfuric Acid Cleanup
- GB-O-036, Rev. 1 – Florosil Cleanup
- GB-O-026, Rev. 2 – PCB Analysis

The analysis to be performed on fish included total PCBs (Aroclor basis), percent lipids, and gender. The PCB method detection limit was 0.019 mg/kg. Laboratory QA/QC samples consisted of a matrix spike and matrix spike duplicate. A minimum of one matrix spike/matrix spike duplicate analysis was performed with every batch of fish being analyzed for PCBs. Batch size was limited to no more than 20 samples. For analysis of PCBs in tissues, the QA procedures in USEPA's *Statement of Work for Organic Analysis* (Feb 1988) was used,

⁸ Species was determined by SOP #10, *Fish Identification*.

including laboratory blanks consistent with required detection limits, and initial and continuing calibration to verify recoveries.

2.3 Deviation from Plan

PRS did not sample beyond the riffles. The water flow was in excess of two times the normal rate and it was considered dangerous. Due to the amount of water flow, and the danger, PRS selected fish samples that are outside the target range. This practice had been used in the past. This information was communicated to the USEPA on June 6, 2013. These deviations in target range are summarized in the following tables and shown in Appendix 1.

Fish Species	Number of Target Range Deviations Per River Reach						Size Range (inches)
	Upper (Site 1)		Upper (Site 2)		Middle (Site 1)		
	2013	Range	2013	Range	2013	Range	
Smallmouth Bass	3	8 - 9.5	3	8.5 - 9.5	0	NA	10-17
Adult Carp	1	25.5	2	12 and 27.5	8	28-30.5	15-25
Adult White Suckers	1	21.3	4	12.5-14.5	6	16.5-18	8-16
Juvenile White Suckers	NC	NC	NC	NC	NC	NC	3-8
Rock Bass	0	NA	0	NA	0	NA	5-9
Walleye	NC	NC	NC	NC	1	28.5	12-22

NC – None Caught
 NA – Not Applicable

Fish Species	Number of Target Range Deviations Per River Reach						Size Range (inches)
	Middle (Site 2)		Lower		Inner Harbor		
	2013	Range	2013	Range	2013	Range	
Smallmouth Bass	1	18	0	NA	5	8.5 and 17.25-19.5	10-17
Adult Carp	5	16-28	8	25.5-32	7	29.5 - 36	15-25
Adult White Suckers	6	16.5-18	1	17	6	17.5 - 19.5	8-16
Juvenile White Suckers	3	8.5-9	NC	NC	NC	NC	3-8
Rock Bass	0	NA	0	NA	0	NA	5-9
Walleye	NC	NC	NC	NC	NC	NC	12-22

NC – None Caught
 NA – Not Applicable

Most of the bias was from fish being larger than the target range. Only small mouth bass in the Upper River reaches were below the target range. However, adult carp in The Middle River reach and small mouth bass in the Inner Harbor had fish that were above and below the target range. A qualitative evaluation of the target range bias was performed by either comparing PCB concentrations in the fish which did not meet the target range with those that did and to historical data. It does not appear the data was affected by the target range bias except for adult white suckers in the Upper River 1 reach.

Table 3 provides a summary of the success of the collection process. No juvenile white suckers and only nine rock bass were collected from the Upper River – Site 1. No juvenile white suckers were collected for the Upper River – Site 2. No juvenile white suckers and only three walleye were collected from the Middle River – Site 1. Only seven juvenile white suckers were collected from the Middle River – Site 2. No juvenile white suckers or walleye were collected from the Lower River or Inner Harbor. Only seven adult carp and four rock bass were collected from the Inner Harbor. Fish collection targets were not achieved in these reaches due to the presence of high flow velocity river conditions which limited the number of locations which could be sampled safely. In addition, eight channel catfish were obtained from the Middle River – Site 1 although they were not targeted for assessment. Channel catfish were historically a targeted species. However, the requirement to collect channel catfish was removed after successive years of poor catch rates.

From the Upper River – Site 1, nine adult carp, one smallmouth bass, and one adult sucker were collected at lengths above the target size range. From the Upper River – Site 2, seven adult carp were collected at lengths above the target size range. From the Upper River – Site 2, three smallmouth bass and one adult carp were collected at lengths below the target size range. From the Middle River – Site 1, eight adult carp and one walleye were collected at lengths above the target size range. From the Middle River – Site 1, one adult sucker was collected at a length below the target size range. From the Middle River – Site 2, eight adult carp, three juvenile suckers, and one smallmouth bass were collected at lengths above the target size range. From the Lower River, eight adult carp were collected at lengths above the target size range. From the Inner Harbor, seven adult carp, three adult suckers, and three smallmouth bass were collected at lengths above the target size range. From the Inner Harbor, three smallmouth bass were collected at lengths below the target size range.

The inability to collect the target number of fish of the correct size range for some of the species can increase the chances of a Type II error. The Type II error for this investigation is the belief that the fish tissue PCB results are less than the action level when they are not. Reducing the number of samples reduces the confidence in the decision. For this collection effort, the chance of a Type II error does not significantly affect decision making as no decisions are being made at this time.

To prevent overloading the small boat needed to collect fish in the river, ice was not kept in the cooler. Fish were brought to shore twice a day and placed into a freezer. This practice has been used for years without comment by the USEPA observer. SME does not believe that the fish sample results are biased when not preserved immediately and the project's data quality objectives are still met for the following reasons:

- The half-life of PCBs in fish has been calculated to be 340 to 1,450 days⁹.
- PCBs have an exceptionally low volatility. The average molecular weight for Aroclor

⁹ Oost R, Beyer J, Vermeulen N. Fish Bioaccumulation and Biomarkers In Environmental Risk Assessment: A Review. *Environmental Toxicology and Pharmacology*. 2003;13:57-149.

1260) is 375.7 g/mol; the vapor pressure is 4.05×10^5 mm Hg at 25 C¹⁰.

- PCBs are very stable and have a long holding time due to this stability. USEPA Method 8082 states *PCBs are very stable in a variety of matrices, and holding times may be as long as a year.*

Based on the foregoing, failure to store fish on ice during the 4 – 5 hours from the start of collection until they are placed in the freezer at lunch or at the end of the day would not significantly affect the concentrations in the fish.

There were no deviations from the laboratory method in order to analyze or report the fish tissue results.

¹⁰ Agency for Toxic Substances and Disease Registry (ATSDR). *Toxicological Profile for Polychlorinated Biphenyls*. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1997.

3.0 SAMPLING RESULTS

3.1 Fish Tissue Results

A summary of the 2013 results is provided in Appendix 1 while copies of the analytical reports are provided in Appendix 2 as a compact disc. Except for catfish, all fish samples that were analyzed were skin on fillets. Catfish are analyzed as skin off fillets. The majority of the fish collected were males.

3.2 Data Quality

The laboratory performs a validation of the analytical procedure using the quality control sample results, as applicable. This validation is discussed in the Narrative and QC section of each of the 15 lab reports generated by this sampling and analysis event. The laboratory reported the following:

- All samples were extracted and analyzed within the allowable holding time,
- There were no problems with the initial or continuing calibrations,
- All laboratory control spikes were within the allowable range,
- Surrogate recoveries were not compared against control limits in 13 sample batches due to sample dilution,
- Matrix spike/spike duplicate samples were not compared against control limits in 13 sample batches due to sample dilution,
- A matrix spike/spike duplicate analysis was not performed for one sample set as there was insufficient sample volume, and
- PCBs were not detected in the method blanks.

The matrix spike/spike duplicate and surrogate recovery discrepancies noted above do not affect the usability of the data collected as no decisions are being made at this time.

4.0 DATA ANALYSIS

4.1 Summary Statistics

Summary statistics are provided with the data in Appendix 1 and in Table 4. The data distribution and upper 95% confidence levels (95% UCL) were calculated using ProUCL. ProUCL documentation is provided in Appendix 4. Consistent with historical results, the variability of the data was rather low and the majority of the data had a normal distribution. The distribution was calculated by ProUCL using a variety of goodness-of-fit methods including Shapiro-Wilk, and Kolmogorov-Smirnov tests. Knowledge of the distribution is needed to determine the proper methods for calculating 95% UCL as well as other statistical tests.

Outliers are inevitable in data sets originating from environmental applications. Outliers are defined to be an observation that does not conform to the pattern established by other observations (Gilbert, 1987). Prior to calculating the UCL, ProUCL recommends an outlier analysis. A few of the results appeared to be outliers because the concentrations were significantly lower or higher than the mean for the same species within the same reach. As such, ProUCL was also used to evaluate the possibility of outliers. ProUCL uses both the Dixon and Rosner outlier tests and uses the Dixon test where the data sets are less than 25 samples.

The outliers could be eliminated when calculating the summary statistics for the fish species within the reach. However, Region V USEPA has requested that this not be done since fish from other reaches can migrate between reaches and represent possible exposure to humans via consumption. As the outliers would only be eliminated in the comparison of fish between sites, reaches, fish species and historical data but not in the covariant analysis, elimination of the outliers has no bearing on protection of human health. Elimination of the outliers allows a clearer understanding of differences between sites, reaches, fish species, and historical data. Regardless, the outliers were not eliminated from the statistical comparisons discussed.

Data analysis included an analysis of means using the t-test. During the baseline event, a one way analysis of variance (ANOVA) was used. The ANOVA was judged to be redundant to the t-test as well as the WDNR suggested Mann-Whitney test. The t-test was performed based on unequal variance after an assessment indicated that was the most appropriate test. As far as the appropriateness of the test, PRS and SME reviewed several publications such as *A Guide for Selecting Statistical Techniques for Analyzing Social Science Data* (The University of Michigan, 1981), *Intuitive Biostatistics* (Oxford University Press, 1995), *Lake and Reservoir Bioassessment and Biocriteria Technical Guidance Document* (USEPA, 1998) and *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (USEPA, 2007). All of these indicated the t-test was an appropriate method for the comparisons being performed. This was also the test proposed in the approved *Lower Fox River Baseline Monitoring Plan*.

The Mann-Whitney test is a non-parametric test for assessing whether two independent samples of observations come from the same distribution. It is virtually identical to performing an ordinary parametric t-test on the data after ranking over the combined samples. The null hypothesis in the Mann-Whitney test is that the two samples are drawn from a single

population, and therefore that their probability distributions are equal. It requires the two samples to be independent, and the observations to be ordinal or continuous measurements, i.e. one can at least say, of any two observations, which is the greater. We reviewed historic results from the Mann-Whitney test and the t-test for data sets on this site. The t-test was determined to be more likely to produce a 'significant difference' result when comparing historic to current data than the Mann-Whitney test. However, no remedial decisions are currently being made based on the mean PCB concentrations in fish along the river reaches. Once t-test results are obtained which indicate that mean fish PCB concentration levels have met ROD objectives, the need to obtain Mann-Whitney results will be reevaluated. As is, the statistical tests are difficult to interpret. Unless decisions and recommendations based on the statistical tests are accepted, Mann-Whitney test results are currently unnecessary. In addition, the t-test is the USEPA accepted method of the comparison.

Box and whisker plots (boxplots) were also generated and are provided in Appendix 3. In descriptive statistics, a box-and-whisker is a convenient way of graphically depicting groups of numerical data through their five-number summaries (the smallest observation (sample minimum), lower quartile (Q1), median (Q2), upper quartile (Q3), and largest observation (sample maximum)). Boxplots can be useful to display differences between populations without making any assumptions of the underlying statistical distribution: they are non-parametric. While the boxplots provide a convenient way of comparing data, they were not used for making decisions concerning the data.

Boxplots were generated using ProUCL then exported to Excel for formatting. The plots were only generated to compare fish species collected in 2013 to the fish collected in 2008, 2009, 2010, 2011, and 2012, where appropriate.

In statistics, the coefficient of variation is a normalized measure of dispersion (variation) in the frequency distribution. It is defined as the ration of the standard deviation (σ) and the mean (μ). Generally, a coefficient of variation of less than 0.5 demonstrates little variation and a normal distribution while a number between 0.5 and 1.0 showing moderate variation and may or may not indicate a normal distribution. A brief summary of the coefficient of variations follows:

- Coefficient of variations in the Upper River ranged from 0.33 to 1.18 with an average of 0.79. The highest coefficient of variation was observed in rock bass from Upper River, Site 1.
- Coefficient of variation in the Middle River ranged from 0.25 to 0.99 with an average of 0.53. The highest coefficient of variation was observed in walleye from Middle River, Site 1.
- Coefficient of variation in the Lower River ranged from 0.32 to 0.87 with an average of 0.51. The highest coefficient of variation was observed in carp.
- Coefficient of variation in the Inner Harbor ranged from 0.31 to 0.73 with an average of 0.54. The highest coefficient of variation was observed in adult white suckers.

The coefficient of variation results indicate a generally normal distribution.

4.2 Data Comparison

Table 4 provides a statistical comparison of PCB concentrations in fish from the 2013 sampling event to the 2008 baseline data. Appendix 3 provides the box plots for 2008 to 2013. In the Inner Harbor reach where PRS was unable to collect a various species during the baseline event, the only box plot provided for those is for 2013¹¹. Box plots were generated using ProUCL software and were used to establish the mean PCB concentration trend from 2008 to 2013 by site for each species. ProUCL output documentation is provided in Appendix 4. Statistical data comparing the significance of change from historic PCB results to current is provided in Appendix 5.

Since the baseline event, carp have shown an increase in PCB concentrations in all sites. Adult white suckers have showed little PCB concentration variation in the Upper River sites but show a decreasing trend in concentrations in the remaining reaches. However, juvenile white suckers have shown a decreasing trend in the Upper River sites. The PCB concentrations in smallmouth bass have been decreasing in all reaches with a similar trend for rock bass in all but Site 1 of the Middle River reach where little variation has been observed. Below is a brief summary of PCB concentration changes by reach and site for each species over time:

Upper River Site 1

Adult Carp – Box plot shows that the mean PCB concentration decreases from 2008 to 2009, and increases from 2009 to 2013. Based on t-test results, the 2013 PCB concentrations are not significantly different from those detected in 2008.

Adult White Sucker – Box plot shows that the mean PCB concentration decreases from 2008 to 2009, increases from 2009 to 2010, decreases from 2010 to 2011, and increases from 2011 to 2013. The 2013 PCB concentrations are not significantly different from those detected in 2008

Juvenile White Sucker – Box plot shows that the mean PCB concentration decreases from 2008 to 2009, increases from 2009 to 2010, decreases from 2010 to 2011, and remains unchanged from 2011 to 2012. Juvenile white suckers were not obtained from this reach in 2013.

Smallmouth Bass – Box plot shows that the mean PCB concentration decreases from 2008 to 2009, remains unchanged from 2009 to 2010, decreases from 2010 to 2011, and increases from 2011 to 2013. The 2013 PCB concentrations are significantly lower than those detected in 2008.

¹¹ Adult White Sucker, Juvenile White Sucker, and Rock Bass.

Rock Bass – Box plot shows that the mean PCB concentration decreases from 2008 to 2009, remains unchanged from 2009 to 2011, decreases from 2011 to 2012, and increases from 2012 to 2013. The 2013 PCB concentrations are not significantly different from those detected in 2008.

Upper River Site 2

Adult Carp – Box plot shows that the mean PCB concentration increases from 2008 to 2009, decreases from 2009 to 2010, increases from 2010 to 2012, and decreases from 2012 to 2013. The 2013 PCB concentrations are not significantly different from those detected in 2008.

Adult White Sucker – Box plot shows that the mean PCB concentration increases from 2008 to 2009, decreases from 2009 to 2010, remains unchanged from 2010 to 2011, decreases from 2011 to 2012, and increases from 2012 to 2013. The 2013 PCB concentrations are not significantly different from those detected in 2008.

Juvenile White Sucker – Box plot shows that the mean PCB concentration decreases from 2008 to 2011. Juvenile white suckers were not obtained from this reach in 2012 or 2013.

Smallmouth Bass – Box plot shows that the mean PCB concentration decreases from 2008 to 2009, increases from 2009 to 2010, decreases from 2010 to 2011, and increases from 2011 to 2013. The 2013 PCB concentrations are significantly lower than those detected in 2008.

Rock Bass – Box plot shows that the mean PCB concentration increases from 2008 to 2009, decreases from 2009 to 2010, increases from 2010 to 2011, decreases from 2011 to 2012, and increases from 2012 to 2013. The 2013 PCB concentrations are not significantly different from those detected in 2008.

Middle River Site 1

Adult Carp – Box plot shows that the mean PCB concentration increases from 2008 to 2011, decreases from 2011 to 2012, and increases from 2012 to 2013. The 2013 PCB concentrations are not significantly different from those detected in 2008.

Adult White Sucker – Box plot shows that the mean PCB concentration decreases from 2008 to 2013. The 2013 PCB concentrations are not significantly different from those detected in 2008.

Juvenile White Sucker – Box plot shows that the mean PCB concentration decreases from 2010 to 2011 and increases from 2011 to 2012. Juvenile white suckers were not obtained from this reach in 2013.

Smallmouth Bass – Box plot shows that the mean PCB concentration decreases from 2008 to 2010, remains unchanged from 2010 to 2011, increases from 2011 to 2012, and decreases from 2012 to 2013. The 2013 PCB concentrations are not significantly different from those detected in 2008.

Rock Bass – Box plot shows that the mean PCB concentration decreases from 2008 to 2010, increases from 2010 to 2011, remains unchanged from 2011 to 2012, and decreases from 2012 to 2013. The 2013 PCB concentrations are not significantly different from those detected in 2008.

Middle River Site 2

Many of the fish species collected in this reach showed increases in PCB concentrations in 2012 compared to previous years and 2013. The increase in 2012 might be attributed to increased PCB exposure during the Lower River dredging activities in 2011 and 2012². Much of the fish collected in the Middle River 2 reach were collected near the Lower River and fish probably move between reaches routinely.

Adult Carp – Box plot shows that the mean PCB concentration increases from 2008 to 2012, and decreases from 2012 to 2013. The 2013 PCB concentrations are not significantly different from those detected in 2008.

Adult White Sucker – Box plot shows that the mean PCB concentration decreases from 2008 to 2011, increases from 2011 to 2012, and decreases from 2012 to 2013. The 2013 PCB concentrations are significantly lower than those detected in 2008.

Juvenile White Sucker – Box plot shows that the mean PCB concentration increases from 2008 to 2010, decreases from 2010 to 2011, increases from 2011 to 2012, and decreases from 2012 to 2013. The 2013 PCB concentrations are significantly lower than those detected in 2008.

Smallmouth Bass – Box plot shows that the mean PCB concentration decreases from 2008 to 2011, increases from 2011 to 2012, and decreases from 2012 to 2013. The 2013 PCB concentrations are significantly lower than those detected in 2008.

Rock Bass – Box plot shows that the mean PCB concentration decreases from 2008 to 2010, increases from 2010 to 2011, and then decreases from 2011 to 2013. The 2013 PCB concentrations are significantly lower than those detected in 2008.

Lower River

Adult Carp – Box plot shows that the mean PCB concentration increases from 2008 to 2013. The 2013 PCB concentrations are not significantly different from those detected in 2008.

Adult White Sucker – Box plot shows that the mean PCB concentration decreases from 2008 to 2013. The 2013 PCB concentrations are significantly lower than those detected in 2008.

¹² Fish collection in 2011 was completed before dredging began.

Smallmouth Bass – Box plot shows that the mean PCB concentration decreases from 2008 to 2013. The 2013 PCB concentrations are significantly lower than those detected in 2008.

Rock Bass – Box plot shows that the mean PCB concentration decreases from 2008 to 2013. The 2013 PCB concentrations are significantly lower than those detected in 2008.

Inner Harbor

Adult Carp – Box plot shows that the mean PCB concentration increases from 2008 to 2013. The 2013 PCB concentrations are significantly higher than those detected in 2008.

Smallmouth Bass – Box plot shows that the mean PCB concentration decreases from 2008 to 2013. The 2013 PCB concentrations are significantly lower than those detected in 2008.

5.0 FUTURE PHASE 1 MONITORING

The table below provides the target number of fish to collect in the Upper River, Middle River, Lower River, and Inner Harbor reach sites for the 2014 post remedial annual monitoring event. The number of fish to be collected is based on the variation of the PCB results. The PCB variability in 2012 was similar to 2011. As such, the number of fish to collect has not changed.

Fish Species	Number of Samples Per River Reach						Size Range
	Upper (Site 1)		Upper (Site 2)		Middle (Site 1)		
	2013	2014	2013	2014	2013	2014	
Smallmouth Bass	12	12	12	12	8	8	10-17 inches
Adult Carp	12	12	8	8	8	8	15-25 inches
Adult White Suckers	12	12	12	12	8	8	8-16 inches
Juvenile White Suckers	12	12	12	12	8	8	3-8 inches
Rock Bass	12	12	12	12	8	8	5-9 inches
Walleye	0	0	0	0	8	8	12-22 inches
Longnose Dace	0	12	0	12	0	12	1-4 inches

Fish Species	Number of Samples Per River Reach						Size Range
	Middle (Site 2)		Lower		Inner Harbor		
	2013	2014	2013	2014	2013	2014	
Smallmouth Bass	8	8	8	8	8	8	10-17 inches
Adult Carp	8	8	8	8	8	8	15-25 inches
Adult White Suckers	8	8	8	8	8	8	8-16 inches
Juvenile White Suckers	8	8	8	8	8	8	3-8 inches
Rock Bass	8	8	9	9	9	9	5-9 inches
Walleye	0	0	9	9	9	9	12-22 inches
Longnose Dace	0	8	0	8	0	8	1-4 inches

6.0 REFERENCES

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Tables

Summary of Targeted Fish Species

Fish Species	Characteristics	Habitat Targeted for Collection *	
		Upper – Lower River	Inner Harbor
Smallmouth bass	Occurs in all three drainage basins in Wisconsin. A non-migratory fish, they retreat to pools, undercut banks, or fairly deep water to avoid sunlight. Spawn in May through June when the water reaches 55-75°F. The average length of young-of year in Wisconsin is 2.7 inches by the end of September. The fish begin to reach sexual maturity at the ages of 3-4 depending on sex. The usual longevity is 5-7 years.	Area of little soft sediment. Sandy or gravel bottom best. Area of stumps or downed trees.	Near structures offering protection. Bridge abutments, docks, etc.
Carp	Occurs in all drainage basins in Wisconsin. It is found in a wide variety of habitats but prefer warm turbid water. Spawn in April to August when the water reaches 65-75°F. The average length of young-of year in Wisconsin is 3.7 inches by the end of September. In Wisconsin, carp mature between the ages of 2 and 3 depending on the sex. The usual longevity is 9-15 years. They can have a fairly extensive range and can jump small dams.	Areas with vegetation	
White suckers	Occurs in all drainage basins in Wisconsin and is probably the most widespread of all fish in Wisconsin. It is found in warm shallows of estuaries and bays and can tolerate all stream gradients and a wide range of environmental conditions and pollution. Spawn in April to May when the water reaches about 45°F. The typical length of young-of year in Wisconsin is 2.6 inches by the end of September. The usual longevity is 5 years after maturing between the ages of 2 and 3. They move about extensively.	Areas with vegetation	
Rock Bass	Occurs in all three drainage basins in Wisconsin. It is found in clear water over a gravel or rocky bottom and is often found near breakwaters and stone-armored shorelines. Often found with other sunfish such as smallmouth bass. Spawn in spring when the water reaches 60-70°F. The average length of young-of year in Wisconsin is 1.7 inches by the end of September. They reach maturity between ages 2 and 3. The usual longevity is 6-8 years. They have a limited range.	Prefers clear, rocky, and vegetated stream pools.	
Longnose Dace	Occurs in all drainage basins in Wisconsin. Occurs in riffles or torrential water over a bottom of boulder and gravel; it generally avoids pools and quiet runs. Spawn in late April to mid-June at an average water temperature of 63°F. The average length of young-of year in Wisconsin is 1.7 inches by the end of September. The usual longevity is 3-4 years after reaching maturity at age 2. No information on their range of migration was found. These fish were removed from the sampling requirements for the 2013 sampling event.	Area of little soft sediment. Sandy, gravel or cobble bottom that have some vegetation for cover are best.	
Walleye	Present throughout Wisconsin. During the day, hovers in shadows of submerged objects or in shadows of deep water. At dusk, emerge to feed over shallow weed beds or rocky shoals. Spawn in mid-April to mid-May when water reaches 42-50°F. The average length of young-of year in Wisconsin is 3 inches by the end of July. Maturity occurs between the ages of 2 to 5 for males and 5 to 7 for females. The usual longevity is 6-7 years. They have a fairly extensive range and can jump small dams.	Area of little soft sediment. Sandy or gravel bottom best. Area of rough water.	
Catfish	Occurs in all three drainage basins in Wisconsin. It is found in a wide variety of habitats but prefer warm water. Spawn in May or June when the water reaches 75°F. The average length of young-of year catfish in Wisconsin is 3.4 inches by the end of September. Sexual maturity varies by body of water but it appears both sexes begin maturing by the age of 5. Few catfish live beyond 8 years. They can have a fairly extensive range.	Prefers some current and deep water with sand, gravel or rubble bottoms. Areas near bank overhangs or downed trees or stumps	
* - General tips on fish locations: outside bends of river, downstream of rocks, area where fast water meets slower water, area of merging currents (streams, brooks, rivers et.) current edges, areas with overhanging trees or branches, drop offs, undercuts, below dams or falls, above springs, riparian zones			

Table 1

2013 Phase 1 Daily Fish Collection Summary

Date	River Reach	Adult Carp	Adult White Suckers	Juvenile White Suckers	Small Mouth Bass	Rock Bass	Channel Catfish	Walleye
6/3/2013	UR1	6	12	0	1	4	0	0
6/4/2013	UR1	0	0	0	11	5	0	0
6/5/2013	UR2	11	12	0	12	12	0	0
6/6/2013	LR	8	8	0	8	9	0	0
6/7/2013	MR2	8	8	7	8	8	0	0
6/8/2013	MR1	8	8	8	8	8	0	0
6/9/2013	MR1	0	0	0	0	0	8	3
6/9/2013	UR1	6	0	0	0	0	0	3
6/10/2013	IH	7	8	0	9	4	0	0
TOTAL		54	56	15	57	50	8	6

UR1 – Upper River from former Tecumseh Site to Riverbend Dam
 UR2 – Upper River from Riverbend Dam to Waelderhaus Dam
 MR1 - Middle River from Waelderhaus Dam to Kohler Landfill
 MR2 - Middle River from Kohler Landfill to C&NW Railroad Bridge
 LR - Lower River from C&NW Railroad Bridge to Pennsylvania Avenue Bridge
 IH - Inner Harbor from Pennsylvania Avenue Bridge to Sheboygan River outlet

2013 Phase I Fish Collection Summary

Species	UR1	UR1	UR2	UR2	MR1	MR1	MR2	MR2	LR	LR	IH	IH
	Target	Collected	Target	Collected	Target	Collected	Target	Collected	Target	Collected	Target	Collected
Adult Carp	12	12	12	11	8	8	8	8	8	8	8	7
Adult White Sucker	12	12	12	12	8	8	8	8	8	8	8	8
Juvenile White Sucker	12	0	12	0	8	0	8	7	8	0	8	0
Smallmouth Bass	12	12	12	12	8	8	8	8	8	8	8	9
Rock Bass	12	9	12	12	8	8	8	8	9	9	9	4
Walleye	0	0	0	0	8	3	0	0	9	0	9	0
Channel Catfish	0	0	0	0	0	8	0	0	0	0	0	0
Total	60	45	60	47	48	43	40	39	50	33	50	28

UR1 – Upper River from former Tecumseh Site to Riverbend Dam
 UR2 – Upper River from Riverbend Dam to Waelderhaus Dam
 MR1 - Middle River from Waelderhaus Dam to Kohler Landfill
 MR2 - Middle River from Kohler Landfill to C&NW Railroad Bridge
 LR - Lower River from C&NW Railroad Bridge to Pennsylvania Avenue Bridge
 IH - Inner Harbor from Pennsylvania Avenue Bridge to Sheboygan River outlet

Table 3

Year by Year Statistical Comparision

UR1 - AC	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	25.88	6.04	13.89	17.86	28.46	37.02
Minimum	1.63	0.65	5.27	1.87	4.55	8.27
Maximum	73.13	15.70	34.70	58.90	52.20	100.00
Standard Deviation	21.45	5.38	8.74	17.53	15.78	24.62
Coefficient of Variation	0.83	0.89	0.63	0.98	0.55	0.67
Upper 95% UCL	35.28	8.83	8.83	30.85	36.64	51.44
UR1 - AWS	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	12.42	10.94	16.23	4.71	10.63	10.68
Minimum	5.74	0.25	3.92	1.67	2.67	2.21
Maximum	20.60	25.30	45.90	16.50	25.20	37.20
Standard Deviation	5.00	8.26	10.90	3.92	6.81	9.61
Coefficient of Variation	0.40	0.76	0.67	0.83	0.64	0.90
Upper 95% UCL	15.77	16.48	16.48	6.73	14.16	16.33
UR1 - JWS	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	6.01	3.10	9.87	2.32		
Minimum	1.99	1.52	3.94	0.44		
Maximum	9.71	5.81	16.60	5.36		
Standard Deviation	2.85	1.65	4.27	1.71		
Coefficient of Variation	0.47	0.53	0.43	0.74		
Upper 95% UCL	7.92	4.48	4.48	3.53		
UR1 - SB	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	12.96	5.75	4.74	3.22	5.80	7.06
Minimum	4.09	1.28	0.52	0.69	2.52	0.14
Maximum	22.20	11.50	7.26	4.77	8.69	21.50
Standard Deviation	7.28	3.51	2.03	1.50	2.17	6.70
Coefficient of Variation	0.56	0.61	0.43	0.47	0.37	0.95
Upper 95% UCL	17.83	8.10	8.10	4.00	6.93	10.53
UR1 - RB	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	6.94	2.85	2.85	3.66	3.07	4.03
Minimum	1.22	0.90	0.30	0.41	1.18	0.15
Maximum	16.80	4.80	5.94	12.00	5.94	15.70
Standard Deviation	5.01	1.32	1.97	2.94	1.87	4.79
Coefficient of Variation	0.72	0.46	0.69	5.66	0.61	1.19
Upper 95% UCL	10.30	3.76	3.76	5.66	4.33	9.04
UR2 - AC	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	14.72	16.83	7.03	8.84	21.29	19.22
Minimum	1.02	5.04	0.29	2.44	4.65	1.05
Maximum	47.70	37.50	32.90	19.70	36.90	39.00
Standard Deviation	15.04	9.49	11.15	5.68	10.83	12.00
Coefficient of Variation	1.02	0.56	1.59	0.64	0.51	0.62
Upper 95% UCL	24.89	20.99	20.99	12.64	28.55	25.78
UR2 - AWS	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	8.92	11.58	5.11	4.31	3.71	6.87
Minimum	3.95	2.27	2.82	2.36	1.32	3.66
Maximum	16.60	25.00	11.00	7.69	8.31	12.40
Standard Deviation	4.19	7.69	2.57	1.64	2.50	2.28
Coefficient of Variation	0.47	0.66	0.50	0.38	0.67	0.33
Upper 95% UCL	11.72	16.73	16.73	5.16	5.35	8.05

Year by Year Statistical Comparision

UR2 - JWS	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	6.82	2.75	1.97	1.50		
Minimum	3.73	0.71	0.46	0.87		
Maximum	11.50	5.09	3.51	2.41		
Standard Deviation	2.96	1.24	0.94	0.53		
Coefficient of Variation	0.43	0.45	0.48	0.35		
Upper 95% UCL	8.80	3.58	3.58	1.80		
UR2 - SB	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	14.52	3.52	4.32	2.28	2.69	2.93
Minimum	3.12	0.54	1.68	0.70	1.25	0.96
Maximum	33.50	9.20	7.72	4.11	9.72	5.80
Standard Deviation	11.11	3.22	1.92	1.17	2.30	1.60
Coefficient of Variation	0.77	0.91	0.44	0.51	0.85	0.54
Upper 95% UCL	21.96	5.68	5.68	2.89	3.80	3.76
UR2 - RB	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	4.27	6.70	1.63	2.20	1.18	2.28
Minimum	0.74	0.96	0.53	0.46	0.35	0.78
Maximum	8.72	14.00	3.10	4.80	2.25	9.96
Standard Deviation	2.94	4.91	0.94	1.21	0.68	2.49
Coefficient of Variation	0.69	0.73	0.57	0.55	0.57	1.09
Upper 95% UCL	6.23	9.99	9.99	2.82	1.54	3.55
See Notes on Page 3						

Year by Year Statistical Comparision

MR1 - AC	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	4.44		25.81	17.01	14.19	15.54
Minimum	1.28		3.35	7.80	0.61	8.49
Maximum	22.80		123.00	25.00	24.90	22.90
Standard Deviation	7.43		39.96	5.76	7.27	5.24
Coefficient of Variation	1.67		1.55	0.34	0.51	0.34
Upper 95% UCL	15.89		8.83	20.87	19.06	19.04
MR1 - AWS	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	8.77		4.16	3.31	2.14	1.78
Minimum	3.24		0.47	0.42	0.68	0.63
Maximum	19.90		8.11	5.94	4.41	4.87
Standard Deviation	5.86		2.44	1.73	1.22	1.39
Coefficient of Variation	0.67		0.59	0.52	0.57	0.78
Upper 95% UCL	13.07		16.48	4.47	2.95	3.01
MR1 - JWS	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean			2.87	1.12	2.13	
Minimum			1.63	0.63	1.27	
Maximum			3.63	1.84	3.92	
Standard Deviation			0.65	0.39	0.96	
Coefficient of Variation			0.23	0.34	0.45	
Upper 95% UCL			4.48	1.39	2.92	
MR1 - CC	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean						12.75
Minimum						5.41
Maximum						18.70
Standard Deviation						4.39
Coefficient of Variation						0.34
Upper 95% UCL						15.69
MR1 - SB	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	8.75		3.78	3.29	4.02	2.35
Minimum	4.20		0.69	0.19	1.05	0.35
Maximum	18.20		9.71	8.25	7.44	4.51
Standard Deviation	4.94		2.78	2.52	2.21	1.57
Coefficient of Variation	0.56		0.73	0.77	0.55	0.67
Upper 95% UCL	12.07		8.10	4.98	5.50	3.41
MR1- RB	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	2.79		1.26	1.73	1.73	1.36
Minimum	2.79		0.92	0.41	1.15	0.97
Maximum	2.79		1.69	2.83	2.76	2.07
Standard Deviation	NA		0.24	0.83	0.55	0.35
Coefficient of Variation	NA		0.19	0.48	0.32	0.26
Upper 95% UCL	NA		3.76	2.29	2.10	1.60
MR1- W	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	2.79					10.53
Minimum	2.79					4.38
Maximum	2.79					21.10
Standard Deviation	NA					9.20
Coefficient of Variation	NA					0.87
Upper 95% UCL	NA					16.90

Year by Year Statistical Comparision

MR2 - AC	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	1.27		5.88	9.83	19.21	15.58
Minimum	1.27		2.42	1.83	6.13	2.09
Maximum	1.27		11.70	20.50	37.00	45.30
Standard Deviation	NA		3.31	6.67	11.72	15.46
Coefficient of Variation	NA		0.56	0.68	0.61	0.99
Upper 95% UCL	NA		20.99	14.29	27.05	25.94
MR2 - AWS	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	3.96		2.77	2.21	3.21	0.73
Minimum	0.93		1.56	0.70	1.58	0.18
Maximum	6.98		4.08	5.91	4.61	1.31
Standard Deviation	2.01		1.08	1.76	1.22	0.39
Coefficient of Variation	0.51		0.39	0.80	0.38	0.54
Upper 95% UCL	5.31		16.73	3.39	4.02	0.99
MR2 - JWS	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	1.37		2.31	0.95	2.95	1.49
Minimum	0.98		1.19	0.03	1.41	1.15
Maximum	2.03		3.50	1.28	4.01	1.90
Standard Deviation	0.39		0.88	0.42	0.87	0.37
Coefficient of Variation	0.28		0.38	0.44	0.30	0.25
Upper 95% UCL	1.66		2.91	1.12	3.53	1.87
MR2 - SB	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	4.30		2.38	1.34	2.74	1.61
Minimum	2.64		0.89	0.85	1.92	1.03
Maximum	7.65		5.64	2.60	3.89	2.48
Standard Deviation	1.61		1.50	0.58	0.63	0.49
Coefficient of Variation	0.37		0.63	0.44	0.23	0.31
Upper 95% UCL	5.38		5.68	1.75	3.17	1.94

See Notes on Page 3

Year by Year Statistical Comparision

MR2 - RB	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	2.49		1.11	1.71	1.59	0.92
Minimum	1.42		0.43	0.41	1.15	0.45
Maximum	3.70		2.34	3.16	2.07	1.25
Standard Deviation	0.79		0.60	0.84	0.38	0.23
Coefficient of Variation	0.32		0.54	0.49	0.24	0.26
Upper 95% UCL	3.02		9.99	2.27	1.85	1.07
LR - AC	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	11.30					17.22
Minimum	0.46					2.17
Maximum	44.90					48.90
Standard Deviation	15.20					14.92
Coefficient of Variation	1.35					0.87
Upper 95% UCL	32.60					27.21
LR - AWS	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	4.31					1.08
Minimum	3.65					0.61
Maximum	4.96					1.76
Standard Deviation	0.93					0.39
Coefficient of Variation	0.22					0.36
Upper 95% UCL	To few samples					1.35
LR - SB	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	5.77					1.34
Minimum	1.78					0.43
Maximum	10.90					2.52
Standard Deviation	3.05					0.75
Coefficient of Variation	0.53					0.56
Upper 95% UCL	7.81					1.84
LR - RB	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	2.60					1.30
Minimum	1.40					0.53
Maximum	4.27					1.84
Standard Deviation	1.11					0.42
Coefficient of Variation	0.43					0.32
Upper 95% UCL	3.29					1.56
IH - AC	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	3.16					15.77
Minimum	0.24					9.96
Maximum	9.14					24.70
Standard Deviation	2.81					4.92
Coefficient of Variation	0.89					0.31
Upper 95% UCL	5.05					19.38
IH - AWS	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean						0.91
Minimum						0.34
Maximum						2.03
Standard Deviation						0.66
Coefficient of Variation						0.73
Upper 95% UCL						1.52

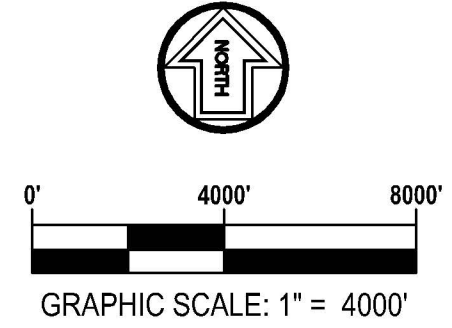
Year by Year Statistical Comparision

IH - SB	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean	3.36					1.60
Minimum	1.44					0.20
Maximum	4.43					2.91
Standard Deviation	1.04					0.99
Coefficient of Variation	0.31					0.62
Upper 95% UCL	4.06					2.22
IH - RB	2008 (mg/Kg)	2009 (mg/Kg)	2010 (mg/Kg)	2011 (mg/Kg)	2012 (mg/Kg)	2013 (mg/Kg)
Mean						2.24
Minimum						1.30
Maximum						3.94
Standard Deviation						1.16
Coefficient of Variation						0.52
Upper 95% UCL						2.72
UR1 – Upper River from former Tecumseh Site to Riverbend Dam UR2 – Upper River from Riverbend Dam to Waelderhaus Dam MR1 - Middle River from Waelderhaus Dam to Kohler Landfill MR2 - Middle River from Kohler Landfill to C&NW Railroad Bridge LR - Lower River from C&NW Railroad Bridge to Pennsylvania Avenue Bridge IH - Inner Harbor from Pennsylvania Avenue Bridge to Sheboygan River outlet AC - Adult carp AWS - Adult white sucker JWS - Juvenile white sucker SB - Smallmouth bass RB - Rock Bass CC - Channel Catfish W - Walleye Data not presented where no fish were collected						

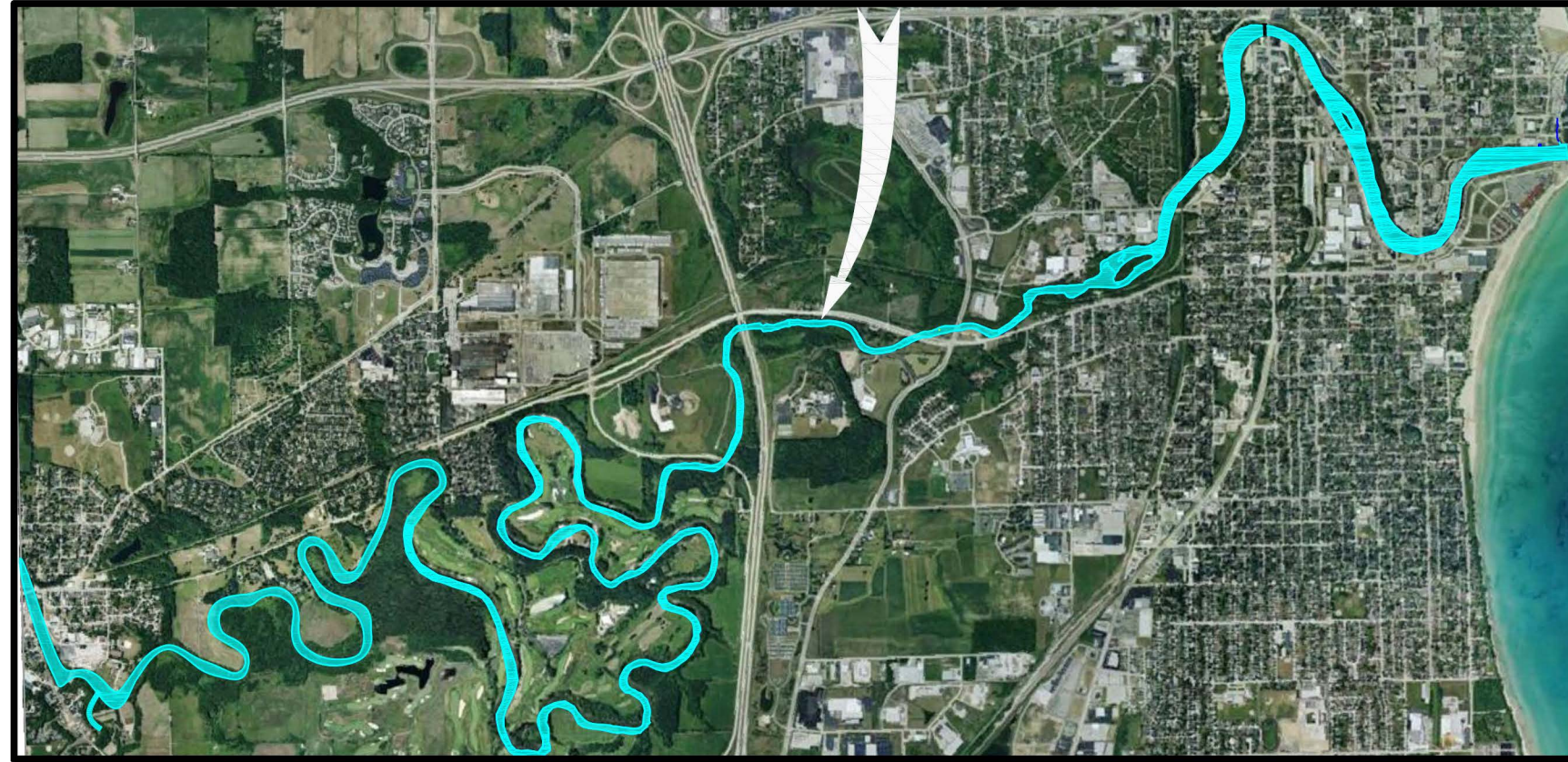
Figures



COUNTY LOCATION MAP
NOT TO SCALE



SHEBOYGAN RIVER



NOTE:
DRAWING INFORMATION PROVIDED BY POLLUTION RISK SERVICES.

Apr 25, 2014 - 2:43pm - jblake
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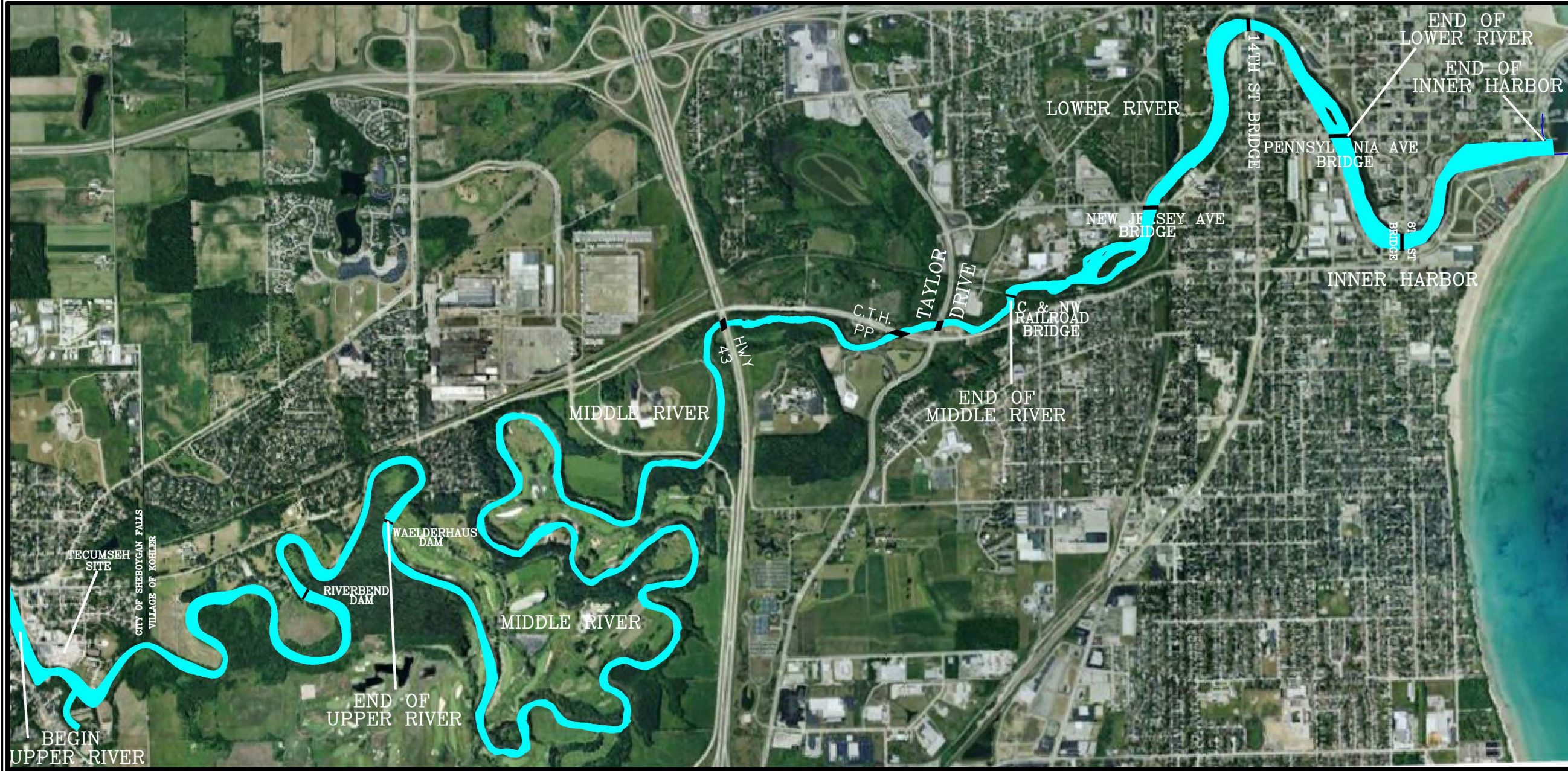
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Designed By	SAR
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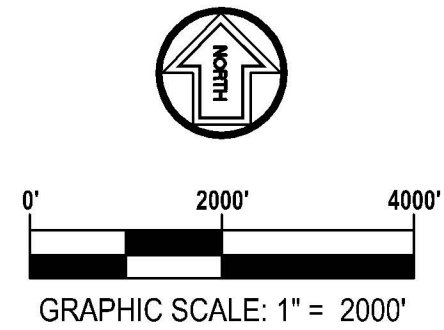
No.	Revision Date

SHEBOYGAN RIVER LOCATION MAP
SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE
2009 PHASE 1 UPPER RIVER FISH MONITORING REPORT
SHEBOYGAN FALLS, WISCONSIN

Figure No. 1

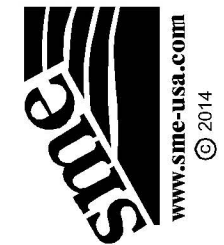


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Drawn By	JAB
Designed By	SAR
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Project	069638.00.002.002

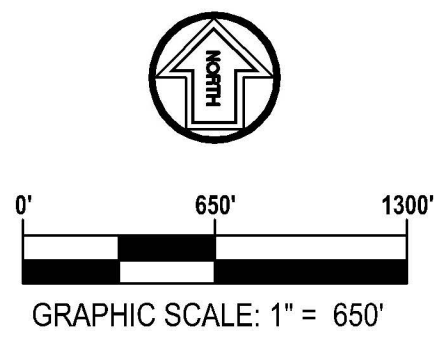
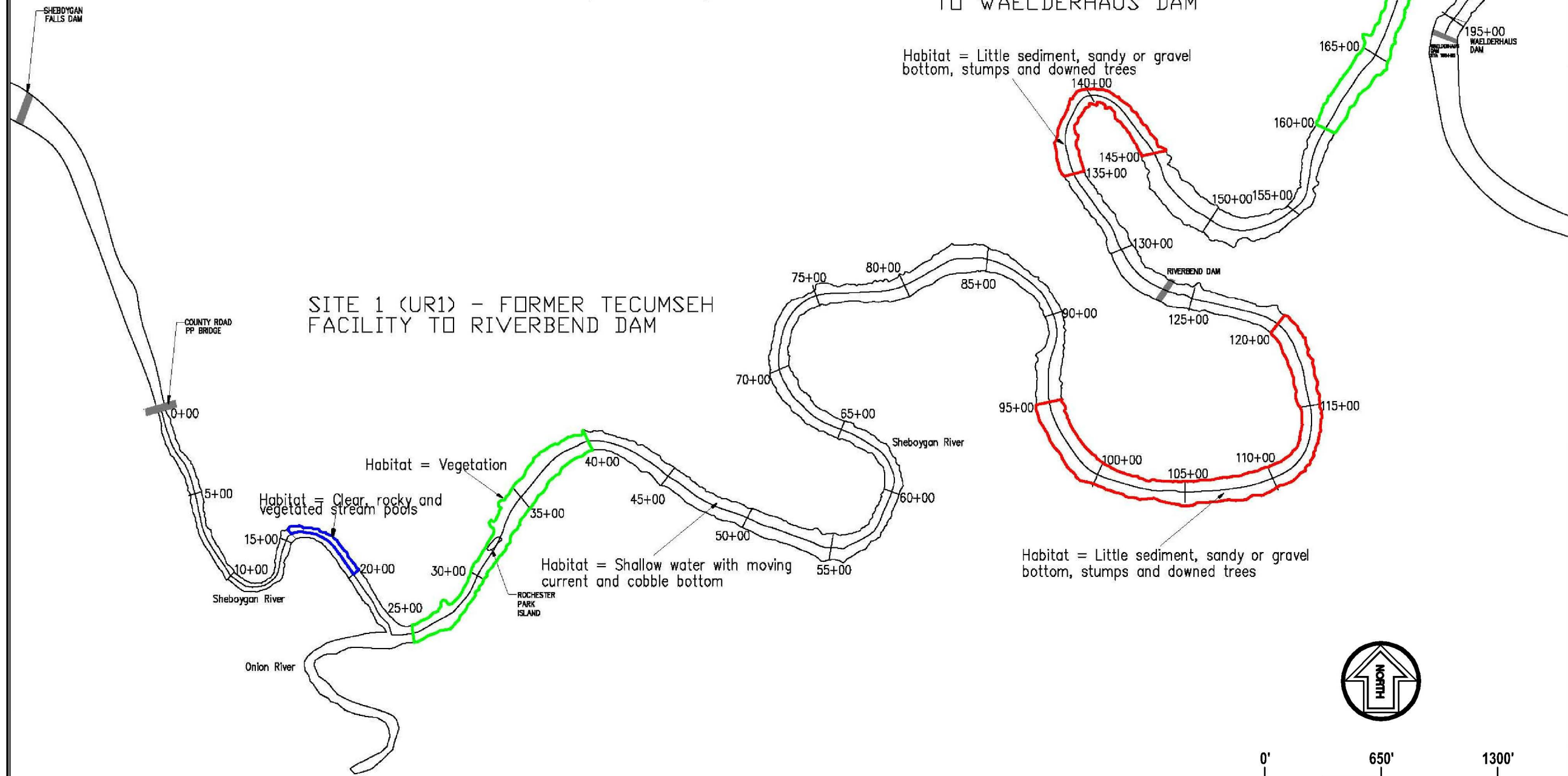
No.	Revision Date

RIVER REACHES
SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE
2009 PHASE 1 UPPER RIVER FISH MONITORING REPORT
SHEBOYGAN FALLS, WISCONSIN

Figure No. 2

LEGEND

- Area where most Rock Bass collected
- Area where most Carp & White Sucker collected
- Area where most Smallmouth Bass collected
- 15+00 Station Number - 1,500' Downstream County Road PP Bridge

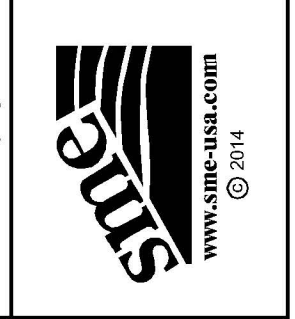


NOTE:
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No.	Revision Date

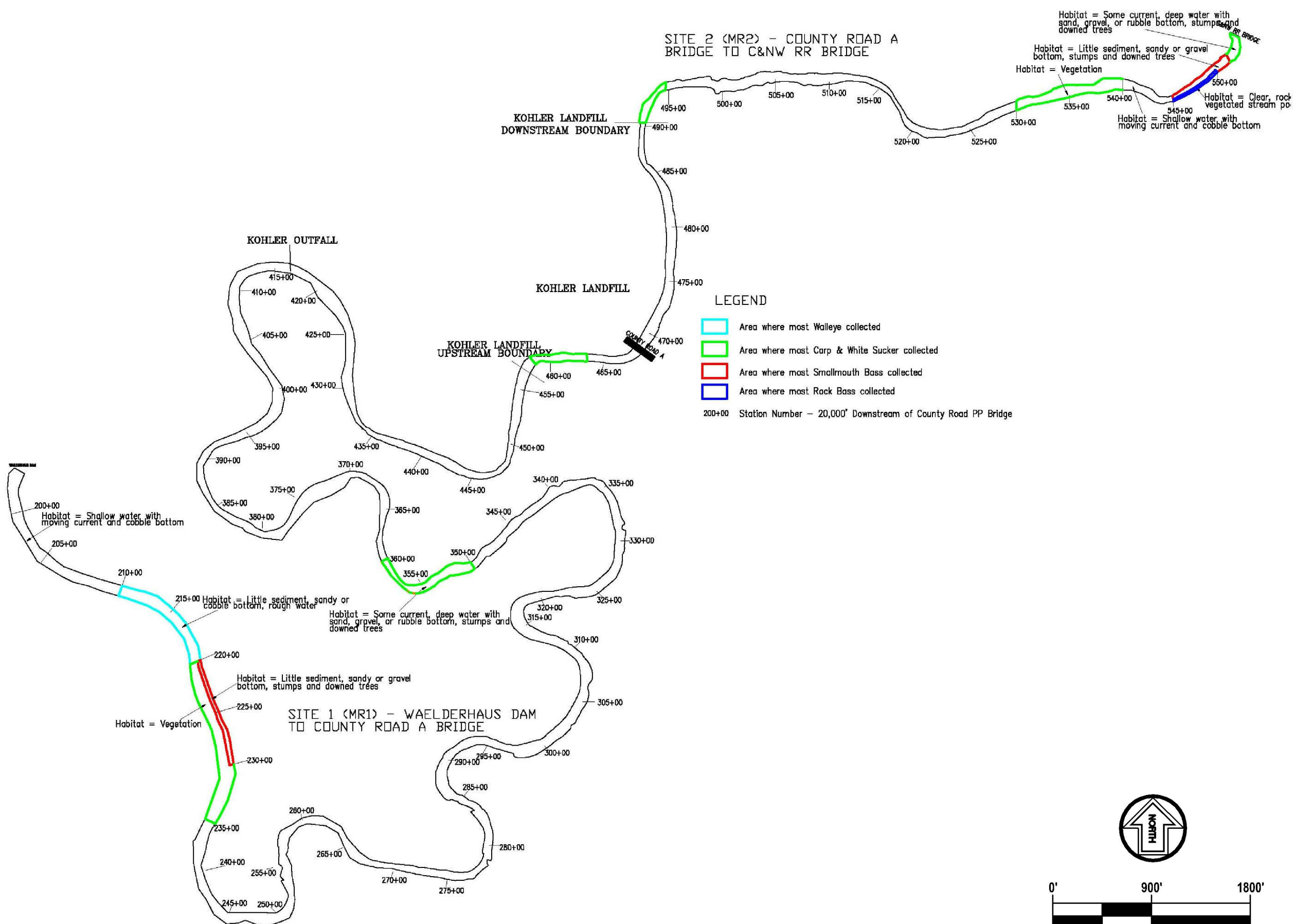
**UPPER RIVER FISH COLLECTION AREAS
SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE
2009 PHASE 1 UPPER RIVER FISH MONITORING REPORT
SHEBOYGAN FALLS, WISCONSIN**

Date	4-25-14
Drawn By	JAB
Designed By	SAR
Scale	1" = 650'
Project	069638.00.002.002

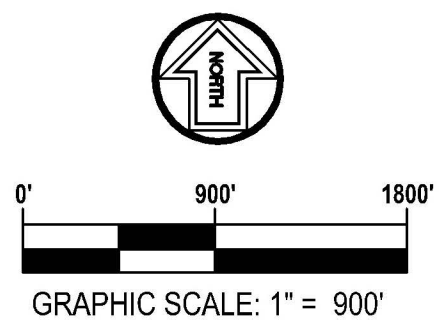


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Figure No. 3



NOTE:
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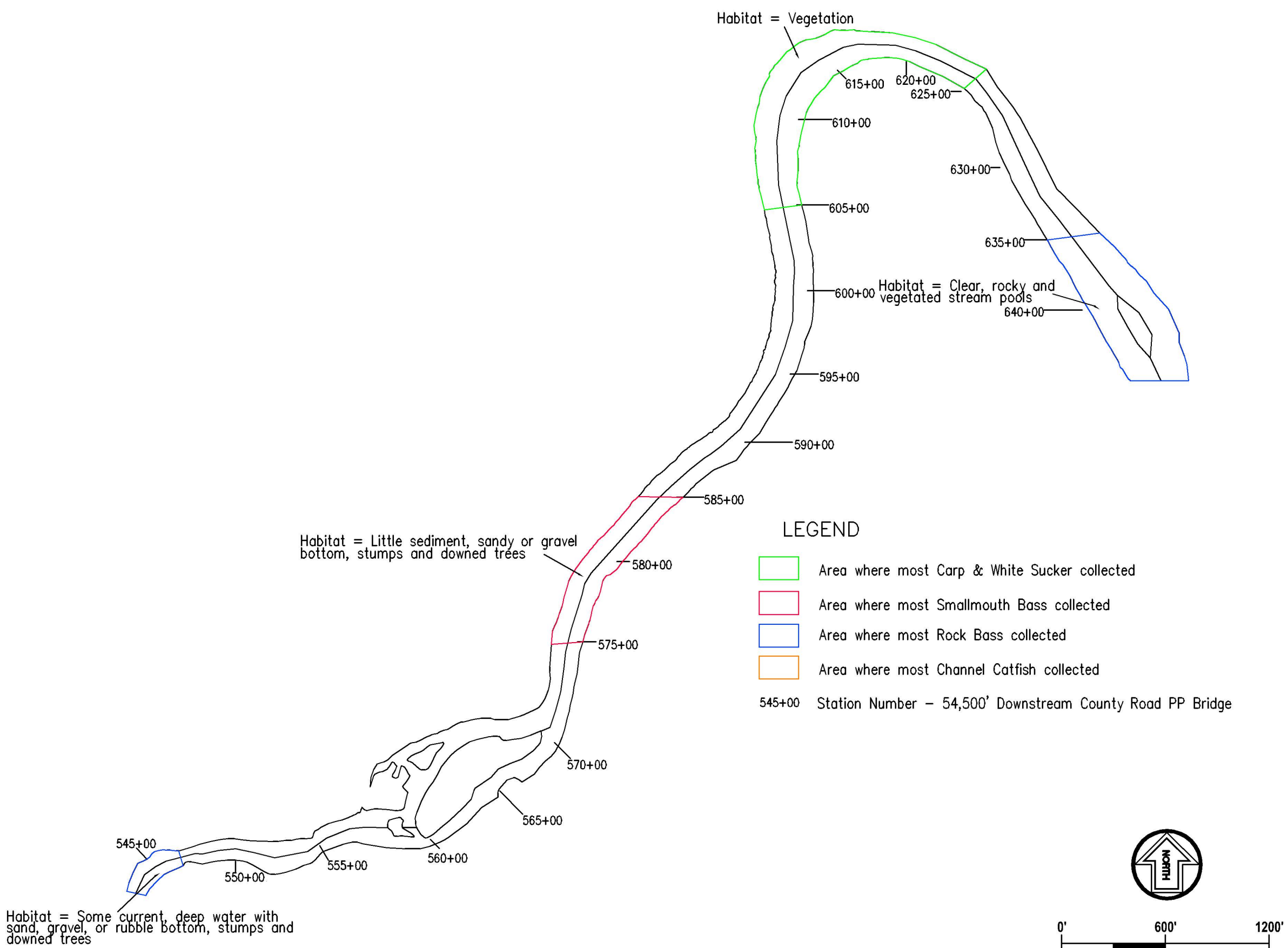
No.	Revision Date

MIDDLE RIVER FISH COLLECTION AREAS
SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE
2009 PHASE 1 UPPER RIVER FISH MONITORING REPORT
SHEBOYGAN FALLS, WISCONSIN

Date	4-25-14
Drawn By	JAB
Designed By	SAR
Scale	1" = 900'
Project	069638.00.002.002



Figure No. 4



NOTE:
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No.	Revision Date

**LOWER RIVER FISH COLLECTION AREAS
 SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE
 2009 PHASE 1 UPPER RIVER FISH MONITORING REPORT
 SHEBOYGAN FALLS, WISCONSIN**

Date	4-25-14
Drawn By	JAB
Designed By	SAR
Scale	1" = 600'
Project	069638.00.002.002

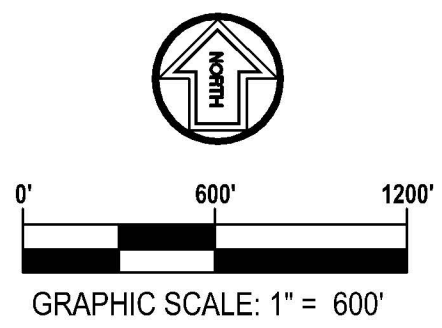
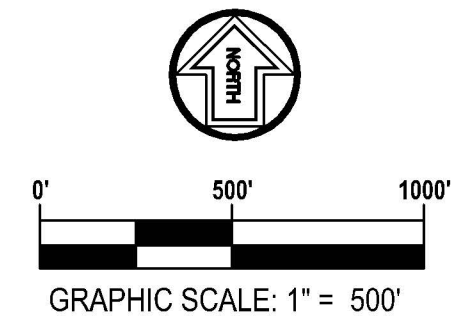
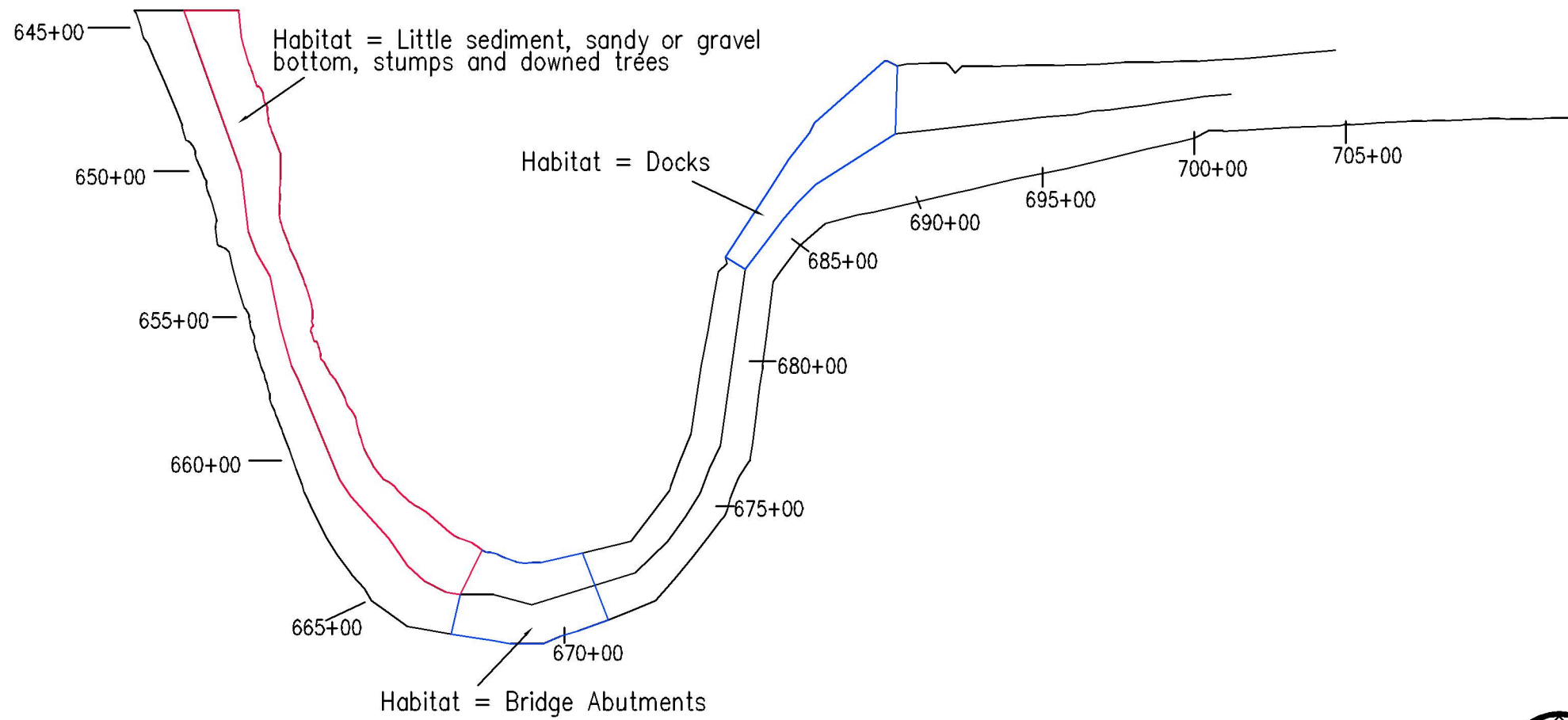


Figure No. 5

LEGEND

- Area where most Carp & White Sucker collected
- Area where most Smallmouth Bass collected
- Area where most Walleye collected

645+00 Station Number – 64,500' Downstream County Road PP Bridge



NOTE:
DRAWING INFORMATION PROVIDED BY POLLUTION RISK SERVICES.

Apr 25, 2014 - 2:29pm - jblake
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No.	Revision Date

**INNER HARBOR FISH COLLECTION AREAS
 SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE
 2009 PHASE 1 UPPER RIVER FISH MONITORING REPORT
 SHEBOYGAN FALLS, WISCONSIN**

Date	4-25-14
Drawn By	JAB
Designed By	SAR
Scale	1" = 500'
Project	069638.00.002.002



Figure No. 6

Appendix 1

Summary of 2013 Phase 1 Fish Tissue Results

Appendix 1
Summary of 2013 Phase 1 Fish Tissue Results

2013 FISH SAMPLE RESULTS - UPPER RIVER SITE 1 (UR1)						
<i>Sample ID</i>	<i>Sample Type</i>	<i>Sample Form*</i>	<i>Gender (M/F)</i>	<i>Length (inches)</i>	<i>Fat (%)</i>	<i>PCB (mg/kg)</i>
UR1 AC1	Adult Carp	SO	F	23.00	4.4%	33.50
UR1 AC2			M	23.50	1.8%	8.27
UR1 AC3			F	23.50	6.1%	28.50
UR1 AC4			F	24.00	17.3%	49.40
UR1 AC5			M	20.50	7.7%	100.00
UR1 AC6			M	24.00	8.0%	33.10
UR1 AC7			M	20.50	4.6%	28.90
UR1 AC8			F	24.00	2.0%	17.70
UR1 AC9			M	25.00	6.7%	18.90
UR1 AC10			F	25.50	4.7%	43.60
UR1 AC11			F	25.00	9.0%	49.50
UR1 AC12			M	20.00	3.7%	29.30
Mean Result for Adult Carp			NA	23.21	6.33%	36.72
Minimum Results for Adult Carp			NA	20.00	1.80%	8.27
Maximum Results for Adult Carp			NA	25.50	17.30%	100.00
Standard Deviation for Adult Carp			NA	1.88	4.13%	23.49
Coefficient of Variation for Adult Carp			NA	0.08	0.65	0.64
Upper 95% UCL for Adult Carp			NA	24.27	8.67%	51.44
UR1 AWS1	Adult White Sucker	SO	M	15.50	1.6%	11.80
UR1 AWS2			M	12.00	1.5%	8.33
UR1 AWS3			M	21.30	2.0%	37.20
UR1 AWS4			M	15.00	1.6%	15.80
UR1 AWS5			M	14.00	0.8%	6.88
UR1 AWS6			M	15.00	1.7%	11.90
UR1 AWS7			M	14.00	1.2%	8.44
UR1 AWS8			M	16.00	1.2%	8.60
UR1 AWS9			M	14.50	1.2%	2.21
UR1 AWS10			M	13.50	2.5%	9.99
UR1 AWS11			M	12.50	1.8%	5.29
UR1 AWS12			M	13.00	1.0%	2.82
Mean Result for Adult White Sucker			NA	14.69	1.51%	13.90
Minimum Results for Adult White Sucker			NA	12.00	0.78%	2.21
Maximum Results for Adult White Sucker			NA	21.30	2.50%	51.44
Standard Deviation for Adult White Sucker			NA	2.40	0.47%	14.29
Coefficient of Variation for Adult White Sucker			NA	0.16	0.31	1.03
Upper 95% UCL for Adult White Sucker			NA	16.05	1.77%	16.33

Appendix 1
Summary of 2013 Phase 1 Fish Tissue Results

2013 FISH SAMPLE RESULTS - UPPER RIVER SITE 1 (UR1)						
<i>Sample ID</i>	<i>Sample Type</i>	<i>Sample Form*</i>	<i>Gender (M/F)</i>	<i>Length (inches)</i>	<i>Fat (%)</i>	<i>PCB (mg/kg)</i>
UR1 SMB1	Smallmouth Bass	SO	M	17.50	0.4%	1.11
UR1 SMB2			M	8.00	0.4%	5.26
UR1 SMB3			M	17.00	0.5%	0.56
UR1 SMB4			M	16.00	0.7%	1.25
UR1 SMB5			M	14.00	0.8%	21.50
UR1 SMB6			F	14.00	0.5%	1.16
UR1 SMB7			M	11.50	0.7%	14.00
UR1 SMB8			F	12.00	0.7%	0.14
UR1 SMB9			M	10.50	0.6%	8.56
UR1 SMB10			M	9.00	0.7%	10.10
UR1 SMB11			F	10.00	0.8%	12.10
UR1 SMB12			M	9.50	0.5%	8.94
Mean Result for Smallmouth Bass			NA	12.42	0.60%	7.06
Minimum Results for Smallmouth Bass			NA	8.00	0.36%	0.14
Maximum Results for Smallmouth Bass			NA	17.50	0.82%	21.50
Standard Deviation for Smallmouth Bass			NA	3.23	0.15%	6.70
Coefficient of Variation for Smallmouth Bass			NA	0.26	0.25	0.95
Upper 95% UCL for Smallmouth Bass			NA	14.25	0.69%	10.53
UR1 RB1	Rock Bass	SO	M	9.00	0.5%	6.84
UR1 RB2			M	8.00	0.6%	2.68
UR1 RB3			F	6.50	0.6%	15.70
UR1 RB4			F	7.00	0.4%	3.27
UR1 RB5			M	5.00	0.5%	0.82
UR1 RB6			F	6.25	0.4%	3.01
UR1 RB7			F	7.75	0.3%	1.11
UR1 RB8			M	6.75	0.0%	0.15
UR1 RB9			M	7.25	0.3%	2.69
Mean Result for Rock Bass			NA	7.06	0.41%	4.03
Minimum Results for Rock Bass			NA	5.00	0.04%	0.15
Maximum Results for Rock Bass			NA	9.00	0.62%	15.70
Standard Deviation for Rock Bass			NA	1.14	0.19%	4.79
Coefficient of Variation for Rock Bass			NA	0.16	0.45	1.19
Upper 95% UCL for Rock Bass			NA	7.80	0.53%	9.04

Appendix 1
Summary of 2013 Phase 1 Fish Tissue Results

2013 FISH SAMPLE RESULTS - UPPER RIVER SITE 2 (UR2)						
<i>Sample ID</i>	<i>Sample Type</i>	<i>Sample Form*</i>	<i>Gender (M/F)</i>	<i>Length (inches)</i>	<i>Fat (%)</i>	<i>PCB (mg/kg)</i>
UR2 AC1	Adult Carp	SO	M	12.00	2.8%	3.55
UR2 AC2			F	24.00	6.4%	17.10
UR2 AC3			F	20.00	1.4%	5.16
UR2 AC4			M	23.50	4.5%	17.90
UR2 AC5			M	24.00	10.1%	21.20
UR2 AC6			F	23.00	12.0%	23.10
UR2 AC7			F	24.00	20.3%	31.80
UR2 AC8			M	24.00	12.4%	24.30
UR2 AC9			M	27.50	13.5%	27.30
UR2 AC10			M	21.50	3.4%	1.05
UR2 AC11			M	20.00	3.0%	39.00
Mean Result for Adult Carp			NA	22.14	8.16%	19.22
Minimum Results for Adult Carp			NA	12.00	1.40%	1.05
Maximum Results for Adult Carp			NA	27.50	20.30%	39.00
Standard Deviation for Adult Carp			NA	3.97	5.94%	12.00
Coefficient of Variation for Adult Carp			NA	0.18	0.73	0.62
Upper 95% UCL for Adult Carp			NA	24.48	11.67%	25.78
UR2 AWS1	Adult White Sucker	SO	M	16.50	1.4%	3.66
UR2 AWS2			M	16.50	2.7%	5.82
UR2 AWS3			M	15.00	1.0%	6.64
UR2 AWS4			M	14.50	2.4%	6.84
UR2 AWS5			M	17.00	3.3%	7.75
UR2 AWS6			M	15.50	2.9%	12.40
UR2 AWS7			M	15.00	2.6%	5.71
UR2 AWS8			M	17.00	2.3%	4.55
UR2 AWS9			M	14.00	2.2%	6.98
UR2 AWS10			M	14.00	3.1%	9.01
UR2 AWS11			M	12.50	3.6%	7.73
UR2 AWS12			M	14.50	2.7%	5.33
Mean Result for Adult White Sucker			NA	15.17	2.52%	6.87
Minimum Results for Adult White Sucker			NA	12.50	1.00%	3.66
Maximum Results for Adult White Sucker			NA	17.00	3.60%	12.40
Standard Deviation for Adult White Sucker			NA	1.39	0.74%	2.28
Coefficient of Variation for Adult White Sucker			NA	0.09	0.29	0.33
Upper 95% UCL for Adult White Sucker			NA	15.95	2.94%	8.05

Appendix 1
Summary of 2013 Phase 1 Fish Tissue Results

2013 FISH SAMPLE RESULTS - UPPER RIVER SITE 2 (UR2)						
<i>Sample ID</i>	<i>Sample Type</i>	<i>Sample Form*</i>	<i>Gender (M/F)</i>	<i>Length (inches)</i>	<i>Fat (%)</i>	<i>PCB (mg/kg)</i>
UR2 SMB1	Smallmouth Bass	SO	F	13.50	0.4%	5.80
UR2 SMB2			M	15.50	0.5%	3.35
UR2 SMB3			F	9.50	0.5%	2.06
UR2 SMB4			M	11.00	0.6%	3.22
UR2 SMB5			M	14.00	1.2%	1.50
UR2 SMB6			M	9.50	0.7%	2.49
UR2 SMB7			M	12.50	0.5%	4.98
UR2 SMB8			M	12.00	1.0%	3.46
UR2 SMB9			F	12.00	0.5%	0.96
UR2 SMB10			F	10.50	0.5%	1.74
UR2 SMB11			F	13.00	0.4%	0.97
UR2 SMB12			F	8.50	1.1%	4.63
Mean Result for Smallmouth Bass			NA	11.79	0.66%	2.93
Minimum Results for Smallmouth Bass			NA	8.50	0.42%	0.96
Maximum Results for Smallmouth Bass			NA	15.50	1.20%	5.80
Standard Deviation for Smallmouth Bass			NA	2.07	0.28%	1.60
Coefficient of Variation for Smallmouth Bass			NA	0.18	0.43	0.54
Upper 95% UCL for Smallmouth Bass			NA	12.96	0.82%	3.76
UR2 RB1	Rock Bass	SO	M	8.00	0.5%	1.79
UR2 RB2			M	7.50	0.6%	1.46
UR2 RB3			F	6.00	0.5%	2.10
UR2 RB4			F	6.00	0.7%	2.00
UR2 RB5			M	7.50	0.4%	9.96
UR2 RB6			F	7.50	0.5%	2.57
UR2 RB7			F	7.50	0.4%	0.78
UR2 RB8			F	7.00	0.4%	1.25
UR2 RB9			M	7.00	0.3%	2.46
UR2 RB10			M	7.00	0.3%	0.85
UR2 RB11			F	7.00	0.6%	0.99
UR2 RB12			F	6.00	0.3%	1.14
Mean Result for Rock Bass			NA	7.00	0.45%	2.28
Minimum Results for Rock Bass			NA	6.00	0.26%	0.78
Maximum Results for Rock Bass			NA	8.00	0.71%	9.96
Standard Deviation for Rock Bass			NA	0.67	0.14%	2.49
Coefficient of Variation for Rock Bass			NA	0.10	0.30	1.09
Upper 95% UCL for Rock Bass			NA	7.38	0.53%	3.55

Appendix 1
Summary of 2013 Phase 1 Fish Tissue Results

2013 FISH SAMPLE RESULTS - MIDDLE RIVER SITE 1 (MR1)						
<i>Sample ID</i>	<i>Sample Type</i>	<i>Sample Form*</i>	<i>Gender (M/F)</i>	<i>Length (inches)</i>	<i>Fat (%)</i>	<i>PCB (mg/kg)</i>
MR1 AC1	Adult Carp	SO	F	28.50	10.6%	12.40
MR1 AC2			M	29.50	13.6%	16.60
MR1 AC3			F	30.50	27.4%	21.50
MR1 AC4			F	31.00	10.7%	13.00
MR1 AC5			F	29.00	11.5%	8.49
MR1 AC6			F	28.00	9.5%	18.80
MR1 AC7			F	29.50	17.1%	22.90
MR1 AC8			F	29.50	15.0%	10.60
Mean Result for Adult Carp			NA	29.44	14.43%	15.54
Minimum Results for Adult Carp			NA	28.00	9.50%	8.49
Maximum Results for Adult Carp			NA	31.00	27.40%	22.90
Standard Deviation for Adult Carp			NA	0.98	5.83%	5.24
Coefficient of Variation for Adult Carp			NA	0.03	0.40	0.34
Upper 95% UCL for Adult Carp			NA	30.12	18.46%	19.04
MR1 AWS1	Adult White Sucker	SO	F	18.00	2.9%	1.05
MR1 AWS2			M	16.50	2.9%	0.63
MR1 AWS3			M	15.00	3.8%	1.65
MR1 AWS4			M	17.00	4.0%	4.87
MR1 AWS5			M	16.50	3.5%	0.72
MR1 AWS6			M	11.00	3.9%	1.71
MR1 AWS7			M	18.00	3.5%	2.54
MR1 AWS8			M	18.00	2.9%	1.09
Mean Result for Adult White Sucker			NA	16.25	3.43%	1.78
Minimum Results for Adult White Sucker			NA	11.00	2.90%	0.63
Maximum Results for Adult White Sucker			NA	18.00	4.00%	4.87
Standard Deviation for Adult White Sucker			NA	2.36	0.47%	1.39
Coefficient of Variation for Adult White Sucker			NA	0.15	0.14	0.78
Upper 95% UCL for Adult White Sucker			NA	17.89	3.75%	3.01

Appendix 1
Summary of 2013 Phase 1 Fish Tissue Results

2013 FISH SAMPLE RESULTS - MIDDLE RIVER SITE 1 (MR1)						
<i>Sample ID</i>	<i>Sample Type</i>	<i>Sample Form*</i>	<i>Gender (M/F)</i>	<i>Length (inches)</i>	<i>Fat (%)</i>	<i>PCB (mg/kg)</i>
MR1 CC1	Channel Catfish	SOF	M	22.00	2.2%	5.41
MR1 CC2			M	25.00	3.8%	9.55
MR1 CC3			F	25.00	6.9%	18.70
MR1 CC4			F	25.00	5.6%	13.20
MR1 CC5			F	27.00	7.1%	17.80
MR1 CC6			F	24.00	9.7%	11.70
MR1 CC7			M	28.00	6.5%	10.70
MR1 CC8			M	23.50	8.0%	14.90
Mean Result for Channel Catfish			NA	24.94	6.23%	12.75
Minimum Results for Channel Catfish			NA	22.00	2.20%	5.41
Maximum Results for Channel Catfish			NA	28.00	9.70%	18.70
Standard Deviation for Channel Catfish			NA	1.90	2.36%	4.39
Coefficient of Variation for Channel Catfish			NA	0.08	0.38	0.34
Upper 95% UCL for Channel Catfish			NA	26.25	7.86%	15.69
MR1 SMB1	Smallmouth Bass	SO	F	13.50	1.5%	4.00
MR1 SMB2			F	15.00	1.1%	1.40
MR1 SMB3			F	13.50	0.8%	1.57
MR1 SMB4			M	16.50	1.8%	4.51
MR1 SMB5			M	16.00	0.6%	2.84
MR1 SMB6			F	16.00	0.1%	0.66
MR1 SMB7			F	13.50	0.0%	0.35
MR1 SMB8			M	11.00	0.8%	3.50
Mean Result for Smallmouth Bass			NA	14.38	0.83%	2.35
Minimum Results for Smallmouth Bass			NA	11.00	0.04%	0.35
Maximum Results for Smallmouth Bass			NA	16.50	1.80%	4.51
Standard Deviation for Smallmouth Bass			NA	1.85	0.62%	1.57
Coefficient of Variation for Smallmouth Bass			NA	0.13	0.75	0.67
Upper 95% UCL for Smallmouth Bass			NA	15.65	1.26%	3.41

Appendix 1
Summary of 2013 Phase 1 Fish Tissue Results

2013 FISH SAMPLE RESULTS - MIDDLE RIVER SITE 1 (MR1)						
<i>Sample ID</i>	<i>Sample Type</i>	<i>Sample Form*</i>	<i>Gender (M/F)</i>	<i>Length (inches)</i>	<i>Fat (%)</i>	<i>PCB (mg/kg)</i>
MR1 RB1	Rock Bass	SO	F	6.50	0.3%	1.07
MR1 RB2			M	7.50	0.6%	1.25
MR1 RB3			M	7.50	0.6%	0.97
MR1 RB4			M	8.00	0.3%	1.51
MR1 RB5			M	8.00	0.4%	1.58
MR1 RB6			M	8.00	0.5%	1.27
MR1 RB7			M	7.50	0.4%	2.07
MR1 RB8			M	8.00	0.5%	1.17
Mean Result for Rock Bass			NA	7.63	0.45%	1.36
Minimum Results for Rock Bass			NA	6.50	0.27%	0.97
Maximum Results for Rock Bass			NA	8.00	0.60%	2.07
Standard Deviation for Rock Bass			NA	0.52	0.11%	0.35
Coefficient of Variation for Rock Bass			NA	0.07	0.25	0.26
Upper 95% UCL for Rock Bass			NA	7.98	0.53%	1.60
MR1 W6	Walleye	SO	M	18.00	1.8%	4.38
MR1 W7			M	21.00	4.8%	21.10
MR1 W8			M	28.50	4.2%	6.10
Mean Result for Walleye			NA	11.32	4.64%	10.53
Minimum Results for Walleye			NA	0.07	0.11%	4.38
Maximum Results for Walleye			NA	28.50	24.80%	21.10
Standard Deviation for Walleye			NA	10.16	8.35%	9.20
Coefficient of Variation for Walleye			NA	0.90	1.80	0.87
Upper 95% UCL for Walleye			NA	18.36	10.42%	16.90

Appendix 1
Summary of 2013 Phase 1 Fish Tissue Results

2013 FISH SAMPLE RESULTS - MIDDLE RIVER SITE 2 (MR2)						
<i>Sample ID</i>	<i>Sample Type</i>	<i>Sample Form*</i>	<i>Gender (M/F)</i>	<i>Length (inches)</i>	<i>Fat (%)</i>	<i>PCB (mg/kg)</i>
MR2 AC1	Adult Carp	SO	F	24.00	7.5%	2.14
MR2 AC2			F	26.00	14.4%	45.30
MR2 AC3			F	25.00	4.9%	8.98
MR2 AC4			M	27.50	1.4%	2.09
MR2 AC5			M	22.50	4.4%	12.20
MR2 AC6			M	28.00	12.6%	23.80
MR2 AC7			F	28.00	24.2%	2.73
MR2 AC8			M	27.50	12.6%	27.40
Mean Result for Adult Carp			NA	26.06	10.25%	15.58
Minimum Results for Adult Carp			NA	22.50	1.40%	2.09
Maximum Results for Adult Carp			NA	28.00	24.20%	45.30
Standard Deviation for Adult Carp			NA	2.06	7.29%	15.46
Coefficient of Variation for Adult Carp			NA	0.08	0.71	0.99
Upper 95% UCL for Adult Carp			NA	27.49	15.30%	25.94
MR2 AWS1	Adult White Sucker	SO	M	16.50	1.8%	0.63
MR2 AWS2			M	16.00	2.3%	0.98
MR2 AWS3			F	16.50	1.9%	0.58
MR2 AWS4			F	16.50	2.1%	0.66
MR2 AWS5			M	14.50	1.5%	0.18
MR2 AWS6			M	17.00	1.8%	0.34
MR2 AWS7			M	17.00	1.7%	1.16
MR2 AWS8			M	18.00	1.8%	1.31
Mean Result for Adult White Sucker			NA	16.50	1.86%	0.73
Minimum Results for Adult White Sucker			NA	14.50	1.50%	0.18
Maximum Results for Adult White Sucker			NA	18.00	2.30%	1.31
Standard Deviation for Adult White Sucker			NA	1.00	0.24%	0.39
Coefficient of Variation for Adult White Sucker			NA	0.06	0.13	0.54
Upper 95% UCL for Adult White Sucker			NA	17.19	2.03%	0.99

Appendix 1
Summary of 2013 Phase 1 Fish Tissue Results

2013 FISH SAMPLE RESULTS - MIDDLE RIVER SITE 2 (MR2)						
<i>Sample ID</i>	<i>Sample Type</i>	<i>Sample Form*</i>	<i>Gender (M/F)</i>	<i>Length (inches)</i>	<i>Fat (%)</i>	<i>PCB (mg/kg)</i>
MR2 JWS2	Juvenile White Sucker	SO	M	9.00	2.2%	1.90
MR2 JWS3			M	8.50	1.2%	1.74
MR2 JWS4			M	7.50	1.7%	1.15
MR2 JWS5			M	8.00	1.5%	1.83
MR2 JWS6			M	8.50	1.8%	1.15
MR2 JWS7			M	8.00	1.7%	1.17
Mean Result for Juvenile White Sucker			NA	8.25	1.68%	1.49
Minimum Results for Juvenile White Sucker			NA	7.50	1.20%	1.15
Maximum Results for Juvenile White Sucker			NA	9.00	2.20%	1.90
Standard Deviation for Juvenile White Sucker			NA	0.52	0.33%	0.37
Coefficient of Variation for Juvenile White Sucker			NA	0.06	0.20	0.25
Upper 95% UCL for Juvenile White Sucker			NA	8.67	1.95%	1.87
MR2 SMB1	Smallmouth Bass	SO	F	16.00	1.1%	1.41
MR2 SMB2			F	15.00	0.9%	1.38
MR2 SMB3			F	16.00	1.0%	1.03
MR2 SMB4			F	18.00	2.1%	2.48
MR2 SMB5			F	11.50	0.8%	1.36
MR2 SMB6			M	9.50	0.7%	1.62
MR2 SMB7			F	10.00	0.5%	1.34
MR2 SMB8			F	12.00	1.4%	2.23
Mean Result for Smallmouth Bass			NA	13.50	1.06%	1.61
Minimum Results for Smallmouth Bass			NA	9.50	0.54%	1.03
Maximum Results for Smallmouth Bass			NA	18.00	2.10%	2.48
Standard Deviation for Smallmouth Bass			NA	3.15	0.49%	0.49
Coefficient of Variation for Smallmouth Bass			NA	0.23	0.47	0.31
Upper 95% UCL for Smallmouth Bass			NA	15.68	1.40%	1.94
MR2 RB1	Rock Bass	SO	F	7.00	0.3%	0.45
MR2 RB2			F	7.00	0.4%	0.85
MR2 RB3			M	7.50	0.5%	1.25
MR2 RB4			F	7.25	0.6%	0.81
MR2 RB5			F	7.00	0.5%	1.07
MR2 RB6			M	8.50	0.8%	0.97
MR2 RB7			M	8.00	0.9%	1.03
MR2 RB8			M	8.50	0.5%	0.90
Mean Result for Rock Bass			NA	7.59	0.57%	0.92
Minimum Results for Rock Bass			NA	7.00	0.26%	0.45
Maximum Results for Rock Bass			NA	8.50	0.90%	1.25
Standard Deviation for Rock Bass			NA	0.65	0.20%	0.23
Coefficient of Variation for Rock Bass			NA	0.09	0.35	0.26
Upper 95% UCL for Rock Bass			NA	8.05	0.70%	1.07

Appendix 1
Summary of 2013 Phase 1 Fish Tissue Results

2013 FISH SAMPLE RESULTS - LOWER RIVER SITE (LR)						
<i>Sample ID</i>	<i>Sample Type</i>	<i>Sample Form</i>	<i>Gender (M/F)</i>	<i>Length (inches)</i>	<i>Fat (%)</i>	<i>PCB (mg/kg)</i>
LR AC1	Adult Carp	SO	F	28.00	19.3%	24.70
LR AC2			M	28.50	12.4%	9.12
LR AC3			M	25.50	9.3%	3.94
LR AC4			F	32.00	13.7%	48.90
LR AC5			M	28.00	7.1%	13.50
LR AC6			F	29.00	20.2%	20.50
LR AC7			M	27.00	12.4%	14.90
LR AC8			M	26.00	11.0%	2.17
Mean Result for Adult Carp			NA	28.00	13.18%	17.22
Minimum Results for Adult Carp			NA	25.50	7.10%	2.17
Maximum Results for Adult Carp			NA	32.00	20.20%	48.90
Standard Deviation for Adult Carp			NA	2.02	4.55%	14.92
Coefficient of Variation for Adult Carp			NA	0.07	0.35	0.87
Upper 95% UCL for Adult Carp			NA	29.40	16.33%	27.21
LR AWS1	Adult White Sucker	SO	F	17.00	1.4%	0.77
LR AWS2			M	13.00	0.8%	1.19
LR AWS3			M	14.00	3.0%	1.24
LR AWS4			M	14.25	1.2%	0.91
LR AWS5			M	13.50	1.5%	1.43
LR AWS6			M	12.50	1.3%	0.75
LR AWS7			M	13.75	1.4%	1.76
LR AWS8			M	12.50	1.1%	0.61
Mean Result for Adult White Sucker			NA	13.81	1.47%	1.08
Minimum Results for Adult White Sucker			NA	12.50	0.84%	0.61
Maximum Results for Adult White Sucker			NA	17.00	3.00%	1.76
Standard Deviation for Adult White Sucker			NA	1.44	0.65%	0.39
Coefficient of Variation for Adult White Sucker			NA	0.10	0.45	0.36
Upper 95% UCL for Adult White Sucker			NA	14.81	1.92%	1.35

Appendix 1
Summary of 2013 Phase 1 Fish Tissue Results

2013 FISH SAMPLE RESULTS - LOWER RIVER SITE (LR)						
<i>Sample ID</i>	<i>Sample Type</i>	<i>Sample Form</i>	<i>Gender (M/F)</i>	<i>Length (inches)</i>	<i>Fat (%)</i>	<i>PCB (mg/kg)</i>
LR SMB1	Smallmouth Bass	SO	F	16.00	2.4%	2.52
LR SMB2			F	16.50	0.5%	1.28
LR SMB3			M	14.00	1.0%	0.55
LR SMB4			F	14.50	0.8%	0.97
LR SMB5			M	15.75	1.6%	1.50
LR SMB6			F	17.00	0.4%	0.43
LR SMB7			M	14.00	0.8%	2.28
LR SMB8			F	16.00	0.9%	1.16
Mean Result for Smallmouth Bass			NA	15.47	1.05%	1.34
Minimum Results for Smallmouth Bass			NA	14.00	0.43%	0.43
Maximum Results for Smallmouth Bass			NA	17.00	2.40%	2.52
Standard Deviation for Smallmouth Bass			NA	1.15	0.65%	0.75
Coefficient of Variation for Smallmouth Bass			NA	0.07	0.62	0.56
Upper 95% UCL for Smallmouth Bass			NA	16.27	1.50%	1.84
LR RB1	Rock Bass	SO	F	7.00	0.6%	1.26
LR RB2			M	6.50	0.8%	1.10
LR RB3			M	5.75	1.1%	1.84
LR RB4			M	8.50	0.6%	1.51
LR RB5			F	6.50	0.8%	0.86
LR RB6			M	7.00	0.9%	1.53
LR RB7			M	6.25	1.6%	1.36
LR RB8			M	8.50	0.4%	0.53
LR RB9			M	8.00	0.7%	1.71
Mean Result for Rock Bass			NA	7.11	0.83%	1.30
Minimum Results for Rock Bass			NA	5.75	0.43%	0.53
Maximum Results for Rock Bass			NA	8.50	1.60%	1.84
Standard Deviation for Rock Bass			NA	1.00	0.35%	0.42
Coefficient of Variation for Rock Bass			NA	0.14	0.42	0.32
Upper 95% UCL for Rock Bass			NA	7.76	1.06%	1.56

Appendix 1
Summary of 2013 Phase 1 Fish Tissue Results

2013 FISH SAMPLE RESULTS - INNER HARBOR SITE (IH)						
<i>Sample ID</i>	<i>Sample Type</i>	<i>Sample Form</i>	<i>Gender (M/F)</i>	<i>Length (inches)</i>	<i>Fat (%)</i>	<i>PCB (mg/kg)</i>
IH AC1	Adult Carp	SO	F	34.50	16.2%	18.70
IH AC2			M	29.50	10.4%	9.96
IH AC3			F	36.00	34.2%	15.20
IH AC4			F	30.50	29.7%	24.70
IH AC5			F	33.00	13.9%	14.20
IH AC6			F	32.00	14.8%	16.30
IH AC7			F	34.00	18.9%	11.30
Mean Result for Adult Carp			NA	32.79	19.73%	15.77
Minimum Results for Adult Carp			NA	29.50	10.40%	9.96
Maximum Results for Adult Carp			NA	36.00	34.20%	24.70
Standard Deviation for Adult Carp			NA	2.29	8.82%	4.92
Coefficient of Variation for Adult Carp			NA	0.07	0.45	0.31
Upper 95% UCL for Adult Carp			NA	34.48	26.27%	19.38
IH AWS1	Adult White Sucker	SO	M	19.50	1.5%	0.72
IH AWS2			M	18.50	1.0%	0.50
IH AWS3			M	18.00	1.3%	1.84
IH AWS4			F	19.50	1.4%	0.46
IH AWS5			M	17.50	2.6%	0.94
IH AWS6			M	17.00	2.2%	2.03
IH AWS7			M	16.00	2.4%	0.34
IH AWS8			M	14.50	2.3%	0.44
Mean Result for Adult White Sucker			NA	17.56	1.84%	0.91
Minimum Results for Adult White Sucker			NA	14.50	0.98%	0.34
Maximum Results for Adult White Sucker			NA	19.50	2.60%	2.03
Standard Deviation for Adult White Sucker			NA	1.72	0.61%	0.66
Coefficient of Variation for Adult White Sucker			NA	0.10	0.33	0.73
Upper 95% UCL for Adult White Sucker			NA	18.75	2.26%	1.52

Appendix 1
Summary of 2013 Phase 1 Fish Tissue Results

2013 FISH SAMPLE RESULTS - INNER HARBOR SITE (IH)						
<i>Sample ID</i>	<i>Sample Type</i>	<i>Sample Form</i>	<i>Gender (M/F)</i>	<i>Length (inches)</i>	<i>Fat (%)</i>	<i>PCB (mg/kg)</i>
IH SMB1	Smallmouth Bass	SO	F	17.50	2.4%	2.43
IH SMB2			F	19.50	1.9%	1.25
IH SMB3			F	17.25	3.2%	1.96
IH SMB4			F	16.25	1.9%	1.44
IH SMB5			M	11.00	1.4%	0.20
IH SMB6			M	9.50	0.7%	2.85
IH SMB7			M	10.00	1.3%	2.91
IH SMB8			M	8.50	1.2%	0.77
IH SMB9			M	8.50	1.0%	0.61
Mean Result for Smallmouth Bass			NA	13.11	1.66%	1.60
Minimum Results for Smallmouth Bass			NA	8.50	0.69%	0.20
Maximum Results for Smallmouth Bass			NA	19.50	3.20%	2.91
Standard Deviation for Smallmouth Bass			NA	4.43	0.78%	0.99
Coefficient of Variation for Smallmouth Bass			NA	0.34	0.47	0.62
Upper 95% UCL for Smallmouth Bass			NA	16.00	2.17%	2.22
IH RB1	Rock Bass	SO	F	6.50	1.2%	1.82
IH RB2			F	7.50	0.7%	1.30
IH RB3			M	8.50	1.1%	1.91
IH RB4			M	6.50	1.3%	3.94
Mean Result for Rock Bass			NA	7.25	4.92%	2.24
Minimum Results for Rock Bass			NA	6.50	0.61%	1.30
Maximum Results for Rock Bass			NA	8.50	46.79%	3.94
Standard Deviation for Rock Bass			NA	0.96	11.26%	1.16
Coefficient of Variation for Rock Bass			NA	0.13	2.29	0.52
Upper 95% UCL for Rock Bass			NA	8.19	9.52%	2.72
Notes:						
Did not meet target range for length						
NA - Not applicable						
TS - Too small to gender/age						
SO - Scale off, skin on fillet						
SOF - Skin off fillet						
W - Whole fish						

Appendix 2

Laboratory Analytical Reports

July 11, 2013

Mark Mather
Pollution Risk Services
7870 East Kemper Road
Suite 240
Cincinnati, OH 45249

RE: Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079173

Dear Mark Mather:

Enclosed are the analytical results for sample(s) received by the laboratory on June 06, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Tod Noltemeyer

tod.noltemeyer@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079173

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 11888

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

US Dept of Agriculture #: S-76505

Wisconsin Certification #: 405132750

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SAMPLE SUMMARY

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079173

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4079173001	LR SMB6	Tissue	06/06/13 00:00	06/06/13 15:00
4079173002	LR SMB7	Tissue	06/06/13 00:00	06/06/13 15:00
4079173003	LR SMB8	Tissue	06/06/13 00:00	06/06/13 15:00
4079173004	LR RB1	Tissue	06/06/13 00:00	06/06/13 15:00
4079173005	LR RB2	Tissue	06/06/13 00:00	06/06/13 15:00
4079173006	LR RB3	Tissue	06/06/13 00:00	06/06/13 15:00
4079173007	LR RB4	Tissue	06/06/13 00:00	06/06/13 15:00
4079173008	LR RB5	Tissue	06/06/13 00:00	06/06/13 15:00
4079173009	LR RB6	Tissue	06/06/13 00:00	06/06/13 15:00
4079173010	LR RB7	Tissue	06/06/13 00:00	06/06/13 15:00
4079173011	LR RB8	Tissue	06/06/13 00:00	06/06/13 15:00
4079173012	LR RB9	Tissue	06/06/13 00:00	06/06/13 15:00
4079174001	UR2 RB12	Tissue	06/05/13 00:00	06/06/13 17:39

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SAMPLE ANALYTE COUNT

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079173

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079173001	LR SMB6	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079173002	LR SMB7	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079173003	LR SMB8	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079173004	LR RB1	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079173005	LR RB2	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079173006	LR RB3	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079173007	LR RB4	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079173008	LR RB5	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079173009	LR RB6	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079173010	LR RB7	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079173011	LR RB8	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079173012	LR RB9	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079174001	UR2 RB12	EPA 8082	BLM	10

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SAMPLE ANALYTE COUNT

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079173

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079173

Method: EPA 8082
Description: 8082 GCS PCB, Tissue
Client: POLLUTION RISK SERVICES
Date: July 11, 2013

General Information:

13 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: GCSV/9827

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079173

Method: Pace Gender Typing
Description: Fish Gender Typing
Client: POLLUTION RISK SERVICES
Date: July 11, 2013

General Information:

13 samples were analyzed for Pace Gender Typing. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079173

Method: Pace Lipid
Description: Lipid
Client: POLLUTION RISK SERVICES
Date: July 11, 2013

General Information:

13 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

Batch Comments:

Insufficient volume to perform duplicate analysis.

- QC Batch: OEXT / 18878

Analyte Comments:

QC Batch: OEXT/18756

C0: Result confirmed by second analysis.

- DUP (Lab ID: 813499)
- Lipid

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079173

Method: Pace Lipid

Description: Lipid

Client: POLLUTION RISK SERVICES

Date: July 11, 2013

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079173

Sample: LR SMB6 **Lab ID: 4079173001** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<12.5	ug/kg	25.0	12.5	1	06/24/13 10:20	06/26/13 17:40	12674-11-2	
PCB-1221 (Aroclor 1221)	<12.5	ug/kg	25.0	12.5	1	06/24/13 10:20	06/26/13 17:40	11104-28-2	
PCB-1232 (Aroclor 1232)	<12.5	ug/kg	25.0	12.5	1	06/24/13 10:20	06/26/13 17:40	11141-16-5	
PCB-1242 (Aroclor 1242)	<12.5	ug/kg	25.0	12.5	1	06/24/13 10:20	06/26/13 17:40	53469-21-9	
PCB-1248 (Aroclor 1248)	209	ug/kg	25.0	12.5	1	06/24/13 10:20	06/26/13 17:40	12672-29-6	
PCB-1254 (Aroclor 1254)	173	ug/kg	25.0	12.5	1	06/24/13 10:20	06/26/13 17:40	11097-69-1	
PCB-1260 (Aroclor 1260)	44.4	ug/kg	25.0	12.5	1	06/24/13 10:20	06/26/13 17:40	11096-82-5	
PCB, Total	427	ug/kg	25.0	12.5	1	06/24/13 10:20	06/26/13 17:40	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	86	%	44-130		1	06/24/13 10:20	06/26/13 17:40	877-09-8	
Decachlorobiphenyl (S)	90	%	62-130		1	06/24/13 10:20	06/26/13 17:40	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.43				1		06/27/13 08:18		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079173

Sample: LR SMB7 **Lab ID: 4079173002** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	06/24/13 10:20	06/26/13 17:58	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	06/24/13 10:20	06/26/13 17:58	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	06/24/13 10:20	06/26/13 17:58	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	06/24/13 10:20	06/26/13 17:58	53469-21-9	
PCB-1248 (Aroclor 1248)	1330	ug/kg	100	50.0	4	06/24/13 10:20	06/26/13 17:58	12672-29-6	
PCB-1254 (Aroclor 1254)	849	ug/kg	100	50.0	4	06/24/13 10:20	06/26/13 17:58	11097-69-1	
PCB-1260 (Aroclor 1260)	107	ug/kg	100	50.0	4	06/24/13 10:20	06/26/13 17:58	11096-82-5	
PCB, Total	2280	ug/kg	100	50.0	4	06/24/13 10:20	06/26/13 17:58	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	82 %		44-130		4	06/24/13 10:20	06/26/13 17:58	877-09-8	
Decachlorobiphenyl (S)	86 %		62-130		4	06/24/13 10:20	06/26/13 17:58	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.75 %				1		06/27/13 08:19		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079173

Sample: LR SMB8 **Lab ID: 4079173003** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<37.5	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:16	12674-11-2	
PCB-1221 (Aroclor 1221)	<37.5	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:16	11104-28-2	
PCB-1232 (Aroclor 1232)	<37.5	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:16	11141-16-5	
PCB-1242 (Aroclor 1242)	<37.5	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:16	53469-21-9	
PCB-1248 (Aroclor 1248)	606	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:16	12672-29-6	
PCB-1254 (Aroclor 1254)	443	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:16	11097-69-1	
PCB-1260 (Aroclor 1260)	110	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:16	11096-82-5	
PCB, Total	1160	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:16	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	82	%	44-130		3	06/24/13 10:20	06/26/13 18:16	877-09-8	
Decachlorobiphenyl (S)	87	%	62-130		3	06/24/13 10:20	06/26/13 18:16	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.88				1		06/27/13 08:19		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079173

Sample: LR RB1 **Lab ID: 4079173004** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<37.5	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:33	12674-11-2	
PCB-1221 (Aroclor 1221)	<37.5	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:33	11104-28-2	
PCB-1232 (Aroclor 1232)	<37.5	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:33	11141-16-5	
PCB-1242 (Aroclor 1242)	<37.5	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:33	53469-21-9	
PCB-1248 (Aroclor 1248)	685	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:33	12672-29-6	
PCB-1254 (Aroclor 1254)	525	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:33	11097-69-1	
PCB-1260 (Aroclor 1260)	51.3J	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:33	11096-82-5	
PCB, Total	1260	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:33	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	90 %		44-130		3	06/24/13 10:20	06/26/13 18:33	877-09-8	
Decachlorobiphenyl (S)	93 %		62-130		3	06/24/13 10:20	06/26/13 18:33	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.56 %				1		06/27/13 08:19		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079173

Sample: LR RB2 **Lab ID: 4079173005** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<37.5	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:51	12674-11-2	
PCB-1221 (Aroclor 1221)	<37.5	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:51	11104-28-2	
PCB-1232 (Aroclor 1232)	<37.5	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:51	11141-16-5	
PCB-1242 (Aroclor 1242)	<37.5	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:51	53469-21-9	
PCB-1248 (Aroclor 1248)	643	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:51	12672-29-6	
PCB-1254 (Aroclor 1254)	409	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:51	11097-69-1	
PCB-1260 (Aroclor 1260)	43.3J	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:51	11096-82-5	
PCB, Total	1100	ug/kg	75.0	37.5	3	06/24/13 10:20	06/26/13 18:51	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	92 %		44-130		3	06/24/13 10:20	06/26/13 18:51	877-09-8	
Decachlorobiphenyl (S)	97 %		62-130		3	06/24/13 10:20	06/26/13 18:51	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.78 %				1		06/27/13 08:19		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079173

Sample: LR RB3 **Lab ID: 4079173006** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 19:09	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 19:09	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 19:09	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 19:09	53469-21-9	
PCB-1248 (Aroclor 1248)	1030	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 19:09	12672-29-6	
PCB-1254 (Aroclor 1254)	730	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 19:09	11097-69-1	
PCB-1260 (Aroclor 1260)	78.4J	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 19:09	11096-82-5	
PCB, Total	1840	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 19:09	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	86 %		44-130		5	06/24/13 10:20	06/26/13 19:09	877-09-8	
Decachlorobiphenyl (S)	94 %		62-130		5	06/24/13 10:20	06/26/13 19:09	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.1 %				1		06/27/13 08:19		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079173

Sample: LR RB4 **Lab ID: 4079173007** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 19:27	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 19:27	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 19:27	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 19:27	53469-21-9	
PCB-1248 (Aroclor 1248)	854	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 19:27	12672-29-6	
PCB-1254 (Aroclor 1254)	587	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 19:27	11097-69-1	
PCB-1260 (Aroclor 1260)	73.8J	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 19:27	11096-82-5	
PCB, Total	1510	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 19:27	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	83 %		44-130		5	06/24/13 10:20	06/26/13 19:27	877-09-8	
Decachlorobiphenyl (S)	90 %		62-130		5	06/24/13 10:20	06/26/13 19:27	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.55 %				1		06/27/13 08:19		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079173

Sample: LR RB5 **Lab ID: 4079173008** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<25.0	ug/kg	50.0	25.0	2	06/24/13 10:20	06/26/13 19:44	12674-11-2	
PCB-1221 (Aroclor 1221)	<25.0	ug/kg	50.0	25.0	2	06/24/13 10:20	06/26/13 19:44	11104-28-2	
PCB-1232 (Aroclor 1232)	<25.0	ug/kg	50.0	25.0	2	06/24/13 10:20	06/26/13 19:44	11141-16-5	
PCB-1242 (Aroclor 1242)	<25.0	ug/kg	50.0	25.0	2	06/24/13 10:20	06/26/13 19:44	53469-21-9	
PCB-1248 (Aroclor 1248)	496	ug/kg	50.0	25.0	2	06/24/13 10:20	06/26/13 19:44	12672-29-6	
PCB-1254 (Aroclor 1254)	326	ug/kg	50.0	25.0	2	06/24/13 10:20	06/26/13 19:44	11097-69-1	
PCB-1260 (Aroclor 1260)	33.9J	ug/kg	50.0	25.0	2	06/24/13 10:20	06/26/13 19:44	11096-82-5	
PCB, Total	856	ug/kg	50.0	25.0	2	06/24/13 10:20	06/26/13 19:44	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	81 %		44-130		2	06/24/13 10:20	06/26/13 19:44	877-09-8	
Decachlorobiphenyl (S)	87 %		62-130		2	06/24/13 10:20	06/26/13 19:44	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.82 %				1		06/27/13 08:19		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079173

Sample: LR RB6 **Lab ID: 4079173009** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 20:02	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 20:02	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 20:02	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 20:02	53469-21-9	
PCB-1248 (Aroclor 1248)	1020	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 20:02	12672-29-6	
PCB-1254 (Aroclor 1254)	512	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 20:02	11097-69-1	
PCB-1260 (Aroclor 1260)	<62.5	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 20:02	11096-82-5	
PCB, Total	1530	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 20:02	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	87 %		44-130		5	06/24/13 10:20	06/26/13 20:02	877-09-8	
Decachlorobiphenyl (S)	94 %		62-130		5	06/24/13 10:20	06/26/13 20:02	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.92 %				1		06/27/13 08:20		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079173

Sample: LR RB7 **Lab ID: 4079173010** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	06/24/13 10:20	06/26/13 20:20	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	06/24/13 10:20	06/26/13 20:20	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	06/24/13 10:20	06/26/13 20:20	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	06/24/13 10:20	06/26/13 20:20	53469-21-9	
PCB-1248 (Aroclor 1248)	908	ug/kg	100	50.0	4	06/24/13 10:20	06/26/13 20:20	12672-29-6	
PCB-1254 (Aroclor 1254)	449	ug/kg	100	50.0	4	06/24/13 10:20	06/26/13 20:20	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	06/24/13 10:20	06/26/13 20:20	11096-82-5	
PCB, Total	1360	ug/kg	100	50.0	4	06/24/13 10:20	06/26/13 20:20	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	93 %		44-130		4	06/24/13 10:20	06/26/13 20:20	877-09-8	
Decachlorobiphenyl (S)	99 %		62-130		4	06/24/13 10:20	06/26/13 20:20	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.6 %				1		06/27/13 08:20		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079173

Sample: LR RB8 **Lab ID: 4079173011** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<12.5	ug/kg	25.0	12.5	1	06/24/13 10:20	06/26/13 20:38	12674-11-2	
PCB-1221 (Aroclor 1221)	<12.5	ug/kg	25.0	12.5	1	06/24/13 10:20	06/26/13 20:38	11104-28-2	
PCB-1232 (Aroclor 1232)	<12.5	ug/kg	25.0	12.5	1	06/24/13 10:20	06/26/13 20:38	11141-16-5	
PCB-1242 (Aroclor 1242)	<12.5	ug/kg	25.0	12.5	1	06/24/13 10:20	06/26/13 20:38	53469-21-9	
PCB-1248 (Aroclor 1248)	279	ug/kg	25.0	12.5	1	06/24/13 10:20	06/26/13 20:38	12672-29-6	
PCB-1254 (Aroclor 1254)	224	ug/kg	25.0	12.5	1	06/24/13 10:20	06/26/13 20:38	11097-69-1	
PCB-1260 (Aroclor 1260)	30.2	ug/kg	25.0	12.5	1	06/24/13 10:20	06/26/13 20:38	11096-82-5	
PCB, Total	532	ug/kg	25.0	12.5	1	06/24/13 10:20	06/26/13 20:38	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	89 %		44-130		1	06/24/13 10:20	06/26/13 20:38	877-09-8	
Decachlorobiphenyl (S)	92 %		62-130		1	06/24/13 10:20	06/26/13 20:38	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.43 %				1		06/27/13 08:20		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079173

Sample: LR RB9 **Lab ID: 4079173012** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 20:55	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 20:55	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 20:55	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 20:55	53469-21-9	
PCB-1248 (Aroclor 1248)	989	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 20:55	12672-29-6	
PCB-1254 (Aroclor 1254)	652	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 20:55	11097-69-1	
PCB-1260 (Aroclor 1260)	69.9J	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 20:55	11096-82-5	
PCB, Total	1710	ug/kg	125	62.5	5	06/24/13 10:20	06/26/13 20:55	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	93 %		44-130		5	06/24/13 10:20	06/26/13 20:55	877-09-8	
Decachlorobiphenyl (S)	98 %		62-130		5	06/24/13 10:20	06/26/13 20:55	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.74 %				1		06/27/13 08:20		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079173

Sample: UR2 RB12 **Lab ID: 4079174001** Collected: 06/05/13 00:00 Received: 06/06/13 17:39 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<25.9	ug/kg	51.9	25.9	2	07/02/13 14:24	07/09/13 15:55	12674-11-2	
PCB-1221 (Aroclor 1221)	<25.9	ug/kg	51.9	25.9	2	07/02/13 14:24	07/09/13 15:55	11104-28-2	
PCB-1232 (Aroclor 1232)	<25.9	ug/kg	51.9	25.9	2	07/02/13 14:24	07/09/13 15:55	11141-16-5	
PCB-1242 (Aroclor 1242)	<25.9	ug/kg	51.9	25.9	2	07/02/13 14:24	07/09/13 15:55	53469-21-9	
PCB-1248 (Aroclor 1248)	631	ug/kg	51.9	25.9	2	07/02/13 14:24	07/09/13 15:55	12672-29-6	
PCB-1254 (Aroclor 1254)	474	ug/kg	51.9	25.9	2	07/02/13 14:24	07/09/13 15:55	11097-69-1	
PCB-1260 (Aroclor 1260)	39.1J	ug/kg	51.9	25.9	2	07/02/13 14:24	07/09/13 15:55	11096-82-5	
PCB, Total	1140	ug/kg	51.9	25.9	2	07/02/13 14:24	07/09/13 15:55	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	89 %		44-130		2	07/02/13 14:24	07/09/13 15:55	877-09-8	
Decachlorobiphenyl (S)	98 %		62-130		2	07/02/13 14:24	07/09/13 15:55	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/03/13 10:04		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.28 %				1		07/08/13 14:19		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 SHEBOYGAN RIVER

Peace Project No.: 4079173

QC Batch: OEXT/18746 Analysis Method: EPA 8082
 QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides
 Associated Lab Samples: 4079173001, 4079173002, 4079173003, 4079173004, 4079173005, 4079173006, 4079173007, 4079173008, 4079173009, 4079173010, 4079173011, 4079173012

METHOD BLANK: 813199 Matrix: Tissue
 Associated Lab Samples: 4079173001, 4079173002, 4079173003, 4079173004, 4079173005, 4079173006, 4079173007, 4079173008, 4079173009, 4079173010, 4079173011, 4079173012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<12.5	25.0	06/26/13 16:29	
PCB-1221 (Aroclor 1221)	ug/kg	<12.5	25.0	06/26/13 16:29	
PCB-1232 (Aroclor 1232)	ug/kg	<12.5	25.0	06/26/13 16:29	
PCB-1242 (Aroclor 1242)	ug/kg	<12.5	25.0	06/26/13 16:29	
PCB-1248 (Aroclor 1248)	ug/kg	<12.5	25.0	06/26/13 16:29	
PCB-1254 (Aroclor 1254)	ug/kg	<12.5	25.0	06/26/13 16:29	
PCB-1260 (Aroclor 1260)	ug/kg	<12.5	25.0	06/26/13 16:29	
Decachlorobiphenyl (S)	%	84	62-130	06/26/13 16:29	
Tetrachloro-m-xylene (S)	%	80	44-130	06/26/13 16:29	

LABORATORY CONTROL SAMPLE: 813200

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<12.5			
PCB-1221 (Aroclor 1221)	ug/kg		<12.5			
PCB-1232 (Aroclor 1232)	ug/kg		<12.5			
PCB-1242 (Aroclor 1242)	ug/kg		<12.5			
PCB-1248 (Aroclor 1248)	ug/kg		<12.5			
PCB-1254 (Aroclor 1254)	ug/kg	250	223	89	61-130	
PCB-1260 (Aroclor 1260)	ug/kg		<12.5			
Decachlorobiphenyl (S)	%			85	62-130	
Tetrachloro-m-xylene (S)	%			81	44-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 813201 813202

Parameter	Units	4079173001		813202		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
PCB-1016 (Aroclor 1016)	ug/kg	<12.5			<50.0	<50.0					24
PCB-1221 (Aroclor 1221)	ug/kg	<12.5			<50.0	<50.0					24
PCB-1232 (Aroclor 1232)	ug/kg	<12.5			<50.0	<50.0					24
PCB-1242 (Aroclor 1242)	ug/kg	<12.5			<50.0	<50.0					24
PCB-1248 (Aroclor 1248)	ug/kg	209			283	294			4		24
PCB-1254 (Aroclor 1254)	ug/kg	173	1000	1000	1050	1070	88	90	27-163	1	24
PCB-1260 (Aroclor 1260)	ug/kg	44.4			<50.0	<50.0					24
Decachlorobiphenyl (S)	%						89	89	62-130		
Tetrachloro-m-xylene (S)	%						81	83	44-130		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079173

QC Batch:	OEXT/18859	Analysis Method:	EPA 8082
QC Batch Method:	EPA 3540	Analysis Description:	8082 GCS Tissue Pesticides
Associated Lab Samples:	4079174001		

METHOD BLANK:	817320	Matrix:	Tissue
Associated Lab Samples:	4079174001		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<12.5	25.0	07/09/13 15:02	
PCB-1221 (Aroclor 1221)	ug/kg	<12.5	25.0	07/09/13 15:02	
PCB-1232 (Aroclor 1232)	ug/kg	<12.5	25.0	07/09/13 15:02	
PCB-1242 (Aroclor 1242)	ug/kg	<12.5	25.0	07/09/13 15:02	
PCB-1248 (Aroclor 1248)	ug/kg	<12.5	25.0	07/09/13 15:02	
PCB-1254 (Aroclor 1254)	ug/kg	<12.5	25.0	07/09/13 15:02	
PCB-1260 (Aroclor 1260)	ug/kg	<12.5	25.0	07/09/13 15:02	
Decachlorobiphenyl (S)	%	73	62-130	07/09/13 15:02	
Tetrachloro-m-xylene (S)	%	81	44-130	07/09/13 15:02	

LABORATORY CONTROL SAMPLE & LCSD:		817321		817322							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
PCB-1016 (Aroclor 1016)	ug/kg		<12.5	<12.5					20		
PCB-1221 (Aroclor 1221)	ug/kg		<12.5	<12.5					20		
PCB-1232 (Aroclor 1232)	ug/kg		<12.5	<12.5					20		
PCB-1242 (Aroclor 1242)	ug/kg		<12.5	<12.5					20		
PCB-1248 (Aroclor 1248)	ug/kg		<12.5	<12.5					20		
PCB-1254 (Aroclor 1254)	ug/kg	250	221	246	88	98	61-130	11	20		
PCB-1260 (Aroclor 1260)	ug/kg		<12.5	<12.5					20		
Decachlorobiphenyl (S)	%				80	88	62-130				
Tetrachloro-m-xylene (S)	%				79	87	44-130				

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079173

QC Batch: OEXT/18756

Analysis Method: Pace Lipid

QC Batch Method: Pace Lipid

Analysis Description: LIPID

Associated Lab Samples: 4079173001, 4079173002, 4079173003, 4079173004, 4079173005, 4079173006, 4079173007, 4079173008, 4079173009, 4079173010, 4079173011, 4079173012

METHOD BLANK: 813498

Matrix: Tissue

Associated Lab Samples: 4079173001, 4079173002, 4079173003, 4079173004, 4079173005, 4079173006, 4079173007, 4079173008, 4079173009, 4079173010, 4079173011, 4079173012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lipid	%	0.64		06/27/13 08:18	

SAMPLE DUPLICATE: 813499

Parameter	Units	4079173001 Result	Dup Result	RPD	Max RPD	Qualifiers
Lipid	%	0.43	0.34	25	20	C0

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079173

QC Batch: OEXT/18878 Analysis Method: Pace Lipid

QC Batch Method: Pace Lipid Analysis Description: LIPID

Associated Lab Samples: 4079174001

METHOD BLANK: 818050 Matrix: Tissue

Associated Lab Samples: 4079174001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lipid	%	0.54		07/08/13 14:19	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079173

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

BATCH QUALIFIERS

Batch: OEXT/18878

[1] Insufficient volume to perform duplicate analysis.

Batch: GCSV/9827

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

C0 Result confirmed by second analysis.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079173

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079173001	LR SMB6	EPA 3540	OEXT/18746	EPA 8082	GCSV/9765
4079173002	LR SMB7	EPA 3540	OEXT/18746	EPA 8082	GCSV/9765
4079173003	LR SMB8	EPA 3540	OEXT/18746	EPA 8082	GCSV/9765
4079173004	LR RB1	EPA 3540	OEXT/18746	EPA 8082	GCSV/9765
4079173005	LR RB2	EPA 3540	OEXT/18746	EPA 8082	GCSV/9765
4079173006	LR RB3	EPA 3540	OEXT/18746	EPA 8082	GCSV/9765
4079173007	LR RB4	EPA 3540	OEXT/18746	EPA 8082	GCSV/9765
4079173008	LR RB5	EPA 3540	OEXT/18746	EPA 8082	GCSV/9765
4079173009	LR RB6	EPA 3540	OEXT/18746	EPA 8082	GCSV/9765
4079173010	LR RB7	EPA 3540	OEXT/18746	EPA 8082	GCSV/9765
4079173011	LR RB8	EPA 3540	OEXT/18746	EPA 8082	GCSV/9765
4079173012	LR RB9	EPA 3540	OEXT/18746	EPA 8082	GCSV/9765
4079174001	UR2 RB12	EPA 3540	OEXT/18859	EPA 8082	GCSV/9827
4079173001	LR SMB6	Pace Gender Typing	GRND/2583		
4079173002	LR SMB7	Pace Gender Typing	GRND/2583		
4079173003	LR SMB8	Pace Gender Typing	GRND/2583		
4079173004	LR RB1	Pace Gender Typing	GRND/2583		
4079173005	LR RB2	Pace Gender Typing	GRND/2583		
4079173006	LR RB3	Pace Gender Typing	GRND/2583		
4079173007	LR RB4	Pace Gender Typing	GRND/2583		
4079173008	LR RB5	Pace Gender Typing	GRND/2583		
4079173009	LR RB6	Pace Gender Typing	GRND/2583		
4079173010	LR RB7	Pace Gender Typing	GRND/2583		
4079173011	LR RB8	Pace Gender Typing	GRND/2583		
4079173012	LR RB9	Pace Gender Typing	GRND/2583		
4079174001	UR2 RB12	Pace Gender Typing	GRND/2580		
4079173001	LR SMB6	Pace Lipid	OEXT/18756		
4079173002	LR SMB7	Pace Lipid	OEXT/18756		
4079173003	LR SMB8	Pace Lipid	OEXT/18756		
4079173004	LR RB1	Pace Lipid	OEXT/18756		
4079173005	LR RB2	Pace Lipid	OEXT/18756		
4079173006	LR RB3	Pace Lipid	OEXT/18756		
4079173007	LR RB4	Pace Lipid	OEXT/18756		
4079173008	LR RB5	Pace Lipid	OEXT/18756		
4079173009	LR RB6	Pace Lipid	OEXT/18756		
4079173010	LR RB7	Pace Lipid	OEXT/18756		
4079173011	LR RB8	Pace Lipid	OEXT/18756		
4079173012	LR RB9	Pace Lipid	OEXT/18756		
4079174001	UR2 RB12	Pace Lipid	OEXT/18878		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)



COC No. 4079173

CHAIN OF CUSTODY

*Preservation Codes
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):
 PO #: Regulatory Program:

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 SI = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX	Y/N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES
		DATE	TIME						
	LR SMB1	6/6/13		Tissue				X	A
	LR SMB2	6/6/14		Tissue				X	A
	LR SMB3	6/6/15		Tissue				X	A
	LR SMB4	6/6/16		Tissue				X	A
	LR SMB5	6/6/17		Tissue				X	A
001	LR SMB6	6/6/18		Tissue				X	A
002	LR SMB7	6/6/19		Tissue				X	A
003	LR SMB8	6/6/20		Tissue				X	A

Quote #: [Blank]
 Mail To Contact: Mark Mather
 Mail To Company: PRS - Assured Group
 Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
 Invoice To Contact: Goldie Sharp
 Invoice To Company: As Above
 Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
 Invoice To Phone: 513-489-6789

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
Whole Fish Sample		

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
	6-Jun-13		
Relinquished By: Pace Courier	Date/Time: 6/6/13 1500	Received By: E. Kelly Pace GB	Date/Time: 6/6/13 1500
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No. 4079173
 Receipt Temp = 15/15/16°C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present (Not Present) Intact / Not Intact

(Please Print Clearly)

Company Name: Pollution Risk Services
Branch/Location: Sheboygan
Project Contact: Mark Mather
Phone: 513-678-2137 or 513-387-2778
Project Number: SR13-001 Task 10-02000
Project Name: 2013 Fish Sampling
Project State: Wisconsin
Sampled By (Print): Mark Mather
Sampled By (Sign):

PO #: **Regulatory Program:**

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
A = Air W = Water
B = Biota DW = Drinking Water
C = Charcoal GW = Ground Water
O = Oil SW = Surface Water
S = Soil WW = Waste Water
SI = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
004	LR RB1	6/6/13		Tissue
005	LR RB2	6/6/13		Tissue
006	LR RB3	6/6/13		Tissue
007	LR RB4	6/6/13		Tissue
008	LR RB5	6/6/13		Tissue
009	LR RB6	6/6/13		Tissue
010	LR RB7	6/6/13		Tissue
011	LR RB8	6/6/13		Tissue
012	LR RB9	6/6/13		Tissue



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

COC No. 4079173

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED? (YES/NO)
PRESERVATION (CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A

Quote #:

Mail To Contact: Mark Mather

Mail To Company: PRS - Assured Group

Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Contact: Goldie Sharp

Invoice To Company: As Above

Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Phone: 513-489-6789

CLIENT COMMENTS Whole Fish Sample

LAB COMMENTS (Lab Use Only) 1-poly bag

Profile #

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed:	Relinquished By: Date/Time: 6-Jun-13	Received By: Date/Time:	PACE Project No. 4079173
	Relinquished By: Pace Courier Date/Time: 6/6/13 1500	Received By: E. Kelly Pace Date/Time: 6/6/13 1500	
Transmit Prelim Rush Results by (complete what you want):	Relinquished By: Date/Time:	Received By: Date/Time:	Sample Receipt pH OK / Adjusted
Email #1: mmather@assuredllc.com	Relinquished By: Date/Time:	Received By: Date/Time:	
Email #2:	Relinquished By: Date/Time:	Received By: Date/Time:	
Telephone: 513-387-2778	Relinquished By: Date/Time:	Received By: Date/Time:	
Fax:	Relinquished By: Date/Time:	Received By: Date/Time:	
Samples on HOLD are subject to special pricing and release of liability	Relinquished By: Date/Time:	Received By: Date/Time:	

Sample Condition Upon Receipt



Client Name: PRS Project # 4029173

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____
Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used SR23 Type of Ice: Wet Blue Dry (None) Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 16/16/17 Corr: 15/15/16 Biological Tissue is Frozen: yes

Temp Blank Present: yes no no

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Person examining contents:
Date: 6/6/13
Initials: EMH

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	9. Sample IDs inside sample bags and not readily visible EMH 6/6/13
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>B</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
		Lab Std #ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: CH for TN Date: 6/6/13

(Please Print Clearly)

Company Name: Pollution Risk Services
Branch/Location: Sheboygan
Project Contact: Mark Mather
Phone: 513-678-2137 or 513-387-2778
Project Number: SR13-001 Task 10-02000
Project Name: 2013 Fish Sampling
Project State: Wisconsin
Sampled By (Print): Mark Mather
Sampled By (Sign): *[Signature]*
PO #: **Regulatory Program:** PCB Dioxin

Pace Analytical
www.pacelabs.com *EMD*

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

COC No. 24079174

Quote #: _____
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact: Goldie Sharp
Invoice To Company: As Above
Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone: 513-489-6789

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
Whole Fish Sample		

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD (billable)
 On your sample
 NOT needed on your sample

Matrix Codes
A = Air W = Water
B = Biota DW = Drinking Water
C = Charcoal GW = Ground Water
O = Oil SW = Surface Water
S = Soil WW = Waste Water
SI = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX	Y/N	Pick Letter	Filtered?	Preservation Code	Analysis Requested	PCB - 8062	PRESERVATIVES									
		DATE	TIME																	
	UR2 RB1	6/5/13		Tissue						X	A									
	UR2 RB2	6/5/13		Tissue						X	A									
	UR2 RB3	6/5/13		Tissue						X	A									
	UR2 RB4	6/5/13		Tissue						X	A									
	UR2 RB5	6/5/13		Tissue						X	A									
	UR2 RB6	6/5/13		Tissue						X	A									
	UR2 RB7	6/5/13		Tissue						X	A									
	UR2 RB8	6/5/13		Tissue						X	A									
	UR2 RB9	6/5/13		Tissue						X	A									
	UR2 RB10	6/5/13		Tissue						X	A									
	UR2 RB11	6/5/13		Tissue						X	A									
001	UR2 RB12	6/5/13		Tissue						X	A									

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed: _____	Relinquished By: <i>[Signature]</i> Date/Time: 6/6/13 1340	Received By: <i>[Signature]</i> Date/Time: 6/6/13 1500	PACE Project No. 4079174
Transmit Prelim Rush Results by (complete what you want): Email #1: mmather@assuredllc.com Email #2: _____ Telephone: 513-387-2778 Fax: _____	Relinquished By: <i>[Signature]</i> Date/Time: _____	Received By: <i>[Signature]</i> Date/Time: _____	Receipt Temp = 5 °C
Samples on HOLD are subject to special pricing and release of liability	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	Sample Receipt pH OK / Adjusted Cooler Custody Seal Present / <input checked="" type="checkbox"/> Not Present Intact / Not Intact



Sample Condition Upon Receipt

Client Name: PRS Project # 4079174

Courier: [] Fed Ex [] UPS [] USPS [] Client [] Commercial [x] Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: [] yes [x] no Seals intact: [] yes [] no

Custody Seal on Samples Present: [] yes [x] no Seals intact: [] yes [] no

Packing Material: [] Bubble Wrap [] Bubble Bags [x] None [] Other

Thermometer Used SR23 Type of Ice: Wet Blue Dry [x] None [] Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 6 ICorr: 5 Biological Tissue is Frozen: [] yes [x] no

Temp Blank Present: [] yes [x] no

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Person examining contents:
Date: 6/6/13
Initials: EMH

Comments:

Table with 15 rows of inspection items and checkboxes. Includes items like Chain of Custody Present, Short Hold Time Analysis, and Headspace in VOA Vials.

Client Notification/ Resolution: If checked, see attached form for additional comments
Person Contacted: Date/Time:
Comments/ Resolution:

Project Manager Review: Date: 6/6/13

July 16, 2013

Mark Mather
Pollution Risk Services
7870 East Kemper Road
Suite 240
Cincinnati, OH 45249

RE: Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079169

Dear Mark Mather:

Enclosed are the analytical results for sample(s) received by the laboratory on June 06, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Tod Noltemeyer

tod.noltemeyer@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 11888

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

US Dept of Agriculture #: S-76505

Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4079169001	LR AC1	Tissue	06/06/13 00:00	06/06/13 15:00
4079169002	LR AC2	Tissue	06/06/13 00:00	06/06/13 15:00
4079169003	LR AC3	Tissue	06/06/13 00:00	06/06/13 15:00
4079169004	LR AC4	Tissue	06/06/13 00:00	06/06/13 15:00
4079169005	LR AC5	Tissue	06/06/13 00:00	06/06/13 15:00
4079169006	LR AC6	Tissue	06/06/13 00:00	06/06/13 15:00
4079169007	LR AC7	Tissue	06/06/13 00:00	06/06/13 15:00
4079169008	LR AWS1	Tissue	06/06/13 00:00	06/06/13 15:00
4079169009	LR AWS2	Tissue	06/06/13 00:00	06/06/13 15:00
4079169010	LR AWS3	Tissue	06/06/13 00:00	06/06/13 15:00
4079169011	LR AWS4	Tissue	06/06/13 00:00	06/06/13 15:00
4079169012	LR AWS5	Tissue	06/06/13 00:00	06/06/13 15:00
4079169013	LR AWS6	Tissue	06/06/13 00:00	06/06/13 15:00
4079169014	LR AWS7	Tissue	06/06/13 00:00	06/06/13 15:00
4079169015	LR AWS8	Tissue	06/06/13 00:00	06/06/13 15:00
4079169016	LR SMB1	Tissue	06/06/13 00:00	06/06/13 15:00
4079169017	LR SMB2	Tissue	06/06/13 00:00	06/06/13 15:00
4079169018	LR SMB3	Tissue	06/06/13 00:00	06/06/13 15:00
4079169019	LR SMB4	Tissue	06/06/13 00:00	06/06/13 15:00
4079169020	LR SMB5	Tissue	06/06/13 00:00	06/06/13 15:00

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SAMPLE ANALYTE COUNT

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079169001	LR AC1	EPA 8082	BLM	10
		Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
4079169002	LR AC2	EPA 8082	BLM	10
		Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
4079169003	LR AC3	EPA 8082	BLM	10
		Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
4079169004	LR AC4	EPA 8082	BLM	10
		Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
4079169005	LR AC5	EPA 8082	BLM	10
		Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
4079169006	LR AC6	EPA 8082	BLM	10
		Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
4079169007	LR AC7	EPA 8082	BLM	10
		Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
4079169008	LR AWS1	EPA 8082	BLM	10
		Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
4079169009	LR AWS2	EPA 8082	BLM	10
		Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
4079169010	LR AWS3	EPA 8082	BLM	10
		Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
4079169011	LR AWS4	EPA 8082	BLM	10
		Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
4079169012	LR AWS5	EPA 8082	BLM	10
		Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
4079169013	LR AWS6	EPA 8082	BLM	10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079169014	LR AWS7	Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079169015	LR AWS8	Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079169016	LR SMB1	Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079169017	LR SMB2	Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079169018	LR SMB3	Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079169019	LR SMB4	Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079169020	LR SMB5	Pace Gender Typing	JAL	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079169

Method: EPA 8082
Description: 8082 GCS PCB, Tissue
Client: POLLUTION RISK SERVICES
Date: July 16, 2013

General Information:

20 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/18696

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- LR AC1 (Lab ID: 4079169001)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- LR AC2 (Lab ID: 4079169002)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- LR AC3 (Lab ID: 4079169003)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- LR AC4 (Lab ID: 4079169004)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- LR AC5 (Lab ID: 4079169005)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- LR AC6 (Lab ID: 4079169006)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- LR AC7 (Lab ID: 4079169007)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MS (Lab ID: 811346)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MSD (Lab ID: 811347)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079169

Method: EPA 8082
Description: 8082 GCS PCB, Tissue
Client: POLLUTION RISK SERVICES
Date: July 16, 2013

QC Batch: OEXT/18696

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- Decachlorobiphenyl (S)
- Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/18696

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 4079169001

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 811346)
 - PCB-1254 (Aroclor 1254)
- MSD (Lab ID: 811347)
 - PCB-1254 (Aroclor 1254)

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Method: Pace Gender Typing

Description: Fish Gender Typing

Client: POLLUTION RISK SERVICES

Date: July 16, 2013

General Information:

20 samples were analyzed for Pace Gender Typing. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079169

Method: Pace Lipid
Description: Lipid
Client: POLLUTION RISK SERVICES
Date: July 16, 2013

General Information:

20 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079169

Sample: LR AC1 **Lab ID: 4079169001** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 02:44	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 02:44	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 02:44	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 02:44	53469-21-9	
PCB-1248 (Aroclor 1248)	13200	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 02:44	12672-29-6	
PCB-1254 (Aroclor 1254)	10000	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 02:44	11097-69-1	
PCB-1260 (Aroclor 1260)	1560	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 02:44	11096-82-5	
PCB, Total	24700	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 02:44	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	06/20/13 07:02	07/09/13 02:44	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	06/20/13 07:02	07/09/13 02:44	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	19.3 %				1		06/25/13 09:48		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Sample: LR AC2 **Lab ID: 4079169002** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	06/20/13 07:02	07/09/13 03:01	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	06/20/13 07:02	07/09/13 03:01	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	06/20/13 07:02	07/09/13 03:01	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	06/20/13 07:02	07/09/13 03:01	53469-21-9	
PCB-1248 (Aroclor 1248)	3900	ug/kg	750	375	30	06/20/13 07:02	07/09/13 03:01	12672-29-6	
PCB-1254 (Aroclor 1254)	3680	ug/kg	750	375	30	06/20/13 07:02	07/09/13 03:01	11097-69-1	
PCB-1260 (Aroclor 1260)	1550	ug/kg	750	375	30	06/20/13 07:02	07/09/13 03:01	11096-82-5	
PCB, Total	9120	ug/kg	750	375	30	06/20/13 07:02	07/09/13 03:01	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	06/20/13 07:02	07/09/13 03:01	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	06/20/13 07:02	07/09/13 03:01	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	12.4 %				1		06/25/13 09:48		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Sample: LR AC3 **Lab ID: 4079169003** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	06/20/13 07:02	07/09/13 03:19	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	06/20/13 07:02	07/09/13 03:19	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	06/20/13 07:02	07/09/13 03:19	11141-16-5	
PCB-1242 (Aroclor 1242)	1750	ug/kg	500	250	20	06/20/13 07:02	07/09/13 03:19	53469-21-9	
PCB-1248 (Aroclor 1248)	<250	ug/kg	500	250	20	06/20/13 07:02	07/09/13 03:19	12672-29-6	
PCB-1254 (Aroclor 1254)	1930	ug/kg	500	250	20	06/20/13 07:02	07/09/13 03:19	11097-69-1	
PCB-1260 (Aroclor 1260)	254J	ug/kg	500	250	20	06/20/13 07:02	07/09/13 03:19	11096-82-5	
PCB, Total	3940	ug/kg	500	250	20	06/20/13 07:02	07/09/13 03:19	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	06/20/13 07:02	07/09/13 03:19	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	06/20/13 07:02	07/09/13 03:19	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	9.3 %				1		06/25/13 09:48		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Sample: LR AC4 **Lab ID: 4079169004** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<1250	ug/kg	2500	1250	100	06/20/13 07:02	07/09/13 03:36	12674-11-2	
PCB-1221 (Aroclor 1221)	<1250	ug/kg	2500	1250	100	06/20/13 07:02	07/09/13 03:36	11104-28-2	
PCB-1232 (Aroclor 1232)	<1250	ug/kg	2500	1250	100	06/20/13 07:02	07/09/13 03:36	11141-16-5	
PCB-1242 (Aroclor 1242)	<1250	ug/kg	2500	1250	100	06/20/13 07:02	07/09/13 03:36	53469-21-9	
PCB-1248 (Aroclor 1248)	20200	ug/kg	2500	1250	100	06/20/13 07:02	07/09/13 03:36	12672-29-6	
PCB-1254 (Aroclor 1254)	25800	ug/kg	2500	1250	100	06/20/13 07:02	07/09/13 03:36	11097-69-1	
PCB-1260 (Aroclor 1260)	2830	ug/kg	2500	1250	100	06/20/13 07:02	07/09/13 03:36	11096-82-5	
PCB, Total	48900	ug/kg	2500	1250	100	06/20/13 07:02	07/09/13 03:36	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		100	06/20/13 07:02	07/09/13 03:36	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		100	06/20/13 07:02	07/09/13 03:36	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	13.7 %				1		06/25/13 09:48		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Sample: LR AC5 **Lab ID: 4079169005** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 03:53	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 03:53	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 03:53	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 03:53	53469-21-9	
PCB-1248 (Aroclor 1248)	6000	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 03:53	12672-29-6	
PCB-1254 (Aroclor 1254)	6590	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 03:53	11097-69-1	
PCB-1260 (Aroclor 1260)	890J	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 03:53	11096-82-5	
PCB, Total	13500	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 03:53	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	06/20/13 07:02	07/09/13 03:53	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	06/20/13 07:02	07/09/13 03:53	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	7.1 %				1		06/25/13 09:48		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Sample: LR AC6 **Lab ID: 4079169006** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 04:10	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 04:10	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 04:10	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 04:10	53469-21-9	
PCB-1248 (Aroclor 1248)	12100	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 04:10	12672-29-6	
PCB-1254 (Aroclor 1254)	7490	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 04:10	11097-69-1	
PCB-1260 (Aroclor 1260)	924J	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 04:10	11096-82-5	
PCB, Total	20500	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 04:10	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	06/20/13 07:02	07/09/13 04:10	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	06/20/13 07:02	07/09/13 04:10	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/03/13 12:48		
Lipid		Analytical Method: Pace Lipid							
Lipid	20.2 %				1		06/25/13 09:49		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079169

Sample: LR AC7 **Lab ID: 4079169007** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 04:27	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 04:27	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 04:27	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 04:27	53469-21-9	
PCB-1248 (Aroclor 1248)	10400	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 04:27	12672-29-6	
PCB-1254 (Aroclor 1254)	4510	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 04:27	11097-69-1	
PCB-1260 (Aroclor 1260)	<625	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 04:27	11096-82-5	
PCB, Total	14900	ug/kg	1250	625	50	06/20/13 07:02	07/09/13 04:27	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	06/20/13 07:02	07/09/13 04:27	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	06/20/13 07:02	07/09/13 04:27	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:48		
Lipid		Analytical Method: Pace Lipid							
Lipid	12.4 %				1		06/25/13 09:49		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Sample: LR AWS1 **Lab ID: 4079169008** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<25.0	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 04:44	12674-11-2	
PCB-1221 (Aroclor 1221)	<25.0	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 04:44	11104-28-2	
PCB-1232 (Aroclor 1232)	<25.0	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 04:44	11141-16-5	
PCB-1242 (Aroclor 1242)	<25.0	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 04:44	53469-21-9	
PCB-1248 (Aroclor 1248)	415	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 04:44	12672-29-6	
PCB-1254 (Aroclor 1254)	315	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 04:44	11097-69-1	
PCB-1260 (Aroclor 1260)	39.5J	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 04:44	11096-82-5	
PCB, Total	770	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 04:44	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	78 %		44-130		2	06/20/13 07:02	07/09/13 04:44	877-09-8	
Decachlorobiphenyl (S)	91 %		62-130		2	06/20/13 07:02	07/09/13 04:44	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.4 %				1		06/25/13 09:49		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Sample: LR AWS2 **Lab ID: 4079169009** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 05:36	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 05:36	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 05:36	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 05:36	53469-21-9	
PCB-1248 (Aroclor 1248)	853	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 05:36	12672-29-6	
PCB-1254 (Aroclor 1254)	341	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 05:36	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 05:36	11096-82-5	
PCB, Total	1190	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 05:36	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	82 %		44-130		4	06/20/13 07:02	07/09/13 05:36	877-09-8	
Decachlorobiphenyl (S)	91 %		62-130		4	06/20/13 07:02	07/09/13 05:36	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:48		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.84 %				1		06/25/13 09:49		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Sample: LR AWS3 **Lab ID: 4079169010** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 05:53	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 05:53	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 05:53	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 05:53	53469-21-9	
PCB-1248 (Aroclor 1248)	800	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 05:53	12672-29-6	
PCB-1254 (Aroclor 1254)	440	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 05:53	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 05:53	11096-82-5	
PCB, Total	1240	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 05:53	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	89 %		44-130		4	06/20/13 07:02	07/09/13 05:53	877-09-8	
Decachlorobiphenyl (S)	99 %		62-130		4	06/20/13 07:02	07/09/13 05:53	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	3.0 %				1		06/25/13 09:49		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Sample: LR AWS4 **Lab ID: 4079169011** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<37.5	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 06:10	12674-11-2	
PCB-1221 (Aroclor 1221)	<37.5	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 06:10	11104-28-2	
PCB-1232 (Aroclor 1232)	<37.5	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 06:10	11141-16-5	
PCB-1242 (Aroclor 1242)	<37.5	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 06:10	53469-21-9	
PCB-1248 (Aroclor 1248)	601	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 06:10	12672-29-6	
PCB-1254 (Aroclor 1254)	306	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 06:10	11097-69-1	
PCB-1260 (Aroclor 1260)	<37.5	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 06:10	11096-82-5	
PCB, Total	908	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 06:10	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	81	%	44-130		3	06/20/13 07:02	07/09/13 06:10	877-09-8	
Decachlorobiphenyl (S)	91	%	62-130		3	06/20/13 07:02	07/09/13 06:10	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:48		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.2	%			1		06/25/13 09:49		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Sample: LR AWS5 **Lab ID: 4079169012** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 06:27	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 06:27	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 06:27	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 06:27	53469-21-9	
PCB-1248 (Aroclor 1248)	993	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 06:27	12672-29-6	
PCB-1254 (Aroclor 1254)	436	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 06:27	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 06:27	11096-82-5	
PCB, Total	1430	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 06:27	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	89 %		44-130		4	06/20/13 07:02	07/09/13 06:27	877-09-8	
Decachlorobiphenyl (S)	98 %		62-130		4	06/20/13 07:02	07/09/13 06:27	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.5 %				1		06/25/13 09:49		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079169

Sample: LR AWS6 **Lab ID: 4079169013** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<25.0	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 06:45	12674-11-2	
PCB-1221 (Aroclor 1221)	<25.0	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 06:45	11104-28-2	
PCB-1232 (Aroclor 1232)	<25.0	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 06:45	11141-16-5	
PCB-1242 (Aroclor 1242)	<25.0	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 06:45	53469-21-9	
PCB-1248 (Aroclor 1248)	482	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 06:45	12672-29-6	
PCB-1254 (Aroclor 1254)	272	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 06:45	11097-69-1	
PCB-1260 (Aroclor 1260)	<25.0	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 06:45	11096-82-5	
PCB, Total	754	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 06:45	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	83 %		44-130		2	06/20/13 07:02	07/09/13 06:45	877-09-8	
Decachlorobiphenyl (S)	92 %		62-130		2	06/20/13 07:02	07/09/13 06:45	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.3 %				1		06/25/13 09:50		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Sample: LR AWS7 **Lab ID: 4079169014** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 07:02	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 07:02	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 07:02	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 07:02	53469-21-9	
PCB-1248 (Aroclor 1248)	1250	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 07:02	12672-29-6	
PCB-1254 (Aroclor 1254)	517	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 07:02	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 07:02	11096-82-5	
PCB, Total	1760	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 07:02	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	75 %		44-130		4	06/20/13 07:02	07/09/13 07:02	877-09-8	
Decachlorobiphenyl (S)	87 %		62-130		4	06/20/13 07:02	07/09/13 07:02	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:48		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.4 %				1		06/25/13 09:50		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Sample: LR AWS8 **Lab ID: 4079169015** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<25.0	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 07:19	12674-11-2	
PCB-1221 (Aroclor 1221)	<25.0	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 07:19	11104-28-2	
PCB-1232 (Aroclor 1232)	<25.0	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 07:19	11141-16-5	
PCB-1242 (Aroclor 1242)	<25.0	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 07:19	53469-21-9	
PCB-1248 (Aroclor 1248)	397	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 07:19	12672-29-6	
PCB-1254 (Aroclor 1254)	210	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 07:19	11097-69-1	
PCB-1260 (Aroclor 1260)	<25.0	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 07:19	11096-82-5	
PCB, Total	606	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 07:19	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	82	%	44-130		2	06/20/13 07:02	07/09/13 07:19	877-09-8	
Decachlorobiphenyl (S)	94	%	62-130		2	06/20/13 07:02	07/09/13 07:19	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.1	%			1		06/25/13 09:50		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Sample: LR SMB1 **Lab ID: 4079169016** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	06/20/13 07:02	07/09/13 07:36	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	06/20/13 07:02	07/09/13 07:36	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	06/20/13 07:02	07/09/13 07:36	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	06/20/13 07:02	07/09/13 07:36	53469-21-9	
PCB-1248 (Aroclor 1248)	1080	ug/kg	125	62.5	5	06/20/13 07:02	07/09/13 07:36	12672-29-6	
PCB-1254 (Aroclor 1254)	1200	ug/kg	125	62.5	5	06/20/13 07:02	07/09/13 07:36	11097-69-1	
PCB-1260 (Aroclor 1260)	241	ug/kg	125	62.5	5	06/20/13 07:02	07/09/13 07:36	11096-82-5	
PCB, Total	2520	ug/kg	125	62.5	5	06/20/13 07:02	07/09/13 07:36	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	76	%	44-130		5	06/20/13 07:02	07/09/13 07:36	877-09-8	
Decachlorobiphenyl (S)	93	%	62-130		5	06/20/13 07:02	07/09/13 07:36	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.4				1		06/25/13 09:50		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Sample: LR SMB2 **Lab ID: 4079169017** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<37.5	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 07:53	12674-11-2	
PCB-1221 (Aroclor 1221)	<37.5	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 07:53	11104-28-2	
PCB-1232 (Aroclor 1232)	<37.5	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 07:53	11141-16-5	
PCB-1242 (Aroclor 1242)	<37.5	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 07:53	53469-21-9	
PCB-1248 (Aroclor 1248)	719	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 07:53	12672-29-6	
PCB-1254 (Aroclor 1254)	475	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 07:53	11097-69-1	
PCB-1260 (Aroclor 1260)	82.1	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 07:53	11096-82-5	
PCB, Total	1280	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 07:53	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	75	%	44-130		3	06/20/13 07:02	07/09/13 07:53	877-09-8	
Decachlorobiphenyl (S)	87	%	62-130		3	06/20/13 07:02	07/09/13 07:53	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.54				1		06/25/13 09:50		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Sample: LR SMB3 **Lab ID: 4079169018** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<25.0	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 08:10	12674-11-2	
PCB-1221 (Aroclor 1221)	<25.0	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 08:10	11104-28-2	
PCB-1232 (Aroclor 1232)	<25.0	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 08:10	11141-16-5	
PCB-1242 (Aroclor 1242)	346	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 08:10	53469-21-9	
PCB-1248 (Aroclor 1248)	<25.0	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 08:10	12672-29-6	
PCB-1254 (Aroclor 1254)	155	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 08:10	11097-69-1	
PCB-1260 (Aroclor 1260)	43.6J	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 08:10	11096-82-5	
PCB, Total	545	ug/kg	50.0	25.0	2	06/20/13 07:02	07/09/13 08:10	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	79	%	44-130		2	06/20/13 07:02	07/09/13 08:10	877-09-8	
Decachlorobiphenyl (S)	89	%	62-130		2	06/20/13 07:02	07/09/13 08:10	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:48		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.0	%			1		06/25/13 09:50		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Sample: LR SMB4 **Lab ID: 4079169019** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<37.5	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 08:28	12674-11-2	
PCB-1221 (Aroclor 1221)	<37.5	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 08:28	11104-28-2	
PCB-1232 (Aroclor 1232)	<37.5	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 08:28	11141-16-5	
PCB-1242 (Aroclor 1242)	<37.5	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 08:28	53469-21-9	
PCB-1248 (Aroclor 1248)	517	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 08:28	12672-29-6	
PCB-1254 (Aroclor 1254)	407	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 08:28	11097-69-1	
PCB-1260 (Aroclor 1260)	50.0J	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 08:28	11096-82-5	
PCB, Total	974	ug/kg	75.0	37.5	3	06/20/13 07:02	07/09/13 08:28	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	81 %		44-130		3	06/20/13 07:02	07/09/13 08:28	877-09-8	
Decachlorobiphenyl (S)	92 %		62-130		3	06/20/13 07:02	07/09/13 08:28	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/03/13 12:48		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.78 %				1		06/25/13 09:50		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079169

Sample: LR SMB5 **Lab ID: 4079169020** Collected: 06/06/13 00:00 Received: 06/06/13 15:00 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 08:45	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 08:45	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 08:45	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 08:45	53469-21-9	
PCB-1248 (Aroclor 1248)	662	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 08:45	12672-29-6	
PCB-1254 (Aroclor 1254)	730	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 08:45	11097-69-1	
PCB-1260 (Aroclor 1260)	110	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 08:45	11096-82-5	
PCB, Total	1500	ug/kg	100	50.0	4	06/20/13 07:02	07/09/13 08:45	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	84 %		44-130		4	06/20/13 07:02	07/09/13 08:45	877-09-8	
Decachlorobiphenyl (S)	94 %		62-130		4	06/20/13 07:02	07/09/13 08:45	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:48		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.6 %				1		06/25/13 09:50		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079169

QC Batch: OEXT/18696 Analysis Method: EPA 8082
QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides
Associated Lab Samples: 4079169001, 4079169002, 4079169003, 4079169004, 4079169005, 4079169006, 4079169007, 4079169008, 4079169009, 4079169010, 4079169011, 4079169012, 4079169013, 4079169014, 4079169015, 4079169016, 4079169017, 4079169018, 4079169019, 4079169020

METHOD BLANK: 811344 Matrix: Tissue
Associated Lab Samples: 4079169001, 4079169002, 4079169003, 4079169004, 4079169005, 4079169006, 4079169007, 4079169008, 4079169009, 4079169010, 4079169011, 4079169012, 4079169013, 4079169014, 4079169015, 4079169016, 4079169017, 4079169018, 4079169019, 4079169020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<12.5	25.0	07/09/13 01:35	
PCB-1221 (Aroclor 1221)	ug/kg	<12.5	25.0	07/09/13 01:35	
PCB-1232 (Aroclor 1232)	ug/kg	<12.5	25.0	07/09/13 01:35	
PCB-1242 (Aroclor 1242)	ug/kg	<12.5	25.0	07/09/13 01:35	
PCB-1248 (Aroclor 1248)	ug/kg	<12.5	25.0	07/09/13 01:35	
PCB-1254 (Aroclor 1254)	ug/kg	<12.5	25.0	07/09/13 01:35	
PCB-1260 (Aroclor 1260)	ug/kg	<12.5	25.0	07/09/13 01:35	
Decachlorobiphenyl (S)	%	94	62-130	07/09/13 01:35	
Tetrachloro-m-xylene (S)	%	83	44-130	07/09/13 01:35	

LABORATORY CONTROL SAMPLE: 811345

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<12.5			
PCB-1221 (Aroclor 1221)	ug/kg		<12.5			
PCB-1232 (Aroclor 1232)	ug/kg		<12.5			
PCB-1242 (Aroclor 1242)	ug/kg		<12.5			
PCB-1248 (Aroclor 1248)	ug/kg		<12.5			
PCB-1254 (Aroclor 1254)	ug/kg	250	226	90	61-130	
PCB-1260 (Aroclor 1260)	ug/kg		<12.5			
Decachlorobiphenyl (S)	%			92	62-130	
Tetrachloro-m-xylene (S)	%			80	44-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 811346 811347

Parameter	Units	4079169001		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.								
PCB-1016 (Aroclor 1016)	ug/kg	<625				<625	<625					24	
PCB-1221 (Aroclor 1221)	ug/kg	<625				<625	<625					24	
PCB-1232 (Aroclor 1232)	ug/kg	<625				<625	<625					24	
PCB-1242 (Aroclor 1242)	ug/kg	<625				<625	<625					24	
PCB-1248 (Aroclor 1248)	ug/kg	13200				12700	13100					3	24
PCB-1254 (Aroclor 1254)	ug/kg	10000	1000	1000		10700	11200	71	121	27-163	5	24	M6
PCB-1260 (Aroclor 1260)	ug/kg	1560				1560	1630					5	24
Decachlorobiphenyl (S)	%							0	0	62-130			S4
Tetrachloro-m-xylene (S)	%							0	0	44-130			S4

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QUALITY CONTROL DATA

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

QC Batch: OEXT/18709 Analysis Method: Pace Lipid
QC Batch Method: Pace Lipid Analysis Description: LIPID
Associated Lab Samples: 4079169001, 4079169002, 4079169003, 4079169004, 4079169005, 4079169006, 4079169007, 4079169008,
4079169009, 4079169010, 4079169011, 4079169012, 4079169013, 4079169014, 4079169015, 4079169016,
4079169017, 4079169018, 4079169019, 4079169020

METHOD BLANK: 811644 Matrix: Tissue
Associated Lab Samples: 4079169001, 4079169002, 4079169003, 4079169004, 4079169005, 4079169006, 4079169007, 4079169008,
4079169009, 4079169010, 4079169011, 4079169012, 4079169013, 4079169014, 4079169015, 4079169016,
4079169017, 4079169018, 4079169019, 4079169020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lipid	%	0.68		06/25/13 09:48	

SAMPLE DUPLICATE: 811645

Parameter	Units	4079169001 Result	Dup Result	RPD	Max RPD	Qualifiers
Lipid	%	19.3	19.8	3	20	

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QUALIFIERS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079169

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 SHEBOYGAN RIVER

Peace Project No.: 4079169

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079169001	LR AC1	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169002	LR AC2	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169003	LR AC3	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169004	LR AC4	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169005	LR AC5	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169006	LR AC6	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169007	LR AC7	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169008	LR AWS1	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169009	LR AWS2	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169010	LR AWS3	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169011	LR AWS4	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169012	LR AWS5	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169013	LR AWS6	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169014	LR AWS7	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169015	LR AWS8	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169016	LR SMB1	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169017	LR SMB2	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169018	LR SMB3	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169019	LR SMB4	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169020	LR SMB5	EPA 3540	OEXT/18696	EPA 8082	GCSV/9809
4079169001	LR AC1	Pace Gender Typing	GRND/2582		
4079169002	LR AC2	Pace Gender Typing	GRND/2582		
4079169003	LR AC3	Pace Gender Typing	GRND/2582		
4079169004	LR AC4	Pace Gender Typing	GRND/2582		
4079169005	LR AC5	Pace Gender Typing	GRND/2582		
4079169006	LR AC6	Pace Gender Typing	GRND/2582		
4079169007	LR AC7	Pace Gender Typing	GRND/2582		
4079169008	LR AWS1	Pace Gender Typing	GRND/2582		
4079169009	LR AWS2	Pace Gender Typing	GRND/2582		
4079169010	LR AWS3	Pace Gender Typing	GRND/2582		
4079169011	LR AWS4	Pace Gender Typing	GRND/2582		
4079169012	LR AWS5	Pace Gender Typing	GRND/2582		
4079169013	LR AWS6	Pace Gender Typing	GRND/2582		
4079169014	LR AWS7	Pace Gender Typing	GRND/2582		
4079169015	LR AWS8	Pace Gender Typing	GRND/2582		
4079169016	LR SMB1	Pace Gender Typing	GRND/2582		
4079169017	LR SMB2	Pace Gender Typing	GRND/2582		
4079169018	LR SMB3	Pace Gender Typing	GRND/2582		
4079169019	LR SMB4	Pace Gender Typing	GRND/2582		
4079169020	LR SMB5	Pace Gender Typing	GRND/2582		
4079169001	LR AC1	Pace Lipid	OEXT/18709		
4079169002	LR AC2	Pace Lipid	OEXT/18709		
4079169003	LR AC3	Pace Lipid	OEXT/18709		
4079169004	LR AC4	Pace Lipid	OEXT/18709		
4079169005	LR AC5	Pace Lipid	OEXT/18709		
4079169006	LR AC6	Pace Lipid	OEXT/18709		
4079169007	LR AC7	Pace Lipid	OEXT/18709		
4079169008	LR AWS1	Pace Lipid	OEXT/18709		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079169

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079169009	LR AWS2	Pace Lipid	OEXT/18709		
4079169010	LR AWS3	Pace Lipid	OEXT/18709		
4079169011	LR AWS4	Pace Lipid	OEXT/18709		
4079169012	LR AWS5	Pace Lipid	OEXT/18709		
4079169013	LR AWS6	Pace Lipid	OEXT/18709		
4079169014	LR AWS7	Pace Lipid	OEXT/18709		
4079169015	LR AWS8	Pace Lipid	OEXT/18709		
4079169016	LR SMB1	Pace Lipid	OEXT/18709		
4079169017	LR SMB2	Pace Lipid	OEXT/18709		
4079169018	LR SMB3	Pace Lipid	OEXT/18709		
4079169019	LR SMB4	Pace Lipid	OEXT/18709		
4079169020	LR SMB5	Pace Lipid	OEXT/18709		

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UPPER MIDWEST REGION

Page 1 of

MN: 612-607-1700 WI: 920-469-2436

Company Name: Pollution Risk Services
Branch/Location: Sheboygan
Project Contact: Mark Mather
Phone: 513-678-2137 or 513-387-2778
Project Number: SR13-001 Task 10-02000
Project Name: 2013 Fish Sampling
Project State: Wisconsin
Sampled By (Print): Mark Mather
Sampled By (Sign):
PO #: **Regulatory Program:**



CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=D1 Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

**FILTERED?
(YES/NO)**
**PRESERVATION
(CODE)***

Y / N	Pick Letter														
		Analyses Requested	PCB - 8082	PRESERVATIVES											

COC No. 4079169

Quote #:		
Mail To Contact:	Mark Mather	
Mail To Company:	PRS - Assured Group	
Mail To Address:	7870 Kemper Road, Suite 240, Cincinnati, OH 45249	
Invoice To Contact:	Goldie Sharp	
Invoice To Company:	As Above	
Invoice To Address:	7870 Kemper Road, Suite 240, Cincinnati, OH 45249	
Invoice To Phone:	513-489-6789	
CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
Whole Fish Sample	1-ziplock/polybag	

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 SI = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	LR AC1	6/6/13		Tissue
002	LR AC2	6/6/13		Tissue
003	LR AC3	6/6/13		Tissue
004	LR AC4	6/6/13		Tissue
005	LR AC5	6/6/13		Tissue
006	LR AC6	6/6/13		Tissue
007	LR AC7	6/6/13		Tissue

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed:	Relinquished By: _____ Date/Time: 6/6/2013	Received By: _____ Date/Time: _____	PACE Project No. 4079169
	Transmit Prelim Rush Results by (complete what you want): Peace Courier 6/6/13 1500	Relinquished By: _____ Date/Time: _____	
Email #1: mmather@assuredllc.com	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	Sample Receipt pH OK / Adjusted
Email #2: _____	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	Cooler Custody Seal Present (Not Present) Intact / Not Intact
Telephone: 513-387-2778	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	
Fax: _____	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	
Samples on HOLD are subject to special pricing and release of liability	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	

(Please Print Clearly)

Company Name: Pollution Risk Services
Branch/Location: Sheboygan
Project Contact: Mark Mather
Phone: 513-678-2137 or 513-387-2778
Project Number: SR13-001 Task 10-02000
Project Name: 2013 Fish Sampling
Project State: Wisconsin
Sampled By (Print): Mark Mather
Sampled By (Sign):

PO #: **Regulatory Program:**

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 SI = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
008	LR AWS1	6/6/13		Tissue
009	LR AWS2	6/6/13		Tissue
010	LR AWS3	6/6/13		Tissue
011	LR AWS4	6/6/13		Tissue
012	LR AWS5	6/6/13		Tissue
013	LR AWS6	6/6/13		Tissue
014	LR AWS7	6/6/13		Tissue
015	LR AWS8	6/6/13		Tissue



CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED? (YES/NO)
PRESERVATION (CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A

COC No. 4079169

Quote #:

Mail To Contact: Mark Mather

Mail To Company: PRS - Assured Group

Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Contact: Goldie Sharp

Invoice To Company: As Above

Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Phone: 513-489-6789

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
Whole Fish Sample	l-poly bag	

Page 36 of 38

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1: mmather@assuredllc.com
Email #2:
Telephone: 513-387-2778
Fax:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
	6/6/2013		
Relinquished By: <i>Pace Gourier</i>	Date/Time: <i>6/6/13 1500</i>	Received By: <i>E. Kelly Pace GB</i>	Date/Time: <i>6/6/13 1500</i>
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No. 4079169

Receipt Temp = 15/15/16 °C

Sample Receipt pH
 OK / Adjusted

Cooler Custody Seal
 Present / Not Present
 Intact / Not Intact

(Please Print Clearly)

Company Name: Pollution Risk Services
Branch/Location: Sheboygan
Project Contact: Mark Mather
Phone: 513-678-2137 or 513-387-2778
Project Number: SR13-001 Task 10-02000
Project Name: 2013 Fish Sampling
Project State: Wisconsin
Sampled By (Print): Mark Mather
Sampled By (Sign):

PO #: **Regulatory Program:**

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
016	LR SMB1	6/6/13		Tissue
017	LR SMB2	6/6/14		Tissue
018	LR SMB3	6/6/15		Tissue
019	LR SMB4	6/6/16		Tissue
020	LR SMB5	6/6/17		Tissue
	LR SMB6	6/6/18		Tissue
	LR SMB7	6/6/19		Tissue
	LR SMB8	6/6/20		Tissue



CHAIN OF CUSTODY

***Preservation Codes**
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED? (YES/NO)
PRESERVATION (CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A

UPPER MIDWEST REGION
MM: 612-607-1700 WI: 920-469-2436

COC No. 4079169

Quote #:

Mail To Contact: Mark Mather

Mail To Company: PRS - Assured Group

Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Contact: Goldie Sharp

Invoice To Company: As Above

Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Phone: 513-489-6789

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
Whole Fish Sample	1- poly bag	

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed:	Relinquished By: Date/Time: 6-Jun-13	Received By: Date/Time:	PACE Project No. 4079169
	Transmit Prelim Rush Results by (complete what you want): Pace Courier 6/6/13 1500	Received By: E. Kelly Pace GR 6/6/13 1500	
Email #1: mmather@assuredllc.com	Relinquished By: Date/Time:	Received By: Date/Time:	Sample Receipt pH OK / Adjusted Cooler Custody Seal Present / <u>Not Present</u> Intact / Not Intact
Email #2:	Relinquished By: Date/Time:	Received By: Date/Time:	
Telephone: 513-387-2778	Relinquished By: Date/Time:	Received By: Date/Time:	
Fax:	Relinquished By: Date/Time:	Received By: Date/Time:	
Samples on HOLD are subject to special pricing and release of liability			



Sample Condition Upon Receipt

Client Name: PRS Project # 4079169

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used SR23 Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 16/16/17 ICorr: 15/15/16 Biological Tissue is Frozen: yes no

Temp Blank Present: yes no

Temp should be above freezing to 6°C for all sample except Biota.

Frozen Biota Samples should be received ≤ 0°C.

Person examining contents:
 Date: 6/6/13
 Initials: EMH

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	9. Sample IDs inside sample bags and not readily visible EMH 6/6/13
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>B</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
		Lab Std #ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: CTH for PRS Date: 6/6/13

July 16, 2013

Mark Mather
Pollution Risk Services
7870 East Kemper Road
Suite 240
Cincinnati, OH 45249

RE: Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079170

Dear Mark Mather:

Enclosed are the analytical results for sample(s) received by the laboratory on June 06, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Tod Noltemeyer

tod.noltemeyer@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079170

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 11888

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

US Dept of Agriculture #: S-76505

Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079170

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4079170001	UR1 SMB3	Tissue	06/04/13 00:00	06/06/13 17:26
4079170002	UR1 SMB4	Tissue	06/04/13 00:00	06/06/13 17:26
4079170003	UR1 SMB5	Tissue	06/04/13 00:00	06/06/13 17:26
4079170004	UR1 SMB6	Tissue	06/04/13 00:00	06/06/13 17:26
4079170005	UR1 SMB7	Tissue	06/04/13 00:00	06/06/13 17:26
4079170006	UR1 SMB8	Tissue	06/04/13 00:00	06/06/13 17:26
4079170007	UR1 SMB9	Tissue	06/04/13 00:00	06/06/13 17:26
4079170008	UR1 SMB10	Tissue	06/04/13 00:00	06/06/13 17:26
4079170009	UR1 SMB11	Tissue	06/04/13 00:00	06/06/13 17:26
4079170010	UR1 SMB12	Tissue	06/04/13 00:00	06/06/13 17:26
4079170011	UR1 RB1	Tissue	06/04/13 00:00	06/06/13 17:26
4079170012	UR1 RB2	Tissue	06/04/13 00:00	06/06/13 17:26
4079170013	UR1 RB3	Tissue	06/04/13 00:00	06/06/13 17:26
4079170014	UR1 RB4	Tissue	06/04/13 00:00	06/06/13 17:26
4079170015	UR1 RB5	Tissue	06/04/13 00:00	06/06/13 17:26

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079170

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079170001	UR1 SMB3	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079170002	UR1 SMB4	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079170003	UR1 SMB5	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079170004	UR1 SMB6	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079170005	UR1 SMB7	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079170006	UR1 SMB8	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079170007	UR1 SMB9	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079170008	UR1 SMB10	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079170009	UR1 SMB11	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079170010	UR1 SMB12	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079170011	UR1 RB1	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079170012	UR1 RB2	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079170013	UR1 RB3	EPA 8082	BLM	10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079170

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079170014	UR1 RB4	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079170015	UR1 RB5	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079170

Method: EPA 8082
Description: 8082 GCS PCB, Tissue
Client: POLLUTION RISK SERVICES
Date: July 16, 2013

General Information:

15 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/18747

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- UR1 RB1 (Lab ID: 4079170011)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 RB3 (Lab ID: 4079170013)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 SMB10 (Lab ID: 4079170008)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 SMB11 (Lab ID: 4079170009)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 SMB12 (Lab ID: 4079170010)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 SMB5 (Lab ID: 4079170003)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 SMB7 (Lab ID: 4079170005)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 SMB9 (Lab ID: 4079170007)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079170

Method: EPA 8082

Description: 8082 GCS PCB, Tissue

Client: POLLUTION RISK SERVICES

Date: July 16, 2013

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079170

Method: Pace Gender Typing
Description: Fish Gender Typing
Client: POLLUTION RISK SERVICES
Date: July 16, 2013

General Information:

15 samples were analyzed for Pace Gender Typing. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079170

Method: Pace Lipid
Description: Lipid
Client: POLLUTION RISK SERVICES
Date: July 16, 2013

General Information:

15 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Project No.: 4079170

Sample: UR1 SMB3 **Lab ID: 4079170001** Collected: 06/04/13 00:00 Received: 06/06/13 17:26 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<12.5	ug/kg	25.0	12.5	1	06/24/13 07:09	07/08/13 22:06	12674-11-2	
PCB-1221 (Aroclor 1221)	<12.5	ug/kg	25.0	12.5	1	06/24/13 07:09	07/08/13 22:06	11104-28-2	
PCB-1232 (Aroclor 1232)	<12.5	ug/kg	25.0	12.5	1	06/24/13 07:09	07/08/13 22:06	11141-16-5	
PCB-1242 (Aroclor 1242)	<12.5	ug/kg	25.0	12.5	1	06/24/13 07:09	07/08/13 22:06	53469-21-9	
PCB-1248 (Aroclor 1248)	322	ug/kg	25.0	12.5	1	06/24/13 07:09	07/08/13 22:06	12672-29-6	
PCB-1254 (Aroclor 1254)	205	ug/kg	25.0	12.5	1	06/24/13 07:09	07/08/13 22:06	11097-69-1	
PCB-1260 (Aroclor 1260)	34.9	ug/kg	25.0	12.5	1	06/24/13 07:09	07/08/13 22:06	11096-82-5	
PCB, Total	562	ug/kg	25.0	12.5	1	06/24/13 07:09	07/08/13 22:06	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	82	%	44-130		1	06/24/13 07:09	07/08/13 22:06	877-09-8	
Decachlorobiphenyl (S)	89	%	62-130		1	06/24/13 07:09	07/08/13 22:06	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:53		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.48	%			1		06/26/13 08:51		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079170

Sample: UR1 SMB4 **Lab ID: 4079170002** Collected: 06/04/13 00:00 Received: 06/06/13 17:26 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<37.5	ug/kg	75.0	37.5	3	06/24/13 07:09	07/08/13 22:24	12674-11-2	
PCB-1221 (Aroclor 1221)	<37.5	ug/kg	75.0	37.5	3	06/24/13 07:09	07/08/13 22:24	11104-28-2	
PCB-1232 (Aroclor 1232)	<37.5	ug/kg	75.0	37.5	3	06/24/13 07:09	07/08/13 22:24	11141-16-5	
PCB-1242 (Aroclor 1242)	<37.5	ug/kg	75.0	37.5	3	06/24/13 07:09	07/08/13 22:24	53469-21-9	
PCB-1248 (Aroclor 1248)	831	ug/kg	75.0	37.5	3	06/24/13 07:09	07/08/13 22:24	12672-29-6	
PCB-1254 (Aroclor 1254)	383	ug/kg	75.0	37.5	3	06/24/13 07:09	07/08/13 22:24	11097-69-1	
PCB-1260 (Aroclor 1260)	38.3J	ug/kg	75.0	37.5	3	06/24/13 07:09	07/08/13 22:24	11096-82-5	
PCB, Total	1250	ug/kg	75.0	37.5	3	06/24/13 07:09	07/08/13 22:24	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	82	%	44-130		3	06/24/13 07:09	07/08/13 22:24	877-09-8	
Decachlorobiphenyl (S)	91	%	62-130		3	06/24/13 07:09	07/08/13 22:24	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:53		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.68	%			1		06/26/13 08:51		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Lab Project No.: 4079170

Sample: UR1 SMB5 **Lab ID: 4079170003** Collected: 06/04/13 00:00 Received: 06/06/13 17:26 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	06/24/13 07:09	07/08/13 22:42	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	06/24/13 07:09	07/08/13 22:42	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	06/24/13 07:09	07/08/13 22:42	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	06/24/13 07:09	07/08/13 22:42	53469-21-9	
PCB-1248 (Aroclor 1248)	11100	ug/kg	1250	625	50	06/24/13 07:09	07/08/13 22:42	12672-29-6	
PCB-1254 (Aroclor 1254)	9330	ug/kg	1250	625	50	06/24/13 07:09	07/08/13 22:42	11097-69-1	
PCB-1260 (Aroclor 1260)	996J	ug/kg	1250	625	50	06/24/13 07:09	07/08/13 22:42	11096-82-5	
PCB, Total	21500	ug/kg	1250	625	50	06/24/13 07:09	07/08/13 22:42	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	06/24/13 07:09	07/08/13 22:42	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	06/24/13 07:09	07/08/13 22:42	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:53		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.80 %				1		06/26/13 08:52		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Project No.: 4079170

Sample: UR1 SMB6 **Lab ID: 4079170004** Collected: 06/04/13 00:00 Received: 06/06/13 17:26 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<37.5	ug/kg	75.0	37.5	3	06/24/13 07:09	07/08/13 23:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<37.5	ug/kg	75.0	37.5	3	06/24/13 07:09	07/08/13 23:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<37.5	ug/kg	75.0	37.5	3	06/24/13 07:09	07/08/13 23:00	11141-16-5	
PCB-1242 (Aroclor 1242)	<37.5	ug/kg	75.0	37.5	3	06/24/13 07:09	07/08/13 23:00	53469-21-9	
PCB-1248 (Aroclor 1248)	771	ug/kg	75.0	37.5	3	06/24/13 07:09	07/08/13 23:00	12672-29-6	
PCB-1254 (Aroclor 1254)	347	ug/kg	75.0	37.5	3	06/24/13 07:09	07/08/13 23:00	11097-69-1	
PCB-1260 (Aroclor 1260)	37.5J	ug/kg	75.0	37.5	3	06/24/13 07:09	07/08/13 23:00	11096-82-5	
PCB, Total	1160	ug/kg	75.0	37.5	3	06/24/13 07:09	07/08/13 23:00	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	82	%	44-130		3	06/24/13 07:09	07/08/13 23:00	877-09-8	
Decachlorobiphenyl (S)	96	%	62-130		3	06/24/13 07:09	07/08/13 23:00	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/03/13 12:53		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.54				1		06/26/13 08:52		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Project No.: 4079170

Sample: UR1 SMB7 Lab ID: 4079170005 Collected: 06/04/13 00:00 Received: 06/06/13 17:26 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	06/24/13 07:09	07/08/13 23:17	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	06/24/13 07:09	07/08/13 23:17	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	06/24/13 07:09	07/08/13 23:17	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	06/24/13 07:09	07/08/13 23:17	53469-21-9	
PCB-1248 (Aroclor 1248)	6870	ug/kg	750	375	30	06/24/13 07:09	07/08/13 23:17	12672-29-6	
PCB-1254 (Aroclor 1254)	6530	ug/kg	750	375	30	06/24/13 07:09	07/08/13 23:17	11097-69-1	
PCB-1260 (Aroclor 1260)	613J	ug/kg	750	375	30	06/24/13 07:09	07/08/13 23:17	11096-82-5	
PCB, Total	14000	ug/kg	750	375	30	06/24/13 07:09	07/08/13 23:17	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	06/24/13 07:09	07/08/13 23:17	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	06/24/13 07:09	07/08/13 23:17	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:53		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.74 %				1		06/26/13 08:52		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Lab Project No.: 4079170

Sample: UR1 SMB8 **Lab ID: 4079170006** Collected: 06/04/13 00:00 Received: 06/06/13 17:26 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<12.5	ug/kg	25.0	12.5	1	06/24/13 07:09	07/08/13 23:35	12674-11-2	
PCB-1221 (Aroclor 1221)	<12.5	ug/kg	25.0	12.5	1	06/24/13 07:09	07/08/13 23:35	11104-28-2	
PCB-1232 (Aroclor 1232)	<12.5	ug/kg	25.0	12.5	1	06/24/13 07:09	07/08/13 23:35	11141-16-5	
PCB-1242 (Aroclor 1242)	<12.5	ug/kg	25.0	12.5	1	06/24/13 07:09	07/08/13 23:35	53469-21-9	
PCB-1248 (Aroclor 1248)	23.6J	ug/kg	25.0	12.5	1	06/24/13 07:09	07/08/13 23:35	12672-29-6	
PCB-1254 (Aroclor 1254)	78.2	ug/kg	25.0	12.5	1	06/24/13 07:09	07/08/13 23:35	11097-69-1	
PCB-1260 (Aroclor 1260)	39.1	ug/kg	25.0	12.5	1	06/24/13 07:09	07/08/13 23:35	11096-82-5	
PCB, Total	141	ug/kg	25.0	12.5	1	06/24/13 07:09	07/08/13 23:35	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	83 %		44-130		1	06/24/13 07:09	07/08/13 23:35	877-09-8	
Decachlorobiphenyl (S)	94 %		62-130		1	06/24/13 07:09	07/08/13 23:35	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/03/13 12:53		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.66 %				1		06/26/13 08:52		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Project No.: 4079170

Sample: UR1 SMB9 Lab ID: 4079170007 Collected: 06/04/13 00:00 Received: 06/06/13 17:26 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	06/24/13 07:09	07/09/13 00:28	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	06/24/13 07:09	07/09/13 00:28	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	06/24/13 07:09	07/09/13 00:28	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	06/24/13 07:09	07/09/13 00:28	53469-21-9	
PCB-1248 (Aroclor 1248)	4190	ug/kg	750	375	30	06/24/13 07:09	07/09/13 00:28	12672-29-6	
PCB-1254 (Aroclor 1254)	3870	ug/kg	750	375	30	06/24/13 07:09	07/09/13 00:28	11097-69-1	
PCB-1260 (Aroclor 1260)	495J	ug/kg	750	375	30	06/24/13 07:09	07/09/13 00:28	11096-82-5	
PCB, Total	8560	ug/kg	750	375	30	06/24/13 07:09	07/09/13 00:28	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	06/24/13 07:09	07/09/13 00:28	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	06/24/13 07:09	07/09/13 00:28	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:53		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.58 %				1		06/26/13 08:52		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Sample Project No.: 4079170

Sample: UR1 SMB10 **Lab ID: 4079170008** Collected: 06/04/13 00:00 Received: 06/06/13 17:26 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	06/24/13 07:09	07/09/13 00:46	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	06/24/13 07:09	07/09/13 00:46	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	06/24/13 07:09	07/09/13 00:46	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	06/24/13 07:09	07/09/13 00:46	53469-21-9	
PCB-1248 (Aroclor 1248)	5270	ug/kg	750	375	30	06/24/13 07:09	07/09/13 00:46	12672-29-6	
PCB-1254 (Aroclor 1254)	4330	ug/kg	750	375	30	06/24/13 07:09	07/09/13 00:46	11097-69-1	
PCB-1260 (Aroclor 1260)	531J	ug/kg	750	375	30	06/24/13 07:09	07/09/13 00:46	11096-82-5	
PCB, Total	10100	ug/kg	750	375	30	06/24/13 07:09	07/09/13 00:46	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	06/24/13 07:09	07/09/13 00:46	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	06/24/13 07:09	07/09/13 00:46	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:53		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.66 %				1		06/26/13 08:52		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079170

Sample: UR1 SMB11 **Lab ID: 4079170009** Collected: 06/04/13 00:00 Received: 06/06/13 17:26 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	06/24/13 07:09	07/09/13 01:04	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	06/24/13 07:09	07/09/13 01:04	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	06/24/13 07:09	07/09/13 01:04	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	06/24/13 07:09	07/09/13 01:04	53469-21-9	
PCB-1248 (Aroclor 1248)	6330	ug/kg	1250	625	50	06/24/13 07:09	07/09/13 01:04	12672-29-6	
PCB-1254 (Aroclor 1254)	5100	ug/kg	1250	625	50	06/24/13 07:09	07/09/13 01:04	11097-69-1	
PCB-1260 (Aroclor 1260)	630J	ug/kg	1250	625	50	06/24/13 07:09	07/09/13 01:04	11096-82-5	
PCB, Total	12100	ug/kg	1250	625	50	06/24/13 07:09	07/09/13 01:04	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	06/24/13 07:09	07/09/13 01:04	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	06/24/13 07:09	07/09/13 01:04	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/03/13 12:53		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.82 %				1		06/26/13 08:52		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079170

Sample: UR1 SMB12 **Lab ID: 4079170010** Collected: 06/04/13 00:00 Received: 06/06/13 17:26 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	06/24/13 07:09	07/09/13 01:21	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	06/24/13 07:09	07/09/13 01:21	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	06/24/13 07:09	07/09/13 01:21	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	06/24/13 07:09	07/09/13 01:21	53469-21-9	
PCB-1248 (Aroclor 1248)	4440	ug/kg	750	375	30	06/24/13 07:09	07/09/13 01:21	12672-29-6	
PCB-1254 (Aroclor 1254)	4000	ug/kg	750	375	30	06/24/13 07:09	07/09/13 01:21	11097-69-1	
PCB-1260 (Aroclor 1260)	507J	ug/kg	750	375	30	06/24/13 07:09	07/09/13 01:21	11096-82-5	
PCB, Total	8940	ug/kg	750	375	30	06/24/13 07:09	07/09/13 01:21	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	06/24/13 07:09	07/09/13 01:21	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	06/24/13 07:09	07/09/13 01:21	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:53		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.54 %				1		06/26/13 08:52		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Lab Project No.: 4079170

Sample: UR1 RB1 **Lab ID: 4079170011** Collected: 06/04/13 00:00 Received: 06/06/13 17:26 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	06/24/13 07:09	07/09/13 01:39	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	06/24/13 07:09	07/09/13 01:39	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	06/24/13 07:09	07/09/13 01:39	11141-16-5	
PCB-1242 (Aroclor 1242)	<250	ug/kg	500	250	20	06/24/13 07:09	07/09/13 01:39	53469-21-9	
PCB-1248 (Aroclor 1248)	3380	ug/kg	500	250	20	06/24/13 07:09	07/09/13 01:39	12672-29-6	
PCB-1254 (Aroclor 1254)	3160	ug/kg	500	250	20	06/24/13 07:09	07/09/13 01:39	11097-69-1	
PCB-1260 (Aroclor 1260)	308J	ug/kg	500	250	20	06/24/13 07:09	07/09/13 01:39	11096-82-5	
PCB, Total	6840	ug/kg	500	250	20	06/24/13 07:09	07/09/13 01:39	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	06/24/13 07:09	07/09/13 01:39	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	06/24/13 07:09	07/09/13 01:39	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:53		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.54 %				1		06/26/13 08:53		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Lab Project No.: 4079170

Sample: UR1 RB2 **Lab ID: 4079170012** Collected: 06/04/13 00:00 Received: 06/06/13 17:26 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	06/24/13 07:09	07/09/13 01:57	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	06/24/13 07:09	07/09/13 01:57	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	06/24/13 07:09	07/09/13 01:57	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	06/24/13 07:09	07/09/13 01:57	53469-21-9	
PCB-1248 (Aroclor 1248)	1020	ug/kg	250	125	10	06/24/13 07:09	07/09/13 01:57	12672-29-6	
PCB-1254 (Aroclor 1254)	1480	ug/kg	250	125	10	06/24/13 07:09	07/09/13 01:57	11097-69-1	
PCB-1260 (Aroclor 1260)	175J	ug/kg	250	125	10	06/24/13 07:09	07/09/13 01:57	11096-82-5	
PCB, Total	2680	ug/kg	250	125	10	06/24/13 07:09	07/09/13 01:57	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	80	%	44-130		10	06/24/13 07:09	07/09/13 01:57	877-09-8	
Decachlorobiphenyl (S)	100	%	62-130		10	06/24/13 07:09	07/09/13 01:57	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:53		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.62	%			1		06/26/13 08:53		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Lab Project No.: 4079170

Sample: UR1 RB3 **Lab ID: 4079170013** Collected: 06/04/13 00:00 Received: 06/06/13 17:26 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<406	ug/kg	812	406	30	06/24/13 07:09	07/09/13 02:15	12674-11-2	
PCB-1221 (Aroclor 1221)	<406	ug/kg	812	406	30	06/24/13 07:09	07/09/13 02:15	11104-28-2	
PCB-1232 (Aroclor 1232)	<406	ug/kg	812	406	30	06/24/13 07:09	07/09/13 02:15	11141-16-5	
PCB-1242 (Aroclor 1242)	<406	ug/kg	812	406	30	06/24/13 07:09	07/09/13 02:15	53469-21-9	
PCB-1248 (Aroclor 1248)	9670	ug/kg	812	406	30	06/24/13 07:09	07/09/13 02:15	12672-29-6	
PCB-1254 (Aroclor 1254)	5490	ug/kg	812	406	30	06/24/13 07:09	07/09/13 02:15	11097-69-1	
PCB-1260 (Aroclor 1260)	541J	ug/kg	812	406	30	06/24/13 07:09	07/09/13 02:15	11096-82-5	
PCB, Total	15700	ug/kg	812	406	30	06/24/13 07:09	07/09/13 02:15	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	06/24/13 07:09	07/09/13 02:15	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	06/24/13 07:09	07/09/13 02:15	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/03/13 12:53		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.62 %				1		06/26/13 08:53		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
 Pace Project No.: 4079170

Sample: UR1 RB4 **Lab ID: 4079170014** Collected: 06/04/13 00:00 Received: 06/06/13 17:26 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<137	ug/kg	273	137	10	06/24/13 07:09	07/09/13 02:32	12674-11-2	
PCB-1221 (Aroclor 1221)	<137	ug/kg	273	137	10	06/24/13 07:09	07/09/13 02:32	11104-28-2	
PCB-1232 (Aroclor 1232)	<137	ug/kg	273	137	10	06/24/13 07:09	07/09/13 02:32	11141-16-5	
PCB-1242 (Aroclor 1242)	<137	ug/kg	273	137	10	06/24/13 07:09	07/09/13 02:32	53469-21-9	
PCB-1248 (Aroclor 1248)	1430	ug/kg	273	137	10	06/24/13 07:09	07/09/13 02:32	12672-29-6	
PCB-1254 (Aroclor 1254)	1600	ug/kg	273	137	10	06/24/13 07:09	07/09/13 02:32	11097-69-1	
PCB-1260 (Aroclor 1260)	243J	ug/kg	273	137	10	06/24/13 07:09	07/09/13 02:32	11096-82-5	
PCB, Total	3270	ug/kg	273	137	10	06/24/13 07:09	07/09/13 02:32	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	79 %		44-130		10	06/24/13 07:09	07/09/13 02:32	877-09-8	
Decachlorobiphenyl (S)	97 %		62-130		10	06/24/13 07:09	07/09/13 02:32	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/03/13 12:53		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.43 %				1		06/26/13 08:53		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Lab Project No.: 4079170

Sample: UR1 RB5 **Lab ID: 4079170015** Collected: 06/04/13 00:00 Received: 06/06/13 17:26 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<26.8	ug/kg	53.6	26.8	1	06/24/13 07:09	07/09/13 02:50	12674-11-2	
PCB-1221 (Aroclor 1221)	<26.8	ug/kg	53.6	26.8	1	06/24/13 07:09	07/09/13 02:50	11104-28-2	
PCB-1232 (Aroclor 1232)	<26.8	ug/kg	53.6	26.8	1	06/24/13 07:09	07/09/13 02:50	11141-16-5	
PCB-1242 (Aroclor 1242)	<26.8	ug/kg	53.6	26.8	1	06/24/13 07:09	07/09/13 02:50	53469-21-9	
PCB-1248 (Aroclor 1248)	322	ug/kg	53.6	26.8	1	06/24/13 07:09	07/09/13 02:50	12672-29-6	
PCB-1254 (Aroclor 1254)	447	ug/kg	53.6	26.8	1	06/24/13 07:09	07/09/13 02:50	11097-69-1	
PCB-1260 (Aroclor 1260)	50.9J	ug/kg	53.6	26.8	1	06/24/13 07:09	07/09/13 02:50	11096-82-5	
PCB, Total	820	ug/kg	53.6	26.8	1	06/24/13 07:09	07/09/13 02:50	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	86	%	44-130		1	06/24/13 07:09	07/09/13 02:50	877-09-8	
Decachlorobiphenyl (S)	98	%	62-130		1	06/24/13 07:09	07/09/13 02:50	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:53		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.47	%			1		06/26/13 08:53		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 SHEBOYGAN RIVER
 Pace Project No.: 4079170

QC Batch: OEXT/18747 Analysis Method: EPA 8082
 QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides
 Associated Lab Samples: 4079170001, 4079170002, 4079170003, 4079170004, 4079170005, 4079170006, 4079170007, 4079170008,
 4079170009, 4079170010, 4079170011, 4079170012, 4079170013, 4079170014, 4079170015

METHOD BLANK: 813203 Matrix: Tissue
 Associated Lab Samples: 4079170001, 4079170002, 4079170003, 4079170004, 4079170005, 4079170006, 4079170007, 4079170008,
 4079170009, 4079170010, 4079170011, 4079170012, 4079170013, 4079170014, 4079170015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<12.5	25.0	07/08/13 20:56	
PCB-1221 (Aroclor 1221)	ug/kg	<12.5	25.0	07/08/13 20:56	
PCB-1232 (Aroclor 1232)	ug/kg	<12.5	25.0	07/08/13 20:56	
PCB-1242 (Aroclor 1242)	ug/kg	<12.5	25.0	07/08/13 20:56	
PCB-1248 (Aroclor 1248)	ug/kg	<12.5	25.0	07/08/13 20:56	
PCB-1254 (Aroclor 1254)	ug/kg	<12.5	25.0	07/08/13 20:56	
PCB-1260 (Aroclor 1260)	ug/kg	<12.5	25.0	07/08/13 20:56	
Decachlorobiphenyl (S)	%	85	62-130	07/08/13 20:56	
Tetrachloro-m-xylene (S)	%	82	44-130	07/08/13 20:56	

LABORATORY CONTROL SAMPLE: 813204

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<12.5			
PCB-1221 (Aroclor 1221)	ug/kg		<12.5			
PCB-1232 (Aroclor 1232)	ug/kg		<12.5			
PCB-1242 (Aroclor 1242)	ug/kg	250	234	94	61-130	
PCB-1248 (Aroclor 1248)	ug/kg		<12.5			
PCB-1254 (Aroclor 1254)	ug/kg		<12.5			
PCB-1260 (Aroclor 1260)	ug/kg		<12.5			
Decachlorobiphenyl (S)	%			88	62-130	
Tetrachloro-m-xylene (S)	%			81	44-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 813205 813206

Parameter	Units	813205		813206		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		4079170001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
PCB-1016 (Aroclor 1016)	ug/kg	<12.5			<50.0	<50.0					24
PCB-1221 (Aroclor 1221)	ug/kg	<12.5			<50.0	<50.0					24
PCB-1232 (Aroclor 1232)	ug/kg	<12.5			<50.0	<50.0					24
PCB-1242 (Aroclor 1242)	ug/kg	<12.5	1000	1000	1080	1050	108	105	27-163	3	24
PCB-1248 (Aroclor 1248)	ug/kg	322			<50.0	<50.0					24
PCB-1254 (Aroclor 1254)	ug/kg	205			337	300				11	24
PCB-1260 (Aroclor 1260)	ug/kg	34.9			<50.0	<50.0					24
Decachlorobiphenyl (S)	%						92	92	62-130		
Tetrachloro-m-xylene (S)	%						88	87	44-130		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079170

QC Batch:	OEXT/18757	Analysis Method:	Pace Lipid
QC Batch Method:	Pace Lipid	Analysis Description:	LIPID
Associated Lab Samples:	4079170001, 4079170002, 4079170003, 4079170004, 4079170005, 4079170006, 4079170007, 4079170008, 4079170009, 4079170010, 4079170011, 4079170012, 4079170013, 4079170014, 4079170015		

METHOD BLANK:	813500	Matrix:	Tissue
Associated Lab Samples:	4079170001, 4079170002, 4079170003, 4079170004, 4079170005, 4079170006, 4079170007, 4079170008, 4079170009, 4079170010, 4079170011, 4079170012, 4079170013, 4079170014, 4079170015		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lipid	%	0.47		06/26/13 08:51	

SAMPLE DUPLICATE: 813501

Parameter	Units	4079170001 Result	Dup Result	RPD	Max RPD	Qualifiers
Lipid	%	0.48	0.58	19	20	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079170

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079170

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079170001	UR1 SMB3	EPA 3540	OEXT/18747	EPA 8082	GCSV/9810
4079170002	UR1 SMB4	EPA 3540	OEXT/18747	EPA 8082	GCSV/9810
4079170003	UR1 SMB5	EPA 3540	OEXT/18747	EPA 8082	GCSV/9810
4079170004	UR1 SMB6	EPA 3540	OEXT/18747	EPA 8082	GCSV/9810
4079170005	UR1 SMB7	EPA 3540	OEXT/18747	EPA 8082	GCSV/9810
4079170006	UR1 SMB8	EPA 3540	OEXT/18747	EPA 8082	GCSV/9810
4079170007	UR1 SMB9	EPA 3540	OEXT/18747	EPA 8082	GCSV/9810
4079170008	UR1 SMB10	EPA 3540	OEXT/18747	EPA 8082	GCSV/9810
4079170009	UR1 SMB11	EPA 3540	OEXT/18747	EPA 8082	GCSV/9810
4079170010	UR1 SMB12	EPA 3540	OEXT/18747	EPA 8082	GCSV/9810
4079170011	UR1 RB1	EPA 3540	OEXT/18747	EPA 8082	GCSV/9810
4079170012	UR1 RB2	EPA 3540	OEXT/18747	EPA 8082	GCSV/9810
4079170013	UR1 RB3	EPA 3540	OEXT/18747	EPA 8082	GCSV/9810
4079170014	UR1 RB4	EPA 3540	OEXT/18747	EPA 8082	GCSV/9810
4079170015	UR1 RB5	EPA 3540	OEXT/18747	EPA 8082	GCSV/9810
4079170001	UR1 SMB3	Pace Gender Typing	GRND/2584		
4079170002	UR1 SMB4	Pace Gender Typing	GRND/2584		
4079170003	UR1 SMB5	Pace Gender Typing	GRND/2584		
4079170004	UR1 SMB6	Pace Gender Typing	GRND/2584		
4079170005	UR1 SMB7	Pace Gender Typing	GRND/2584		
4079170006	UR1 SMB8	Pace Gender Typing	GRND/2584		
4079170007	UR1 SMB9	Pace Gender Typing	GRND/2584		
4079170008	UR1 SMB10	Pace Gender Typing	GRND/2584		
4079170009	UR1 SMB11	Pace Gender Typing	GRND/2584		
4079170010	UR1 SMB12	Pace Gender Typing	GRND/2584		
4079170011	UR1 RB1	Pace Gender Typing	GRND/2584		
4079170012	UR1 RB2	Pace Gender Typing	GRND/2584		
4079170013	UR1 RB3	Pace Gender Typing	GRND/2584		
4079170014	UR1 RB4	Pace Gender Typing	GRND/2584		
4079170015	UR1 RB5	Pace Gender Typing	GRND/2584		
4079170001	UR1 SMB3	Pace Lipid	OEXT/18757		
4079170002	UR1 SMB4	Pace Lipid	OEXT/18757		
4079170003	UR1 SMB5	Pace Lipid	OEXT/18757		
4079170004	UR1 SMB6	Pace Lipid	OEXT/18757		
4079170005	UR1 SMB7	Pace Lipid	OEXT/18757		
4079170006	UR1 SMB8	Pace Lipid	OEXT/18757		
4079170007	UR1 SMB9	Pace Lipid	OEXT/18757		
4079170008	UR1 SMB10	Pace Lipid	OEXT/18757		
4079170009	UR1 SMB11	Pace Lipid	OEXT/18757		
4079170010	UR1 SMB12	Pace Lipid	OEXT/18757		
4079170011	UR1 RB1	Pace Lipid	OEXT/18757		
4079170012	UR1 RB2	Pace Lipid	OEXT/18757		
4079170013	UR1 RB3	Pace Lipid	OEXT/18757		
4079170014	UR1 RB4	Pace Lipid	OEXT/18757		
4079170015	UR1 RB5	Pace Lipid	OEXT/18757		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign): *[Signature]*
 PO #:



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

COC No. / 4079170

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y / N	Pick Letter	Regulatory Program	Matrix Codes	Matrix
			A = Air W = Water B = Biota DW = Drinking Water C = Charcoal GW = Ground Water O = Oil SW = Surface Water S = Soil WW = Waste Water Sl = Sludge WP = Wipe	
			PCB - 8082	
			PRESERVATIVES	

Quote #:
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact: Goldie Sharp
Invoice To Company: As Above
Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone: 513-489-6789

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	UR1 SMB1	6/3/13		Tissue
002	UR1 SMB2	6/4/13		Tissue
003	UR1 SMB3	6/4/13		Tissue
004	UR1 SMB4	6/4/13		Tissue
005	UR1 SMB5	6/4/13		Tissue
006	UR1 SMB6	6/4/13		Tissue
007	UR1 SMB7	6/4/13		Tissue
008	UR1 SMB8	6/4/13		Tissue
009	UR1 SMB9	6/4/13		Tissue
010	UR1 SMB10	6/4/13		Tissue
	UR1 SMB11	6/4/13		Tissue
	UR1 SMB12	6/4/13		Tissue

CLIENT COMMENTS
Whole Fish Sample

LAB COMMENTS (Lab Use Only)
1-ziplock/polybag

Profile #

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: *[Signature]* Date/Time: 6/6/13
 Relinquished By: *[Signature]* Date/Time: 6/6/13 1500
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:

Received By: *[Signature]* Date/Time: 6/6/13 1340
 Received By: *[Signature]* Date/Time: 6/6/13 1500
 Received By: Date/Time:
 Received By: Date/Time:

PACE Project No. 4079170
 Receipt Temp = 6 °C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present / Not Present Intact / Not Intact

(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign): *[Signature]*
 PO #:



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

COC No. 1 4079170

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES
			X	A
			X	A
			X	A
			X	A
			X	A

Quote #:

Mail To Contact: Mark Mather

Mail To Company: PRS - Assured Group

Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Contact: Goldie Sharp

Invoice To Company: As Above

Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Phone: 513-489-6789

CLIENT COMMENTS: Whole Fish Sample

LAB COMMENTS (Lab Use Only): 1-polybag

Profile #:

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
011	UR1 RB1	6/4/13		Tissue
012	UR1 RB2	6/4/13		Tissue
013	UR1 RB3	6/4/13		Tissue
014	UR1 RB4	6/4/13		Tissue
015	UR1 RB5	6/4/13		Tissue

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1: mmather@assuredllc.com

Email #2:

Telephone: 513-387-2778

Fax:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By: *[Signature]* Date/Time: 6/6/13

Relinquished By: *[Signature]* Date/Time: 6/6/13 1500

Relinquished By: Date/Time:

Relinquished By: Date/Time:

Relinquished By: Date/Time:

Received By: *[Signature]* Date/Time: 6/13 1340

Received By: *[Signature]* Date/Time: 6/13 1500

Received By: Date/Time:

Received By: Date/Time:

Received By: Date/Time:

PACE Project No. 4079170

Receipt Temp = 6 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present

Intact / Not Intact



Sample Condition Upon Receipt

Client Name: PRS Project # 4674170

Courier: [] Fed Ex [] UPS [] USPS [] Client [] Commercial [x] Pace Other

Tracking #: _____

Custody Seal on Cooler/Box Present: [] yes [x] no Seals intact: [] yes [] no

Custody Seal on Samples Present: [] yes [x] no Seals intact: [] yes [] no

Packing Material: [] Bubble Wrap [] Bubble Bags [x] None [] Other

Thermometer Used SR23 Type of Ice: Wet Blue Dry (None) [] Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 7 ICorr: 6 Biological Tissue is Frozen: [] yes [x] no

Temp Blank Present: [] yes [x] no

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Person examining contents:
Date: 6/6/13
Initials: EMH

Comments:

Table with 15 rows of inspection criteria and checkboxes. Includes items like Chain of Custody Present, Short Hold Time Analysis, and Headspace in VOA Vials.

Client Notification/ Resolution: _____ If checked, see attached form for additional comments []

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [Signature]

Date: 6/6/13

July 17, 2013

Mark Mather
Pollution Risk Services
7870 East Kemper Road
Suite 240
Cincinnati, OH 45249

RE: Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079172

Dear Mark Mather:

Enclosed are the analytical results for sample(s) received by the laboratory on June 06, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Tod Noltemeyer

tod.noltemeyer@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 11888

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

US Dept of Agriculture #: S-76505

Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4079172001	UR2 SMB4	Tissue	06/05/13 00:00	06/06/13 17:35
4079172002	UR2 SMB5	Tissue	06/05/13 00:00	06/06/13 17:35
4079172003	UR2 SMB6	Tissue	06/05/13 00:00	06/06/13 17:35
4079172004	UR2 SMB7	Tissue	06/05/13 00:00	06/06/13 17:35
4079172005	UR2 SMB8	Tissue	06/05/13 00:00	06/06/13 17:35
4079172006	UR2 SMB9	Tissue	06/05/13 00:00	06/06/13 17:35
4079172007	UR2 SMB10	Tissue	06/05/13 00:00	06/06/13 17:35
4079172008	UR2 SMB11	Tissue	06/05/13 00:00	06/06/13 17:35
4079172009	UR2 SMB12	Tissue	06/05/13 00:00	06/06/13 17:35
4079172010	UR2 RB1	Tissue	06/05/13 00:00	06/06/13 17:35
4079172011	UR2 RB2	Tissue	06/05/13 00:00	06/06/13 17:35
4079172012	UR2 RB3	Tissue	06/05/13 00:00	06/06/13 17:35
4079172013	UR2 RB4	Tissue	06/05/13 00:00	06/06/13 17:35
4079172014	UR2 RB5	Tissue	06/05/13 00:00	06/06/13 17:35
4079172015	UR2 RB6	Tissue	06/05/13 00:00	06/06/13 17:35
4079172016	UR2 RB7	Tissue	06/05/13 00:00	06/06/13 17:35
4079172017	UR2 RB8	Tissue	06/05/13 00:00	06/06/13 17:35
4079172018	UR2 RB9	Tissue	06/05/13 00:00	06/06/13 17:35
4079172019	UR2 RB10	Tissue	06/05/13 00:00	06/06/13 17:35
4079172020	UR2 RB11	Tissue	06/05/13 00:00	06/06/13 17:35

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079172001	UR2 SMB4	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079172002	UR2 SMB5	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079172003	UR2 SMB6	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079172004	UR2 SMB7	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079172005	UR2 SMB8	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079172006	UR2 SMB9	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079172007	UR2 SMB10	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079172008	UR2 SMB11	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079172009	UR2 SMB12	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079172010	UR2 RB1	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079172011	UR2 RB2	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079172012	UR2 RB3	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079172013	UR2 RB4	EPA 8082	BLM	10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079172014	UR2 RB5	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079172015	UR2 RB6	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079172016	UR2 RB7	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079172017	UR2 RB8	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079172018	UR2 RB9	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079172019	UR2 RB10	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079172020	UR2 RB11	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Method: EPA 8082

Description: 8082 GCS PCB, Tissue

Client: POLLUTION RISK SERVICES

Date: July 17, 2013

General Information:

20 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/18806

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- UR2 RB5 (Lab ID: 4079172014)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR2 RB6 (Lab ID: 4079172015)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR2 SMB12 (Lab ID: 4079172009)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR2 SMB7 (Lab ID: 4079172004)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR2 SMB8 (Lab ID: 4079172005)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Method: EPA 8082

Description: 8082 GCS PCB, Tissue

Client: POLLUTION RISK SERVICES

Date: July 17, 2013

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079172

Method: Pace Gender Typing
Description: Fish Gender Typing
Client: POLLUTION RISK SERVICES
Date: July 17, 2013

General Information:

20 samples were analyzed for Pace Gender Typing. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079172

Method: Pace Lipid
Description: Lipid
Client: POLLUTION RISK SERVICES
Date: July 17, 2013

General Information:

20 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Sample: UR2 SMB4 **Lab ID: 4079172001** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	06/28/13 11:16	07/11/13 13:22	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	06/28/13 11:16	07/11/13 13:22	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	06/28/13 11:16	07/11/13 13:22	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	06/28/13 11:16	07/11/13 13:22	53469-21-9	
PCB-1248 (Aroclor 1248)	1080	ug/kg	250	125	10	06/28/13 11:16	07/11/13 13:22	12672-29-6	
PCB-1254 (Aroclor 1254)	1880	ug/kg	250	125	10	06/28/13 11:16	07/11/13 13:22	11097-69-1	
PCB-1260 (Aroclor 1260)	257	ug/kg	250	125	10	06/28/13 11:16	07/11/13 13:22	11096-82-5	
PCB, Total	3220	ug/kg	250	125	10	06/28/13 11:16	07/11/13 13:22	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	70 %		44-130		10	06/28/13 11:16	07/11/13 13:22	877-09-8	
Decachlorobiphenyl (S)	83 %		62-130		10	06/28/13 11:16	07/11/13 13:22	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:37		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.64 %				1		07/02/13 12:11		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079172

Sample: UR2 SMB5 **Lab ID: 4079172002** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 13:39	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 13:39	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 13:39	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 13:39	53469-21-9	
PCB-1248 (Aroclor 1248)	765	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 13:39	12672-29-6	
PCB-1254 (Aroclor 1254)	659	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 13:39	11097-69-1	
PCB-1260 (Aroclor 1260)	80.8J	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 13:39	11096-82-5	
PCB, Total	1500	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 13:39	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	77 %		44-130		5	06/28/13 11:16	07/11/13 13:39	877-09-8	
Decachlorobiphenyl (S)	84 %		62-130		5	06/28/13 11:16	07/11/13 13:39	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:37		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.2 %				1		07/02/13 12:11		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Sample: UR2 SMB6 **Lab ID: 4079172003** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 13:56	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 13:56	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 13:56	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 13:56	53469-21-9	
PCB-1248 (Aroclor 1248)	1100	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 13:56	12672-29-6	
PCB-1254 (Aroclor 1254)	1250	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 13:56	11097-69-1	
PCB-1260 (Aroclor 1260)	132	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 13:56	11096-82-5	
PCB, Total	2490	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 13:56	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	68 %		44-130		5	06/28/13 11:16	07/11/13 13:56	877-09-8	
Decachlorobiphenyl (S)	81 %		62-130		5	06/28/13 11:16	07/11/13 13:56	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:37		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.74 %				1		07/02/13 12:11		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Sample: UR2 SMB7 **Lab ID: 4079172004** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	06/28/13 11:16	07/11/13 14:13	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	06/28/13 11:16	07/11/13 14:13	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	06/28/13 11:16	07/11/13 14:13	11141-16-5	
PCB-1242 (Aroclor 1242)	<250	ug/kg	500	250	20	06/28/13 11:16	07/11/13 14:13	53469-21-9	
PCB-1248 (Aroclor 1248)	1840	ug/kg	500	250	20	06/28/13 11:16	07/11/13 14:13	12672-29-6	
PCB-1254 (Aroclor 1254)	2830	ug/kg	500	250	20	06/28/13 11:16	07/11/13 14:13	11097-69-1	
PCB-1260 (Aroclor 1260)	319J	ug/kg	500	250	20	06/28/13 11:16	07/11/13 14:13	11096-82-5	
PCB, Total	4980	ug/kg	500	250	20	06/28/13 11:16	07/11/13 14:13	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	06/28/13 11:16	07/11/13 14:13	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	06/28/13 11:16	07/11/13 14:13	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:38		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.46 %				1		07/02/13 12:11		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Sample: UR2 SMB8 **Lab ID: 4079172005** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	06/28/13 11:16	07/11/13 14:30	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	06/28/13 11:16	07/11/13 14:30	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	06/28/13 11:16	07/11/13 14:30	11141-16-5	
PCB-1242 (Aroclor 1242)	<250	ug/kg	500	250	20	06/28/13 11:16	07/11/13 14:30	53469-21-9	
PCB-1248 (Aroclor 1248)	1630	ug/kg	500	250	20	06/28/13 11:16	07/11/13 14:30	12672-29-6	
PCB-1254 (Aroclor 1254)	1830	ug/kg	500	250	20	06/28/13 11:16	07/11/13 14:30	11097-69-1	
PCB-1260 (Aroclor 1260)	<250	ug/kg	500	250	20	06/28/13 11:16	07/11/13 14:30	11096-82-5	
PCB, Total	3460	ug/kg	500	250	20	06/28/13 11:16	07/11/13 14:30	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	06/28/13 11:16	07/11/13 14:30	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	06/28/13 11:16	07/11/13 14:30	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:38		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.99 %				1		07/02/13 12:11		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079172

Sample: UR2 SMB9 **Lab ID: 4079172006** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 14:47	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 14:47	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 14:47	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 14:47	53469-21-9	
PCB-1248 (Aroclor 1248)	486	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 14:47	12672-29-6	
PCB-1254 (Aroclor 1254)	476	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 14:47	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 14:47	11096-82-5	
PCB, Total	962	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 14:47	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	76 %		44-130		4	06/28/13 11:16	07/11/13 14:47	877-09-8	
Decachlorobiphenyl (S)	82 %		62-130		4	06/28/13 11:16	07/11/13 14:47	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/03/13 12:38		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.49 %				1		07/02/13 12:11		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079172

Sample: UR2 SMB10 **Lab ID: 4079172007** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 15:05	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 15:05	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 15:05	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 15:05	53469-21-9	
PCB-1248 (Aroclor 1248)	803	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 15:05	12672-29-6	
PCB-1254 (Aroclor 1254)	825	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 15:05	11097-69-1	
PCB-1260 (Aroclor 1260)	112J	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 15:05	11096-82-5	
PCB, Total	1740	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 15:05	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	78 %		44-130		5	06/28/13 11:16	07/11/13 15:05	877-09-8	
Decachlorobiphenyl (S)	83 %		62-130		5	06/28/13 11:16	07/11/13 15:05	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/03/13 12:38		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.46 %				1		07/02/13 12:11		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Sample: UR2 SMB11 **Lab ID: 4079172008** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 15:22	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 15:22	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 15:22	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 15:22	53469-21-9	
PCB-1248 (Aroclor 1248)	514	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 15:22	12672-29-6	
PCB-1254 (Aroclor 1254)	397	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 15:22	11097-69-1	
PCB-1260 (Aroclor 1260)	61.1J	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 15:22	11096-82-5	
PCB, Total	972	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 15:22	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	69 %		44-130		4	06/28/13 11:16	07/11/13 15:22	877-09-8	
Decachlorobiphenyl (S)	77 %		62-130		4	06/28/13 11:16	07/11/13 15:22	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/03/13 12:38		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.42 %				1		07/02/13 12:12		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Sample: UR2 SMB12 **Lab ID: 4079172009** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	06/28/13 11:16	07/11/13 16:13	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	06/28/13 11:16	07/11/13 16:13	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	06/28/13 11:16	07/11/13 16:13	11141-16-5	
PCB-1242 (Aroclor 1242)	<250	ug/kg	500	250	20	06/28/13 11:16	07/11/13 16:13	53469-21-9	
PCB-1248 (Aroclor 1248)	2640	ug/kg	500	250	20	06/28/13 11:16	07/11/13 16:13	12672-29-6	
PCB-1254 (Aroclor 1254)	1980	ug/kg	500	250	20	06/28/13 11:16	07/11/13 16:13	11097-69-1	
PCB-1260 (Aroclor 1260)	<250	ug/kg	500	250	20	06/28/13 11:16	07/11/13 16:13	11096-82-5	
PCB, Total	4630	ug/kg	500	250	20	06/28/13 11:16	07/11/13 16:13	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	06/28/13 11:16	07/11/13 16:13	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	06/28/13 11:16	07/11/13 16:13	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/03/13 12:38		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.1 %				1		07/02/13 12:12		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079172

Sample: UR2 RB1 **Lab ID: 4079172010** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 16:31	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 16:31	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 16:31	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 16:31	53469-21-9	
PCB-1248 (Aroclor 1248)	820	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 16:31	12672-29-6	
PCB-1254 (Aroclor 1254)	970	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 16:31	11097-69-1	
PCB-1260 (Aroclor 1260)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 16:31	11096-82-5	
PCB, Total	1790	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 16:31	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	81 %		44-130		5	06/28/13 11:16	07/11/13 16:31	877-09-8	
Decachlorobiphenyl (S)	89 %		62-130		5	06/28/13 11:16	07/11/13 16:31	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:38		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.54 %				1		07/02/13 12:12		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Sample: UR2 RB2 **Lab ID: 4079172011** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 16:48	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 16:48	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 16:48	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 16:48	53469-21-9	
PCB-1248 (Aroclor 1248)	699	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 16:48	12672-29-6	
PCB-1254 (Aroclor 1254)	759	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 16:48	11097-69-1	
PCB-1260 (Aroclor 1260)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 16:48	11096-82-5	
PCB, Total	1460	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 16:48	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	75	%	44-130		5	06/28/13 11:16	07/11/13 16:48	877-09-8	
Decachlorobiphenyl (S)	84	%	62-130		5	06/28/13 11:16	07/11/13 16:48	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:39		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.55	%			1		07/02/13 12:12		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Sample: UR2 RB3 **Lab ID: 4079172012** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	06/28/13 11:16	07/11/13 17:05	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	06/28/13 11:16	07/11/13 17:05	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	06/28/13 11:16	07/11/13 17:05	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	06/28/13 11:16	07/11/13 17:05	53469-21-9	
PCB-1248 (Aroclor 1248)	1120	ug/kg	250	125	10	06/28/13 11:16	07/11/13 17:05	12672-29-6	
PCB-1254 (Aroclor 1254)	988	ug/kg	250	125	10	06/28/13 11:16	07/11/13 17:05	11097-69-1	
PCB-1260 (Aroclor 1260)	<125	ug/kg	250	125	10	06/28/13 11:16	07/11/13 17:05	11096-82-5	
PCB, Total	2100	ug/kg	250	125	10	06/28/13 11:16	07/11/13 17:05	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	73	%	44-130		10	06/28/13 11:16	07/11/13 17:05	877-09-8	
Decachlorobiphenyl (S)	85	%	62-130		10	06/28/13 11:16	07/11/13 17:05	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/03/13 12:39		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.50				1		07/02/13 12:12		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Sample: UR2 RB4 **Lab ID: 4079172013** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 17:22	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 17:22	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 17:22	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 17:22	53469-21-9	
PCB-1248 (Aroclor 1248)	1040	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 17:22	12672-29-6	
PCB-1254 (Aroclor 1254)	880	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 17:22	11097-69-1	
PCB-1260 (Aroclor 1260)	79.4J	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 17:22	11096-82-5	
PCB, Total	2000	ug/kg	125	62.5	5	06/28/13 11:16	07/11/13 17:22	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	83 %		44-130		5	06/28/13 11:16	07/11/13 17:22	877-09-8	
Decachlorobiphenyl (S)	88 %		62-130		5	06/28/13 11:16	07/11/13 17:22	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/03/13 12:39		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.71 %				1		07/02/13 12:12		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Sample: UR2 RB5 **Lab ID: 4079172014** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	06/28/13 11:16	07/11/13 17:39	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	06/28/13 11:16	07/11/13 17:39	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	06/28/13 11:16	07/11/13 17:39	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	06/28/13 11:16	07/11/13 17:39	53469-21-9	
PCB-1248 (Aroclor 1248)	3340	ug/kg	750	375	30	06/28/13 11:16	07/11/13 17:39	12672-29-6	
PCB-1254 (Aroclor 1254)	6610	ug/kg	750	375	30	06/28/13 11:16	07/11/13 17:39	11097-69-1	
PCB-1260 (Aroclor 1260)	<375	ug/kg	750	375	30	06/28/13 11:16	07/11/13 17:39	11096-82-5	
PCB, Total	9960	ug/kg	750	375	30	06/28/13 11:16	07/11/13 17:39	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	06/28/13 11:16	07/11/13 17:39	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	06/28/13 11:16	07/11/13 17:39	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:43		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.40 %				1		07/02/13 12:12		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Sample: UR2 RB6 **Lab ID: 4079172015** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<188	ug/kg	375	188	15	06/28/13 11:16	07/11/13 17:57	12674-11-2	
PCB-1221 (Aroclor 1221)	<188	ug/kg	375	188	15	06/28/13 11:16	07/11/13 17:57	11104-28-2	
PCB-1232 (Aroclor 1232)	<188	ug/kg	375	188	15	06/28/13 11:16	07/11/13 17:57	11141-16-5	
PCB-1242 (Aroclor 1242)	<188	ug/kg	375	188	15	06/28/13 11:16	07/11/13 17:57	53469-21-9	
PCB-1248 (Aroclor 1248)	1060	ug/kg	375	188	15	06/28/13 11:16	07/11/13 17:57	12672-29-6	
PCB-1254 (Aroclor 1254)	1510	ug/kg	375	188	15	06/28/13 11:16	07/11/13 17:57	11097-69-1	
PCB-1260 (Aroclor 1260)	<188	ug/kg	375	188	15	06/28/13 11:16	07/11/13 17:57	11096-82-5	
PCB, Total	2570	ug/kg	375	188	15	06/28/13 11:16	07/11/13 17:57	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		15	06/28/13 11:16	07/11/13 17:57	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		15	06/28/13 11:16	07/11/13 17:57	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/03/13 12:41		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.50 %				1		07/02/13 12:12		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Sample: UR2 RB7 **Lab ID: 4079172016** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<37.5	ug/kg	75.0	37.5	3	06/28/13 11:16	07/11/13 18:14	12674-11-2	
PCB-1221 (Aroclor 1221)	<37.5	ug/kg	75.0	37.5	3	06/28/13 11:16	07/11/13 18:14	11104-28-2	
PCB-1232 (Aroclor 1232)	<37.5	ug/kg	75.0	37.5	3	06/28/13 11:16	07/11/13 18:14	11141-16-5	
PCB-1242 (Aroclor 1242)	<37.5	ug/kg	75.0	37.5	3	06/28/13 11:16	07/11/13 18:14	53469-21-9	
PCB-1248 (Aroclor 1248)	450	ug/kg	75.0	37.5	3	06/28/13 11:16	07/11/13 18:14	12672-29-6	
PCB-1254 (Aroclor 1254)	288	ug/kg	75.0	37.5	3	06/28/13 11:16	07/11/13 18:14	11097-69-1	
PCB-1260 (Aroclor 1260)	39.4J	ug/kg	75.0	37.5	3	06/28/13 11:16	07/11/13 18:14	11096-82-5	
PCB, Total	778	ug/kg	75.0	37.5	3	06/28/13 11:16	07/11/13 18:14	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	77	%	44-130		3	06/28/13 11:16	07/11/13 18:14	877-09-8	
Decachlorobiphenyl (S)	88	%	62-130		3	06/28/13 11:16	07/11/13 18:14	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/03/13 12:41		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.42				1		07/02/13 12:12		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079172

Sample: UR2 RB8 **Lab ID: 4079172017** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 18:31	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 18:31	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 18:31	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 18:31	53469-21-9	
PCB-1248 (Aroclor 1248)	604	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 18:31	12672-29-6	
PCB-1254 (Aroclor 1254)	582	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 18:31	11097-69-1	
PCB-1260 (Aroclor 1260)	66.9J	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 18:31	11096-82-5	
PCB, Total	1250	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 18:31	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	77 %		44-130		4	06/28/13 11:16	07/11/13 18:31	877-09-8	
Decachlorobiphenyl (S)	89 %		62-130		4	06/28/13 11:16	07/11/13 18:31	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/03/13 12:43		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.40 %				1		07/02/13 12:13		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Sample: UR2 RB9 **Lab ID: 4079172018** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	06/28/13 11:16	07/11/13 18:48	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	06/28/13 11:16	07/11/13 18:48	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	06/28/13 11:16	07/11/13 18:48	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	06/28/13 11:16	07/11/13 18:48	53469-21-9	
PCB-1248 (Aroclor 1248)	989	ug/kg	250	125	10	06/28/13 11:16	07/11/13 18:48	12672-29-6	
PCB-1254 (Aroclor 1254)	1470	ug/kg	250	125	10	06/28/13 11:16	07/11/13 18:48	11097-69-1	
PCB-1260 (Aroclor 1260)	<125	ug/kg	250	125	10	06/28/13 11:16	07/11/13 18:48	11096-82-5	
PCB, Total	2460	ug/kg	250	125	10	06/28/13 11:16	07/11/13 18:48	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	73	%	44-130		10	06/28/13 11:16	07/11/13 18:48	877-09-8	
Decachlorobiphenyl (S)	86	%	62-130		10	06/28/13 11:16	07/11/13 18:48	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:43		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.26	%			1		07/02/13 12:13		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Sample: UR2 RB10 **Lab ID: 4079172019** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<37.5	ug/kg	75.0	37.5	3	06/28/13 11:16	07/11/13 19:06	12674-11-2	
PCB-1221 (Aroclor 1221)	<37.5	ug/kg	75.0	37.5	3	06/28/13 11:16	07/11/13 19:06	11104-28-2	
PCB-1232 (Aroclor 1232)	<37.5	ug/kg	75.0	37.5	3	06/28/13 11:16	07/11/13 19:06	11141-16-5	
PCB-1242 (Aroclor 1242)	<37.5	ug/kg	75.0	37.5	3	06/28/13 11:16	07/11/13 19:06	53469-21-9	
PCB-1248 (Aroclor 1248)	432	ug/kg	75.0	37.5	3	06/28/13 11:16	07/11/13 19:06	12672-29-6	
PCB-1254 (Aroclor 1254)	415	ug/kg	75.0	37.5	3	06/28/13 11:16	07/11/13 19:06	11097-69-1	
PCB-1260 (Aroclor 1260)	<37.5	ug/kg	75.0	37.5	3	06/28/13 11:16	07/11/13 19:06	11096-82-5	
PCB, Total	847	ug/kg	75.0	37.5	3	06/28/13 11:16	07/11/13 19:06	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	79	%	44-130		3	06/28/13 11:16	07/11/13 19:06	877-09-8	
Decachlorobiphenyl (S)	87	%	62-130		3	06/28/13 11:16	07/11/13 19:06	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:43		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.28	%			1		07/02/13 12:13		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Sample: UR2 RB11 **Lab ID: 4079172020** Collected: 06/05/13 00:00 Received: 06/06/13 17:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 19:23	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 19:23	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 19:23	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 19:23	53469-21-9	
PCB-1248 (Aroclor 1248)	585	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 19:23	12672-29-6	
PCB-1254 (Aroclor 1254)	406	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 19:23	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 19:23	11096-82-5	
PCB, Total	991	ug/kg	100	50.0	4	06/28/13 11:16	07/11/13 19:23	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	76 %		44-130		4	06/28/13 11:16	07/11/13 19:23	877-09-8	
Decachlorobiphenyl (S)	86 %		62-130		4	06/28/13 11:16	07/11/13 19:23	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/03/13 12:43		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.58 %				1		07/02/13 12:13		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079172

QC Batch: OEXT/18806 Analysis Method: EPA 8082
QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides
Associated Lab Samples: 4079172001, 4079172002, 4079172003, 4079172004, 4079172005, 4079172006, 4079172007, 4079172008, 4079172009, 4079172010, 4079172011, 4079172012, 4079172013, 4079172014, 4079172015, 4079172016, 4079172017, 4079172018, 4079172019, 4079172020

METHOD BLANK: 815037 Matrix: Tissue

Associated Lab Samples: 4079172001, 4079172002, 4079172003, 4079172004, 4079172005, 4079172006, 4079172007, 4079172008, 4079172009, 4079172010, 4079172011, 4079172012, 4079172013, 4079172014, 4079172015, 4079172016, 4079172017, 4079172018, 4079172019, 4079172020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<12.5	25.0	07/11/13 12:13	
PCB-1221 (Aroclor 1221)	ug/kg	<12.5	25.0	07/11/13 12:13	
PCB-1232 (Aroclor 1232)	ug/kg	<12.5	25.0	07/11/13 12:13	
PCB-1242 (Aroclor 1242)	ug/kg	<12.5	25.0	07/11/13 12:13	
PCB-1248 (Aroclor 1248)	ug/kg	<12.5	25.0	07/11/13 12:13	
PCB-1254 (Aroclor 1254)	ug/kg	<12.5	25.0	07/11/13 12:13	
PCB-1260 (Aroclor 1260)	ug/kg	<12.5	25.0	07/11/13 12:13	
Decachlorobiphenyl (S)	%	89	62-130	07/11/13 12:13	
Tetrachloro-m-xylene (S)	%	78	44-130	07/11/13 12:13	

LABORATORY CONTROL SAMPLE: 815038

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<12.5			
PCB-1221 (Aroclor 1221)	ug/kg		<12.5			
PCB-1232 (Aroclor 1232)	ug/kg		<12.5			
PCB-1242 (Aroclor 1242)	ug/kg	250	221	88	61-130	
PCB-1248 (Aroclor 1248)	ug/kg		<12.5			
PCB-1254 (Aroclor 1254)	ug/kg		<12.5			
PCB-1260 (Aroclor 1260)	ug/kg		<12.5			
Decachlorobiphenyl (S)	%			88	62-130	
Tetrachloro-m-xylene (S)	%			83	44-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 815039 815040

Parameter	Units	4079172001		815040		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
PCB-1016 (Aroclor 1016)	ug/kg	<125		<125	<125					24	
PCB-1221 (Aroclor 1221)	ug/kg	<125		<125	<125					24	
PCB-1232 (Aroclor 1232)	ug/kg	<125		<125	<125					24	
PCB-1242 (Aroclor 1242)	ug/kg	<125	1000	1000	994	1030	99	103	27-163	4	24
PCB-1248 (Aroclor 1248)	ug/kg	1080		<125	<125					6	24
PCB-1254 (Aroclor 1254)	ug/kg	1880		1810	1910						24
PCB-1260 (Aroclor 1260)	ug/kg	257		234J	250						24
Decachlorobiphenyl (S)	%					78	85	62-130			
Tetrachloro-m-xylene (S)	%					73	74	44-130			

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QUALITY CONTROL DATA

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

QC Batch: OEXT/18817 Analysis Method: Pace Lipid
QC Batch Method: Pace Lipid Analysis Description: LIPID
Associated Lab Samples: 4079172001, 4079172002, 4079172003, 4079172004, 4079172005, 4079172006, 4079172007, 4079172008,
4079172009, 4079172010, 4079172011, 4079172012, 4079172013, 4079172014, 4079172015, 4079172016,
4079172017, 4079172018, 4079172019, 4079172020

METHOD BLANK: 815431 Matrix: Tissue

Associated Lab Samples: 4079172001, 4079172002, 4079172003, 4079172004, 4079172005, 4079172006, 4079172007, 4079172008,
4079172009, 4079172010, 4079172011, 4079172012, 4079172013, 4079172014, 4079172015, 4079172016,
4079172017, 4079172018, 4079172019, 4079172020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lipid	%	0.54		07/02/13 12:10	

SAMPLE DUPLICATE: 815432

Parameter	Units	4079172001 Result	Dup Result	RPD	Max RPD	Qualifiers
Lipid	%	0.64	0.62	2	20	

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QUALIFIERS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079172

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079172001	UR2 SMB4	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172002	UR2 SMB5	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172003	UR2 SMB6	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172004	UR2 SMB7	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172005	UR2 SMB8	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172006	UR2 SMB9	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172007	UR2 SMB10	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172008	UR2 SMB11	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172009	UR2 SMB12	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172010	UR2 RB1	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172011	UR2 RB2	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172012	UR2 RB3	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172013	UR2 RB4	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172014	UR2 RB5	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172015	UR2 RB6	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172016	UR2 RB7	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172017	UR2 RB8	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172018	UR2 RB9	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172019	UR2 RB10	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172020	UR2 RB11	EPA 3540	OEXT/18806	EPA 8082	GCSV/9832
4079172001	UR2 SMB4	Pace Gender Typing	GRND/2581		
4079172002	UR2 SMB5	Pace Gender Typing	GRND/2581		
4079172003	UR2 SMB6	Pace Gender Typing	GRND/2581		
4079172004	UR2 SMB7	Pace Gender Typing	GRND/2581		
4079172005	UR2 SMB8	Pace Gender Typing	GRND/2581		
4079172006	UR2 SMB9	Pace Gender Typing	GRND/2581		
4079172007	UR2 SMB10	Pace Gender Typing	GRND/2581		
4079172008	UR2 SMB11	Pace Gender Typing	GRND/2581		
4079172009	UR2 SMB12	Pace Gender Typing	GRND/2581		
4079172010	UR2 RB1	Pace Gender Typing	GRND/2581		
4079172011	UR2 RB2	Pace Gender Typing	GRND/2581		
4079172012	UR2 RB3	Pace Gender Typing	GRND/2581		
4079172013	UR2 RB4	Pace Gender Typing	GRND/2581		
4079172014	UR2 RB5	Pace Gender Typing	GRND/2581		
4079172015	UR2 RB6	Pace Gender Typing	GRND/2581		
4079172016	UR2 RB7	Pace Gender Typing	GRND/2581		
4079172017	UR2 RB8	Pace Gender Typing	GRND/2581		
4079172018	UR2 RB9	Pace Gender Typing	GRND/2581		
4079172019	UR2 RB10	Pace Gender Typing	GRND/2581		
4079172020	UR2 RB11	Pace Gender Typing	GRND/2581		
4079172001	UR2 SMB4	Pace Lipid	OEXT/18817		
4079172002	UR2 SMB5	Pace Lipid	OEXT/18817		
4079172003	UR2 SMB6	Pace Lipid	OEXT/18817		
4079172004	UR2 SMB7	Pace Lipid	OEXT/18817		
4079172005	UR2 SMB8	Pace Lipid	OEXT/18817		
4079172006	UR2 SMB9	Pace Lipid	OEXT/18817		
4079172007	UR2 SMB10	Pace Lipid	OEXT/18817		
4079172008	UR2 SMB11	Pace Lipid	OEXT/18817		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079172

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079172009	UR2 SMB12	Pace Lipid	OEXT/18817		
4079172010	UR2 RB1	Pace Lipid	OEXT/18817		
4079172011	UR2 RB2	Pace Lipid	OEXT/18817		
4079172012	UR2 RB3	Pace Lipid	OEXT/18817		
4079172013	UR2 RB4	Pace Lipid	OEXT/18817		
4079172014	UR2 RB5	Pace Lipid	OEXT/18817		
4079172015	UR2 RB6	Pace Lipid	OEXT/18817		
4079172016	UR2 RB7	Pace Lipid	OEXT/18817		
4079172017	UR2 RB8	Pace Lipid	OEXT/18817		
4079172018	UR2 RB9	Pace Lipid	OEXT/18817		
4079172019	UR2 RB10	Pace Lipid	OEXT/18817		
4079172020	UR2 RB11	Pace Lipid	OEXT/18817		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

UPPER MIDWEST REGION

Page 3 of 4

MN: 612-607-1700 WI: 920-469-2436

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign): *[Signature]*
 PO #:



COC No. 2 4079172

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES															
			X	A															
			X	A															
			X	A															
			X	A															
			X	A															
			X	A															
			X	A															
			X	A															
			X	A															
			X	A															

Quote #: [Blank]
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact: Goldie Sharp
Invoice To Company: As Above
Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone: 513-489-6789
CLIENT COMMENTS: Whole Fish Sample
LAB COMMENTS (Lab Use Only): 1-Ziplock/poly bag
Profile #: [Blank]

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 SI = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
	UR2 SMB1	6/5/13		Tissue
	UR2 SMB2	6/5/13		Tissue
	UR2 SMB3	6/5/13		Tissue
001	UR2 SMB4	6/5/13		Tissue
002	UR2 SMB5	6/5/13		Tissue
003	UR2 SMB6	6/5/13		Tissue
004	UR2 SMB7	6/5/13		Tissue
005	UR2 SMB8	6/5/13		Tissue
006	UR2 SMB9	6/5/13		Tissue
007	UR2 SMB10	6/5/13		Tissue
008	UR2 SMB11	6/5/13		Tissue
009	UR2 SMB12	6/5/13		Tissue

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed: [Blank]

Relinquished By: *[Signature]* Date/Time: 6/6/13
 Relinquished By: *[Signature]* Date/Time: 6/13 1500
 Relinquished By: [Blank] Date/Time: [Blank]
 Relinquished By: [Blank] Date/Time: [Blank]
 Relinquished By: [Blank] Date/Time: [Blank]

Received By: *[Signature]* Date/Time: 6/6/13 1340
 Received By: *[Signature]* Date/Time: 6/6/13 1500
 Received By: [Blank] Date/Time: [Blank]
 Received By: [Blank] Date/Time: [Blank]
 Received By: [Blank] Date/Time: [Blank]

PACE Project No. 4079172
Receipt Temp = 5 °C
Sample Receipt pH OK / Adjusted
Cooler Custody Seal Present / (Not Present) Intact / Not Intact

Samples on HOLD are subject to special pricing and release of liability

Page 35 of 37

(Please Print Clearly)

UPPER MIDWEST REGION

Page 4 of 4

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign): *[Signature]*
 PO #: _____ Regulatory Program: _____



MN: 612-607-1700 WI: 920-469-2436

COC No. 2 4074172

CHAIN OF CUSTODY

Preservation Codes

A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Quote #: _____
 Mail To Contact: Mark Mather
 Mail To Company: PRS - Assured Group
 Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
 Invoice To Contact: Goldie Sharp
 Invoice To Company: As Above
 Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
 Invoice To Phone: 513-489-6789
 CLIENT COMMENTS: Whole Fish Sample
 LAB COMMENTS (Lab Use Only): 1-poly bag
 Profile #: _____

FILTERED? (YES/NO) _____
 PRESERVATION (CODE)* _____

Y / N																							
Pick Letter																							

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD (billable)
 On your sample
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 SI = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX	Analyses Requested	PCB - 8082	PRESERVATIVES	Y/N	Pick Letter
		DATE	TIME						
010	UR2 RB1	6/5/13		Tissue	X	A			
011	UR2 RB2	6/5/13		Tissue	X	A			
012	UR2 RB3	6/5/13		Tissue	X	A			
013	UR2 RB4	6/5/13		Tissue	X	A			
014	UR2 RB5	6/5/13		Tissue	X	A			
015	UR2 RB6	6/5/13		Tissue	X	A			
016	UR2 RB7	6/5/13		Tissue	X	A			
017	UR2 RB8	6/5/13		Tissue	X	A			
018	UR2 RB9	6/5/13		Tissue	X	A			
019	UR2 RB10	6/5/13		Tissue	X	A			
020	UR2 RB11	6/5/13		Tissue	X	A			
	UR2 RB12	6/5/13		Tissue	X	A			

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed:	Relinquished By: <i>[Signature]</i> Date/Time: 6/6/13	Received By: <i>[Signature]</i> Date/Time: 6/6/13 1340	PACE Project No. 4074172
Transmit Prelim Rush Results by (complete what you want):	Relinquished By: <i>[Signature]</i> Date/Time: 6/6/13 1500	Received By: <i>[Signature]</i> Date/Time: 6/6/13 1500	Receipt Temp = 5 °C
Email #1: mmather@assuredllc.com	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	Sample Receipt pH OK / Adjusted
Telephone: 513-387-2778	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	Cooler Custody Seal Present / Not Present Intact / Not Intact
Fax: _____	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	

Samples on HOLD are subject to special pricing and release of liability



Sample Condition Upon Receipt

Client Name: PRS Project # 4179172

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____
Tracking #: _____
Custody Seal on Cooler/Box Present: yes no Seals intact: yes no
Custody Seal on Samples Present: yes no Seals intact: yes no
Packing Material: Bubble Wrap Bubble Bags None Other _____
Thermometer Used SR23 Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun
Cooler Temperature Uncorr: 6 /Corr: 5 Biological Tissue is Frozen: yes no
Temp Blank Present: yes no

Person examining contents:
Date: 6/6/13
Initials: EMH

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	9. Sample IDs inside sample bags and not readily visible EMH 6/6/13
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>B</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
		Lab Std #ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments
Person Contacted: _____ Date/Time: _____
Comments/ Resolution: _____

Project Manager Review: CH for TN Date: 6/6/13

July 18, 2013

Mark Mather
Pollution Risk Services
7870 East Kemper Road
Suite 240
Cincinnati, OH 45249

RE: Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079171

Dear Mark Mather:

Enclosed are the analytical results for sample(s) received by the laboratory on June 06, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Tod Noltemeyer

tod.noltemeyer@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079171

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 11888

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

US Dept of Agriculture #: S-76505

Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079171

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4079171001	UR2 AC1	Tissue	06/05/13 00:00	06/06/13 17:31
4079171002	UR2 AC2	Tissue	06/05/13 00:00	06/06/13 17:31
4079171003	UR2 AC3	Tissue	06/05/13 00:00	06/06/13 17:31
4079171004	UR2 AC4	Tissue	06/05/13 00:00	06/06/13 17:31
4079171005	UR2 AC5	Tissue	06/05/13 00:00	06/06/13 17:31
4079171006	UR2 AWS1	Tissue	06/05/13 00:00	06/06/13 17:31
4079171007	UR2 AWS2	Tissue	06/05/13 00:00	06/06/13 17:31
4079171008	UR2 AWS3	Tissue	06/05/13 00:00	06/06/13 17:31
4079171009	UR2 AWS4	Tissue	06/05/13 00:00	06/06/13 17:31
4079171010	UR2 AWS5	Tissue	06/05/13 00:00	06/06/13 17:31
4079171011	UR2 AWS6	Tissue	06/05/13 00:00	06/06/13 17:31
4079171012	UR2 AWS7	Tissue	06/05/13 00:00	06/06/13 17:31
4079171013	UR2 AWS8	Tissue	06/05/13 00:00	06/06/13 17:31
4079171014	UR2 AWS9	Tissue	06/05/13 00:00	06/06/13 17:31
4079171015	UR2 AWS10	Tissue	06/05/13 00:00	06/06/13 17:31
4079171016	UR2 AWS11	Tissue	06/05/13 00:00	06/06/13 17:31
4079171017	UR2 AWS12	Tissue	06/05/13 00:00	06/06/13 17:31
4079171018	UR2 SMB1	Tissue	06/05/13 00:00	06/06/13 17:31
4079171019	UR2 SMB2	Tissue	06/05/13 00:00	06/06/13 17:31
4079171020	UR2 SMB3	Tissue	06/05/13 00:00	06/06/13 17:31

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079171

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079171001	UR2 AC1	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079171002	UR2 AC2	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079171003	UR2 AC3	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079171004	UR2 AC4	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079171005	UR2 AC5	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079171006	UR2 AWS1	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079171007	UR2 AWS2	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079171008	UR2 AWS3	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079171009	UR2 AWS4	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079171010	UR2 AWS5	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079171011	UR2 AWS6	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079171012	UR2 AWS7	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079171013	UR2 AWS8	EPA 8082	BLM	10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079171

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079171014	UR2 AWS9	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079171015	UR2 AWS10	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079171016	UR2 AWS11	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079171017	UR2 AWS12	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079171018	UR2 SMB1	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079171019	UR2 SMB2	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079171020	UR2 SMB3	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079171

Method: EPA 8082
Description: 8082 GCS PCB, Tissue
Client: POLLUTION RISK SERVICES
Date: July 18, 2013

General Information:

20 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/18805

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- UR2 AC2 (Lab ID: 4079171002)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR2 AC4 (Lab ID: 4079171004)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR2 AC5 (Lab ID: 4079171005)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR2 AWS10 (Lab ID: 4079171015)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR2 AWS11 (Lab ID: 4079171016)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR2 AWS5 (Lab ID: 4079171010)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR2 AWS6 (Lab ID: 4079171011)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR2 AWS9 (Lab ID: 4079171014)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079171

Method: EPA 8082

Description: 8082 GCS PCB, Tissue

Client: POLLUTION RISK SERVICES

Date: July 18, 2013

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079171

Method: Pace Gender Typing
Description: Fish Gender Typing
Client: POLLUTION RISK SERVICES
Date: July 18, 2013

General Information:

20 samples were analyzed for Pace Gender Typing. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079171

Method: Pace Lipid
Description: Lipid
Client: POLLUTION RISK SERVICES
Date: July 18, 2013

General Information:

20 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079171

Sample: UR2 AC1 **Lab ID: 4079171001** Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 20:51	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 20:51	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 20:51	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 20:51	53469-21-9	
PCB-1248 (Aroclor 1248)	2480	ug/kg	250	125	10	06/27/13 14:05	07/10/13 20:51	12672-29-6	
PCB-1254 (Aroclor 1254)	1070	ug/kg	250	125	10	06/27/13 14:05	07/10/13 20:51	11097-69-1	
PCB-1260 (Aroclor 1260)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 20:51	11096-82-5	
PCB, Total	3550	ug/kg	250	125	10	06/27/13 14:05	07/10/13 20:51	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	79 %		44-130		10	06/27/13 14:05	07/10/13 20:51	877-09-8	
Decachlorobiphenyl (S)	85 %		62-130		10	06/27/13 14:05	07/10/13 20:51	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:55		
Lipid		Analytical Method: Pace Lipid							
Lipid	2.8 %				1		07/02/13 12:06		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079171

Sample: UR2 AC2 **Lab ID: 4079171002** Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	06/27/13 14:05	07/10/13 21:08	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	06/27/13 14:05	07/10/13 21:08	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	06/27/13 14:05	07/10/13 21:08	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	06/27/13 14:05	07/10/13 21:08	53469-21-9	
PCB-1248 (Aroclor 1248)	11400	ug/kg	750	375	30	06/27/13 14:05	07/10/13 21:08	12672-29-6	
PCB-1254 (Aroclor 1254)	5700	ug/kg	750	375	30	06/27/13 14:05	07/10/13 21:08	11097-69-1	
PCB-1260 (Aroclor 1260)	<375	ug/kg	750	375	30	06/27/13 14:05	07/10/13 21:08	11096-82-5	
PCB, Total	17100	ug/kg	750	375	30	06/27/13 14:05	07/10/13 21:08	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	06/27/13 14:05	07/10/13 21:08	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	06/27/13 14:05	07/10/13 21:08	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/03/13 12:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	6.4 %				1		07/02/13 12:07		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079171

Sample: UR2 AC3 **Lab ID: 4079171003** Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 21:25	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 21:25	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 21:25	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 21:25	53469-21-9	
PCB-1248 (Aroclor 1248)	3990	ug/kg	250	125	10	06/27/13 14:05	07/10/13 21:25	12672-29-6	
PCB-1254 (Aroclor 1254)	1170	ug/kg	250	125	10	06/27/13 14:05	07/10/13 21:25	11097-69-1	
PCB-1260 (Aroclor 1260)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 21:25	11096-82-5	
PCB, Total	5160	ug/kg	250	125	10	06/27/13 14:05	07/10/13 21:25	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	73 %		44-130		10	06/27/13 14:05	07/10/13 21:25	877-09-8	
Decachlorobiphenyl (S)	81 %		62-130		10	06/27/13 14:05	07/10/13 21:25	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/03/13 12:55		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.4 %				1		07/02/13 12:07		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079171

Sample: UR2 AC4 **Lab ID: 4079171004** Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	06/27/13 14:05	07/10/13 21:42	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	06/27/13 14:05	07/10/13 21:42	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	06/27/13 14:05	07/10/13 21:42	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	06/27/13 14:05	07/10/13 21:42	53469-21-9	
PCB-1248 (Aroclor 1248)	11000	ug/kg	750	375	30	06/27/13 14:05	07/10/13 21:42	12672-29-6	
PCB-1254 (Aroclor 1254)	6920	ug/kg	750	375	30	06/27/13 14:05	07/10/13 21:42	11097-69-1	
PCB-1260 (Aroclor 1260)	<375	ug/kg	750	375	30	06/27/13 14:05	07/10/13 21:42	11096-82-5	
PCB, Total	17900	ug/kg	750	375	30	06/27/13 14:05	07/10/13 21:42	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	06/27/13 14:05	07/10/13 21:42	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	06/27/13 14:05	07/10/13 21:42	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:55		
Lipid		Analytical Method: Pace Lipid							
Lipid	4.5 %				1		07/02/13 12:07		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079171

Sample: UR2 AC5 **Lab ID: 4079171005** Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	06/27/13 14:05	07/10/13 22:34	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	06/27/13 14:05	07/10/13 22:34	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	06/27/13 14:05	07/10/13 22:34	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	06/27/13 14:05	07/10/13 22:34	53469-21-9	
PCB-1248 (Aroclor 1248)	13700	ug/kg	750	375	30	06/27/13 14:05	07/10/13 22:34	12672-29-6	
PCB-1254 (Aroclor 1254)	7570	ug/kg	750	375	30	06/27/13 14:05	07/10/13 22:34	11097-69-1	
PCB-1260 (Aroclor 1260)	<375	ug/kg	750	375	30	06/27/13 14:05	07/10/13 22:34	11096-82-5	
PCB, Total	21200	ug/kg	750	375	30	06/27/13 14:05	07/10/13 22:34	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	06/27/13 14:05	07/10/13 22:34	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	06/27/13 14:05	07/10/13 22:34	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	10.1 %				1		07/02/13 12:07		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079171

Sample: UR2 AWS1 Lab ID: 4079171006 Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	06/27/13 14:05	07/10/13 22:51	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	06/27/13 14:05	07/10/13 22:51	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	06/27/13 14:05	07/10/13 22:51	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	06/27/13 14:05	07/10/13 22:51	53469-21-9	
PCB-1248 (Aroclor 1248)	1930	ug/kg	125	62.5	5	06/27/13 14:05	07/10/13 22:51	12672-29-6	
PCB-1254 (Aroclor 1254)	1580	ug/kg	125	62.5	5	06/27/13 14:05	07/10/13 22:51	11097-69-1	
PCB-1260 (Aroclor 1260)	145	ug/kg	125	62.5	5	06/27/13 14:05	07/10/13 22:51	11096-82-5	
PCB, Total	3660	ug/kg	125	62.5	5	06/27/13 14:05	07/10/13 22:51	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	77	%	44-130		5	06/27/13 14:05	07/10/13 22:51	877-09-8	
Decachlorobiphenyl (S)	81	%	62-130		5	06/27/13 14:05	07/10/13 22:51	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.4	%			1		07/02/13 12:07		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079171

Sample: UR2 AWS2 **Lab ID: 4079171007** Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:08	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:08	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:08	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:08	53469-21-9	
PCB-1248 (Aroclor 1248)	3420	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:08	12672-29-6	
PCB-1254 (Aroclor 1254)	2210	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:08	11097-69-1	
PCB-1260 (Aroclor 1260)	185J	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:08	11096-82-5	
PCB, Total	5820	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:08	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	75 %		44-130		10	06/27/13 14:05	07/10/13 23:08	877-09-8	
Decachlorobiphenyl (S)	83 %		62-130		10	06/27/13 14:05	07/10/13 23:08	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:55		
Lipid		Analytical Method: Pace Lipid							
Lipid	2.7 %				1		07/02/13 12:07		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079171

Sample: UR2 AWS3 **Lab ID: 4079171008** Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:26	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:26	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:26	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:26	53469-21-9	
PCB-1248 (Aroclor 1248)	3320	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:26	12672-29-6	
PCB-1254 (Aroclor 1254)	3020	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:26	11097-69-1	
PCB-1260 (Aroclor 1260)	306	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:26	11096-82-5	
PCB, Total	6640	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:26	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	77	%	44-130		10	06/27/13 14:05	07/10/13 23:26	877-09-8	
Decachlorobiphenyl (S)	89	%	62-130		10	06/27/13 14:05	07/10/13 23:26	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.0	%			1		07/02/13 12:07		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079171

Sample: UR2 AWS4 **Lab ID: 4079171009** Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:43	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:43	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:43	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:43	53469-21-9	
PCB-1248 (Aroclor 1248)	3810	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:43	12672-29-6	
PCB-1254 (Aroclor 1254)	2770	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:43	11097-69-1	
PCB-1260 (Aroclor 1260)	254	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:43	11096-82-5	
PCB, Total	6840	ug/kg	250	125	10	06/27/13 14:05	07/10/13 23:43	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	86 %		44-130		10	06/27/13 14:05	07/10/13 23:43	877-09-8	
Decachlorobiphenyl (S)	95 %		62-130		10	06/27/13 14:05	07/10/13 23:43	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:55		
Lipid		Analytical Method: Pace Lipid							
Lipid	2.4 %				1		07/02/13 12:08		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Project No.: 4079171

Sample: UR2 AWS5 Lab ID: 4079171010 Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<188	ug/kg	375	188	15	06/27/13 14:05	07/11/13 00:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<188	ug/kg	375	188	15	06/27/13 14:05	07/11/13 00:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<188	ug/kg	375	188	15	06/27/13 14:05	07/11/13 00:00	11141-16-5	
PCB-1242 (Aroclor 1242)	<188	ug/kg	375	188	15	06/27/13 14:05	07/11/13 00:00	53469-21-9	
PCB-1248 (Aroclor 1248)	4900	ug/kg	375	188	15	06/27/13 14:05	07/11/13 00:00	12672-29-6	
PCB-1254 (Aroclor 1254)	2850	ug/kg	375	188	15	06/27/13 14:05	07/11/13 00:00	11097-69-1	
PCB-1260 (Aroclor 1260)	<188	ug/kg	375	188	15	06/27/13 14:05	07/11/13 00:00	11096-82-5	
PCB, Total	7750	ug/kg	375	188	15	06/27/13 14:05	07/11/13 00:00	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		15	06/27/13 14:05	07/11/13 00:00	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		15	06/27/13 14:05	07/11/13 00:00	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:55		
Lipid		Analytical Method: Pace Lipid							
Lipid	3.3 %				1		07/02/13 12:08		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079171

Sample: UR2 AWS6 **Lab ID: 4079171011** Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	06/27/13 14:05	07/11/13 00:17	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	06/27/13 14:05	07/11/13 00:17	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	06/27/13 14:05	07/11/13 00:17	11141-16-5	
PCB-1242 (Aroclor 1242)	<250	ug/kg	500	250	20	06/27/13 14:05	07/11/13 00:17	53469-21-9	
PCB-1248 (Aroclor 1248)	5550	ug/kg	500	250	20	06/27/13 14:05	07/11/13 00:17	12672-29-6	
PCB-1254 (Aroclor 1254)	6220	ug/kg	500	250	20	06/27/13 14:05	07/11/13 00:17	11097-69-1	
PCB-1260 (Aroclor 1260)	598	ug/kg	500	250	20	06/27/13 14:05	07/11/13 00:17	11096-82-5	
PCB, Total	12400	ug/kg	500	250	20	06/27/13 14:05	07/11/13 00:17	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	06/27/13 14:05	07/11/13 00:17	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	06/27/13 14:05	07/11/13 00:17	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:55		
Lipid		Analytical Method: Pace Lipid							
Lipid	2.9 %				1		07/02/13 12:08		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079171

Sample: UR2 AWS7 **Lab ID: 4079171012** Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 00:34	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 00:34	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 00:34	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 00:34	53469-21-9	
PCB-1248 (Aroclor 1248)	3470	ug/kg	250	125	10	06/27/13 14:05	07/11/13 00:34	12672-29-6	
PCB-1254 (Aroclor 1254)	2240	ug/kg	250	125	10	06/27/13 14:05	07/11/13 00:34	11097-69-1	
PCB-1260 (Aroclor 1260)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 00:34	11096-82-5	
PCB, Total	5710	ug/kg	250	125	10	06/27/13 14:05	07/11/13 00:34	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	76	%	44-130		10	06/27/13 14:05	07/11/13 00:34	877-09-8	
Decachlorobiphenyl (S)	85	%	62-130		10	06/27/13 14:05	07/11/13 00:34	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.6	%			1		07/02/13 12:08		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079171

Sample: UR2 AWS8 **Lab ID: 4079171013** Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 00:51	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 00:51	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 00:51	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 00:51	53469-21-9	
PCB-1248 (Aroclor 1248)	2790	ug/kg	250	125	10	06/27/13 14:05	07/11/13 00:51	12672-29-6	
PCB-1254 (Aroclor 1254)	1760	ug/kg	250	125	10	06/27/13 14:05	07/11/13 00:51	11097-69-1	
PCB-1260 (Aroclor 1260)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 00:51	11096-82-5	
PCB, Total	4550	ug/kg	250	125	10	06/27/13 14:05	07/11/13 00:51	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	72	%	44-130		10	06/27/13 14:05	07/11/13 00:51	877-09-8	
Decachlorobiphenyl (S)	83	%	62-130		10	06/27/13 14:05	07/11/13 00:51	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.3	%			1		07/02/13 12:08		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079171

Sample: UR2 AWS9 **Lab ID: 4079171014** Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<188	ug/kg	375	188	15	06/27/13 14:05	07/16/13 20:02	12674-11-2	
PCB-1221 (Aroclor 1221)	<188	ug/kg	375	188	15	06/27/13 14:05	07/16/13 20:02	11104-28-2	
PCB-1232 (Aroclor 1232)	<188	ug/kg	375	188	15	06/27/13 14:05	07/16/13 20:02	11141-16-5	
PCB-1242 (Aroclor 1242)	<188	ug/kg	375	188	15	06/27/13 14:05	07/16/13 20:02	53469-21-9	
PCB-1248 (Aroclor 1248)	5080	ug/kg	375	188	15	06/27/13 14:05	07/16/13 20:02	12672-29-6	
PCB-1254 (Aroclor 1254)	1910	ug/kg	375	188	15	06/27/13 14:05	07/16/13 20:02	11097-69-1	
PCB-1260 (Aroclor 1260)	<188	ug/kg	375	188	15	06/27/13 14:05	07/16/13 20:02	11096-82-5	
PCB, Total	6980	ug/kg	375	188	15	06/27/13 14:05	07/16/13 20:02	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		15	06/27/13 14:05	07/16/13 20:02	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		15	06/27/13 14:05	07/16/13 20:02	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.2 %				1		07/02/13 12:08		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Project No.: 4079171

Sample: UR2 AWS10 Lab ID: 4079171015 Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<188	ug/kg	375	188	15	06/27/13 14:05	07/11/13 01:26	12674-11-2	
PCB-1221 (Aroclor 1221)	<188	ug/kg	375	188	15	06/27/13 14:05	07/11/13 01:26	11104-28-2	
PCB-1232 (Aroclor 1232)	<188	ug/kg	375	188	15	06/27/13 14:05	07/11/13 01:26	11141-16-5	
PCB-1242 (Aroclor 1242)	<188	ug/kg	375	188	15	06/27/13 14:05	07/11/13 01:26	53469-21-9	
PCB-1248 (Aroclor 1248)	4670	ug/kg	375	188	15	06/27/13 14:05	07/11/13 01:26	12672-29-6	
PCB-1254 (Aroclor 1254)	3940	ug/kg	375	188	15	06/27/13 14:05	07/11/13 01:26	11097-69-1	
PCB-1260 (Aroclor 1260)	401	ug/kg	375	188	15	06/27/13 14:05	07/11/13 01:26	11096-82-5	
PCB, Total	9010	ug/kg	375	188	15	06/27/13 14:05	07/11/13 01:26	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		15	06/27/13 14:05	07/11/13 01:26	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		15	06/27/13 14:05	07/11/13 01:26	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/03/13 12:55		
Lipid		Analytical Method: Pace Lipid							
Lipid	3.1 %				1		07/02/13 12:08		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079171

Sample: UR2 AWS11 **Lab ID: 4079171016** Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<188	ug/kg	375	188	15	06/27/13 14:05	07/11/13 01:43	12674-11-2	
PCB-1221 (Aroclor 1221)	<188	ug/kg	375	188	15	06/27/13 14:05	07/11/13 01:43	11104-28-2	
PCB-1232 (Aroclor 1232)	<188	ug/kg	375	188	15	06/27/13 14:05	07/11/13 01:43	11141-16-5	
PCB-1242 (Aroclor 1242)	<188	ug/kg	375	188	15	06/27/13 14:05	07/11/13 01:43	53469-21-9	
PCB-1248 (Aroclor 1248)	5320	ug/kg	375	188	15	06/27/13 14:05	07/11/13 01:43	12672-29-6	
PCB-1254 (Aroclor 1254)	2420	ug/kg	375	188	15	06/27/13 14:05	07/11/13 01:43	11097-69-1	
PCB-1260 (Aroclor 1260)	<188	ug/kg	375	188	15	06/27/13 14:05	07/11/13 01:43	11096-82-5	
PCB, Total	7730	ug/kg	375	188	15	06/27/13 14:05	07/11/13 01:43	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		15	06/27/13 14:05	07/11/13 01:43	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		15	06/27/13 14:05	07/11/13 01:43	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	3.6 %				1		07/02/13 12:08		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079171

Sample: UR2 AWS12 **Lab ID: 4079171017** Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 02:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 02:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 02:00	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 02:00	53469-21-9	
PCB-1248 (Aroclor 1248)	3560	ug/kg	250	125	10	06/27/13 14:05	07/11/13 02:00	12672-29-6	
PCB-1254 (Aroclor 1254)	1780	ug/kg	250	125	10	06/27/13 14:05	07/11/13 02:00	11097-69-1	
PCB-1260 (Aroclor 1260)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 02:00	11096-82-5	
PCB, Total	5330	ug/kg	250	125	10	06/27/13 14:05	07/11/13 02:00	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	74	%	44-130		10	06/27/13 14:05	07/11/13 02:00	877-09-8	
Decachlorobiphenyl (S)	85	%	62-130		10	06/27/13 14:05	07/11/13 02:00	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/03/13 12:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.7	%			1		07/02/13 12:09		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079171

Sample: UR2 SMB1 **Lab ID: 4079171018** Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 02:18	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 02:18	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 02:18	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	06/27/13 14:05	07/11/13 02:18	53469-21-9	
PCB-1248 (Aroclor 1248)	1700	ug/kg	250	125	10	06/27/13 14:05	07/11/13 02:18	12672-29-6	
PCB-1254 (Aroclor 1254)	3630	ug/kg	250	125	10	06/27/13 14:05	07/11/13 02:18	11097-69-1	
PCB-1260 (Aroclor 1260)	469	ug/kg	250	125	10	06/27/13 14:05	07/11/13 02:18	11096-82-5	
PCB, Total	5800	ug/kg	250	125	10	06/27/13 14:05	07/11/13 02:18	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	73 %		44-130		10	06/27/13 14:05	07/11/13 02:18	877-09-8	
Decachlorobiphenyl (S)	86 %		62-130		10	06/27/13 14:05	07/11/13 02:18	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/03/13 12:55		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.44 %				1		07/02/13 12:09		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Project No.: 4079171

Sample: UR2 SMB2 **Lab ID: 4079171019** Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	06/27/13 14:05	07/11/13 02:35	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	06/27/13 14:05	07/11/13 02:35	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	06/27/13 14:05	07/11/13 02:35	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	06/27/13 14:05	07/11/13 02:35	53469-21-9	
PCB-1248 (Aroclor 1248)	1300	ug/kg	125	62.5	5	06/27/13 14:05	07/11/13 02:35	12672-29-6	
PCB-1254 (Aroclor 1254)	1780	ug/kg	125	62.5	5	06/27/13 14:05	07/11/13 02:35	11097-69-1	
PCB-1260 (Aroclor 1260)	268	ug/kg	125	62.5	5	06/27/13 14:05	07/11/13 02:35	11096-82-5	
PCB, Total	3350	ug/kg	125	62.5	5	06/27/13 14:05	07/11/13 02:35	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	75 %		44-130		5	06/27/13 14:05	07/11/13 02:35	877-09-8	
Decachlorobiphenyl (S)	81 %		62-130		5	06/27/13 14:05	07/11/13 02:35	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/03/13 12:55		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.48 %				1		07/02/13 12:09		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079171

Sample: UR2 SMB3 **Lab ID: 4079171020** Collected: 06/05/13 00:00 Received: 06/06/13 17:31 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	06/27/13 14:05	07/11/13 02:52	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	06/27/13 14:05	07/11/13 02:52	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	06/27/13 14:05	07/11/13 02:52	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	06/27/13 14:05	07/11/13 02:52	53469-21-9	
PCB-1248 (Aroclor 1248)	698	ug/kg	125	62.5	5	06/27/13 14:05	07/11/13 02:52	12672-29-6	
PCB-1254 (Aroclor 1254)	1220	ug/kg	125	62.5	5	06/27/13 14:05	07/11/13 02:52	11097-69-1	
PCB-1260 (Aroclor 1260)	144	ug/kg	125	62.5	5	06/27/13 14:05	07/11/13 02:52	11096-82-5	
PCB, Total	2060	ug/kg	125	62.5	5	06/27/13 14:05	07/11/13 02:52	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	74	%	44-130		5	06/27/13 14:05	07/11/13 02:52	877-09-8	
Decachlorobiphenyl (S)	82	%	62-130		5	06/27/13 14:05	07/11/13 02:52	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/03/13 12:55		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.50	%			1		07/02/13 12:09		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079171

QC Batch: OEXT/18805 Analysis Method: EPA 8082
QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides
Associated Lab Samples: 4079171001, 4079171002, 4079171003, 4079171004, 4079171005, 4079171006, 4079171007, 4079171008, 4079171009, 4079171010, 4079171011, 4079171012, 4079171013, 4079171014, 4079171015, 4079171016, 4079171017, 4079171018, 4079171019, 4079171020

METHOD BLANK: 815025 Matrix: Tissue

Associated Lab Samples: 4079171001, 4079171002, 4079171003, 4079171004, 4079171005, 4079171006, 4079171007, 4079171008, 4079171009, 4079171010, 4079171011, 4079171012, 4079171013, 4079171014, 4079171015, 4079171016, 4079171017, 4079171018, 4079171019, 4079171020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<12.5	25.0	07/10/13 19:42	
PCB-1221 (Aroclor 1221)	ug/kg	<12.5	25.0	07/10/13 19:42	
PCB-1232 (Aroclor 1232)	ug/kg	<12.5	25.0	07/10/13 19:42	
PCB-1242 (Aroclor 1242)	ug/kg	<12.5	25.0	07/10/13 19:42	
PCB-1248 (Aroclor 1248)	ug/kg	<12.5	25.0	07/10/13 19:42	
PCB-1254 (Aroclor 1254)	ug/kg	<12.5	25.0	07/10/13 19:42	
PCB-1260 (Aroclor 1260)	ug/kg	<12.5	25.0	07/10/13 19:42	
Decachlorobiphenyl (S)	%	79	62-130	07/10/13 19:42	
Tetrachloro-m-xylene (S)	%	76	44-130	07/10/13 19:42	

LABORATORY CONTROL SAMPLE: 815026

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<12.5			
PCB-1221 (Aroclor 1221)	ug/kg		<12.5			
PCB-1232 (Aroclor 1232)	ug/kg		<12.5			
PCB-1242 (Aroclor 1242)	ug/kg		<12.5			
PCB-1248 (Aroclor 1248)	ug/kg		<12.5			
PCB-1254 (Aroclor 1254)	ug/kg	250	202	81	61-130	
PCB-1260 (Aroclor 1260)	ug/kg		<12.5			
Decachlorobiphenyl (S)	%			80	62-130	
Tetrachloro-m-xylene (S)	%			76	44-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 815027 815028

Parameter	Units	4079171001		815028		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
PCB-1016 (Aroclor 1016)	ug/kg	<125		<125	<125					24	
PCB-1221 (Aroclor 1221)	ug/kg	<125		<125	<125					24	
PCB-1232 (Aroclor 1232)	ug/kg	<125		<125	<125					24	
PCB-1242 (Aroclor 1242)	ug/kg	<125		<125	<125					24	
PCB-1248 (Aroclor 1248)	ug/kg	2480		2790	2600				7	24	
PCB-1254 (Aroclor 1254)	ug/kg	1070	1000	1810	1720	74	66	27-163	5	24	
PCB-1260 (Aroclor 1260)	ug/kg	<125		<125	<125					24	
Decachlorobiphenyl (S)	%					78	77	62-130			
Tetrachloro-m-xylene (S)	%					72	73	44-130			

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079171

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079171

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079171001	UR2 AC1	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171002	UR2 AC2	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171003	UR2 AC3	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171004	UR2 AC4	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171005	UR2 AC5	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171006	UR2 AWS1	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171007	UR2 AWS2	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171008	UR2 AWS3	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171009	UR2 AWS4	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171010	UR2 AWS5	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171011	UR2 AWS6	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171012	UR2 AWS7	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171013	UR2 AWS8	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171014	UR2 AWS9	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171015	UR2 AWS10	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171016	UR2 AWS11	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171017	UR2 AWS12	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171018	UR2 SMB1	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171019	UR2 SMB2	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171020	UR2 SMB3	EPA 3540	OEXT/18805	EPA 8082	GCSV/9826
4079171001	UR2 AC1	Pace Gender Typing	GRND/2585		
4079171002	UR2 AC2	Pace Gender Typing	GRND/2585		
4079171003	UR2 AC3	Pace Gender Typing	GRND/2585		
4079171004	UR2 AC4	Pace Gender Typing	GRND/2585		
4079171005	UR2 AC5	Pace Gender Typing	GRND/2585		
4079171006	UR2 AWS1	Pace Gender Typing	GRND/2585		
4079171007	UR2 AWS2	Pace Gender Typing	GRND/2585		
4079171008	UR2 AWS3	Pace Gender Typing	GRND/2585		
4079171009	UR2 AWS4	Pace Gender Typing	GRND/2585		
4079171010	UR2 AWS5	Pace Gender Typing	GRND/2585		
4079171011	UR2 AWS6	Pace Gender Typing	GRND/2585		
4079171012	UR2 AWS7	Pace Gender Typing	GRND/2585		
4079171013	UR2 AWS8	Pace Gender Typing	GRND/2585		
4079171014	UR2 AWS9	Pace Gender Typing	GRND/2585		
4079171015	UR2 AWS10	Pace Gender Typing	GRND/2585		
4079171016	UR2 AWS11	Pace Gender Typing	GRND/2585		
4079171017	UR2 AWS12	Pace Gender Typing	GRND/2585		
4079171018	UR2 SMB1	Pace Gender Typing	GRND/2585		
4079171019	UR2 SMB2	Pace Gender Typing	GRND/2585		
4079171020	UR2 SMB3	Pace Gender Typing	GRND/2585		
4079171001	UR2 AC1	Pace Lipid	OEXT/18816		
4079171002	UR2 AC2	Pace Lipid	OEXT/18816		
4079171003	UR2 AC3	Pace Lipid	OEXT/18816		
4079171004	UR2 AC4	Pace Lipid	OEXT/18816		
4079171005	UR2 AC5	Pace Lipid	OEXT/18816		
4079171006	UR2 AWS1	Pace Lipid	OEXT/18816		
4079171007	UR2 AWS2	Pace Lipid	OEXT/18816		
4079171008	UR2 AWS3	Pace Lipid	OEXT/18816		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079171

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079171009	UR2 AWS4	Pace Lipid	OEXT/18816		
4079171010	UR2 AWS5	Pace Lipid	OEXT/18816		
4079171011	UR2 AWS6	Pace Lipid	OEXT/18816		
4079171012	UR2 AWS7	Pace Lipid	OEXT/18816		
4079171013	UR2 AWS8	Pace Lipid	OEXT/18816		
4079171014	UR2 AWS9	Pace Lipid	OEXT/18816		
4079171015	UR2 AWS10	Pace Lipid	OEXT/18816		
4079171016	UR2 AWS11	Pace Lipid	OEXT/18816		
4079171017	UR2 AWS12	Pace Lipid	OEXT/18816		
4079171018	UR2 SMB1	Pace Lipid	OEXT/18816		
4079171019	UR2 SMB2	Pace Lipid	OEXT/18816		
4079171020	UR2 SMB3	Pace Lipid	OEXT/18816		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sig): *[Signature]*
 PO #: _____ Regulatory Program: _____



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

Page 1 of 4
 COC No. 2

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES														
			X	A														
			X	A														
			X	A														
			X	A														
			X	A														

Quote #: _____
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact: Goldie Sharp
Invoice To Company: As Above
Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone: 513-489-6789

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
Whole Fish Sample	1-poly bag	

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	UR2 AC1	6/5/13		Tissue
002	UR2 AC2	6/5/13		Tissue
003	UR2 AC3	6/5/13		Tissue
004	UR2 AC4	6/5/13		Tissue
005	UR2 AC5	6/5/13		Tissue

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed: _____
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2: _____
 Telephone: 513-387-2778
 Fax: _____
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: <i>[Signature]</i> Date/Time: 6/6/13	Received By: <i>[Signature]</i> Date/Time: 6/6/13 1340
Relinquished By: <i>[Signature]</i> Date/Time: 6/6/13 1500	Received By: <i>[Signature]</i> Pace 6B Date/Time: 6/6/13 1500
Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____
Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____

PACE Project No. 4679171
 Receipt Temp = 1/5 °C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present / Not Present

(Please Print Clearly)

UPPER MIDWEST REGION

MN: 612-607-1700 WI: 920-469-2436

COC No. 2 4079171

Company Name: Pollution Risk Services
Branch/Location: Sheboygan
Project Contact: Mark Mather
Phone: 513-678-2137 or 513-387-2778
Project Number: SR13-001 Task 10-02000
Project Name: 2013 Fish Sampling
Project State: Wisconsin
Sampled By (Print): Mark Mather
Sampled By (Sign): *[Signature]*
PO #: Regulatory Program:



CHAIN OF CUSTODY

***Preservation Codes**
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
PRESERVATION
(CODE)*

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
A = Air W = Water
B = Biota DW = Drinking Water
C = Charcoal GW = Ground Water
O = Oil SW = Surface Water
S = Soil WW = Waste Water
Sl = Sludge WP = Wipe

Y / N	Pick Letter	Analysis Requested	PCB - 8082	PRESERVATIVES
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A

Quote #:

Mail To Contact: Mark Mather

Mail To Company: PRS - Assured Group

Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Contact: Goldie Sharp

Invoice To Company: As Above

Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Phone: 513-489-6789

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
Whole Fish Sample	1-poly bag	

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
006	UR2 AWS1	6/5/13		Tissue
007	UR2 AWS2	6/5/13		Tissue
008	UR2 AWS3	6/5/13		Tissue
009	UR2 AWS4	6/5/13		Tissue
010	UR2 AWS5	6/5/13		Tissue
011	UR2 AWS6	6/5/13		Tissue
012	UR2 AWS7	6/5/13		Tissue
013	UR2 AWS8	6/5/13		Tissue
014	UR2 AWS9	6/5/13		Tissue
015	UR2 AWS10	6/5/13		Tissue
016	UR2 AWS11	6/5/13		Tissue
017	UR2 AWS12	6/5/13		Tissue

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1: mmather@assuredllc.com
Email #2:
Telephone: 513-387-2778
Fax:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By: *[Signature]* Date/Time: 6/6/13
Relinquished By: *[Signature]* Date/Time: 6/13/13 1500

Relinquished By: _____ Date/Time: _____
Relinquished By: _____ Date/Time: _____
Relinquished By: _____ Date/Time: _____

Received By: *[Signature]* Date/Time: 6/13/13 1340
Received By: *[Signature]* Date/Time: 6/13/13 1500

Received By: _____ Date/Time: _____
Received By: _____ Date/Time: _____
Received By: _____ Date/Time: _____

PACE Project No. 4079171

Receipt Temp = 11.5 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present Intact / Not Intact

(Please Print Clearly)

UPPER MIDWEST REGION

Page 3 of 4

MN: 612-607-1700 WI: 920-469-2436

COC No. 2 4079171



Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign): *[Signature]*
 PO #:
 Regulatory Program:

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y/N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	

Quote #:

Mail To Contact: Mark Mather

Mail To Company: PRS - Assured Group

Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Contact: Goldie Sharp

Invoice To Company: As Above

Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Phone: 513-489-6789

CLIENT COMMENTS

LAB COMMENTS (Lab Use Only)

Profile #

Data Package Options (billable)

EPA Level III

EPA Level IV

MS/MSD

On your sample (billable)

NOT needed on your sample

Matrix Codes

A = Air VV = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
018	UR2 SMB1	6/5/13		Tissue
019	UR2 SMB2	6/5/13		Tissue
020	UR2 SMB3	6/5/13		Tissue
	UR2 SMB4	6/5/13		Tissue
	UR2 SMB5	6/5/13		Tissue
	UR2 SMB6	6/5/13		Tissue
	UR2 SMB7	6/5/13		Tissue
	UR2 SMB8	6/5/13		Tissue
	UR2 SMB9	6/5/13		Tissue
	UR2 SMB10	6/5/13		Tissue
	UR2 SMB11	6/5/13		Tissue
	UR2 SMB12	6/5/13		Tissue

Whole Fish Sample

1-poly bag

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:

Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By: *[Signature]* Date/Time: 6/6/13

Relinquished By: *[Signature]* Date/Time: 6/6/13 1500

Relinquished By: Date/Time:

Relinquished By: Date/Time:

Relinquished By: Date/Time:

Received By: *[Signature]* Date/Time: 6/6/13 1340

Received By: *[Signature]* Pace GB Date/Time: 6/6/13 1500

Received By: Date/Time:

Received By: Date/Time:

Received By: Date/Time:

PACE Project No. 4079171

Receipt Temp = 11.5 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present (Not Present) Intact / Not Intact



Sample Condition Upon Receipt

Client Name: PRS Project # 4079171

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used SR23 Type of Ice: Wet Blue Dry (None) Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 2/6 /ICorr: 1/5 Biological Tissue is Frozen: yes no

Temp Blank Present: yes no

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Person examining contents:
Date: 6/6/13
Initials: EMH

Comments: _____

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	9. Sample IDs inside sample bags and not readily visible EMH 6/6/13
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>B</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
		Lab Std #ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: CH for TW Date: 6/6/13

August 05, 2013

Mark Mather
Pollution Risk Services
7870 East Kemper Road
Suite 240
Cincinnati, OH 45249

RE: Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079392

Dear Mark Mather:

Enclosed are the analytical results for sample(s) received by the laboratory on June 10, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Tod Noltemeyer

tod.noltemeyer@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 11888

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

US Dept of Agriculture #: S-76505

Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4079392001	MR2 AC1	Tissue	06/07/13 00:00	06/10/13 15:30
4079392002	MR2 AC2	Tissue	06/07/13 00:00	06/10/13 15:30
4079392003	MR2 AC3	Tissue	06/07/13 00:00	06/10/13 15:30
4079392004	MR2 AC4	Tissue	06/07/13 00:00	06/10/13 15:30
4079392005	MR2 AC5	Tissue	06/07/13 00:00	06/10/13 15:30
4079392006	MR2 AC6	Tissue	06/07/13 00:00	06/10/13 15:30
4079392007	MR2 AC7	Tissue	06/07/13 00:00	06/10/13 15:30
4079392008	MR2 AC8	Tissue	06/07/13 00:00	06/10/13 15:30
4079392009	MR2 AWS1	Tissue	06/07/13 00:00	06/10/13 15:30
4079392010	MR2 AWS2	Tissue	06/07/13 00:00	06/10/13 15:30
4079392011	MR2 AWS3	Tissue	06/07/13 00:00	06/10/13 15:30
4079392012	MR2 AWS4	Tissue	06/07/13 00:00	06/10/13 15:30
4079392013	MR2 AWS5	Tissue	06/07/13 00:00	06/10/13 15:30
4079392014	MR2 AWS6	Tissue	06/07/13 00:00	06/10/13 15:30
4079392015	MR2 AWS7	Tissue	06/07/13 00:00	06/10/13 15:30
4079392016	MR2 AWS8	Tissue	06/07/13 00:00	06/10/13 15:30
4079392017	MR2 JWS2	Tissue	06/07/13 00:00	06/10/13 15:30
4079392018	MR2 JWS3	Tissue	06/07/13 00:00	06/10/13 15:30
4079392019	MR2 JWS4	Tissue	06/07/13 00:00	06/10/13 15:30
4079392020	MR2 JWS5	Tissue	06/07/13 00:00	06/10/13 15:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079392001	MR2 AC1	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079392002	MR2 AC2	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079392003	MR2 AC3	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079392004	MR2 AC4	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079392005	MR2 AC5	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079392006	MR2 AC6	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079392007	MR2 AC7	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079392008	MR2 AC8	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079392009	MR2 AWS1	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079392010	MR2 AWS2	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079392011	MR2 AWS3	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079392012	MR2 AWS4	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079392013	MR2 AWS5	EPA 8082	BLM	10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079392014	MR2 AWS6	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079392015	MR2 AWS7	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079392016	MR2 AWS8	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079392017	MR2 JWS2	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079392018	MR2 JWS3	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079392019	MR2 JWS4	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079392020	MR2 JWS5	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Method: EPA 8082

Description: 8082 GCS PCB, Tissue

Client: POLLUTION RISK SERVICES

Date: August 05, 2013

General Information:

20 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/18978

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- MR2 AC2 (Lab ID: 4079392002)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR2 AC3 (Lab ID: 4079392003)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR2 AC5 (Lab ID: 4079392005)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR2 AC6 (Lab ID: 4079392006)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR2 AC8 (Lab ID: 4079392008)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Method: EPA 8082

Description: 8082 GCS PCB, Tissue

Client: POLLUTION RISK SERVICES

Date: August 05, 2013

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Method: Pace Gender Typing

Description: Fish Gender Typing

Client: POLLUTION RISK SERVICES

Date: August 05, 2013

General Information:

20 samples were analyzed for Pace Gender Typing. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079392

Method: Pace Lipid
Description: Lipid
Client: POLLUTION RISK SERVICES
Date: August 05, 2013

General Information:

20 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079392

Sample: MR2 AC1 **Lab ID: 4079392001** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	07/15/13 10:22	07/19/13 23:54	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	07/15/13 10:22	07/19/13 23:54	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	07/15/13 10:22	07/19/13 23:54	11141-16-5	
PCB-1242 (Aroclor 1242)	782	ug/kg	250	125	10	07/15/13 10:22	07/19/13 23:54	53469-21-9	
PCB-1248 (Aroclor 1248)	<125	ug/kg	250	125	10	07/15/13 10:22	07/19/13 23:54	12672-29-6	
PCB-1254 (Aroclor 1254)	1020	ug/kg	250	125	10	07/15/13 10:22	07/19/13 23:54	11097-69-1	
PCB-1260 (Aroclor 1260)	338	ug/kg	250	125	10	07/15/13 10:22	07/19/13 23:54	11096-82-5	
PCB, Total	2140	ug/kg	250	125	10	07/15/13 10:22	07/19/13 23:54	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	82 %		44-130		10	07/15/13 10:22	07/19/13 23:54	877-09-8	
Decachlorobiphenyl (S)	91 %		62-130		10	07/15/13 10:22	07/19/13 23:54	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/15/13 07:24		
Lipid		Analytical Method: Pace Lipid							
Lipid	7.5 %				1		07/17/13 08:49		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Sample: MR2 AC2 **Lab ID: 4079392002** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<2500	ug/kg	5000	2500	200	07/15/13 10:22	07/20/13 00:12	12674-11-2	
PCB-1221 (Aroclor 1221)	<2500	ug/kg	5000	2500	200	07/15/13 10:22	07/20/13 00:12	11104-28-2	
PCB-1232 (Aroclor 1232)	<2500	ug/kg	5000	2500	200	07/15/13 10:22	07/20/13 00:12	11141-16-5	
PCB-1242 (Aroclor 1242)	<2500	ug/kg	5000	2500	200	07/15/13 10:22	07/20/13 00:12	53469-21-9	
PCB-1248 (Aroclor 1248)	17900	ug/kg	5000	2500	200	07/15/13 10:22	07/20/13 00:12	12672-29-6	
PCB-1254 (Aroclor 1254)	24400	ug/kg	5000	2500	200	07/15/13 10:22	07/20/13 00:12	11097-69-1	
PCB-1260 (Aroclor 1260)	2980J	ug/kg	5000	2500	200	07/15/13 10:22	07/20/13 00:12	11096-82-5	
PCB, Total	45300	ug/kg	5000	2500	200	07/15/13 10:22	07/20/13 00:12	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		200	07/15/13 10:22	07/20/13 00:12	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		200	07/15/13 10:22	07/20/13 00:12	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/15/13 07:24		
Lipid									
Analytical Method: Pace Lipid									
Lipid	14.4 %				1		07/17/13 08:49		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079392

Sample: MR2 AC3 **Lab ID: 4079392003** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	07/15/13 10:22	07/20/13 00:29	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	07/15/13 10:22	07/20/13 00:29	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	07/15/13 10:22	07/20/13 00:29	11141-16-5	
PCB-1242 (Aroclor 1242)	<250	ug/kg	500	250	20	07/15/13 10:22	07/20/13 00:29	53469-21-9	
PCB-1248 (Aroclor 1248)	5010	ug/kg	500	250	20	07/15/13 10:22	07/20/13 00:29	12672-29-6	
PCB-1254 (Aroclor 1254)	3540	ug/kg	500	250	20	07/15/13 10:22	07/20/13 00:29	11097-69-1	
PCB-1260 (Aroclor 1260)	418J	ug/kg	500	250	20	07/15/13 10:22	07/20/13 00:29	11096-82-5	
PCB, Total	8980	ug/kg	500	250	20	07/15/13 10:22	07/20/13 00:29	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	07/15/13 10:22	07/20/13 00:29	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	07/15/13 10:22	07/20/13 00:29	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/15/13 07:24		
Lipid		Analytical Method: Pace Lipid							
Lipid	4.9 %				1		07/17/13 08:49		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079392

Sample: MR2 AC4 **Lab ID: 4079392004** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	07/15/13 10:22	07/20/13 00:46	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	07/15/13 10:22	07/20/13 00:46	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	07/15/13 10:22	07/20/13 00:46	11141-16-5	
PCB-1242 (Aroclor 1242)	524	ug/kg	250	125	10	07/15/13 10:22	07/20/13 00:46	53469-21-9	
PCB-1248 (Aroclor 1248)	<125	ug/kg	250	125	10	07/15/13 10:22	07/20/13 00:46	12672-29-6	
PCB-1254 (Aroclor 1254)	1140	ug/kg	250	125	10	07/15/13 10:22	07/20/13 00:46	11097-69-1	
PCB-1260 (Aroclor 1260)	423	ug/kg	250	125	10	07/15/13 10:22	07/20/13 00:46	11096-82-5	
PCB, Total	2090	ug/kg	250	125	10	07/15/13 10:22	07/20/13 00:46	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	81 %		44-130		10	07/15/13 10:22	07/20/13 00:46	877-09-8	
Decachlorobiphenyl (S)	88 %		62-130		10	07/15/13 10:22	07/20/13 00:46	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/15/13 07:24		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.4 %				1		07/17/13 08:49		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Sample: MR2 AC5 **Lab ID: 4079392005** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	07/15/13 10:22	07/20/13 01:38	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	07/15/13 10:22	07/20/13 01:38	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	07/15/13 10:22	07/20/13 01:38	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	07/15/13 10:22	07/20/13 01:38	53469-21-9	
PCB-1248 (Aroclor 1248)	7030	ug/kg	750	375	30	07/15/13 10:22	07/20/13 01:38	12672-29-6	
PCB-1254 (Aroclor 1254)	4690	ug/kg	750	375	30	07/15/13 10:22	07/20/13 01:38	11097-69-1	
PCB-1260 (Aroclor 1260)	449J	ug/kg	750	375	30	07/15/13 10:22	07/20/13 01:38	11096-82-5	
PCB, Total	12200	ug/kg	750	375	30	07/15/13 10:22	07/20/13 01:38	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	07/15/13 10:22	07/20/13 01:38	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	07/15/13 10:22	07/20/13 01:38	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/15/13 07:24		
Lipid									
Analytical Method: Pace Lipid									
Lipid	4.4 %				1		07/17/13 08:49		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079392

Sample: MR2 AC6 **Lab ID: 4079392006** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	07/15/13 10:22	07/20/13 01:55	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	07/15/13 10:22	07/20/13 01:55	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	07/15/13 10:22	07/20/13 01:55	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	07/15/13 10:22	07/20/13 01:55	53469-21-9	
PCB-1248 (Aroclor 1248)	13300	ug/kg	1250	625	50	07/15/13 10:22	07/20/13 01:55	12672-29-6	
PCB-1254 (Aroclor 1254)	9150	ug/kg	1250	625	50	07/15/13 10:22	07/20/13 01:55	11097-69-1	
PCB-1260 (Aroclor 1260)	1330	ug/kg	1250	625	50	07/15/13 10:22	07/20/13 01:55	11096-82-5	
PCB, Total	23800	ug/kg	1250	625	50	07/15/13 10:22	07/20/13 01:55	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	07/15/13 10:22	07/20/13 01:55	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	07/15/13 10:22	07/20/13 01:55	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/15/13 07:24		
Lipid		Analytical Method: Pace Lipid							
Lipid	12.6 %				1		07/17/13 08:49		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Sample: MR2 AC7 **Lab ID: 4079392007** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	07/15/13 10:22	07/20/13 02:12	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	07/15/13 10:22	07/20/13 02:12	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	07/15/13 10:22	07/20/13 02:12	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	07/15/13 10:22	07/20/13 02:12	53469-21-9	
PCB-1248 (Aroclor 1248)	422	ug/kg	250	125	10	07/15/13 10:22	07/20/13 02:12	12672-29-6	
PCB-1254 (Aroclor 1254)	1370	ug/kg	250	125	10	07/15/13 10:22	07/20/13 02:12	11097-69-1	
PCB-1260 (Aroclor 1260)	938	ug/kg	250	125	10	07/15/13 10:22	07/20/13 02:12	11096-82-5	
PCB, Total	2730	ug/kg	250	125	10	07/15/13 10:22	07/20/13 02:12	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	69 %		44-130		10	07/15/13 10:22	07/20/13 02:12	877-09-8	
Decachlorobiphenyl (S)	115 %		62-130		10	07/15/13 10:22	07/20/13 02:12	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/15/13 07:24		
Lipid									
Analytical Method: Pace Lipid									
Lipid	24.2 %				1		07/17/13 08:49		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Sample: MR2 AC8 **Lab ID: 4079392008** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	07/15/13 10:22	07/20/13 02:29	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	07/15/13 10:22	07/20/13 02:29	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	07/15/13 10:22	07/20/13 02:29	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	07/15/13 10:22	07/20/13 02:29	53469-21-9	
PCB-1248 (Aroclor 1248)	13100	ug/kg	1250	625	50	07/15/13 10:22	07/20/13 02:29	12672-29-6	
PCB-1254 (Aroclor 1254)	12800	ug/kg	1250	625	50	07/15/13 10:22	07/20/13 02:29	11097-69-1	
PCB-1260 (Aroclor 1260)	1470	ug/kg	1250	625	50	07/15/13 10:22	07/20/13 02:29	11096-82-5	
PCB, Total	27400	ug/kg	1250	625	50	07/15/13 10:22	07/20/13 02:29	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	07/15/13 10:22	07/20/13 02:29	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	07/15/13 10:22	07/20/13 02:29	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/15/13 07:24		
Lipid									
Analytical Method: Pace Lipid									
Lipid	12.6 %				1		07/17/13 08:50		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Sample: MR2 AWS1 **Lab ID: 4079392009** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<37.5	ug/kg	75.0	37.5	3	07/15/13 10:22	07/20/13 02:47	12674-11-2	
PCB-1221 (Aroclor 1221)	<37.5	ug/kg	75.0	37.5	3	07/15/13 10:22	07/20/13 02:47	11104-28-2	
PCB-1232 (Aroclor 1232)	<37.5	ug/kg	75.0	37.5	3	07/15/13 10:22	07/20/13 02:47	11141-16-5	
PCB-1242 (Aroclor 1242)	265	ug/kg	75.0	37.5	3	07/15/13 10:22	07/20/13 02:47	53469-21-9	
PCB-1248 (Aroclor 1248)	<37.5	ug/kg	75.0	37.5	3	07/15/13 10:22	07/20/13 02:47	12672-29-6	
PCB-1254 (Aroclor 1254)	269	ug/kg	75.0	37.5	3	07/15/13 10:22	07/20/13 02:47	11097-69-1	
PCB-1260 (Aroclor 1260)	97.8	ug/kg	75.0	37.5	3	07/15/13 10:22	07/20/13 02:47	11096-82-5	
PCB, Total	632	ug/kg	75.0	37.5	3	07/15/13 10:22	07/20/13 02:47	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	81	%	44-130		3	07/15/13 10:22	07/20/13 02:47	877-09-8	
Decachlorobiphenyl (S)	86	%	62-130		3	07/15/13 10:22	07/20/13 02:47	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/15/13 07:24		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.8	%			1		07/17/13 08:50		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Sample: MR2 AWS2 **Lab ID: 4079392010** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<37.5	ug/kg	75.0	37.5	3	07/15/13 10:22	07/20/13 03:04	12674-11-2	
PCB-1221 (Aroclor 1221)	<37.5	ug/kg	75.0	37.5	3	07/15/13 10:22	07/20/13 03:04	11104-28-2	
PCB-1232 (Aroclor 1232)	<37.5	ug/kg	75.0	37.5	3	07/15/13 10:22	07/20/13 03:04	11141-16-5	
PCB-1242 (Aroclor 1242)	<37.5	ug/kg	75.0	37.5	3	07/15/13 10:22	07/20/13 03:04	53469-21-9	
PCB-1248 (Aroclor 1248)	638	ug/kg	75.0	37.5	3	07/15/13 10:22	07/20/13 03:04	12672-29-6	
PCB-1254 (Aroclor 1254)	341	ug/kg	75.0	37.5	3	07/15/13 10:22	07/20/13 03:04	11097-69-1	
PCB-1260 (Aroclor 1260)	<37.5	ug/kg	75.0	37.5	3	07/15/13 10:22	07/20/13 03:04	11096-82-5	
PCB, Total	979	ug/kg	75.0	37.5	3	07/15/13 10:22	07/20/13 03:04	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	93	%	44-130		3	07/15/13 10:22	07/20/13 03:04	877-09-8	
Decachlorobiphenyl (S)	95	%	62-130		3	07/15/13 10:22	07/20/13 03:04	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/15/13 07:24		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.3	%			1		07/17/13 08:50		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Sample: MR2 AWS3 **Lab ID: 4079392011** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 03:21	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 03:21	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 03:21	11141-16-5	
PCB-1242 (Aroclor 1242)	261	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 03:21	53469-21-9	
PCB-1248 (Aroclor 1248)	<50.0	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 03:21	12672-29-6	
PCB-1254 (Aroclor 1254)	321	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 03:21	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 03:21	11096-82-5	
PCB, Total	582	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 03:21	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	80 %		44-130		4	07/15/13 10:22	07/20/13 03:21	877-09-8	
Decachlorobiphenyl (S)	86 %		62-130		4	07/15/13 10:22	07/20/13 03:21	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/15/13 07:24		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.9 %				1		07/17/13 08:50		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Sample: MR2 AWS4 **Lab ID: 4079392012** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 03:38	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 03:38	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 03:38	11141-16-5	
PCB-1242 (Aroclor 1242)	317	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 03:38	53469-21-9	
PCB-1248 (Aroclor 1248)	<50.0	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 03:38	12672-29-6	
PCB-1254 (Aroclor 1254)	279	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 03:38	11097-69-1	
PCB-1260 (Aroclor 1260)	62.5J	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 03:38	11096-82-5	
PCB, Total	658	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 03:38	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	85 %		44-130		4	07/15/13 10:22	07/20/13 03:38	877-09-8	
Decachlorobiphenyl (S)	91 %		62-130		4	07/15/13 10:22	07/20/13 03:38	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/15/13 07:24		
Lipid		Analytical Method: Pace Lipid							
Lipid	2.1 %				1		07/17/13 08:50		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Sample: MR2 AWS5 **Lab ID: 4079392013** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<12.5	ug/kg	25.0	12.5	1	07/15/13 10:22	07/20/13 03:55	12674-11-2	
PCB-1221 (Aroclor 1221)	<12.5	ug/kg	25.0	12.5	1	07/15/13 10:22	07/20/13 03:55	11104-28-2	
PCB-1232 (Aroclor 1232)	<12.5	ug/kg	25.0	12.5	1	07/15/13 10:22	07/20/13 03:55	11141-16-5	
PCB-1242 (Aroclor 1242)	94.7	ug/kg	25.0	12.5	1	07/15/13 10:22	07/20/13 03:55	53469-21-9	
PCB-1248 (Aroclor 1248)	<12.5	ug/kg	25.0	12.5	1	07/15/13 10:22	07/20/13 03:55	12672-29-6	
PCB-1254 (Aroclor 1254)	87.6	ug/kg	25.0	12.5	1	07/15/13 10:22	07/20/13 03:55	11097-69-1	
PCB-1260 (Aroclor 1260)	<12.5	ug/kg	25.0	12.5	1	07/15/13 10:22	07/20/13 03:55	11096-82-5	
PCB, Total	182	ug/kg	25.0	12.5	1	07/15/13 10:22	07/20/13 03:55	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	100	%	44-130		1	07/15/13 10:22	07/20/13 03:55	877-09-8	
Decachlorobiphenyl (S)	104	%	62-130		1	07/15/13 10:22	07/20/13 03:55	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/15/13 07:24		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.5	%			1		07/17/13 08:50		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079392

Sample: MR2 AWS6 **Lab ID: 4079392014** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<12.5	ug/kg	25.0	12.5	1	07/15/13 10:22	07/20/13 04:13	12674-11-2	
PCB-1221 (Aroclor 1221)	<12.5	ug/kg	25.0	12.5	1	07/15/13 10:22	07/20/13 04:13	11104-28-2	
PCB-1232 (Aroclor 1232)	<12.5	ug/kg	25.0	12.5	1	07/15/13 10:22	07/20/13 04:13	11141-16-5	
PCB-1242 (Aroclor 1242)	122	ug/kg	25.0	12.5	1	07/15/13 10:22	07/20/13 04:13	53469-21-9	
PCB-1248 (Aroclor 1248)	<12.5	ug/kg	25.0	12.5	1	07/15/13 10:22	07/20/13 04:13	12672-29-6	
PCB-1254 (Aroclor 1254)	194	ug/kg	25.0	12.5	1	07/15/13 10:22	07/20/13 04:13	11097-69-1	
PCB-1260 (Aroclor 1260)	22.4J	ug/kg	25.0	12.5	1	07/15/13 10:22	07/20/13 04:13	11096-82-5	
PCB, Total	338	ug/kg	25.0	12.5	1	07/15/13 10:22	07/20/13 04:13	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	89 %		44-130		1	07/15/13 10:22	07/20/13 04:13	877-09-8	
Decachlorobiphenyl (S)	97 %		62-130		1	07/15/13 10:22	07/20/13 04:13	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/15/13 07:24		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.8 %				1		07/17/13 08:50		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079392

Sample: MR2 AWS7 **Lab ID: 4079392015** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 04:30	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 04:30	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 04:30	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 04:30	53469-21-9	
PCB-1248 (Aroclor 1248)	594	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 04:30	12672-29-6	
PCB-1254 (Aroclor 1254)	507	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 04:30	11097-69-1	
PCB-1260 (Aroclor 1260)	55.8J	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 04:30	11096-82-5	
PCB, Total	1160	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 04:30	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	83 %		44-130		4	07/15/13 10:22	07/20/13 04:30	877-09-8	
Decachlorobiphenyl (S)	91 %		62-130		4	07/15/13 10:22	07/20/13 04:30	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/15/13 07:24		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.7 %				1		07/17/13 08:50		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Sample: MR2 AWS8 **Lab ID: 4079392016** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 04:47	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 04:47	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 04:47	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 04:47	53469-21-9	
PCB-1248 (Aroclor 1248)	550	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 04:47	12672-29-6	
PCB-1254 (Aroclor 1254)	660	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 04:47	11097-69-1	
PCB-1260 (Aroclor 1260)	102	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 04:47	11096-82-5	
PCB, Total	1310	ug/kg	100	50.0	4	07/15/13 10:22	07/20/13 04:47	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	80 %		44-130		4	07/15/13 10:22	07/20/13 04:47	877-09-8	
Decachlorobiphenyl (S)	87 %		62-130		4	07/15/13 10:22	07/20/13 04:47	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/15/13 07:24		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.8 %				1		07/17/13 08:50		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Sample: MR2 JWS2 **Lab ID: 4079392017** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:04	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:04	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:04	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:04	53469-21-9	
PCB-1248 (Aroclor 1248)	1250	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:04	12672-29-6	
PCB-1254 (Aroclor 1254)	647	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:04	11097-69-1	
PCB-1260 (Aroclor 1260)	<62.5	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:04	11096-82-5	
PCB, Total	1900	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:04	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	85 %		44-130		5	07/15/13 10:22	07/20/13 05:04	877-09-8	
Decachlorobiphenyl (S)	88 %		62-130		5	07/15/13 10:22	07/20/13 05:04	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/15/13 07:24		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.2 %				1		07/17/13 08:51		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Sample: MR2 JWS3 **Lab ID: 4079392018** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:21	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:21	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:21	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:21	53469-21-9	
PCB-1248 (Aroclor 1248)	1130	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:21	12672-29-6	
PCB-1254 (Aroclor 1254)	614	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:21	11097-69-1	
PCB-1260 (Aroclor 1260)	<62.5	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:21	11096-82-5	
PCB, Total	1740	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:21	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	82 %		44-130		5	07/15/13 10:22	07/20/13 05:21	877-09-8	
Decachlorobiphenyl (S)	87 %		62-130		5	07/15/13 10:22	07/20/13 05:21	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/15/13 07:24		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.2 %				1		07/17/13 08:51		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Sample: MR2 JWS4 **Lab ID: 4079392019** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<52.1	ug/kg	104	52.1	4	07/15/13 10:22	07/20/13 05:39	12674-11-2	
PCB-1221 (Aroclor 1221)	<52.1	ug/kg	104	52.1	4	07/15/13 10:22	07/20/13 05:39	11104-28-2	
PCB-1232 (Aroclor 1232)	<52.1	ug/kg	104	52.1	4	07/15/13 10:22	07/20/13 05:39	11141-16-5	
PCB-1242 (Aroclor 1242)	<52.1	ug/kg	104	52.1	4	07/15/13 10:22	07/20/13 05:39	53469-21-9	
PCB-1248 (Aroclor 1248)	803	ug/kg	104	52.1	4	07/15/13 10:22	07/20/13 05:39	12672-29-6	
PCB-1254 (Aroclor 1254)	350	ug/kg	104	52.1	4	07/15/13 10:22	07/20/13 05:39	11097-69-1	
PCB-1260 (Aroclor 1260)	<52.1	ug/kg	104	52.1	4	07/15/13 10:22	07/20/13 05:39	11096-82-5	
PCB, Total	1150	ug/kg	104	52.1	4	07/15/13 10:22	07/20/13 05:39	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	88 %		44-130		4	07/15/13 10:22	07/20/13 05:39	877-09-8	
Decachlorobiphenyl (S)	92 %		62-130		4	07/15/13 10:22	07/20/13 05:39	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/15/13 07:24		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.7 %				1		07/17/13 08:51		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079392

Sample: MR2 JWS5 **Lab ID: 4079392020** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:56	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:56	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:56	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:56	53469-21-9	
PCB-1248 (Aroclor 1248)	1240	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:56	12672-29-6	
PCB-1254 (Aroclor 1254)	589	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:56	11097-69-1	
PCB-1260 (Aroclor 1260)	<62.5	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:56	11096-82-5	
PCB, Total	1830	ug/kg	125	62.5	5	07/15/13 10:22	07/20/13 05:56	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	84 %		44-130		5	07/15/13 10:22	07/20/13 05:56	877-09-8	
Decachlorobiphenyl (S)	89 %		62-130		5	07/15/13 10:22	07/20/13 05:56	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/15/13 07:24		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.5 %				1		07/17/13 08:51		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079392

QC Batch: OEXT/18978 Analysis Method: EPA 8082
QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides
Associated Lab Samples: 4079392001, 4079392002, 4079392003, 4079392004, 4079392005, 4079392006, 4079392007, 4079392008, 4079392009, 4079392010, 4079392011, 4079392012, 4079392013, 4079392014, 4079392015, 4079392016, 4079392017, 4079392018, 4079392019, 4079392020

METHOD BLANK: 823127 Matrix: Tissue

Associated Lab Samples: 4079392001, 4079392002, 4079392003, 4079392004, 4079392005, 4079392006, 4079392007, 4079392008, 4079392009, 4079392010, 4079392011, 4079392012, 4079392013, 4079392014, 4079392015, 4079392016, 4079392017, 4079392018, 4079392019, 4079392020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<12.5	25.0	07/19/13 22:45	
PCB-1221 (Aroclor 1221)	ug/kg	<12.5	25.0	07/19/13 22:45	
PCB-1232 (Aroclor 1232)	ug/kg	<12.5	25.0	07/19/13 22:45	
PCB-1242 (Aroclor 1242)	ug/kg	<12.5	25.0	07/19/13 22:45	
PCB-1248 (Aroclor 1248)	ug/kg	<12.5	25.0	07/19/13 22:45	
PCB-1254 (Aroclor 1254)	ug/kg	<12.5	25.0	07/19/13 22:45	
PCB-1260 (Aroclor 1260)	ug/kg	<12.5	25.0	07/19/13 22:45	
Decachlorobiphenyl (S)	%	91	62-130	07/19/13 22:45	
Tetrachloro-m-xylene (S)	%	89	44-130	07/19/13 22:45	

LABORATORY CONTROL SAMPLE: 823128

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<12.5			
PCB-1221 (Aroclor 1221)	ug/kg		<12.5			
PCB-1232 (Aroclor 1232)	ug/kg		<12.5			
PCB-1242 (Aroclor 1242)	ug/kg	250	246	98	61-130	
PCB-1248 (Aroclor 1248)	ug/kg		<12.5			
PCB-1254 (Aroclor 1254)	ug/kg		<12.5			
PCB-1260 (Aroclor 1260)	ug/kg		<12.5			
Decachlorobiphenyl (S)	%			86	62-130	
Tetrachloro-m-xylene (S)	%			88	44-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 823129 823130

Parameter	Units	4079392001		823130		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
PCB-1016 (Aroclor 1016)	ug/kg	<125		<125	<125					24	
PCB-1221 (Aroclor 1221)	ug/kg	<125		<125	<125					24	
PCB-1232 (Aroclor 1232)	ug/kg	<125		<125	<125					24	
PCB-1242 (Aroclor 1242)	ug/kg	782	1000	1890	1770	111	99	27-163	7	24	
PCB-1248 (Aroclor 1248)	ug/kg	<125		<125	<125					24	
PCB-1254 (Aroclor 1254)	ug/kg	1020		1270	1160				8	24	
PCB-1260 (Aroclor 1260)	ug/kg	338		392	361				8	24	
Decachlorobiphenyl (S)	%					92	90	62-130			
Tetrachloro-m-xylene (S)	%					82	80	44-130			

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QUALITY CONTROL DATA

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079392

QC Batch: OEXT/18997 Analysis Method: Pace Lipid
QC Batch Method: Pace Lipid Analysis Description: LIPID
Associated Lab Samples: 4079392001, 4079392002, 4079392003, 4079392004, 4079392005, 4079392006, 4079392007, 4079392008,
4079392009, 4079392010, 4079392011, 4079392012, 4079392013, 4079392014, 4079392015, 4079392016,
4079392017, 4079392018, 4079392019, 4079392020

METHOD BLANK: 823446 Matrix: Tissue
Associated Lab Samples: 4079392001, 4079392002, 4079392003, 4079392004, 4079392005, 4079392006, 4079392007, 4079392008,
4079392009, 4079392010, 4079392011, 4079392012, 4079392013, 4079392014, 4079392015, 4079392016,
4079392017, 4079392018, 4079392019, 4079392020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lipid	%	0.56		07/17/13 08:48	

SAMPLE DUPLICATE: 823447

Parameter	Units	4079392001 Result	Dup Result	RPD	Max RPD	Qualifiers
Lipid	%	7.5	8.9	17	20	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079392001	MR2 AC1	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392002	MR2 AC2	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392003	MR2 AC3	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392004	MR2 AC4	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392005	MR2 AC5	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392006	MR2 AC6	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392007	MR2 AC7	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392008	MR2 AC8	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392009	MR2 AWS1	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392010	MR2 AWS2	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392011	MR2 AWS3	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392012	MR2 AWS4	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392013	MR2 AWS5	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392014	MR2 AWS6	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392015	MR2 AWS7	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392016	MR2 AWS8	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392017	MR2 JWS2	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392018	MR2 JWS3	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392019	MR2 JWS4	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392020	MR2 JWS5	EPA 3540	OEXT/18978	EPA 8082	GCSV/9882
4079392001	MR2 AC1	Pace Gender Typing	GRND/2597		
4079392002	MR2 AC2	Pace Gender Typing	GRND/2597		
4079392003	MR2 AC3	Pace Gender Typing	GRND/2597		
4079392004	MR2 AC4	Pace Gender Typing	GRND/2597		
4079392005	MR2 AC5	Pace Gender Typing	GRND/2597		
4079392006	MR2 AC6	Pace Gender Typing	GRND/2597		
4079392007	MR2 AC7	Pace Gender Typing	GRND/2597		
4079392008	MR2 AC8	Pace Gender Typing	GRND/2597		
4079392009	MR2 AWS1	Pace Gender Typing	GRND/2597		
4079392010	MR2 AWS2	Pace Gender Typing	GRND/2597		
4079392011	MR2 AWS3	Pace Gender Typing	GRND/2597		
4079392012	MR2 AWS4	Pace Gender Typing	GRND/2597		
4079392013	MR2 AWS5	Pace Gender Typing	GRND/2597		
4079392014	MR2 AWS6	Pace Gender Typing	GRND/2597		
4079392015	MR2 AWS7	Pace Gender Typing	GRND/2597		
4079392016	MR2 AWS8	Pace Gender Typing	GRND/2597		
4079392017	MR2 JWS2	Pace Gender Typing	GRND/2597		
4079392018	MR2 JWS3	Pace Gender Typing	GRND/2597		
4079392019	MR2 JWS4	Pace Gender Typing	GRND/2597		
4079392020	MR2 JWS5	Pace Gender Typing	GRND/2597		
4079392001	MR2 AC1	Pace Lipid	OEXT/18997		
4079392002	MR2 AC2	Pace Lipid	OEXT/18997		
4079392003	MR2 AC3	Pace Lipid	OEXT/18997		
4079392004	MR2 AC4	Pace Lipid	OEXT/18997		
4079392005	MR2 AC5	Pace Lipid	OEXT/18997		
4079392006	MR2 AC6	Pace Lipid	OEXT/18997		
4079392007	MR2 AC7	Pace Lipid	OEXT/18997		
4079392008	MR2 AC8	Pace Lipid	OEXT/18997		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079392

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079392009	MR2 AWS1	Pace Lipid	OEXT/18997		
4079392010	MR2 AWS2	Pace Lipid	OEXT/18997		
4079392011	MR2 AWS3	Pace Lipid	OEXT/18997		
4079392012	MR2 AWS4	Pace Lipid	OEXT/18997		
4079392013	MR2 AWS5	Pace Lipid	OEXT/18997		
4079392014	MR2 AWS6	Pace Lipid	OEXT/18997		
4079392015	MR2 AWS7	Pace Lipid	OEXT/18997		
4079392016	MR2 AWS8	Pace Lipid	OEXT/18997		
4079392017	MR2 JWS2	Pace Lipid	OEXT/18997		
4079392018	MR2 JWS3	Pace Lipid	OEXT/18997		
4079392019	MR2 JWS4	Pace Lipid	OEXT/18997		
4079392020	MR2 JWS5	Pace Lipid	OEXT/18997		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):
 PO #:

Regulatory Program:

Data Package Options (billable)

- EPA Level III
- EPA Level IV

MS/MSD

- On your sample (billable)
- NOT needed on your sample

Matrix Codes

- A = Air
- B = Biota
- C = Charcoal
- O = Oil
- S = Soil
- Sl = Sludge
- W = Water
- DW = Drinking Water
- GW = Ground Water
- SW = Surface Water
- WW = Waste Water
- WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	MR2 AC1	6/7/13		Tissue
002	MR2 AC2	6/7/13		Tissue
003	MR2 AC3	6/7/13		Tissue
004	MR2 AC4	6/7/13		Tissue
005	MR2 AC5	6/7/13		Tissue
006	MR2 AC6	6/7/13		Tissue
007	MR2 AC7	6/7/13		Tissue
008	MR2 AC8	6/7/13		Tissue



COC No. 7 4079392

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED? (YES/NO)
PRESERVATION (CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A

Quote #:
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact: Goldie Sharp
Invoice To Company: As Above
Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone: 513-489-6789
CLIENT COMMENTS: Whole Fish Sample
LAB COMMENTS (Lab Use Only): 1-polybag^A
Profile #:

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: [Signature] Date/Time: 6/10/13
 Relinquished By: [Signature] Date/Time: 6/10/13 1530
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:

Received By: [Signature] Date/Time: 6/10/13 1415
 Received By: [Signature] Date/Time: 6/10/13 1530
 Received By: Date/Time:
 Received By: Date/Time:

PACE Project No. 4079392
 Receipt Temp = 20 °C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present / Not Present Intact / Not Intact

(Please Print Clearly)

Company Name: Pollution Risk Services
Branch/Location: Sheboygan
Project Contact: Mark Mather
Phone: 513-678-2137 or 513-387-2778
Project Number: SR13-001 Task 10-02000
Project Name: 2013 Fish Sampling
Project State: Wisconsin
Sampled By (Print): Mark Mather
Sampled By (Sign):
PO #:
Regulatory Program:



UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

COC No. 7 4079392

CHAIN OF CUSTODY

***Preservation Codes**
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
PRESERVATION
(CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
A = Air W = Water
B = Biota DW = Drinking Water
C = Charcoal GW = Ground Water
O = Oil SW = Surface Water
S = Soil WW = Waste Water
SI = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID		COLLECTION		MATRIX
			DATE	TIME	
001	009	MR2 AWS1	6/7/13		Tissue
002	010	MR2 AWS2	6/7/13		Tissue
003	011	MR2 AWS3	6/7/13		Tissue
004	012	MR2 AWS4	6/7/13		Tissue
005	013	MR2 AWS5	6/7/13		Tissue
006	014	MR2 AWS6	6/7/13		Tissue
007	015	MR2 AWS7	6/7/13		Tissue
008	016	MR2 AWS8	6/7/13		Tissue

Quote #: [Blank]

Mail To Contact: Mark Mather

Mail To Company: PRS - Assured Group

Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Contact: Goldie Sharp

Invoice To Company: As Above

Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Phone: 513-489-6789

CLIENT COMMENTS: Whole Fish Sample

LAB COMMENTS (Lab Use Only): 1-polybag^A

Profile #:

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
Date Needed:
Transmit Prelim Rush Results by (complete what you want):
Email #1: mmather@assuredllc.com
Email #2:
Telephone: 513-387-2778
Fax:
Samples on HOLD are subject to special pricing and release of liability

Relinquished By: *[Signature]* Date/Time: 6/10/13
Relinquished By: *[Signature]* Date/Time: 6/10/13 1530
Relinquished By: Date/Time:
Relinquished By: Date/Time:
Relinquished By: Date/Time:

Received By: *[Signature]* Date/Time: 6/10/13 1415
Received By: *[Signature]* Date/Time: 6/10/13 1530
Received By: Date/Time:
Received By: Date/Time:
Received By: Date/Time:

PACE Project No.
4079392
Receipt Temp = 20 °C
Sample Receipt pH
OK / Adjusted
Cooler Custody Seal
Present / Not Present
Intact / Not Intact

(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

COC No. 7 4079392

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	

Quote #:
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact: Goldie Sharp
Invoice To Company: As Above
Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone: 513-489-6789

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	017 MR2 JWS2	6/7/13		Tissue
002	018 MR2 JWS3	6/7/13		Tissue
003	019 MR2 JWS4	6/7/13		Tissue
004	020 MR2 JWS5	6/7/13		Tissue
005	MR2 JWS6	6/7/13		Tissue
006	MR2 JWS7	6/7/13		Tissue

CLIENT COMMENTS
Whole Fish Sample

LAB COMMENTS (Lab Use Only)
1-polybag

Profile #

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: <i>[Signature]</i>	Date/Time: 6/10/13	Received By: <i>[Signature]</i>	Date/Time: 6/10/13 1415
Relinquished By: <i>[Signature]</i>	Date/Time: 6/10/13 1530	Received By: <i>[Signature]</i>	Date/Time: 6/10/13 1530
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No.
4079392

Receipt Temp = °C

Sample Receipt pH
OK / Adjusted

Cooler Custody Seal
Present / Not Present
Intact / Not Intact

Pace Analytical™

Sample Condition Upon Receipt

Client Name: PRS Project # 4129392

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____
Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used SR13 Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 20 /Corr: 20 Biological Tissue is Frozen: yes 6/11/13
 no

Temp Blank Present: yes no

Temp should be above freezing to 6°C for all sample except Biota.

Frozen Biota Samples should be received ≤ 0°C.

Person examining contents:
Date: 6-11-13
Initials: SW

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>B</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
		Lab Std #ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: Fish freshly caught same day 6/11/13
SW

Project Manager Review: OK for T&S

Date: 6/11/13

August 05, 2013

Mark Mather
Pollution Risk Services
7870 East Kemper Road
Suite 240
Cincinnati, OH 45249

RE: Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079489

Dear Mark Mather:

Enclosed are the analytical results for sample(s) received by the laboratory on June 10, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Tod Noltemeyer

tod.noltemeyer@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079489

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 11888

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

US Dept of Agriculture #: S-76505

Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079489

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4079489001	MR1 AC1	Tissue	06/08/13 00:00	06/10/13 15:30
4079489002	MR1 AC2	Tissue	06/08/13 00:00	06/10/13 15:30
4079489003	MR1 AC3	Tissue	06/08/13 00:00	06/10/13 15:30
4079489004	MR1 AC4	Tissue	06/08/13 00:00	06/10/13 15:30
4079489005	MR1 AC5	Tissue	06/08/13 00:00	06/10/13 15:30
4079489006	MR1 AC6	Tissue	06/08/13 00:00	06/10/13 15:30
4079489007	MR1 AC7	Tissue	06/08/13 00:00	06/10/13 15:30
4079489008	MR1 AC8	Tissue	06/08/13 00:00	06/10/13 15:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079489

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079489001	MR1 AC1	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079489002	MR1 AC2	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079489003	MR1 AC3	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079489004	MR1 AC4	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079489005	MR1 AC5	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079489006	MR1 AC6	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079489007	MR1 AC7	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079489008	MR1 AC8	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079489

Method: EPA 8082
Description: 8082 GCS PCB, Tissue
Client: POLLUTION RISK SERVICES
Date: August 05, 2013

General Information:

8 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/19156

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- MR1 AC1 (Lab ID: 4079489001)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR1 AC2 (Lab ID: 4079489002)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR1 AC3 (Lab ID: 4079489003)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR1 AC4 (Lab ID: 4079489004)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR1 AC5 (Lab ID: 4079489005)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR1 AC6 (Lab ID: 4079489006)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR1 AC7 (Lab ID: 4079489007)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR1 AC8 (Lab ID: 4079489008)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MS (Lab ID: 828425)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079489

Method: EPA 8082
Description: 8082 GCS PCB, Tissue
Client: POLLUTION RISK SERVICES
Date: August 05, 2013

QC Batch: OEXT/19156

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- Decachlorobiphenyl (S)
- Tetrachloro-m-xylene (S)
- MSD (Lab ID: 828426)
- Decachlorobiphenyl (S)
- Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/19156

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 4079489001

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 828425)
- PCB-1254 (Aroclor 1254)
- MSD (Lab ID: 828426)
- PCB-1254 (Aroclor 1254)

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079489

Method: Pace Gender Typing
Description: Fish Gender Typing
Client: POLLUTION RISK SERVICES
Date: August 05, 2013

General Information:

8 samples were analyzed for Pace Gender Typing. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079489

Method: Pace Lipid
Description: Lipid
Client: POLLUTION RISK SERVICES
Date: August 05, 2013

General Information:

8 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Project No.: 4079489

Sample: MR1 AC1 **Lab ID: 4079489001** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	07/25/13 12:00	07/30/13 19:16	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	07/25/13 12:00	07/30/13 19:16	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	07/25/13 12:00	07/30/13 19:16	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	07/25/13 12:00	07/30/13 19:16	53469-21-9	
PCB-1248 (Aroclor 1248)	7630	ug/kg	750	375	30	07/25/13 12:00	07/30/13 19:16	12672-29-6	
PCB-1254 (Aroclor 1254)	4380	ug/kg	750	375	30	07/25/13 12:00	07/30/13 19:16	11097-69-1	M6
PCB-1260 (Aroclor 1260)	408J	ug/kg	750	375	30	07/25/13 12:00	07/30/13 19:16	11096-82-5	
PCB, Total	12400	ug/kg	750	375	30	07/25/13 12:00	07/30/13 19:16	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	07/25/13 12:00	07/30/13 19:16	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	07/25/13 12:00	07/30/13 19:16	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/10/13 11:34		
Lipid									
Analytical Method: Pace Lipid									
Lipid	10.6 %				1		07/29/13 12:22		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079489

Sample: MR1 AC2 **Lab ID: 4079489002** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	07/25/13 12:00	07/30/13 19:35	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	07/25/13 12:00	07/30/13 19:35	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	07/25/13 12:00	07/30/13 19:35	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	07/25/13 12:00	07/30/13 19:35	53469-21-9	
PCB-1248 (Aroclor 1248)	7470	ug/kg	1250	625	50	07/25/13 12:00	07/30/13 19:35	12672-29-6	
PCB-1254 (Aroclor 1254)	8340	ug/kg	1250	625	50	07/25/13 12:00	07/30/13 19:35	11097-69-1	
PCB-1260 (Aroclor 1260)	827J	ug/kg	1250	625	50	07/25/13 12:00	07/30/13 19:35	11096-82-5	
PCB, Total	16600	ug/kg	1250	625	50	07/25/13 12:00	07/30/13 19:35	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	07/25/13 12:00	07/30/13 19:35	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	07/25/13 12:00	07/30/13 19:35	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:34		
Lipid									
Analytical Method: Pace Lipid									
Lipid	13.6 %				1		07/29/13 12:22		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Project No.: 4079489

Sample: MR1 AC3 **Lab ID: 4079489003** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<1250	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 19:53	12674-11-2	
PCB-1221 (Aroclor 1221)	<1250	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 19:53	11104-28-2	
PCB-1232 (Aroclor 1232)	<1250	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 19:53	11141-16-5	
PCB-1242 (Aroclor 1242)	<1250	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 19:53	53469-21-9	
PCB-1248 (Aroclor 1248)	12900	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 19:53	12672-29-6	
PCB-1254 (Aroclor 1254)	8630	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 19:53	11097-69-1	
PCB-1260 (Aroclor 1260)	<1250	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 19:53	11096-82-5	
PCB, Total	21500	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 19:53	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		100	07/25/13 12:00	07/30/13 19:53	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		100	07/25/13 12:00	07/30/13 19:53	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/10/13 11:34		
Lipid									
Analytical Method: Pace Lipid									
Lipid	27.4 %				1		07/29/13 12:22		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Project No.: 4079489

Sample: MR1 AC4 **Lab ID: 4079489004** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	07/25/13 12:00	07/30/13 20:12	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	07/25/13 12:00	07/30/13 20:12	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	07/25/13 12:00	07/30/13 20:12	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	07/25/13 12:00	07/30/13 20:12	53469-21-9	
PCB-1248 (Aroclor 1248)	7380	ug/kg	750	375	30	07/25/13 12:00	07/30/13 20:12	12672-29-6	
PCB-1254 (Aroclor 1254)	5120	ug/kg	750	375	30	07/25/13 12:00	07/30/13 20:12	11097-69-1	
PCB-1260 (Aroclor 1260)	449J	ug/kg	750	375	30	07/25/13 12:00	07/30/13 20:12	11096-82-5	
PCB, Total	13000	ug/kg	750	375	30	07/25/13 12:00	07/30/13 20:12	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	07/25/13 12:00	07/30/13 20:12	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	07/25/13 12:00	07/30/13 20:12	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/10/13 11:34		
Lipid		Analytical Method: Pace Lipid							
Lipid	10.7 %				1		07/29/13 12:22		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079489

Sample: MR1 AC5 **Lab ID: 4079489005** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	07/25/13 12:00	07/30/13 20:31	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	07/25/13 12:00	07/30/13 20:31	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	07/25/13 12:00	07/30/13 20:31	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	07/25/13 12:00	07/30/13 20:31	53469-21-9	
PCB-1248 (Aroclor 1248)	5240	ug/kg	750	375	30	07/25/13 12:00	07/30/13 20:31	12672-29-6	
PCB-1254 (Aroclor 1254)	3240	ug/kg	750	375	30	07/25/13 12:00	07/30/13 20:31	11097-69-1	
PCB-1260 (Aroclor 1260)	<375	ug/kg	750	375	30	07/25/13 12:00	07/30/13 20:31	11096-82-5	
PCB, Total	8490	ug/kg	750	375	30	07/25/13 12:00	07/30/13 20:31	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	07/25/13 12:00	07/30/13 20:31	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	07/25/13 12:00	07/30/13 20:31	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/10/13 11:34		
Lipid									
Analytical Method: Pace Lipid									
Lipid	11.5 %				1		07/29/13 12:22		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Project No.: 4079489

Sample: MR1 AC6 **Lab ID: 4079489006** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<1250	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 20:50	12674-11-2	
PCB-1221 (Aroclor 1221)	<1250	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 20:50	11104-28-2	
PCB-1232 (Aroclor 1232)	<1250	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 20:50	11141-16-5	
PCB-1242 (Aroclor 1242)	<1250	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 20:50	53469-21-9	
PCB-1248 (Aroclor 1248)	10800	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 20:50	12672-29-6	
PCB-1254 (Aroclor 1254)	7970	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 20:50	11097-69-1	
PCB-1260 (Aroclor 1260)	<1250	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 20:50	11096-82-5	
PCB, Total	18800	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 20:50	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		100	07/25/13 12:00	07/30/13 20:50	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		100	07/25/13 12:00	07/30/13 20:50	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/10/13 11:34		
Lipid									
Analytical Method: Pace Lipid									
Lipid	9.5 %				1		07/29/13 12:23		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079489

Sample: MR1 AC7 **Lab ID: 4079489007** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<1250	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 21:09	12674-11-2	
PCB-1221 (Aroclor 1221)	<1250	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 21:09	11104-28-2	
PCB-1232 (Aroclor 1232)	<1250	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 21:09	11141-16-5	
PCB-1242 (Aroclor 1242)	<1250	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 21:09	53469-21-9	
PCB-1248 (Aroclor 1248)	12900	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 21:09	12672-29-6	
PCB-1254 (Aroclor 1254)	9980	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 21:09	11097-69-1	
PCB-1260 (Aroclor 1260)	<1250	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 21:09	11096-82-5	
PCB, Total	22900	ug/kg	2500	1250	100	07/25/13 12:00	07/30/13 21:09	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		100	07/25/13 12:00	07/30/13 21:09	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		100	07/25/13 12:00	07/30/13 21:09	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/10/13 11:34		
Lipid									
Analytical Method: Pace Lipid									
Lipid	17.1 %				1		07/29/13 12:23		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Project No.: 4079489

Sample: MR1 AC8 **Lab ID: 4079489008** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	07/25/13 12:00	07/30/13 21:27	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	07/25/13 12:00	07/30/13 21:27	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	07/25/13 12:00	07/30/13 21:27	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	07/25/13 12:00	07/30/13 21:27	53469-21-9	
PCB-1248 (Aroclor 1248)	5600	ug/kg	750	375	30	07/25/13 12:00	07/30/13 21:27	12672-29-6	
PCB-1254 (Aroclor 1254)	4540	ug/kg	750	375	30	07/25/13 12:00	07/30/13 21:27	11097-69-1	
PCB-1260 (Aroclor 1260)	442J	ug/kg	750	375	30	07/25/13 12:00	07/30/13 21:27	11096-82-5	
PCB, Total	10600	ug/kg	750	375	30	07/25/13 12:00	07/30/13 21:27	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	07/25/13 12:00	07/30/13 21:27	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	07/25/13 12:00	07/30/13 21:27	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/10/13 11:34		
Lipid									
Analytical Method: Pace Lipid									
Lipid	15.0 %				1		07/29/13 12:23		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079489

QC Batch: OEXT/19156 Analysis Method: EPA 8082
QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides
Associated Lab Samples: 4079489001, 4079489002, 4079489003, 4079489004, 4079489005, 4079489006, 4079489007, 4079489008

METHOD BLANK: 828423 Matrix: Tissue
Associated Lab Samples: 4079489001, 4079489002, 4079489003, 4079489004, 4079489005, 4079489006, 4079489007, 4079489008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<12.5	25.0	07/30/13 18:03	
PCB-1221 (Aroclor 1221)	ug/kg	<12.5	25.0	07/30/13 18:03	
PCB-1232 (Aroclor 1232)	ug/kg	<12.5	25.0	07/30/13 18:03	
PCB-1242 (Aroclor 1242)	ug/kg	<12.5	25.0	07/30/13 18:03	
PCB-1248 (Aroclor 1248)	ug/kg	<12.5	25.0	07/30/13 18:03	
PCB-1254 (Aroclor 1254)	ug/kg	<12.5	25.0	07/30/13 18:03	
PCB-1260 (Aroclor 1260)	ug/kg	<12.5	25.0	07/30/13 18:03	
Decachlorobiphenyl (S)	%	79	62-130	07/30/13 18:03	
Tetrachloro-m-xylene (S)	%	83	44-130	07/30/13 18:03	

LABORATORY CONTROL SAMPLE: 828424

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<12.5			
PCB-1221 (Aroclor 1221)	ug/kg		<12.5			
PCB-1232 (Aroclor 1232)	ug/kg		<12.5			
PCB-1242 (Aroclor 1242)	ug/kg		<12.5			
PCB-1248 (Aroclor 1248)	ug/kg		<12.5			
PCB-1254 (Aroclor 1254)	ug/kg	250	205	82	61-130	
PCB-1260 (Aroclor 1260)	ug/kg		<12.5			
Decachlorobiphenyl (S)	%			78	62-130	
Tetrachloro-m-xylene (S)	%			82	44-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 828425 828426

Parameter	Units	4079489001		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	Result	MSD Result	% Rec	% Rec					
PCB-1016 (Aroclor 1016)	ug/kg	<375			<375	<375						24	
PCB-1221 (Aroclor 1221)	ug/kg	<375			<375	<375						24	
PCB-1232 (Aroclor 1232)	ug/kg	<375			<375	<375						24	
PCB-1242 (Aroclor 1242)	ug/kg	<375			<375	<375						24	
PCB-1248 (Aroclor 1248)	ug/kg	7630			7280	6680					9	24	
PCB-1254 (Aroclor 1254)	ug/kg	4380	1000	1000	4910	4630	53	25	27-163	6	24	M6	
PCB-1260 (Aroclor 1260)	ug/kg	408J			399J	<375						24	
Decachlorobiphenyl (S)	%						0	0	62-130				S4
Tetrachloro-m-xylene (S)	%						0	0	44-130				S4

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079489

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079489

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079489001	MR1 AC1	EPA 3540	OEXT/19156	EPA 8082	GCSV/9944
4079489002	MR1 AC2	EPA 3540	OEXT/19156	EPA 8082	GCSV/9944
4079489003	MR1 AC3	EPA 3540	OEXT/19156	EPA 8082	GCSV/9944
4079489004	MR1 AC4	EPA 3540	OEXT/19156	EPA 8082	GCSV/9944
4079489005	MR1 AC5	EPA 3540	OEXT/19156	EPA 8082	GCSV/9944
4079489006	MR1 AC6	EPA 3540	OEXT/19156	EPA 8082	GCSV/9944
4079489007	MR1 AC7	EPA 3540	OEXT/19156	EPA 8082	GCSV/9944
4079489008	MR1 AC8	EPA 3540	OEXT/19156	EPA 8082	GCSV/9944
4079489001	MR1 AC1	Pace Gender Typing	GRND/2591		
4079489002	MR1 AC2	Pace Gender Typing	GRND/2591		
4079489003	MR1 AC3	Pace Gender Typing	GRND/2591		
4079489004	MR1 AC4	Pace Gender Typing	GRND/2591		
4079489005	MR1 AC5	Pace Gender Typing	GRND/2591		
4079489006	MR1 AC6	Pace Gender Typing	GRND/2591		
4079489007	MR1 AC7	Pace Gender Typing	GRND/2591		
4079489008	MR1 AC8	Pace Gender Typing	GRND/2591		
4079489001	MR1 AC1	Pace Lipid	OEXT/19169		
4079489002	MR1 AC2	Pace Lipid	OEXT/19169		
4079489003	MR1 AC3	Pace Lipid	OEXT/19169		
4079489004	MR1 AC4	Pace Lipid	OEXT/19169		
4079489005	MR1 AC5	Pace Lipid	OEXT/19169		
4079489006	MR1 AC6	Pace Lipid	OEXT/19169		
4079489007	MR1 AC7	Pace Lipid	OEXT/19169		
4079489008	MR1 AC8	Pace Lipid	OEXT/19169		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):



UPPER MIDWEST REGION

MN: 612-607-1700 WI: 920-469-2436

COC No. 6 4579489

CHAIN OF CUSTODY

Preservation Codes
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	

Quote #:
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact: Goldie Sharp
Invoice To Company: As Above
Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone: 513-489-6789

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	MR1 AC1	6/8/13		Tissue
002	MR1 AC2	6/8/13		Tissue
003	MR1 AC3	6/8/13		Tissue
004	MR1 AC4	6/8/13		Tissue
005	MR1 AC5	6/8/13		Tissue
006	MR1 AC6	6/8/13		Tissue
007	MR1 AC7	6/8/13		Tissue
008	MR1 AC8	6/8/13		Tissue

CLIENT COMMENTS
Whole Fish Sample

LAB COMMENTS (Lab Use Only)
1-polybag^A

Profile #

Rush Turnaround Time Requested - Prelims
 (Rush TAT subject to approval/surcharge)
 Date Needed:
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: [Signature] Date/Time: 6/10/13 1415
 Relinquished By: [Signature] Date/Time: 6/10/13 1530
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:

Received By: [Signature] Date/Time: 6/10/13 1415
 Received By: [Signature] Date/Time: 6/10/13 1530
 Received By: Date/Time:
 Received By: Date/Time:

PACE Project No.
4579489
Receipt Temp = 20 °C
Sample Receipt pH
OK / Adjusted
Cooler Custody Seal
Present / Not Present
Intact / Not Intact



Sample Condition Upon Receipt

Client Name: PRS Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used SR13 Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 20 / Corr: 20 Biological Tissue is Frozen: yes 6/11/13
 no

Temp Blank Present: yes no

Temp should be above freezing to 6°C for all sample except Biota.

Frozen Biota Samples should be received ≤ 0°C.

Person examining contents:
Date: 6-11-13
Initials: SW

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>B</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
		Lab Std #ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: Fish freshly caught same day 6/11/13 SW

Project Manager Review: OK for TA

Date: 6/12/13

August 05, 2013

Mark Mather
Pollution Risk Services
7870 East Kemper Road
Suite 240
Cincinnati, OH 45249

RE: Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079490

Dear Mark Mather:

Enclosed are the analytical results for sample(s) received by the laboratory on June 10, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Tod Noltemeyer

tod.noltemeyer@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079490

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 11888

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

US Dept of Agriculture #: S-76505

Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079490

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4079490001	MR1 AWS1	Tissue	06/08/13 00:00	06/10/13 15:30
4079490002	MR1 AWS2	Tissue	06/08/13 00:00	06/10/13 15:30
4079490003	MR1 AWS3	Tissue	06/08/13 00:00	06/10/13 15:30
4079490004	MR1 AWS4	Tissue	06/08/13 00:00	06/10/13 15:30
4079490005	MR1 AWS5	Tissue	06/08/13 00:00	06/10/13 15:30
4079490006	MR1 AWS6	Tissue	06/08/13 00:00	06/10/13 15:30
4079490007	MR1 AWS7	Tissue	06/08/13 00:00	06/10/13 15:30
4079490008	MR1 AWS8	Tissue	06/08/13 00:00	06/10/13 15:30
4079490009	MR1 SMB1	Tissue	06/08/13 00:00	06/10/13 15:30
4079490010	MR1 SMB2	Tissue	06/08/13 00:00	06/10/13 15:30
4079490011	MR1 SMB3	Tissue	06/08/13 00:00	06/10/13 15:30
4079490012	MR1 SMB4	Tissue	06/08/13 00:00	06/10/13 15:30
4079490013	MR1 SMB5	Tissue	06/08/13 00:00	06/10/13 15:30
4079490014	MR1 SMB6	Tissue	06/08/13 00:00	06/10/13 15:30
4079490015	MR1 SMB7	Tissue	06/08/13 00:00	06/10/13 15:30
4079490016	MR1 SMB8	Tissue	06/08/13 00:00	06/10/13 15:30
4079490017	MR1 RB1	Tissue	06/08/13 00:00	06/10/13 15:30
4079490018	MR1 RB2	Tissue	06/08/13 00:00	06/10/13 15:30
4079490019	MR1 RB3	Tissue	06/08/13 00:00	06/10/13 15:30
4079490020	MR1 RB4	Tissue	06/08/13 00:00	06/10/13 15:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079490

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079490001	MR1 AWS1	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079490002	MR1 AWS2	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079490003	MR1 AWS3	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079490004	MR1 AWS4	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079490005	MR1 AWS5	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079490006	MR1 AWS6	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079490007	MR1 AWS7	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079490008	MR1 AWS8	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079490009	MR1 SMB1	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079490010	MR1 SMB2	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079490011	MR1 SMB3	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079490012	MR1 SMB4	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079490013	MR1 SMB5	EPA 8082	BLM	10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079490

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079490014	MR1 SMB6	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079490015	MR1 SMB7	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079490016	MR1 SMB8	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079490017	MR1 RB1	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079490018	MR1 RB2	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079490019	MR1 RB3	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079490020	MR1 RB4	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079490

Method: EPA 8082
Description: 8082 GCS PCB, Tissue
Client: POLLUTION RISK SERVICES
Date: August 05, 2013

General Information:

20 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/18943

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- MR1 AWS4 (Lab ID: 4079490004)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079490

Method: Pace Gender Typing
Description: Fish Gender Typing
Client: POLLUTION RISK SERVICES
Date: August 05, 2013

General Information:

20 samples were analyzed for Pace Gender Typing. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079490

Method: Pace Lipid
Description: Lipid
Client: POLLUTION RISK SERVICES
Date: August 05, 2013

General Information:

20 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079490

Sample: MR1 AWS1 **Lab ID: 4079490001** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/16/13 21:28	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/16/13 21:28	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/16/13 21:28	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/16/13 21:28	53469-21-9	
PCB-1248 (Aroclor 1248)	569	ug/kg	100	50.0	4	07/11/13 12:00	07/16/13 21:28	12672-29-6	
PCB-1254 (Aroclor 1254)	421	ug/kg	100	50.0	4	07/11/13 12:00	07/16/13 21:28	11097-69-1	
PCB-1260 (Aroclor 1260)	56.7J	ug/kg	100	50.0	4	07/11/13 12:00	07/16/13 21:28	11096-82-5	
PCB, Total	1050	ug/kg	100	50.0	4	07/11/13 12:00	07/16/13 21:28	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	83 %		44-130		4	07/11/13 12:00	07/16/13 21:28	877-09-8	
Decachlorobiphenyl (S)	79 %		62-130		4	07/11/13 12:00	07/16/13 21:28	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/10/13 11:32		
Lipid		Analytical Method: Pace Lipid							
Lipid	2.9 %				1		07/15/13 07:16		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079490

Sample: MR1 AWS2 **Lab ID: 4079490002** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/16/13 22:20	12674-11-2	
PCB-1221 (Aroclor 1221)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/16/13 22:20	11104-28-2	
PCB-1232 (Aroclor 1232)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/16/13 22:20	11141-16-5	
PCB-1242 (Aroclor 1242)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/16/13 22:20	53469-21-9	
PCB-1248 (Aroclor 1248)	386	ug/kg	50.0	25.0	2	07/11/13 12:00	07/16/13 22:20	12672-29-6	
PCB-1254 (Aroclor 1254)	215	ug/kg	50.0	25.0	2	07/11/13 12:00	07/16/13 22:20	11097-69-1	
PCB-1260 (Aroclor 1260)	27.1J	ug/kg	50.0	25.0	2	07/11/13 12:00	07/16/13 22:20	11096-82-5	
PCB, Total	628	ug/kg	50.0	25.0	2	07/11/13 12:00	07/16/13 22:20	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	82 %		44-130		2	07/11/13 12:00	07/16/13 22:20	877-09-8	
Decachlorobiphenyl (S)	79 %		62-130		2	07/11/13 12:00	07/16/13 22:20	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:32		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.9 %				1		07/15/13 07:16		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079490

Sample: MR1 AWS3 **Lab ID: 4079490003** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/16/13 22:37	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/16/13 22:37	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/16/13 22:37	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/16/13 22:37	53469-21-9	
PCB-1248 (Aroclor 1248)	1100	ug/kg	100	50.0	4	07/11/13 12:00	07/16/13 22:37	12672-29-6	
PCB-1254 (Aroclor 1254)	547	ug/kg	100	50.0	4	07/11/13 12:00	07/16/13 22:37	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/16/13 22:37	11096-82-5	
PCB, Total	1650	ug/kg	100	50.0	4	07/11/13 12:00	07/16/13 22:37	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	83 %		44-130		4	07/11/13 12:00	07/16/13 22:37	877-09-8	
Decachlorobiphenyl (S)	84 %		62-130		4	07/11/13 12:00	07/16/13 22:37	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:32		
Lipid									
Analytical Method: Pace Lipid									
Lipid	3.8 %				1		07/15/13 07:17		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079490

Sample: MR1 AWS4 **Lab ID: 4079490004** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<188	ug/kg	375	188	15	07/11/13 12:00	07/16/13 22:55	12674-11-2	
PCB-1221 (Aroclor 1221)	<188	ug/kg	375	188	15	07/11/13 12:00	07/16/13 22:55	11104-28-2	
PCB-1232 (Aroclor 1232)	<188	ug/kg	375	188	15	07/11/13 12:00	07/16/13 22:55	11141-16-5	
PCB-1242 (Aroclor 1242)	<188	ug/kg	375	188	15	07/11/13 12:00	07/16/13 22:55	53469-21-9	
PCB-1248 (Aroclor 1248)	2170	ug/kg	375	188	15	07/11/13 12:00	07/16/13 22:55	12672-29-6	
PCB-1254 (Aroclor 1254)	2420	ug/kg	375	188	15	07/11/13 12:00	07/16/13 22:55	11097-69-1	
PCB-1260 (Aroclor 1260)	281J	ug/kg	375	188	15	07/11/13 12:00	07/16/13 22:55	11096-82-5	
PCB, Total	4870	ug/kg	375	188	15	07/11/13 12:00	07/16/13 22:55	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		15	07/11/13 12:00	07/16/13 22:55	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		15	07/11/13 12:00	07/16/13 22:55	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:32		
Lipid									
Analytical Method: Pace Lipid									
Lipid	4.0 %				1		07/15/13 07:17		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079490

Sample: MR1 AWS5 **Lab ID: 4079490005** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/16/13 23:12	12674-11-2	
PCB-1221 (Aroclor 1221)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/16/13 23:12	11104-28-2	
PCB-1232 (Aroclor 1232)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/16/13 23:12	11141-16-5	
PCB-1242 (Aroclor 1242)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/16/13 23:12	53469-21-9	
PCB-1248 (Aroclor 1248)	438	ug/kg	50.0	25.0	2	07/11/13 12:00	07/16/13 23:12	12672-29-6	
PCB-1254 (Aroclor 1254)	258	ug/kg	50.0	25.0	2	07/11/13 12:00	07/16/13 23:12	11097-69-1	
PCB-1260 (Aroclor 1260)	27.7J	ug/kg	50.0	25.0	2	07/11/13 12:00	07/16/13 23:12	11096-82-5	
PCB, Total	724	ug/kg	50.0	25.0	2	07/11/13 12:00	07/16/13 23:12	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	78 %		44-130		2	07/11/13 12:00	07/16/13 23:12	877-09-8	
Decachlorobiphenyl (S)	79 %		62-130		2	07/11/13 12:00	07/16/13 23:12	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/10/13 11:32		
Lipid		Analytical Method: Pace Lipid							
Lipid	3.5 %				1		07/15/13 07:17		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079490

Sample: MR1 AWS6 **Lab ID: 4079490006** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/16/13 23:29	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/16/13 23:29	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/16/13 23:29	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/16/13 23:29	53469-21-9	
PCB-1248 (Aroclor 1248)	987	ug/kg	125	62.5	5	07/11/13 12:00	07/16/13 23:29	12672-29-6	
PCB-1254 (Aroclor 1254)	724	ug/kg	125	62.5	5	07/11/13 12:00	07/16/13 23:29	11097-69-1	
PCB-1260 (Aroclor 1260)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/16/13 23:29	11096-82-5	
PCB, Total	1710	ug/kg	125	62.5	5	07/11/13 12:00	07/16/13 23:29	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	74	%	44-130		5	07/11/13 12:00	07/16/13 23:29	877-09-8	
Decachlorobiphenyl (S)	74	%	62-130		5	07/11/13 12:00	07/16/13 23:29	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:32		
Lipid									
Analytical Method: Pace Lipid									
Lipid	3.9	%			1		07/15/13 07:17		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079490

Sample: MR1 AWS7 **Lab ID: 4079490007** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	07/11/13 12:00	07/16/13 23:46	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	07/11/13 12:00	07/16/13 23:46	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	07/11/13 12:00	07/16/13 23:46	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	07/11/13 12:00	07/16/13 23:46	53469-21-9	
PCB-1248 (Aroclor 1248)	1340	ug/kg	250	125	10	07/11/13 12:00	07/16/13 23:46	12672-29-6	
PCB-1254 (Aroclor 1254)	1200	ug/kg	250	125	10	07/11/13 12:00	07/16/13 23:46	11097-69-1	
PCB-1260 (Aroclor 1260)	<125	ug/kg	250	125	10	07/11/13 12:00	07/16/13 23:46	11096-82-5	
PCB, Total	2540	ug/kg	250	125	10	07/11/13 12:00	07/16/13 23:46	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	76	%	44-130		10	07/11/13 12:00	07/16/13 23:46	877-09-8	
Decachlorobiphenyl (S)	78	%	62-130		10	07/11/13 12:00	07/16/13 23:46	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:32		
Lipid									
Analytical Method: Pace Lipid									
Lipid	3.5	%			1		07/15/13 07:17		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079490

Sample: MR1 AWS8 **Lab ID: 4079490008** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 00:04	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 00:04	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 00:04	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 00:04	53469-21-9	
PCB-1248 (Aroclor 1248)	638	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 00:04	12672-29-6	
PCB-1254 (Aroclor 1254)	449	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 00:04	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 00:04	11096-82-5	
PCB, Total	1090	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 00:04	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	86 %		44-130		4	07/11/13 12:00	07/17/13 00:04	877-09-8	
Decachlorobiphenyl (S)	85 %		62-130		4	07/11/13 12:00	07/17/13 00:04	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:32		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.9 %				1		07/15/13 07:17		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079490

Sample: MR1 SMB1 **Lab ID: 4079490009** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	07/11/13 12:00	07/17/13 00:21	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	07/11/13 12:00	07/17/13 00:21	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	07/11/13 12:00	07/17/13 00:21	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	07/11/13 12:00	07/17/13 00:21	53469-21-9	
PCB-1248 (Aroclor 1248)	2000	ug/kg	250	125	10	07/11/13 12:00	07/17/13 00:21	12672-29-6	
PCB-1254 (Aroclor 1254)	1810	ug/kg	250	125	10	07/11/13 12:00	07/17/13 00:21	11097-69-1	
PCB-1260 (Aroclor 1260)	189J	ug/kg	250	125	10	07/11/13 12:00	07/17/13 00:21	11096-82-5	
PCB, Total	4000	ug/kg	250	125	10	07/11/13 12:00	07/17/13 00:21	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	76 %		44-130		10	07/11/13 12:00	07/17/13 00:21	877-09-8	
Decachlorobiphenyl (S)	84 %		62-130		10	07/11/13 12:00	07/17/13 00:21	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/10/13 11:32		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.5 %				1		07/15/13 07:17		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079490

Sample: MR1 SMB2 **Lab ID: 4079490010** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 00:38	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 00:38	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 00:38	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 00:38	53469-21-9	
PCB-1248 (Aroclor 1248)	620	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 00:38	12672-29-6	
PCB-1254 (Aroclor 1254)	647	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 00:38	11097-69-1	
PCB-1260 (Aroclor 1260)	134	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 00:38	11096-82-5	
PCB, Total	1400	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 00:38	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	84 %		44-130		4	07/11/13 12:00	07/17/13 00:38	877-09-8	
Decachlorobiphenyl (S)	83 %		62-130		4	07/11/13 12:00	07/17/13 00:38	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/10/13 11:32		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.1 %				1		07/15/13 07:18		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079490

Sample: MR1 SMB3 **Lab ID: 4079490011** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 01:30	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 01:30	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 01:30	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 01:30	53469-21-9	
PCB-1248 (Aroclor 1248)	748	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 01:30	12672-29-6	
PCB-1254 (Aroclor 1254)	718	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 01:30	11097-69-1	
PCB-1260 (Aroclor 1260)	102	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 01:30	11096-82-5	
PCB, Total	1570	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 01:30	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	71	%	44-130		4	07/11/13 12:00	07/17/13 01:30	877-09-8	
Decachlorobiphenyl (S)	78	%	62-130		4	07/11/13 12:00	07/17/13 01:30	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/10/13 11:32		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.78	%			1		07/15/13 07:18		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079490

Sample: MR1 SMB4 **Lab ID: 4079490012** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	07/11/13 12:00	07/17/13 01:47	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	07/11/13 12:00	07/17/13 01:47	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	07/11/13 12:00	07/17/13 01:47	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	07/11/13 12:00	07/17/13 01:47	53469-21-9	
PCB-1248 (Aroclor 1248)	2110	ug/kg	250	125	10	07/11/13 12:00	07/17/13 01:47	12672-29-6	
PCB-1254 (Aroclor 1254)	2170	ug/kg	250	125	10	07/11/13 12:00	07/17/13 01:47	11097-69-1	
PCB-1260 (Aroclor 1260)	237J	ug/kg	250	125	10	07/11/13 12:00	07/17/13 01:47	11096-82-5	
PCB, Total	4510	ug/kg	250	125	10	07/11/13 12:00	07/17/13 01:47	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	71 %		44-130		10	07/11/13 12:00	07/17/13 01:47	877-09-8	
Decachlorobiphenyl (S)	78 %		62-130		10	07/11/13 12:00	07/17/13 01:47	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/10/13 11:37		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.8 %				1		07/15/13 07:18		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079490

Sample: MR1 SMB5 **Lab ID: 4079490013** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	07/11/13 12:00	07/17/13 02:05	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	07/11/13 12:00	07/17/13 02:05	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	07/11/13 12:00	07/17/13 02:05	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	07/11/13 12:00	07/17/13 02:05	53469-21-9	
PCB-1248 (Aroclor 1248)	1370	ug/kg	250	125	10	07/11/13 12:00	07/17/13 02:05	12672-29-6	
PCB-1254 (Aroclor 1254)	1310	ug/kg	250	125	10	07/11/13 12:00	07/17/13 02:05	11097-69-1	
PCB-1260 (Aroclor 1260)	150J	ug/kg	250	125	10	07/11/13 12:00	07/17/13 02:05	11096-82-5	
PCB, Total	2840	ug/kg	250	125	10	07/11/13 12:00	07/17/13 02:05	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	71 %		44-130		10	07/11/13 12:00	07/17/13 02:05	877-09-8	
Decachlorobiphenyl (S)	77 %		62-130		10	07/11/13 12:00	07/17/13 02:05	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/10/13 11:37		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.57 %				1		07/15/13 07:18		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079490

Sample: MR1 SMB6 **Lab ID: 4079490014** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/17/13 02:22	12674-11-2	
PCB-1221 (Aroclor 1221)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/17/13 02:22	11104-28-2	
PCB-1232 (Aroclor 1232)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/17/13 02:22	11141-16-5	
PCB-1242 (Aroclor 1242)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/17/13 02:22	53469-21-9	
PCB-1248 (Aroclor 1248)	287	ug/kg	50.0	25.0	2	07/11/13 12:00	07/17/13 02:22	12672-29-6	
PCB-1254 (Aroclor 1254)	324	ug/kg	50.0	25.0	2	07/11/13 12:00	07/17/13 02:22	11097-69-1	
PCB-1260 (Aroclor 1260)	51.4	ug/kg	50.0	25.0	2	07/11/13 12:00	07/17/13 02:22	11096-82-5	
PCB, Total	662	ug/kg	50.0	25.0	2	07/11/13 12:00	07/17/13 02:22	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	76	%	44-130		2	07/11/13 12:00	07/17/13 02:22	877-09-8	
Decachlorobiphenyl (S)	77	%	62-130		2	07/11/13 12:00	07/17/13 02:22	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/10/13 11:32		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.080				1		07/15/13 07:18		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079490

Sample: MR1 SMB7 **Lab ID: 4079490015** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<12.5	ug/kg	25.0	12.5	1	07/11/13 12:00	07/17/13 02:39	12674-11-2	
PCB-1221 (Aroclor 1221)	<12.5	ug/kg	25.0	12.5	1	07/11/13 12:00	07/17/13 02:39	11104-28-2	
PCB-1232 (Aroclor 1232)	<12.5	ug/kg	25.0	12.5	1	07/11/13 12:00	07/17/13 02:39	11141-16-5	
PCB-1242 (Aroclor 1242)	138	ug/kg	25.0	12.5	1	07/11/13 12:00	07/17/13 02:39	53469-21-9	
PCB-1248 (Aroclor 1248)	<12.5	ug/kg	25.0	12.5	1	07/11/13 12:00	07/17/13 02:39	12672-29-6	
PCB-1254 (Aroclor 1254)	185	ug/kg	25.0	12.5	1	07/11/13 12:00	07/17/13 02:39	11097-69-1	
PCB-1260 (Aroclor 1260)	27.6	ug/kg	25.0	12.5	1	07/11/13 12:00	07/17/13 02:39	11096-82-5	
PCB, Total	351	ug/kg	25.0	12.5	1	07/11/13 12:00	07/17/13 02:39	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	83	%	44-130		1	07/11/13 12:00	07/17/13 02:39	877-09-8	
Decachlorobiphenyl (S)	86	%	62-130		1	07/11/13 12:00	07/17/13 02:39	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/10/13 11:32		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.035				1		07/15/13 07:19		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079490

Sample: MR1 SMB8 **Lab ID: 4079490016** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	07/11/13 12:00	07/17/13 02:56	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	07/11/13 12:00	07/17/13 02:56	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	07/11/13 12:00	07/17/13 02:56	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	07/11/13 12:00	07/17/13 02:56	53469-21-9	
PCB-1248 (Aroclor 1248)	2020	ug/kg	250	125	10	07/11/13 12:00	07/17/13 02:56	12672-29-6	
PCB-1254 (Aroclor 1254)	1480	ug/kg	250	125	10	07/11/13 12:00	07/17/13 02:56	11097-69-1	
PCB-1260 (Aroclor 1260)	<125	ug/kg	250	125	10	07/11/13 12:00	07/17/13 02:56	11096-82-5	
PCB, Total	3500	ug/kg	250	125	10	07/11/13 12:00	07/17/13 02:56	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	76	%	44-130		10	07/11/13 12:00	07/17/13 02:56	877-09-8	
Decachlorobiphenyl (S)	82	%	62-130		10	07/11/13 12:00	07/17/13 02:56	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:32		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.79	%			1		07/15/13 07:18		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079490

Sample: MR1 RB1 **Lab ID: 4079490017** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<37.5	ug/kg	75.0	37.5	3	07/11/13 12:00	07/17/13 03:14	12674-11-2	
PCB-1221 (Aroclor 1221)	<37.5	ug/kg	75.0	37.5	3	07/11/13 12:00	07/17/13 03:14	11104-28-2	
PCB-1232 (Aroclor 1232)	<37.5	ug/kg	75.0	37.5	3	07/11/13 12:00	07/17/13 03:14	11141-16-5	
PCB-1242 (Aroclor 1242)	<37.5	ug/kg	75.0	37.5	3	07/11/13 12:00	07/17/13 03:14	53469-21-9	
PCB-1248 (Aroclor 1248)	545	ug/kg	75.0	37.5	3	07/11/13 12:00	07/17/13 03:14	12672-29-6	
PCB-1254 (Aroclor 1254)	465	ug/kg	75.0	37.5	3	07/11/13 12:00	07/17/13 03:14	11097-69-1	
PCB-1260 (Aroclor 1260)	58.6J	ug/kg	75.0	37.5	3	07/11/13 12:00	07/17/13 03:14	11096-82-5	
PCB, Total	1070	ug/kg	75.0	37.5	3	07/11/13 12:00	07/17/13 03:14	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	86 %		44-130		3	07/11/13 12:00	07/17/13 03:14	877-09-8	
Decachlorobiphenyl (S)	86 %		62-130		3	07/11/13 12:00	07/17/13 03:14	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/10/13 11:32		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.27 %				1		07/15/13 07:19		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079490

Sample: MR1 RB2 **Lab ID: 4079490018** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 03:31	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 03:31	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 03:31	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 03:31	53469-21-9	
PCB-1248 (Aroclor 1248)	638	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 03:31	12672-29-6	
PCB-1254 (Aroclor 1254)	546	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 03:31	11097-69-1	
PCB-1260 (Aroclor 1260)	63.3J	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 03:31	11096-82-5	
PCB, Total	1250	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 03:31	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	80 %		44-130		4	07/11/13 12:00	07/17/13 03:31	877-09-8	
Decachlorobiphenyl (S)	85 %		62-130		4	07/11/13 12:00	07/17/13 03:31	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:32		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.60 %				1		07/15/13 07:19		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079490

Sample: MR1 RB3 **Lab ID: 4079490019** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 03:48	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 03:48	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 03:48	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 03:48	53469-21-9	
PCB-1248 (Aroclor 1248)	503	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 03:48	12672-29-6	
PCB-1254 (Aroclor 1254)	463	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 03:48	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 03:48	11096-82-5	
PCB, Total	966	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 03:48	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	79 %		44-130		4	07/11/13 12:00	07/17/13 03:48	877-09-8	
Decachlorobiphenyl (S)	82 %		62-130		4	07/11/13 12:00	07/17/13 03:48	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/10/13 11:32		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.56 %				1		07/15/13 07:19		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079490

Sample: MR1 RB4 **Lab ID: 4079490020** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 04:05	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 04:05	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 04:05	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 04:05	53469-21-9	
PCB-1248 (Aroclor 1248)	830	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 04:05	12672-29-6	
PCB-1254 (Aroclor 1254)	678	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 04:05	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 04:05	11096-82-5	
PCB, Total	1510	ug/kg	100	50.0	4	07/11/13 12:00	07/17/13 04:05	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	80 %		44-130		4	07/11/13 12:00	07/17/13 04:05	877-09-8	
Decachlorobiphenyl (S)	85 %		62-130		4	07/11/13 12:00	07/17/13 04:05	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:32		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.32 %				1		07/15/13 07:20		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079490

QC Batch: OEXT/18943 Analysis Method: EPA 8082
QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides
Associated Lab Samples: 4079490001, 4079490002, 4079490003, 4079490004, 4079490005, 4079490006, 4079490007, 4079490008, 4079490009, 4079490010, 4079490011, 4079490012, 4079490013, 4079490014, 4079490015, 4079490016, 4079490017, 4079490018, 4079490019, 4079490020

METHOD BLANK: 820821 Matrix: Tissue

Associated Lab Samples: 4079490001, 4079490002, 4079490003, 4079490004, 4079490005, 4079490006, 4079490007, 4079490008, 4079490009, 4079490010, 4079490011, 4079490012, 4079490013, 4079490014, 4079490015, 4079490016, 4079490017, 4079490018, 4079490019, 4079490020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<12.5	25.0	07/16/13 20:19	
PCB-1221 (Aroclor 1221)	ug/kg	<12.5	25.0	07/16/13 20:19	
PCB-1232 (Aroclor 1232)	ug/kg	<12.5	25.0	07/16/13 20:19	
PCB-1242 (Aroclor 1242)	ug/kg	<12.5	25.0	07/16/13 20:19	
PCB-1248 (Aroclor 1248)	ug/kg	<12.5	25.0	07/16/13 20:19	
PCB-1254 (Aroclor 1254)	ug/kg	<12.5	25.0	07/16/13 20:19	
PCB-1260 (Aroclor 1260)	ug/kg	<12.5	25.0	07/16/13 20:19	
Decachlorobiphenyl (S)	%	66	62-130	07/16/13 20:19	
Tetrachloro-m-xylene (S)	%	67	44-130	07/16/13 20:19	

LABORATORY CONTROL SAMPLE: 820822

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<12.5			
PCB-1221 (Aroclor 1221)	ug/kg		<12.5			
PCB-1232 (Aroclor 1232)	ug/kg		<12.5			
PCB-1242 (Aroclor 1242)	ug/kg	250	224	90	61-130	
PCB-1248 (Aroclor 1248)	ug/kg		<12.5			
PCB-1254 (Aroclor 1254)	ug/kg		<12.5			
PCB-1260 (Aroclor 1260)	ug/kg		<12.5			
Decachlorobiphenyl (S)	%			83	62-130	
Tetrachloro-m-xylene (S)	%			85	44-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 820823 820824

Parameter	Units	4079490001		820824		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
PCB-1016 (Aroclor 1016)	ug/kg	<50.0			<50.0	<50.0					24
PCB-1221 (Aroclor 1221)	ug/kg	<50.0			<50.0	<50.0					24
PCB-1232 (Aroclor 1232)	ug/kg	<50.0			<50.0	<50.0					24
PCB-1242 (Aroclor 1242)	ug/kg	<50.0	1000	1000	994	1140	99	114	27-163	14	24
PCB-1248 (Aroclor 1248)	ug/kg	569			<50.0	<50.0					24
PCB-1254 (Aroclor 1254)	ug/kg	421			421	499				17	24
PCB-1260 (Aroclor 1260)	ug/kg	56.7J			<50.0	57.9J					24
Decachlorobiphenyl (S)	%						72	82	62-130		
Tetrachloro-m-xylene (S)	%						72	83	44-130		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079490

QC Batch: OEXT/18961 Analysis Method: Pace Lipid
QC Batch Method: Pace Lipid Analysis Description: LIPID
Associated Lab Samples: 4079490001, 4079490002, 4079490003, 4079490004, 4079490005, 4079490006, 4079490007, 4079490008,
4079490009, 4079490010, 4079490011, 4079490012, 4079490013, 4079490014, 4079490015, 4079490016,
4079490017, 4079490018, 4079490019, 4079490020

METHOD BLANK: 821794 Matrix: Tissue
Associated Lab Samples: 4079490001, 4079490002, 4079490003, 4079490004, 4079490005, 4079490006, 4079490007, 4079490008,
4079490009, 4079490010, 4079490011, 4079490012, 4079490013, 4079490014, 4079490015, 4079490016,
4079490017, 4079490018, 4079490019, 4079490020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lipid	%	1.0		07/15/13 07:16	

SAMPLE DUPLICATE: 821795

Parameter	Units	4079490001 Result	Dup Result	RPD	Max RPD	Qualifiers
Lipid	%	2.9	2.8	4	20	

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QUALIFIERS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079490

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079490

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079490001	MR1 AWS1	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490002	MR1 AWS2	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490003	MR1 AWS3	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490004	MR1 AWS4	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490005	MR1 AWS5	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490006	MR1 AWS6	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490007	MR1 AWS7	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490008	MR1 AWS8	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490009	MR1 SMB1	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490010	MR1 SMB2	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490011	MR1 SMB3	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490012	MR1 SMB4	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490013	MR1 SMB5	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490014	MR1 SMB6	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490015	MR1 SMB7	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490016	MR1 SMB8	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490017	MR1 RB1	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490018	MR1 RB2	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490019	MR1 RB3	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490020	MR1 RB4	EPA 3540	OEXT/18943	EPA 8082	GCSV/9860
4079490001	MR1 AWS1	Pace Gender Typing	GRND/2590		
4079490002	MR1 AWS2	Pace Gender Typing	GRND/2590		
4079490003	MR1 AWS3	Pace Gender Typing	GRND/2590		
4079490004	MR1 AWS4	Pace Gender Typing	GRND/2590		
4079490005	MR1 AWS5	Pace Gender Typing	GRND/2590		
4079490006	MR1 AWS6	Pace Gender Typing	GRND/2590		
4079490007	MR1 AWS7	Pace Gender Typing	GRND/2590		
4079490008	MR1 AWS8	Pace Gender Typing	GRND/2590		
4079490009	MR1 SMB1	Pace Gender Typing	GRND/2590		
4079490010	MR1 SMB2	Pace Gender Typing	GRND/2590		
4079490011	MR1 SMB3	Pace Gender Typing	GRND/2590		
4079490012	MR1 SMB4	Pace Gender Typing	GRND/2593		
4079490013	MR1 SMB5	Pace Gender Typing	GRND/2593		
4079490014	MR1 SMB6	Pace Gender Typing	GRND/2590		
4079490015	MR1 SMB7	Pace Gender Typing	GRND/2590		
4079490016	MR1 SMB8	Pace Gender Typing	GRND/2590		
4079490017	MR1 RB1	Pace Gender Typing	GRND/2590		
4079490018	MR1 RB2	Pace Gender Typing	GRND/2590		
4079490019	MR1 RB3	Pace Gender Typing	GRND/2590		
4079490020	MR1 RB4	Pace Gender Typing	GRND/2590		
4079490001	MR1 AWS1	Pace Lipid	OEXT/18961		
4079490002	MR1 AWS2	Pace Lipid	OEXT/18961		
4079490003	MR1 AWS3	Pace Lipid	OEXT/18961		
4079490004	MR1 AWS4	Pace Lipid	OEXT/18961		
4079490005	MR1 AWS5	Pace Lipid	OEXT/18961		
4079490006	MR1 AWS6	Pace Lipid	OEXT/18961		
4079490007	MR1 AWS7	Pace Lipid	OEXT/18961		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079490

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079490008	MR1 AWS8	Pace Lipid	OEXT/18961		
4079490009	MR1 SMB1	Pace Lipid	OEXT/18961		
4079490010	MR1 SMB2	Pace Lipid	OEXT/18961		
4079490011	MR1 SMB3	Pace Lipid	OEXT/18961		
4079490012	MR1 SMB4	Pace Lipid	OEXT/18961		
4079490013	MR1 SMB5	Pace Lipid	OEXT/18961		
4079490014	MR1 SMB6	Pace Lipid	OEXT/18961		
4079490015	MR1 SMB7	Pace Lipid	OEXT/18961		
4079490016	MR1 SMB8	Pace Lipid	OEXT/18961		
4079490017	MR1 RB1	Pace Lipid	OEXT/18961		
4079490018	MR1 RB2	Pace Lipid	OEXT/18961		
4079490019	MR1 RB3	Pace Lipid	OEXT/18961		
4079490020	MR1 RB4	Pace Lipid	OEXT/18961		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):
 PO #:
 Regulatory Program:



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

COC No. 6 4079490

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
 (YES/NO)
 PRESERVATION
 (CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES																	
			X	A																	

Quote #:
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact: Goldie Sharp
Invoice To Company: As Above
Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone: 513-489-6789

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	MR1 AWS1	6/8/13		Tissue
002	MR1 AWS2	6/8/13		Tissue
003	MR1 AWS3	6/8/13		Tissue
004	MR1 AWS4	6/8/13		Tissue
005	MR1 AWS5	6/8/13		Tissue
006	MR1 AWS6	6/8/13		Tissue
007	MR1 AWS7	6/8/13		Tissue
008	MR1 AWS8	6/8/13		Tissue

CLIENT COMMENTS
 Whole Fish Sample

LAB COMMENTS (Lab Use Only)
 1-polybag^A

Profile #

Rush Turnaround Time Requested - Prelims
 (Rush TAT subject to approval/surcharge)
 Date Needed:
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: *[Signature]* Date/Time: 6/10
 Relinquished By: *[Signature]* Date/Time: 6/10/13 1530
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:

Received By: *[Signature]* Date/Time: 6/10/13 1405
 Received By: *[Signature]* Date/Time: 6/10/13 1530
 Received By: Date/Time:
 Received By: Date/Time:
 Received By: Date/Time:

PACE Project No.
 4079490
 Receipt Temp = 20 °C
 Sample Receipt pH
 OK / Adjusted
 Cooler Custody Seal
 Present / Not Present
 Intact / Not Intact

(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

COC No. 6 4079492

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
 (YES/NO)
 PRESERVATION
 (CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES														
			X	A														
			X	A														
			X	A														
			X	A														
			X	A														
			X	A														
			X	A														
			X	A														

Quote #:
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact: Goldie Sharp
Invoice To Company: As Above
Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone: 513-489-6789

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	MATRIX	COLLECTION		DATE	TIME	DATE/TIME	DATE/TIME
			DATE	TIME				
001	009 MR1 SMB1	Tissue	6/8/13		6/8/13			
002	010 MR1 SMB2	Tissue	6/8/13		6/8/13			
003	011 MR1 SMB3	Tissue	6/8/13		6/8/13			
004	012 MR1 SMB4	Tissue	6/8/13		6/8/13			
005	013 MR1 SMB5	Tissue	6/8/13		6/8/13			
006	014 MR1 SMB6	Tissue	6/8/13		6/8/13			
007	015 MR1 SMB7	Tissue	6/8/13		6/8/13			
008	016 MR1 SMB8	Tissue	6/8/13		6/8/13			

CLIENT COMMENTS
 Whole Fish Sample

LAB COMMENTS (Lab Use Only)
 1-polybag^A

Profile #

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: [Signature] Date/Time: 6/10
 Relinquished By: [Signature] Date/Time: 6/10/13 1530
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:

Received By: [Signature] Date/Time: 6/10/13 1415
 Received By: [Signature] Date/Time: 6/10/13 1530
 Received By: Date/Time:
 Received By: Date/Time:
 Received By: Date/Time:

PACE Project No.
 Receipt Temp = 20 °C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present / Not Present
 Intact / Not Intact

(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):
 PO #:
 Regulatory Program:



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

COC No. 6 407949

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
 (YES/NO)
 PRESERVATION
 (CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	

Quote #:
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
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 EPA Level III
 EPA Level IV

MS/MSD
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 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 SI = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	017 MR1 RB1	6/8/13		Tissue
002	018 MR1 RB2	6/8/13		Tissue
003	019 MR1 RB3	6/8/13		Tissue
004	020 MR1 RB4	6/8/13		Tissue
005	MR1 RB5	6/8/13		Tissue
006	MR1 RB6	6/8/13		Tissue
007	MR1 RB7	6/8/13		Tissue
008	MR1 RB8	6/8/13		Tissue

CLIENT COMMENTS
 Whole Fish Sample

LAB COMMENTS (Lab Use Only)
 1-polybag^A

Profile #

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: [Signature] Date/Time: 6/10/13 610
 Relinquished By: [Signature] Date/Time: 6/10/13 1530
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:

Received By: [Signature] Date/Time: 6/10/13 1415
 Received By: [Signature] Date/Time: 6/10/13 1530
 Received By: Date/Time:
 Received By: Date/Time:
 Received By: Date/Time:

PACE Project No.
 Receipt Temp = 20 °C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present / Not Present Intact / Not Intact



Sample Condition Upon Receipt

Client Name: PRS Project # 4079490

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____
Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no
Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____
Thermometer Used SR13 Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 20 / Corr: 20 Biological Tissue is Frozen: yes 6/11/13
 no

Temp Blank Present: yes no
Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Person examining contents:
Date: 6-11-13
Initials: SMW

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:	
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.	
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.	
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.	
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.	
-Includes date/time/ID/Analysis Matrix: <u>B</u>			
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.	<input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed	Lab Std #ID of preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.	
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.	
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased):			

Client Notification/ Resolution: If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____
Comments/ Resolution: Fish freshly caught same day 6/11/13
SMW

Project Manager Review: MAE for TN Date: 6-12-13

August 05, 2013

Mark Mather
Pollution Risk Services
7870 East Kemper Road
Suite 240
Cincinnati, OH 45249

RE: Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079491

Dear Mark Mather:

Enclosed are the analytical results for sample(s) received by the laboratory on June 10, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Tod Noltemeyer

tod.noltemeyer@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, Inc..

CERTIFICATIONS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 11888

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

US Dept of Agriculture #: S-76505

Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4079491001	IH AC1	Tissue	06/10/13 00:00	06/10/13 15:30
4079491002	IH AC2	Tissue	06/10/13 00:00	06/10/13 15:30
4079491003	IH AC3	Tissue	06/10/13 00:00	06/10/13 15:30
4079491004	IH AC4	Tissue	06/10/13 00:00	06/10/13 15:30
4079491005	IH AC5	Tissue	06/10/13 00:00	06/10/13 15:30
4079491006	IH AC6	Tissue	06/10/13 00:00	06/10/13 15:30
4079491007	IH AC7	Tissue	06/10/13 00:00	06/10/13 15:30
4079491008	IH AWS1	Tissue	06/10/13 00:00	06/10/13 15:30
4079491009	IH AWS2	Tissue	06/10/13 00:00	06/10/13 15:30
4079491010	IH AWS3	Tissue	06/10/13 00:00	06/10/13 15:30
4079491011	IH AWS4	Tissue	06/10/13 00:00	06/10/13 15:30
4079491012	IH AWS5	Tissue	06/10/13 00:00	06/10/13 15:30
4079491013	IH AWS6	Tissue	06/10/13 00:00	06/10/13 15:30
4079491014	IH AWS7	Tissue	06/10/13 00:00	06/10/13 15:30
4079491015	IH AWS8	Tissue	06/10/13 00:00	06/10/13 15:30
4079491016	IH SMB1	Tissue	06/10/13 00:00	06/10/13 15:30
4079491017	IH SMB2	Tissue	06/10/13 00:00	06/10/13 15:30
4079491018	IH SMB3	Tissue	06/10/13 00:00	06/10/13 15:30
4079491019	IH SMB4	Tissue	06/10/13 00:00	06/10/13 15:30
4079491020	IH SMB5	Tissue	06/10/13 00:00	06/10/13 15:30

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079491001	IH AC1	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079491002	IH AC2	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079491003	IH AC3	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079491004	IH AC4	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079491005	IH AC5	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079491006	IH AC6	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079491007	IH AC7	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079491008	IH AWS1	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079491009	IH AWS2	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079491010	IH AWS3	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079491011	IH AWS4	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079491012	IH AWS5	EPA 8082	BLM	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079491013	IH AWS6	EPA 8082	BLM	10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079491014	IH AWS7	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079491015	IH AWS8	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079491016	IH SMB1	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079491017	IH SMB2	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079491018	IH SMB3	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079491019	IH SMB4	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10
4079491020	IH SMB5	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BLM	10

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Method: EPA 8082

Description: 8082 GCS PCB, Tissue

Client: POLLUTION RISK SERVICES

Date: August 05, 2013

General Information:

20 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/18944

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- IH AC1 (Lab ID: 4079491001)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- IH AC2 (Lab ID: 4079491002)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- IH AC3 (Lab ID: 4079491003)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- IH AC4 (Lab ID: 4079491004)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- IH AC5 (Lab ID: 4079491005)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- IH AC6 (Lab ID: 4079491006)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- IH AC7 (Lab ID: 4079491007)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MS (Lab ID: 820831)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MSD (Lab ID: 820832)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079491

Method: EPA 8082
Description: 8082 GCS PCB, Tissue
Client: POLLUTION RISK SERVICES
Date: August 05, 2013

QC Batch: OEXT/18944

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- Decachlorobiphenyl (S)
- Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/18944

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 4079491001

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 820831)
 - PCB-1254 (Aroclor 1254)
- MSD (Lab ID: 820832)
 - PCB-1254 (Aroclor 1254)

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Method: Pace Gender Typing

Description: Fish Gender Typing

Client: POLLUTION RISK SERVICES

Date: August 05, 2013

General Information:

20 samples were analyzed for Pace Gender Typing. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Method: Pace Lipid

Description: Lipid

Client: POLLUTION RISK SERVICES

Date: August 05, 2013

General Information:

20 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Sample: IH AC1 **Lab ID:** 4079491001 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 06:51	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 06:51	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 06:51	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 06:51	53469-21-9	
PCB-1248 (Aroclor 1248)	9200	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 06:51	12672-29-6	
PCB-1254 (Aroclor 1254)	8470	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 06:51	11097-69-1	M6
PCB-1260 (Aroclor 1260)	1060J	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 06:51	11096-82-5	
PCB, Total	18700	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 06:51	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	07/11/13 12:00	07/26/13 06:51	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	07/11/13 12:00	07/26/13 06:51	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/10/13 11:37		
Lipid									
Analytical Method: Pace Lipid									
Lipid	16.2 %				1		07/15/13 07:10		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079491

Sample: IH AC2 **Lab ID:** 4079491002 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	07/11/13 12:00	07/26/13 07:09	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	07/11/13 12:00	07/26/13 07:09	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	07/11/13 12:00	07/26/13 07:09	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	07/11/13 12:00	07/26/13 07:09	53469-21-9	
PCB-1248 (Aroclor 1248)	5870	ug/kg	750	375	30	07/11/13 12:00	07/26/13 07:09	12672-29-6	
PCB-1254 (Aroclor 1254)	3560	ug/kg	750	375	30	07/11/13 12:00	07/26/13 07:09	11097-69-1	
PCB-1260 (Aroclor 1260)	540J	ug/kg	750	375	30	07/11/13 12:00	07/26/13 07:09	11096-82-5	
PCB, Total	9960	ug/kg	750	375	30	07/11/13 12:00	07/26/13 07:09	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	07/11/13 12:00	07/26/13 07:09	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	07/11/13 12:00	07/26/13 07:09	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:37		
Lipid									
Analytical Method: Pace Lipid									
Lipid	10.4 %				1		07/15/13 07:12		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Sample: IH AC3 **Lab ID:** 4079491003 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 07:29	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 07:29	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 07:29	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 07:29	53469-21-9	
PCB-1248 (Aroclor 1248)	9130	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 07:29	12672-29-6	
PCB-1254 (Aroclor 1254)	5240	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 07:29	11097-69-1	
PCB-1260 (Aroclor 1260)	789J	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 07:29	11096-82-5	
PCB, Total	15200	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 07:29	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	07/11/13 12:00	07/26/13 07:29	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	07/11/13 12:00	07/26/13 07:29	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/10/13 11:37		
Lipid									
Analytical Method: Pace Lipid									
Lipid	34.2 %				1		07/15/13 07:12		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Sample: IH AC4 **Lab ID:** 4079491004 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 07:48	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 07:48	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 07:48	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 07:48	53469-21-9	
PCB-1248 (Aroclor 1248)	13700	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 07:48	12672-29-6	
PCB-1254 (Aroclor 1254)	9820	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 07:48	11097-69-1	
PCB-1260 (Aroclor 1260)	1220J	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 07:48	11096-82-5	
PCB, Total	24700	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 07:48	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	07/11/13 12:00	07/26/13 07:48	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	07/11/13 12:00	07/26/13 07:48	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/10/13 11:37		
Lipid		Analytical Method: Pace Lipid							
Lipid	29.7 %				1		07/15/13 07:12		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Sample: IH AC5 **Lab ID:** 4079491005 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 08:07	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 08:07	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 08:07	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 08:07	53469-21-9	
PCB-1248 (Aroclor 1248)	8180	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 08:07	12672-29-6	
PCB-1254 (Aroclor 1254)	5300	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 08:07	11097-69-1	
PCB-1260 (Aroclor 1260)	683J	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 08:07	11096-82-5	
PCB, Total	14200	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 08:07	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	07/11/13 12:00	07/26/13 08:07	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	07/11/13 12:00	07/26/13 08:07	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/10/13 11:37		
Lipid		Analytical Method: Pace Lipid							
Lipid	13.9 %				1		07/15/13 07:13		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079491

Sample: IH AC6 **Lab ID:** 4079491006 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 09:03	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 09:03	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 09:03	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 09:03	53469-21-9	
PCB-1248 (Aroclor 1248)	9190	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 09:03	12672-29-6	
PCB-1254 (Aroclor 1254)	6510	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 09:03	11097-69-1	
PCB-1260 (Aroclor 1260)	640J	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 09:03	11096-82-5	
PCB, Total	16300	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 09:03	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	07/11/13 12:00	07/26/13 09:03	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	07/11/13 12:00	07/26/13 09:03	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/10/13 11:37		
Lipid		Analytical Method: Pace Lipid							
Lipid	14.8 %				1		07/15/13 07:13		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Sample: IH AC7 **Lab ID:** 4079491007 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 09:21	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 09:21	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 09:21	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 09:21	53469-21-9	
PCB-1248 (Aroclor 1248)	5460	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 09:21	12672-29-6	
PCB-1254 (Aroclor 1254)	5120	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 09:21	11097-69-1	
PCB-1260 (Aroclor 1260)	772J	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 09:21	11096-82-5	
PCB, Total	11300	ug/kg	1250	625	50	07/11/13 12:00	07/26/13 09:21	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	07/11/13 12:00	07/26/13 09:21	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	07/11/13 12:00	07/26/13 09:21	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/10/13 11:37		
Lipid		Analytical Method: Pace Lipid							
Lipid	18.9 %				1		07/15/13 07:13		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Sample: IH AWS1 **Lab ID:** 4079491008 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 09:40	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 09:40	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 09:40	11141-16-5	
PCB-1242 (Aroclor 1242)	304	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 09:40	53469-21-9	
PCB-1248 (Aroclor 1248)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 09:40	12672-29-6	
PCB-1254 (Aroclor 1254)	412	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 09:40	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 09:40	11096-82-5	
PCB, Total	717	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 09:40	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	84 %		44-130		4	07/11/13 12:00	07/26/13 09:40	877-09-8	
Decachlorobiphenyl (S)	89 %		62-130		4	07/11/13 12:00	07/26/13 09:40	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/10/13 11:37		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.5 %				1		07/15/13 07:13		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Sample: IH AWS2 **Lab ID:** 4079491009 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<37.5	ug/kg	75.0	37.5	3	07/11/13 12:00	07/26/13 09:59	12674-11-2	
PCB-1221 (Aroclor 1221)	<37.5	ug/kg	75.0	37.5	3	07/11/13 12:00	07/26/13 09:59	11104-28-2	
PCB-1232 (Aroclor 1232)	<37.5	ug/kg	75.0	37.5	3	07/11/13 12:00	07/26/13 09:59	11141-16-5	
PCB-1242 (Aroclor 1242)	211	ug/kg	75.0	37.5	3	07/11/13 12:00	07/26/13 09:59	53469-21-9	
PCB-1248 (Aroclor 1248)	<37.5	ug/kg	75.0	37.5	3	07/11/13 12:00	07/26/13 09:59	12672-29-6	
PCB-1254 (Aroclor 1254)	291	ug/kg	75.0	37.5	3	07/11/13 12:00	07/26/13 09:59	11097-69-1	
PCB-1260 (Aroclor 1260)	<37.5	ug/kg	75.0	37.5	3	07/11/13 12:00	07/26/13 09:59	11096-82-5	
PCB, Total	501	ug/kg	75.0	37.5	3	07/11/13 12:00	07/26/13 09:59	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	78	%	44-130		3	07/11/13 12:00	07/26/13 09:59	877-09-8	
Decachlorobiphenyl (S)	87	%	62-130		3	07/11/13 12:00	07/26/13 09:59	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:37		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.98	%			1		07/15/13 07:13		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079491

Sample: IH AWS3 **Lab ID: 4079491010** Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 10:17	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 10:17	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 10:17	11141-16-5	
PCB-1242 (Aroclor 1242)	618	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 10:17	53469-21-9	
PCB-1248 (Aroclor 1248)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 10:17	12672-29-6	
PCB-1254 (Aroclor 1254)	1090	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 10:17	11097-69-1	
PCB-1260 (Aroclor 1260)	129	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 10:17	11096-82-5	
PCB, Total	1840	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 10:17	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	78 %		44-130		5	07/11/13 12:00	07/26/13 10:17	877-09-8	
Decachlorobiphenyl (S)	86 %		62-130		5	07/11/13 12:00	07/26/13 10:17	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:37		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.3 %				1		07/15/13 07:13		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Sample: IH AWS4 **Lab ID:** 4079491011 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<37.5	ug/kg	75.0	37.5	3	07/11/13 12:00	07/26/13 10:36	12674-11-2	
PCB-1221 (Aroclor 1221)	<37.5	ug/kg	75.0	37.5	3	07/11/13 12:00	07/26/13 10:36	11104-28-2	
PCB-1232 (Aroclor 1232)	<37.5	ug/kg	75.0	37.5	3	07/11/13 12:00	07/26/13 10:36	11141-16-5	
PCB-1242 (Aroclor 1242)	185	ug/kg	75.0	37.5	3	07/11/13 12:00	07/26/13 10:36	53469-21-9	
PCB-1248 (Aroclor 1248)	<37.5	ug/kg	75.0	37.5	3	07/11/13 12:00	07/26/13 10:36	12672-29-6	
PCB-1254 (Aroclor 1254)	276	ug/kg	75.0	37.5	3	07/11/13 12:00	07/26/13 10:36	11097-69-1	
PCB-1260 (Aroclor 1260)	<37.5	ug/kg	75.0	37.5	3	07/11/13 12:00	07/26/13 10:36	11096-82-5	
PCB, Total	461	ug/kg	75.0	37.5	3	07/11/13 12:00	07/26/13 10:36	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	75	%	44-130		3	07/11/13 12:00	07/26/13 10:36	877-09-8	
Decachlorobiphenyl (S)	89	%	62-130		3	07/11/13 12:00	07/26/13 10:36	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/10/13 11:37		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.4				1		07/15/13 07:13		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Sample: IH AWS5 **Lab ID:** 4079491012 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 10:54	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 10:54	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 10:54	11141-16-5	
PCB-1242 (Aroclor 1242)	382	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 10:54	53469-21-9	
PCB-1248 (Aroclor 1248)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 10:54	12672-29-6	
PCB-1254 (Aroclor 1254)	559	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 10:54	11097-69-1	
PCB-1260 (Aroclor 1260)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 10:54	11096-82-5	
PCB, Total	941	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 10:54	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	79 %		44-130		5	07/11/13 12:00	07/26/13 10:54	877-09-8	
Decachlorobiphenyl (S)	87 %		62-130		5	07/11/13 12:00	07/26/13 10:54	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:32		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.6 %				1		07/15/13 07:13		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Sample: IH AWS6 **Lab ID:** 4079491013 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 11:12	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 11:12	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 11:12	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 11:12	53469-21-9	
PCB-1248 (Aroclor 1248)	1040	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 11:12	12672-29-6	
PCB-1254 (Aroclor 1254)	906	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 11:12	11097-69-1	
PCB-1260 (Aroclor 1260)	93.0J	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 11:12	11096-82-5	
PCB, Total	2030	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 11:12	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	78 %		44-130		5	07/11/13 12:00	07/26/13 11:12	877-09-8	
Decachlorobiphenyl (S)	87 %		62-130		5	07/11/13 12:00	07/26/13 11:12	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:32		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.2 %				1		07/15/13 07:14		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Sample: IH AWS7 **Lab ID:** 4079491014 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/26/13 11:31	12674-11-2	
PCB-1221 (Aroclor 1221)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/26/13 11:31	11104-28-2	
PCB-1232 (Aroclor 1232)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/26/13 11:31	11141-16-5	
PCB-1242 (Aroclor 1242)	217	ug/kg	50.0	25.0	2	07/11/13 12:00	07/26/13 11:31	53469-21-9	
PCB-1248 (Aroclor 1248)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/26/13 11:31	12672-29-6	
PCB-1254 (Aroclor 1254)	126	ug/kg	50.0	25.0	2	07/11/13 12:00	07/26/13 11:31	11097-69-1	
PCB-1260 (Aroclor 1260)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/26/13 11:31	11096-82-5	
PCB, Total	343	ug/kg	50.0	25.0	2	07/11/13 12:00	07/26/13 11:31	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	88 %		44-130		2	07/11/13 12:00	07/26/13 11:31	877-09-8	
Decachlorobiphenyl (S)	91 %		62-130		2	07/11/13 12:00	07/26/13 11:31	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:37		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.4 %				1		07/15/13 07:14		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Sample: IH AWS8 **Lab ID: 4079491015** Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/26/13 11:49	12674-11-2	
PCB-1221 (Aroclor 1221)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/26/13 11:49	11104-28-2	
PCB-1232 (Aroclor 1232)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/26/13 11:49	11141-16-5	
PCB-1242 (Aroclor 1242)	173	ug/kg	50.0	25.0	2	07/11/13 12:00	07/26/13 11:49	53469-21-9	
PCB-1248 (Aroclor 1248)	<25.0	ug/kg	50.0	25.0	2	07/11/13 12:00	07/26/13 11:49	12672-29-6	
PCB-1254 (Aroclor 1254)	187	ug/kg	50.0	25.0	2	07/11/13 12:00	07/26/13 11:49	11097-69-1	
PCB-1260 (Aroclor 1260)	80.2	ug/kg	50.0	25.0	2	07/11/13 12:00	07/26/13 11:49	11096-82-5	
PCB, Total	440	ug/kg	50.0	25.0	2	07/11/13 12:00	07/26/13 11:49	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	82	%	44-130		2	07/11/13 12:00	07/26/13 11:49	877-09-8	
Decachlorobiphenyl (S)	87	%	62-130		2	07/11/13 12:00	07/26/13 11:49	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:37		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.3	%			1		07/15/13 07:14		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Sample: IH SMB1 **Lab ID: 4079491016** Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 12:07	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 12:07	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 12:07	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 12:07	53469-21-9	
PCB-1248 (Aroclor 1248)	1180	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 12:07	12672-29-6	
PCB-1254 (Aroclor 1254)	1040	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 12:07	11097-69-1	
PCB-1260 (Aroclor 1260)	204	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 12:07	11096-82-5	
PCB, Total	2430	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 12:07	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	83 %		44-130		5	07/11/13 12:00	07/26/13 12:07	877-09-8	
Decachlorobiphenyl (S)	93 %		62-130		5	07/11/13 12:00	07/26/13 12:07	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/10/13 11:37		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.4 %				1		07/15/13 07:14		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079491

Sample: IH SMB2 **Lab ID: 4079491017** Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 12:25	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 12:25	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 12:25	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 12:25	53469-21-9	
PCB-1248 (Aroclor 1248)	625	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 12:25	12672-29-6	
PCB-1254 (Aroclor 1254)	519	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 12:25	11097-69-1	
PCB-1260 (Aroclor 1260)	107	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 12:25	11096-82-5	
PCB, Total	1250	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 12:25	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	87 %		44-130		4	07/11/13 12:00	07/26/13 12:25	877-09-8	
Decachlorobiphenyl (S)	93 %		62-130		4	07/11/13 12:00	07/26/13 12:25	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/10/13 11:37		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.9 %				1		07/15/13 07:14		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Sample: IH SMB3 **Lab ID: 4079491018** Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 12:44	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 12:44	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 12:44	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 12:44	53469-21-9	
PCB-1248 (Aroclor 1248)	975	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 12:44	12672-29-6	
PCB-1254 (Aroclor 1254)	796	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 12:44	11097-69-1	
PCB-1260 (Aroclor 1260)	191	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 12:44	11096-82-5	
PCB, Total	1960	ug/kg	125	62.5	5	07/11/13 12:00	07/26/13 12:44	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	83 %		44-130		5	07/11/13 12:00	07/26/13 12:44	877-09-8	
Decachlorobiphenyl (S)	92 %		62-130		5	07/11/13 12:00	07/26/13 12:44	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/10/13 11:37		
Lipid									
Analytical Method: Pace Lipid									
Lipid	3.2 %				1		07/15/13 07:14		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Sample: IH SMB4 **Lab ID:** 4079491019 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 13:02	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 13:02	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 13:02	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 13:02	53469-21-9	
PCB-1248 (Aroclor 1248)	702	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 13:02	12672-29-6	
PCB-1254 (Aroclor 1254)	598	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 13:02	11097-69-1	
PCB-1260 (Aroclor 1260)	136	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 13:02	11096-82-5	
PCB, Total	1440	ug/kg	100	50.0	4	07/11/13 12:00	07/26/13 13:02	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	83 %		44-130		4	07/11/13 12:00	07/26/13 13:02	877-09-8	
Decachlorobiphenyl (S)	90 %		62-130		4	07/11/13 12:00	07/26/13 13:02	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/10/13 11:37		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.9 %				1		07/15/13 07:14		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Sample: IH SMB5 **Lab ID:** 4079491020 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<12.5	ug/kg	25.0	12.5	1	07/11/13 12:00	07/26/13 13:21	12674-11-2	
PCB-1221 (Aroclor 1221)	<12.5	ug/kg	25.0	12.5	1	07/11/13 12:00	07/26/13 13:21	11104-28-2	
PCB-1232 (Aroclor 1232)	<12.5	ug/kg	25.0	12.5	1	07/11/13 12:00	07/26/13 13:21	11141-16-5	
PCB-1242 (Aroclor 1242)	88.0	ug/kg	25.0	12.5	1	07/11/13 12:00	07/26/13 13:21	53469-21-9	
PCB-1248 (Aroclor 1248)	<12.5	ug/kg	25.0	12.5	1	07/11/13 12:00	07/26/13 13:21	12672-29-6	
PCB-1254 (Aroclor 1254)	95.3	ug/kg	25.0	12.5	1	07/11/13 12:00	07/26/13 13:21	11097-69-1	
PCB-1260 (Aroclor 1260)	14.4J	ug/kg	25.0	12.5	1	07/11/13 12:00	07/26/13 13:21	11096-82-5	
PCB, Total	198	ug/kg	25.0	12.5	1	07/11/13 12:00	07/26/13 13:21	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	89 %		44-130		1	07/11/13 12:00	07/26/13 13:21	877-09-8	
Decachlorobiphenyl (S)	88 %		62-130		1	07/11/13 12:00	07/26/13 13:21	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:37		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.4 %				1		07/15/13 07:14		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079491

QC Batch: OEXT/18944 Analysis Method: EPA 8082
QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides
Associated Lab Samples: 4079491001, 4079491002, 4079491003, 4079491004, 4079491005, 4079491006, 4079491007, 4079491008, 4079491009, 4079491010, 4079491011, 4079491012, 4079491013, 4079491014, 4079491015, 4079491016, 4079491017, 4079491018, 4079491019, 4079491020

METHOD BLANK: 820829 Matrix: Tissue
Associated Lab Samples: 4079491001, 4079491002, 4079491003, 4079491004, 4079491005, 4079491006, 4079491007, 4079491008, 4079491009, 4079491010, 4079491011, 4079491012, 4079491013, 4079491014, 4079491015, 4079491016, 4079491017, 4079491018, 4079491019, 4079491020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<12.5	25.0	07/26/13 05:37	
PCB-1221 (Aroclor 1221)	ug/kg	<12.5	25.0	07/26/13 05:37	
PCB-1232 (Aroclor 1232)	ug/kg	<12.5	25.0	07/26/13 05:37	
PCB-1242 (Aroclor 1242)	ug/kg	<12.5	25.0	07/26/13 05:37	
PCB-1248 (Aroclor 1248)	ug/kg	<12.5	25.0	07/26/13 05:37	
PCB-1254 (Aroclor 1254)	ug/kg	<12.5	25.0	07/26/13 05:37	
PCB-1260 (Aroclor 1260)	ug/kg	<12.5	25.0	07/26/13 05:37	
Decachlorobiphenyl (S)	%	88	62-130	07/26/13 05:37	
Tetrachloro-m-xylene (S)	%	89	44-130	07/26/13 05:37	

LABORATORY CONTROL SAMPLE: 820830

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<12.5			
PCB-1221 (Aroclor 1221)	ug/kg		<12.5			
PCB-1232 (Aroclor 1232)	ug/kg		<12.5			
PCB-1242 (Aroclor 1242)	ug/kg		<12.5			
PCB-1248 (Aroclor 1248)	ug/kg		<12.5			
PCB-1254 (Aroclor 1254)	ug/kg	250	256	103	61-130	
PCB-1260 (Aroclor 1260)	ug/kg		<12.5			
Decachlorobiphenyl (S)	%			93	62-130	
Tetrachloro-m-xylene (S)	%			92	44-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 820831 820832

Parameter	Units	4079491001		820832		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
PCB-1016 (Aroclor 1016)	ug/kg	<625		<625	<625					24	
PCB-1221 (Aroclor 1221)	ug/kg	<625		<625	<625					24	
PCB-1232 (Aroclor 1232)	ug/kg	<625		<625	<625					24	
PCB-1242 (Aroclor 1242)	ug/kg	<625		<625	<625					24	
PCB-1248 (Aroclor 1248)	ug/kg	9200		8380	9190				9	24	
PCB-1254 (Aroclor 1254)	ug/kg	8470	1000	8190	9020	-28	55	27-163	10	24	M6
PCB-1260 (Aroclor 1260)	ug/kg	1060J		984J	1080J					24	
Decachlorobiphenyl (S)	%					0	0	62-130			S4
Tetrachloro-m-xylene (S)	%					0	0	44-130			S4

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

QC Batch: OEXT/18962 Analysis Method: Pace Lipid

QC Batch Method: Pace Lipid Analysis Description: LIPID

Associated Lab Samples: 4079491001, 4079491002, 4079491003, 4079491004, 4079491005, 4079491006, 4079491007, 4079491008, 4079491009, 4079491010, 4079491011, 4079491012, 4079491013, 4079491014, 4079491015, 4079491016, 4079491017, 4079491018, 4079491019, 4079491020

METHOD BLANK: 821803 Matrix: Tissue

Associated Lab Samples: 4079491001, 4079491002, 4079491003, 4079491004, 4079491005, 4079491006, 4079491007, 4079491008, 4079491009, 4079491010, 4079491011, 4079491012, 4079491013, 4079491014, 4079491015, 4079491016, 4079491017, 4079491018, 4079491019, 4079491020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lipid	%	0.61		07/15/13 07:11	

SAMPLE DUPLICATE: 821804

Parameter	Units	4079491001 Result	Dup Result	RPD	Max RPD	Qualifiers
Lipid	%	16.2	16.7	3	20	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079491

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079491001	IH AC1	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491002	IH AC2	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491003	IH AC3	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491004	IH AC4	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491005	IH AC5	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491006	IH AC6	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491007	IH AC7	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491008	IH AWS1	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491009	IH AWS2	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491010	IH AWS3	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491011	IH AWS4	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491012	IH AWS5	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491013	IH AWS6	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491014	IH AWS7	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491015	IH AWS8	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491016	IH SMB1	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491017	IH SMB2	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491018	IH SMB3	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491019	IH SMB4	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491020	IH SMB5	EPA 3540	OEXT/18944	EPA 8082	GCSV/9894
4079491001	IH AC1	Pace Gender Typing	GRND/2593		
4079491002	IH AC2	Pace Gender Typing	GRND/2593		
4079491003	IH AC3	Pace Gender Typing	GRND/2593		
4079491004	IH AC4	Pace Gender Typing	GRND/2593		
4079491005	IH AC5	Pace Gender Typing	GRND/2593		
4079491006	IH AC6	Pace Gender Typing	GRND/2593		
4079491007	IH AC7	Pace Gender Typing	GRND/2593		
4079491008	IH AWS1	Pace Gender Typing	GRND/2593		
4079491009	IH AWS2	Pace Gender Typing	GRND/2593		
4079491010	IH AWS3	Pace Gender Typing	GRND/2593		
4079491011	IH AWS4	Pace Gender Typing	GRND/2593		
4079491012	IH AWS5	Pace Gender Typing	GRND/2590		
4079491013	IH AWS6	Pace Gender Typing	GRND/2590		
4079491014	IH AWS7	Pace Gender Typing	GRND/2593		
4079491015	IH AWS8	Pace Gender Typing	GRND/2593		
4079491016	IH SMB1	Pace Gender Typing	GRND/2593		
4079491017	IH SMB2	Pace Gender Typing	GRND/2593		
4079491018	IH SMB3	Pace Gender Typing	GRND/2593		
4079491019	IH SMB4	Pace Gender Typing	GRND/2593		
4079491020	IH SMB5	Pace Gender Typing	GRND/2593		
4079491001	IH AC1	Pace Lipid	OEXT/18962		
4079491002	IH AC2	Pace Lipid	OEXT/18962		
4079491003	IH AC3	Pace Lipid	OEXT/18962		
4079491004	IH AC4	Pace Lipid	OEXT/18962		
4079491005	IH AC5	Pace Lipid	OEXT/18962		
4079491006	IH AC6	Pace Lipid	OEXT/18962		
4079491007	IH AC7	Pace Lipid	OEXT/18962		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079491

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079491008	IH AWS1	Pace Lipid	OEXT/18962		
4079491009	IH AWS2	Pace Lipid	OEXT/18962		
4079491010	IH AWS3	Pace Lipid	OEXT/18962		
4079491011	IH AWS4	Pace Lipid	OEXT/18962		
4079491012	IH AWS5	Pace Lipid	OEXT/18962		
4079491013	IH AWS6	Pace Lipid	OEXT/18962		
4079491014	IH AWS7	Pace Lipid	OEXT/18962		
4079491015	IH AWS8	Pace Lipid	OEXT/18962		
4079491016	IH SMB1	Pace Lipid	OEXT/18962		
4079491017	IH SMB2	Pace Lipid	OEXT/18962		
4079491018	IH SMB3	Pace Lipid	OEXT/18962		
4079491019	IH SMB4	Pace Lipid	OEXT/18962		
4079491020	IH SMB5	Pace Lipid	OEXT/18962		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):
 PO #:
 Regulatory Program:



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

Page 1 of 4
 COC No. 8 4079491

CHAIN OF CUSTODY

*Preservation Codes
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES															
			X	A															
			X	A															
			X	A															
			X	A															
			X	A															
			X	A															
			X	A															
			X	A															

Quote #: [Blank]
 Mail To Contact: Mark Mather
 Mail To Company: PRS - Assured Group
 Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
 Invoice To Contact: Goldie Sharp
 Invoice To Company: As Above
 Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
 Invoice To Phone: 513-489-6789
 CLIENT COMMENTS: Whole Fish Sample
 LAB COMMENTS (Lab Use Only): 1-polybag
 Profile #

Data Package Options (billable)
 EPA Level III
 EPA Level IV
 MS/MSD
 On your sample (billable)
 NOT needed on your sample
 Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 SI = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	IH AC1	6/10/13		Tissue
002	IH AC2	6/10/13		Tissue
003	IH AC3	6/10/13		Tissue
004	IH AC4	6/10/13		Tissue
005	IH AC5	6/10/13		Tissue
006	IH AC6	6/10/13		Tissue
007	IH AC7	6/10/13		Tissue
	IH AC8	6/10/13		Tissue

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: [Signature] Date/Time: 6/10/13	Received By: [Signature] Date/Time: 6/10/13 1415
Relinquished By: [Signature] Date/Time: 6/10/13 1530	Received By: [Signature] Date/Time: 6/10/13 1530
Relinquished By: [Signature] Date/Time:	Received By: [Signature] Date/Time:
Relinquished By: [Signature] Date/Time:	Received By: [Signature] Date/Time:

PACE Project No. 4079491
 Receipt Temp = 20 °C
 Sample Receipt pH OK / Adjusted
 Cooler-Custody Seal Present / Not Present Intact / Not Intact

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(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

COC No. 8 21579491

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	

Quote #:
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact: Goldie Sharp
Invoice To Company: As Above
Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone: 513-489-6789

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	008 IH AWS1	6/10/13		Tissue
002	009 IH AWS2	6/10/13		Tissue
003	010 IH AWS3	6/10/13		Tissue
004	011 IH AWS4	6/10/13		Tissue
005	012 IH AWS5	6/10/13		Tissue
006	013 IH AWS6	6/10/13		Tissue
007	014 IH AWS7	6/10/13		Tissue
008	015 IH AWS8	6/10/13		Tissue

CLIENT COMMENTS
Whole Fish Sample

LAB COMMENTS (Lab Use Only)
1 - polybag

Profile #

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: [Signature] Date/Time: 6/10/13
 Relinquished By: [Signature] Date/Time: 6/10/13 1530
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:

Received By: [Signature] Date/Time: 6/10/13 1415
 Received By: [Signature] Date/Time: 6/10/13 1530
 Received By: Date/Time:
 Received By: Date/Time:
 Received By: Date/Time:

PACE Project No.
4029491
Receipt Temp = 20 °C
Sample Receipt pH
OK / Adjusted
Cooler Custody Seal
Present / Not Present
Intact / Not Intact

(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):
 PO #:



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

Page 3 of 4
 COC No. 8 4079491

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
 (YES/NO)
 PRESERVATION
 (CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES															
			X	A															
			X	A															
			X	A															
			X	A															
			X	A															
			X	A															
			X	A															
			X	A															

Quote #:
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact: Goldie Sharp
Invoice To Company: As Above
Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone: 513-489-6789

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	MATRIX	COLLECTION	
			DATE	TIME
001	016 IH SMB1	Tissue	6/10/13	
002	017 IH SMB2	Tissue	6/10/13	
003	018 IH SMB3	Tissue	6/10/13	
004	019 IH SMB4	Tissue	6/10/13	
005	020 IH SMB5	Tissue	6/10/13	
006	IH SMB6	Tissue	6/10/13	
007	IH SMB7	Tissue	6/10/13	
008	IH SMB8	Tissue	6/10/13	
009	IH SMB9	Tissue	6/10/14	

CLIENT COMMENTS: Whole Fish Sample
LAB COMMENTS (Lab Use Only): 1-polybag A
 6/10/13 SW

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: [Signature] Date/Time: 6/10/13
 Relinquished By: [Signature] Date/Time: 6/10/13 1530
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:

Received By: [Signature] Date/Time: 6/10/13 1415
 Received By: [Signature] Date/Time: 6/10/13 1530
 Received By: Date/Time:
 Received By: Date/Time:

PACE Project No. 4079491
 Receipt Temp = 20 °C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present / Not Present Intact / Not Intact



Sample Condition Upon Receipt

Client Name: PRS Project # 4079491

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____
Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used SR13 Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 20 / Corr: 20 Biological Tissue is Frozen: yes no 6/11/13

Temp Blank Present: yes no

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Person examining contents:
Date: 6-11-13
Initials: SW

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>B</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
		Lab Std #ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments
Person Contacted: _____ Date/Time: _____
Comments/ Resolution: Fish freshly caught same day 6/11/13
SW

Project Manager Review: Chf for tw Date: 6/12/13

August 06, 2013

Mark Mather
Pollution Risk Services
7870 East Kemper Road
Suite 240
Cincinnati, OH 45249

RE: Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079393

Dear Mark Mather:

Enclosed are the analytical results for sample(s) received by the laboratory on June 10, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Tod Noltemeyer

tod.noltemeyer@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079393

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 11888

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

US Dept of Agriculture #: S-76505

Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079393

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4079393001	MR2 JWS6	Tissue	06/07/13 00:00	06/10/13 15:30
4079393002	MR2 JWS7	Tissue	06/07/13 00:00	06/10/13 15:30
4079393003	MR2 SMB1	Tissue	06/07/13 00:00	06/10/13 15:30
4079393004	MR2 SMB2	Tissue	06/07/13 00:00	06/10/13 15:30
4079393005	MR2 SMB3	Tissue	06/07/13 00:00	06/10/13 15:30
4079393006	MR2 SMB4	Tissue	06/07/13 00:00	06/10/13 15:30
4079393007	MR2 SMB5	Tissue	06/07/13 00:00	06/10/13 15:30
4079393008	MR2 SMB6	Tissue	06/07/13 00:00	06/10/13 15:30
4079393009	MR2 SMB7	Tissue	06/07/13 00:00	06/10/13 15:30
4079393010	MR2 SMB8	Tissue	06/07/13 00:00	06/10/13 15:30
4079393011	MR2 RB1	Tissue	06/07/13 00:00	06/10/13 15:30
4079393012	MR2 RB2	Tissue	06/07/13 00:00	06/10/13 15:30
4079393013	MR2 RB3	Tissue	06/07/13 00:00	06/10/13 15:30
4079393014	MR2 RB4	Tissue	06/07/13 00:00	06/10/13 15:30
4079393015	MR2 RB5	Tissue	06/07/13 00:00	06/10/13 15:30
4079393016	MR2 RB6	Tissue	06/07/13 00:00	06/10/13 15:30
4079393017	MR2 RB7	Tissue	06/07/13 00:00	06/10/13 15:30
4079393018	MR2 RB8	Tissue	06/07/13 00:00	06/10/13 15:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079393

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079393001	MR2 JWS6	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079393002	MR2 JWS7	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079393003	MR2 SMB1	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079393004	MR2 SMB2	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079393005	MR2 SMB3	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079393006	MR2 SMB4	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079393007	MR2 SMB5	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079393008	MR2 SMB6	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079393009	MR2 SMB7	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079393010	MR2 SMB8	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079393011	MR2 RB1	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079393012	MR2 RB2	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079393013	MR2 RB3	EPA 8082	BDS	10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079393

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079393014	MR2 RB4	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BDS	10
4079393015	MR2 RB5	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BDS	10
4079393016	MR2 RB6	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BDS	10
4079393017	MR2 RB7	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BDS	10
4079393018	MR2 RB8	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BDS	10

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079393

Method: EPA 8082
Description: 8082 GCS PCB, Tissue
Client: POLLUTION RISK SERVICES
Date: August 06, 2013

General Information:

18 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/19004

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- MR2 SMB6 (Lab ID: 4079393008)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR2 SMB8 (Lab ID: 4079393010)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079393

Method: Pace Gender Typing

Description: Fish Gender Typing

Client: POLLUTION RISK SERVICES

Date: August 06, 2013

General Information:

18 samples were analyzed for Pace Gender Typing. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079393

Method: Pace Lipid
Description: Lipid
Client: POLLUTION RISK SERVICES
Date: August 06, 2013

General Information:

18 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079393

Sample: MR2 JWS6 **Lab ID: 4079393001** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 04:27	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 04:27	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 04:27	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 04:27	53469-21-9	
PCB-1248 (Aroclor 1248)	712	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 04:27	12672-29-6	
PCB-1254 (Aroclor 1254)	443	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 04:27	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 04:27	11096-82-5	
PCB, Total	1150	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 04:27	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	82 %		44-130		4	07/16/13 14:59	07/27/13 04:27	877-09-8	
Decachlorobiphenyl (S)	93 %		62-130		4	07/16/13 14:59	07/27/13 04:27	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/16/13 08:58		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.8 %				1		07/18/13 07:32		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079393

Sample: MR2 JWS7 **Lab ID: 4079393002** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 04:44	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 04:44	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 04:44	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 04:44	53469-21-9	
PCB-1248 (Aroclor 1248)	722	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 04:44	12672-29-6	
PCB-1254 (Aroclor 1254)	448	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 04:44	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 04:44	11096-82-5	
PCB, Total	1170	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 04:44	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	81 %		44-130		4	07/16/13 14:59	07/27/13 04:44	877-09-8	
Decachlorobiphenyl (S)	93 %		62-130		4	07/16/13 14:59	07/27/13 04:44	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/16/13 08:58		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.7 %				1		07/18/13 07:29		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079393

Sample: MR2 SMB1 **Lab ID: 4079393003** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:02	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:02	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:02	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:02	53469-21-9	
PCB-1248 (Aroclor 1248)	674	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:02	12672-29-6	
PCB-1254 (Aroclor 1254)	617	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:02	11097-69-1	
PCB-1260 (Aroclor 1260)	116J	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:02	11096-82-5	
PCB, Total	1410	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:02	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	80 %		44-130		5	07/16/13 14:59	07/27/13 05:02	877-09-8	
Decachlorobiphenyl (S)	94 %		62-130		5	07/16/13 14:59	07/27/13 05:02	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/16/13 08:58		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.1 %				1		07/18/13 07:29		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079393

Sample: MR2 SMB2 **Lab ID: 4079393004** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:19	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:19	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:19	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:19	53469-21-9	
PCB-1248 (Aroclor 1248)	686	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:19	12672-29-6	
PCB-1254 (Aroclor 1254)	605	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:19	11097-69-1	
PCB-1260 (Aroclor 1260)	85.5J	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:19	11096-82-5	
PCB, Total	1380	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:19	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	77 %		44-130		5	07/16/13 14:59	07/27/13 05:19	877-09-8	
Decachlorobiphenyl (S)	96 %		62-130		5	07/16/13 14:59	07/27/13 05:19	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/16/13 08:58		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.88 %				1		07/18/13 07:29		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079393

Sample: MR2 SMB3 **Lab ID: 4079393005** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:37	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:37	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:37	11141-16-5	
PCB-1242 (Aroclor 1242)	322	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:37	53469-21-9	
PCB-1248 (Aroclor 1248)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:37	12672-29-6	
PCB-1254 (Aroclor 1254)	597	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:37	11097-69-1	
PCB-1260 (Aroclor 1260)	107J	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:37	11096-82-5	
PCB, Total	1030	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:37	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	79 %		44-130		5	07/16/13 14:59	07/27/13 05:37	877-09-8	
Decachlorobiphenyl (S)	94 %		62-130		5	07/16/13 14:59	07/27/13 05:37	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/16/13 08:58		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.95 %				1		07/18/13 07:29		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079393

Sample: MR2 SMB4 **Lab ID: 4079393006** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:54	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:54	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:54	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:54	53469-21-9	
PCB-1248 (Aroclor 1248)	1080	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:54	12672-29-6	
PCB-1254 (Aroclor 1254)	1200	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:54	11097-69-1	
PCB-1260 (Aroclor 1260)	198	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:54	11096-82-5	
PCB, Total	2480	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 05:54	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	81 %		44-130		5	07/16/13 14:59	07/27/13 05:54	877-09-8	
Decachlorobiphenyl (S)	98 %		62-130		5	07/16/13 14:59	07/27/13 05:54	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/16/13 08:58		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.1 %				1		07/18/13 07:29		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079393

Sample: MR2 SMB5 **Lab ID: 4079393007** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	07/16/13 14:59	07/27/13 06:12	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	07/16/13 14:59	07/27/13 06:12	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	07/16/13 14:59	07/27/13 06:12	11141-16-5	
PCB-1242 (Aroclor 1242)	703	ug/kg	250	125	10	07/16/13 14:59	07/27/13 06:12	53469-21-9	
PCB-1248 (Aroclor 1248)	<125	ug/kg	250	125	10	07/16/13 14:59	07/27/13 06:12	12672-29-6	
PCB-1254 (Aroclor 1254)	661	ug/kg	250	125	10	07/16/13 14:59	07/27/13 06:12	11097-69-1	
PCB-1260 (Aroclor 1260)	<125	ug/kg	250	125	10	07/16/13 14:59	07/27/13 06:12	11096-82-5	
PCB, Total	1360	ug/kg	250	125	10	07/16/13 14:59	07/27/13 06:12	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	78 %		44-130		10	07/16/13 14:59	07/27/13 06:12	877-09-8	
Decachlorobiphenyl (S)	96 %		62-130		10	07/16/13 14:59	07/27/13 06:12	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/16/13 08:58		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.80 %				1		07/18/13 07:29		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079393

Sample: MR2 SMB6 **Lab ID: 4079393008** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<188	ug/kg	375	188	15	07/16/13 14:59	07/27/13 06:29	12674-11-2	
PCB-1221 (Aroclor 1221)	<188	ug/kg	375	188	15	07/16/13 14:59	07/27/13 06:29	11104-28-2	
PCB-1232 (Aroclor 1232)	<188	ug/kg	375	188	15	07/16/13 14:59	07/27/13 06:29	11141-16-5	
PCB-1242 (Aroclor 1242)	964	ug/kg	375	188	15	07/16/13 14:59	07/27/13 06:29	53469-21-9	
PCB-1248 (Aroclor 1248)	<188	ug/kg	375	188	15	07/16/13 14:59	07/27/13 06:29	12672-29-6	
PCB-1254 (Aroclor 1254)	658	ug/kg	375	188	15	07/16/13 14:59	07/27/13 06:29	11097-69-1	
PCB-1260 (Aroclor 1260)	<188	ug/kg	375	188	15	07/16/13 14:59	07/27/13 06:29	11096-82-5	
PCB, Total	1620	ug/kg	375	188	15	07/16/13 14:59	07/27/13 06:29	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		15	07/16/13 14:59	07/27/13 06:29	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		15	07/16/13 14:59	07/27/13 06:29	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/16/13 08:58		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.70 %				1		07/18/13 07:30		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079393

Sample: MR2 SMB7 **Lab ID: 4079393009** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 07:21	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 07:21	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 07:21	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 07:21	53469-21-9	
PCB-1248 (Aroclor 1248)	838	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 07:21	12672-29-6	
PCB-1254 (Aroclor 1254)	499	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 07:21	11097-69-1	
PCB-1260 (Aroclor 1260)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 07:21	11096-82-5	
PCB, Total	1340	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 07:21	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	77	%	44-130		5	07/16/13 14:59	07/27/13 07:21	877-09-8	
Decachlorobiphenyl (S)	84	%	62-130		5	07/16/13 14:59	07/27/13 07:21	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/16/13 08:58		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.54				1		07/18/13 07:30		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079393

Sample: MR2 SMB8 **Lab ID: 4079393010** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	07/16/13 14:59	07/27/13 07:39	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	07/16/13 14:59	07/27/13 07:39	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	07/16/13 14:59	07/27/13 07:39	11141-16-5	
PCB-1242 (Aroclor 1242)	1230	ug/kg	500	250	20	07/16/13 14:59	07/27/13 07:39	53469-21-9	
PCB-1248 (Aroclor 1248)	<250	ug/kg	500	250	20	07/16/13 14:59	07/27/13 07:39	12672-29-6	
PCB-1254 (Aroclor 1254)	1010	ug/kg	500	250	20	07/16/13 14:59	07/27/13 07:39	11097-69-1	
PCB-1260 (Aroclor 1260)	<250	ug/kg	500	250	20	07/16/13 14:59	07/27/13 07:39	11096-82-5	
PCB, Total	2230	ug/kg	500	250	20	07/16/13 14:59	07/27/13 07:39	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	07/16/13 14:59	07/27/13 07:39	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	07/16/13 14:59	07/27/13 07:39	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/16/13 08:58		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.4 %				1		07/18/13 07:30		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079393

Sample: MR2 RB1 **Lab ID: 4079393011** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<12.5	ug/kg	25.0	12.5	1	07/16/13 14:59	07/27/13 07:56	12674-11-2	
PCB-1221 (Aroclor 1221)	<12.5	ug/kg	25.0	12.5	1	07/16/13 14:59	07/27/13 07:56	11104-28-2	
PCB-1232 (Aroclor 1232)	<12.5	ug/kg	25.0	12.5	1	07/16/13 14:59	07/27/13 07:56	11141-16-5	
PCB-1242 (Aroclor 1242)	<12.5	ug/kg	25.0	12.5	1	07/16/13 14:59	07/27/13 07:56	53469-21-9	
PCB-1248 (Aroclor 1248)	224	ug/kg	25.0	12.5	1	07/16/13 14:59	07/27/13 07:56	12672-29-6	
PCB-1254 (Aroclor 1254)	209	ug/kg	25.0	12.5	1	07/16/13 14:59	07/27/13 07:56	11097-69-1	
PCB-1260 (Aroclor 1260)	17.8J	ug/kg	25.0	12.5	1	07/16/13 14:59	07/27/13 07:56	11096-82-5	
PCB, Total	450	ug/kg	25.0	12.5	1	07/16/13 14:59	07/27/13 07:56	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	85 %		44-130		1	07/16/13 14:59	07/27/13 07:56	877-09-8	
Decachlorobiphenyl (S)	98 %		62-130		1	07/16/13 14:59	07/27/13 07:56	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/16/13 08:58		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.26 %				1		07/18/13 07:30		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079393

Sample: MR2 RB2 **Lab ID: 4079393012** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:14	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:14	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:14	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:14	53469-21-9	
PCB-1248 (Aroclor 1248)	441	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:14	12672-29-6	
PCB-1254 (Aroclor 1254)	405	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:14	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:14	11096-82-5	
PCB, Total	846	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:14	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	82 %		44-130		4	07/16/13 14:59	07/27/13 08:14	877-09-8	
Decachlorobiphenyl (S)	94 %		62-130		4	07/16/13 14:59	07/27/13 08:14	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/16/13 08:58		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.44 %				1		07/18/13 07:30		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079393

Sample: MR2 RB3 **Lab ID: 4079393013** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:31	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:31	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:31	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:31	53469-21-9	
PCB-1248 (Aroclor 1248)	543	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:31	12672-29-6	
PCB-1254 (Aroclor 1254)	651	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:31	11097-69-1	
PCB-1260 (Aroclor 1260)	55.0J	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:31	11096-82-5	
PCB, Total	1250	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:31	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	85 %		44-130		4	07/16/13 14:59	07/27/13 08:31	877-09-8	
Decachlorobiphenyl (S)	94 %		62-130		4	07/16/13 14:59	07/27/13 08:31	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/16/13 08:58		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.50 %				1		07/18/13 07:30		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079393

Sample: MR2 RB4 **Lab ID: 4079393014** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:49	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:49	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:49	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:49	53469-21-9	
PCB-1248 (Aroclor 1248)	456	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:49	12672-29-6	
PCB-1254 (Aroclor 1254)	358	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:49	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:49	11096-82-5	
PCB, Total	814	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 08:49	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	79 %		44-130		4	07/16/13 14:59	07/27/13 08:49	877-09-8	
Decachlorobiphenyl (S)	89 %		62-130		4	07/16/13 14:59	07/27/13 08:49	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/16/13 08:58		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.62 %				1		07/18/13 07:30		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079393

Sample: MR2 RB5 **Lab ID: 4079393015** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 09:06	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 09:06	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 09:06	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 09:06	53469-21-9	
PCB-1248 (Aroclor 1248)	634	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 09:06	12672-29-6	
PCB-1254 (Aroclor 1254)	441	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 09:06	11097-69-1	
PCB-1260 (Aroclor 1260)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 09:06	11096-82-5	
PCB, Total	1070	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 09:06	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	78	%	44-130		5	07/16/13 14:59	07/27/13 09:06	877-09-8	
Decachlorobiphenyl (S)	88	%	62-130		5	07/16/13 14:59	07/27/13 09:06	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/16/13 08:58		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.50				1		07/18/13 07:30		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079393

Sample: MR2 RB6 **Lab ID: 4079393016** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 09:24	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 09:24	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 09:24	11141-16-5	
PCB-1242 (Aroclor 1242)	243	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 09:24	53469-21-9	
PCB-1248 (Aroclor 1248)	<62.5	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 09:24	12672-29-6	
PCB-1254 (Aroclor 1254)	653	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 09:24	11097-69-1	
PCB-1260 (Aroclor 1260)	71.4J	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 09:24	11096-82-5	
PCB, Total	968	ug/kg	125	62.5	5	07/16/13 14:59	07/27/13 09:24	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	78 %		44-130		5	07/16/13 14:59	07/27/13 09:24	877-09-8	
Decachlorobiphenyl (S)	92 %		62-130		5	07/16/13 14:59	07/27/13 09:24	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/16/13 08:58		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.76 %				1		07/18/13 07:30		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079393

Sample: MR2 RB7 **Lab ID: 4079393017** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 09:41	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 09:41	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 09:41	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 09:41	53469-21-9	
PCB-1248 (Aroclor 1248)	543	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 09:41	12672-29-6	
PCB-1254 (Aroclor 1254)	486	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 09:41	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 09:41	11096-82-5	
PCB, Total	1030	ug/kg	100	50.0	4	07/16/13 14:59	07/27/13 09:41	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	81 %		44-130		4	07/16/13 14:59	07/27/13 09:41	877-09-8	
Decachlorobiphenyl (S)	87 %		62-130		4	07/16/13 14:59	07/27/13 09:41	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/16/13 08:58		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.90 %				1		07/18/13 07:31		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079393

Sample: MR2 RB8 **Lab ID: 4079393018** Collected: 06/07/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	07/16/13 14:59	07/27/13 09:59	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	07/16/13 14:59	07/27/13 09:59	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	07/16/13 14:59	07/27/13 09:59	11141-16-5	
PCB-1242 (Aroclor 1242)	348	ug/kg	250	125	10	07/16/13 14:59	07/27/13 09:59	53469-21-9	
PCB-1248 (Aroclor 1248)	<125	ug/kg	250	125	10	07/16/13 14:59	07/27/13 09:59	12672-29-6	
PCB-1254 (Aroclor 1254)	547	ug/kg	250	125	10	07/16/13 14:59	07/27/13 09:59	11097-69-1	
PCB-1260 (Aroclor 1260)	<125	ug/kg	250	125	10	07/16/13 14:59	07/27/13 09:59	11096-82-5	
PCB, Total	895	ug/kg	250	125	10	07/16/13 14:59	07/27/13 09:59	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	75 %		44-130		10	07/16/13 14:59	07/27/13 09:59	877-09-8	
Decachlorobiphenyl (S)	95 %		62-130		10	07/16/13 14:59	07/27/13 09:59	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/16/13 08:58		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.54 %				1		07/18/13 07:31		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079393

QC Batch: OEXT/19004 Analysis Method: EPA 8082
QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides
Associated Lab Samples: 4079393001, 4079393002, 4079393003, 4079393004, 4079393005, 4079393006, 4079393007, 4079393008, 4079393009, 4079393010, 4079393011, 4079393012, 4079393013, 4079393014, 4079393015, 4079393016, 4079393017, 4079393018

METHOD BLANK: 823748 Matrix: Tissue

Associated Lab Samples: 4079393001, 4079393002, 4079393003, 4079393004, 4079393005, 4079393006, 4079393007, 4079393008, 4079393009, 4079393010, 4079393011, 4079393012, 4079393013, 4079393014, 4079393015, 4079393016, 4079393017, 4079393018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<12.5	25.0	07/31/13 14:33	
PCB-1221 (Aroclor 1221)	ug/kg	<12.5	25.0	07/31/13 14:33	
PCB-1232 (Aroclor 1232)	ug/kg	<12.5	25.0	07/31/13 14:33	
PCB-1242 (Aroclor 1242)	ug/kg	<12.5	25.0	07/31/13 14:33	
PCB-1248 (Aroclor 1248)	ug/kg	<12.5	25.0	07/31/13 14:33	
PCB-1254 (Aroclor 1254)	ug/kg	<12.5	25.0	07/31/13 14:33	
PCB-1260 (Aroclor 1260)	ug/kg	<12.5	25.0	07/31/13 14:33	
Decachlorobiphenyl (S)	%	97	62-130	07/31/13 14:33	
Tetrachloro-m-xylene (S)	%	88	44-130	07/31/13 14:33	

LABORATORY CONTROL SAMPLE: 823749

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<12.5			
PCB-1221 (Aroclor 1221)	ug/kg		<12.5			
PCB-1232 (Aroclor 1232)	ug/kg		<12.5			
PCB-1242 (Aroclor 1242)	ug/kg		<12.5			
PCB-1248 (Aroclor 1248)	ug/kg		<12.5			
PCB-1254 (Aroclor 1254)	ug/kg	250	252	101	61-130	
PCB-1260 (Aroclor 1260)	ug/kg		<12.5			
Decachlorobiphenyl (S)	%			99	62-130	
Tetrachloro-m-xylene (S)	%			89	44-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 823750 823751

Parameter	Units	4079393001		823751		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
PCB-1016 (Aroclor 1016)	ug/kg	<50.0		<62.5	<62.5					24	
PCB-1221 (Aroclor 1221)	ug/kg	<50.0		<62.5	<62.5					24	
PCB-1232 (Aroclor 1232)	ug/kg	<50.0		<62.5	<62.5					24	
PCB-1242 (Aroclor 1242)	ug/kg	<50.0		<62.5	<62.5					24	
PCB-1248 (Aroclor 1248)	ug/kg	712		988	1180					18	24
PCB-1254 (Aroclor 1254)	ug/kg	443	1000	1370	1550	92	111	27-163	13	24	
PCB-1260 (Aroclor 1260)	ug/kg	<50.0		<62.5	<62.5					24	
Decachlorobiphenyl (S)	%					83	92	62-130			
Tetrachloro-m-xylene (S)	%					73	81	44-130			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079393

QC Batch: OEXT/19025 Analysis Method: Pace Lipid
QC Batch Method: Pace Lipid Analysis Description: LIPID
Associated Lab Samples: 4079393001, 4079393002, 4079393003, 4079393004, 4079393005, 4079393006, 4079393007, 4079393008,
4079393009, 4079393010, 4079393011, 4079393012, 4079393013, 4079393014, 4079393015, 4079393016,
4079393017, 4079393018

METHOD BLANK: 824242 Matrix: Tissue
Associated Lab Samples: 4079393001, 4079393002, 4079393003, 4079393004, 4079393005, 4079393006, 4079393007, 4079393008,
4079393009, 4079393010, 4079393011, 4079393012, 4079393013, 4079393014, 4079393015, 4079393016,
4079393017, 4079393018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lipid	%	0.36		07/18/13 07:28	

SAMPLE DUPLICATE: 824243

Parameter	Units	4079393001 Result	Dup Result	RPD	Max RPD	Qualifiers
Lipid	%	1.8	1.9	1	20	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079393

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079393

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079393001	MR2 JWS6	EPA 3540	OEXT/19004	EPA 8082	GCSV/9929
4079393002	MR2 JWS7	EPA 3540	OEXT/19004	EPA 8082	GCSV/9929
4079393003	MR2 SMB1	EPA 3540	OEXT/19004	EPA 8082	GCSV/9929
4079393004	MR2 SMB2	EPA 3540	OEXT/19004	EPA 8082	GCSV/9929
4079393005	MR2 SMB3	EPA 3540	OEXT/19004	EPA 8082	GCSV/9929
4079393006	MR2 SMB4	EPA 3540	OEXT/19004	EPA 8082	GCSV/9929
4079393007	MR2 SMB5	EPA 3540	OEXT/19004	EPA 8082	GCSV/9929
4079393008	MR2 SMB6	EPA 3540	OEXT/19004	EPA 8082	GCSV/9929
4079393009	MR2 SMB7	EPA 3540	OEXT/19004	EPA 8082	GCSV/9929
4079393010	MR2 SMB8	EPA 3540	OEXT/19004	EPA 8082	GCSV/9929
4079393011	MR2 RB1	EPA 3540	OEXT/19004	EPA 8082	GCSV/9929
4079393012	MR2 RB2	EPA 3540	OEXT/19004	EPA 8082	GCSV/9929
4079393013	MR2 RB3	EPA 3540	OEXT/19004	EPA 8082	GCSV/9929
4079393014	MR2 RB4	EPA 3540	OEXT/19004	EPA 8082	GCSV/9929
4079393015	MR2 RB5	EPA 3540	OEXT/19004	EPA 8082	GCSV/9929
4079393016	MR2 RB6	EPA 3540	OEXT/19004	EPA 8082	GCSV/9929
4079393017	MR2 RB7	EPA 3540	OEXT/19004	EPA 8082	GCSV/9929
4079393018	MR2 RB8	EPA 3540	OEXT/19004	EPA 8082	GCSV/9929
4079393001	MR2 JWS6	Pace Gender Typing	GRND/2602		
4079393002	MR2 JWS7	Pace Gender Typing	GRND/2602		
4079393003	MR2 SMB1	Pace Gender Typing	GRND/2602		
4079393004	MR2 SMB2	Pace Gender Typing	GRND/2602		
4079393005	MR2 SMB3	Pace Gender Typing	GRND/2602		
4079393006	MR2 SMB4	Pace Gender Typing	GRND/2602		
4079393007	MR2 SMB5	Pace Gender Typing	GRND/2602		
4079393008	MR2 SMB6	Pace Gender Typing	GRND/2602		
4079393009	MR2 SMB7	Pace Gender Typing	GRND/2602		
4079393010	MR2 SMB8	Pace Gender Typing	GRND/2602		
4079393011	MR2 RB1	Pace Gender Typing	GRND/2602		
4079393012	MR2 RB2	Pace Gender Typing	GRND/2602		
4079393013	MR2 RB3	Pace Gender Typing	GRND/2602		
4079393014	MR2 RB4	Pace Gender Typing	GRND/2602		
4079393015	MR2 RB5	Pace Gender Typing	GRND/2602		
4079393016	MR2 RB6	Pace Gender Typing	GRND/2602		
4079393017	MR2 RB7	Pace Gender Typing	GRND/2602		
4079393018	MR2 RB8	Pace Gender Typing	GRND/2602		
4079393001	MR2 JWS6	Pace Lipid	OEXT/19025		
4079393002	MR2 JWS7	Pace Lipid	OEXT/19025		
4079393003	MR2 SMB1	Pace Lipid	OEXT/19025		
4079393004	MR2 SMB2	Pace Lipid	OEXT/19025		
4079393005	MR2 SMB3	Pace Lipid	OEXT/19025		
4079393006	MR2 SMB4	Pace Lipid	OEXT/19025		
4079393007	MR2 SMB5	Pace Lipid	OEXT/19025		
4079393008	MR2 SMB6	Pace Lipid	OEXT/19025		
4079393009	MR2 SMB7	Pace Lipid	OEXT/19025		
4079393010	MR2 SMB8	Pace Lipid	OEXT/19025		
4079393011	MR2 RB1	Pace Lipid	OEXT/19025		
4079393012	MR2 RB2	Pace Lipid	OEXT/19025		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079393

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079393013	MR2 RB3	Pace Lipid	OEXT/19025		
4079393014	MR2 RB4	Pace Lipid	OEXT/19025		
4079393015	MR2 RB5	Pace Lipid	OEXT/19025		
4079393016	MR2 RB6	Pace Lipid	OEXT/19025		
4079393017	MR2 RB7	Pace Lipid	OEXT/19025		
4079393018	MR2 RB8	Pace Lipid	OEXT/19025		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):
 PO #:
 Regulatory Program:



UPPER MIDWEST REGION

MN: 612-607-1700 WI: 920-469-2436

COC No. 7 4079393

CHAIN OF CUSTODY

Preservation Codes
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A

Quote #:
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact: Goldie Sharp
Invoice To Company: As Above
Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone: 513-489-6789

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	MR2 JWS2	6/7/13		Tissue
002	MR2 JWS3	6/7/13		Tissue
003	MR2 JWS4	6/7/13		Tissue
004	MR2 JWS5	6/7/13		Tissue
005	MR2 JWS6 001	6/7/13		Tissue
006	MR2 JWS7 002	6/7/13		Tissue

CLIENT COMMENTS
Whole Fish Sample

LAB COMMENTS (Lab Use Only)
1-polybag

Profile #

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: *[Signature]* Date/Time: 6/10/13
 Relinquished By: *[Signature]* Date/Time: 6/10/13 1530
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:

Received By: *[Signature]* Date/Time: 6/10/13 1415
 Received By: *[Signature]* Date/Time: 6/10/13 1530
 Received By: Date/Time:
 Received By: Date/Time:

PACE Project No. 4079393
 Receipt Temp = 20 °C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present / Not Present
 Intact / Not Intact

(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):
 PO #:

Regulatory Program:

Data Package Options (billable)

- EPA Level III
- EPA Level IV

MS/MSD

- On your sample (billable)
- NOT needed on your sample

Matrix Codes

- A = Air
- B = Biota
- C = Charcoal
- O = Oil
- S = Soil
- SI = Sludge
- W = Water
- DW = Drinking Water
- GW = Ground Water
- SW = Surface Water
- WW = Waste Water
- WP = Wipe

PACE LAB # CLIENT FIELD ID

PACE LAB #	CLIENT FIELD ID	MR2 RB#	COLLECTION		MATRIX
			DATE	TIME	
001	011	MR2 RB1	6/7/13		Tissue
002	012	MR2 RB2	6/7/13		Tissue
003	013	MR2 RB3	6/7/13		Tissue
004	014	MR2 RB4	6/7/13		Tissue
005	015	MR2 RB5	6/7/13		Tissue
006	016	MR2 RB6	6/7/13		Tissue
007	017	MR2 RB7	6/7/13		Tissue
008	018	MR2 RB8	6/7/13		Tissue



UPPER MIDWEST REGION

MN: 612-607-1700 WI: 920-469-2436

COC No.

7 4079393

CHAIN OF CUSTODY

*Preservation Codes
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED? (YES/NO)
PRESERVATION (CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A

Quote #: [Blank]
 Mail To Contact: Mark Mather
 Mail To Company: PRS - Assured Group
 Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
 Invoice To Contact: Goldie Sharp
 Invoice To Company: As Above
 Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
 Invoice To Phone: 513-489-6789
 CLIENT COMMENTS: Whole Fish Sample
 LAB COMMENTS (Lab Use Only): 1-polybag^A
 Profile #

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: [Signature] Date/Time: 6/10/13
 Relinquished By: [Signature] Date/Time: 6/10/13 1530
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:

Received By: [Signature] Date/Time: 6/10/13 1415
 Received By: [Signature] Date/Time: 6/10/13 1530
 Received By: [Signature] Date/Time:
 Received By: Date/Time:

PACE Project No. 4079393
 Receipt Temp = 20 °C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present / Not Present Intact / Not Intact



Sample Condition Upon Receipt

Client Name: PRS Project # 4079393

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____
Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no
Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used SR13 Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 20 / Corr: 20 Biological Tissue is Frozen: yes 6/11/13
 no

Temp Blank Present: yes no

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Person examining contents:
Date: 6-11-13
Initials: SW

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>B</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
		Lab Std #ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____
Comments/ Resolution: Fish freshly caught same day 6/11/13
SW

Project Manager Review: CH B-TW Date: 6/11/13

August 06, 2013

Mark Mather
Pollution Risk Services
7870 East Kemper Road
Suite 240
Cincinnati, OH 45249

RE: Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079492

Dear Mark Mather:

Enclosed are the analytical results for sample(s) received by the laboratory on June 10, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Tod Noltemeyer

tod.noltemeyer@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079492

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 11888

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

US Dept of Agriculture #: S-76505

Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079492

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4079492001	IH SMB6	Tissue	06/10/13 00:00	06/10/13 15:30
4079492002	IH SMB7	Tissue	06/10/13 00:00	06/10/13 15:30
4079492003	IH SMB8	Tissue	06/10/13 00:00	06/10/13 15:30
4079492004	IH SMB9	Tissue	06/10/13 00:00	06/10/13 15:30
4079492005	IH RB1	Tissue	06/10/13 00:00	06/10/13 15:30
4079492006	IH RB2	Tissue	06/10/13 00:00	06/10/13 15:30
4079492007	IH RB3	Tissue	06/10/13 00:00	06/10/13 15:30
4079492008	IH RB4	Tissue	06/10/13 00:00	06/10/13 15:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079492

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079492001	IH SMB6	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079492002	IH SMB7	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079492003	IH SMB8	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079492004	IH SMB9	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079492005	IH RB1	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079492006	IH RB2	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079492007	IH RB3	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079492008	IH RB4	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079492

Method: EPA 8082
Description: 8082 GCS PCB, Tissue
Client: POLLUTION RISK SERVICES
Date: August 06, 2013

General Information:

8 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/19156

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- IH RB1 (Lab ID: 4079492005)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- IH RB2 (Lab ID: 4079492006)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- IH SMB7 (Lab ID: 4079492002)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MS (Lab ID: 828425)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MSD (Lab ID: 828426)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079492

Method: EPA 8082
Description: 8082 GCS PCB, Tissue
Client: POLLUTION RISK SERVICES
Date: August 06, 2013

QC Batch: OEXT/19156

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 4079489001

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 828425)
 - PCB-1254 (Aroclor 1254)
- MSD (Lab ID: 828426)
 - PCB-1254 (Aroclor 1254)

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079492

Method: Pace Gender Typing
Description: Fish Gender Typing
Client: POLLUTION RISK SERVICES
Date: August 06, 2013

General Information:

8 samples were analyzed for Pace Gender Typing. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079492

Method: Pace Lipid

Description: Lipid

Client: POLLUTION RISK SERVICES

Date: August 06, 2013

General Information:

8 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079492

Sample: IH SMB6 **Lab ID:** 4079492001 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	07/25/13 12:00	07/30/13 22:23	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	07/25/13 12:00	07/30/13 22:23	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	07/25/13 12:00	07/30/13 22:23	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	07/25/13 12:00	07/30/13 22:23	53469-21-9	
PCB-1248 (Aroclor 1248)	1410	ug/kg	250	125	10	07/25/13 12:00	07/30/13 22:23	12672-29-6	
PCB-1254 (Aroclor 1254)	1440	ug/kg	250	125	10	07/25/13 12:00	07/30/13 22:23	11097-69-1	
PCB-1260 (Aroclor 1260)	<125	ug/kg	250	125	10	07/25/13 12:00	07/30/13 22:23	11096-82-5	
PCB, Total	2850	ug/kg	250	125	10	07/25/13 12:00	07/30/13 22:23	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	76	%	44-130		10	07/25/13 12:00	07/30/13 22:23	877-09-8	
Decachlorobiphenyl (S)	93	%	62-130		10	07/25/13 12:00	07/30/13 22:23	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:35		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.69	%			1		07/29/13 12:23		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079492

Sample: IH SMB7 **Lab ID:** 4079492002 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	07/25/13 12:00	07/30/13 22:42	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	07/25/13 12:00	07/30/13 22:42	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	07/25/13 12:00	07/30/13 22:42	11141-16-5	
PCB-1242 (Aroclor 1242)	<250	ug/kg	500	250	20	07/25/13 12:00	07/30/13 22:42	53469-21-9	
PCB-1248 (Aroclor 1248)	1900	ug/kg	500	250	20	07/25/13 12:00	07/30/13 22:42	12672-29-6	
PCB-1254 (Aroclor 1254)	1020	ug/kg	500	250	20	07/25/13 12:00	07/30/13 22:42	11097-69-1	
PCB-1260 (Aroclor 1260)	<250	ug/kg	500	250	20	07/25/13 12:00	07/30/13 22:42	11096-82-5	
PCB, Total	2910	ug/kg	500	250	20	07/25/13 12:00	07/30/13 22:42	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	07/25/13 12:00	07/30/13 22:42	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	07/25/13 12:00	07/30/13 22:42	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:35		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.3 %				1		07/29/13 12:23		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079492

Sample: IH SMB8 **Lab ID: 4079492003** Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/25/13 12:00	07/30/13 23:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/25/13 12:00	07/30/13 23:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/25/13 12:00	07/30/13 23:00	11141-16-5	
PCB-1242 (Aroclor 1242)	344	ug/kg	125	62.5	5	07/25/13 12:00	07/30/13 23:00	53469-21-9	
PCB-1248 (Aroclor 1248)	<62.5	ug/kg	125	62.5	5	07/25/13 12:00	07/30/13 23:00	12672-29-6	
PCB-1254 (Aroclor 1254)	426	ug/kg	125	62.5	5	07/25/13 12:00	07/30/13 23:00	11097-69-1	
PCB-1260 (Aroclor 1260)	<62.5	ug/kg	125	62.5	5	07/25/13 12:00	07/30/13 23:00	11096-82-5	
PCB, Total	770	ug/kg	125	62.5	5	07/25/13 12:00	07/30/13 23:00	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	90 %		44-130		5	07/25/13 12:00	07/30/13 23:00	877-09-8	
Decachlorobiphenyl (S)	97 %		62-130		5	07/25/13 12:00	07/30/13 23:00	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:35		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.2 %				1		07/29/13 12:23		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079492

Sample: IH SMB9 **Lab ID:** 4079492004 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/25/13 12:00	07/30/13 23:19	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/25/13 12:00	07/30/13 23:19	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/25/13 12:00	07/30/13 23:19	11141-16-5	
PCB-1242 (Aroclor 1242)	293	ug/kg	100	50.0	4	07/25/13 12:00	07/30/13 23:19	53469-21-9	
PCB-1248 (Aroclor 1248)	<50.0	ug/kg	100	50.0	4	07/25/13 12:00	07/30/13 23:19	12672-29-6	
PCB-1254 (Aroclor 1254)	314	ug/kg	100	50.0	4	07/25/13 12:00	07/30/13 23:19	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	07/25/13 12:00	07/30/13 23:19	11096-82-5	
PCB, Total	607	ug/kg	100	50.0	4	07/25/13 12:00	07/30/13 23:19	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	90 %		44-130		4	07/25/13 12:00	07/30/13 23:19	877-09-8	
Decachlorobiphenyl (S)	97 %		62-130		4	07/25/13 12:00	07/30/13 23:19	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/10/13 11:35		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.98 %				1		07/29/13 12:24		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079492

Sample: IH RB1 **Lab ID:** 4079492005 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	07/25/13 12:00	07/30/13 23:38	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	07/25/13 12:00	07/30/13 23:38	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	07/25/13 12:00	07/30/13 23:38	11141-16-5	
PCB-1242 (Aroclor 1242)	1010	ug/kg	500	250	20	07/25/13 12:00	07/30/13 23:38	53469-21-9	
PCB-1248 (Aroclor 1248)	<250	ug/kg	500	250	20	07/25/13 12:00	07/30/13 23:38	12672-29-6	
PCB-1254 (Aroclor 1254)	811	ug/kg	500	250	20	07/25/13 12:00	07/30/13 23:38	11097-69-1	
PCB-1260 (Aroclor 1260)	<250	ug/kg	500	250	20	07/25/13 12:00	07/30/13 23:38	11096-82-5	
PCB, Total	1820	ug/kg	500	250	20	07/25/13 12:00	07/30/13 23:38	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	07/25/13 12:00	07/30/13 23:38	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	07/25/13 12:00	07/30/13 23:38	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/10/13 11:35		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.2 %				1		07/29/13 12:24		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079492

Sample: IH RB2 **Lab ID:** 4079492006 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	07/25/13 12:00	07/30/13 23:57	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	07/25/13 12:00	07/30/13 23:57	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	07/25/13 12:00	07/30/13 23:57	11141-16-5	
PCB-1242 (Aroclor 1242)	648	ug/kg	500	250	20	07/25/13 12:00	07/30/13 23:57	53469-21-9	
PCB-1248 (Aroclor 1248)	<250	ug/kg	500	250	20	07/25/13 12:00	07/30/13 23:57	12672-29-6	
PCB-1254 (Aroclor 1254)	648	ug/kg	500	250	20	07/25/13 12:00	07/30/13 23:57	11097-69-1	
PCB-1260 (Aroclor 1260)	<250	ug/kg	500	250	20	07/25/13 12:00	07/30/13 23:57	11096-82-5	
PCB, Total	1300	ug/kg	500	250	20	07/25/13 12:00	07/30/13 23:57	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	07/25/13 12:00	07/30/13 23:57	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	07/25/13 12:00	07/30/13 23:57	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/10/13 11:35		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.72 %				1		07/29/13 12:24		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079492

Sample: IH RB3 **Lab ID:** 4079492007 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	07/25/13 12:00	07/31/13 00:15	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	07/25/13 12:00	07/31/13 00:15	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	07/25/13 12:00	07/31/13 00:15	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	07/25/13 12:00	07/31/13 00:15	53469-21-9	
PCB-1248 (Aroclor 1248)	1180	ug/kg	250	125	10	07/25/13 12:00	07/31/13 00:15	12672-29-6	
PCB-1254 (Aroclor 1254)	727	ug/kg	250	125	10	07/25/13 12:00	07/31/13 00:15	11097-69-1	
PCB-1260 (Aroclor 1260)	<125	ug/kg	250	125	10	07/25/13 12:00	07/31/13 00:15	11096-82-5	
PCB, Total	1910	ug/kg	250	125	10	07/25/13 12:00	07/31/13 00:15	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	88 %		44-130		10	07/25/13 12:00	07/31/13 00:15	877-09-8	
Decachlorobiphenyl (S)	98 %		62-130		10	07/25/13 12:00	07/31/13 00:15	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:35		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.1 %				1		07/29/13 12:24		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079492

Sample: IH RB4 **Lab ID:** 4079492008 Collected: 06/10/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<131	ug/kg	261	131	10	07/25/13 12:00	07/31/13 00:33	12674-11-2	
PCB-1221 (Aroclor 1221)	<131	ug/kg	261	131	10	07/25/13 12:00	07/31/13 00:33	11104-28-2	
PCB-1232 (Aroclor 1232)	<131	ug/kg	261	131	10	07/25/13 12:00	07/31/13 00:33	11141-16-5	
PCB-1242 (Aroclor 1242)	<131	ug/kg	261	131	10	07/25/13 12:00	07/31/13 00:33	53469-21-9	
PCB-1248 (Aroclor 1248)	1470	ug/kg	261	131	10	07/25/13 12:00	07/31/13 00:33	12672-29-6	
PCB-1254 (Aroclor 1254)	2290	ug/kg	261	131	10	07/25/13 12:00	07/31/13 00:33	11097-69-1	
PCB-1260 (Aroclor 1260)	180J	ug/kg	261	131	10	07/25/13 12:00	07/31/13 00:33	11096-82-5	
PCB, Total	3940	ug/kg	261	131	10	07/25/13 12:00	07/31/13 00:33	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	83 %		44-130		10	07/25/13 12:00	07/31/13 00:33	877-09-8	
Decachlorobiphenyl (S)	95 %		62-130		10	07/25/13 12:00	07/31/13 00:33	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/10/13 11:35		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.3 %				1		07/29/13 12:24		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079492

QC Batch: OEXT/19156 Analysis Method: EPA 8082
QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides
Associated Lab Samples: 4079492001, 4079492002, 4079492003, 4079492004, 4079492005, 4079492006, 4079492007, 4079492008

METHOD BLANK: 828423 Matrix: Tissue
Associated Lab Samples: 4079492001, 4079492002, 4079492003, 4079492004, 4079492005, 4079492006, 4079492007, 4079492008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<12.5	25.0	07/30/13 18:03	
PCB-1221 (Aroclor 1221)	ug/kg	<12.5	25.0	07/30/13 18:03	
PCB-1232 (Aroclor 1232)	ug/kg	<12.5	25.0	07/30/13 18:03	
PCB-1242 (Aroclor 1242)	ug/kg	<12.5	25.0	07/30/13 18:03	
PCB-1248 (Aroclor 1248)	ug/kg	<12.5	25.0	07/30/13 18:03	
PCB-1254 (Aroclor 1254)	ug/kg	<12.5	25.0	07/30/13 18:03	
PCB-1260 (Aroclor 1260)	ug/kg	<12.5	25.0	07/30/13 18:03	
Decachlorobiphenyl (S)	%	79	62-130	07/30/13 18:03	
Tetrachloro-m-xylene (S)	%	83	44-130	07/30/13 18:03	

LABORATORY CONTROL SAMPLE: 828424

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<12.5			
PCB-1221 (Aroclor 1221)	ug/kg		<12.5			
PCB-1232 (Aroclor 1232)	ug/kg		<12.5			
PCB-1242 (Aroclor 1242)	ug/kg		<12.5			
PCB-1248 (Aroclor 1248)	ug/kg		<12.5			
PCB-1254 (Aroclor 1254)	ug/kg	250	205	82	61-130	
PCB-1260 (Aroclor 1260)	ug/kg		<12.5			
Decachlorobiphenyl (S)	%			78	62-130	
Tetrachloro-m-xylene (S)	%			82	44-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 828425 828426

Parameter	Units	4079489001		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec				
PCB-1016 (Aroclor 1016)	ug/kg	<375				<375	<375					24	
PCB-1221 (Aroclor 1221)	ug/kg	<375				<375	<375					24	
PCB-1232 (Aroclor 1232)	ug/kg	<375				<375	<375					24	
PCB-1242 (Aroclor 1242)	ug/kg	<375				<375	<375					24	
PCB-1248 (Aroclor 1248)	ug/kg	7630				7280	6680				9	24	
PCB-1254 (Aroclor 1254)	ug/kg	4380	1000	1000		4910	4630	53	25	27-163	6	24	M6
PCB-1260 (Aroclor 1260)	ug/kg	408J				399J	<375					24	
Decachlorobiphenyl (S)	%							0	0	62-130			S4
Tetrachloro-m-xylene (S)	%							0	0	44-130			S4

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079492

QC Batch: OEXT/19169 Analysis Method: Pace Lipid
 QC Batch Method: Pace Lipid Analysis Description: LIPID
 Associated Lab Samples: 4079492001, 4079492002, 4079492003, 4079492004, 4079492005, 4079492006, 4079492007, 4079492008

METHOD BLANK: 829179 Matrix: Tissue
 Associated Lab Samples: 4079492001, 4079492002, 4079492003, 4079492004, 4079492005, 4079492006, 4079492007, 4079492008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lipid	%	0.54		07/29/13 12:21	

SAMPLE DUPLICATE: 829180

Parameter	Units	4079489001 Result	Dup Result	RPD	Max RPD	Qualifiers
Lipid	%	10.6	11.9	12	20	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079492

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079492

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079492001	IH SMB6	EPA 3540	OEXT/19156	EPA 8082	GCSV/9944
4079492002	IH SMB7	EPA 3540	OEXT/19156	EPA 8082	GCSV/9944
4079492003	IH SMB8	EPA 3540	OEXT/19156	EPA 8082	GCSV/9944
4079492004	IH SMB9	EPA 3540	OEXT/19156	EPA 8082	GCSV/9944
4079492005	IH RB1	EPA 3540	OEXT/19156	EPA 8082	GCSV/9944
4079492006	IH RB2	EPA 3540	OEXT/19156	EPA 8082	GCSV/9944
4079492007	IH RB3	EPA 3540	OEXT/19156	EPA 8082	GCSV/9944
4079492008	IH RB4	EPA 3540	OEXT/19156	EPA 8082	GCSV/9944
4079492001	IH SMB6	Pace Gender Typing	GRND/2592		
4079492002	IH SMB7	Pace Gender Typing	GRND/2592		
4079492003	IH SMB8	Pace Gender Typing	GRND/2592		
4079492004	IH SMB9	Pace Gender Typing	GRND/2592		
4079492005	IH RB1	Pace Gender Typing	GRND/2592		
4079492006	IH RB2	Pace Gender Typing	GRND/2592		
4079492007	IH RB3	Pace Gender Typing	GRND/2592		
4079492008	IH RB4	Pace Gender Typing	GRND/2592		
4079492001	IH SMB6	Pace Lipid	OEXT/19169		
4079492002	IH SMB7	Pace Lipid	OEXT/19169		
4079492003	IH SMB8	Pace Lipid	OEXT/19169		
4079492004	IH SMB9	Pace Lipid	OEXT/19169		
4079492005	IH RB1	Pace Lipid	OEXT/19169		
4079492006	IH RB2	Pace Lipid	OEXT/19169		
4079492007	IH RB3	Pace Lipid	OEXT/19169		
4079492008	IH RB4	Pace Lipid	OEXT/19169		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):

PO #: Regulatory Program:
Data Package Options (billable)
 EPA Level III
 EPA Level IV
MS/MSD
 On your sample (billable)
 NOT needed on your sample
Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	016 IH SMB1	6/10/13		Tissue
002	IH SMB2	6/10/13		Tissue
003	IH SMB3	6/10/13		Tissue
004	IH SMB4	6/10/13		Tissue
005	IH SMB5	6/10/13		Tissue
006	001 IH SMB6	6/10/13		Tissue
007	002 IH SMB7	6/10/13		Tissue
008	003 IH SMB8	6/10/13		Tissue
009	004 IH SMB9	6/10/14		Tissue



UPPER MIDWEST REGION

MN: 612-607-1700 WI: 920-469-2436

COC No. 8

4679492

CHAIN OF CUSTODY

Preservation Codes
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium-Bisulfate Solution I=Sodium-Thiosulfate J=Other

FILTERED? (YES/NO)
 PRESERVATION (CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A

Quote #:
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact: Goldie Sharp
Invoice To Company: As Above
Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone: 513-489-6789
CLIENT COMMENTS: Whole Fish Sample
LAB COMMENTS (Lab Use Only): 1-polybag A
Profile #:

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: <i>[Signature]</i>	Date/Time: 6/10/13	Received By: <i>[Signature]</i>	Date/Time: 6/10/13 1415
Relinquished By: <i>[Signature]</i>	Date/Time: 6/10/13 1530	Received By: <i>[Signature]</i>	Date/Time: 6/10/13 1530
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No. 4679492
 Receipt Temp = 20 °C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present / Not Present Intact / Not Intact

Page 3 of 23

(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):
 PO #:



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

Page 4 of 4
 COC No. 8 4079492

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
 (YES/NO)
 PRESERVATION
 (CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES														
			X	A														
			X	A														
			X	A														
			X	A														

Quote #:
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact: Goldie Sharp
Invoice To Company: As Above
Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone: 513-489-6789

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 SJ = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
005	IH RB1	6/10/13		Tissue
006	IH RB2	6/10/13		Tissue
007	IH RB3	6/10/13		Tissue
	IH RB4	6/10/13		Tissue

CLIENT COMMENTS
 Whole Fish Sample

LAB COMMENTS (Lab Use Only)
 1-polybag
 ↓

Profile #

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed: Transmit Prelim Rush Results by (complete what you want): Email #1: mmather@assuredllc.com Email #2: Telephone: 513-387-2778 Fax: Samples on HOLD are subject to special pricing and release of liability	Relinquished By: <i>[Signature]</i> Date/Time: 6/10/13 Relinquished By: <i>[Signature]</i> Date/Time: 6/10/13 1530	Received By: <i>[Signature]</i> Date/Time: 6/10/13 1415 Received By: <i>[Signature]</i> Date/Time: 6/10/13 1530	PACE Project No. 4079492 Receipt Temp = 20 °C
	Relinquished By: Date/Time: Relinquished By: Date/Time:	Received By: Date/Time: Received By: Date/Time:	Sample Receipt pH OK / Adjusted
	Relinquished By: Date/Time: Relinquished By: Date/Time:	Received By: Date/Time: Received By: Date/Time:	Cooler Custody Seal Present / Not Present Intact / Not Intact
	Relinquished By: Date/Time: Relinquished By: Date/Time:	Received By: Date/Time: Received By: Date/Time:	
	Relinquished By: Date/Time: Relinquished By: Date/Time:	Received By: Date/Time: Received By: Date/Time:	



Sample Condition Upon Receipt

Client Name: PRS Project # 4079492

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____
Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used SR13 Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 20 / Corr: 20 Biological Tissue is Frozen: yes no 6/11/13

Temp Blank Present: yes no

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Person examining contents:
Date: 6-11-13
Initials: SW

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No		Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.	
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.	
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.	
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.	
-Includes date/time/ID/Analysis Matrix: <u>B</u>			
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.	<input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed	Lab Std #ID of preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.	Date/Time:
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.	
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased):			

Client Notification/ Resolution: _____ If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____
Comments/ Resolution: Fish freshly caught same day 6/11/13
SW

Project Manager Review: Col G to Date: 6/12/13

August 14, 2013

Mark Mather
Pollution Risk Services
7870 East Kemper Road
Suite 240
Cincinnati, OH 45249

RE: Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079391

Dear Mark Mather:

Enclosed are the analytical results for sample(s) received by the laboratory on June 10, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Revised to correct lipid value on sample 007

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

Sincerely,



Tod Noltemeyer

tod.noltemeyer@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079391

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 11888

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

US Dept of Agriculture #: S-76505

Wisconsin Certification #: 405132750

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SAMPLE SUMMARY

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079391

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4079391001	UR1 AC7	Tissue	06/09/13 00:00	06/10/13 15:30
4079391002	UR1 AC8	Tissue	06/09/13 00:00	06/10/13 15:30
4079391003	UR1 AC9	Tissue	06/09/13 00:00	06/10/13 15:30
4079391004	UR1 AC10	Tissue	06/09/13 00:00	06/10/13 15:30
4079391005	UR1 AC11	Tissue	06/09/13 00:00	06/10/13 15:30
4079391006	UR1 AC12	Tissue	06/09/13 00:00	06/10/13 15:30
4079391007	UR1 RB6	Tissue	06/09/13 00:00	06/10/13 15:30
4079391008	UR1 RB7	Tissue	06/09/13 00:00	06/10/13 15:30
4079391009	UR1 RB8	Tissue	06/09/13 00:00	06/10/13 15:30
4079391010	UR1 RB9	Tissue	06/09/13 00:00	06/10/13 15:30
4079391011	UR2 AC6	Tissue	06/09/13 00:00	06/10/13 15:30
4079391012	UR2 AC7	Tissue	06/09/13 00:00	06/10/13 15:30
4079391013	UR2 AC8	Tissue	06/09/13 00:00	06/10/13 15:30
4079391014	UR2 AC9	Tissue	06/09/13 00:00	06/10/13 15:30
4079391015	UR2 AC10	Tissue	06/09/13 00:00	06/10/13 15:30
4079391016	UR2 AC11	Tissue	06/09/13 00:00	06/10/13 15:30

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SAMPLE ANALYTE COUNT

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079391

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079391001	UR1 AC7	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079391002	UR1 AC8	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079391003	UR1 AC9	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079391004	UR1 AC10	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079391005	UR1 AC11	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079391006	UR1 AC12	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079391007	UR1 RB6	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079391008	UR1 RB7	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079391009	UR1 RB8	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079391010	UR1 RB9	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079391011	UR2 AC6	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079391012	UR2 AC7	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079391013	UR2 AC8	EPA 8082	BDS	10

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SAMPLE ANALYTE COUNT

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079391

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079391014	UR2 AC9	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BDS	10
4079391015	UR2 AC10	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BDS	10
4079391016	UR2 AC11	Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
		EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1

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REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079391

Method: EPA 8082
Description: 8082 GCS PCB, Tissue
Client: POLLUTION RISK SERVICES
Date: August 14, 2013

General Information:

16 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/19003

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 823746)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MSD (Lab ID: 823747)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AC10 (Lab ID: 4079391004)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AC11 (Lab ID: 4079391005)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AC12 (Lab ID: 4079391006)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AC7 (Lab ID: 4079391001)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AC8 (Lab ID: 4079391002)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AC9 (Lab ID: 4079391003)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR2 AC11 (Lab ID: 4079391016)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079391

Method: EPA 8082
Description: 8082 GCS PCB, Tissue
Client: POLLUTION RISK SERVICES
Date: August 14, 2013

QC Batch: OEXT/19003

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- Decachlorobiphenyl (S)
- Tetrachloro-m-xylene (S)
- UR2 AC6 (Lab ID: 4079391011)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR2 AC7 (Lab ID: 4079391012)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR2 AC8 (Lab ID: 4079391013)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR2 AC9 (Lab ID: 4079391014)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/19003

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 4079391001

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 823746)
 - PCB-1242 (Aroclor 1242)
- MSD (Lab ID: 823747)
 - PCB-1242 (Aroclor 1242)

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079391

Method: Pace Gender Typing

Description: Fish Gender Typing

Client: POLLUTION RISK SERVICES

Date: August 14, 2013

General Information:

16 samples were analyzed for Pace Gender Typing. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079391

Method: Pace Lipid
Description: Lipid
Client: POLLUTION RISK SERVICES
Date: August 14, 2013

General Information:

16 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079391

Sample: UR1 AC7 **Lab ID: 4079391001** Collected: 06/09/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<1250	ug/kg	2500	1250	100	07/16/13 12:00	07/27/13 12:01	12674-11-2	
PCB-1221 (Aroclor 1221)	<1250	ug/kg	2500	1250	100	07/16/13 12:00	07/27/13 12:01	11104-28-2	
PCB-1232 (Aroclor 1232)	<1250	ug/kg	2500	1250	100	07/16/13 12:00	07/27/13 12:01	11141-16-5	
PCB-1242 (Aroclor 1242)	<1250	ug/kg	2500	1250	100	07/16/13 12:00	07/27/13 12:01	53469-21-9	M6
PCB-1248 (Aroclor 1248)	20200	ug/kg	2500	1250	100	07/16/13 12:00	07/27/13 12:01	12672-29-6	
PCB-1254 (Aroclor 1254)	8670	ug/kg	2500	1250	100	07/16/13 12:00	07/27/13 12:01	11097-69-1	
PCB-1260 (Aroclor 1260)	<1250	ug/kg	2500	1250	100	07/16/13 12:00	07/27/13 12:01	11096-82-5	
PCB, Total	28900	ug/kg	2500	1250	100	07/16/13 12:00	07/27/13 12:01	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		100	07/16/13 12:00	07/27/13 12:01	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		100	07/16/13 12:00	07/27/13 12:01	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/16/13 08:56		
Lipid		Analytical Method: Pace Lipid							
Lipid	4.6 %				1		07/18/13 07:19		

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079391

Sample: UR1 AC8 **Lab ID: 4079391002** Collected: 06/09/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 12:18	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 12:18	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 12:18	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 12:18	53469-21-9	
PCB-1248 (Aroclor 1248)	11900	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 12:18	12672-29-6	
PCB-1254 (Aroclor 1254)	5860	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 12:18	11097-69-1	
PCB-1260 (Aroclor 1260)	<625	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 12:18	11096-82-5	
PCB, Total	17700	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 12:18	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	07/16/13 12:00	07/27/13 12:18	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	07/16/13 12:00	07/27/13 12:18	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/16/13 08:56		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.0 %				1		07/18/13 07:19		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079391

Sample: UR1 AC9 **Lab ID: 4079391003** Collected: 06/09/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 12:36	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 12:36	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 12:36	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 12:36	53469-21-9	
PCB-1248 (Aroclor 1248)	11300	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 12:36	12672-29-6	
PCB-1254 (Aroclor 1254)	7600	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 12:36	11097-69-1	
PCB-1260 (Aroclor 1260)	<625	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 12:36	11096-82-5	
PCB, Total	18900	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 12:36	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	07/16/13 12:00	07/27/13 12:36	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	07/16/13 12:00	07/27/13 12:36	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/16/13 08:56		
Lipid									
Analytical Method: Pace Lipid									
Lipid	6.7 %				1		07/18/13 07:19		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079391

Sample: UR1 AC10 **Lab ID: 4079391004** Collected: 06/09/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<3750	ug/kg	7500	3750	300	07/16/13 12:00	07/27/13 12:53	12674-11-2	
PCB-1221 (Aroclor 1221)	<3750	ug/kg	7500	3750	300	07/16/13 12:00	07/27/13 12:53	11104-28-2	
PCB-1232 (Aroclor 1232)	<3750	ug/kg	7500	3750	300	07/16/13 12:00	07/27/13 12:53	11141-16-5	
PCB-1242 (Aroclor 1242)	<3750	ug/kg	7500	3750	300	07/16/13 12:00	07/27/13 12:53	53469-21-9	
PCB-1248 (Aroclor 1248)	30400	ug/kg	7500	3750	300	07/16/13 12:00	07/27/13 12:53	12672-29-6	
PCB-1254 (Aroclor 1254)	13200	ug/kg	7500	3750	300	07/16/13 12:00	07/27/13 12:53	11097-69-1	
PCB-1260 (Aroclor 1260)	<3750	ug/kg	7500	3750	300	07/16/13 12:00	07/27/13 12:53	11096-82-5	
PCB, Total	43600	ug/kg	7500	3750	300	07/16/13 12:00	07/27/13 12:53	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		300	07/16/13 12:00	07/27/13 12:53	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		300	07/16/13 12:00	07/27/13 12:53	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/16/13 08:56		
Lipid									
Analytical Method: Pace Lipid									
Lipid	4.7 %				1		07/18/13 07:20		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079391

Sample: UR1 AC11 **Lab ID: 4079391005** Collected: 06/09/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<3750	ug/kg	7500	3750	300	07/16/13 12:00	07/27/13 13:11	12674-11-2	
PCB-1221 (Aroclor 1221)	<3750	ug/kg	7500	3750	300	07/16/13 12:00	07/27/13 13:11	11104-28-2	
PCB-1232 (Aroclor 1232)	<3750	ug/kg	7500	3750	300	07/16/13 12:00	07/27/13 13:11	11141-16-5	
PCB-1242 (Aroclor 1242)	<3750	ug/kg	7500	3750	300	07/16/13 12:00	07/27/13 13:11	53469-21-9	
PCB-1248 (Aroclor 1248)	31100	ug/kg	7500	3750	300	07/16/13 12:00	07/27/13 13:11	12672-29-6	
PCB-1254 (Aroclor 1254)	18300	ug/kg	7500	3750	300	07/16/13 12:00	07/27/13 13:11	11097-69-1	
PCB-1260 (Aroclor 1260)	<3750	ug/kg	7500	3750	300	07/16/13 12:00	07/27/13 13:11	11096-82-5	
PCB, Total	49500	ug/kg	7500	3750	300	07/16/13 12:00	07/27/13 13:11	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		300	07/16/13 12:00	07/27/13 13:11	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		300	07/16/13 12:00	07/27/13 13:11	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/16/13 08:56		
Lipid									
Analytical Method: Pace Lipid									
Lipid	9.0 %				1		07/18/13 07:20		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079391

Sample: UR1 AC12 **Lab ID: 4079391006** Collected: 06/09/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<2500	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 13:28	12674-11-2	
PCB-1221 (Aroclor 1221)	<2500	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 13:28	11104-28-2	
PCB-1232 (Aroclor 1232)	<2500	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 13:28	11141-16-5	
PCB-1242 (Aroclor 1242)	<2500	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 13:28	53469-21-9	
PCB-1248 (Aroclor 1248)	21200	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 13:28	12672-29-6	
PCB-1254 (Aroclor 1254)	8130	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 13:28	11097-69-1	
PCB-1260 (Aroclor 1260)	<2500	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 13:28	11096-82-5	
PCB, Total	29300	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 13:28	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		200	07/16/13 12:00	07/27/13 13:28	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		200	07/16/13 12:00	07/27/13 13:28	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/16/13 08:56		
Lipid									
Analytical Method: Pace Lipid									
Lipid	3.7 %				1		07/18/13 07:20		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079391

Sample: UR1 RB6 **Lab ID: 4079391007** Collected: 06/09/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<106	ug/kg	213	106	5	07/16/13 12:00	07/27/13 13:46	12674-11-2	
PCB-1221 (Aroclor 1221)	<106	ug/kg	213	106	5	07/16/13 12:00	07/27/13 13:46	11104-28-2	
PCB-1232 (Aroclor 1232)	<106	ug/kg	213	106	5	07/16/13 12:00	07/27/13 13:46	11141-16-5	
PCB-1242 (Aroclor 1242)	<106	ug/kg	213	106	5	07/16/13 12:00	07/27/13 13:46	53469-21-9	
PCB-1248 (Aroclor 1248)	1730	ug/kg	213	106	5	07/16/13 12:00	07/27/13 13:46	12672-29-6	
PCB-1254 (Aroclor 1254)	1150	ug/kg	213	106	5	07/16/13 12:00	07/27/13 13:46	11097-69-1	
PCB-1260 (Aroclor 1260)	125J	ug/kg	213	106	5	07/16/13 12:00	07/27/13 13:46	11096-82-5	
PCB, Total	3010	ug/kg	213	106	5	07/16/13 12:00	07/27/13 13:46	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	76 %		44-130		5	07/16/13 12:00	07/27/13 13:46	877-09-8	
Decachlorobiphenyl (S)	85 %		62-130		5	07/16/13 12:00	07/27/13 13:46	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/16/13 08:56		
Lipid		Analytical Method: Pace Lipid							
Lipid	0.36 %				1		07/18/13 07:20		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079391

Sample: UR1 RB7 **Lab ID: 4079391008** Collected: 06/09/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/16/13 12:00	07/27/13 14:03	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/16/13 12:00	07/27/13 14:03	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/16/13 12:00	07/27/13 14:03	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/16/13 12:00	07/27/13 14:03	53469-21-9	
PCB-1248 (Aroclor 1248)	635	ug/kg	100	50.0	4	07/16/13 12:00	07/27/13 14:03	12672-29-6	
PCB-1254 (Aroclor 1254)	415	ug/kg	100	50.0	4	07/16/13 12:00	07/27/13 14:03	11097-69-1	
PCB-1260 (Aroclor 1260)	59.3J	ug/kg	100	50.0	4	07/16/13 12:00	07/27/13 14:03	11096-82-5	
PCB, Total	1110	ug/kg	100	50.0	4	07/16/13 12:00	07/27/13 14:03	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	81 %		44-130		4	07/16/13 12:00	07/27/13 14:03	877-09-8	
Decachlorobiphenyl (S)	94 %		62-130		4	07/16/13 12:00	07/27/13 14:03	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/16/13 08:56		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.28 %				1		07/18/13 07:20		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079391

Sample: UR1 RB8 **Lab ID: 4079391009** Collected: 06/09/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<12.5	ug/kg	25.0	12.5	1	07/16/13 12:00	07/27/13 14:56	12674-11-2	
PCB-1221 (Aroclor 1221)	<12.5	ug/kg	25.0	12.5	1	07/16/13 12:00	07/27/13 14:56	11104-28-2	
PCB-1232 (Aroclor 1232)	<12.5	ug/kg	25.0	12.5	1	07/16/13 12:00	07/27/13 14:56	11141-16-5	
PCB-1242 (Aroclor 1242)	<12.5	ug/kg	25.0	12.5	1	07/16/13 12:00	07/27/13 14:56	53469-21-9	
PCB-1248 (Aroclor 1248)	82.3	ug/kg	25.0	12.5	1	07/16/13 12:00	07/27/13 14:56	12672-29-6	
PCB-1254 (Aroclor 1254)	70.7	ug/kg	25.0	12.5	1	07/16/13 12:00	07/27/13 14:56	11097-69-1	
PCB-1260 (Aroclor 1260)	<12.5	ug/kg	25.0	12.5	1	07/16/13 12:00	07/27/13 14:56	11096-82-5	
PCB, Total	153	ug/kg	25.0	12.5	1	07/16/13 12:00	07/27/13 14:56	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	53	%	44-130		1	07/16/13 12:00	07/27/13 14:56	877-09-8	
Decachlorobiphenyl (S)	63	%	62-130		1	07/16/13 12:00	07/27/13 14:56	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/16/13 08:56		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.035	%			1		07/18/13 07:20		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079391

Sample: UR1 RB9 **Lab ID: 4079391010** Collected: 06/09/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	07/16/13 12:00	07/27/13 15:13	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	07/16/13 12:00	07/27/13 15:13	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	07/16/13 12:00	07/27/13 15:13	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	07/16/13 12:00	07/27/13 15:13	53469-21-9	
PCB-1248 (Aroclor 1248)	1160	ug/kg	250	125	10	07/16/13 12:00	07/27/13 15:13	12672-29-6	
PCB-1254 (Aroclor 1254)	1530	ug/kg	250	125	10	07/16/13 12:00	07/27/13 15:13	11097-69-1	
PCB-1260 (Aroclor 1260)	<125	ug/kg	250	125	10	07/16/13 12:00	07/27/13 15:13	11096-82-5	
PCB, Total	2690	ug/kg	250	125	10	07/16/13 12:00	07/27/13 15:13	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	71	%	44-130		10	07/16/13 12:00	07/27/13 15:13	877-09-8	
Decachlorobiphenyl (S)	94	%	62-130		10	07/16/13 12:00	07/27/13 15:13	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/16/13 08:56		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.34				%	1		07/18/13 07:20	

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079391

Sample: UR2 AC6 **Lab ID: 4079391011** Collected: 06/09/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 15:31	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 15:31	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 15:31	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 15:31	53469-21-9	
PCB-1248 (Aroclor 1248)	18700	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 15:31	12672-29-6	
PCB-1254 (Aroclor 1254)	4440	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 15:31	11097-69-1	
PCB-1260 (Aroclor 1260)	<625	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 15:31	11096-82-5	
PCB, Total	23100	ug/kg	1250	625	50	07/16/13 12:00	07/27/13 15:31	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	07/16/13 12:00	07/27/13 15:31	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	07/16/13 12:00	07/27/13 15:31	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/16/13 08:56		
Lipid									
Analytical Method: Pace Lipid									
Lipid	12.0 %				1		07/18/13 07:20		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079391

Sample: UR2 AC7 **Lab ID: 4079391012** Collected: 06/09/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<2500	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 15:48	12674-11-2	
PCB-1221 (Aroclor 1221)	<2500	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 15:48	11104-28-2	
PCB-1232 (Aroclor 1232)	<2500	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 15:48	11141-16-5	
PCB-1242 (Aroclor 1242)	<2500	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 15:48	53469-21-9	
PCB-1248 (Aroclor 1248)	20500	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 15:48	12672-29-6	
PCB-1254 (Aroclor 1254)	11300	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 15:48	11097-69-1	
PCB-1260 (Aroclor 1260)	<2500	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 15:48	11096-82-5	
PCB, Total	31800	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 15:48	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		200	07/16/13 12:00	07/27/13 15:48	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		200	07/16/13 12:00	07/27/13 15:48	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/16/13 08:56		
Lipid									
Analytical Method: Pace Lipid									
Lipid	20.3 %				1		07/18/13 07:20		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079391

Sample: UR2 AC8 **Lab ID: 4079391013** Collected: 06/09/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<1250	ug/kg	2500	1250	100	07/16/13 12:00	07/31/13 14:51	12674-11-2	
PCB-1221 (Aroclor 1221)	<1250	ug/kg	2500	1250	100	07/16/13 12:00	07/31/13 14:51	11104-28-2	
PCB-1232 (Aroclor 1232)	<1250	ug/kg	2500	1250	100	07/16/13 12:00	07/31/13 14:51	11141-16-5	
PCB-1242 (Aroclor 1242)	<1250	ug/kg	2500	1250	100	07/16/13 12:00	07/31/13 14:51	53469-21-9	
PCB-1248 (Aroclor 1248)	15200	ug/kg	2500	1250	100	07/16/13 12:00	07/31/13 14:51	12672-29-6	
PCB-1254 (Aroclor 1254)	9090	ug/kg	2500	1250	100	07/16/13 12:00	07/31/13 14:51	11097-69-1	
PCB-1260 (Aroclor 1260)	<1250	ug/kg	2500	1250	100	07/16/13 12:00	07/31/13 14:51	11096-82-5	
PCB, Total	24300	ug/kg	2500	1250	100	07/16/13 12:00	07/31/13 14:51	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		100	07/16/13 12:00	07/31/13 14:51	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		100	07/16/13 12:00	07/31/13 14:51	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/16/13 08:56		
Lipid									
Analytical Method: Pace Lipid									
Lipid	12.4 %				1		07/18/13 07:21		

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079391

Sample: UR2 AC9 **Lab ID: 4079391014** Collected: 06/09/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<1250	ug/kg	2500	1250	100	07/16/13 12:00	07/27/13 16:23	12674-11-2	
PCB-1221 (Aroclor 1221)	<1250	ug/kg	2500	1250	100	07/16/13 12:00	07/27/13 16:23	11104-28-2	
PCB-1232 (Aroclor 1232)	<1250	ug/kg	2500	1250	100	07/16/13 12:00	07/27/13 16:23	11141-16-5	
PCB-1242 (Aroclor 1242)	<1250	ug/kg	2500	1250	100	07/16/13 12:00	07/27/13 16:23	53469-21-9	
PCB-1248 (Aroclor 1248)	16000	ug/kg	2500	1250	100	07/16/13 12:00	07/27/13 16:23	12672-29-6	
PCB-1254 (Aroclor 1254)	11300	ug/kg	2500	1250	100	07/16/13 12:00	07/27/13 16:23	11097-69-1	
PCB-1260 (Aroclor 1260)	<1250	ug/kg	2500	1250	100	07/16/13 12:00	07/27/13 16:23	11096-82-5	
PCB, Total	27300	ug/kg	2500	1250	100	07/16/13 12:00	07/27/13 16:23	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		100	07/16/13 12:00	07/27/13 16:23	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		100	07/16/13 12:00	07/27/13 16:23	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/16/13 08:56		
Lipid									
Analytical Method: Pace Lipid									
Lipid	13.5 %				1		07/18/13 07:21		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079391

Sample: UR2 AC10 **Lab ID: 4079391015** Collected: 06/09/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/16/13 12:00	07/27/13 16:41	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/16/13 12:00	07/27/13 16:41	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/16/13 12:00	07/27/13 16:41	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/16/13 12:00	07/27/13 16:41	53469-21-9	
PCB-1248 (Aroclor 1248)	764	ug/kg	100	50.0	4	07/16/13 12:00	07/27/13 16:41	12672-29-6	
PCB-1254 (Aroclor 1254)	289	ug/kg	100	50.0	4	07/16/13 12:00	07/27/13 16:41	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	07/16/13 12:00	07/27/13 16:41	11096-82-5	
PCB, Total	1050	ug/kg	100	50.0	4	07/16/13 12:00	07/27/13 16:41	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	83 %		44-130		4	07/16/13 12:00	07/27/13 16:41	877-09-8	
Decachlorobiphenyl (S)	94 %		62-130		4	07/16/13 12:00	07/27/13 16:41	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/16/13 08:56		
Lipid		Analytical Method: Pace Lipid							
Lipid	3.4 %				1		07/18/13 07:21		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079391

Sample: UR2 AC11 **Lab ID: 4079391016** Collected: 06/09/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<2500	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 16:58	12674-11-2	
PCB-1221 (Aroclor 1221)	<2500	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 16:58	11104-28-2	
PCB-1232 (Aroclor 1232)	<2500	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 16:58	11141-16-5	
PCB-1242 (Aroclor 1242)	<2500	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 16:58	53469-21-9	
PCB-1248 (Aroclor 1248)	28400	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 16:58	12672-29-6	
PCB-1254 (Aroclor 1254)	10500	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 16:58	11097-69-1	
PCB-1260 (Aroclor 1260)	<2500	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 16:58	11096-82-5	
PCB, Total	39000	ug/kg	5000	2500	200	07/16/13 12:00	07/27/13 16:58	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		200	07/16/13 12:00	07/27/13 16:58	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		200	07/16/13 12:00	07/27/13 16:58	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/16/13 08:56		
Lipid									
Analytical Method: Pace Lipid									
Lipid	3.0 %				1		07/18/13 07:21		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079391

QC Batch: OEXT/19003 Analysis Method: EPA 8082
QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides
Associated Lab Samples: 4079391001, 4079391002, 4079391003, 4079391004, 4079391005, 4079391006, 4079391007, 4079391008, 4079391009, 4079391010, 4079391011, 4079391012, 4079391013, 4079391014, 4079391015, 4079391016

METHOD BLANK: 823744 Matrix: Tissue
Associated Lab Samples: 4079391001, 4079391002, 4079391003, 4079391004, 4079391005, 4079391006, 4079391007, 4079391008, 4079391009, 4079391010, 4079391011, 4079391012, 4079391013, 4079391014, 4079391015, 4079391016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<12.5	25.0	07/27/13 10:51	
PCB-1221 (Aroclor 1221)	ug/kg	<12.5	25.0	07/27/13 10:51	
PCB-1232 (Aroclor 1232)	ug/kg	<12.5	25.0	07/27/13 10:51	
PCB-1242 (Aroclor 1242)	ug/kg	<12.5	25.0	07/27/13 10:51	
PCB-1248 (Aroclor 1248)	ug/kg	<12.5	25.0	07/27/13 10:51	
PCB-1254 (Aroclor 1254)	ug/kg	<12.5	25.0	07/27/13 10:51	
PCB-1260 (Aroclor 1260)	ug/kg	<12.5	25.0	07/27/13 10:51	
Decachlorobiphenyl (S)	%	86	62-130	07/27/13 10:51	
Tetrachloro-m-xylene (S)	%	78	44-130	07/27/13 10:51	

LABORATORY CONTROL SAMPLE: 823745

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<12.5			
PCB-1221 (Aroclor 1221)	ug/kg		<12.5			
PCB-1232 (Aroclor 1232)	ug/kg		<12.5			
PCB-1242 (Aroclor 1242)	ug/kg	250	208	83	61-130	
PCB-1248 (Aroclor 1248)	ug/kg		<12.5			
PCB-1254 (Aroclor 1254)	ug/kg		<12.5			
PCB-1260 (Aroclor 1260)	ug/kg		<12.5			
Decachlorobiphenyl (S)	%			89	62-130	
Tetrachloro-m-xylene (S)	%			76	44-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 823746 823747

Parameter	Units	4079391001		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		Result	Result									
PCB-1016 (Aroclor 1016)	ug/kg	<1250				<1250	<1250				24	
PCB-1221 (Aroclor 1221)	ug/kg	<1250				<1250	<1250				24	
PCB-1232 (Aroclor 1232)	ug/kg	<1250				<1250	<1250				24	
PCB-1242 (Aroclor 1242)	ug/kg	<1250	1000	1000	1000	<1250	<1250	0	0	27-163	24	M6
PCB-1248 (Aroclor 1248)	ug/kg	20200				21100	20400				4	24
PCB-1254 (Aroclor 1254)	ug/kg	8670				8680	8490				2	24
PCB-1260 (Aroclor 1260)	ug/kg	<1250				<1250	<1250				24	
Decachlorobiphenyl (S)	%							0	0	62-130		S4
Tetrachloro-m-xylene (S)	%							0	0	44-130		S4

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079391

QC Batch: OEXT/19024 Analysis Method: Pace Lipid
 QC Batch Method: Pace Lipid Analysis Description: LIPID
 Associated Lab Samples: 4079391001, 4079391002, 4079391003, 4079391004, 4079391005, 4079391006, 4079391007, 4079391008, 4079391009, 4079391010, 4079391011, 4079391012, 4079391013, 4079391014, 4079391015, 4079391016

METHOD BLANK: 824240 Matrix: Tissue
 Associated Lab Samples: 4079391001, 4079391002, 4079391003, 4079391004, 4079391005, 4079391006, 4079391007, 4079391008, 4079391009, 4079391010, 4079391011, 4079391012, 4079391013, 4079391014, 4079391015, 4079391016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lipid	%	0.46		07/18/13 07:19	

SAMPLE DUPLICATE: 824241

Parameter	Units	4079391001 Result	Dup Result	RPD	Max RPD	Qualifiers
Lipid	%	4.6	4.4	5	20	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079391

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079391

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079391001	UR1 AC7	EPA 3540	OEXT/19003	EPA 8082	GCSV/9925
4079391002	UR1 AC8	EPA 3540	OEXT/19003	EPA 8082	GCSV/9925
4079391003	UR1 AC9	EPA 3540	OEXT/19003	EPA 8082	GCSV/9925
4079391004	UR1 AC10	EPA 3540	OEXT/19003	EPA 8082	GCSV/9925
4079391005	UR1 AC11	EPA 3540	OEXT/19003	EPA 8082	GCSV/9925
4079391006	UR1 AC12	EPA 3540	OEXT/19003	EPA 8082	GCSV/9925
4079391007	UR1 RB6	EPA 3540	OEXT/19003	EPA 8082	GCSV/9925
4079391008	UR1 RB7	EPA 3540	OEXT/19003	EPA 8082	GCSV/9925
4079391009	UR1 RB8	EPA 3540	OEXT/19003	EPA 8082	GCSV/9925
4079391010	UR1 RB9	EPA 3540	OEXT/19003	EPA 8082	GCSV/9925
4079391011	UR2 AC6	EPA 3540	OEXT/19003	EPA 8082	GCSV/9925
4079391012	UR2 AC7	EPA 3540	OEXT/19003	EPA 8082	GCSV/9925
4079391013	UR2 AC8	EPA 3540	OEXT/19003	EPA 8082	GCSV/9925
4079391014	UR2 AC9	EPA 3540	OEXT/19003	EPA 8082	GCSV/9925
4079391015	UR2 AC10	EPA 3540	OEXT/19003	EPA 8082	GCSV/9925
4079391016	UR2 AC11	EPA 3540	OEXT/19003	EPA 8082	GCSV/9925
4079391001	UR1 AC7	Pace Gender Typing	GRND/2601		
4079391002	UR1 AC8	Pace Gender Typing	GRND/2601		
4079391003	UR1 AC9	Pace Gender Typing	GRND/2601		
4079391004	UR1 AC10	Pace Gender Typing	GRND/2601		
4079391005	UR1 AC11	Pace Gender Typing	GRND/2601		
4079391006	UR1 AC12	Pace Gender Typing	GRND/2601		
4079391007	UR1 RB6	Pace Gender Typing	GRND/2601		
4079391008	UR1 RB7	Pace Gender Typing	GRND/2601		
4079391009	UR1 RB8	Pace Gender Typing	GRND/2601		
4079391010	UR1 RB9	Pace Gender Typing	GRND/2601		
4079391011	UR2 AC6	Pace Gender Typing	GRND/2601		
4079391012	UR2 AC7	Pace Gender Typing	GRND/2601		
4079391013	UR2 AC8	Pace Gender Typing	GRND/2601		
4079391014	UR2 AC9	Pace Gender Typing	GRND/2601		
4079391015	UR2 AC10	Pace Gender Typing	GRND/2601		
4079391016	UR2 AC11	Pace Gender Typing	GRND/2601		
4079391001	UR1 AC7	Pace Lipid	OEXT/19024		
4079391002	UR1 AC8	Pace Lipid	OEXT/19024		
4079391003	UR1 AC9	Pace Lipid	OEXT/19024		
4079391004	UR1 AC10	Pace Lipid	OEXT/19024		
4079391005	UR1 AC11	Pace Lipid	OEXT/19024		
4079391006	UR1 AC12	Pace Lipid	OEXT/19024		
4079391007	UR1 RB6	Pace Lipid	OEXT/19024		
4079391008	UR1 RB7	Pace Lipid	OEXT/19024		
4079391009	UR1 RB8	Pace Lipid	OEXT/19024		
4079391010	UR1 RB9	Pace Lipid	OEXT/19024		
4079391011	UR2 AC6	Pace Lipid	OEXT/19024		
4079391012	UR2 AC7	Pace Lipid	OEXT/19024		
4079391013	UR2 AC8	Pace Lipid	OEXT/19024		
4079391014	UR2 AC9	Pace Lipid	OEXT/19024		
4079391015	UR2 AC10	Pace Lipid	OEXT/19024		
4079391016	UR2 AC11	Pace Lipid	OEXT/19024		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079391

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
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REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

4079391

Page 1 of 3

COC No. 5

CHAIN OF CUSTODY

Preservation Codes
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Quote #:
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact: Goldie Sharp
Invoice To Company: As Above
Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone: 513-489-6789

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 SI = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX	Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES
		DATE	TIME						
001	UR1 AC7	6/9/13		Tissue				X	A
002	UR1 AC8	6/9/13		Tissue				X	A
003	UR1 AC9	6/9/13		Tissue				X	A
004	UR1 AC10	6/9/13		Tissue				X	A
005	UR1 AC11	6/9/13		Tissue				X	A
006	UR1 AC12	6/9/13		Tissue				X	A

CLIENT COMMENTS
Whole Fish Sample

LAB COMMENTS (Lab Use Only)
1-polybag

Profile #

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: [Signature] Date/Time: 6/10/2013
 Relinquished By: [Signature] Date/Time: 6/10/13 1530
 Relinquished By: [Signature] Date/Time:
 Relinquished By: [Signature] Date/Time:
 Relinquished By: [Signature] Date/Time:

Received By: [Signature] Date/Time: 6/10/13 1405
 Received By: [Signature] Date/Time: 6/10/13 1530
 Received By: [Signature] Date/Time:
 Received By: [Signature] Date/Time:
 Received By: [Signature] Date/Time:

PACE Project No. 4079391
 Receipt Temp = 20 °C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present / Not Present Intact / Not Intact

(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

4679391
 COC No. 5

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
 (YES/NO)
 PRESERVATION
 (CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES
			X	A
			X	A
			X	A
			X	A

Quote #:

Mail To Contact: Mark Mather

Mail To Company: PRS - Assured Group

Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Contact: Goldie Sharp

Invoice To Company: As Above

Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Phone: 513-489-6789

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
Whole Fish Sample	1-polybag	

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID		COLLECTION		MATRIX
			DATE	TIME	
001	007	UR1 RB6	6/9/13		Tissue
002	008	UR1 RB7	6/9/13		Tissue
003	009	UR1 RB8	6/9/13		Tissue
004	010	UR1 RB9	6/9/13		Tissue

Rush Turnaround Time Requested - Prelims
 (Rush TAT subject to approval/surcharge)
 Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1: immather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By: <i>[Signature]</i> Date/Time: 6/10/2013	Received By: <i>[Signature]</i> Date/Time: 6/10/13 1415
Relinquished By: <i>[Signature]</i> Date/Time: 6/10/13 1530	Received By: <i>[Signature]</i> Date/Time: 6/10/13 1530
Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____
Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____

PACE Project No.
4679391

Receipt Temp = 20 °C

Sample Receipt pH
OK / Adjusted

Cooler Custody Seal
Present / Not Present
Intact / Not Intact

(Please Print Clearly)

Company Name:	Pollution Risk Services
Branch/Location:	Sheboygan
Project Contact:	Mark Mather
Phone:	513-678-2137 or 513-387-2778
Project Number:	SR13-001 Task 10-02000
Project Name:	2013 Fish Sampling
Project State:	Wisconsin
Sampled By (Print):	Mark Mather
Sampled By (Sign):	
PO #:	
Regulatory Program:	



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

COC No. 5 4079391

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	

Quote #:	
Mail To Contact:	Mark Mather
Mail To Company:	PRS - Assured Group
Mail To Address:	7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact:	Goldie Sharp
Invoice To Company:	As Above
Invoice To Address:	7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone:	513-489-6789

Data Package Options (billable)	MS/MSD	Matrix Codes
<input type="checkbox"/> EPA Level III	<input type="checkbox"/> On your sample (billable)	A = Air W = Water
<input type="checkbox"/> EPA Level IV	<input type="checkbox"/> NOT needed on your sample	B = Biota DW = Drinking Water
		C = Charcoal GW = Ground Water
		O = Oil SW = Surface Water
		S = Soil WW = Waste Water
		Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	011 UR2 AC6	6/9/13		Tissue
002	012 UR2 AC7	6/9/13		Tissue
003	013 UR2 AC8	6/9/13		Tissue
004	014 UR2 AC9	6/9/13		Tissue
005	015 UR2 AC10	6/9/13		Tissue
006	016 UR2 AC11	6/9/13		Tissue

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
	Whole Fish Sample	1-polybag ^A

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1: mmather@assuredllc.com

Email #2:

Telephone: 513-387-2778

Fax:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By: <i>[Signature]</i>	Date/Time: 6/10/2013
Relinquished By: <i>[Signature]</i>	Date/Time: 6/10/13 1530
Relinquished By:	Date/Time:
Relinquished By:	Date/Time:

Received By: <i>[Signature]</i>	Date/Time: 6/10/13 1415
Received By: <i>[Signature]</i>	Date/Time: 6/10/13 1530
Received By:	Date/Time:
Received By:	Date/Time:

PACE Project No.	4079391
Receipt Temp = 20 °C	
Sample Receipt pH	OK / Adjusted
Cooler Custody Seal	Present / Not Present
Intact / Not Intact	Intact / Not Intact



Sample Condition Upon Receipt

Client Name: PRS Project # 61079391

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____
Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used SR13 Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 20 / Corr: 20 Biological Tissue is Frozen: yes 6/11/13
 no

Temp Blank Present: yes no

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Person examining contents:
Date: 6-11-13
Initials: SMW

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>B</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
		Lab Std #ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____
Comments/ Resolution: Fish freshly caught same day 6/11/13
SMW

Project Manager Review: Off for TW Date: 6/11/13

August 14, 2013

Mark Mather
Pollution Risk Services
7870 East Kemper Road
Suite 240
Cincinnati, OH 45249

RE: Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079488

Dear Mark Mather:

Enclosed are the analytical results for sample(s) received by the laboratory on June 10, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Tod Noltemeyer

tod.noltemeyer@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079488

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 11888

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

US Dept of Agriculture #: S-76505

Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079488

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4079488001	LR AC8	Tissue	06/06/13 00:00	06/10/13 15:30
4079488002	LR JWS1	Tissue	06/06/13 00:00	06/10/13 15:30
4079488003	LR JWS2	Tissue	06/06/13 00:00	06/10/13 15:30
4079488004	LR JWS3	Tissue	06/06/13 00:00	06/10/13 15:30
4079488005	LR JWS4	Tissue	06/06/13 00:00	06/10/13 15:30
4079488006	LR JWS5	Tissue	06/06/13 00:00	06/10/13 15:30
4079488007	LR JWS6	Tissue	06/06/13 00:00	06/10/13 15:30
4079488008	LR JWS7	Tissue	06/06/13 00:00	06/10/13 15:30
4079488009	LR JWS8	Tissue	06/06/13 00:00	06/10/13 15:30
4079488010	LR W1 - CANCELLED	Tissue	06/06/13 00:00	06/10/13 15:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079488

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079488001	LR AC8	EPA 8082	BDS	10
		Pace Lipid	ABF	1

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079488

Method: EPA 8082
Description: 8082 GCS PCB, Tissue
Client: POLLUTION RISK SERVICES
Date: August 14, 2013

General Information:

1 sample was analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

Samples LR JWS1 to LR JWS8 on the COC were too small to get fillets with enough mass for PCB analysis.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079488

Method: Pace Lipid
Description: Lipid
Client: POLLUTION RISK SERVICES
Date: August 14, 2013

General Information:

1 sample was analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

Samples LR JWS1 to LR JWS8 on the COC were too small to get fillets with enough mass for PCB analysis.

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079488

Sample: LR AC8 **Lab ID: 4079488001** Collected: 06/06/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	07/25/13 12:00	08/03/13 07:42	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	07/25/13 12:00	08/03/13 07:42	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	07/25/13 12:00	08/03/13 07:42	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	07/25/13 12:00	08/03/13 07:42	53469-21-9	
PCB-1248 (Aroclor 1248)	427	ug/kg	250	125	10	07/25/13 12:00	08/03/13 07:42	12672-29-6	
PCB-1254 (Aroclor 1254)	1440	ug/kg	250	125	10	07/25/13 12:00	08/03/13 07:42	11097-69-1	
PCB-1260 (Aroclor 1260)	304	ug/kg	250	125	10	07/25/13 12:00	08/03/13 07:42	11096-82-5	
PCB, Total	2170	ug/kg	250	125	10	07/25/13 12:00	08/03/13 07:42	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	81	%	44-130		10	07/25/13 12:00	08/03/13 07:42	877-09-8	
Decachlorobiphenyl (S)	98	%	62-130		10	07/25/13 12:00	08/03/13 07:42	2051-24-3	
Lipid									
Analytical Method: Pace Lipid									
Lipid	11.0	%			1		08/01/13 10:41		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079488

QC Batch: OEXT/19155 Analysis Method: EPA 8082
QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides
Associated Lab Samples: 4079488001

METHOD BLANK: 828419 Matrix: Tissue

Associated Lab Samples: 4079488001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<12.5	25.0	08/03/13 06:32	
PCB-1221 (Aroclor 1221)	ug/kg	<12.5	25.0	08/03/13 06:32	
PCB-1232 (Aroclor 1232)	ug/kg	<12.5	25.0	08/03/13 06:32	
PCB-1242 (Aroclor 1242)	ug/kg	<12.5	25.0	08/03/13 06:32	
PCB-1248 (Aroclor 1248)	ug/kg	<12.5	25.0	08/03/13 06:32	
PCB-1254 (Aroclor 1254)	ug/kg	<12.5	25.0	08/03/13 06:32	
PCB-1260 (Aroclor 1260)	ug/kg	<12.5	25.0	08/03/13 06:32	
Decachlorobiphenyl (S)	%	106	62-130	08/03/13 06:32	
Tetrachloro-m-xylene (S)	%	98	44-130	08/03/13 06:32	

LABORATORY CONTROL SAMPLE: 828420

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<12.5			
PCB-1221 (Aroclor 1221)	ug/kg		<12.5			
PCB-1232 (Aroclor 1232)	ug/kg		<12.5			
PCB-1242 (Aroclor 1242)	ug/kg	250	247	99	61-130	
PCB-1248 (Aroclor 1248)	ug/kg		<12.5			
PCB-1254 (Aroclor 1254)	ug/kg		<12.5			
PCB-1260 (Aroclor 1260)	ug/kg		<12.5			
Decachlorobiphenyl (S)	%			107	62-130	
Tetrachloro-m-xylene (S)	%			97	44-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 828421 828422

Parameter	Units	4079488001		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	Result	MSD Result	% Rec	% Rec					
PCB-1016 (Aroclor 1016)	ug/kg	<125			<125	<125							24
PCB-1221 (Aroclor 1221)	ug/kg	<125			<125	<125							24
PCB-1232 (Aroclor 1232)	ug/kg	<125			<125	<125							24
PCB-1242 (Aroclor 1242)	ug/kg	<125	1000	1000	1180	1190	118	119	27-163	1	24		
PCB-1248 (Aroclor 1248)	ug/kg	427			<125	<125							24
PCB-1254 (Aroclor 1254)	ug/kg	1440			1590	1550				3	24		
PCB-1260 (Aroclor 1260)	ug/kg	304			325	315				3	24		
Decachlorobiphenyl (S)	%						102	103	62-130				
Tetrachloro-m-xylene (S)	%						82	84	44-130				

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079488

QC Batch: OEXT/19168

Analysis Method: Pace Lipid

QC Batch Method: Pace Lipid

Analysis Description: LIPID

Associated Lab Samples: 4079488001

METHOD BLANK: 829177

Matrix: Tissue

Associated Lab Samples: 4079488001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lipid	%	0.68		08/01/13 10:41	

SAMPLE DUPLICATE: 829178

Parameter	Units	4079488001 Result	Dup Result	RPD	Max RPD	Qualifiers
Lipid	%	11.0	11.9	8	20	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079488

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079488

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079488001	LR AC8	EPA 3540	OEXT/19155	EPA 8082	GCSV/9962
4079488001	LR AC8	Pace Lipid	OEXT/19168		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):
 PO #:
 Regulatory Program:



UPPER MIDWEST REGION

MN: 612-607-1700 WI: 920-469-2436

COC No.

4079488

CHAIN OF CUSTODY

*Preservation Codes
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y/N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES								
			X	A								
			X	A								
			X	A								
			X	A								
			X	A								
			X	A								
			X	A								
			X	A								
			X	A								
			X	A								
			X	A								
			X	A								
			X	A								

Quote #:
 Mail To Contact: Mark Mather
 Mail To Company: PRS - Assured Group
 Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
 Invoice To Contact: Goldie Sharp
 Invoice To Company: As Above
 Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
 Invoice To Phone: 513-489-6789
 CLIENT COMMENTS: Whole Fish Sample
 LAB COMMENTS (Lab Use Only):
 Profile #

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
	LR AC1	6/6/13		Tissue
	LR AC2	6/6/13		Tissue
	LR AC3	6/6/13		Tissue
	LR AC4	6/6/13		Tissue
	LR AC5	6/6/13		Tissue
	LR AC6	6/6/13		Tissue
	LR AC7	6/6/13		Tissue
001	LR AC 8	6/6/13		Tissue

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed:	Relinquished By: <i>[Signature]</i> Date/Time: 6/6/2013	Received By:	Date/Time:	PACE Project No. 4079488 Receipt Temp = 20 °C Sample Receipt pH OK / Adjusted Cooler Custody Seal Present / Not Present Intact / Not Intact
Transmit Prelim Rush Results by (complete what you want):	Relinquished By:	Date/Time:	Date/Time:	
Email #1: mmather@assuredllc.com	Relinquished By: <i>Courier</i>	Date/Time: 6/10/13 1530	Received By: <i>[Signature]</i>	
Email #2:	Relinquished By:	Date/Time:	Date/Time: 6/10/13 1530	
Telephone: 513-387-2778	Relinquished By:	Date/Time:	Date/Time:	
Fax:	Relinquished By:	Date/Time:	Date/Time:	

Page 12

(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):
 PO #:
 Regulatory Program:



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

COC No. 4 4079488

CHAIN OF CUSTODY

*Preservation Codes
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y/N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES																
			X	A																
			X	A																
			X	A																
			X	A																
			X	A																
			X	A																
			X	A																
			X	A																

Quote #:
 Mail To Contact: Mark Mather
 Mail To Company: PRS - Assured Group
 Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
 Invoice To Contact: Goldie Sharp
 Invoice To Company: As Above
 Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
 Invoice To Phone: 513-489-6789
 CLIENT COMMENTS: Whole Fish Sample
 LAB COMMENTS (Lab Use Only):
 Profile #:

Data Package Options (billable)
 EPA Level III
 EPA Level IV
 MS/MSD
 On your sample (billable)
 NOT needed on your sample
 Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
	LR AWS1	6/6/13		Tissue
	LR AWS2	6/6/13		Tissue
	LR AWS3	6/6/13		Tissue
	LR AWS4	6/6/13		Tissue
	LR AWS5	6/6/13		Tissue
	LR AWS6	6/6/13		Tissue
	LR AWS7	6/6/13		Tissue
	LR AWS8	6/6/13		Tissue

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:
 Relinquished By: *[Signature]* Date/Time: 6/6/2013
 Received By: Date/Time:
 PACE Project No.:
 Receipt Temp = °C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present / Not Present Intact / Not Intact
 Email #1: mmather@assuredilc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):



UPPER MIDWEST REGION

MN: 612-607-1700 WI: 920-469-2436

COC No.

4 407948

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES														
			X	A														
			X	A														
			X	A														
			X	A														
			X	A														
			X	A														
			X	A														
			X	A														

Quote #:
 Mail To Contact: Mark Mather
 Mail To Company: PRS - Assured Group
 Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
 Invoice To Contact: Goldie Sharp
 Invoice To Company: As Above
 Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
 Invoice To Phone: 513-489-6789

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
	LR RB1	6/6/13		Tissue
	LR RB2	6/6/13		Tissue
	LR RB3	6/6/13		Tissue
	LR RB4	6/6/13		Tissue
	LR RB5	6/6/13		Tissue
	LR RB6	6/6/13		Tissue
	LR RB7	6/6/13		Tissue
	LR RB8	6/6/13		Tissue
	LR RB9	6/6/13		Tissue

CLIENT COMMENTS
Whole Fish Sample

LAB COMMENTS (Lab Use Only)

Profile #

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed:	Relinquished By: <i>[Signature]</i> Date/Time: 6-Jun-13	Received By: _____ Date/Time: _____	PACE Project No. _____ Receipt Temp = _____ °C Sample Receipt pH OK / Adjusted Cooler Custody Seal Present / Not Present Intact / Not Intact
	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	
	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	
	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	
	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	

Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2: _____
 Telephone: 513-387-2778
 Fax: _____

Samples on HOLD are subject to special pricing and release of liability

Christopher Hyska - PRS Sheboygan fish from yesterday

4079488

From: Tod Noltemeyer
To: WI Sample Receiving; Wylie, Susan
Date: 6/12/2013 9:20 AM
Subject: PRS Sheboygan fish from yesterday
CC: Hyska, Christopher

I talked to Mark Mather at PRS about the items below. The answers from him are in red.

We do not have fish 1HAC8 (does not exist, cross off COC) and IHRB4 (this one should be there) which were listed on the COCs.

We received fish that we do not have on COCs: LRW1, LRAC8 (do not run these two) and LRJWS1 to 8 (run these, he will send COC as noted in comment below).

We did not receive COCs for LR fish samples (he will e-mail COC).

We also have a COC for MRJWS1 to 8, but there is no fish for that. (thse do not exist so cross off COC. He may send a COC indicating that also).

Can you provide some insight on those?

Thanks, Tod

Project Manager
Pace Analytical - WI
6409 Odana Road
Suite E
Madison, WI 53719
(608) 232-3300

Tod.Noltemeyer@pacelabs.com

Project Manager
Pace Analytical - WI
6409 Odana Road
Suite E
Madison, WI 53719
(608) 232-3300

Tod.Noltemeyer@pacelabs.com

Christopher Hyska - RE: PRS Sheboygan fish from yesterday

4079488

From: "Mark Mather" <mmather@assuredllc.com>
To: "Tod Noltemeyer" <Tod.Noltemeyer@pacelabs.com>
Date: 6/12/2013 9:36 AM
Subject: RE: PRS Sheboygan fish from yesterday
CC: "Alee Her" <Alee.Her@pacelabs.com>, "Brenda Fritsch" <Brenda.Fritsch@pac...>
Attachments: COC 4 June 6 Fish Samples -Lower River.pdf

Please see attached Lower River (LR) Sample COC's. Regretfully, **S 1-15, S17, S 19-23, and S-25 will include asphaltic concrete.**

Samples, S-16, S-18, S-24 and PS -26 should not have asphaltic materials.

With regard to the issues, below,

Mark,

A few issues with the fish we picked up yesterday:

We do not have fish 1HAC8 and IHRB4 which were listed on the COCs.

There is no IH AC8. Regrets on the PRS error.

IH RB4, we indicate as being shipped. If it was not, then I am sure that the packing error was PRS.

We received fish that we do not have on COCs: LRW1, LRAC8 and LRJWS1 to 8.

We did not receive COCs for LR fish samples

See attached COC. DO NOT RUN LR W1.

We also have a COC for MRJWS1 to 8, but there is no fish for that.

Again, in error PRS included a COC without the samples. Please accept this note as a correction.

Can you provide some insight on those?

Thanks, Tod

Project Manager
 Pace Analytical - WI
 6409 Odana Road
 Suite E
 Madison, WI 53719
 (608) 232-3300

Tod.Noltemeyer@pacelabs.com



Sample Condition Upon Receipt

Client Name: PRS Project # 4079488

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____
Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used SR13 Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 20 / Corr: 20 Biological Tissue is Frozen: yes 6/11/13

Temp Blank Present: yes no NO

Temp should be above freezing to 6°C for all sample except Biota.

Frozen Biota Samples should be received ≤ 0°C.

Person examining contents:
Date: 6-15-13
Initials: SW

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>B</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
		Lab Std #ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____
Comments/ Resolution: Fish freshly caught same day 6/11/13
SW

Project Manager Review: MAT for TN Date: 6-12-13

August 14, 2013

Mark Mather
Pollution Risk Services
7870 East Kemper Road
Suite 240
Cincinnati, OH 45249

RE: Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079493

Dear Mark Mather:

Enclosed are the analytical results for sample(s) received by the laboratory on June 10, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Tod Noltemeyer

tod.noltemeyer@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079493

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 11888

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

US Dept of Agriculture #: S-76505

Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079493

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4079493005	MR1 RB5	Tissue	06/08/13 00:00	06/10/13 15:30
4079493006	MR1 RB6	Tissue	06/08/13 00:00	06/10/13 15:30
4079493007	MR1 RB7	Tissue	06/08/13 00:00	06/10/13 15:30
4079493008	MR1 RB8	Tissue	06/08/13 00:00	06/10/13 15:30
4079493009	MR1 CC1	Tissue	06/08/13 00:00	06/10/13 15:30
4079493010	MR1 CC2	Tissue	06/08/13 00:00	06/10/13 15:30
4079493011	MR1 CC3	Tissue	06/08/13 00:00	06/10/13 15:30
4079493012	MR1 CC4	Tissue	06/08/13 00:00	06/10/13 15:30
4079493013	MR1 CC5	Tissue	06/08/13 00:00	06/10/13 15:30
4079493014	MR1 CC6	Tissue	06/08/13 00:00	06/10/13 15:30
4079493015	MR1 CC7	Tissue	06/08/13 00:00	06/10/13 15:30
4079493016	MR1 CC8	Tissue	06/08/13 00:00	06/10/13 15:30
4079493017	MR1 W6	Tissue	06/08/13 00:00	06/10/13 15:30
4079493018	MR1 W7	Tissue	06/08/13 00:00	06/10/13 15:30
4079493019	MR1 W8	Tissue	06/08/13 00:00	06/10/13 15:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079493

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079493005	MR1 RB5	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079493006	MR1 RB6	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079493007	MR1 RB7	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079493008	MR1 RB8	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079493009	MR1 CC1	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079493010	MR1 CC2	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079493011	MR1 CC3	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079493012	MR1 CC4	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079493013	MR1 CC5	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079493014	MR1 CC6	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079493015	MR1 CC7	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079493016	MR1 CC8	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079493017	MR1 W6	EPA 8082	BDS	10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079493

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079493018	MR1 W7	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079493019	MR1 W8	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079493

Method: EPA 8082

Description: 8082 GCS PCB, Tissue

Client: POLLUTION RISK SERVICES

Date: August 14, 2013

General Information:

15 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/19155

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- MR1 CC1 (Lab ID: 4079493009)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR1 CC2 (Lab ID: 4079493010)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR1 CC3 (Lab ID: 4079493011)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR1 CC4 (Lab ID: 4079493012)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR1 CC5 (Lab ID: 4079493013)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR1 CC6 (Lab ID: 4079493014)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR1 CC7 (Lab ID: 4079493015)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR1 CC8 (Lab ID: 4079493016)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR1 RB5 (Lab ID: 4079493005)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079493

Method: EPA 8082

Description: 8082 GCS PCB, Tissue

Client: POLLUTION RISK SERVICES

Date: August 14, 2013

QC Batch: OEXT/19155

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- Decachlorobiphenyl (S)
- Tetrachloro-m-xylene (S)
- MR1 W6 (Lab ID: 4079493017)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR1 W7 (Lab ID: 4079493018)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MR1 W8 (Lab ID: 4079493019)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079493

Method: Pace Gender Typing
Description: Fish Gender Typing
Client: POLLUTION RISK SERVICES
Date: August 14, 2013

General Information:

15 samples were analyzed for Pace Gender Typing. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079493

Method: Pace Lipid
Description: Lipid
Client: POLLUTION RISK SERVICES
Date: August 14, 2013

General Information:

15 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079493

Sample: MR1 RB5 **Lab ID: 4079493005** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<188	ug/kg	375	188	15	07/25/13 12:00	08/03/13 08:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<188	ug/kg	375	188	15	07/25/13 12:00	08/03/13 08:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<188	ug/kg	375	188	15	07/25/13 12:00	08/03/13 08:00	11141-16-5	
PCB-1242 (Aroclor 1242)	742	ug/kg	375	188	15	07/25/13 12:00	08/03/13 08:00	53469-21-9	
PCB-1248 (Aroclor 1248)	<188	ug/kg	375	188	15	07/25/13 12:00	08/03/13 08:00	12672-29-6	
PCB-1254 (Aroclor 1254)	839	ug/kg	375	188	15	07/25/13 12:00	08/03/13 08:00	11097-69-1	
PCB-1260 (Aroclor 1260)	<188	ug/kg	375	188	15	07/25/13 12:00	08/03/13 08:00	11096-82-5	
PCB, Total	1580	ug/kg	375	188	15	07/25/13 12:00	08/03/13 08:00	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		15	07/25/13 12:00	08/03/13 08:00	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		15	07/25/13 12:00	08/03/13 08:00	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/12/13 07:06		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.44 %				1		08/01/13 10:41		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079493

Sample: MR1 RB6 **Lab ID: 4079493006** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/25/13 12:00	08/03/13 08:17	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/25/13 12:00	08/03/13 08:17	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/25/13 12:00	08/03/13 08:17	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	07/25/13 12:00	08/03/13 08:17	53469-21-9	
PCB-1248 (Aroclor 1248)	667	ug/kg	125	62.5	5	07/25/13 12:00	08/03/13 08:17	12672-29-6	
PCB-1254 (Aroclor 1254)	599	ug/kg	125	62.5	5	07/25/13 12:00	08/03/13 08:17	11097-69-1	
PCB-1260 (Aroclor 1260)	<62.5	ug/kg	125	62.5	5	07/25/13 12:00	08/03/13 08:17	11096-82-5	
PCB, Total	1270	ug/kg	125	62.5	5	07/25/13 12:00	08/03/13 08:17	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	84 %		44-130		5	07/25/13 12:00	08/03/13 08:17	877-09-8	
Decachlorobiphenyl (S)	92 %		62-130		5	07/25/13 12:00	08/03/13 08:17	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/12/13 07:06		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.50 %				1		08/01/13 10:41		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079493

Sample: MR1 RB7 **Lab ID: 4079493007** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/25/13 12:00	08/03/13 08:35	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/25/13 12:00	08/03/13 08:35	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/25/13 12:00	08/03/13 08:35	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	07/25/13 12:00	08/03/13 08:35	53469-21-9	
PCB-1248 (Aroclor 1248)	1010	ug/kg	125	62.5	5	07/25/13 12:00	08/03/13 08:35	12672-29-6	
PCB-1254 (Aroclor 1254)	993	ug/kg	125	62.5	5	07/25/13 12:00	08/03/13 08:35	11097-69-1	
PCB-1260 (Aroclor 1260)	72.3J	ug/kg	125	62.5	5	07/25/13 12:00	08/03/13 08:35	11096-82-5	
PCB, Total	2070	ug/kg	125	62.5	5	07/25/13 12:00	08/03/13 08:35	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	91 %		44-130		5	07/25/13 12:00	08/03/13 08:35	877-09-8	
Decachlorobiphenyl (S)	103 %		62-130		5	07/25/13 12:00	08/03/13 08:35	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/12/13 07:06		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.44 %				1		08/01/13 10:41		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Project No.: 4079493

Sample: MR1 RB8 **Lab ID: 4079493008** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<65.3	ug/kg	131	65.3	5	07/25/13 12:00	08/03/13 08:52	12674-11-2	
PCB-1221 (Aroclor 1221)	<65.3	ug/kg	131	65.3	5	07/25/13 12:00	08/03/13 08:52	11104-28-2	
PCB-1232 (Aroclor 1232)	<65.3	ug/kg	131	65.3	5	07/25/13 12:00	08/03/13 08:52	11141-16-5	
PCB-1242 (Aroclor 1242)	<65.3	ug/kg	131	65.3	5	07/25/13 12:00	08/03/13 08:52	53469-21-9	
PCB-1248 (Aroclor 1248)	672	ug/kg	131	65.3	5	07/25/13 12:00	08/03/13 08:52	12672-29-6	
PCB-1254 (Aroclor 1254)	501	ug/kg	131	65.3	5	07/25/13 12:00	08/03/13 08:52	11097-69-1	
PCB-1260 (Aroclor 1260)	<65.3	ug/kg	131	65.3	5	07/25/13 12:00	08/03/13 08:52	11096-82-5	
PCB, Total	1170	ug/kg	131	65.3	5	07/25/13 12:00	08/03/13 08:52	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	88 %		44-130		5	07/25/13 12:00	08/03/13 08:52	877-09-8	
Decachlorobiphenyl (S)	110 %		62-130		5	07/25/13 12:00	08/03/13 08:52	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/12/13 07:06		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.49 %				1		08/01/13 10:42		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079493

Sample: MR1 CC1 **Lab ID: 4079493009** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	07/25/13 12:00	08/03/13 09:10	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	07/25/13 12:00	08/03/13 09:10	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	07/25/13 12:00	08/03/13 09:10	11141-16-5	
PCB-1242 (Aroclor 1242)	<250	ug/kg	500	250	20	07/25/13 12:00	08/03/13 09:10	53469-21-9	
PCB-1248 (Aroclor 1248)	2590	ug/kg	500	250	20	07/25/13 12:00	08/03/13 09:10	12672-29-6	
PCB-1254 (Aroclor 1254)	2540	ug/kg	500	250	20	07/25/13 12:00	08/03/13 09:10	11097-69-1	
PCB-1260 (Aroclor 1260)	275J	ug/kg	500	250	20	07/25/13 12:00	08/03/13 09:10	11096-82-5	
PCB, Total	5410	ug/kg	500	250	20	07/25/13 12:00	08/03/13 09:10	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	07/25/13 12:00	08/03/13 09:10	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	07/25/13 12:00	08/03/13 09:10	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/12/13 07:06		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.2 %				1		08/01/13 10:42		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079493

Sample: MR1 CC2 **Lab ID: 4079493010** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	07/25/13 12:00	08/03/13 10:02	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	07/25/13 12:00	08/03/13 10:02	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	07/25/13 12:00	08/03/13 10:02	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	07/25/13 12:00	08/03/13 10:02	53469-21-9	
PCB-1248 (Aroclor 1248)	4840	ug/kg	750	375	30	07/25/13 12:00	08/03/13 10:02	12672-29-6	
PCB-1254 (Aroclor 1254)	4310	ug/kg	750	375	30	07/25/13 12:00	08/03/13 10:02	11097-69-1	
PCB-1260 (Aroclor 1260)	399J	ug/kg	750	375	30	07/25/13 12:00	08/03/13 10:02	11096-82-5	
PCB, Total	9550	ug/kg	750	375	30	07/25/13 12:00	08/03/13 10:02	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	07/25/13 12:00	08/03/13 10:02	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	07/25/13 12:00	08/03/13 10:02	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/12/13 07:06		
Lipid									
Analytical Method: Pace Lipid									
Lipid	3.8 %				1		08/01/13 10:42		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
Pace Project No.: 4079493

Sample: MR1 CC3 **Lab ID: 4079493011** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 10:20	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 10:20	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 10:20	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 10:20	53469-21-9	
PCB-1248 (Aroclor 1248)	8700	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 10:20	12672-29-6	
PCB-1254 (Aroclor 1254)	9140	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 10:20	11097-69-1	
PCB-1260 (Aroclor 1260)	836J	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 10:20	11096-82-5	
PCB, Total	18700	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 10:20	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	07/25/13 12:00	08/03/13 10:20	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	07/25/13 12:00	08/03/13 10:20	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/12/13 07:06		
Lipid									
Analytical Method: Pace Lipid									
Lipid	6.9 %				1		08/01/13 10:42		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING
 Pace Project No.: 4079493

Sample: MR1 CC4 **Lab ID: 4079493012** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	07/25/13 12:00	08/03/13 10:37	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	07/25/13 12:00	08/03/13 10:37	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	07/25/13 12:00	08/03/13 10:37	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	07/25/13 12:00	08/03/13 10:37	53469-21-9	
PCB-1248 (Aroclor 1248)	6300	ug/kg	750	375	30	07/25/13 12:00	08/03/13 10:37	12672-29-6	
PCB-1254 (Aroclor 1254)	6350	ug/kg	750	375	30	07/25/13 12:00	08/03/13 10:37	11097-69-1	
PCB-1260 (Aroclor 1260)	546J	ug/kg	750	375	30	07/25/13 12:00	08/03/13 10:37	11096-82-5	
PCB, Total	13200	ug/kg	750	375	30	07/25/13 12:00	08/03/13 10:37	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	07/25/13 12:00	08/03/13 10:37	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	07/25/13 12:00	08/03/13 10:37	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/12/13 07:06		
Lipid		Analytical Method: Pace Lipid							
Lipid	5.6 %				1		08/01/13 10:43		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Project No.: 4079493

Sample: MR1 CC5 **Lab ID: 4079493013** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 10:54	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 10:54	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 10:54	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 10:54	53469-21-9	
PCB-1248 (Aroclor 1248)	8850	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 10:54	12672-29-6	
PCB-1254 (Aroclor 1254)	8290	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 10:54	11097-69-1	
PCB-1260 (Aroclor 1260)	708J	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 10:54	11096-82-5	
PCB, Total	17800	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 10:54	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	07/25/13 12:00	08/03/13 10:54	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	07/25/13 12:00	08/03/13 10:54	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/12/13 07:06		
Lipid		Analytical Method: Pace Lipid							
Lipid	7.1 %				1		08/01/13 10:43		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Project No.: 4079493

Sample: MR1 CC6 **Lab ID: 4079493014** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	07/25/13 12:00	08/03/13 11:12	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	07/25/13 12:00	08/03/13 11:12	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	07/25/13 12:00	08/03/13 11:12	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	07/25/13 12:00	08/03/13 11:12	53469-21-9	
PCB-1248 (Aroclor 1248)	5510	ug/kg	750	375	30	07/25/13 12:00	08/03/13 11:12	12672-29-6	
PCB-1254 (Aroclor 1254)	5530	ug/kg	750	375	30	07/25/13 12:00	08/03/13 11:12	11097-69-1	
PCB-1260 (Aroclor 1260)	619J	ug/kg	750	375	30	07/25/13 12:00	08/03/13 11:12	11096-82-5	
PCB, Total	11700	ug/kg	750	375	30	07/25/13 12:00	08/03/13 11:12	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	07/25/13 12:00	08/03/13 11:12	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	07/25/13 12:00	08/03/13 11:12	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/12/13 07:06		
Lipid		Analytical Method: Pace Lipid							
Lipid	9.7 %				1		08/01/13 10:43		

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079493

Sample: MR1 CC7 **Lab ID: 4079493015** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	07/25/13 12:00	08/03/13 11:30	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	07/25/13 12:00	08/03/13 11:30	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	07/25/13 12:00	08/03/13 11:30	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	07/25/13 12:00	08/03/13 11:30	53469-21-9	
PCB-1248 (Aroclor 1248)	5600	ug/kg	750	375	30	07/25/13 12:00	08/03/13 11:30	12672-29-6	
PCB-1254 (Aroclor 1254)	4590	ug/kg	750	375	30	07/25/13 12:00	08/03/13 11:30	11097-69-1	
PCB-1260 (Aroclor 1260)	474J	ug/kg	750	375	30	07/25/13 12:00	08/03/13 11:30	11096-82-5	
PCB, Total	10700	ug/kg	750	375	30	07/25/13 12:00	08/03/13 11:30	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	07/25/13 12:00	08/03/13 11:30	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	07/25/13 12:00	08/03/13 11:30	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/12/13 07:06		
Lipid									
Analytical Method: Pace Lipid									
Lipid	6.5 %				1		08/01/13 10:43		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Project No.: 4079493

Sample: MR1 CC8 **Lab ID: 4079493016** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 11:47	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 11:47	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 11:47	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 11:47	53469-21-9	
PCB-1248 (Aroclor 1248)	7030	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 11:47	12672-29-6	
PCB-1254 (Aroclor 1254)	7050	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 11:47	11097-69-1	
PCB-1260 (Aroclor 1260)	783J	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 11:47	11096-82-5	
PCB, Total	14900	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 11:47	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	07/25/13 12:00	08/03/13 11:47	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	07/25/13 12:00	08/03/13 11:47	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/12/13 07:06		
Lipid		Analytical Method: Pace Lipid							
Lipid	8.0 %				1		08/01/13 10:43		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079493

Sample: MR1 W6 **Lab ID: 4079493017** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<188	ug/kg	375	188	15	07/25/13 12:00	08/03/13 12:04	12674-11-2	
PCB-1221 (Aroclor 1221)	<188	ug/kg	375	188	15	07/25/13 12:00	08/03/13 12:04	11104-28-2	
PCB-1232 (Aroclor 1232)	<188	ug/kg	375	188	15	07/25/13 12:00	08/03/13 12:04	11141-16-5	
PCB-1242 (Aroclor 1242)	<188	ug/kg	375	188	15	07/25/13 12:00	08/03/13 12:04	53469-21-9	
PCB-1248 (Aroclor 1248)	2330	ug/kg	375	188	15	07/25/13 12:00	08/03/13 12:04	12672-29-6	
PCB-1254 (Aroclor 1254)	1860	ug/kg	375	188	15	07/25/13 12:00	08/03/13 12:04	11097-69-1	
PCB-1260 (Aroclor 1260)	191J	ug/kg	375	188	15	07/25/13 12:00	08/03/13 12:04	11096-82-5	
PCB, Total	4380	ug/kg	375	188	15	07/25/13 12:00	08/03/13 12:04	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		15	07/25/13 12:00	08/03/13 12:04	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		15	07/25/13 12:00	08/03/13 12:04	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/12/13 07:06		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.8 %				1		08/01/13 10:44		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079493

Sample: MR1 W7 **Lab ID: 4079493018** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 12:22	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 12:22	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 12:22	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 12:22	53469-21-9	
PCB-1248 (Aroclor 1248)	10300	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 12:22	12672-29-6	
PCB-1254 (Aroclor 1254)	9870	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 12:22	11097-69-1	
PCB-1260 (Aroclor 1260)	993J	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 12:22	11096-82-5	
PCB, Total	21100	ug/kg	1250	625	50	07/25/13 12:00	08/03/13 12:22	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	07/25/13 12:00	08/03/13 12:22	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	07/25/13 12:00	08/03/13 12:22	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/12/13 07:06		
Lipid									
Analytical Method: Pace Lipid									
Lipid	4.8 %				1		08/01/13 10:44		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079493

Sample: MR1 W8 **Lab ID: 4079493019** Collected: 06/08/13 00:00 Received: 06/10/13 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	07/25/13 12:00	08/03/13 12:39	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	07/25/13 12:00	08/03/13 12:39	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	07/25/13 12:00	08/03/13 12:39	11141-16-5	
PCB-1242 (Aroclor 1242)	<250	ug/kg	500	250	20	07/25/13 12:00	08/03/13 12:39	53469-21-9	
PCB-1248 (Aroclor 1248)	2940	ug/kg	500	250	20	07/25/13 12:00	08/03/13 12:39	12672-29-6	
PCB-1254 (Aroclor 1254)	2690	ug/kg	500	250	20	07/25/13 12:00	08/03/13 12:39	11097-69-1	
PCB-1260 (Aroclor 1260)	461J	ug/kg	500	250	20	07/25/13 12:00	08/03/13 12:39	11096-82-5	
PCB, Total	6100	ug/kg	500	250	20	07/25/13 12:00	08/03/13 12:39	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	07/25/13 12:00	08/03/13 12:39	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	07/25/13 12:00	08/03/13 12:39	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/12/13 07:06		
Lipid									
Analytical Method: Pace Lipid									
Lipid	4.2 %				1		08/01/13 10:44		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079493

QC Batch: OEXT/19155 Analysis Method: EPA 8082
 QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides
 Associated Lab Samples: 4079493005, 4079493006, 4079493007, 4079493008, 4079493009, 4079493010, 4079493011, 4079493012, 4079493013, 4079493014, 4079493015, 4079493016, 4079493017, 4079493018, 4079493019

METHOD BLANK: 828419 Matrix: Tissue
 Associated Lab Samples: 4079493005, 4079493006, 4079493007, 4079493008, 4079493009, 4079493010, 4079493011, 4079493012, 4079493013, 4079493014, 4079493015, 4079493016, 4079493017, 4079493018, 4079493019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<12.5	25.0	08/03/13 06:32	
PCB-1221 (Aroclor 1221)	ug/kg	<12.5	25.0	08/03/13 06:32	
PCB-1232 (Aroclor 1232)	ug/kg	<12.5	25.0	08/03/13 06:32	
PCB-1242 (Aroclor 1242)	ug/kg	<12.5	25.0	08/03/13 06:32	
PCB-1248 (Aroclor 1248)	ug/kg	<12.5	25.0	08/03/13 06:32	
PCB-1254 (Aroclor 1254)	ug/kg	<12.5	25.0	08/03/13 06:32	
PCB-1260 (Aroclor 1260)	ug/kg	<12.5	25.0	08/03/13 06:32	
Decachlorobiphenyl (S)	%	106	62-130	08/03/13 06:32	
Tetrachloro-m-xylene (S)	%	98	44-130	08/03/13 06:32	

LABORATORY CONTROL SAMPLE: 828420

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<12.5			
PCB-1221 (Aroclor 1221)	ug/kg		<12.5			
PCB-1232 (Aroclor 1232)	ug/kg		<12.5			
PCB-1242 (Aroclor 1242)	ug/kg	250	247	99	61-130	
PCB-1248 (Aroclor 1248)	ug/kg		<12.5			
PCB-1254 (Aroclor 1254)	ug/kg		<12.5			
PCB-1260 (Aroclor 1260)	ug/kg		<12.5			
Decachlorobiphenyl (S)	%			107	62-130	
Tetrachloro-m-xylene (S)	%			97	44-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 828421 828422

Parameter	Units	4079488001		828421		828422		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
PCB-1016 (Aroclor 1016)	ug/kg	<125			<125	<125						24	
PCB-1221 (Aroclor 1221)	ug/kg	<125			<125	<125						24	
PCB-1232 (Aroclor 1232)	ug/kg	<125			<125	<125						24	
PCB-1242 (Aroclor 1242)	ug/kg	<125	1000	1000	1180	1190	118	119	27-163	1	24		
PCB-1248 (Aroclor 1248)	ug/kg	427			<125	<125						24	
PCB-1254 (Aroclor 1254)	ug/kg	1440			1590	1550					3	24	
PCB-1260 (Aroclor 1260)	ug/kg	304			325	315					3	24	
Decachlorobiphenyl (S)	%						102	103	62-130				
Tetrachloro-m-xylene (S)	%						82	84	44-130				

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079493

QC Batch:	OEXT/19168	Analysis Method:	Pace Lipid
QC Batch Method:	Pace Lipid	Analysis Description:	LIPID
Associated Lab Samples:	4079493005, 4079493006, 4079493007, 4079493008, 4079493009, 4079493010, 4079493011, 4079493012, 4079493013, 4079493014, 4079493015, 4079493016, 4079493017, 4079493018, 4079493019		

METHOD BLANK:	829177	Matrix:	Tissue
Associated Lab Samples:	4079493005, 4079493006, 4079493007, 4079493008, 4079493009, 4079493010, 4079493011, 4079493012, 4079493013, 4079493014, 4079493015, 4079493016, 4079493017, 4079493018, 4079493019		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lipid	%	0.68		08/01/13 10:41	

SAMPLE DUPLICATE: 829178

Parameter	Units	4079488001 Result	Dup Result	RPD	Max RPD	Qualifiers
Lipid	%	11.0	11.9	8	20	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079493

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 2013 FISH SAMPLING

Pace Project No.: 4079493

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079493005	MR1 RB5	EPA 3540	OEXT/19155	EPA 8082	GCSV/9962
4079493006	MR1 RB6	EPA 3540	OEXT/19155	EPA 8082	GCSV/9962
4079493007	MR1 RB7	EPA 3540	OEXT/19155	EPA 8082	GCSV/9962
4079493008	MR1 RB8	EPA 3540	OEXT/19155	EPA 8082	GCSV/9962
4079493009	MR1 CC1	EPA 3540	OEXT/19155	EPA 8082	GCSV/9962
4079493010	MR1 CC2	EPA 3540	OEXT/19155	EPA 8082	GCSV/9962
4079493011	MR1 CC3	EPA 3540	OEXT/19155	EPA 8082	GCSV/9962
4079493012	MR1 CC4	EPA 3540	OEXT/19155	EPA 8082	GCSV/9962
4079493013	MR1 CC5	EPA 3540	OEXT/19155	EPA 8082	GCSV/9962
4079493014	MR1 CC6	EPA 3540	OEXT/19155	EPA 8082	GCSV/9962
4079493015	MR1 CC7	EPA 3540	OEXT/19155	EPA 8082	GCSV/9962
4079493016	MR1 CC8	EPA 3540	OEXT/19155	EPA 8082	GCSV/9962
4079493017	MR1 W6	EPA 3540	OEXT/19155	EPA 8082	GCSV/9962
4079493018	MR1 W7	EPA 3540	OEXT/19155	EPA 8082	GCSV/9962
4079493019	MR1 W8	EPA 3540	OEXT/19155	EPA 8082	GCSV/9962
4079493005	MR1 RB5	Pace Gender Typing	GRND/2595		
4079493006	MR1 RB6	Pace Gender Typing	GRND/2595		
4079493007	MR1 RB7	Pace Gender Typing	GRND/2595		
4079493008	MR1 RB8	Pace Gender Typing	GRND/2595		
4079493009	MR1 CC1	Pace Gender Typing	GRND/2595		
4079493010	MR1 CC2	Pace Gender Typing	GRND/2595		
4079493011	MR1 CC3	Pace Gender Typing	GRND/2595		
4079493012	MR1 CC4	Pace Gender Typing	GRND/2595		
4079493013	MR1 CC5	Pace Gender Typing	GRND/2595		
4079493014	MR1 CC6	Pace Gender Typing	GRND/2595		
4079493015	MR1 CC7	Pace Gender Typing	GRND/2595		
4079493016	MR1 CC8	Pace Gender Typing	GRND/2595		
4079493017	MR1 W6	Pace Gender Typing	GRND/2595		
4079493018	MR1 W7	Pace Gender Typing	GRND/2595		
4079493019	MR1 W8	Pace Gender Typing	GRND/2595		
4079493005	MR1 RB5	Pace Lipid	OEXT/19168		
4079493006	MR1 RB6	Pace Lipid	OEXT/19168		
4079493007	MR1 RB7	Pace Lipid	OEXT/19168		
4079493008	MR1 RB8	Pace Lipid	OEXT/19168		
4079493009	MR1 CC1	Pace Lipid	OEXT/19168		
4079493010	MR1 CC2	Pace Lipid	OEXT/19168		
4079493011	MR1 CC3	Pace Lipid	OEXT/19168		
4079493012	MR1 CC4	Pace Lipid	OEXT/19168		
4079493013	MR1 CC5	Pace Lipid	OEXT/19168		
4079493014	MR1 CC6	Pace Lipid	OEXT/19168		
4079493015	MR1 CC7	Pace Lipid	OEXT/19168		
4079493016	MR1 CC8	Pace Lipid	OEXT/19168		
4079493017	MR1 W6	Pace Lipid	OEXT/19168		
4079493018	MR1 W7	Pace Lipid	OEXT/19168		
4079493019	MR1 W8	Pace Lipid	OEXT/19168		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):

PO #: _____ Regulatory Program: _____

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe



UPPER MIDWEST REGION

MN: 612-607-1700 WI: 920-469-2436

COC No. 6 4079493

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium-Bisulfate Solution I=Sodium-Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES														
			X	A														
			X	A														
			X	A														
			X	A														
			X	A														
			X	A														
			X	A														

Quote #: _____
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact: Goldie Sharp
Invoice To Company: As Above
Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone: 513-489-6789

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
Whole Fish Sample	1-polybag ^A	

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX	Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES									
		DATE	TIME															
001	MR1 RB1	6/8/13		Tissue				X	A									
002	MR1 RB2	6/8/13		Tissue				X	A									
003	MR1 RB3	6/8/13		Tissue				X	A									
004	MR1 RB4	6/8/13		Tissue				X	A									
005	MR1 RB5	6/8/13		Tissue				X	A									
006	MR1 RB6	6/8/13		Tissue				X	A									
007	MR1 RB7	6/8/13		Tissue				X	A									
008	MR1 RB8	6/8/13		Tissue				X	A									

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed: _____
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2: _____
 Telephone: 513-387-2778
 Fax: _____

Relinquished By: *[Signature]* Date/Time: 6/10/13 610
 Relinquished By: *[Signature]* Date/Time: 6/10/13 1530
 Relinquished By: _____ Date/Time: _____
 Relinquished By: _____ Date/Time: _____

Received By: *[Signature]* Date/Time: 6/10/13 1415
 Received By: *[Signature]* Date/Time: 6/10/13 1530
 Received By: _____ Date/Time: _____
 Received By: _____ Date/Time: _____

PACE Project No. 4079493
 Receipt Temp = 20 °C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present / Not Present Intact / Not Intact

(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):
 PO #:

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
	MR1 JWS1	6/8/13		Tissue
	MR1 JWS2	6/8/13		Tissue
	MR1 JWS3	6/8/13		Tissue
	MR1 JWS4	6/8/13		Tissue
	MR1 JWS5	6/8/13		Tissue
	MR1 JWS6	6/8/13		Tissue
	MR1 JWS7	6/8/13		Tissue
	MR1 JWS8	6/8/13		Tissue



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

Page 4 of 7

COC No. 6 4079493

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
PRESERVATION
(CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A
			X	A

Quote #:

Mail To Contact: Mark Mather

Mail To Company: PRS - Assured Group

Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Contact: Goldie Sharp

Invoice To Company: As Above

Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Phone: 513-489-6789

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
Whole Fish Sample		

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: *[Signature]* Date/Time: 6/10/13
 Relinquished By: *[Signature]* Date/Time: 6/10/13 1530
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:

Received By: *[Signature]* Date/Time: 6/10/13 1415
 Received By: Date/Time:
 Received By: Date/Time:
 Received By: Date/Time:

PACE Project No.
 Receipt Temp = °C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present / Not Present Intact / Not Intact

Page 30 of 33

(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):
 PO #:
 Regulatory Program:



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

COC No. 6 4073493

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
 (YES/NO)
 PRESERVATION
 (CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	
			X	A																	

Quote #:

Mail To Contact: Mark Mather

Mail To Company: PRS - Assured Group

Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Contact: Goldie Sharp

Invoice To Company: As Above

Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249

Invoice To Phone: 513-489-6789

CLIENT COMMENTS: Whole Fish Sample

LAB COMMENTS (Lab Use Only): 1-polybag^A

Profile #:

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	MR1 CC1	6/8/13		Tissue
002	MR1 CC2	6/8/13		Tissue
003	MR1 CC3	6/8/13		Tissue
004	MR1 CC4	6/8/13		Tissue
005	MR1 CC5	6/8/13		Tissue
006	MR1 CC6	6/8/13		Tissue
007	MR1 CC7	6/8/13		Tissue
008	MR1 CC8	6/8/13		Tissue

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:

Relinquished By: [Signature] Date/Time: 6/10/13
 Relinquished By: [Signature] Date/Time: 6/10/13 1530
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:

Received By: [Signature] Date/Time: 6/10/13 1415
 Received By: [Signature] Date/Time: 6/10/13 1530
 Received By: Date/Time:
 Received By: Date/Time:

FACE Project No.

Receipt Temp = 20 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present Intact / Not Intact

Samples on HOLD are subject to special pricing and release of liability

(Please Print Clearly)

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign):
 PO #:



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

Page 6 of 7
 COC No. 6 4074493

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
 (YES/NO)
 PRESERVATION
 (CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES
			X	A
			X	A
			X	A

Quote #:
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact: Goldie Sharp
Invoice To Company: As Above
Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone: 513-489-6789

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Regulatory Program:

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	017 MR1 W6	6/8/13		Tissue
002	018 MR1 W7	6/8/13		Tissue
003	019 MR1 W8	6/8/13		Tissue

CLIENT COMMENTS
 Whole Fish Sample

LAB COMMENTS (Lab Use Only)
 1-polybag A

Profile #

Rush Turnaround Time Requested - Prelims
 (Rush TAT subject to approval/surcharge)
 Date Needed:
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: mmather@assuredllc.com
 Email #2:
 Telephone: 513-387-2778
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: [Signature] Date/Time: 6/10/13
 Relinquished By: [Signature] Date/Time: 6/10/13 1530
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:

Received By: [Signature] Date/Time: 6/10/13 1415
 Received By: [Signature] Date/Time: 6/10/13 1530
 Received By: Date/Time:
 Received By: Date/Time:

PACE Project No.
Receipt Temp = 20 °C
Sample Receipt pH
 OK / Adjusted
Cooler Custody Seal
 Present / Not Present
 Intact / Not Intact



Sample Condition Upon Receipt

Client Name: PRS Project # 4079493
4079453

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____
Custody Seal on Cooler/Box Present: yes no Seals intact: yes no
Custody Seal on Samples Present: yes no Seals intact: yes no
Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used SR13 Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun
Cooler Temperature Uncorr: 20 / Corr: 20 Biological Tissue is Frozen: yes 6/11/13
 no

Temp Blank Present: yes no
Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Person examining contents:
Date: 6-11-13
Initials: SW

Comments: _____

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>B</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
		Lab Std #ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____
Comments/ Resolution: Fish freshly caught same day 6/11/13
SW

Project Manager Review: Chit Poyta Date: 6/12/13

August 06, 2013

Mark Mather
Pollution Risk Services
7870 East Kemper Road
Suite 240
Cincinnati, OH 45249

RE: Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079168

Dear Mark Mather:

Enclosed are the analytical results for sample(s) received by the laboratory on June 06, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Tod Noltemeyer

tod.noltemeyer@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079168

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 11888

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

US Dept of Agriculture #: S-76505

Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079168

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4079168001	UR1 AC1	Tissue	06/03/13 00:00	06/06/13 17:09
4079168002	UR1 AC2	Tissue	06/03/13 00:00	06/06/13 17:09
4079168003	UR1 AC3	Tissue	06/03/13 00:00	06/06/13 17:09
4079168004	UR1 AC4	Tissue	06/03/13 00:00	06/06/13 17:09
4079168005	UR1 AC5	Tissue	06/03/13 00:00	06/06/13 17:09
4079168006	UR1 AC6	Tissue	06/03/13 00:00	06/06/13 17:09
4079168007	UR1 AWS1	Tissue	06/03/13 00:00	06/06/13 17:09
4079168008	UR1 AWS2	Tissue	06/03/13 00:00	06/06/13 17:09
4079168009	UR1 AWS3	Tissue	06/03/13 00:00	06/06/13 17:09
4079168010	UR1 AWS4	Tissue	06/03/13 00:00	06/06/13 17:09
4079168011	UR1 AWS5	Tissue	06/03/13 00:00	06/06/13 17:09
4079168012	UR1 AWS6	Tissue	06/03/13 00:00	06/06/13 17:09
4079168013	UR1 AWS7	Tissue	06/03/13 00:00	06/06/13 17:09
4079168014	UR1 AWS8	Tissue	06/03/13 00:00	06/06/13 17:09
4079168015	UR1 AWS9	Tissue	06/03/13 00:00	06/06/13 17:09
4079168016	UR1 AWS10	Tissue	06/03/13 00:00	06/06/13 17:09
4079168017	UR1 AWS11	Tissue	06/03/13 00:00	06/06/13 17:09
4079168018	UR1 AWS12	Tissue	06/03/13 00:00	06/06/13 17:09
4079168019	UR1 SMB1	Tissue	06/03/13 00:00	06/06/13 17:09
4079168020	UR1 SMB2	Tissue	06/04/13 00:00	06/06/13 17:09

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079168

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4079168001	UR1 AC1	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168002	UR1 AC2	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168003	UR1 AC3	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168004	UR1 AC4	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168005	UR1 AC5	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168006	UR1 AC6	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168007	UR1 AWS1	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168008	UR1 AWS2	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168009	UR1 AWS3	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168010	UR1 AWS4	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168011	UR1 AWS5	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168012	UR1 AWS6	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168013	UR1 AWS7	EPA 8082	BDS	10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079168

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168014	UR1 AWS8	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168015	UR1 AWS9	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168016	UR1 AWS10	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168017	UR1 AWS11	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168018	UR1 AWS12	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168019	UR1 SMB1	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1
4079168020	UR1 SMB2	EPA 8082	BDS	10
		Pace Gender Typing	ABF	1
		Pace Lipid	ABF	1

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079168

Method: EPA 8082
Description: 8082 GCS PCB, Tissue
Client: POLLUTION RISK SERVICES
Date: August 06, 2013

General Information:

20 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/19047

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 825328)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MSD (Lab ID: 825329)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AC1 (Lab ID: 4079168001)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AC2 (Lab ID: 4079168002)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AC3 (Lab ID: 4079168003)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AC4 (Lab ID: 4079168004)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AC5 (Lab ID: 4079168005)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AC6 (Lab ID: 4079168006)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AWS1 (Lab ID: 4079168007)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079168

Method: EPA 8082
Description: 8082 GCS PCB, Tissue
Client: POLLUTION RISK SERVICES
Date: August 06, 2013

QC Batch: OEXT/19047

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- Decachlorobiphenyl (S)
- Tetrachloro-m-xylene (S)
- UR1 AWS10 (Lab ID: 4079168016)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AWS11 (Lab ID: 4079168017)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AWS2 (Lab ID: 4079168008)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AWS3 (Lab ID: 4079168009)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AWS4 (Lab ID: 4079168010)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AWS5 (Lab ID: 4079168011)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AWS6 (Lab ID: 4079168012)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AWS7 (Lab ID: 4079168013)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 AWS8 (Lab ID: 4079168014)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- UR1 SMB2 (Lab ID: 4079168020)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079168

Method: EPA 8082
Description: 8082 GCS PCB, Tissue
Client: POLLUTION RISK SERVICES
Date: August 06, 2013

QC Batch: OEXT/19047

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 4079168001

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 825328)
 - PCB-1254 (Aroclor 1254)
- MSD (Lab ID: 825329)
 - PCB-1254 (Aroclor 1254)

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079168

Method: Pace Gender Typing

Description: Fish Gender Typing

Client: POLLUTION RISK SERVICES

Date: August 06, 2013

General Information:

20 samples were analyzed for Pace Gender Typing. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079168

Method: Pace Lipid
Description: Lipid
Client: POLLUTION RISK SERVICES
Date: August 06, 2013

General Information:

20 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Fish sex is determined by the visual presence of eggs or not.

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079168

Sample: UR1 AC1 **Lab ID: 4079168001** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 17:46	12674-11-2	
PCB-1221 (Aroclor 1221)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 17:46	11104-28-2	
PCB-1232 (Aroclor 1232)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 17:46	11141-16-5	
PCB-1242 (Aroclor 1242)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 17:46	53469-21-9	
PCB-1248 (Aroclor 1248)	22300	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 17:46	12672-29-6	
PCB-1254 (Aroclor 1254)	11200	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 17:46	11097-69-1	
PCB-1260 (Aroclor 1260)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 17:46	11096-82-5	
PCB, Total	33500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 17:46	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		200	07/18/13 12:00	07/31/13 17:46	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		200	07/18/13 12:00	07/31/13 17:46	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Female				1		07/17/13 07:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	4.4 %				1		07/23/13 07:27		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079168

Sample: UR1 AC2 **Lab ID: 4079168002** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 18:03	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 18:03	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 18:03	11141-16-5	
PCB-1242 (Aroclor 1242)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 18:03	53469-21-9	
PCB-1248 (Aroclor 1248)	5470	ug/kg	500	250	20	07/18/13 12:00	07/31/13 18:03	12672-29-6	
PCB-1254 (Aroclor 1254)	2810	ug/kg	500	250	20	07/18/13 12:00	07/31/13 18:03	11097-69-1	
PCB-1260 (Aroclor 1260)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 18:03	11096-82-5	
PCB, Total	8270	ug/kg	500	250	20	07/18/13 12:00	07/31/13 18:03	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	07/18/13 12:00	07/31/13 18:03	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	07/18/13 12:00	07/31/13 18:03	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/17/13 07:55		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.8 %				1		07/23/13 07:27		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079168

Sample: UR1 AC3 **Lab ID: 4079168003** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 18:21	12674-11-2	
PCB-1221 (Aroclor 1221)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 18:21	11104-28-2	
PCB-1232 (Aroclor 1232)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 18:21	11141-16-5	
PCB-1242 (Aroclor 1242)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 18:21	53469-21-9	
PCB-1248 (Aroclor 1248)	18200	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 18:21	12672-29-6	
PCB-1254 (Aroclor 1254)	10300	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 18:21	11097-69-1	
PCB-1260 (Aroclor 1260)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 18:21	11096-82-5	
PCB, Total	28500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 18:21	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		200	07/18/13 12:00	07/31/13 18:21	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		200	07/18/13 12:00	07/31/13 18:21	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/17/13 07:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	6.1 %				1		07/23/13 07:28		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079168

Sample: UR1 AC4 **Lab ID: 4079168004** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 18:38	12674-11-2	
PCB-1221 (Aroclor 1221)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 18:38	11104-28-2	
PCB-1232 (Aroclor 1232)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 18:38	11141-16-5	
PCB-1242 (Aroclor 1242)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 18:38	53469-21-9	
PCB-1248 (Aroclor 1248)	30900	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 18:38	12672-29-6	
PCB-1254 (Aroclor 1254)	18500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 18:38	11097-69-1	
PCB-1260 (Aroclor 1260)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 18:38	11096-82-5	
PCB, Total	49400	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 18:38	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		200	07/18/13 12:00	07/31/13 18:38	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		200	07/18/13 12:00	07/31/13 18:38	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Female				1		07/17/13 07:55		
Lipid		Analytical Method: Pace Lipid							
Lipid	17.3 %				1		07/23/13 07:28		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079168

Sample: UR1 AC5 **Lab ID: 4079168005** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	08/01/13 12:43	12674-11-2	
PCB-1221 (Aroclor 1221)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	08/01/13 12:43	11104-28-2	
PCB-1232 (Aroclor 1232)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	08/01/13 12:43	11141-16-5	
PCB-1242 (Aroclor 1242)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	08/01/13 12:43	53469-21-9	
PCB-1248 (Aroclor 1248)	71500	ug/kg	5000	2500	200	07/18/13 12:00	08/01/13 12:43	12672-29-6	
PCB-1254 (Aroclor 1254)	28600	ug/kg	5000	2500	200	07/18/13 12:00	08/01/13 12:43	11097-69-1	
PCB-1260 (Aroclor 1260)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	08/01/13 12:43	11096-82-5	
PCB, Total	100000	ug/kg	5000	2500	200	07/18/13 12:00	08/01/13 12:43	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		200	07/18/13 12:00	08/01/13 12:43	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		200	07/18/13 12:00	08/01/13 12:43	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/17/13 07:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	7.7 %				1		07/23/13 07:28		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079168

Sample: UR1 AC6 **Lab ID: 4079168006** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<1250	ug/kg	2500	1250	100	07/18/13 12:00	07/31/13 19:13	12674-11-2	
PCB-1221 (Aroclor 1221)	<1250	ug/kg	2500	1250	100	07/18/13 12:00	07/31/13 19:13	11104-28-2	
PCB-1232 (Aroclor 1232)	<1250	ug/kg	2500	1250	100	07/18/13 12:00	07/31/13 19:13	11141-16-5	
PCB-1242 (Aroclor 1242)	<1250	ug/kg	2500	1250	100	07/18/13 12:00	07/31/13 19:13	53469-21-9	
PCB-1248 (Aroclor 1248)	21800	ug/kg	2500	1250	100	07/18/13 12:00	07/31/13 19:13	12672-29-6	
PCB-1254 (Aroclor 1254)	11200	ug/kg	2500	1250	100	07/18/13 12:00	07/31/13 19:13	11097-69-1	
PCB-1260 (Aroclor 1260)	<1250	ug/kg	2500	1250	100	07/18/13 12:00	07/31/13 19:13	11096-82-5	
PCB, Total	33100	ug/kg	2500	1250	100	07/18/13 12:00	07/31/13 19:13	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		100	07/18/13 12:00	07/31/13 19:13	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		100	07/18/13 12:00	07/31/13 19:13	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/17/13 07:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	8.0 %				1		07/23/13 07:28		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079168

Sample: UR1 AWS1 **Lab ID: 4079168007** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<375	ug/kg	750	375	30	07/18/13 12:00	07/31/13 19:31	12674-11-2	
PCB-1221 (Aroclor 1221)	<375	ug/kg	750	375	30	07/18/13 12:00	07/31/13 19:31	11104-28-2	
PCB-1232 (Aroclor 1232)	<375	ug/kg	750	375	30	07/18/13 12:00	07/31/13 19:31	11141-16-5	
PCB-1242 (Aroclor 1242)	<375	ug/kg	750	375	30	07/18/13 12:00	07/31/13 19:31	53469-21-9	
PCB-1248 (Aroclor 1248)	6580	ug/kg	750	375	30	07/18/13 12:00	07/31/13 19:31	12672-29-6	
PCB-1254 (Aroclor 1254)	4740	ug/kg	750	375	30	07/18/13 12:00	07/31/13 19:31	11097-69-1	
PCB-1260 (Aroclor 1260)	444J	ug/kg	750	375	30	07/18/13 12:00	07/31/13 19:31	11096-82-5	
PCB, Total	11800	ug/kg	750	375	30	07/18/13 12:00	07/31/13 19:31	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		30	07/18/13 12:00	07/31/13 19:31	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		30	07/18/13 12:00	07/31/13 19:31	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/17/13 07:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.6 %				1		07/23/13 07:28		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079168

Sample: UR1 AWS2 **Lab ID: 4079168008** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 19:48	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 19:48	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 19:48	11141-16-5	
PCB-1242 (Aroclor 1242)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 19:48	53469-21-9	
PCB-1248 (Aroclor 1248)	3320	ug/kg	500	250	20	07/18/13 12:00	07/31/13 19:48	12672-29-6	
PCB-1254 (Aroclor 1254)	4440	ug/kg	500	250	20	07/18/13 12:00	07/31/13 19:48	11097-69-1	
PCB-1260 (Aroclor 1260)	567	ug/kg	500	250	20	07/18/13 12:00	07/31/13 19:48	11096-82-5	
PCB, Total	8330	ug/kg	500	250	20	07/18/13 12:00	07/31/13 19:48	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	07/18/13 12:00	07/31/13 19:48	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	07/18/13 12:00	07/31/13 19:48	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/17/13 07:55		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.5 %				1		07/23/13 07:28		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079168

Sample: UR1 AWS3 **Lab ID: 4079168009** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 20:41	12674-11-2	
PCB-1221 (Aroclor 1221)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 20:41	11104-28-2	
PCB-1232 (Aroclor 1232)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 20:41	11141-16-5	
PCB-1242 (Aroclor 1242)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 20:41	53469-21-9	
PCB-1248 (Aroclor 1248)	28100	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 20:41	12672-29-6	
PCB-1254 (Aroclor 1254)	9160	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 20:41	11097-69-1	
PCB-1260 (Aroclor 1260)	<2500	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 20:41	11096-82-5	
PCB, Total	37200	ug/kg	5000	2500	200	07/18/13 12:00	07/31/13 20:41	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		200	07/18/13 12:00	07/31/13 20:41	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		200	07/18/13 12:00	07/31/13 20:41	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/17/13 07:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.0 %				1		07/23/13 07:28		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079168

Sample: UR1 AWS4 **Lab ID: 4079168010** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<1250	ug/kg	2500	1250	100	07/18/13 12:00	07/31/13 20:58	12674-11-2	
PCB-1221 (Aroclor 1221)	<1250	ug/kg	2500	1250	100	07/18/13 12:00	07/31/13 20:58	11104-28-2	
PCB-1232 (Aroclor 1232)	<1250	ug/kg	2500	1250	100	07/18/13 12:00	07/31/13 20:58	11141-16-5	
PCB-1242 (Aroclor 1242)	<1250	ug/kg	2500	1250	100	07/18/13 12:00	07/31/13 20:58	53469-21-9	
PCB-1248 (Aroclor 1248)	10400	ug/kg	2500	1250	100	07/18/13 12:00	07/31/13 20:58	12672-29-6	
PCB-1254 (Aroclor 1254)	5370	ug/kg	2500	1250	100	07/18/13 12:00	07/31/13 20:58	11097-69-1	
PCB-1260 (Aroclor 1260)	<1250	ug/kg	2500	1250	100	07/18/13 12:00	07/31/13 20:58	11096-82-5	
PCB, Total	15800	ug/kg	2500	1250	100	07/18/13 12:00	07/31/13 20:58	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		100	07/18/13 12:00	07/31/13 20:58	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		100	07/18/13 12:00	07/31/13 20:58	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/17/13 07:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.6 %				1		07/23/13 07:28		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079168

Sample: UR1 AWS5 **Lab ID: 4079168011** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 21:16	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 21:16	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 21:16	11141-16-5	
PCB-1242 (Aroclor 1242)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 21:16	53469-21-9	
PCB-1248 (Aroclor 1248)	3740	ug/kg	500	250	20	07/18/13 12:00	07/31/13 21:16	12672-29-6	
PCB-1254 (Aroclor 1254)	2880	ug/kg	500	250	20	07/18/13 12:00	07/31/13 21:16	11097-69-1	
PCB-1260 (Aroclor 1260)	263J	ug/kg	500	250	20	07/18/13 12:00	07/31/13 21:16	11096-82-5	
PCB, Total	6880	ug/kg	500	250	20	07/18/13 12:00	07/31/13 21:16	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	07/18/13 12:00	07/31/13 21:16	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	07/18/13 12:00	07/31/13 21:16	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/17/13 07:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.78 %				1		07/23/13 07:29		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079168

Sample: UR1 AWS6 **Lab ID: 4079168012** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	07/18/13 12:00	07/31/13 21:33	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	07/18/13 12:00	07/31/13 21:33	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	07/18/13 12:00	07/31/13 21:33	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	07/18/13 12:00	07/31/13 21:33	53469-21-9	
PCB-1248 (Aroclor 1248)	7250	ug/kg	1250	625	50	07/18/13 12:00	07/31/13 21:33	12672-29-6	
PCB-1254 (Aroclor 1254)	4660	ug/kg	1250	625	50	07/18/13 12:00	07/31/13 21:33	11097-69-1	
PCB-1260 (Aroclor 1260)	<625	ug/kg	1250	625	50	07/18/13 12:00	07/31/13 21:33	11096-82-5	
PCB, Total	11900	ug/kg	1250	625	50	07/18/13 12:00	07/31/13 21:33	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	07/18/13 12:00	07/31/13 21:33	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	07/18/13 12:00	07/31/13 21:33	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/17/13 07:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.7 %				1		07/23/13 07:29		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER
Pace Project No.: 4079168

Sample: UR1 AWS7 **Lab ID: 4079168013** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 21:50	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 21:50	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 21:50	11141-16-5	
PCB-1242 (Aroclor 1242)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 21:50	53469-21-9	
PCB-1248 (Aroclor 1248)	5050	ug/kg	500	250	20	07/18/13 12:00	07/31/13 21:50	12672-29-6	
PCB-1254 (Aroclor 1254)	3140	ug/kg	500	250	20	07/18/13 12:00	07/31/13 21:50	11097-69-1	
PCB-1260 (Aroclor 1260)	251J	ug/kg	500	250	20	07/18/13 12:00	07/31/13 21:50	11096-82-5	
PCB, Total	8440	ug/kg	500	250	20	07/18/13 12:00	07/31/13 21:50	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	07/18/13 12:00	07/31/13 21:50	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	07/18/13 12:00	07/31/13 21:50	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/17/13 07:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	1.2 %				1		07/23/13 07:29		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079168

Sample: UR1 AWS8 **Lab ID: 4079168014** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 22:08	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 22:08	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 22:08	11141-16-5	
PCB-1242 (Aroclor 1242)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 22:08	53469-21-9	
PCB-1248 (Aroclor 1248)	5910	ug/kg	500	250	20	07/18/13 12:00	07/31/13 22:08	12672-29-6	
PCB-1254 (Aroclor 1254)	2690	ug/kg	500	250	20	07/18/13 12:00	07/31/13 22:08	11097-69-1	
PCB-1260 (Aroclor 1260)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 22:08	11096-82-5	
PCB, Total	8600	ug/kg	500	250	20	07/18/13 12:00	07/31/13 22:08	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	07/18/13 12:00	07/31/13 22:08	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	07/18/13 12:00	07/31/13 22:08	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/17/13 07:55		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.2 %				1		07/23/13 07:29		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079168

Sample: UR1 AWS9 **Lab ID: 4079168015** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<62.5	ug/kg	125	62.5	5	07/18/13 12:00	07/31/13 22:25	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.5	ug/kg	125	62.5	5	07/18/13 12:00	07/31/13 22:25	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.5	ug/kg	125	62.5	5	07/18/13 12:00	07/31/13 22:25	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.5	ug/kg	125	62.5	5	07/18/13 12:00	07/31/13 22:25	53469-21-9	
PCB-1248 (Aroclor 1248)	1390	ug/kg	125	62.5	5	07/18/13 12:00	07/31/13 22:25	12672-29-6	
PCB-1254 (Aroclor 1254)	756	ug/kg	125	62.5	5	07/18/13 12:00	07/31/13 22:25	11097-69-1	
PCB-1260 (Aroclor 1260)	62.7J	ug/kg	125	62.5	5	07/18/13 12:00	07/31/13 22:25	11096-82-5	
PCB, Total	2210	ug/kg	125	62.5	5	07/18/13 12:00	07/31/13 22:25	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	80 %		44-130		5	07/18/13 12:00	07/31/13 22:25	877-09-8	
Decachlorobiphenyl (S)	93 %		62-130		5	07/18/13 12:00	07/31/13 22:25	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/17/13 07:55		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.2 %				1		07/23/13 07:29		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079168

Sample: UR1 AWS10 **Lab ID: 4079168016** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<625	ug/kg	1250	625	50	07/18/13 12:00	08/01/13 15:20	12674-11-2	
PCB-1221 (Aroclor 1221)	<625	ug/kg	1250	625	50	07/18/13 12:00	08/01/13 15:20	11104-28-2	
PCB-1232 (Aroclor 1232)	<625	ug/kg	1250	625	50	07/18/13 12:00	08/01/13 15:20	11141-16-5	
PCB-1242 (Aroclor 1242)	<625	ug/kg	1250	625	50	07/18/13 12:00	08/01/13 15:20	53469-21-9	
PCB-1248 (Aroclor 1248)	7700	ug/kg	1250	625	50	07/18/13 12:00	08/01/13 15:20	12672-29-6	
PCB-1254 (Aroclor 1254)	2300	ug/kg	1250	625	50	07/18/13 12:00	08/01/13 15:20	11097-69-1	
PCB-1260 (Aroclor 1260)	<625	ug/kg	1250	625	50	07/18/13 12:00	08/01/13 15:20	11096-82-5	
PCB, Total	9990	ug/kg	1250	625	50	07/18/13 12:00	08/01/13 15:20	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		50	07/18/13 12:00	08/01/13 15:20	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		50	07/18/13 12:00	08/01/13 15:20	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/17/13 07:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	2.5 %				1		07/23/13 07:29		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Project No.: 4079168

Sample: UR1 AWS11 **Lab ID: 4079168017** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<188	ug/kg	375	188	15	07/18/13 12:00	07/31/13 23:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<188	ug/kg	375	188	15	07/18/13 12:00	07/31/13 23:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<188	ug/kg	375	188	15	07/18/13 12:00	07/31/13 23:00	11141-16-5	
PCB-1242 (Aroclor 1242)	<188	ug/kg	375	188	15	07/18/13 12:00	07/31/13 23:00	53469-21-9	
PCB-1248 (Aroclor 1248)	4020	ug/kg	375	188	15	07/18/13 12:00	07/31/13 23:00	12672-29-6	
PCB-1254 (Aroclor 1254)	1270	ug/kg	375	188	15	07/18/13 12:00	07/31/13 23:00	11097-69-1	
PCB-1260 (Aroclor 1260)	<188	ug/kg	375	188	15	07/18/13 12:00	07/31/13 23:00	11096-82-5	
PCB, Total	5290	ug/kg	375	188	15	07/18/13 12:00	07/31/13 23:00	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		15	07/18/13 12:00	07/31/13 23:00	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		15	07/18/13 12:00	07/31/13 23:00	2051-24-3	S4
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/17/13 07:55		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.8 %				1		07/23/13 07:29		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079168

Sample: UR1 AWS12 **Lab ID: 4079168018** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue		Analytical Method: EPA 8082 Preparation Method: EPA 3540							
PCB-1016 (Aroclor 1016)	<125	ug/kg	250	125	10	07/18/13 12:00	07/31/13 23:18	12674-11-2	
PCB-1221 (Aroclor 1221)	<125	ug/kg	250	125	10	07/18/13 12:00	07/31/13 23:18	11104-28-2	
PCB-1232 (Aroclor 1232)	<125	ug/kg	250	125	10	07/18/13 12:00	07/31/13 23:18	11141-16-5	
PCB-1242 (Aroclor 1242)	<125	ug/kg	250	125	10	07/18/13 12:00	07/31/13 23:18	53469-21-9	
PCB-1248 (Aroclor 1248)	1790	ug/kg	250	125	10	07/18/13 12:00	07/31/13 23:18	12672-29-6	
PCB-1254 (Aroclor 1254)	1030	ug/kg	250	125	10	07/18/13 12:00	07/31/13 23:18	11097-69-1	
PCB-1260 (Aroclor 1260)	<125	ug/kg	250	125	10	07/18/13 12:00	07/31/13 23:18	11096-82-5	
PCB, Total	2820	ug/kg	250	125	10	07/18/13 12:00	07/31/13 23:18	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	78 %		44-130		10	07/18/13 12:00	07/31/13 23:18	877-09-8	
Decachlorobiphenyl (S)	100 %		62-130		10	07/18/13 12:00	07/31/13 23:18	2051-24-3	
Fish Gender Typing		Analytical Method: Pace Gender Typing							
Gender	Male				1		07/17/13 07:55		
Lipid		Analytical Method: Pace Lipid							
Lipid	1.0 %				1		07/23/13 07:29		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079168

Sample: UR1 SMB1 **Lab ID: 4079168019** Collected: 06/03/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<50.0	ug/kg	100	50.0	4	07/18/13 12:00	07/31/13 23:35	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.0	ug/kg	100	50.0	4	07/18/13 12:00	07/31/13 23:35	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.0	ug/kg	100	50.0	4	07/18/13 12:00	07/31/13 23:35	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.0	ug/kg	100	50.0	4	07/18/13 12:00	07/31/13 23:35	53469-21-9	
PCB-1248 (Aroclor 1248)	747	ug/kg	100	50.0	4	07/18/13 12:00	07/31/13 23:35	12672-29-6	
PCB-1254 (Aroclor 1254)	360	ug/kg	100	50.0	4	07/18/13 12:00	07/31/13 23:35	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.0	ug/kg	100	50.0	4	07/18/13 12:00	07/31/13 23:35	11096-82-5	
PCB, Total	1110	ug/kg	100	50.0	4	07/18/13 12:00	07/31/13 23:35	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	78 %		44-130		4	07/18/13 12:00	07/31/13 23:35	877-09-8	
Decachlorobiphenyl (S)	97 %		62-130		4	07/18/13 12:00	07/31/13 23:35	2051-24-3	
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/17/13 07:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.36 %				1		07/23/13 07:30		

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ANALYTICAL RESULTS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079168

Sample: UR1 SMB2 **Lab ID: 4079168020** Collected: 06/04/13 00:00 Received: 06/06/13 17:09 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB, Tissue									
Analytical Method: EPA 8082 Preparation Method: EPA 3540									
PCB-1016 (Aroclor 1016)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 23:53	12674-11-2	
PCB-1221 (Aroclor 1221)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 23:53	11104-28-2	
PCB-1232 (Aroclor 1232)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 23:53	11141-16-5	
PCB-1242 (Aroclor 1242)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 23:53	53469-21-9	
PCB-1248 (Aroclor 1248)	2830	ug/kg	500	250	20	07/18/13 12:00	07/31/13 23:53	12672-29-6	
PCB-1254 (Aroclor 1254)	2430	ug/kg	500	250	20	07/18/13 12:00	07/31/13 23:53	11097-69-1	
PCB-1260 (Aroclor 1260)	<250	ug/kg	500	250	20	07/18/13 12:00	07/31/13 23:53	11096-82-5	
PCB, Total	5260	ug/kg	500	250	20	07/18/13 12:00	07/31/13 23:53	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	0 %		44-130		20	07/18/13 12:00	07/31/13 23:53	877-09-8	S4
Decachlorobiphenyl (S)	0 %		62-130		20	07/18/13 12:00	07/31/13 23:53	2051-24-3	S4
Fish Gender Typing									
Analytical Method: Pace Gender Typing									
Gender	Male				1		07/17/13 07:55		
Lipid									
Analytical Method: Pace Lipid									
Lipid	0.36 %				1		07/23/13 07:30		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SR13-001 SHEBOYGAN RIVER
 Pace Project No.: 4079168

QC Batch: OEXT/19047 Analysis Method: EPA 8082
 QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides
 Associated Lab Samples: 4079168001, 4079168002, 4079168003, 4079168004, 4079168005, 4079168006, 4079168007, 4079168008,
 4079168009, 4079168010, 4079168011, 4079168012, 4079168013, 4079168014, 4079168015, 4079168016,
 4079168017, 4079168018, 4079168019, 4079168020

METHOD BLANK: 825326 Matrix: Tissue
 Associated Lab Samples: 4079168001, 4079168002, 4079168003, 4079168004, 4079168005, 4079168006, 4079168007, 4079168008,
 4079168009, 4079168010, 4079168011, 4079168012, 4079168013, 4079168014, 4079168015, 4079168016,
 4079168017, 4079168018, 4079168019, 4079168020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<12.5	25.0	07/31/13 16:36	
PCB-1221 (Aroclor 1221)	ug/kg	<12.5	25.0	07/31/13 16:36	
PCB-1232 (Aroclor 1232)	ug/kg	<12.5	25.0	07/31/13 16:36	
PCB-1242 (Aroclor 1242)	ug/kg	<12.5	25.0	07/31/13 16:36	
PCB-1248 (Aroclor 1248)	ug/kg	<12.5	25.0	07/31/13 16:36	
PCB-1254 (Aroclor 1254)	ug/kg	<12.5	25.0	07/31/13 16:36	
PCB-1260 (Aroclor 1260)	ug/kg	<12.5	25.0	07/31/13 16:36	
Decachlorobiphenyl (S)	%	95	62-130	07/31/13 16:36	
Tetrachloro-m-xylene (S)	%	86	44-130	07/31/13 16:36	

LABORATORY CONTROL SAMPLE: 825327

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<12.5			
PCB-1221 (Aroclor 1221)	ug/kg		<12.5			
PCB-1232 (Aroclor 1232)	ug/kg		<12.5			
PCB-1242 (Aroclor 1242)	ug/kg		<12.5			
PCB-1248 (Aroclor 1248)	ug/kg		<12.5			
PCB-1254 (Aroclor 1254)	ug/kg	250	249	99	61-130	
PCB-1260 (Aroclor 1260)	ug/kg		<12.5			
Decachlorobiphenyl (S)	%			100	62-130	
Tetrachloro-m-xylene (S)	%			89	44-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 825328 825329

Parameter	Units	4079168001		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.								
PCB-1016 (Aroclor 1016)	ug/kg	<2500				<2500	<2500					24	
PCB-1221 (Aroclor 1221)	ug/kg	<2500				<2500	<2500					24	
PCB-1232 (Aroclor 1232)	ug/kg	<2500				<2500	<2500					24	
PCB-1242 (Aroclor 1242)	ug/kg	<2500				<2500	<2500					24	
PCB-1248 (Aroclor 1248)	ug/kg	22300				22900	23400				2	24	
PCB-1254 (Aroclor 1254)	ug/kg	11200	1000	1000		12300	12300	115	118	27-163	0	24	M6
PCB-1260 (Aroclor 1260)	ug/kg	<2500				<2500	<2500					24	
Decachlorobiphenyl (S)	%							0	0	62-130			S4
Tetrachloro-m-xylene (S)	%							0	0	44-130			S4

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079168

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079168

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079168001	UR1 AC1	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168002	UR1 AC2	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168003	UR1 AC3	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168004	UR1 AC4	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168005	UR1 AC5	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168006	UR1 AC6	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168007	UR1 AWS1	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168008	UR1 AWS2	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168009	UR1 AWS3	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168010	UR1 AWS4	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168011	UR1 AWS5	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168012	UR1 AWS6	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168013	UR1 AWS7	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168014	UR1 AWS8	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168015	UR1 AWS9	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168016	UR1 AWS10	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168017	UR1 AWS11	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168018	UR1 AWS12	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168019	UR1 SMB1	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168020	UR1 SMB2	EPA 3540	OEXT/19047	EPA 8082	GCSV/9937
4079168001	UR1 AC1	Pace Gender Typing	GRND/2603		
4079168002	UR1 AC2	Pace Gender Typing	GRND/2603		
4079168003	UR1 AC3	Pace Gender Typing	GRND/2603		
4079168004	UR1 AC4	Pace Gender Typing	GRND/2603		
4079168005	UR1 AC5	Pace Gender Typing	GRND/2603		
4079168006	UR1 AC6	Pace Gender Typing	GRND/2603		
4079168007	UR1 AWS1	Pace Gender Typing	GRND/2603		
4079168008	UR1 AWS2	Pace Gender Typing	GRND/2603		
4079168009	UR1 AWS3	Pace Gender Typing	GRND/2603		
4079168010	UR1 AWS4	Pace Gender Typing	GRND/2603		
4079168011	UR1 AWS5	Pace Gender Typing	GRND/2603		
4079168012	UR1 AWS6	Pace Gender Typing	GRND/2603		
4079168013	UR1 AWS7	Pace Gender Typing	GRND/2603		
4079168014	UR1 AWS8	Pace Gender Typing	GRND/2603		
4079168015	UR1 AWS9	Pace Gender Typing	GRND/2603		
4079168016	UR1 AWS10	Pace Gender Typing	GRND/2603		
4079168017	UR1 AWS11	Pace Gender Typing	GRND/2603		
4079168018	UR1 AWS12	Pace Gender Typing	GRND/2603		
4079168019	UR1 SMB1	Pace Gender Typing	GRND/2603		
4079168020	UR1 SMB2	Pace Gender Typing	GRND/2603		
4079168001	UR1 AC1	Pace Lipid	OEXT/19075		
4079168002	UR1 AC2	Pace Lipid	OEXT/19075		
4079168003	UR1 AC3	Pace Lipid	OEXT/19075		
4079168004	UR1 AC4	Pace Lipid	OEXT/19075		
4079168005	UR1 AC5	Pace Lipid	OEXT/19075		
4079168006	UR1 AC6	Pace Lipid	OEXT/19075		
4079168007	UR1 AWS1	Pace Lipid	OEXT/19075		
4079168008	UR1 AWS2	Pace Lipid	OEXT/19075		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR13-001 SHEBOYGAN RIVER

Pace Project No.: 4079168

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4079168009	UR1 AWS3	Pace Lipid	OEXT/19075		
4079168010	UR1 AWS4	Pace Lipid	OEXT/19075		
4079168011	UR1 AWS5	Pace Lipid	OEXT/19075		
4079168012	UR1 AWS6	Pace Lipid	OEXT/19075		
4079168013	UR1 AWS7	Pace Lipid	OEXT/19075		
4079168014	UR1 AWS8	Pace Lipid	OEXT/19075		
4079168015	UR1 AWS9	Pace Lipid	OEXT/19075		
4079168016	UR1 AWS10	Pace Lipid	OEXT/19075		
4079168017	UR1 AWS11	Pace Lipid	OEXT/19075		
4079168018	UR1 AWS12	Pace Lipid	OEXT/19075		
4079168019	UR1 SMB1	Pace Lipid	OEXT/19075		
4079168020	UR1 SMB2	Pace Lipid	OEXT/19075		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

UPPER MIDWEST REGION

Page 1 of 4

MN: 612-607-1700 WI: 920-469-2436

4079168
COC No.

1 LAB

Company Name: Pollution Risk Services
 Branch/Location: Sheboygan
 Project Contact: Mark Mather
 Phone: 513-678-2137 or 513-387-2778
 Project Number: SR13-001 Task 10-02000
 Project Name: 2013 Fish Sampling
 Project State: Wisconsin
 Sampled By (Print): Mark Mather
 Sampled By (Sign): *[Signature]*
 PO #: _____ Regulatory Program: _____



CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y / N	Pick Letter	Analyses Requested	PCB - 8082	PRESERVATIVES														
			X	A														
			X	A														
			X	A														
			X	A														
			X	A														
			X	A														

Quote #: _____
Mail To Contact: Mark Mather
Mail To Company: PRS - Assured Group
Mail To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Contact: Goldie Sharp
Invoice To Company: As Above
Invoice To Address: 7870 Kemper Road, Suite 240, Cincinnati, OH 45249
Invoice To Phone: 513-489-6789

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX	Analyses Requested	PCB - 8082	PRESERVATIVES											
		DATE	TIME															
001	UR1 AC1	6/3/13		Tissue		X	A											
002	UR1 AC2	6/3/13		Tissue		X	A											
003	UR1 AC3	6/3/13		Tissue		X	A											
004	UR1 AC4	6/3/13		Tissue		X	A											
005	UR1 AC5	6/3/13		Tissue		X	A											
006	UR1 AC6	6/3/13		Tissue		X	A											

CLIENT COMMENTS
Whole Fish Sample

LAB COMMENTS (Lab Use Only)
1 - poly bag

Profile #

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed: _____
 Transmit Prelim Rush Results by (complete what you want): _____
 Email #1: rmmather@assuredllc.com
 Email #2: _____
 Telephone: 513-387-2778
 Fax: _____
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: *[Signature]* Date/Time: 6/6/13 1500
 Relinquished By: *[Signature]* Date/Time: 6/6/13 1500
 Relinquished By: _____ Date/Time: _____
 Relinquished By: _____ Date/Time: _____
 Relinquished By: _____ Date/Time: _____

Received By: *[Signature]* Date/Time: 6/6/13 1340
 Received By: *[Signature]* Date/Time: 6/6/13 1500
 Received By: _____ Date/Time: _____
 Received By: _____ Date/Time: _____
 Received By: _____ Date/Time: _____

PACE Project No. 4079168
 Receipt Temp = 2/3/6 °C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present / Not Present
 Intact / Not Intact



Sample Condition Upon Receipt

Client Name: PRS Project # 4079168

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____
Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no
Custody Seal on Samples Present: yes no Seals intact: yes no
Packing Material: Bubble Wrap Bubble Bags None Other _____
Thermometer Used SR23 Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun
Cooler Temperature Uncorr: 3/4/7/ICorr: 2/3/6 Biological Tissue is Frozen: yes no
Temp Blank Present: yes no

Person examining contents:
Date: 6/6/13
Initials: EMH

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	9. Sample IDs inside sample bags and not readily visible EMH 6/6/13
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>B</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
		Lab Std #ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____
Comments/ Resolution: OZO There were 2 bags of fish for this sample point EMH 6/6/13

Project Manager Review: Ch Factor Date: 6/6/13

Appendix 3

Box Plots

Box Plot Key

UR1 – Upper River from former Tecumseh Site to Riverbend Dam

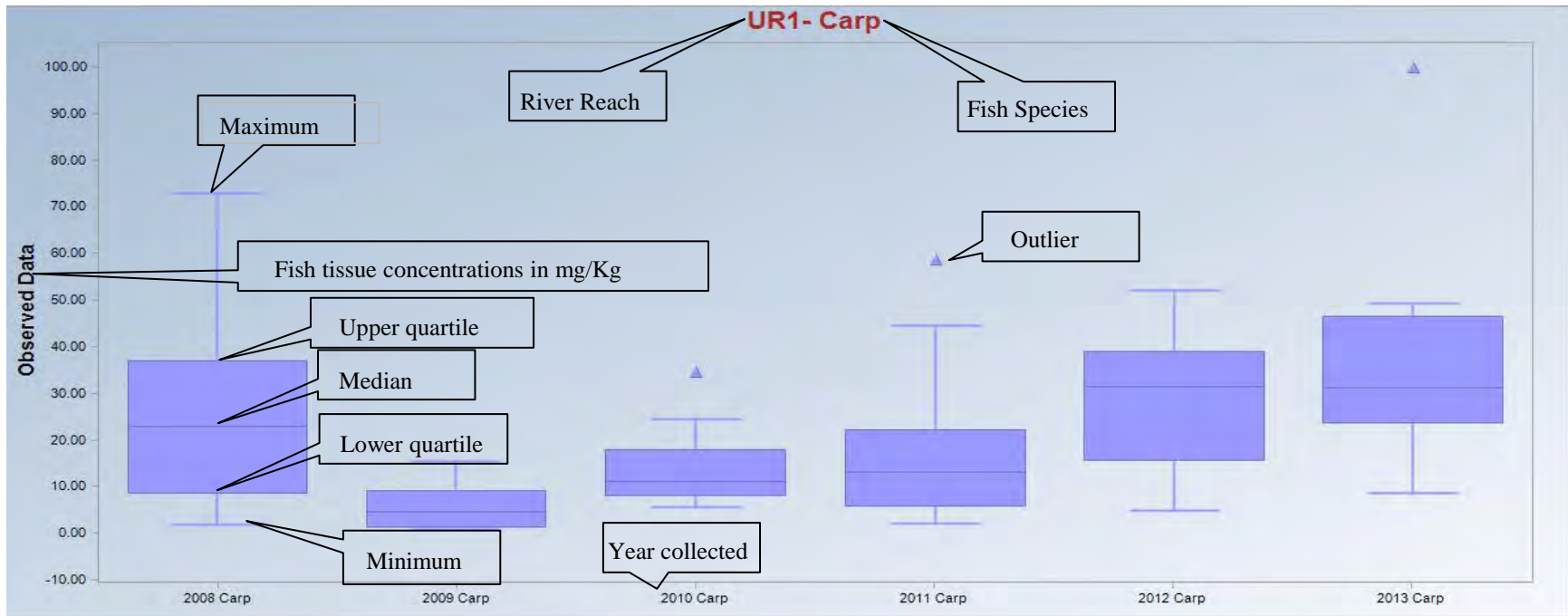
UR2 – Upper River from Riverbend Dam to Waelderhaus Dam

MR1 - Middle River from Waelderhaus Dam to Kohler Landfill

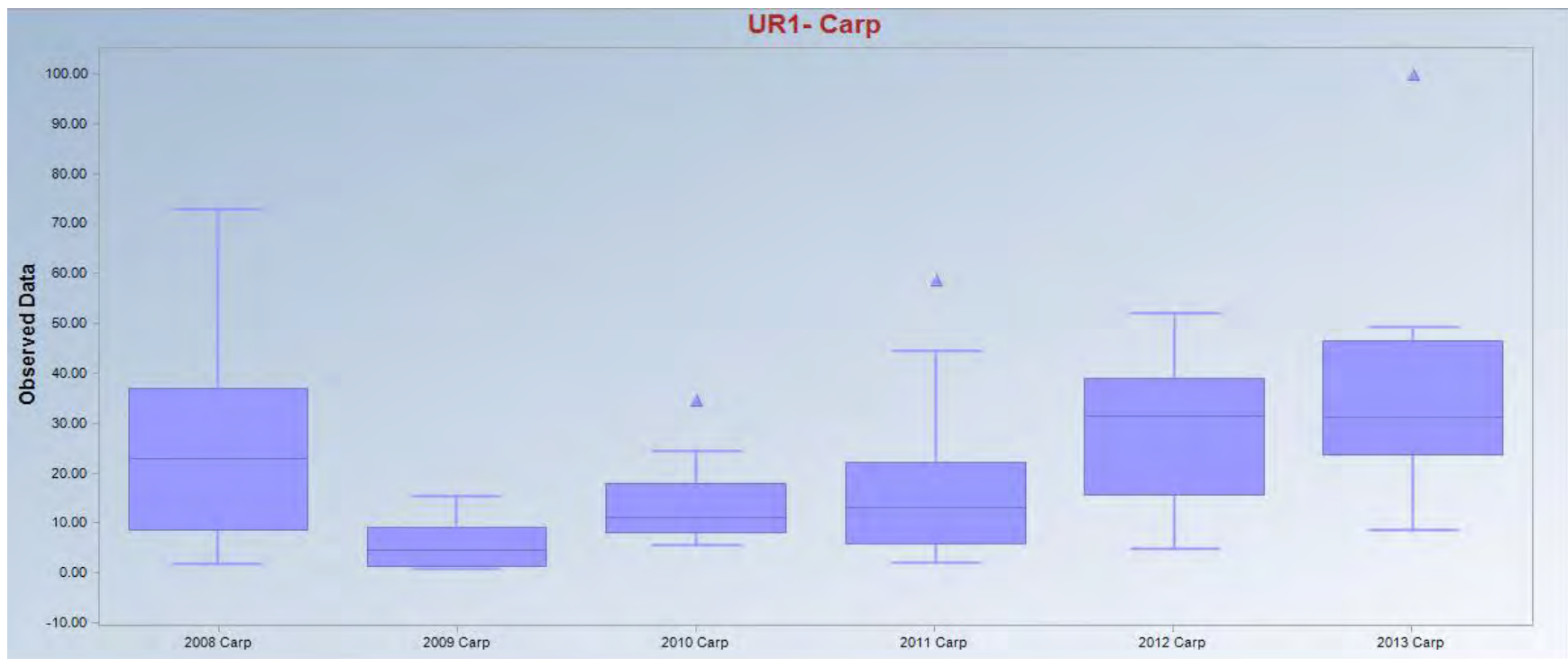
MR2 - Middle River from Kohler Landfill to C&NW Railroad Bridge

LR - Lower River from C&NW Railroad Bridge to Pennsylvania Avenue Bridge

IH - Inner Harbor from Pennsylvania Avenue Bridge to Sheboygan River outlet

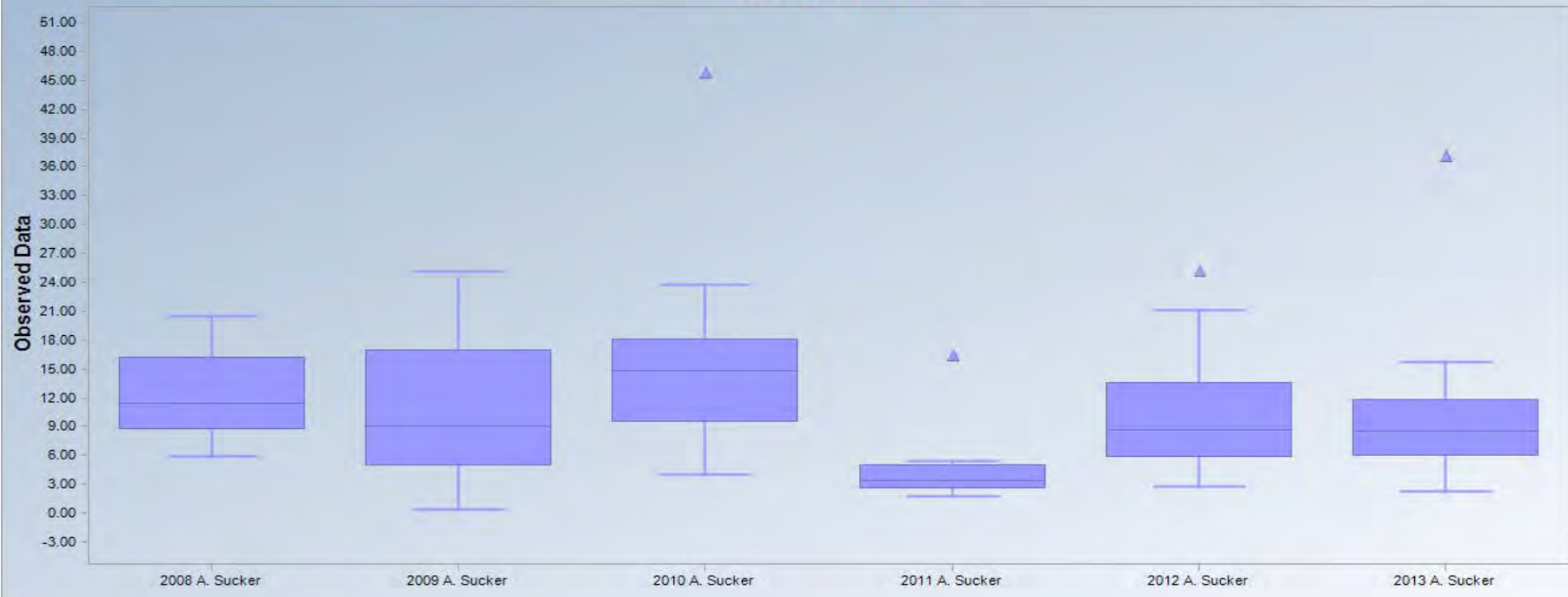


Box Plot Key

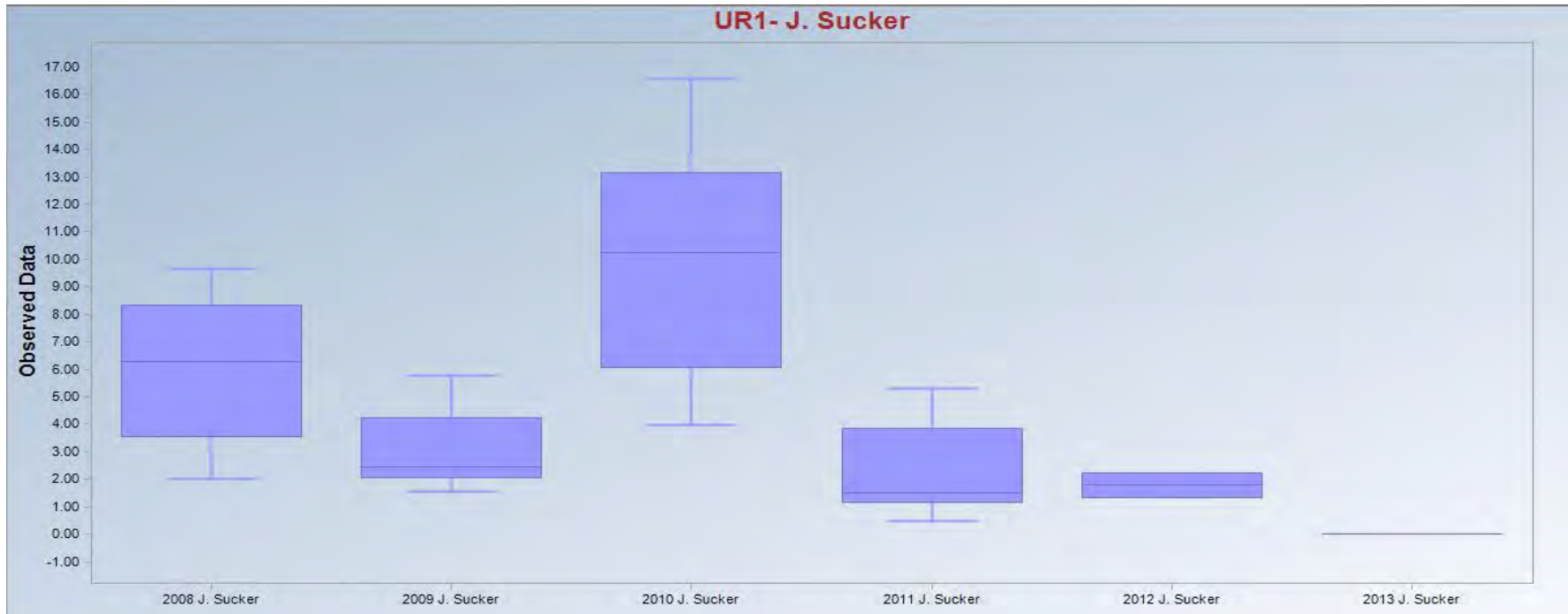


Remediation target concentration- 2.58ppm

UR1- A. Sucker

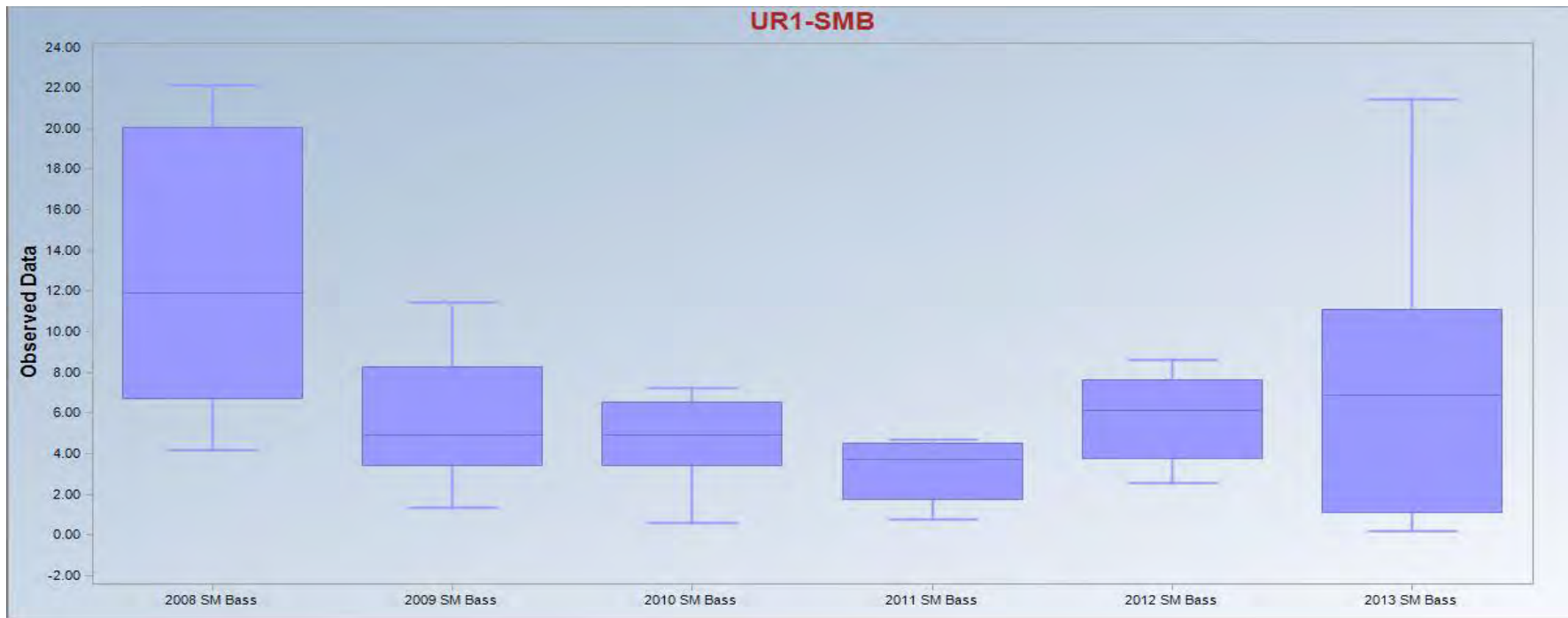


There is no remediation target for Adult White Suckers

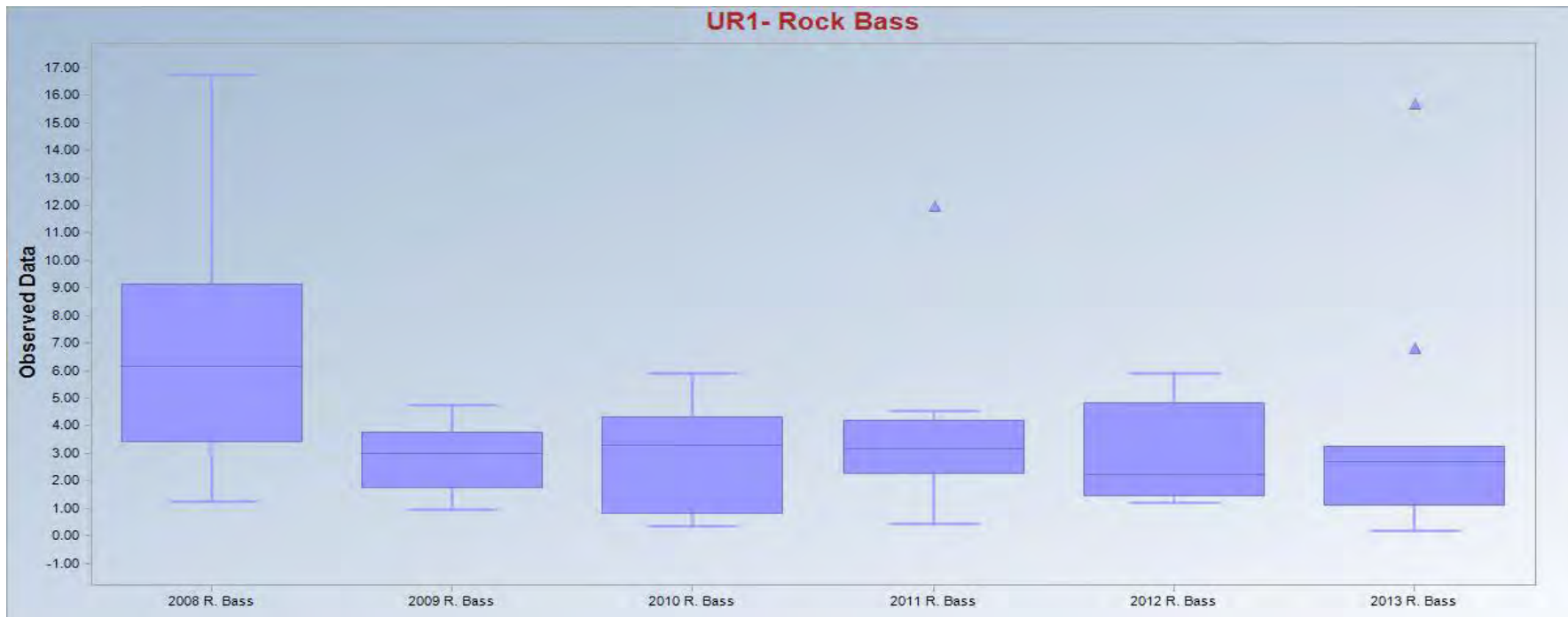


No juvenile white suckers were obtained from this reach in 2013.

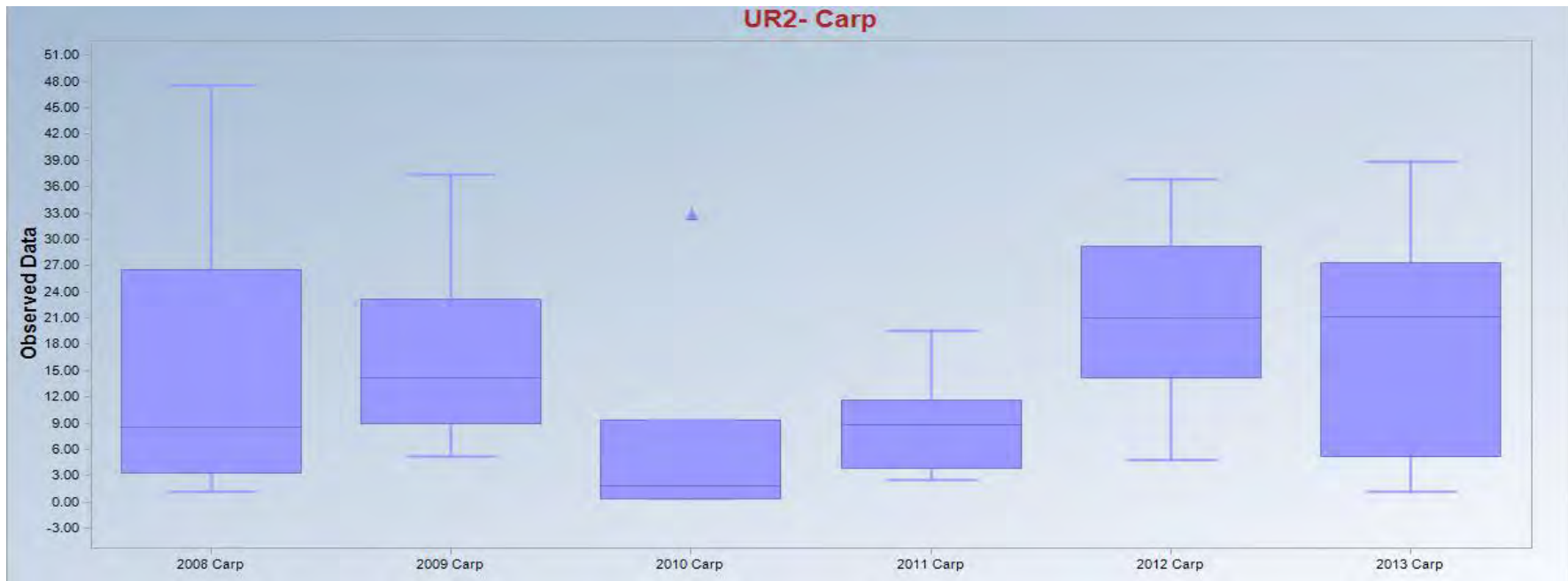
There is no remediation target for Juvenile White Suckers



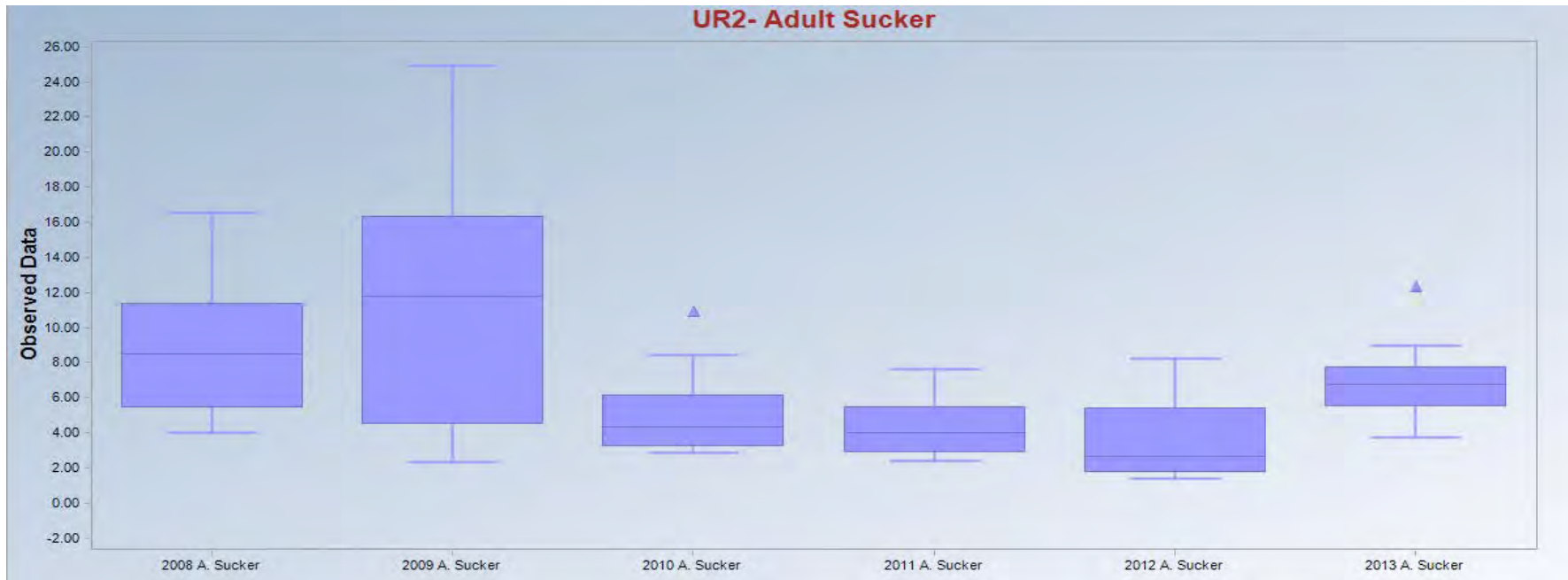
Remediation target concentration- 0.31 ppm



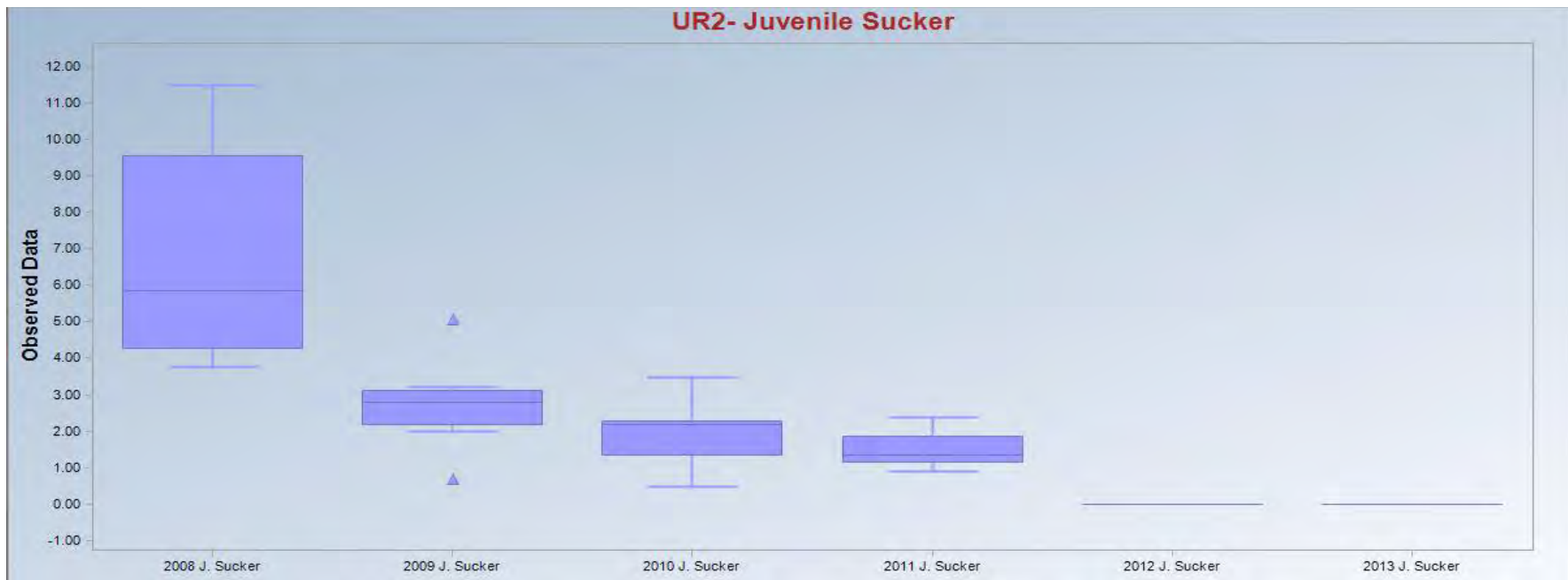
There is no remediation target for Rock Bass.



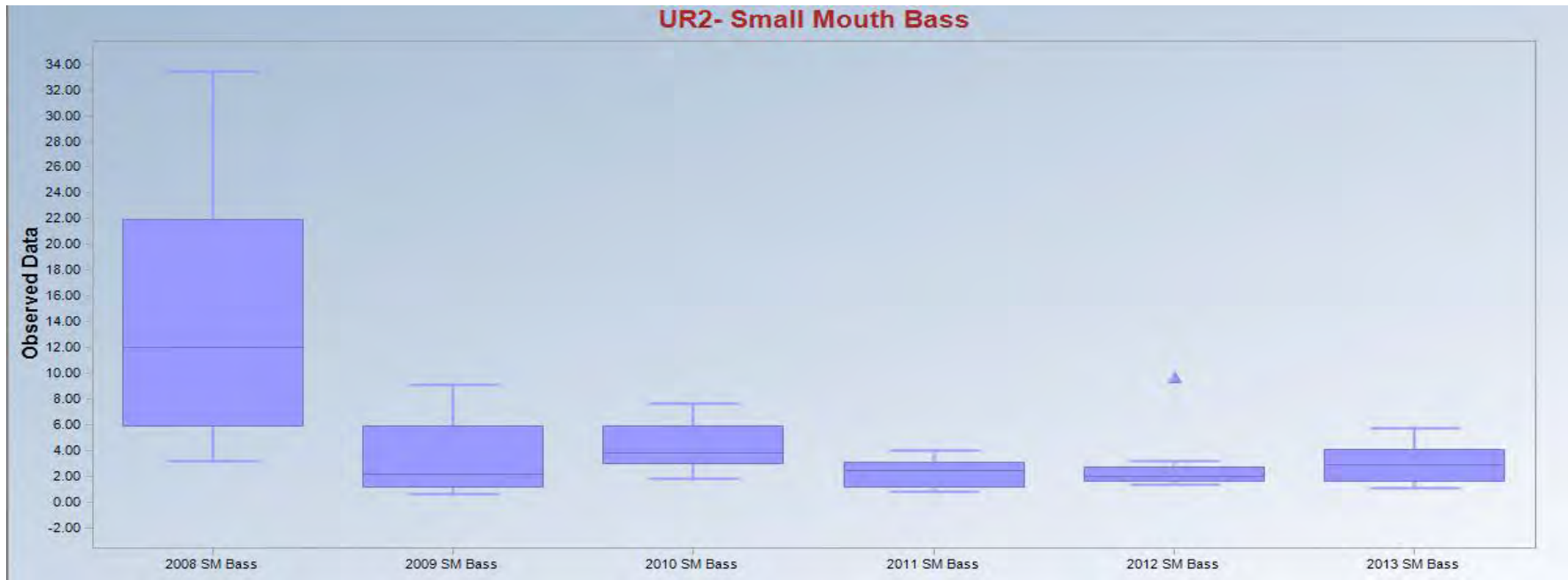
Remediation target concentration- 2.58ppm



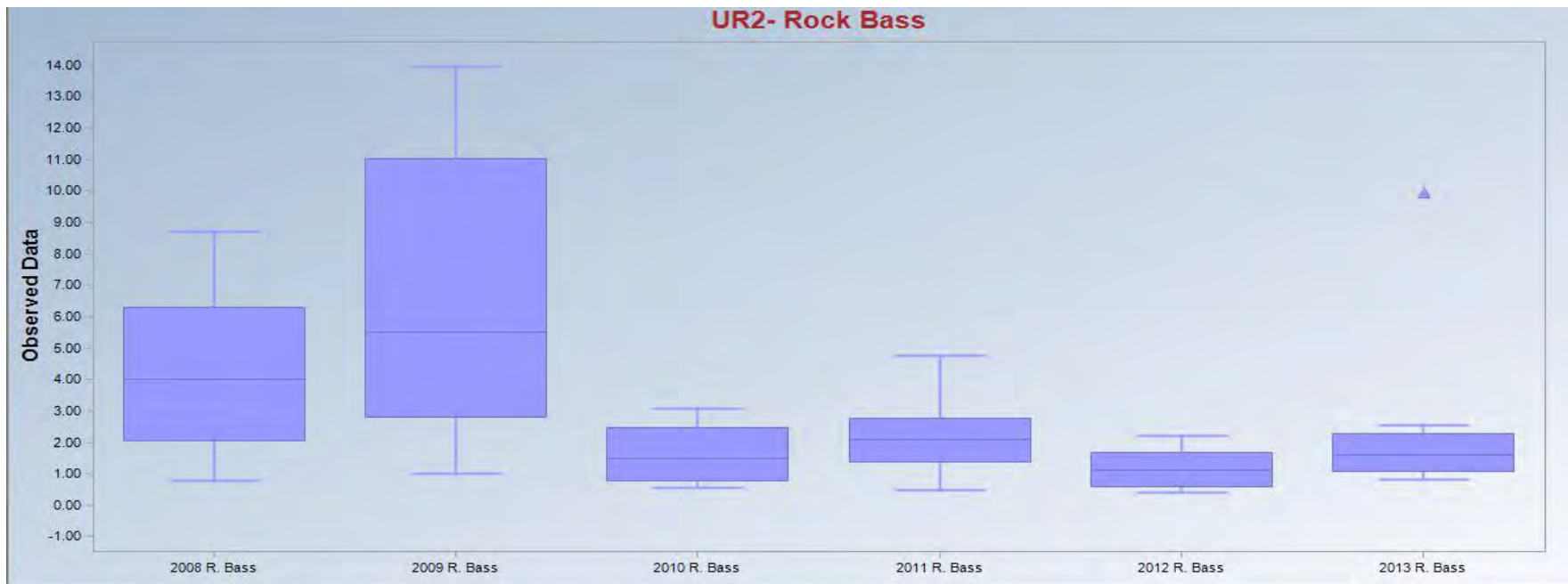
There is no remediation target for Adult White Suckers



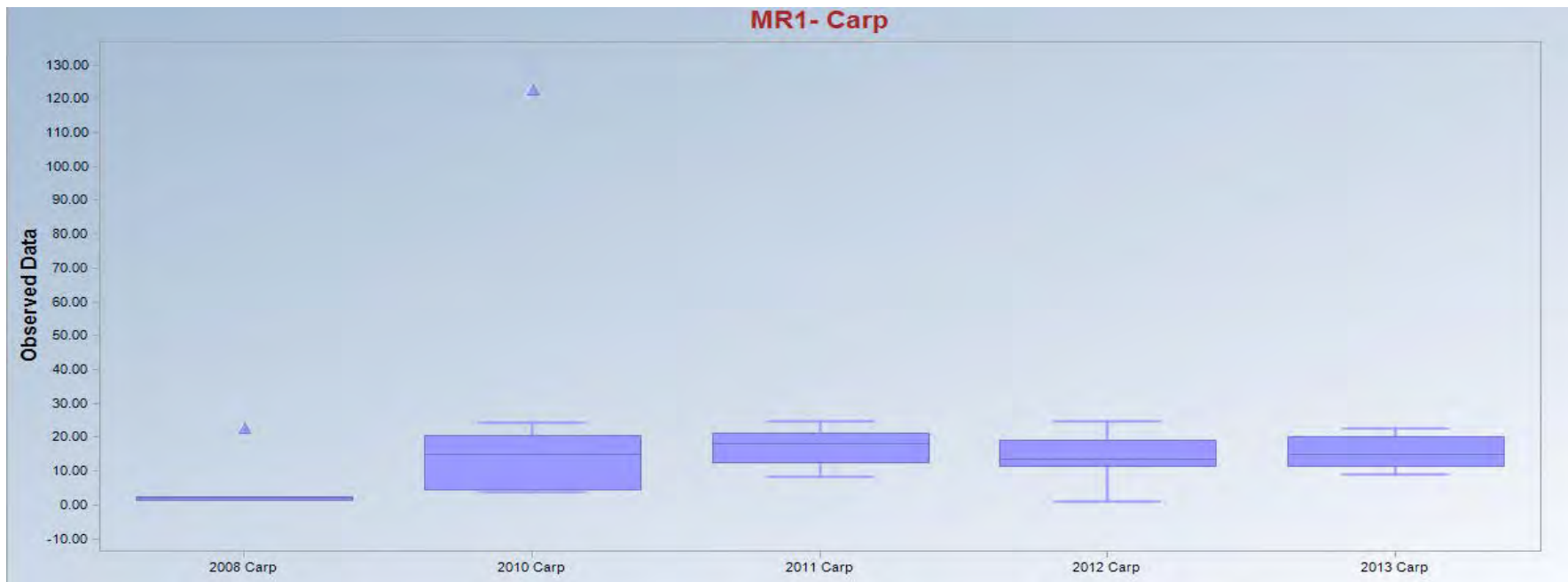
No juvenile white suckers were obtained from this reach in 2012 or 2013.
There is no remediation target for Juvenile White Suckers



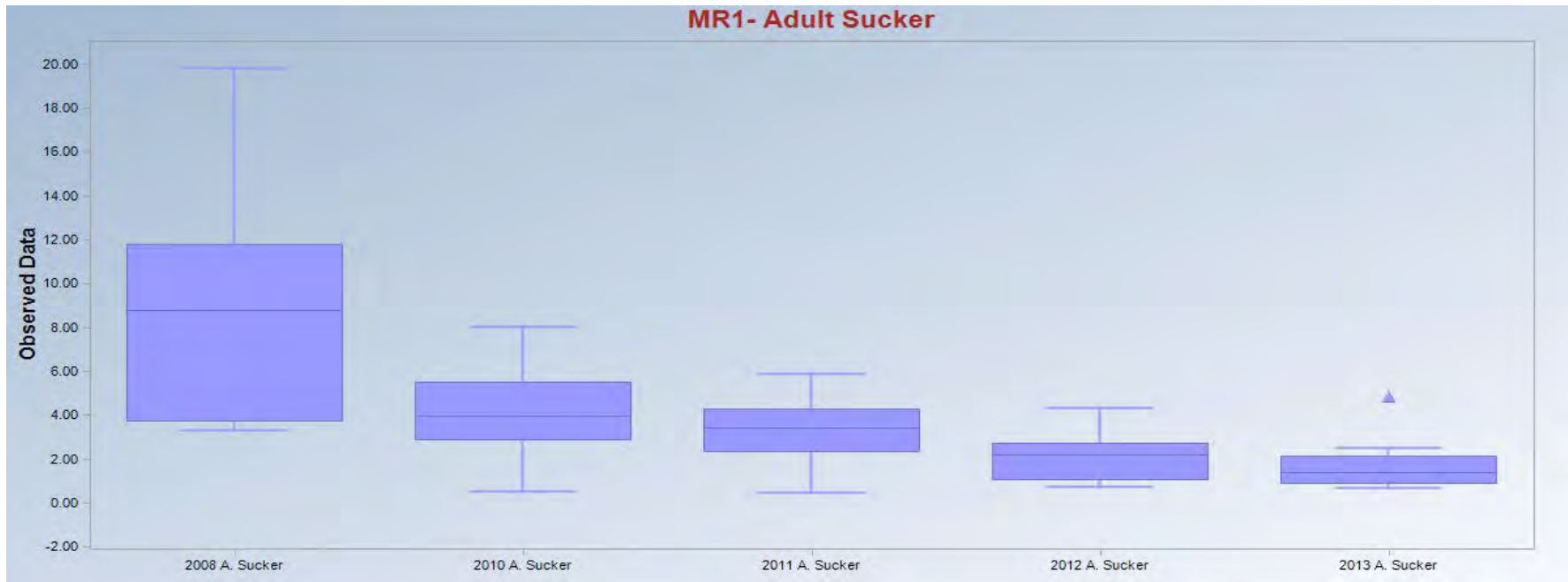
Remediation target concentration- 0.31 ppm



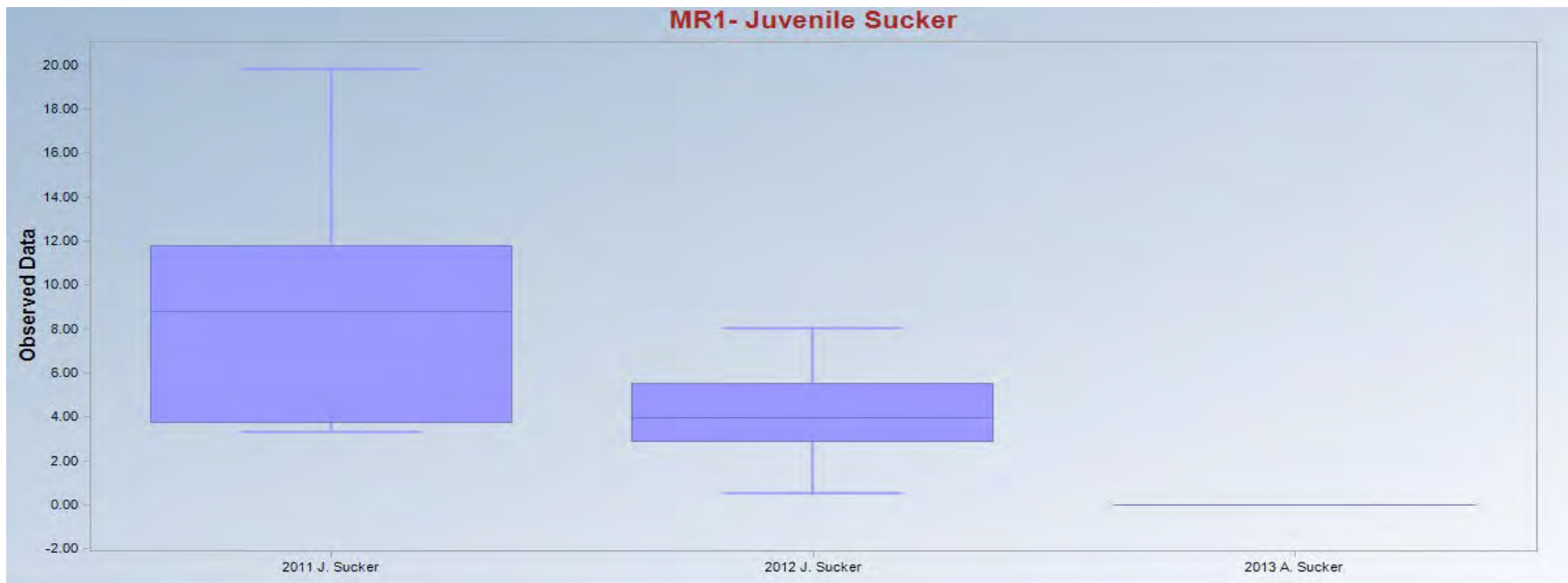
There is no remediation target for Rock Bass.



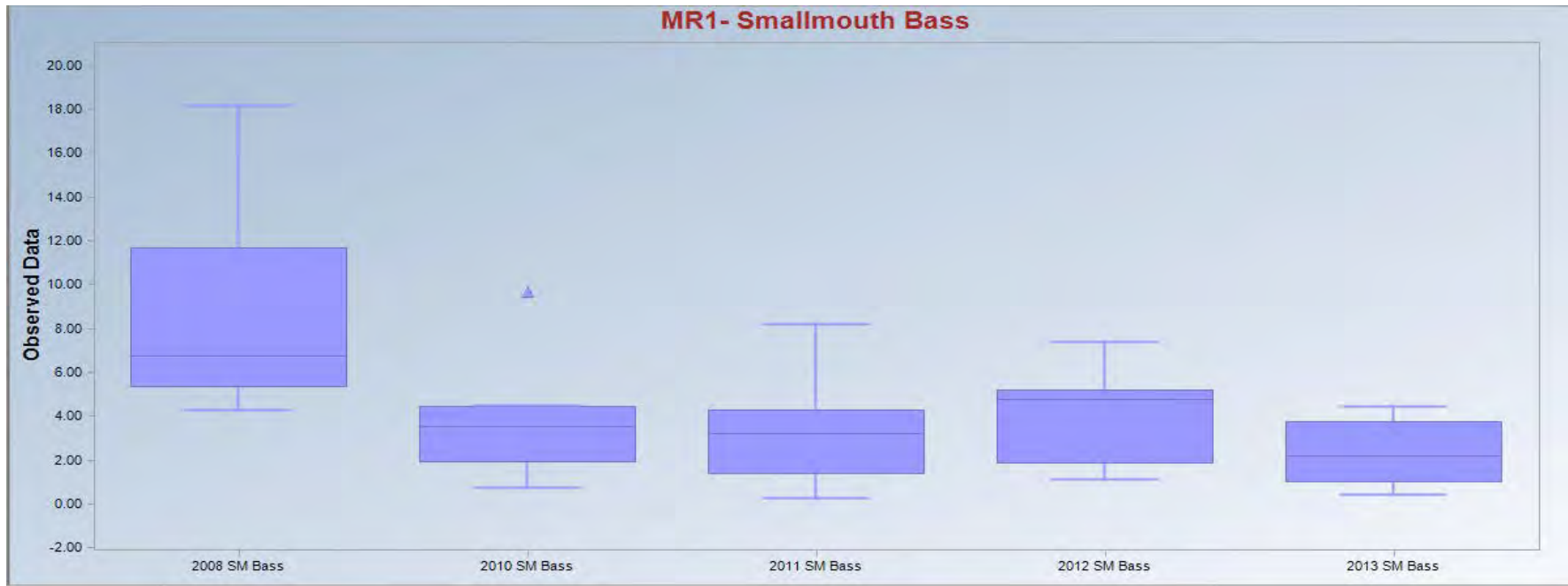
Remediation target concentration- 2.58ppm



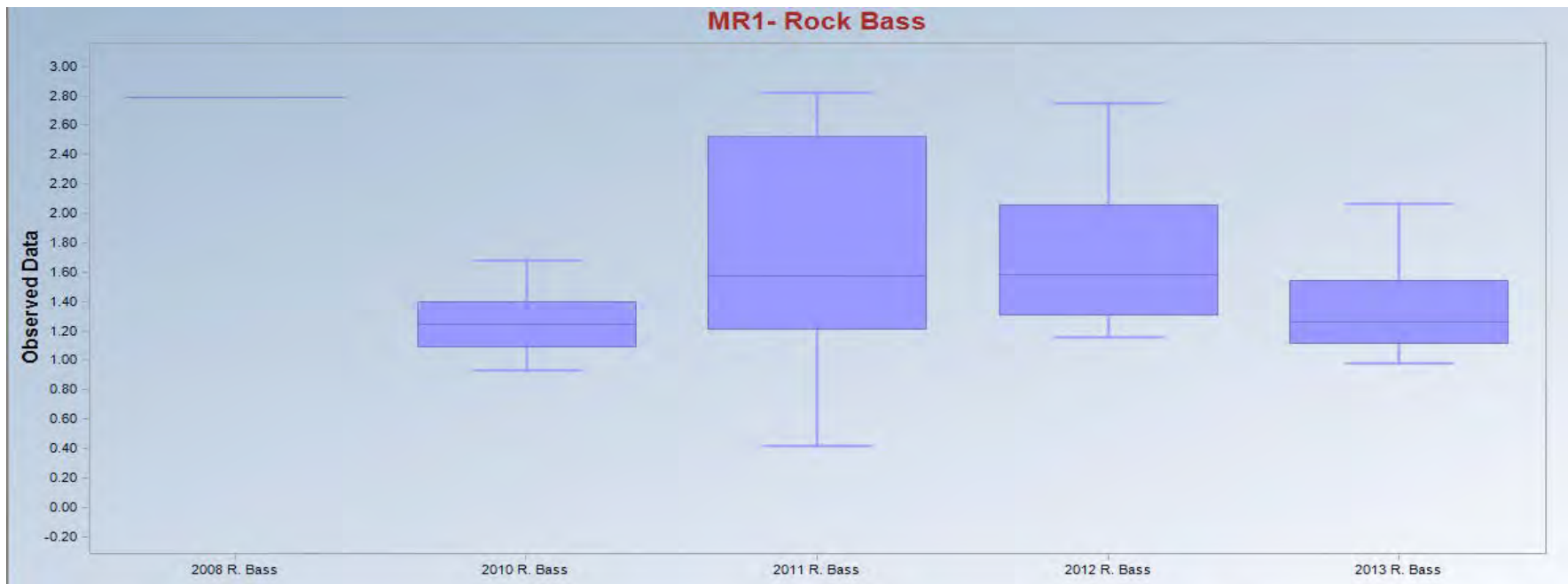
There is no remediation target for Adult White Suckers



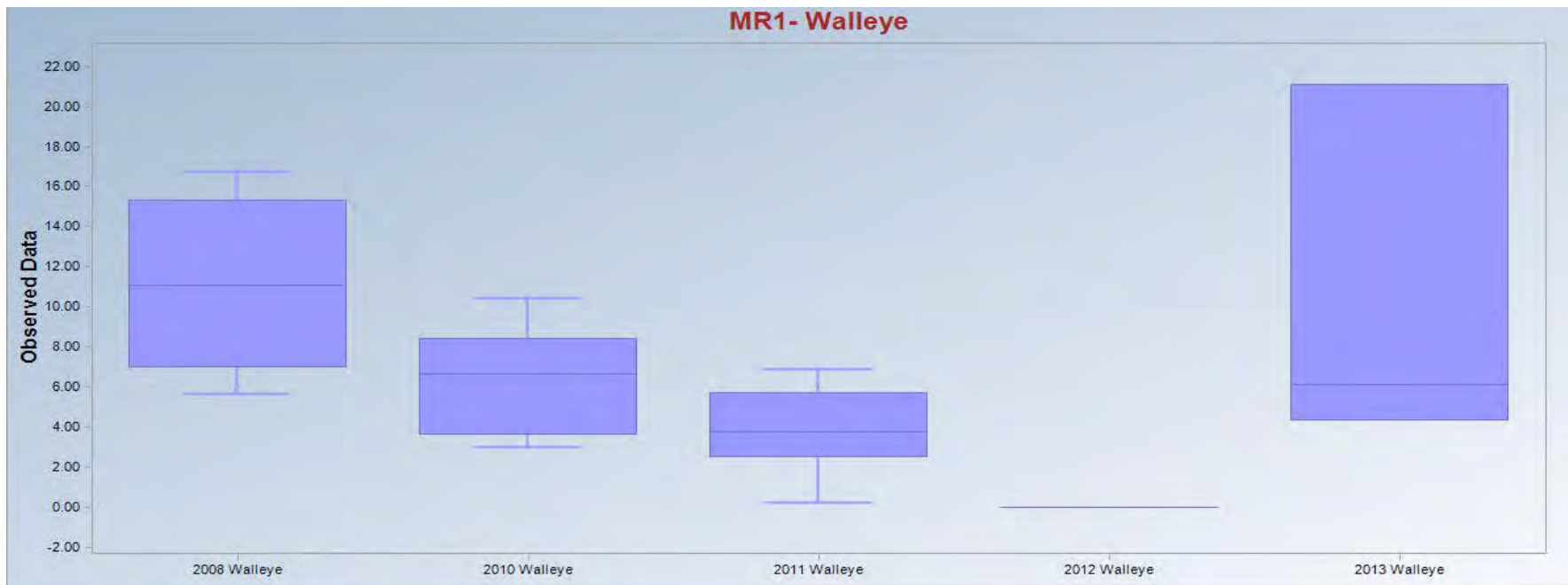
No juvenile suckers were obtained from this reach in 2013
There is no remediation target for Juvenile White Suckers



Remediation target concentration- 0.31 ppm

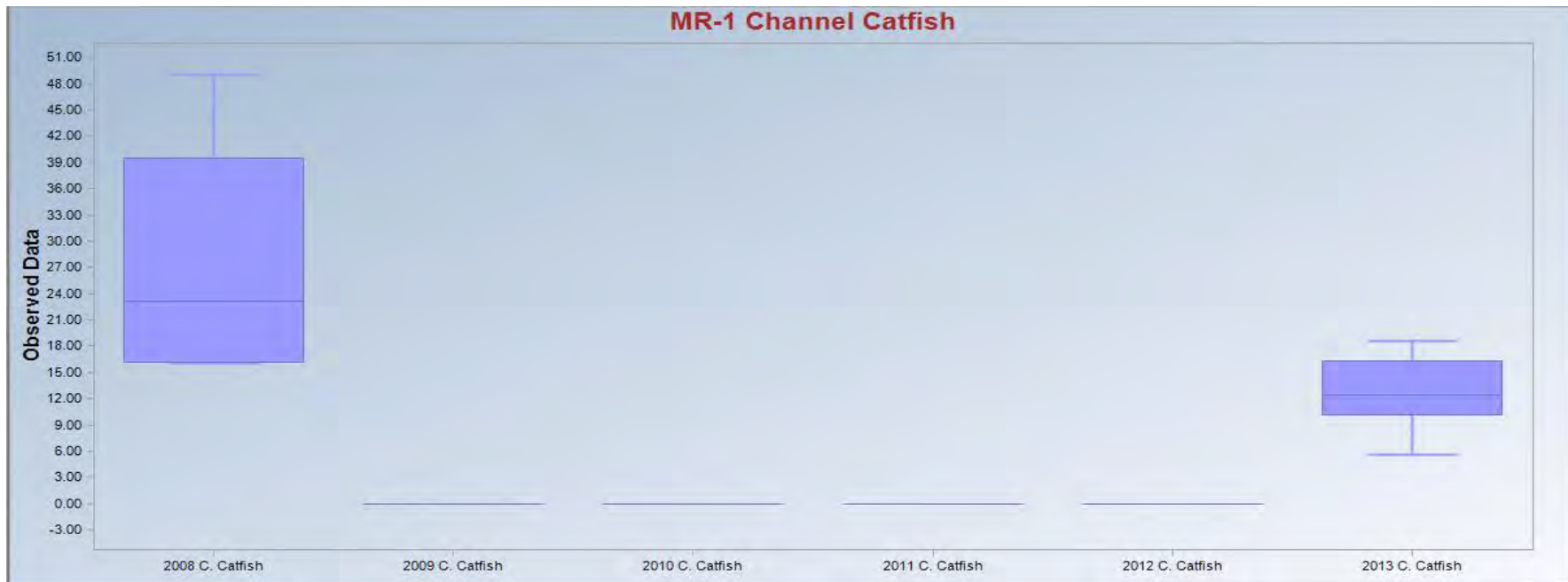


Only one rock bass was obtained from this reach in 2008.
There is no remediation target for Rock Bass.



No walleye were obtained from this reach in 2012

Remediation target concentration- 0.63 ppm

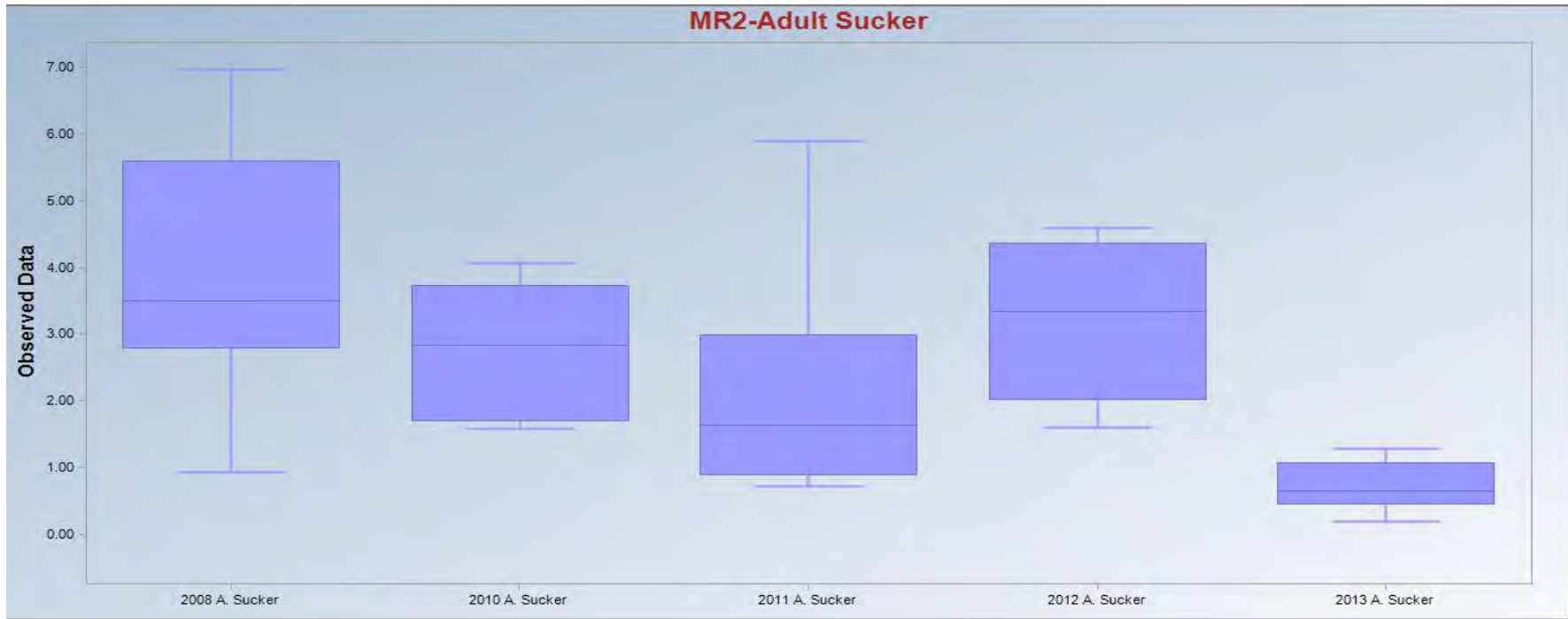


No channel catfish were obtained from this reach in 2009, 2010, 2011, and 2012.

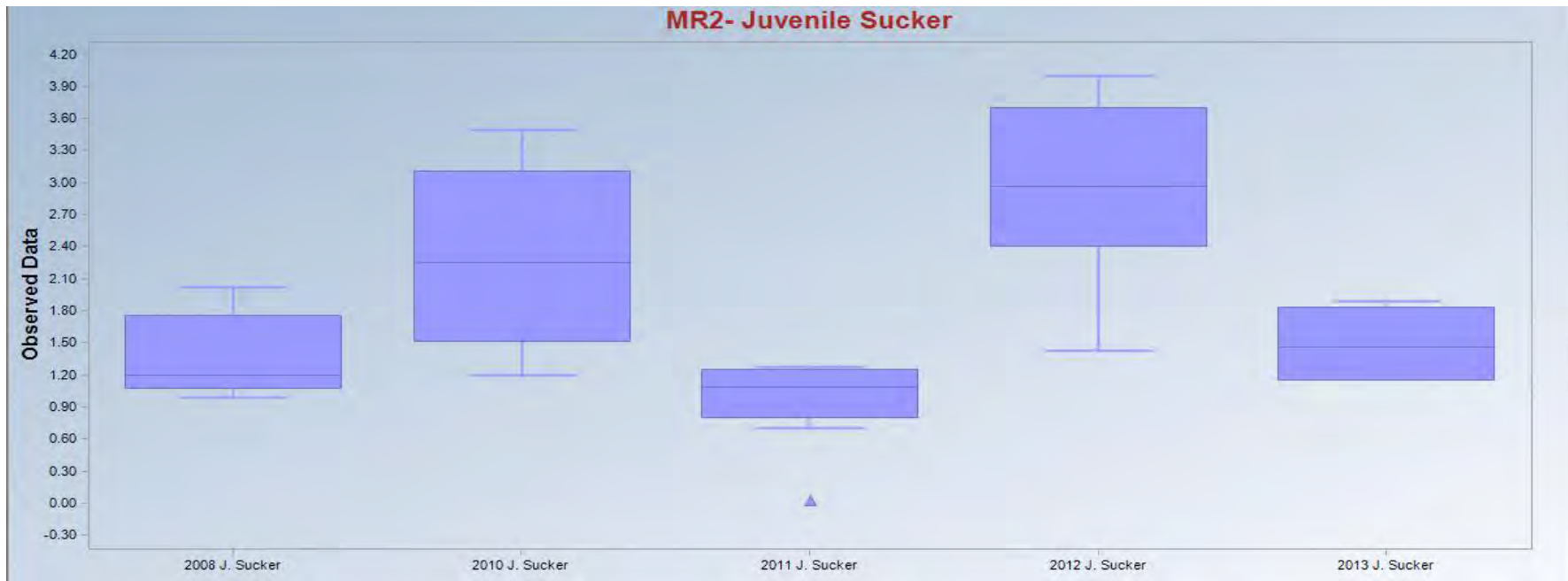
Remediation target concentration- 2.53 ppm



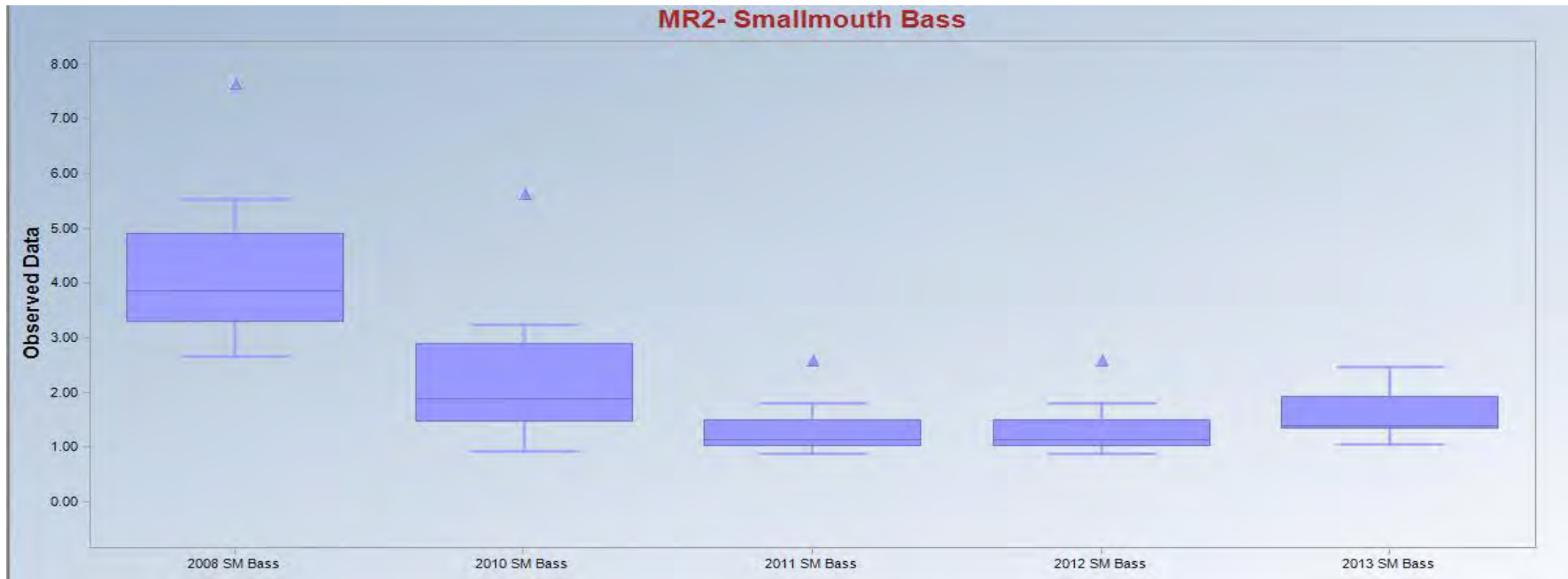
Only one carp sample was obtained from this reach in 2008.
Remediation target concentration- 2.58ppm



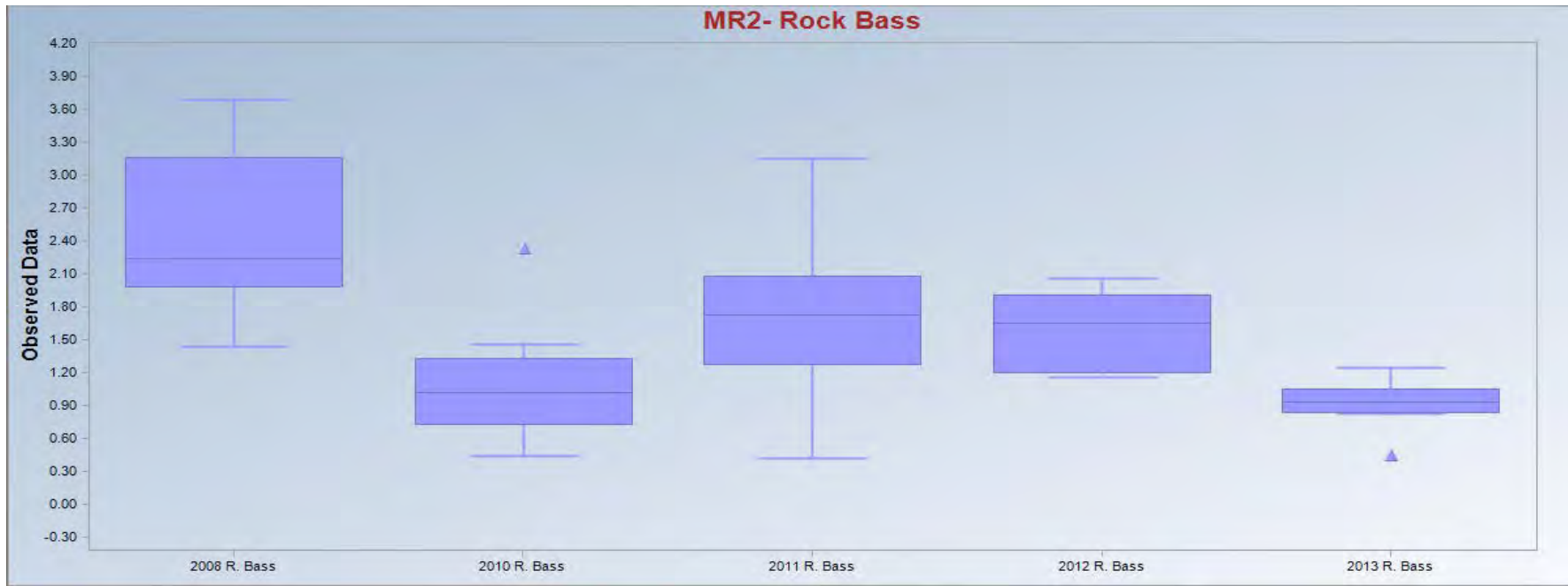
There is no remediation target for Adult White Suckers



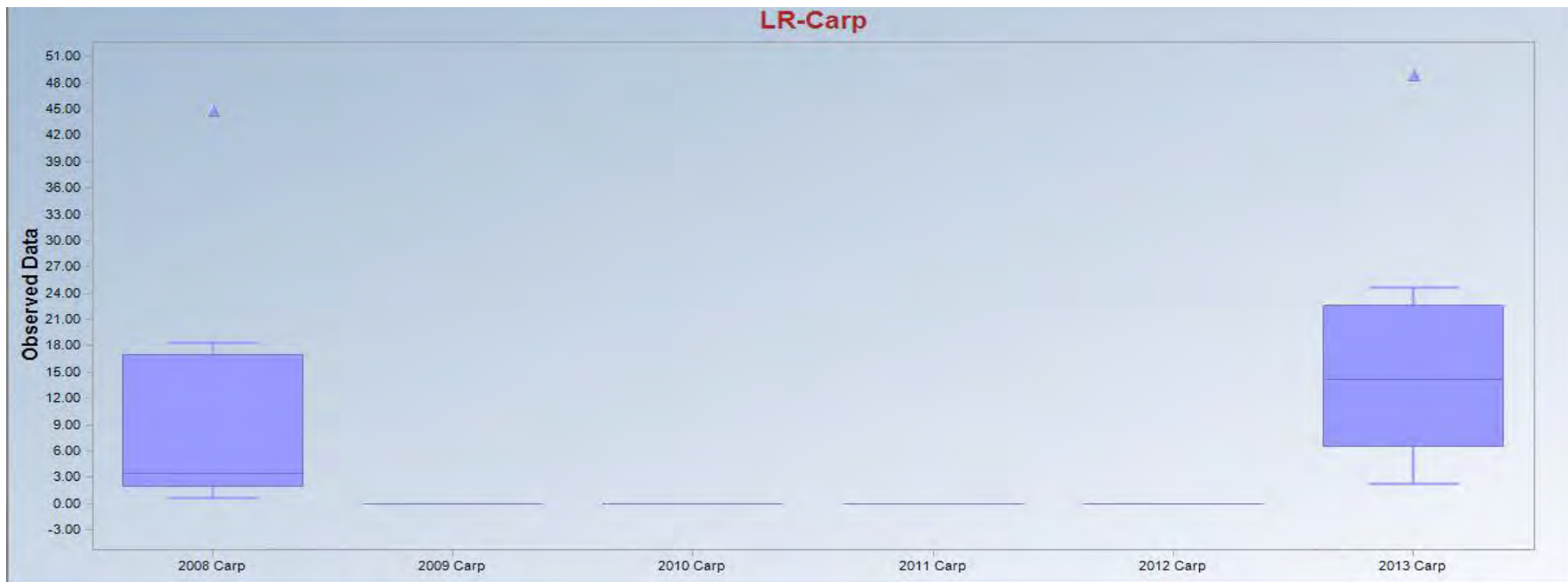
There is no remediation target for Juvenile White Suckers



Remediation target concentration- 0.31 ppm

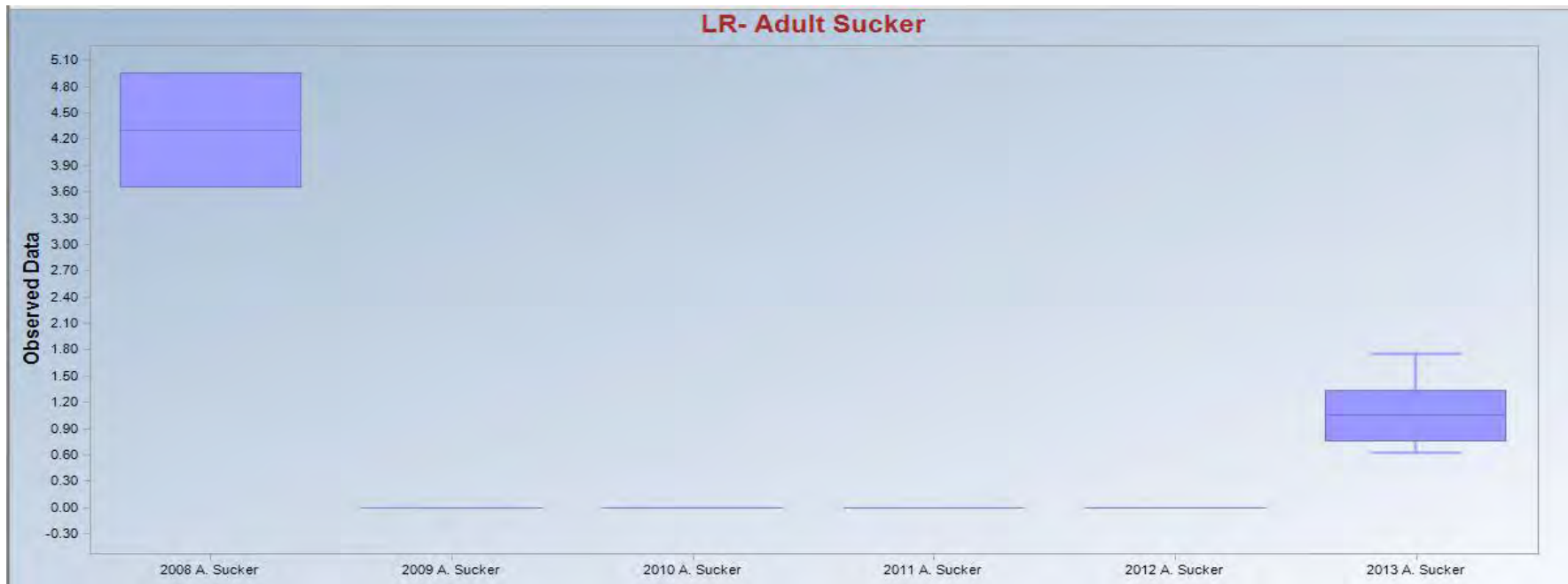


There is no remediation target for Rock Bass.



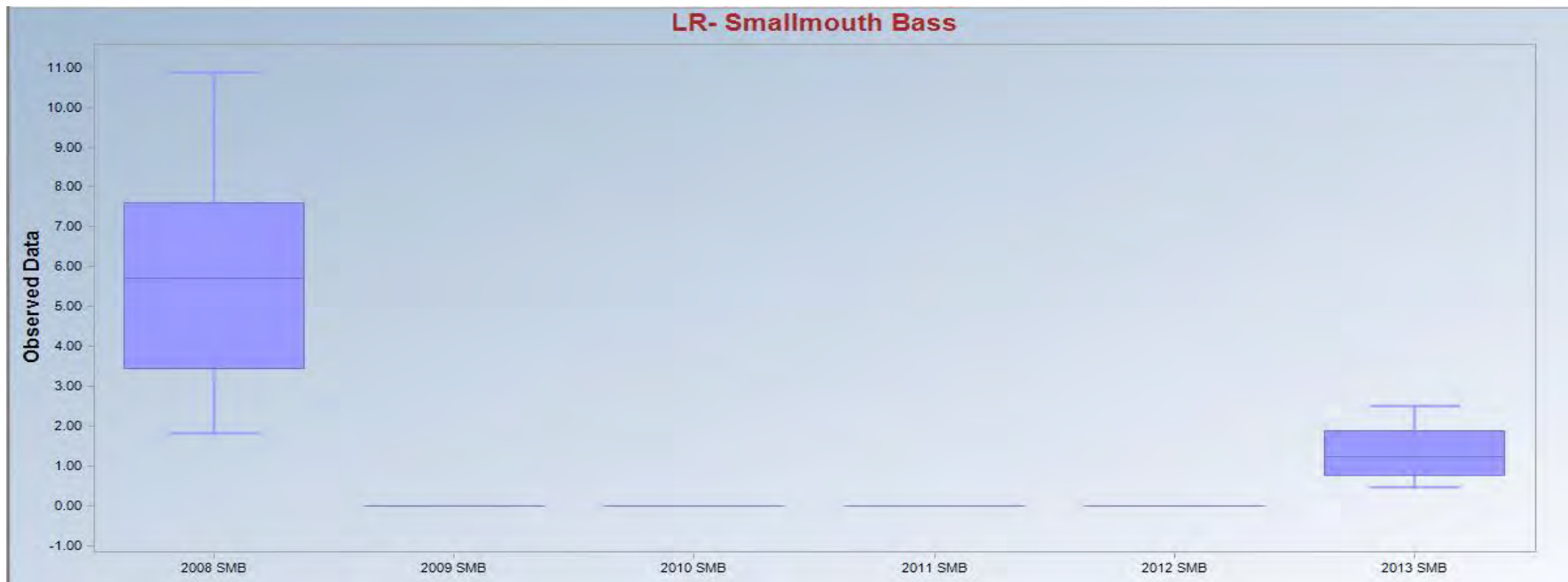
No carp were obtained from this reach in 2009, 2010, 2011, and 2012.

Remediation target concentration- 2.58ppm



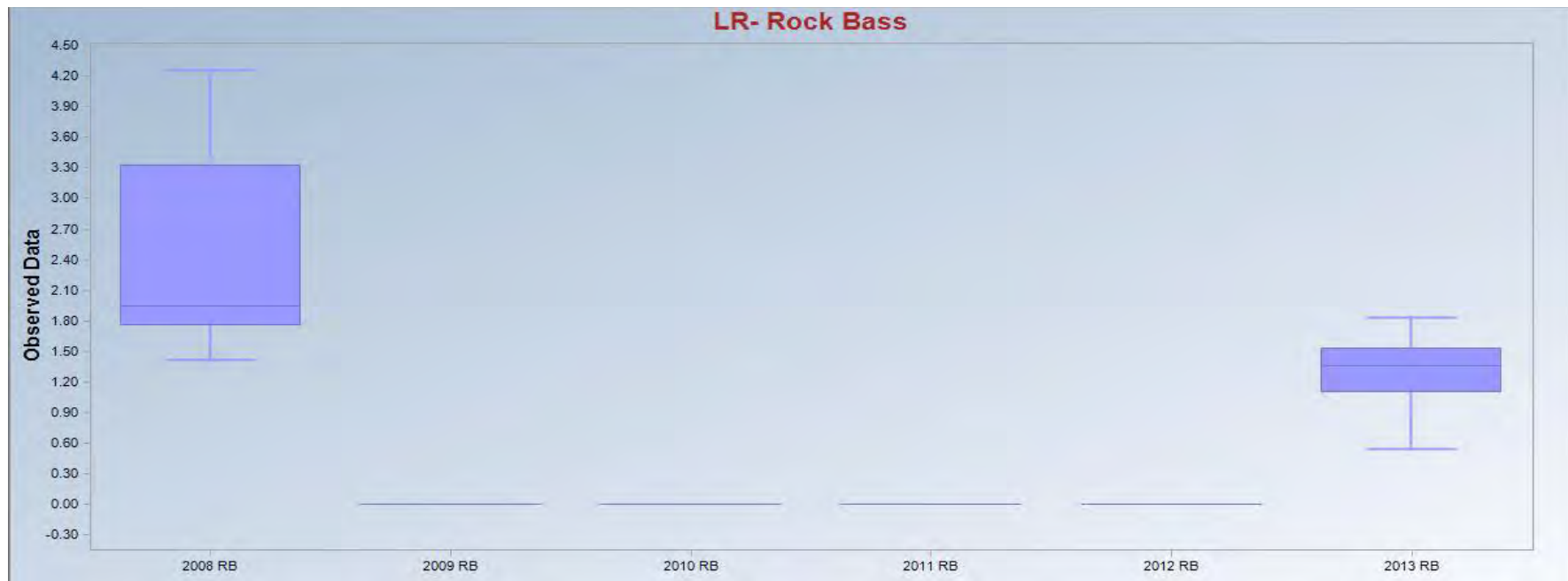
No adult suckers were obtained from this reach in 2009, 2010, 2011, and 2012.

There is no remediation target for Adult White Suckers

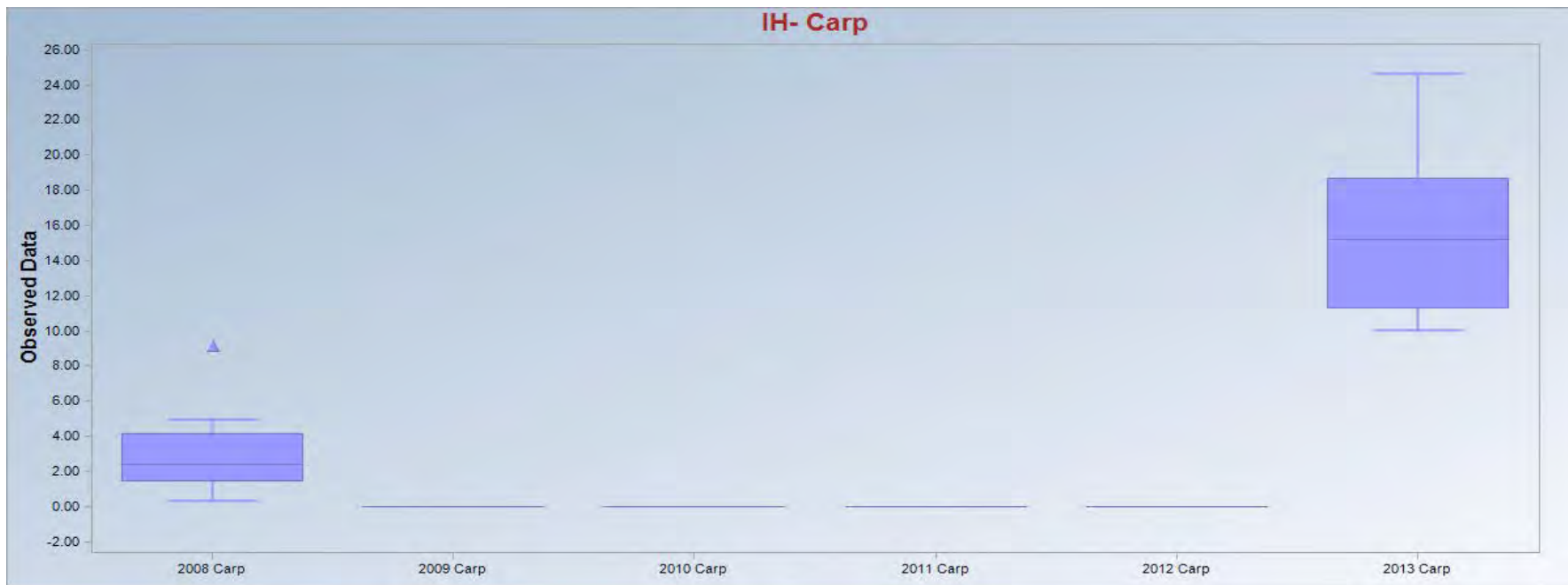


No smallmouth bass were obtained from this reach in 2009, 2010, 2011, and 2012.

Remediation target concentration- 0.31 ppm

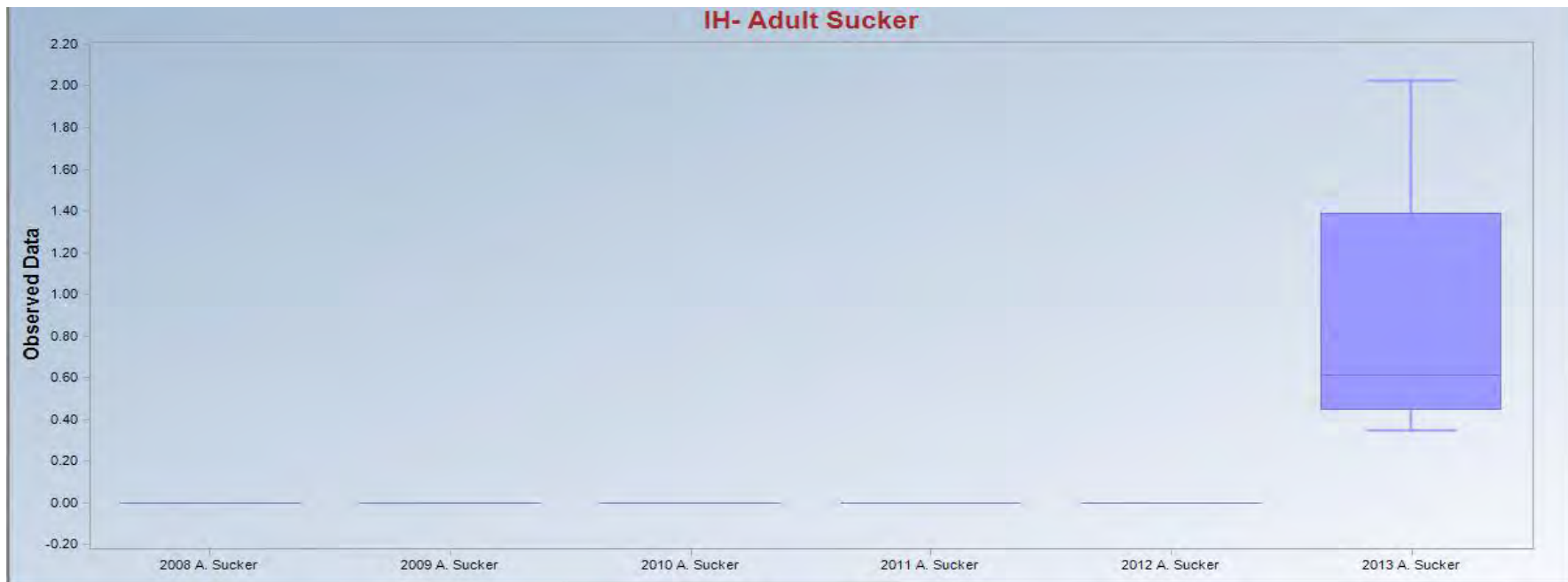


No rock bass were obtained from this reach in 2009, 2010, 2011, and 2012.
There is no remediation target for Rock Bass.



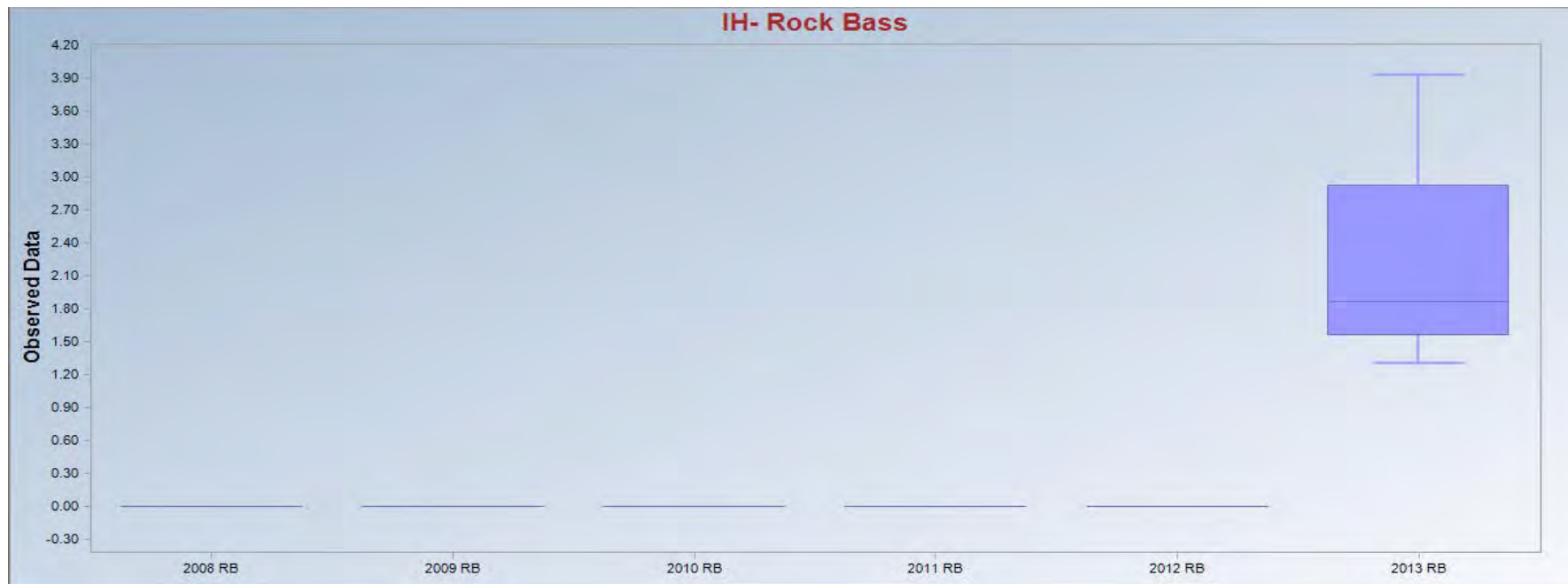
No carp were obtained from this reach in 2009, 2010, 2011, and 2012.

Remediation target concentration- 2.58ppm

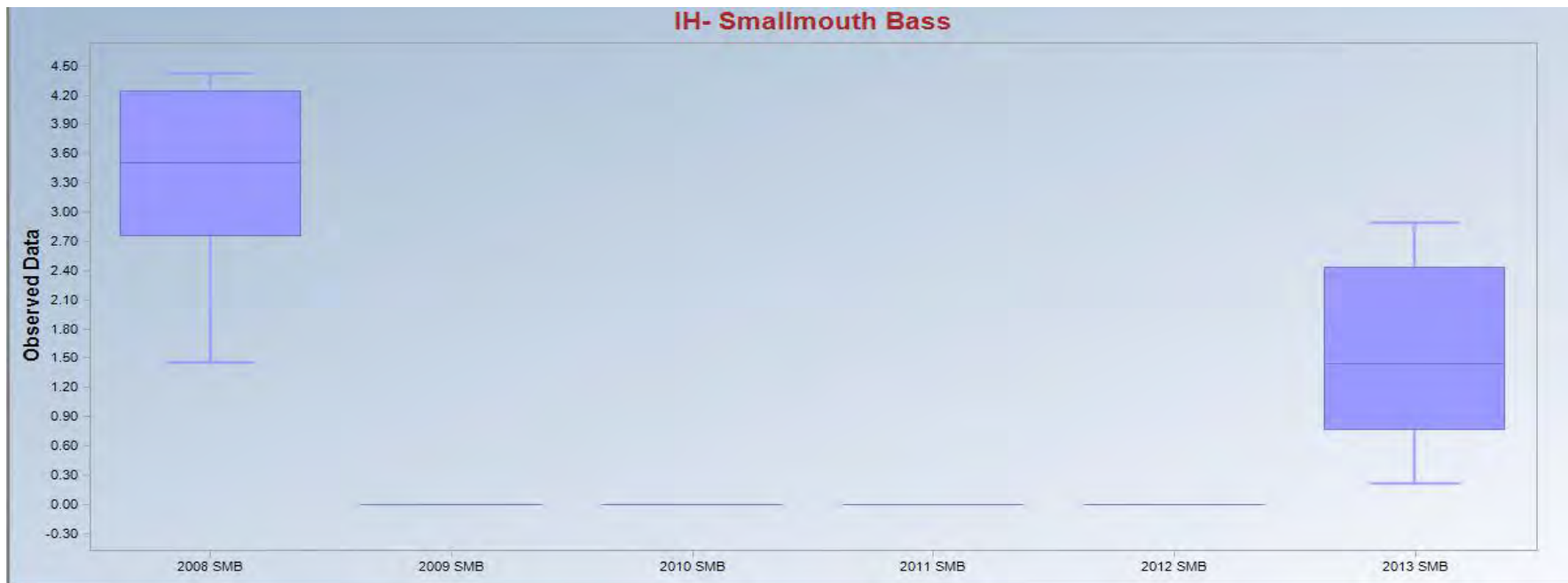


No adult suckers were obtained from this reach in 2008, 2009, 2010, 2011, and 2012.

There is no remediation target for Adult White Suckers



No rock bass were obtained from this reach in 2008, 2009, 2010, 2011, and 2012.
There is no remediation target for Rock Bass.



No smallmouth bass were obtained from this reach in 2009, 2010, 2011, and 2012.

Remediation target concentration- 0.31 ppm

Appendix 4

ProUCL Documentation

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\IH A. Sucker.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 A. Sucker														
10															
11	General Statistics														
12	Number of Valid Observations						8			Number of Distinct Observations			8		
13															
14	Raw Statistics						Log-transformed Statistics								
15	Minimum						0.34			Minimum of Log Data			-1.079		
16	Maximum						2.03			Maximum of Log Data			0.708		
17	Mean						0.909			Mean of log Data			-0.305		
18	Median						0.61			SD of log Data			0.672		
19	SD						0.663								
20	Std. Error of Mean						0.234								
21	Coefficient of Variation						0.729								
22	Skewness						1.156								
23															
24															
25	Warning: There are only 8 Values in this data														
26	Note: It should be noted that even though bootstrap methods may be performed on this data set,														
27	the resulting calculations may not be reliable enough to draw conclusions														
28															
29	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.														
30															
31	Relevant UCL Statistics														
32	Normal Distribution Test						Lognormal Distribution Test								
33	Shapiro Wilk Test Statistic						0.794			Shapiro Wilk Test Statistic			0.892		
34	Shapiro Wilk Critical Value						0.818			Shapiro Wilk Critical Value			0.818		
35	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
36															
37	Assuming Normal Distribution						Assuming Lognormal Distribution								
38	95% Student's-t UCL						1.353			95% H-UCL			1.823		
39	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						1.834		
40	95% Adjusted-CLT UCL (Chen-1995)						1.396			97.5% Chebyshev (MVUE) UCL			2.241		
41	95% Modified-t UCL (Johnson-1978)						1.368			99% Chebyshev (MVUE) UCL			3.04		
42															
43	Gamma Distribution Test						Data Distribution								
44	k star (bias corrected)						1.671			Data appear Gamma Distributed at 5% Significance Level					
45	Theta Star						0.544								
46	MLE of Mean						0.909								
47	MLE of Standard Deviation						0.703								
48	nu star						26.73								
49	Approximate Chi Square Value (.05)						15.95			Nonparametric Statistics					
50	Adjusted Level of Significance						0.0195			95% CLT UCL			1.294		

	A	B	C	D	E	F	G	H	I	J	K	L
51	Adjusted Chi Square Value					13.88	95% Jackknife UCL					1.353
52							95% Standard Bootstrap UCL					1.264
53	Anderson-Darling Test Statistic					0.572	95% Bootstrap-t UCL					1.918
54	Anderson-Darling 5% Critical Value					0.723	95% Hall's Bootstrap UCL					3.451
55	Kolmogorov-Smirnov Test Statistic					0.241	95% Percentile Bootstrap UCL					1.273
56	Kolmogorov-Smirnov 5% Critical Value					0.297	95% BCA Bootstrap UCL					1.353
57	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL					1.93
58							97.5% Chebyshev(Mean, Sd) UCL					2.372
59	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					3.239
60	95% Approximate Gamma UCL					1.524						
61	95% Adjusted Gamma UCL					1.75						
62												
63	Potential UCL to Use						Use 95% Approximate Gamma UCL					1.524
64												
65	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
66	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
67	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
68												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\IH Carp.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 Carp														
10															
11	General Statistics														
12	Number of Valid Observations					7		Number of Distinct Observations					7		
13															
14	Raw Statistics						Log-transformed Statistics								
15				Minimum			9.96			Minimum of Log Data			2.299		
16				Maximum			24.7			Maximum of Log Data			3.207		
17				Mean			15.77			Mean of log Data			2.718		
18				Median			15.2			SD of log Data			0.304		
19				SD			4.918								
20				Std. Error of Mean			1.859								
21				Coefficient of Variation			0.312								
22				Skewness			0.882								
23															
24															
25	Warning: A sample size of 'n' = 7 may not adequate enough to compute meaningful and reliable test statistics and estimates!														
26															
27	It is suggested to collect at least 8 to 10 observations using these statistical methods!														
28	If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.														
29															
30															
31	Warning: There are only 7 Values in this data														
32	Note: It should be noted that even though bootstrap methods may be performed on this data set,														
33	the resulting calculations may not be reliable enough to draw conclusions														
34															
35	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.														
36															
37	Relevant UCL Statistics														
38	Normal Distribution Test						Lognormal Distribution Test								
39				Shapiro Wilk Test Statistic			0.947			Shapiro Wilk Test Statistic			0.982		
40				Shapiro Wilk Critical Value			0.803			Shapiro Wilk Critical Value			0.803		
41	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
42															
43	Assuming Normal Distribution						Assuming Lognormal Distribution								
44				95% Student's-t UCL			19.38			95% H-UCL			20.9		
45	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						23.67		
46				95% Adjusted-CLT UCL (Chen-1995)			19.49			97.5% Chebyshev (MVUE) UCL			27.09		
47				95% Modified-t UCL (Johnson-1978)			19.48			99% Chebyshev (MVUE) UCL			33.81		
48															
49	Gamma Distribution Test						Data Distribution								
50				k star (bias corrected)			7.32			Data appear Normal at 5% Significance Level					

	A	B	C	D	E	F	G	H	I	J	K	L	
51					Theta Star	2.154							
52					MLE of Mean	15.77							
53					MLE of Standard Deviation	5.827							
54					nu star	102.5							
55					Approximate Chi Square Value (.05)	80.13	Nonparametric Statistics						
56					Adjusted Level of Significance	0.0158				95% CLT UCL		18.82	
57					Adjusted Chi Square Value	74.17				95% Jackknife UCL		19.38	
58										95% Standard Bootstrap UCL		18.58	
59					Anderson-Darling Test Statistic	0.183				95% Bootstrap-t UCL		20.6	
60					Anderson-Darling 5% Critical Value	0.708				95% Hall's Bootstrap UCL		24.12	
61					Kolmogorov-Smirnov Test Statistic	0.133				95% Percentile Bootstrap UCL		18.77	
62					Kolmogorov-Smirnov 5% Critical Value	0.312				95% BCA Bootstrap UCL		18.93	
63	Data appear Gamma Distributed at 5% Significance Level										95% Chebyshev(Mean, Sd) UCL		23.87
64											97.5% Chebyshev(Mean, Sd) UCL		27.37
65	Assuming Gamma Distribution										99% Chebyshev(Mean, Sd) UCL		34.26
66					95% Approximate Gamma UCL	20.16							
67					95% Adjusted Gamma UCL	21.78							
68													
69	Potential UCL to Use										Use 95% Student's-t UCL		19.38
70													
71	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.												
72	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)												
73	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.												
74													

	A	B	C	D	E	F	G	H	I	J	K	L		
1				General UCL Statistics for Full Data Sets										
2	User Selected Options													
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\IH R. Bass.wst										
4	Full Precision			OFF										
5	Confidence Coefficient			95%										
6	Number of Bootstrap Operations			2000										
7														
8														
9	2013 R. Bass													
10														
11	General Statistics													
12	Number of Valid Observations					4		Number of Distinct Observations					4	
13														
14														
15	Warning: This data set only has 4 observations!													
16	Data set is too small to compute reliable and meaningful statistics and estimates!													
17	The data set for variable 2013 R. Bass was not processed!													
18														
19	It is suggested to collect at least 8 to 10 observations before using these statistical methods!													
20	If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.													
21														
22														

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\IH SM Bass.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 SMB														
10															
11	General Statistics														
12	Number of Valid Observations					9		Number of Distinct Observations					9		
13															
14	Raw Statistics						Log-transformed Statistics								
15				Minimum			0.2			Minimum of Log Data			-1.609		
16				Maximum			2.91			Maximum of Log Data			1.068		
17				Mean			1.602			Mean of log Data			0.211		
18				Median			1.44			SD of log Data			0.878		
19				SD			0.992								
20				Std. Error of Mean			0.331								
21				Coefficient of Variation			0.619								
22				Skewness			0.0714								
23															
24															
25	Warning: There are only 9 Values in this data														
26	Note: It should be noted that even though bootstrap methods may be performed on this data set,														
27	the resulting calculations may not be reliable enough to draw conclusions														
28															
29	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.														
30															
31	Relevant UCL Statistics														
32	Normal Distribution Test						Lognormal Distribution Test								
33				Shapiro Wilk Test Statistic			0.938			Shapiro Wilk Test Statistic			0.893		
34				Shapiro Wilk Critical Value			0.829			Shapiro Wilk Critical Value			0.829		
35	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
36															
37	Assuming Normal Distribution						Assuming Lognormal Distribution								
38				95% Student's-t UCL			2.217			95% H-UCL			4.568		
39	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						3.985		
40				95% Adjusted-CLT UCL (Chen-1995)			2.155			97.5% Chebyshev (MVUE) UCL			4.964		
41				95% Modified-t UCL (Johnson-1978)			2.218			99% Chebyshev (MVUE) UCL			6.889		
42															
43	Gamma Distribution Test						Data Distribution								
44				k star (bias corrected)			1.455			Data appear Normal at 5% Significance Level					
45				Theta Star			1.101								
46				MLE of Mean			1.602								
47				MLE of Standard Deviation			1.328								
48				nu star			26.19								
49				Approximate Chi Square Value (.05)			15.53			Nonparametric Statistics					
50				Adjusted Level of Significance			0.0231			95% CLT UCL			2.146		

	A	B	C	D	E	F	G	H	I	J	K	L
51	Adjusted Chi Square Value					13.82	95% Jackknife UCL					2.217
52							95% Standard Bootstrap UCL					2.108
53	Anderson-Darling Test Statistic					0.286	95% Bootstrap-t UCL					2.211
54	Anderson-Darling 5% Critical Value					0.73	95% Hall's Bootstrap UCL					2.082
55	Kolmogorov-Smirnov Test Statistic					0.146	95% Percentile Bootstrap UCL					2.126
56	Kolmogorov-Smirnov 5% Critical Value					0.282	95% BCA Bootstrap UCL					2.134
57	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL					3.044
58							97.5% Chebyshev(Mean, Sd) UCL					3.667
59	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					4.893
60	95% Approximate Gamma UCL					2.703						
61	95% Adjusted Gamma UCL					3.036						
62												
63	Potential UCL to Use						Use 95% Student's-t UCL					2.217
64												
65	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
66	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
67	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
68												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\LR A. Sucker.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 A. Sucker														
10															
11	General Statistics														
12	Number of Valid Observations						8			Number of Distinct Observations			8		
13															
14	Raw Statistics						Log-transformed Statistics								
15	Minimum						0.61			Minimum of Log Data			-0.494		
16	Maximum						1.76			Maximum of Log Data			0.565		
17	Mean						1.083			Mean of log Data			0.0218		
18	Median						1.05			SD of log Data			0.363		
19	SD						0.392								
20	Std. Error of Mean						0.139								
21	Coefficient of Variation						0.362								
22	Skewness						0.568								
23															
24															
25	Warning: There are only 8 Values in this data														
26	Note: It should be noted that even though bootstrap methods may be performed on this data set,														
27	the resulting calculations may not be reliable enough to draw conclusions														
28															
29	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.														
30															
31	Relevant UCL Statistics														
32	Normal Distribution Test						Lognormal Distribution Test								
33	Shapiro Wilk Test Statistic						0.945			Shapiro Wilk Test Statistic			0.963		
34	Shapiro Wilk Critical Value						0.818			Shapiro Wilk Critical Value			0.818		
35	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
36															
37	Assuming Normal Distribution						Assuming Lognormal Distribution								
38	95% Student's-t UCL						1.345			95% H-UCL			1.465		
39	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						1.692		
40	95% Adjusted-CLT UCL (Chen-1995)						1.34			97.5% Chebyshev (MVUE) UCL			1.956		
41	95% Modified-t UCL (Johnson-1978)						1.35			99% Chebyshev (MVUE) UCL			2.474		
42															
43	Gamma Distribution Test						Data Distribution								
44	k star (bias corrected)						5.623			Data appear Normal at 5% Significance Level					
45	Theta Star						0.193								
46	MLE of Mean						1.083								
47	MLE of Standard Deviation						0.457								
48	nu star						89.96								
49	Approximate Chi Square Value (.05)						69.09			Nonparametric Statistics					
50	Adjusted Level of Significance						0.0195			95% CLT UCL			1.311		

	A	B	C	D	E	F	G	H	I	J	K	L
51	Adjusted Chi Square Value					64.48	95% Jackknife UCL					1.345
52							95% Standard Bootstrap UCL					1.294
53	Anderson-Darling Test Statistic					0.245	95% Bootstrap-t UCL					1.384
54	Anderson-Darling 5% Critical Value					0.716	95% Hall's Bootstrap UCL					1.342
55	Kolmogorov-Smirnov Test Statistic					0.176	95% Percentile Bootstrap UCL					1.309
56	Kolmogorov-Smirnov 5% Critical Value					0.294	95% BCA Bootstrap UCL					1.318
57	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL					1.687
58							97.5% Chebyshev(Mean, Sd) UCL					1.949
59	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					2.463
60	95% Approximate Gamma UCL					1.409						
61	95% Adjusted Gamma UCL					1.51						
62												
63	Potential UCL to Use						Use 95% Student's-t UCL					1.345
64												
65	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
66	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
67	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
68												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\LR Carp.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 Carp														
10															
11	General Statistics														
12	Number of Valid Observations						8			Number of Distinct Observations			8		
13															
14	Raw Statistics						Log-transformed Statistics								
15	Minimum						2.17			Minimum of Log Data			0.775		
16	Maximum						48.9			Maximum of Log Data			3.89		
17	Mean						17.22			Mean of log Data			2.472		
18	Median						14.2			SD of log Data			1.006		
19	SD						14.92								
20	Std. Error of Mean						5.275								
21	Coefficient of Variation						0.867								
22	Skewness						1.487								
23															
24															
25	Warning: There are only 8 Values in this data														
26	Note: It should be noted that even though bootstrap methods may be performed on this data set,														
27	the resulting calculations may not be reliable enough to draw conclusions														
28															
29	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.														
30															
31	Relevant UCL Statistics														
32	Normal Distribution Test						Lognormal Distribution Test								
33	Shapiro Wilk Test Statistic						0.874			Shapiro Wilk Test Statistic			0.964		
34	Shapiro Wilk Critical Value						0.818			Shapiro Wilk Critical Value			0.818		
35	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
36															
37	Assuming Normal Distribution						Assuming Lognormal Distribution								
38	95% Student's-t UCL						27.21			95% H-UCL			72.66		
39	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						46.71		
40	95% Adjusted-CLT UCL (Chen-1995)						28.85			97.5% Chebyshev (MVUE) UCL			59.1		
41	95% Modified-t UCL (Johnson-1978)						27.67			99% Chebyshev (MVUE) UCL			83.43		
42															
43	Gamma Distribution Test						Data Distribution								
44	k star (bias corrected)						1.01			Data appear Normal at 5% Significance Level					
45	Theta Star						17.05								
46	MLE of Mean						17.22								
47	MLE of Standard Deviation						17.13								
48	nu star						16.16								
49	Approximate Chi Square Value (.05)						8.075			Nonparametric Statistics					
50	Adjusted Level of Significance						0.0195			95% CLT UCL			25.89		

	A	B	C	D	E	F	G	H	I	J	K	L
51	Adjusted Chi Square Value					6.682	95% Jackknife UCL					27.21
52							95% Standard Bootstrap UCL					25.25
53	Anderson-Darling Test Statistic					0.169	95% Bootstrap-t UCL					33.01
54	Anderson-Darling 5% Critical Value					0.729	95% Hall's Bootstrap UCL					65.75
55	Kolmogorov-Smirnov Test Statistic					0.124	95% Percentile Bootstrap UCL					25.87
56	Kolmogorov-Smirnov 5% Critical Value					0.299	95% BCA Bootstrap UCL					28.37
57	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL					40.21
58							97.5% Chebyshev(Mean, Sd) UCL					50.16
59	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					69.7
60	95% Approximate Gamma UCL					34.45						
61	95% Adjusted Gamma UCL					41.64						
62												
63	Potential UCL to Use						Use 95% Student's-t UCL					27.21
64												
65	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
66	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
67	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
68												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\LR R. Bass.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 RB														
10															
11	General Statistics														
12	Number of Valid Observations						9			Number of Distinct Observations			9		
13															
14	Raw Statistics						Log-transformed Statistics								
15	Minimum						0.53			Minimum of Log Data			-0.635		
16	Maximum						1.84			Maximum of Log Data			0.61		
17	Mean						1.3			Mean of log Data			0.204		
18	Median						1.36			SD of log Data			0.391		
19	SD						0.417								
20	Std. Error of Mean						0.139								
21	Coefficient of Variation						0.32								
22	Skewness						-0.671								
23															
24															
25	Warning: There are only 9 Values in this data														
26	Note: It should be noted that even though bootstrap methods may be performed on this data set,														
27	the resulting calculations may not be reliable enough to draw conclusions														
28															
29	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.														
30															
31	Relevant UCL Statistics														
32	Normal Distribution Test						Lognormal Distribution Test								
33	Shapiro Wilk Test Statistic						0.962			Shapiro Wilk Test Statistic			0.883		
34	Shapiro Wilk Critical Value						0.829			Shapiro Wilk Critical Value			0.829		
35	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
36															
37	Assuming Normal Distribution						Assuming Lognormal Distribution								
38	95% Student's-t UCL						1.558			95% H-UCL			1.773		
39	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						2.062		
40	95% Adjusted-CLT UCL (Chen-1995)						1.495			97.5% Chebyshev (MVUE) UCL			2.387		
41	95% Modified-t UCL (Johnson-1978)						1.553			99% Chebyshev (MVUE) UCL			3.025		
42															
43	Gamma Distribution Test						Data Distribution								
44	k star (bias corrected)						5.849			Data appear Normal at 5% Significance Level					
45	Theta Star						0.222								
46	MLE of Mean						1.3								
47	MLE of Standard Deviation						0.538								
48	nu star						105.3								
49	Approximate Chi Square Value (.05)						82.61			Nonparametric Statistics					
50	Adjusted Level of Significance						0.0231			95% CLT UCL			1.528		

	A	B	C	D	E	F	G	H	I	J	K	L
51	Adjusted Chi Square Value					78.38	95% Jackknife UCL					1.558
52							95% Standard Bootstrap UCL					1.52
53	Anderson-Darling Test Statistic					0.37	95% Bootstrap-t UCL					1.526
54	Anderson-Darling 5% Critical Value					0.722	95% Hall's Bootstrap UCL					1.503
55	Kolmogorov-Smirnov Test Statistic					0.176	95% Percentile Bootstrap UCL					1.513
56	Kolmogorov-Smirnov 5% Critical Value					0.279	95% BCA Bootstrap UCL					1.5
57	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL					1.905
58							97.5% Chebyshev(Mean, Sd) UCL					2.167
59	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					2.682
60	95% Approximate Gamma UCL					1.657						
61	95% Adjusted Gamma UCL					1.746						
62												
63	Potential UCL to Use						Use 95% Student's-t UCL					1.558
64												
65	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
66	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
67	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
68												
69	Note: For highly negative-skewed data, confidence limits											
70	(e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
71	reliable. Chen's and Johnson's methods provide											
72	adjustments for positively skewed data sets.											
73												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\LR SM Bass.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 SMB														
10															
11	General Statistics														
12	Number of Valid Observations						8			Number of Distinct Observations			8		
13															
14	Raw Statistics						Log-transformed Statistics								
15	Minimum						0.43			Minimum of Log Data			-0.844		
16	Maximum						2.52			Maximum of Log Data			0.924		
17	Mean						1.336			Mean of log Data			0.135		
18	Median						1.22			SD of log Data			0.622		
19	SD						0.749								
20	Std. Error of Mean						0.265								
21	Coefficient of Variation						0.56								
22	Skewness						0.552								
23															
24															
25	Warning: There are only 8 Values in this data														
26	Note: It should be noted that even though bootstrap methods may be performed on this data set,														
27	the resulting calculations may not be reliable enough to draw conclusions														
28															
29	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.														
30															
31	Relevant UCL Statistics														
32	Normal Distribution Test						Lognormal Distribution Test								
33	Shapiro Wilk Test Statistic						0.93			Shapiro Wilk Test Statistic			0.948		
34	Shapiro Wilk Critical Value						0.818			Shapiro Wilk Critical Value			0.818		
35	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
36															
37	Assuming Normal Distribution						Assuming Lognormal Distribution								
38	95% Student's-t UCL						1.838			95% H-UCL			2.543		
39	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						2.663		
40	95% Adjusted-CLT UCL (Chen-1995)						1.827			97.5% Chebyshev (MVUE) UCL			3.231		
41	95% Modified-t UCL (Johnson-1978)						1.847			99% Chebyshev (MVUE) UCL			4.347		
42															
43	Gamma Distribution Test						Data Distribution								
44	k star (bias corrected)						2.195			Data appear Normal at 5% Significance Level					
45	Theta Star						0.609								
46	MLE of Mean						1.336								
47	MLE of Standard Deviation						0.902								
48	nu star						35.11								
49	Approximate Chi Square Value (.05)						22.56			Nonparametric Statistics					
50	Adjusted Level of Significance						0.0195			95% CLT UCL			1.772		

	A	B	C	D	E	F	G	H	I	J	K	L
51	Adjusted Chi Square Value					20.05	95% Jackknife UCL					1.838
52							95% Standard Bootstrap UCL					1.735
53	Anderson-Darling Test Statistic					0.224	95% Bootstrap-t UCL					2.031
54	Anderson-Darling 5% Critical Value					0.72	95% Hall's Bootstrap UCL					2.176
55	Kolmogorov-Smirnov Test Statistic					0.145	95% Percentile Bootstrap UCL					1.746
56	Kolmogorov-Smirnov 5% Critical Value					0.296	95% BCA Bootstrap UCL					1.781
57	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL					2.49
58							97.5% Chebyshev(Mean, Sd) UCL					2.99
59	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					3.971
60	95% Approximate Gamma UCL					2.08						
61	95% Adjusted Gamma UCL					2.34						
62												
63	Potential UCL to Use						Use 95% Student's-t UCL					1.838
64												
65	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
66	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
67	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
68												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\MR1 A. Sucker.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 A. Sucker														
10															
11	General Statistics														
12	Number of Valid Observations						8			Number of Distinct Observations			8		
13															
14	Raw Statistics						Log-transformed Statistics								
15	Minimum						0.63			Minimum of Log Data			-0.462		
16	Maximum						4.87			Maximum of Log Data			1.583		
17	Mean						1.783			Mean of log Data			0.362		
18	Median						1.37			SD of log Data			0.676		
19	SD						1.394								
20	Std. Error of Mean						0.493								
21	Coefficient of Variation						0.782								
22	Skewness						1.857								
23															
24															
25	Warning: There are only 8 Values in this data														
26	Note: It should be noted that even though bootstrap methods may be performed on this data set,														
27	the resulting calculations may not be reliable enough to draw conclusions														
28															
29	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.														
30															
31	Relevant UCL Statistics														
32	Normal Distribution Test						Lognormal Distribution Test								
33	Shapiro Wilk Test Statistic						0.795			Shapiro Wilk Test Statistic			0.953		
34	Shapiro Wilk Critical Value						0.818			Shapiro Wilk Critical Value			0.818		
35	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
36															
37	Assuming Normal Distribution						Assuming Lognormal Distribution								
38	95% Student's-t UCL						2.716			95% H-UCL			3.582		
39	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						3.593		
40	95% Adjusted-CLT UCL (Chen-1995)						2.939			97.5% Chebyshev (MVUE) UCL			4.393		
41	95% Modified-t UCL (Johnson-1978)						2.77			99% Chebyshev (MVUE) UCL			5.962		
42															
43	Gamma Distribution Test						Data Distribution								
44	k star (bias corrected)						1.627			Data appear Gamma Distributed at 5% Significance Level					
45	Theta Star						1.096								
46	MLE of Mean						1.783								
47	MLE of Standard Deviation						1.397								
48	nu star						26.03								
49	Approximate Chi Square Value (.05)						15.4			Nonparametric Statistics					
50	Adjusted Level of Significance						0.0195			95% CLT UCL			2.593		

	A	B	C	D	E	F	G	H	I	J	K	L
51	Adjusted Chi Square Value					13.38	95% Jackknife UCL					2.716
52							95% Standard Bootstrap UCL					2.557
53	Anderson-Darling Test Statistic					0.351	95% Bootstrap-t UCL					3.741
54	Anderson-Darling 5% Critical Value					0.723	95% Hall's Bootstrap UCL					6.445
55	Kolmogorov-Smirnov Test Statistic					0.191	95% Percentile Bootstrap UCL					2.658
56	Kolmogorov-Smirnov 5% Critical Value					0.297	95% BCA Bootstrap UCL					2.86
57	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL					3.931
58							97.5% Chebyshev(Mean, Sd) UCL					4.86
59	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					6.686
60	95% Approximate Gamma UCL					3.012						
61	95% Adjusted Gamma UCL					3.468						
62												
63	Potential UCL to Use						Use 95% Approximate Gamma UCL					3.012
64												
65	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
66	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
67	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
68												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\MR1 Carp.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 Carp														
10															
11	General Statistics														
12	Number of Valid Observations						8			Number of Distinct Observations			8		
13															
14	Raw Statistics						Log-transformed Statistics								
15	Minimum						8.49			Minimum of Log Data			2.139		
16	Maximum						22.9			Maximum of Log Data			3.131		
17	Mean						15.54			Mean of log Data			2.691		
18	Median						14.8			SD of log Data			0.352		
19	SD						5.235								
20	Std. Error of Mean						1.851								
21	Coefficient of Variation						0.337								
22	Skewness						0.173								
23															
24															
25	Warning: There are only 8 Values in this data														
26	Note: It should be noted that even though bootstrap methods may be performed on this data set,														
27	the resulting calculations may not be reliable enough to draw conclusions														
28															
29	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.														
30															
31	Relevant UCL Statistics														
32	Normal Distribution Test						Lognormal Distribution Test								
33	Shapiro Wilk Test Statistic						0.948			Shapiro Wilk Test Statistic			0.954		
34	Shapiro Wilk Critical Value						0.818			Shapiro Wilk Critical Value			0.818		
35	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
36															
37	Assuming Normal Distribution						Assuming Lognormal Distribution								
38	95% Student's-t UCL						19.04			95% H-UCL			20.82		
39	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						24.05		
40	95% Adjusted-CLT UCL (Chen-1995)						18.7			97.5% Chebyshev (MVUE) UCL			27.72		
41	95% Modified-t UCL (Johnson-1978)						19.06			99% Chebyshev (MVUE) UCL			34.94		
42															
43	Gamma Distribution Test						Data Distribution								
44	k star (bias corrected)						6.13			Data appear Normal at 5% Significance Level					
45	Theta Star						2.534								
46	MLE of Mean						15.54								
47	MLE of Standard Deviation						6.275								
48	nu star						98.08								
49	Approximate Chi Square Value (.05)						76.23			Nonparametric Statistics					
50	Adjusted Level of Significance						0.0195			95% CLT UCL			18.58		

	A	B	C	D	E	F	G	H	I	J	K	L
51	Adjusted Chi Square Value					71.37	95% Jackknife UCL					19.04
52							95% Standard Bootstrap UCL					18.42
53	Anderson-Darling Test Statistic					0.237	95% Bootstrap-t UCL					19.43
54	Anderson-Darling 5% Critical Value					0.715	95% Hall's Bootstrap UCL					18.37
55	Kolmogorov-Smirnov Test Statistic					0.166	95% Percentile Bootstrap UCL					18.49
56	Kolmogorov-Smirnov 5% Critical Value					0.294	95% BCA Bootstrap UCL					18.54
57	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL					23.6
58							97.5% Chebyshev(Mean, Sd) UCL					27.1
59	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					33.95
60	95% Approximate Gamma UCL					19.99						
61	95% Adjusted Gamma UCL					21.35						
62												
63	Potential UCL to Use						Use 95% Student's-t UCL					19.04
64												
65	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
66	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
67	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
68												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\MR1 C. Catfish.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 C. Catfish														
10															
11	General Statistics														
12	Number of Valid Observations						8			Number of Distinct Observations			8		
13															
14	Raw Statistics						Log-transformed Statistics								
15	Minimum						5.41			Minimum of Log Data			1.688		
16	Maximum						18.7			Maximum of Log Data			2.929		
17	Mean						12.75			Mean of log Data			2.483		
18	Median						12.45			SD of log Data			0.398		
19	SD						4.394								
20	Std. Error of Mean						1.554								
21	Coefficient of Variation						0.345								
22	Skewness						-0.194								
23															
24															
25	Warning: There are only 8 Values in this data														
26	Note: It should be noted that even though bootstrap methods may be performed on this data set,														
27	the resulting calculations may not be reliable enough to draw conclusions														
28															
29	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.														
30															
31	Relevant UCL Statistics														
32	Normal Distribution Test						Lognormal Distribution Test								
33	Shapiro Wilk Test Statistic						0.973			Shapiro Wilk Test Statistic			0.924		
34	Shapiro Wilk Critical Value						0.818			Shapiro Wilk Critical Value			0.818		
35	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
36															
37	Assuming Normal Distribution						Assuming Lognormal Distribution								
38	95% Student's-t UCL						15.69			95% H-UCL			18.03		
39	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						20.75		
40	95% Adjusted-CLT UCL (Chen-1995)						15.19			97.5% Chebyshev (MVUE) UCL			24.18		
41	95% Modified-t UCL (Johnson-1978)						15.67			99% Chebyshev (MVUE) UCL			30.91		
42															
43	Gamma Distribution Test						Data Distribution								
44	k star (bias corrected)						5.214			Data appear Normal at 5% Significance Level					
45	Theta Star						2.445								
46	MLE of Mean						12.75								
47	MLE of Standard Deviation						5.582								
48	nu star						83.42								
49	Approximate Chi Square Value (.05)						63.37			Nonparametric Statistics					
50	Adjusted Level of Significance						0.0195			95% CLT UCL			15.3		

	A	B	C	D	E	F	G	H	I	J	K	L
51	Adjusted Chi Square Value					58.96	95% Jackknife UCL					15.69
52							95% Standard Bootstrap UCL					15.11
53	Anderson-Darling Test Statistic					0.227	95% Bootstrap-t UCL					15.51
54	Anderson-Darling 5% Critical Value					0.716	95% Hall's Bootstrap UCL					15.91
55	Kolmogorov-Smirnov Test Statistic					0.127	95% Percentile Bootstrap UCL					15.2
56	Kolmogorov-Smirnov 5% Critical Value					0.295	95% BCA Bootstrap UCL					15.13
57	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL					19.52
58							97.5% Chebyshev(Mean, Sd) UCL					22.45
59	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					28.2
60	95% Approximate Gamma UCL					16.78						
61	95% Adjusted Gamma UCL					18.03						
62												
63	Potential UCL to Use						Use 95% Student's-t UCL					15.69
64												
65	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
66	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
67	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
68												
69	Note: For highly negative-skewed data, confidence limits											
70	(e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
71	reliable. Chen's and Johnson's methods provide											
72	adjustments for positively skewed data sets.											
73												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\MR1 R. Bass.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 R. Bass														
10															
11	General Statistics														
12	Number of Valid Observations						8			Number of Distinct Observations			8		
13															
14	Raw Statistics						Log-transformed Statistics								
15	Minimum						0.97			Minimum of Log Data			-0.0305		
16	Maximum						2.07			Maximum of Log Data			0.728		
17	Mean						1.361			Mean of log Data			0.282		
18	Median						1.26			SD of log Data			0.242		
19	SD						0.352								
20	Std. Error of Mean						0.124								
21	Coefficient of Variation						0.259								
22	Skewness						1.205								
23															
24															
25	Warning: There are only 8 Values in this data														
26	Note: It should be noted that even though bootstrap methods may be performed on this data set,														
27	the resulting calculations may not be reliable enough to draw conclusions														
28															
29	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.														
30															
31	Relevant UCL Statistics														
32	Normal Distribution Test						Lognormal Distribution Test								
33	Shapiro Wilk Test Statistic						0.908			Shapiro Wilk Test Statistic			0.958		
34	Shapiro Wilk Critical Value						0.818			Shapiro Wilk Critical Value			0.818		
35	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
36															
37	Assuming Normal Distribution						Assuming Lognormal Distribution								
38	95% Student's-t UCL						1.597			95% H-UCL			1.637		
39	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						1.869		
40	95% Adjusted-CLT UCL (Chen-1995)						1.623			97.5% Chebyshev (MVUE) UCL			2.089		
41	95% Modified-t UCL (Johnson-1978)						1.606			99% Chebyshev (MVUE) UCL			2.522		
42															
43	Gamma Distribution Test						Data Distribution								
44	k star (bias corrected)						11.88			Data appear Normal at 5% Significance Level					
45	Theta Star						0.115								
46	MLE of Mean						1.361								
47	MLE of Standard Deviation						0.395								
48	nu star						190.1								
49	Approximate Chi Square Value (.05)						159.2			Nonparametric Statistics					
50	Adjusted Level of Significance						0.0195			95% CLT UCL			1.566		

	A	B	C	D	E	F	G	H	I	J	K	L
51	Adjusted Chi Square Value					152	95% Jackknife UCL					1.597
52							95% Standard Bootstrap UCL					1.552
53	Anderson-Darling Test Statistic					0.276	95% Bootstrap-t UCL					1.694
54	Anderson-Darling 5% Critical Value					0.716	95% Hall's Bootstrap UCL					1.844
55	Kolmogorov-Smirnov Test Statistic					0.212	95% Percentile Bootstrap UCL					1.56
56	Kolmogorov-Smirnov 5% Critical Value					0.294	95% BCA Bootstrap UCL					1.591
57	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL					1.904
58							97.5% Chebyshev(Mean, Sd) UCL					2.139
59	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					2.6
60	95% Approximate Gamma UCL					1.625						
61	95% Adjusted Gamma UCL					1.702						
62												
63	Potential UCL to Use						Use 95% Student's-t UCL					1.597
64												
65	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
66	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
67	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
68												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\MR1 SM Bass.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 SM Bass														
10															
11	General Statistics														
12	Number of Valid Observations						8			Number of Distinct Observations			8		
13															
14	Raw Statistics						Log-transformed Statistics								
15	Minimum						0.35			Minimum of Log Data			-1.05		
16	Maximum						4.51			Maximum of Log Data			1.506		
17	Mean						2.354			Mean of log Data			0.564		
18	Median						2.205			SD of log Data			0.918		
19	SD						1.573								
20	Std. Error of Mean						0.556								
21	Coefficient of Variation						0.668								
22	Skewness						0.0908								
23															
24															
25	Warning: There are only 8 Values in this data														
26	Note: It should be noted that even though bootstrap methods may be performed on this data set,														
27	the resulting calculations may not be reliable enough to draw conclusions														
28															
29	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.														
30															
31	Relevant UCL Statistics														
32	Normal Distribution Test						Lognormal Distribution Test								
33	Shapiro Wilk Test Statistic						0.929			Shapiro Wilk Test Statistic			0.905		
34	Shapiro Wilk Critical Value						0.818			Shapiro Wilk Critical Value			0.818		
35	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
36															
37	Assuming Normal Distribution						Assuming Lognormal Distribution								
38	95% Student's-t UCL						3.407			95% H-UCL			8.203		
39	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						6.123		
40	95% Adjusted-CLT UCL (Chen-1995)						3.288			97.5% Chebyshev (MVUE) UCL			7.689		
41	95% Modified-t UCL (Johnson-1978)						3.41			99% Chebyshev (MVUE) UCL			10.76		
42															
43	Gamma Distribution Test						Data Distribution								
44	k star (bias corrected)						1.247			Data appear Normal at 5% Significance Level					
45	Theta Star						1.888								
46	MLE of Mean						2.354								
47	MLE of Standard Deviation						2.108								
48	nu star						19.94								
49	Approximate Chi Square Value (.05)						10.81			Nonparametric Statistics					
50	Adjusted Level of Significance						0.0195			95% CLT UCL			3.268		

	A	B	C	D	E	F	G	H	I	J	K	L	
51	Adjusted Chi Square Value					9.158	95% Jackknife UCL					3.407	
52							95% Standard Bootstrap UCL					3.174	
53	Anderson-Darling Test Statistic					0.321	95% Bootstrap-t UCL					3.388	
54	Anderson-Darling 5% Critical Value					0.725	95% Hall's Bootstrap UCL					3.121	
55	Kolmogorov-Smirnov Test Statistic					0.194	95% Percentile Bootstrap UCL					3.229	
56	Kolmogorov-Smirnov 5% Critical Value					0.298	95% BCA Bootstrap UCL					3.238	
57	Data appear Gamma Distributed at 5% Significance Level							95% Chebyshev(Mean, Sd) UCL					4.778
58								97.5% Chebyshev(Mean, Sd) UCL					5.827
59	Assuming Gamma Distribution							99% Chebyshev(Mean, Sd) UCL					7.887
60	95% Approximate Gamma UCL					4.343							
61	95% Adjusted Gamma UCL					5.126							
62													
63	Potential UCL to Use						Use 95% Student's-t UCL					3.407	
64													
65	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.												
66	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)												
67	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.												
68													

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\MR2 A. Sucker.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 A. Sucker														
10															
11	General Statistics														
12	Number of Valid Observations						8			Number of Distinct Observations			8		
13															
14	Raw Statistics						Log-transformed Statistics								
15	Minimum						0.18			Minimum of Log Data			-1.715		
16	Maximum						1.31			Maximum of Log Data			0.27		
17	Mean						0.73			Mean of log Data			-0.477		
18	Median						0.645			SD of log Data			0.661		
19	SD						0.392								
20	Std. Error of Mean						0.139								
21	Coefficient of Variation						0.537								
22	Skewness						0.189								
23															
24															
25	Warning: There are only 8 Values in this data														
26	Note: It should be noted that even though bootstrap methods may be performed on this data set,														
27	the resulting calculations may not be reliable enough to draw conclusions														
28															
29	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.														
30															
31	Relevant UCL Statistics														
32	Normal Distribution Test						Lognormal Distribution Test								
33	Shapiro Wilk Test Statistic						0.957			Shapiro Wilk Test Statistic			0.926		
34	Shapiro Wilk Critical Value						0.818			Shapiro Wilk Critical Value			0.818		
35	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
36															
37	Assuming Normal Distribution						Assuming Lognormal Distribution								
38	95% Student's-t UCL						0.993			95% H-UCL			1.499		
39	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						1.523		
40	95% Adjusted-CLT UCL (Chen-1995)						0.968			97.5% Chebyshev (MVUE) UCL			1.858		
41	95% Modified-t UCL (Johnson-1978)						0.994			99% Chebyshev (MVUE) UCL			2.516		
42															
43	Gamma Distribution Test						Data Distribution								
44	k star (bias corrected)						2.105			Data appear Normal at 5% Significance Level					
45	Theta Star						0.347								
46	MLE of Mean						0.73								
47	MLE of Standard Deviation						0.503								
48	nu star						33.67								
49	Approximate Chi Square Value (.05)						21.4			Nonparametric Statistics					
50	Adjusted Level of Significance						0.0195			95% CLT UCL			0.958		

	A	B	C	D	E	F	G	H	I	J	K	L
51	Adjusted Chi Square Value					18.97	95% Jackknife UCL					0.993
52							95% Standard Bootstrap UCL					0.942
53	Anderson-Darling Test Statistic					0.251	95% Bootstrap-t UCL					1.027
54	Anderson-Darling 5% Critical Value					0.721	95% Hall's Bootstrap UCL					0.975
55	Kolmogorov-Smirnov Test Statistic					0.167	95% Percentile Bootstrap UCL					0.95
56	Kolmogorov-Smirnov 5% Critical Value					0.296	95% BCA Bootstrap UCL					0.956
57	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL					1.334
58							97.5% Chebyshev(Mean, Sd) UCL					1.596
59	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					2.109
60	95% Approximate Gamma UCL					1.148						
61	95% Adjusted Gamma UCL					1.296						
62												
63	Potential UCL to Use						Use 95% Student's-t UCL					0.993
64												
65	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
66	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
67	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
68												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\MR2 Carp.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 Carp														
10															
11	General Statistics														
12	Number of Valid Observations						8			Number of Distinct Observations			8		
13															
14	Raw Statistics						Log-transformed Statistics								
15	Minimum						2.09			Minimum of Log Data			0.737		
16	Maximum						45.3			Maximum of Log Data			3.813		
17	Mean						15.58			Mean of log Data			2.187		
18	Median						10.59			SD of log Data			1.225		
19	SD						15.46								
20	Std. Error of Mean						5.466								
21	Coefficient of Variation						0.992								
22	Skewness						1.089								
23															
24															
25	Warning: There are only 8 Values in this data														
26	Note: It should be noted that even though bootstrap methods may be performed on this data set,														
27	the resulting calculations may not be reliable enough to draw conclusions														
28															
29	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.														
30															
31	Relevant UCL Statistics														
32	Normal Distribution Test						Lognormal Distribution Test								
33	Shapiro Wilk Test Statistic						0.863			Shapiro Wilk Test Statistic			0.893		
34	Shapiro Wilk Critical Value						0.818			Shapiro Wilk Critical Value			0.818		
35	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
36															
37	Assuming Normal Distribution						Assuming Lognormal Distribution								
38	95% Student's-t UCL						25.94			95% H-UCL			120.3		
39	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						48.15		
40	95% Adjusted-CLT UCL (Chen-1995)						26.82			97.5% Chebyshev (MVUE) UCL			61.86		
41	95% Modified-t UCL (Johnson-1978)						26.29			99% Chebyshev (MVUE) UCL			88.78		
42															
43	Gamma Distribution Test						Data Distribution								
44	k star (bias corrected)						0.726			Data appear Normal at 5% Significance Level					
45	Theta Star						21.46								
46	MLE of Mean						15.58								
47	MLE of Standard Deviation						18.28								
48	nu star						11.62								
49	Approximate Chi Square Value (.05)						4.976			Nonparametric Statistics					
50	Adjusted Level of Significance						0.0195			95% CLT UCL			24.57		

	A	B	C	D	E	F	G	H	I	J	K	L
51	Adjusted Chi Square Value					3.934	95% Jackknife UCL					25.94
52							95% Standard Bootstrap UCL					24.05
53	Anderson-Darling Test Statistic					0.372	95% Bootstrap-t UCL					30.58
54	Anderson-Darling 5% Critical Value					0.735	95% Hall's Bootstrap UCL					26.2
55	Kolmogorov-Smirnov Test Statistic					0.22	95% Percentile Bootstrap UCL					24.14
56	Kolmogorov-Smirnov 5% Critical Value					0.301	95% BCA Bootstrap UCL					26.52
57	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL					39.41
58							97.5% Chebyshev(Mean, Sd) UCL					49.72
59	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					69.97
60	95% Approximate Gamma UCL					36.37						
61	95% Adjusted Gamma UCL					46						
62												
63	Potential UCL to Use						Use 95% Student's-t UCL					25.94
64												
65	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
66	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
67	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
68												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File		\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\MR2 J. Sucker.wst												
4	Full Precision		OFF												
5	Confidence Coefficient		95%												
6	Number of Bootstrap Operations		2000												
7															
8															
9	2013 J. Sucker														
10															
11	General Statistics														
12	Number of Valid Observations					6			Number of Distinct Observations					5	
13															
14	Raw Statistics						Log-transformed Statistics								
15				Minimum			1.15			Minimum of Log Data			0.14		
16				Maximum			1.9			Maximum of Log Data			0.642		
17				Mean			1.49			Mean of log Data			0.373		
18				Median			1.455			SD of log Data			0.251		
19				SD			0.369								
20				Std. Error of Mean			0.151								
21				Coefficient of Variation			0.247								
22				Skewness			0.0746								
23															
24															
25	Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!														
26															
27	It is suggested to collect at least 8 to 10 observations using these statistical methods!														
28	If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.														
29															
30															
31	Warning: There are only 6 Values in this data														
32	Note: It should be noted that even though bootstrap methods may be performed on this data set,														
33	the resulting calculations may not be reliable enough to draw conclusions														
34															
35	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.														
36															
37	Relevant UCL Statistics														
38	Normal Distribution Test						Lognormal Distribution Test								
39				Shapiro Wilk Test Statistic			0.769			Shapiro Wilk Test Statistic			0.758		
40				Shapiro Wilk Critical Value			0.788			Shapiro Wilk Critical Value			0.788		
41	Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level								
42															
43	Assuming Normal Distribution						Assuming Lognormal Distribution								
44				95% Student's-t UCL			1.793			95% H-UCL			1.905		
45	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						2.154		
46				95% Adjusted-CLT UCL (Chen-1995)			1.743			97.5% Chebyshev (MVUE) UCL			2.442		
47				95% Modified-t UCL (Johnson-1978)			1.794			99% Chebyshev (MVUE) UCL			3.007		
48															
49	Gamma Distribution Test						Data Distribution								
50				k star (bias corrected)			9.805			Data Follow Appr. Gamma Distribution at 5% Significance Level					

	A	B	C	D	E	F	G	H	I	J	K	L	
51					Theta Star	0.152							
52					MLE of Mean	1.49							
53					MLE of Standard Deviation	0.476							
54					nu star	117.7							
55					Approximate Chi Square Value (.05)	93.61	Nonparametric Statistics						
56					Adjusted Level of Significance	0.0122				95% CLT UCL		1.738	
57					Adjusted Chi Square Value	85.87				95% Jackknife UCL		1.793	
58										95% Standard Bootstrap UCL		1.715	
59					Anderson-Darling Test Statistic	0.815				95% Bootstrap-t UCL		1.788	
60					Anderson-Darling 5% Critical Value	0.697				95% Hall's Bootstrap UCL		1.617	
61					Kolmogorov-Smirnov Test Statistic	0.328				95% Percentile Bootstrap UCL		1.725	
62					Kolmogorov-Smirnov 5% Critical Value	0.332				95% BCA Bootstrap UCL		1.71	
63	Data follow Appr. Gamma Distribution at 5% Significance Level										95% Chebyshev(Mean, Sd) UCL		2.146
64											97.5% Chebyshev(Mean, Sd) UCL		2.43
65	Assuming Gamma Distribution										99% Chebyshev(Mean, Sd) UCL		2.988
66					95% Approximate Gamma UCL	1.873							
67					95% Adjusted Gamma UCL	2.041							
68													
69	Potential UCL to Use										Use 95% Approximate Gamma UCL		1.873
70													
71	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.												
72	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)												
73	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.												
74													

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\MR2 R. Bass.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 R. Bass														
10															
11	General Statistics														
12	Number of Valid Observations						8			Number of Distinct Observations			8		
13															
14	Raw Statistics						Log-transformed Statistics								
15				Minimum			0.45			Minimum of Log Data			-0.799		
16				Maximum			1.25			Maximum of Log Data			0.223		
17				Mean			0.916			Mean of log Data			-0.123		
18				Median			0.935			SD of log Data			0.306		
19				SD			0.234								
20				Std. Error of Mean			0.0828								
21				Coefficient of Variation			0.256								
22				Skewness			-0.895								
23															
24															
25	Warning: There are only 8 Values in this data														
26	Note: It should be noted that even though bootstrap methods may be performed on this data set,														
27	the resulting calculations may not be reliable enough to draw conclusions														
28															
29	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.														
30															
31	Relevant UCL Statistics														
32	Normal Distribution Test						Lognormal Distribution Test								
33				Shapiro Wilk Test Statistic			0.942			Shapiro Wilk Test Statistic			0.847		
34				Shapiro Wilk Critical Value			0.818			Shapiro Wilk Critical Value			0.818		
35	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
36															
37	Assuming Normal Distribution						Assuming Lognormal Distribution								
38				95% Student's-t UCL			1.073			95% H-UCL			1.176		
39	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						1.356		
40				95% Adjusted-CLT UCL (Chen-1995)			1.024			97.5% Chebyshev (MVUE) UCL			1.544		
41				95% Modified-t UCL (Johnson-1978)			1.069			99% Chebyshev (MVUE) UCL			1.915		
42															
43	Gamma Distribution Test						Data Distribution								
44				k star (bias corrected)			8.883			Data appear Normal at 5% Significance Level					
45				Theta Star			0.103								
46				MLE of Mean			0.916								
47				MLE of Standard Deviation			0.307								
48				nu star			142.1								
49				Approximate Chi Square Value (.05)			115.6			Nonparametric Statistics					
50				Adjusted Level of Significance			0.0195			95% CLT UCL			1.052		

	A	B	C	D	E	F	G	H	I	J	K	L
51	Adjusted Chi Square Value					109.5	95% Jackknife UCL					1.073
52							95% Standard Bootstrap UCL					1.044
53	Anderson-Darling Test Statistic					0.471	95% Bootstrap-t UCL					1.053
54	Anderson-Darling 5% Critical Value					0.715	95% Hall's Bootstrap UCL					1.046
55	Kolmogorov-Smirnov Test Statistic					0.233	95% Percentile Bootstrap UCL					1.033
56	Kolmogorov-Smirnov 5% Critical Value					0.294	95% BCA Bootstrap UCL					1.02
57	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL					1.277
58							97.5% Chebyshev(Mean, Sd) UCL					1.434
59	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					1.74
60	95% Approximate Gamma UCL					1.127						
61	95% Adjusted Gamma UCL					1.189						
62												
63	Potential UCL to Use						Use 95% Student's-t UCL					1.073
64												
65	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
66	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
67	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
68												
69	Note: For highly negative-skewed data, confidence limits											
70	(e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
71	reliable. Chen's and Johnson's methods provide											
72	adjustments for positively skewed data sets.											
73												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\MR2 SM Bass.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 SM Bass														
10															
11	General Statistics														
12	Number of Valid Observations						8			Number of Distinct Observations			8		
13															
14	Raw Statistics						Log-transformed Statistics								
15	Minimum						1.03			Minimum of Log Data			0.0296		
16	Maximum						2.48			Maximum of Log Data			0.908		
17	Mean						1.606			Mean of log Data			0.436		
18	Median						1.395			SD of log Data			0.289		
19	SD						0.494								
20	Std. Error of Mean						0.175								
21	Coefficient of Variation						0.307								
22	Skewness						1.053								
23															
24															
25	Warning: There are only 8 Values in this data														
26	Note: It should be noted that even though bootstrap methods may be performed on this data set,														
27	the resulting calculations may not be reliable enough to draw conclusions														
28															
29	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.														
30															
31	Relevant UCL Statistics														
32	Normal Distribution Test						Lognormal Distribution Test								
33	Shapiro Wilk Test Statistic						0.853			Shapiro Wilk Test Statistic			0.901		
34	Shapiro Wilk Critical Value						0.818			Shapiro Wilk Critical Value			0.818		
35	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
36															
37	Assuming Normal Distribution						Assuming Lognormal Distribution								
38	95% Student's-t UCL						1.937			95% H-UCL			2.015		
39	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						2.32		
40	95% Adjusted-CLT UCL (Chen-1995)						1.963			97.5% Chebyshev (MVUE) UCL			2.629		
41	95% Modified-t UCL (Johnson-1978)						1.948			99% Chebyshev (MVUE) UCL			3.238		
42															
43	Gamma Distribution Test						Data Distribution								
44	k star (bias corrected)						8.433			Data appear Normal at 5% Significance Level					
45	Theta Star						0.19								
46	MLE of Mean						1.606								
47	MLE of Standard Deviation						0.553								
48	nu star						134.9								
49	Approximate Chi Square Value (.05)						109.1			Nonparametric Statistics					
50	Adjusted Level of Significance						0.0195			95% CLT UCL			1.893		

	A	B	C	D	E	F	G	H	I	J	K	L
51	Adjusted Chi Square Value					103.2	95% Jackknife UCL					1.937
52							95% Standard Bootstrap UCL					1.877
53	Anderson-Darling Test Statistic					0.579	95% Bootstrap-t UCL					2.34
54	Anderson-Darling 5% Critical Value					0.715	95% Hall's Bootstrap UCL					4.21
55	Kolmogorov-Smirnov Test Statistic					0.271	95% Percentile Bootstrap UCL					1.89
56	Kolmogorov-Smirnov 5% Critical Value					0.294	95% BCA Bootstrap UCL					1.924
57	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL					2.367
58							97.5% Chebyshev(Mean, Sd) UCL					2.696
59	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					3.343
60	95% Approximate Gamma UCL					1.987						
61	95% Adjusted Gamma UCL					2.1						
62												
63	Potential UCL to Use						Use 95% Student's-t UCL					1.937
64												
65	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
66	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
67	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
68												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\UR1 A. Sucker.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 A. Sucker														
10															
11	General Statistics														
12	Number of Valid Observations						12			Number of Distinct Observations			12		
13															
14	Raw Statistics						Log-transformed Statistics								
15	Minimum						2.21			Minimum of Log Data			0.793		
16	Maximum						37.2			Maximum of Log Data			3.616		
17	Mean						10.77			Mean of log Data			2.121		
18	Median						8.52			SD of log Data			0.745		
19	SD						9.168								
20	Std. Error of Mean						2.646								
21	Coefficient of Variation						0.851								
22	Skewness						2.435								
23															
24	Relevant UCL Statistics														
25	Normal Distribution Test						Lognormal Distribution Test								
26	Shapiro Wilk Test Statistic						0.729			Shapiro Wilk Test Statistic			0.952		
27	Shapiro Wilk Critical Value						0.859			Shapiro Wilk Critical Value			0.859		
28	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
29															
30	Assuming Normal Distribution						Assuming Lognormal Distribution								
31	95% Student's-t UCL						15.52			95% H-UCL			19.23		
32	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						21.21		
33	95% Adjusted-CLT UCL (Chen-1995)						17.11			97.5% Chebyshev (MVUE) UCL			25.75		
34	95% Modified-t UCL (Johnson-1978)						15.83			99% Chebyshev (MVUE) UCL			34.68		
35															
36	Gamma Distribution Test						Data Distribution								
37	k star (bias corrected)						1.634			Data appear Gamma Distributed at 5% Significance Level					
38	Theta Star						6.592								
39	MLE of Mean						10.77								
40	MLE of Standard Deviation						8.426								
41	nu star						39.22								
42	Approximate Chi Square Value (.05)						25.87			Nonparametric Statistics					
43	Adjusted Level of Significance						0.029			95% CLT UCL			15.12		
44	Adjusted Chi Square Value						24.23			95% Jackknife UCL			15.52		
45										95% Standard Bootstrap UCL			14.92		
46	Anderson-Darling Test Statistic						0.43			95% Bootstrap-t UCL			20.34		
47	Anderson-Darling 5% Critical Value						0.741			95% Hall's Bootstrap UCL			35.63		
48	Kolmogorov-Smirnov Test Statistic						0.186			95% Percentile Bootstrap UCL			15.52		
49	Kolmogorov-Smirnov 5% Critical Value						0.248			95% BCA Bootstrap UCL			16.9		
50	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL						22.31		

	A	B	C	D	E	F	G	H	I	J	K	L
51							97.5% Chebyshev(Mean, Sd) UCL					27.3
52	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					37.1
53	95% Approximate Gamma UCL					16.33						
54	95% Adjusted Gamma UCL					17.44						
55												
56	Potential UCL to Use						Use 95% Approximate Gamma UCL					16.33
57												
58	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
59	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
60	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
61												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\UR1 A. Sucker.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 A. Sucker														
10															
11	General Statistics														
12	Number of Valid Observations						12			Number of Distinct Observations			12		
13															
14	Raw Statistics						Log-transformed Statistics								
15	Minimum						2.21			Minimum of Log Data			0.793		
16	Maximum						37.2			Maximum of Log Data			3.616		
17	Mean						10.77			Mean of log Data			2.121		
18	Median						8.52			SD of log Data			0.745		
19	SD						9.168								
20	Std. Error of Mean						2.646								
21	Coefficient of Variation						0.851								
22	Skewness						2.435								
23															
24	Relevant UCL Statistics														
25	Normal Distribution Test						Lognormal Distribution Test								
26	Shapiro Wilk Test Statistic						0.729			Shapiro Wilk Test Statistic			0.952		
27	Shapiro Wilk Critical Value						0.859			Shapiro Wilk Critical Value			0.859		
28	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
29															
30	Assuming Normal Distribution						Assuming Lognormal Distribution								
31	95% Student's-t UCL						15.52			95% H-UCL			19.23		
32	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						21.21		
33	95% Adjusted-CLT UCL (Chen-1995)						17.11			97.5% Chebyshev (MVUE) UCL			25.75		
34	95% Modified-t UCL (Johnson-1978)						15.83			99% Chebyshev (MVUE) UCL			34.68		
35															
36	Gamma Distribution Test						Data Distribution								
37	k star (bias corrected)						1.634			Data appear Gamma Distributed at 5% Significance Level					
38	Theta Star						6.592								
39	MLE of Mean						10.77								
40	MLE of Standard Deviation						8.426								
41	nu star						39.22								
42	Approximate Chi Square Value (.05)						25.87			Nonparametric Statistics					
43	Adjusted Level of Significance						0.029			95% CLT UCL			15.12		
44	Adjusted Chi Square Value						24.23			95% Jackknife UCL			15.52		
45										95% Standard Bootstrap UCL			14.92		
46	Anderson-Darling Test Statistic						0.43			95% Bootstrap-t UCL			20.34		
47	Anderson-Darling 5% Critical Value						0.741			95% Hall's Bootstrap UCL			35.63		
48	Kolmogorov-Smirnov Test Statistic						0.186			95% Percentile Bootstrap UCL			15.52		
49	Kolmogorov-Smirnov 5% Critical Value						0.248			95% BCA Bootstrap UCL			16.9		
50	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL						22.31		

	A	B	C	D	E	F	G	H	I	J	K	L
51							97.5% Chebyshev(Mean, Sd) UCL					27.3
52	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					37.1
53	95% Approximate Gamma UCL					16.33						
54	95% Adjusted Gamma UCL					17.44						
55												
56	Potential UCL to Use						Use 95% Approximate Gamma UCL					16.33
57												
58	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
59	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
60	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
61												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\UR1 R. Bass.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 R. Bass														
10															
11	General Statistics														
12	Number of Valid Observations						9			Number of Distinct Observations			9		
13															
14	Raw Statistics						Log-transformed Statistics								
15	Minimum						0.15			Minimum of Log Data			-1.897		
16	Maximum						15.7			Maximum of Log Data			2.754		
17	Mean						4.03			Mean of log Data			0.772		
18	Median						2.69			SD of log Data			1.329		
19	SD						4.785								
20	Std. Error of Mean						1.595								
21	Coefficient of Variation						1.187								
22	Skewness						2.183								
23															
24															
25	Warning: There are only 9 Values in this data														
26	Note: It should be noted that even though bootstrap methods may be performed on this data set,														
27	the resulting calculations may not be reliable enough to draw conclusions														
28															
29	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.														
30															
31	Relevant UCL Statistics														
32	Normal Distribution Test						Lognormal Distribution Test								
33	Shapiro Wilk Test Statistic						0.73			Shapiro Wilk Test Statistic			0.943		
34	Shapiro Wilk Critical Value						0.829			Shapiro Wilk Critical Value			0.829		
35	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
36															
37	Assuming Normal Distribution						Assuming Lognormal Distribution								
38	95% Student's-t UCL						6.996			95% H-UCL			34.51		
39	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						13.52		
40	95% Adjusted-CLT UCL (Chen-1995)						7.894			97.5% Chebyshev (MVUE) UCL			17.43		
41	95% Modified-t UCL (Johnson-1978)						7.19			99% Chebyshev (MVUE) UCL			25.09		
42															
43	Gamma Distribution Test						Data Distribution								
44	k star (bias corrected)						0.698			Data appear Gamma Distributed at 5% Significance Level					
45	Theta Star						5.775								
46	MLE of Mean						4.03								
47	MLE of Standard Deviation						4.824								
48	nu star						12.56								
49	Approximate Chi Square Value (.05)						5.599			Nonparametric Statistics					
50	Adjusted Level of Significance						0.0231			95% CLT UCL			6.654		

	A	B	C	D	E	F	G	H	I	J	K	L
51	Adjusted Chi Square Value					4.657	95% Jackknife UCL					6.996
52							95% Standard Bootstrap UCL					6.553
53	Anderson-Darling Test Statistic					0.31	95% Bootstrap-t UCL					12.75
54	Anderson-Darling 5% Critical Value					0.746	95% Hall's Bootstrap UCL					20.98
55	Kolmogorov-Smirnov Test Statistic					0.215	95% Percentile Bootstrap UCL					6.821
56	Kolmogorov-Smirnov 5% Critical Value					0.288	95% BCA Bootstrap UCL					7.809
57	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL					10.98
58							97.5% Chebyshev(Mean, Sd) UCL					13.99
59	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					19.9
60	95% Approximate Gamma UCL					9.041						
61	95% Adjusted Gamma UCL					10.87						
62												
63	Potential UCL to Use						Use 95% Approximate Gamma UCL					9.041
64												
65	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
66	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
67	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
68												

	A	B	C	D	E	F	G	H	I	J	K	L		
1				General UCL Statistics for Full Data Sets										
2	User Selected Options													
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\UR1 SM Bass.wst										
4	Full Precision			OFF										
5	Confidence Coefficient			95%										
6	Number of Bootstrap Operations			2000										
7														
8														
9	2013 SM Bass													
10														
11	General Statistics													
12	Number of Valid Observations						12			Number of Distinct Observations			12	
13														
14	Raw Statistics						Log-transformed Statistics							
15	Minimum						0.14			Minimum of Log Data			-1.966	
16	Maximum						21.5			Maximum of Log Data			3.068	
17	Mean						7.057			Mean of log Data			1.203	
18	Median						6.91			SD of log Data			1.567	
19	SD						6.704							
20	Std. Error of Mean						1.935							
21	Coefficient of Variation						0.95							
22	Skewness						0.83							
23														
24	Relevant UCL Statistics													
25	Normal Distribution Test						Lognormal Distribution Test							
26	Shapiro Wilk Test Statistic						0.889			Shapiro Wilk Test Statistic			0.898	
27	Shapiro Wilk Critical Value						0.859			Shapiro Wilk Critical Value			0.859	
28	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level							
29														
30	Assuming Normal Distribution						Assuming Lognormal Distribution							
31	95% Student's-t UCL						10.53			95% H-UCL			76.54	
32	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						29.9	
33	95% Adjusted-CLT UCL (Chen-1995)						10.74			97.5% Chebyshev (MVUE) UCL			38.75	
34	95% Modified-t UCL (Johnson-1978)						10.61			99% Chebyshev (MVUE) UCL			56.12	
35														
36	Gamma Distribution Test						Data Distribution							
37	k star (bias corrected)						0.649			Data appear Normal at 5% Significance Level				
38	Theta Star						10.87							
39	MLE of Mean						7.057							
40	MLE of Standard Deviation						8.757							
41	nu star						15.59							
42	Approximate Chi Square Value (.05)						7.67			Nonparametric Statistics				
43	Adjusted Level of Significance						0.029			95% CLT UCL			10.24	
44	Adjusted Chi Square Value						6.839			95% Jackknife UCL			10.53	
45										95% Standard Bootstrap UCL			10.12	
46	Anderson-Darling Test Statistic						0.484			95% Bootstrap-t UCL			11.62	
47	Anderson-Darling 5% Critical Value						0.764			95% Hall's Bootstrap UCL			11.11	
48	Kolmogorov-Smirnov Test Statistic						0.209			95% Percentile Bootstrap UCL			10.14	
49	Kolmogorov-Smirnov 5% Critical Value						0.254			95% BCA Bootstrap UCL			10.58	
50	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL						15.49	

	A	B	C	D	E	F	G	H	I	J	K	L
51							97.5% Chebyshev(Mean, Sd) UCL					19.14
52	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					26.31
53	95% Approximate Gamma UCL					14.34						
54	95% Adjusted Gamma UCL					16.08						
55												
56	Potential UCL to Use						Use 95% Student's-t UCL					10.53
57												
58	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
59	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
60	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
61												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\UR2 A. Sucker.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 A. Sucker														
10															
11	General Statistics														
12	Number of Valid Observations					12		Number of Distinct Observations					12		
13															
14	Raw Statistics						Log-transformed Statistics								
15				Minimum			3.66			Minimum of Log Data			1.297		
16				Maximum			12.4			Maximum of Log Data			2.518		
17				Mean			6.868			Mean of log Data			1.88		
18				Median			6.74			SD of log Data			0.319		
19				SD			2.281								
20				Std. Error of Mean			0.659								
21				Coefficient of Variation			0.332								
22				Skewness			1.181								
23															
24	Relevant UCL Statistics														
25	Normal Distribution Test						Lognormal Distribution Test								
26				Shapiro Wilk Test Statistic			0.923			Shapiro Wilk Test Statistic			0.984		
27				Shapiro Wilk Critical Value			0.859			Shapiro Wilk Critical Value			0.859		
28	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
29															
30	Assuming Normal Distribution						Assuming Lognormal Distribution								
31				95% Student's-t UCL			8.051			95% H-UCL			8.31		
32	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						9.644		
33				95% Adjusted-CLT UCL (Chen-1995)			8.192			97.5% Chebyshev (MVUE) UCL			10.85		
34				95% Modified-t UCL (Johnson-1978)			8.088			99% Chebyshev (MVUE) UCL			13.21		
35															
36	Gamma Distribution Test						Data Distribution								
37				k star (bias corrected)			8.132			Data appear Normal at 5% Significance Level					
38				Theta Star			0.845								
39				MLE of Mean			6.868								
40				MLE of Standard Deviation			2.409								
41				nu star			195.2								
42				Approximate Chi Square Value (.05)			163.8			Nonparametric Statistics					
43				Adjusted Level of Significance			0.029			95% CLT UCL			7.952		
44				Adjusted Chi Square Value			159.5			95% Jackknife UCL			8.051		
45										95% Standard Bootstrap UCL			7.906		
46				Anderson-Darling Test Statistic			0.205			95% Bootstrap-t UCL			8.534		
47				Anderson-Darling 5% Critical Value			0.73			95% Hall's Bootstrap UCL			9.461		
48				Kolmogorov-Smirnov Test Statistic			0.14			95% Percentile Bootstrap UCL			7.957		
49				Kolmogorov-Smirnov 5% Critical Value			0.245			95% BCA Bootstrap UCL			8.248		
50	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL						9.739		

	A	B	C	D	E	F	G	H	I	J	K	L
51							97.5% Chebyshev(Mean, Sd) UCL					10.98
52	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					13.42
53	95% Approximate Gamma UCL					8.181						
54	95% Adjusted Gamma UCL					8.406						
55												
56	Potential UCL to Use						Use 95% Student's-t UCL					8.051
57												
58	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
59	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
60	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
61												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\UR2 Carp.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 Carp														
10															
11	General Statistics														
12	Number of Valid Observations					11			Number of Distinct Observations					11	
13															
14	Raw Statistics						Log-transformed Statistics								
15				Minimum			1.05			Minimum of Log Data			0.0488		
16				Maximum			39			Maximum of Log Data			3.664		
17				Mean			19.22			Mean of log Data			2.59		
18				Median			21.2			SD of log Data			1.121		
19				SD			12								
20				Std. Error of Mean			3.617								
21				Coefficient of Variation			0.624								
22				Skewness			-0.156								
23															
24	Relevant UCL Statistics														
25	Normal Distribution Test						Lognormal Distribution Test								
26				Shapiro Wilk Test Statistic			0.952			Shapiro Wilk Test Statistic			0.813		
27				Shapiro Wilk Critical Value			0.85			Shapiro Wilk Critical Value			0.85		
28	Data appear Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level								
29															
30	Assuming Normal Distribution						Assuming Lognormal Distribution								
31				95% Student's-t UCL			25.78			95% H-UCL			78.62		
32	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						59.21		
33				95% Adjusted-CLT UCL (Chen-1995)			24.99			97.5% Chebyshev (MVUE) UCL			74.87		
34				95% Modified-t UCL (Johnson-1978)			25.75			99% Chebyshev (MVUE) UCL			105.6		
35															
36	Gamma Distribution Test						Data Distribution								
37				k star (bias corrected)			1.16			Data appear Normal at 5% Significance Level					
38				Theta Star			16.57								
39				MLE of Mean			19.22								
40				MLE of Standard Deviation			17.85								
41				nu star			25.53								
42				Approximate Chi Square Value (.05)			15.02			Nonparametric Statistics					
43				Adjusted Level of Significance			0.0278			95% CLT UCL			25.17		
44				Adjusted Chi Square Value			13.72			95% Jackknife UCL			25.78		
45										95% Standard Bootstrap UCL			24.92		
46				Anderson-Darling Test Statistic			0.715			95% Bootstrap-t UCL			24.92		
47				Anderson-Darling 5% Critical Value			0.742			95% Hall's Bootstrap UCL			25.44		
48				Kolmogorov-Smirnov Test Statistic			0.281			95% Percentile Bootstrap UCL			24.91		
49				Kolmogorov-Smirnov 5% Critical Value			0.26			95% BCA Bootstrap UCL			24.58		
50	Data follow Appr. Gamma Distribution at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL						34.99		

	A	B	C	D	E	F	G	H	I	J	K	L	
51						97.5% Chebyshev(Mean, Sd) UCL						41.81	
52	Assuming Gamma Distribution					99% Chebyshev(Mean, Sd) UCL						55.21	
53	95% Approximate Gamma UCL					32.68							
54	95% Adjusted Gamma UCL					35.77							
55													
56	Potential UCL to Use					Use 95% Student's-t UCL						25.78	
57													
58	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.												
59	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)												
60	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.												
61													
62	Note: For highly negative-skewed data, confidence limits												
63	(e.g., Chen, Johnson, Lognormal, and Gamma) may not be												
64	reliable. Chen's and Johnson's methods provide												
65	adjustments for positively skewed data sets.												
66													

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\Smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\UR2 R. Bass.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 R. Bass														
10															
11	General Statistics														
12	Number of Valid Observations					12		Number of Distinct Observations					12		
13															
14	Raw Statistics						Log-transformed Statistics								
15				Minimum			0.78			Minimum of Log Data			-0.248		
16				Maximum			9.96			Maximum of Log Data			2.299		
17				Mean			2.279			Mean of log Data			0.539		
18				Median			1.625			SD of log Data			0.685		
19				SD			2.494								
20				Std. Error of Mean			0.72								
21				Coefficient of Variation			1.094								
22				Skewness			3.103								
23															
24	Relevant UCL Statistics														
25	Normal Distribution Test						Lognormal Distribution Test								
26				Shapiro Wilk Test Statistic			0.557			Shapiro Wilk Test Statistic			0.872		
27				Shapiro Wilk Critical Value			0.859			Shapiro Wilk Critical Value			0.859		
28	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
29															
30	Assuming Normal Distribution						Assuming Lognormal Distribution								
31				95% Student's-t UCL			3.572			95% H-UCL			3.554		
32	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						4.02		
33				95% Adjusted-CLT UCL (Chen-1995)			4.153			97.5% Chebyshev (MVUE) UCL			4.842		
34				95% Modified-t UCL (Johnson-1978)			3.68			99% Chebyshev (MVUE) UCL			6.458		
35															
36	Gamma Distribution Test						Data Distribution								
37				k star (bias corrected)			1.486			Data appear Lognormal at 5% Significance Level					
38				Theta Star			1.534								
39				MLE of Mean			2.279								
40				MLE of Standard Deviation			1.87								
41				nu star			35.66								
42				Approximate Chi Square Value (.05)			23			Nonparametric Statistics					
43				Adjusted Level of Significance			0.029			95% CLT UCL			3.464		
44				Adjusted Chi Square Value			21.46			95% Jackknife UCL			3.572		
45										95% Standard Bootstrap UCL			3.451		
46				Anderson-Darling Test Statistic			0.98			95% Bootstrap-t UCL			6.255		
47				Anderson-Darling 5% Critical Value			0.742			95% Hall's Bootstrap UCL			8.05		
48				Kolmogorov-Smirnov Test Statistic			0.257			95% Percentile Bootstrap UCL			3.571		
49				Kolmogorov-Smirnov 5% Critical Value			0.249			95% BCA Bootstrap UCL			4.445		
50	Data not Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL						5.418		

	A	B	C	D	E	F	G	H	I	J	K	L
51							97.5% Chebyshev(Mean, Sd) UCL					6.776
52	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					9.444
53	95% Approximate Gamma UCL					3.534						
54	95% Adjusted Gamma UCL					3.788						
55												
56	Potential UCL to Use						Use 95% H-UCL					3.554
57												
58	ProUCL computes and outputs H-statistic based UCLs for historical reasons only.											
59	H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.											
60	It is therefore recommended to avoid the use of H-statistic based 95% UCLs.											
61	Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.											
62												
63	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
64	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
65	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
66												

	A	B	C	D	E	F	G	H	I	J	K	L			
1				General UCL Statistics for Full Data Sets											
2	User Selected Options														
3	From File			\\smefile\work in progress\069448.00\Fish Monitoring\2013\Box and Whisker Plot files\UR2 SM Bass.wst											
4	Full Precision			OFF											
5	Confidence Coefficient			95%											
6	Number of Bootstrap Operations			2000											
7															
8															
9	2013 SM Bass														
10															
11	General Statistics														
12	Number of Valid Observations						12			Number of Distinct Observations			12		
13															
14	Raw Statistics						Log-transformed Statistics								
15	Minimum						0.96			Minimum of Log Data			-0.0408		
16	Maximum						5.8			Maximum of Log Data			1.758		
17	Mean						2.93			Mean of log Data			0.92		
18	Median						2.855			SD of log Data			0.608		
19	SD						1.596								
20	Std. Error of Mean						0.461								
21	Coefficient of Variation						0.545								
22	Skewness						0.454								
23															
24	Relevant UCL Statistics														
25	Normal Distribution Test						Lognormal Distribution Test								
26	Shapiro Wilk Test Statistic						0.94			Shapiro Wilk Test Statistic			0.941		
27	Shapiro Wilk Critical Value						0.859			Shapiro Wilk Critical Value			0.859		
28	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level								
29															
30	Assuming Normal Distribution						Assuming Lognormal Distribution								
31	95% Student's-t UCL						3.757			95% H-UCL			4.583		
32	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						5.307		
33	95% Adjusted-CLT UCL (Chen-1995)						3.752			97.5% Chebyshev (MVUE) UCL			6.321		
34	95% Modified-t UCL (Johnson-1978)						3.767			99% Chebyshev (MVUE) UCL			8.311		
35															
36	Gamma Distribution Test						Data Distribution								
37	k star (bias corrected)						2.591			Data appear Normal at 5% Significance Level					
38	Theta Star						1.131								
39	MLE of Mean						2.93								
40	MLE of Standard Deviation						1.82								
41	nu star						62.19								
42	Approximate Chi Square Value (.05)						45.05			Nonparametric Statistics					
43	Adjusted Level of Significance						0.029			95% CLT UCL			3.688		
44	Adjusted Chi Square Value						42.83			95% Jackknife UCL			3.757		
45										95% Standard Bootstrap UCL			3.648		
46	Anderson-Darling Test Statistic						0.242			95% Bootstrap-t UCL			3.82		
47	Anderson-Darling 5% Critical Value						0.738			95% Hall's Bootstrap UCL			3.769		
48	Kolmogorov-Smirnov Test Statistic						0.14			95% Percentile Bootstrap UCL			3.684		
49	Kolmogorov-Smirnov 5% Critical Value						0.247			95% BCA Bootstrap UCL			3.758		
50	Data appear Gamma Distributed at 5% Significance Level						95% Chebyshev(Mean, Sd) UCL						4.938		

	A	B	C	D	E	F	G	H	I	J	K	L
51							97.5% Chebyshev(Mean, Sd) UCL					5.806
52	Assuming Gamma Distribution						99% Chebyshev(Mean, Sd) UCL					7.513
53	95% Approximate Gamma UCL					4.045						
54	95% Adjusted Gamma UCL					4.254						
55												
56	Potential UCL to Use						Use 95% Student's-t UCL					3.757
57												
58	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
59	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
60	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.											
61												

Appendix 5

Fish Tissue Statistical Analysis

**Appendix 5
Fish Tissue Statistical Analysis**

	Carp		Adult Sucker		Juvenile Sucker		Smallmouth Bass		Rock Bass		Walleye		Channel Catfish		Longnose Dace	
	2008	2013	2008	2013	2008	2013	2008	2013	2008	2013	2008	2013	2008	2013	2008	2013
Upper River 1																
Mean	25.90	37.01545	12.40	10.68	6.01	NC	13.00	7.06	6.94	4.03	Not Collected	Not Collected	7.67	NC	Not Collected	Not Collected
Standard Deviation	21.40	24.61796	5.00	9.61	2.85	NC	7.28	6.70	5.01	4.79			6.85	NC		
Count	16	12	8	12	8	NC	8.00	12.00	8.00	9.00			6	NC		
t	1.25		0.52		NA		1.85		1.22				NA			
Critical Value at t _{0.1/2}	1.75		1.78		NA		1.78		1.83				NA			
Significant Difference	No		No		NA		Yes		No				NA			
	2008	2013	2008	2013	2008	2013	2008	2013	2008	2013			2008	2013		
Upper River 2																
Mean	14.70	19.22364	8.92	6.87	6.82	NC	14.50	2.93	4.27	2.28	Not Collected	Not Collected	Not Collected	Not Collected	Not Collected	Not Collected
Standard Deviation	15.00	11.99663	4.19	2.28	2.96	NC	11.10	1.60	2.94	2.49						
Count	16	11	8	12	8	NC	8.00	12.00	8.00	12.00						
t	0.87		1.27		NA		2.93		1.57							
Critical Value at t _{0.1/2}	1.75		1.78		NA		1.78		1.78							
Significant Difference	No		No		NA		Yes		No							
	2008	2013	2008	2013	2008	2013	2008	2013	2008	2013						
Middle River 1																
Mean	14.19	15.54	2.14	1.78	Not Collected	4.02	2.35	1.73	1.36	11.10	10.53	27.90	12.75	9.47	NC	
Standard Deviation	7.27	5.24	1.22	1.39		2.21	1.57	0.55	0.35	4.63	9.20	15.60	4.39	4.15	NC	
Count	8	8	8	8		8	8	8	8	8	3	4	8	7	NC	
t	0.43		0.54			1.74		1.57		0.10		1.90		NA		
Critical Value at t _{0.1/2}	1.86		1.86			1.86		1.86		1.86		1.86		NA		
Significant Difference	No		No			No		No		No		Yes		NA		
	2012	2013	2012	2013		2012	2013	2012	2013	2012	2013	2008	2013	2008	2013	2008
Middle River 2																
Mean	19.21	15.58	3.21	0.73	2.95	1.49	2.74	1.61	1.59	0.92	Not Collected	8.18	NC	8.51	NC	
Standard Deviation	11.72	15.46	1.22	0.39	0.87	0.37	0.63	0.49	0.38	0.23		6.62	NC	2.25	NC	
Count	8	8	8	8	8	7	8	8	8	8		4	NC	8	NC	
t	0.53		5.48		4.31		4.01		4.26			NA		NA		
Critical Value at t _{0.1/2}	1.86		1.86		1.86		1.86		1.86			NA		NA		
Significant Difference	No		Yes		Yes		Yes		Yes			NA		NA		
	2008	2013	2008	2013	2008	2013	2008	2013	2008	2013		2008	2013	2008	2013	2008
Lower River																
Mean	11.30	17.22	4.31	1.08	1.04	NC	5.77	1.34	2.60	1.30	Not Collected	13.70	NC	Not Collected	Not Collected	
Standard Deviation	15.20	14.92	0.93	0.39	0.43	NC	3.05	0.75	1.11	0.42		10.00	NC			
Count	9	8	2	8	5	NC	8	8	9	9		5	NC			
t	0.81		4.81		NA		3.99		3.29			NA				
Critical Value at t _{0.1/2}	1.83		1.86		NA		1.86		1.83			NA				
Significant Difference	No		Yes		NA		Yes		Yes			NA				
	2008	2013	2008	2013	2008	2013	2008	2013	2008	2013		2008	2013			2008
Inner Harbor																
Mean	3.16	15.77	Not Collected	Not Collected	3.36	1.6	Not Collected	2.03	NC	19.40	NC	Not Collected	Not Collected			
Standard Deviation	2.81	4.92			1.04	0.99		0.86	NC	0.00	NC					
Count	9	7			8	9		3	NC	1	NC					
t	6.06				3.56			NA		NA						
Critical Value at t _{0.1/2}	1.83				1.83			NA		NA						
Significant Difference	Yes				Yes			NA		NA						
	2008	2013			2008	2013		2008	2013	2008	2013			2008	2013	2008

Mean and Standard Deviation values are PCB concentrations in mg/Kg
Values in Red exceed the Critical Value and the means for the data sets are significantly different.
ROD tissue PCB concentrations for target fish species are as follows: Smallmouth Bass- 0.31 ppm; Walleye- 0.63 ppm;
Trout- 0.09 ppm; Carp- 2.58 ppm, Catfish- 2.53 ppm.
NC = Fish not collected, NA = Not applicable



*Passionate People Building
and Revitalizing our World*

