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Technical Data Report

Summary of PCB Sampling Results Northeast Cape, St. Lawrence Island, Alaska



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EXECUTIVE SUMMARY

The United States Army Corps of Engineers, Alaska District independently analyzed a subset of sediment, surface water and fish tissue samples from the Northeast Cape Formerly Used Defense Site during the 2001 Phase III Remedial Investigation. The Corps' Waterways Experiment Station Laboratory in Vicksburg, Mississippi analyzed these samples for polychlorinated biphenyls (PCBs) as Aroclors and 64 individual congeners.

The data was collected strictly for general comparison purposes, to help determine whether a distinct military source of PCBs could be attributed to the former facility or if global sources were more likely (i.e., background levels). The results from this study were not intended to substitute for data collected during the main investigation. In addition, questions regarding data quality and comparability rendered the results less meaningful than intended during the project planning process.

Two different PCB Aroclors were detected in sediment. Aroclor-1242 was detected in 10 of 11 samples, at concentrations ranging from 49.4 to 5,755 micrograms per kilogram (μ g/kg) or parts per billion (ppb). However, the method blank also contained Aroclor-1242. Aroclor-1260 was detected in all the sediment samples at concentrations ranging from 6.57 to 415 μ g/kg. Various PCB congeners were also detected in the sediment samples. None of the four surface water samples contained detectable levels of PCBs (Aroclors or congeners).

The only PCB detected in the fish tissue samples was PCB congener 206, at a concentration of $3.03 \mu g/kg$. However, PCB-206 was also detected in the method blank sample. PCB Aroclors were not detected in any of the fish samples.

In evaluating this data set, no strong correlation exists between the sediment and fish tissue results. Based on these findings, a distinct military source of PCBs cannot be distinguished.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	. 3
TABLE OF CONTENTS	.4
LIST OF ACRONYMS	. 5
1. INTRODUCTION	. 6
2. SUMMARY OF WORK	. 6
3. METHODS	. 9
4. DATA QUALITY	. 9
5. RESULTS	10
5.1 Sediment	10
5.2 Water	11
5.3 Fish	12
6. Discussion	14
7. References	16

Figure 1. Site 28 Drainage Basin Sampling Locations Figure 2. Site 29 Suqitughneq River and Site 30 Background Sampling Locations

APPENDIX A – PCB Sample Index APPENDIX B – Sediment Results APPENDIX C – Water Results APPENDIX D – Fish Tissue Results

LIST OF ACRONYMS

CFR	Code of Federal Regulations
FUDS	Formerly Used Defense Site
GC	gas chromatography
LCS	laboratory control sample
LRL	laboratory reporting limit
MDL	method detection limit
MWH	Montgomery Watson Harza
mg/kg	milligrams per kilogram
PCB	polychlorinated biphenyl
ppb	parts per billion
ppm	parts per million
Suqi	Suqitughneq River
USACE	United States Army Corps of Engineers
WES	Waterways Experiment Station
µg/kg	micrograms per kilogram
µg/L	microgram per liter

1. INTRODUCTION

The U.S. Army Corps of Engineers (USACE) is conducting remedial investigation activities at the Northeast Cape Formerly Used Defense Site (FUDS) on St. Lawrence Island, Alaska. Cleanup of the facility is ongoing. During historical operations in the 1960s, known fuel spills and other possible sources of contamination may have affected biological resources in the Suqitughneq River and an unnamed drainage basin that originates at the main operations complex.

The purpose of the 2001 sampling event was to further characterize the possible source of polychlorinated biphenyl (PCB) contamination at Northeast Cape, assess whether a local versus global source of PCBs could be distinguished, and compare the sediment and fish analytical results. During the 2001 field investigation, Montgomery Watson Harza (MWH) collected a limited subset of fish, sediment, and water samples from the Suqitughneq River for independent analysis by the Corps of Engineers. The Waterways Experiment Station (WES) laboratory in Vicksburg, Mississippi analyzed these samples for PCBs as both Aroclors (a standard commercial mixture of PCBs) and individual congeners (unique PCB compounds with a particular chemical structure).

PCBs are a group of synthetic organic chemicals that contain 209 theoretical individual chlorinated biphenyl compounds. A single PCB is a molecule consisting of a biphenyl nucleus (two rings) with chlorine atoms attached at any or all of 10 available sites. These chemically related compounds are known as congeners and vary in their physical and chemical properties and toxicity. PCBs have not been produced in the United States since 1979, but are widely distributed in the environment because of their persistence and former widespread use (for example: electric transformers, capacitors, and hydraulic fluids). The most common analytical method used to detect PCBs in the environment is based on Aroclor analysis; however congener-specific methods have also been developed.

MWH conducted the main field investigation for USACE under contract DACA85-98-D-007, and those sampling results are presented separately in the report Draft Phase III Remedial Investigation and Risk Assessment Update (MWH 2002).

2. SUMMARY OF WORK

Montgomery Watson Harza personnel collected sediment and water samples from Site 28 (Drainage Basin), Site 29 (Suqitughneq River), and Site 30 (Background) between 17 and 29 August 2001. The sediment/surface water sampling locations are shown on Figures 1 and 2. Fish samples were collected from the drainage basin and downgradient of the runway access road near the estuary/lagoon. The sediment and surface water samples were collected at existing planned sampling locations as split samples, and assigned a sample identifier based on the scheme identified in the Final Phase III Remedial Investigation Workplan (see page 4-5, MWH 2001a). Sample numbers from 401-499 represent the split samples collected for this effort. For example: location 01NE28SD426 is a sediment sample (SD) collected in 2001 (01) from

Northeast Cape Site 28 (NE28), and is shown on Figure 2-12 of the Site Characterization Technical Memorandum (see MWH 2001c) as primary sample location 28SD126.

Sediment samples were collected from five locations within the drainage basin, four locations within the Suqitughneq River, and two locations considered during the planning process to be representative of background conditions (the west tributary to the Suqitughneq River). Co-located surface water samples were collected from one location in the Drainage basin, one location in the Suqitughneq River, and two background locations. All samples were collected according to the sampling procedures outlined in the final workplan (MWH 2001a). Actual sediment and co-located surface water sample locations for the main investigation are shown on Figures 2-12, 2-13 and 2-14 of the Site Characterization Technical Memorandum (MWH 2001c). Figures 1 and 2, herein, depict the split sample locations for this effort.

Fish samples were also collected from the Suqitughneq River and associated drainage basin by USACE personnel between August 17 - 22, 2001. Dolly Varden were captured in baited hoop nets and with gillnets. Anadramous Dolly Varden of subsistence harvest size were targeted for analysis, and four fish were submitted for analysis of PCB Aroclors and congeners. Table 2-1 contains a summary of the fish samples collected. Additional information on the fish sampling protocols can be found in the Final Biological Sampling Plan (MWH 2001b) and the USACE Trip Report – Northeast Cape fish data collection (see MWH 2002, Appendix E).

Four composite samples of resident Dolly Varden fish were also retained for PCB analysis. The Suqitughneq River supports a stock of resident Dolly Varden that do not appear to migrate to sea. These fish were noted to be sexually mature starting at about 6 inches in length. Resident fish might be expected to have higher contaminant levels than anadramous fish because of their continuous residence in the affected drainage. Resident fish from the Suqitughneq River were retained because: (a) they have spent their entire lives in the Suqitughneq River, and (b) they could be used to help distinguish specific Suqitughneq River contaminants that might be found in the anadramous fish. Resident fish are not typically consumed or harvested by local residents due to their small size.

Fish	Field ID	Species	Туре	Preparation	Location
#1	COE 1 WHOLE	Dolly	Anadramous	Whole Fish	Suqi
		Varden			River
#2	COE 2 WHOLE	Dolly	Anadramous	Whole Fish	Suqi
		Varden			River
#3	COE 3 FILLET	Dolly	Anadramous	Fillet with skin on	Suqi
	WITH SKIN	Varden			River
#3	COE 3 REST OF	Dolly	Anadramous	Whole Fish	Suqi
	FISH	Varden		(minus fillet sample)	River
#4	COE 4 FILLET	Dolly	Anadramous	Fillet with skin on	Suqi
	WITH SKIN	Varden			River
#4	COE 4 REST OF	Dolly	Anadramous	Whole Fish	Suqi
	FISH	Varden		(minus fillet sample)	River
#5	TRAP 2A-1	Dolly	Resident	Composite, whole fish	Suqi
	WHOLE	Varden			River
#6	TRAP 2A-2	Dolly	Resident	Composite, whole fish	Suqi
	WHOLE	Varden			River
#7	TRAP 2A-3	Dolly	Resident	Composite, whole fish	Suqi
	WHOLE	Varden			River
#8	CULVERT	Dolly	Resident	Composite, whole fish	Suqi
	WHOLE	Varden			River

 TABLE 2-1: Fish Sampling Summary

Note: Suqi River = Suqitughneq River

3. METHODS

Sediment and water samples were collected according to the final Phase III Remedial Investigation Workplan (MWH 2001a). Split samples were collected at a subset of locations identified for the Phase III investigation. Fish tissue samples were collected according to the final Biological Sampling Plan (MWH 2001b). Additional fish specimens were collected specifically for analysis by USACE. All samples were submitted to the USACE laboratory at the Waterways Experiment Station in Vicksburg, Mississippi for chemical analysis of PCB Aroclors and PCB congeners. The samples were analyzed for PCBs using gas chromatography techniques (GC/ECD) with a second column confirmation. The analyses included PCB Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260, as well as 64 individual PCB congeners (see Appendix A for list).

4. DATA QUALITY

The Waterways Experiment Station used the following data qualifiers in reporting the their results:

- B Compound present in the method blank
- J Estimated concentration of analyte that is above the MDL but below the LRL
- # Calculated analyte concentration is greater than 40% difference between primary and secondary columns
- F Dilution factor used to generate analyte concentration
- C Analyte identified by retention time on both analytical columns but concentration is reported as an estimate due to congener co-elution with other analytes
- NR Analyte cannot be resolved due to co-elution with other analytes
- MDL Analyte method detection limit determined according to procedures in 40CFR Appendix B to part 136
- LRL Laboratory reporting limit based on low calibration standard

During the data review process, the lab analysts identified several problems that were subsequently corrected. Sediment results from samples 01NE28SD451 and 01NE28SD463 were re-analyzed at diluted concentrations due to significant analyte retention time shift. At the 1/10 dilution, retention times were no longer shifted. Data reported from the 1/10 dilution resulted in a higher sample detection limit.

The sediment Lab Control Sample (LCS 01) had a high spike recovery (161.7 %) for Aroclor-1016. Lab control samples are "spiked" with known quantities of a chemical to be certain the laboratory instruments are capable of detecting contamination. Data was reported since all other quality control parameters were within limits.

The laboratory analyst also identified a high level of interference from other organic compounds (e.g. natural fats in the fish tissue) and low surrogate recovery in all of the fish tissue samples. A laboratory typically analyzes surrogate compounds that are

structurally similar to the chemical of concern, in order to verify that analytical methods are working. For this project, two surrogate compounds were analyzed – Decachlorobiphenyl (DCLBP), and 2,4,5,6-Tetrachloro-m-xylene (TclXYL-S). The percent recovery for the two surrogate compounds ranged from 10.6 to 71.6%. Normally, a percent recovery of greater than 40% is expected to meet quality control guidelines.

The laboratory prepared the fish tissue samples for analysis using a lower level of sample cleanup (removal of natural fats) because the more effective gel permeation column cleanup system had been sent to the manufacturer for repair. Therefore, samples were diluted to reduce the high contaminant background due to the natural sample fats. The low surrogate recoveries were due to matrix effects. The laboratory reported the fish tissue sample results since the Method Blank and LCS recoveries were within quality control limits. However, the primary fish tissue sample results should be qualified as estimated low, given the poor surrogate percent recoveries.

In addition, the WES sediment results should be considered estimated high because the sediment LCS had a high recovery of 161.7% for Aroclor-1016. The LCS was not analyzed for PCB Aroclor-1242, which was the only compound detected in the Method Blank and primary samples. However, the chromatograms for Aroclor-1242 and Aroclor-1016 are very similar.

The comparability of the data produced by WES is questionable. Data produced by WES do not compare with the results from MWH's main field investigation. Considering the discrepancies, the results from the Waterways Experiment Station should be used with caution.

5. RESULTS

5.1 Sediment

The WES laboratory analyzed 11 sediment samples. All PCB results for Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1248, and Aroclor-1254 were non-detect, with reporting limits ranging from 11.2 to 64.8 micrograms per kilogram (μ g/kg) or parts per billion (ppb). The only PCBs detected were Aroclor-1242 and Aroclor-1260. In contrast, MWH analyzed 98 sediment samples for PCBs Aroclors. All but one sample, with a result of 120 μ g/kg, was non-detect for Aroclor-1242. The MWH laboratory reporting limits for Aroclor-1242 ranged from 36 to 290 μ g/kg. MWH primarily detected Aroclor-1254 and Aroclor-1260 in their sediment samples. Overall, the laboratory reporting limits achieved by MWH were higher than the results reported by WES.

For the WES data, Aroclor-1242 was not detected in sediment sample 01NE28SD463 at a reporting limit of 11.2 μ g/kg. However, the remaining 10 samples all contained detectable levels of Aroclor-1242, but were qualified "B", since Aroclor-1242 was also present in the method blank at an estimated concentration of 7.24 JB μ g/kg. Aroclor-1242 was detected at a concentration of 229 B μ g/kg in sediment sample

01NE30SD401 (West Tributary to Suqitughneq River). Aroclor-1242 was detected at a concentration of 5,755 B μ g/kg in sediment sample 01NE30SD402 (200 feet upgradient of sediment sample 01NE30SD401). Aroclor-1242 was detected in sample 01NE28SD411 (drainage basin, near confluence with Suqitughneq River) at a concentration of 1,856 B μ g/kg.

WES also detected the PCB Aroclor-1260 in each of the 11 samples, with some results qualified as "J", an estimated concentration that is above the method detection limit but below the laboratory reporting limit. Aroclor-1260 was detected in sediment sample 01NE28SD463 at a concentration of 116 μ g/kg. Sample 01NE30SD402 contained Aroclor-1260 at a concentration of 415 μ g/kg, whereas sample 01NE28SD411 contained Aroclor-1260 at 106 μ g/kg. Concentrations of Aroclor-1260 in the remaining samples ranged from 6.57 J μ g/kg to 59 μ g/kg.

A corresponding sediment sample collected and analyzed for PCB Aroclors by MWH at location 01NE28SD111 (same location as 01NE28SD411) was non-detect for Aroclor-1242 and Aroclor-1260 at a reporting limit of 210 μ g/kg. A field duplicate collected at the same location, sample 01NE28SD211, also had non-detectable levels of Aroclor-1242 and Aroclor-1260, with a reporting limit of 250 μ g/kg. A triplicate sample, 01NE28SD311, analyzed by the USACE quality assurance laboratory, Sound Analytical Services, was also non-detect for Aroclor-1242 and Aroclor-1260, with a reporting limit of 260 μ g/kg.

MWH did not collect and analyze corresponding sediment samples at USACE locations 01NE30SD401 and 01NE30SD402. Table 5-1 contains a comparison of the detected PCB Aroclor results between the USACE and MWH laboratories.

The WES laboratory also analyzed the sediment samples for PCB congeners. PCB congeners were detected in various sediment samples at very low levels. Reporting limits for the PCB congeners ranged from 0.33 to 4.90 µg/kg. Several PCB congeners were detected in various sediment samples at concentrations greater than 100 times the method blank detection levels (0.33 µg/kg), including: PCB-8, PCB-18, PCB-28, PCB-31, PCB-44, PCB-49, PCB-52, PCB-66, PCB-70, PCB-87, PCB-118, and PCB-138. Appendix B contains the complete analytical results.

5.2 Water

All four water samples analyzed by WES were non-detect for PCB Aroclors and PCB congeners. The laboratory reporting limit for PCB Aroclors ranged from 0.25 to 0.26 micrograms per liter (μ g/L) or parts per billion (ppb). For PCB congeners, the laboratory reporting limit ranged from 0.010 to 0.011 μ g/L. Surface water samples collected and analyzed by MWH were also non-detect for PCB Aroclors. Their reporting limits ranged from 1 to 2 μ g/L (ppb).

5.3 Fish

The WES laboratory analyzed ten fish samples. The laboratory tested four anadramous fish (sub-divided into 6 samples) and 4 composite samples of resident fish. WES did not detect PCB Aroclors in any of the fish tissue samples. The laboratory detection limits ranged from 31.8 to 53.8 μ g/kg (ppb). In comparison, MWH reported detectable concentrations of Aroclor-1254 and Aroclor-1260 in several anadramous fish samples, ranging from 6.1 to 30 μ g/kg for Aroclor-1254, and from 4.1 to 4.5 μ g/kg for Aroclor-1260. The MWH reporting limit for all non-detects ranged from 2 to 4 μ g/kg. These detection levels were lower than the WES reporting limits.

Only one fish sample analyzed by WES, an anadramous, whole fish specimen (COE 2 Whole), contained a detectable concentration of PCB congener 206 at 3.03 μ g/kg. However, this result was qualified as B, since the Method Blank also contained PCB-206 at an estimated level of 0.277 μ g/kg. All other PCB congeners were non-detect, at reporting limits ranging from 0.97 to 3.22 μ g/kg.

Map Location (MWH 2001c)	Sample Number Lab Aroclor		Aroclor- 1242	Aroclor- 1248	Aroclor- 1254	Aroclor- 1260
(ua/ka	ua/ka	ua/ka	ua/ka
28SD111	01NE28SD111	ARI	ND (210)	ND (210)	ND (210)	ND (210)
28SD111	01NE28SD211	ARI	ND (250)	ND (250)	ND (250)	ND (250)
28SD111	01NE28SD311	SAS	ND (670)	ND (670)	ND (670)	ND (670)
28SD111	01NE28SD411	WES	1.856 B	ND (64.8)	ND (64.8)	106
			,	<u> </u>		
28SD126	01NE28SD126	ARI	ND (200)	ND (200)	ND (200)	ND (200)
28SD126	01NE28SD426	WES	321 B	ND (47.2)	ND (47.2)	17.5 J
28SD151	01NE28SD151	ARI	ND (47)	ND (47)	ND (47)	ND (47)
28SD151	01NE28SD251	ARI	ND (45)	ND (45)	ND (45)	ND (45)
28SD151	01NE28SD451	WES	181 B	ND (12.2)	ND (12.2)	59
28SD171	01NE28SD171	ARI	ND (250)	ND (250)	ND (250)	ND (250)
28SD171	01NE28SD271	ARI	ND (230)	ND (230)	ND (230)	ND (230)
28SD171	01NE28SD471	WES	441 B	ND (57.6)	ND (57.6)	41.7 J
28SD163	01NE28SD163	ARI	ND (47)	ND (47)	73.2	178
28SD163	01NE28SD263	ARI	ND (48)	ND (48)	106	174
28SD163	01NE28SD463	WES	ND (11.9)	ND (11.9)	ND (11.9)	116
29SD125	01NE29SD125	ARI	ND (48)	ND (48)	ND (48)	ND (48)
29SD125	01NE29SD225	ARI	ND (51)	ND (51)	ND (51)	ND (51)
29SD125	01NE29SD425	WES	70.4 B	ND (11.2)	ND (11.2)	6.57 J
29SD127	01NE29SD127	ARI	ND (50)	ND (50)	ND (50)	ND (50)
29SD127	01NE29SD427	WES	517 B	ND (16)	ND (16)	18.8
29SD114	01NE29SD114	ARI	ND (60)	ND (60)	ND (60)	ND (60)
29SD114	01NE29SD214	ARI	ND (65)	ND (65)	ND (65)	ND (65)
29SD114	01NE29SD414	WES	49.4 B	ND (14.9)	ND (14.9)	6.73 J
29SD126	01NE29SD126	ARI	ND (47)	ND (47)	ND (47)	ND (47)
29SD126	01NE29SD426	WES	185 B	ND (12.6)	ND (12.6)	9.92 J
30SD101	01NE30SD101	ARI	NA	NA	NA	NA
30SD101	01NE30SD401	WES	229 B	ND (30.1)	ND (30.1)	42.1
30SD102	01NE30SD102	ARI	NA	NA	NA	NA
30SD102	01NE30SD402	WES	5,755 B	ND (39.9)	ND (39.9)	415

Table 5-1: Comparison of PCB Aroclor results in sediment from WES and MWH laboratories

Notes: ARI – Analytical Resources, Inc. (data from MWH 2002)

WES – Waterways Experiment Station

B – compound also present in method blank

SAS – Sound Analytical Services, Inc.

NA – Not Analyzed ND – Not detected (laboratory reporting level)

µg/kg – micrograms per kilogram (parts per billion)

J – estimated concentration

6. Discussion

The data analyzed by the Waterways Experiment Station should be used with caution, given the identified data quality issues and the underlying discrepancies between this data set and the data collected by Montgomery Watson Harza during the summer of 2001. The WES data was not intended to substitute for data collected during the main field investigation, nor was the data intended to be used for risk assessment purposes. Instead, the data was intended to be used for general comparison purposes only, to help ascertain whether or not a distinct local military source could be distinguished from global or background levels of PCBs.

Sediment samples 01NE30SD401 (sample 401) and 01NE30SD402 (sample 402) were collected to represent background conditions, however, analytical results from these samples raise questions whether other influences may be present. Existing data suggested that the West Tributary to the Sugitughneg River was free of contaminants that could be anticipated from the up gradient former facility. Furthermore, this data showed that the area immediately below the Site 21 wastewater-tank outfall pipe did not contain significant levels of PCBs (reconfirmed in 2001 samples). However, sediment sample 402 contains 5,755 B µg/kg Aroclor-1242, which we consider too aberrant to be attributed to either background or up gradient sources. Possible explanations include cross contamination (PCBs were also detected in the method blank sample) or laboratory error. More likely, this sample reflects an isolated spill (perhaps from former antenna array equipment?) of unknown origin. Sediment sample 401, collected 200 feet up gradient of sample 402, contained a significantly lower concentration of PCBs, 229 B µg/kg. This data suggests that a lower-concentration halo or fringe exists around sample 402, and supports the assumption that sample 402 may be an isolated hit. Though earlier-year samples at the Site 21 outfall pipe had no PCBs, one surface soil sample collected at the outfall pipe in 2001 contained 320 µg/kg PCBs; another had no detectable PCBs.

A comparison of the resident fish tissue samples and the anadramous fish tissue samples did not yield strong conclusions. Only one fish sample, an anadramous Dolly Varden, whole fish specimen, contained a detectable concentration of PCBs (Congener 206, but qualified B, since it was also present in the method blank). Therefore, no significant differences between the populations could be determined.

A comparison of sediment results with fish tissue results was also inconclusive. The only PCB Aroclors detected in sediment by WES were Aroclor-1242 and Aroclor-1260. The sediment concentrations of Aroclor-1242 ranged from non-detect (at a reporting limit of 11.2 μ g/kg) to 5,755 B μ g/kg. The sediment concentrations of Aroclor-1260 ranged from 6.73 J to 415 μ g/kg. These two Aroclors were <u>not</u> detected in the fish tissue samples, at reporting limits ranging from 31.8 to 53.8 μ g/kg.

Various PCB congeners were detected at low levels in the sediment samples (see Appendix B). PCB-206, the only congener detected in fish tissue, was detected in sediment at levels ranging from non-detect (at a reporting limit of $1.89 \mu g/kg$) to 2.65

 μ g/kg. A correlation between PCB levels in sediment and fish does not appear to exist based on the WES data.

Surface water itself (non-sediment) does not appear to represent a significant source of PCBs in the Suqitughneq River and drainage basin. Both PCB Aroclors and congeners were reported as non-detectable.

A strong link is not apparent between the PCB levels detected by MWH and WES in sediment and those detected in fish tissue. The available data to date does not indicate onsite military contamination as the source of low level PCBs in fish tissue. The source of the low level PCBs detected in fish tissue may be global in nature.

7. References

- Montgomery Watson Harza (MWH) 2001a. Final Work Plan, Phase III Remedial Investigation, Northeast Cape, St. Lawrence Island, Alaska. August 2001.
- MWH 2001b. Final, Biological Sampling Plan, 2001 Phase III Remedial Investigation, Northeast Cape, St. Lawrence Island, Alaska. August 2001.
- MWH 2001c. Site Characterization Technical Memorandum, Phase III Remedial Investigation, Northeast Cape, St. Lawrence Island, Alaska. November 2001.
- MWH 2002. Draft Phase III Remedial Investigation and Risk Assessment Update, Northeast Cape, St. Lawrence Island, Alaska. August 2002.
- U.S. Army Corps of Engineers 2001. Trip Report, Northeast Cape, St. Lawrence Island Fish Data Collection Report, August 18-22, 2001. September 6, 2001.



Figure 1. Site 28 Drainage Basin Sampling Locations



Figure 2. Site 29 Suqitughneq River and Site 30 Background Sampling Locations

APPENDIX A

Northeast Cape - St. Lawrence Island PCB Sample Index

PCB Congener	Chemical Name	PCB Congener	Chemical Name
PCB 7	24-Dichlorobiphenyl	PCB 143	22'3456'-Hexachlorobiphenyl
PCB 8	24'-Dichlorobiphenyl	PCB 151	22'355'6-Hexachlorobiphenyl
PCB 15	44'-Dichlorobiphenyl	PCB 153	22'44'55'-Hexachlorobiphenyl
PCB 18	22'5-Trichlorobiphenyl	PCB 154	22'44'56'-Hexachlorobiphenyl
PCB 28	244'-Trichlorobiphenyl	PCB 155	22'44'66'-Hexachlorobiphenyl
PCB 31	24'5-Trichlorobiphenyl	PCB 156	233'44'5-Hexachlorobiphenyl
PCB 40	22'33'-Tetrachlorobiphenyl	PCB 159	233'455'-Hexachlorobiphenyl
PCB 44	22'35'-Tetrachlorobiphenyl	PCB 167	22'44'55'-Hexachlorobiphenyl
PCB 49	22'45'-Tetrachlorobiphenyl	PCB 169	33'44'55'-Hexachlorobiphenyl
PCB 50	22'46-Tetrachlorobiphenyl	PCB 170	22'33'44'5-Heptachlorobiphenyl
PCB 52	22'55'-Tetrachlorobiphenyl	PCB 171	22'33'44'6-Heptachlorobiphenyl
PCB 54	22'66'-Tetrachlorobiphenyl	PCB 173	22'33'456-Heptachlorobiphenyl
PCB 60	2344'-Tetrachlorobiphenyl	PCB 180	22'344'55'-Heptachlorobiphenyl
PCB 66	23'44-Tetrachlorobiphenyl	PCB 182	22'344'56'-Heptachlorobiphenyl
PCB 70	23'4'5'-Tetrachlorobiphenyl	PCB 183	22'344'5'6-Heptachlorobiphenyl
PCB 77	33'44'-Tetrachlorobiphenyl	PCB 184	22'344'66'-Heptachlorobiphenyl
PCB 82	22'33'4-Pentachlorobiphenyl	PCB 185	22'3455'6-Heptachlorobiphenyl
PCB 86	22'345-Pentachlorobiphenyl	PCB 187	22'34'55'6-Heptachlorobiphenyl
PCB 87	22'345'-Pentachlorobiphenyl	PCB 189	233'44'55'-Heptachlorobiphenyl
PCB 97	22'3'45-Pentachlorobiphenyl	PCB 191	233'44'5'6-Heptachlorobiphenyl
PCB 101	22'455'-Pentachlorobiphenyl	PCB 194	22'33'44'55'-Octachlorobiphenyl
PCB 103	22'45'6-Pentachlorobiphenyl	PCB 195	22'33'44'56-Octachlorobiphenyl
PCB 105	233'44'-Pentachlorobiphenyl	PCB 196	22'33'44'56'-Octachlorobiphenyl
PCB 114	2344'5-Pentachlorobiphenyl	PCB 199	22'33'45'66'-Octachlorobiphenyl
PCB 118	23'44'5-Pentachlorobiphenyl	PCB 201	22'33'455'6'-Octachlorobiphenyl
PCB 121	23'45'6-Pentachlorobiphenyl	PCB 202	22'33'55'66'-Octachlorobiphenyl
PCB 126	33'44'5-Pentachlorobiphenyl	PCB 203	22'344'55'6-Octachlorobiphenyl
PCB 128	22'33'44'-Hexachlorobiphenyl	PCB 205	233'44'55'6-Octachlorobiphenyl
PCB 129	22'33'45'-Hexachlorobiphenyl	PCB 206	22'33'44'55'6-Nonachlorobiphenyl
PCB 136	22'33'66'-Hexachlorobiphenyl	PCB 207	22'33'44'566'-Nonachlorobiphenyl
PCB 137	22'344'5-Hexachlorobiphenyl	PCB 208	22'33'455'66'-Nonachlorobiphenyl
PCB 138	22'344'5'-Hexachlorobiphenyl	TcIXYL-S	2,4,5,6-Tetrachloro-m-xylene (Surrogate (40-140 WS))
PCB 141	22'3455'-Hexachlorobiphenyl	DCLBP	Decaclhorobiphenyl (Surrogate (40-140 WS))

APPENDIX A

Northeast Cape - St. Lawrence Island PCB Sample Index

PCB Aroclors
Aroclor 1016
Aroclor 1221
Aroclor 1232
Aroclor 1242
Aroclor 1248
Aroclor 1254
Aroclor 1260

Sample Designations	
COE 1 WHOLE	Suqi River, Dolly Varden, single anadramous returning fish, whole fish preparation (Fish #1)
COE 2 WHOLE	Suqi River, Dolly Varden, single anadramous returning fish, whole fish preparation (Fish #2)
COE 3 FILLET WITH SKIN	Suqi River, Dolly Varden, single anadramous returning fish, fillet with skin on preparation (Fish #3)
COE 3 REST OF FISH	Suqi River, Dolly Varden, single anadramous returning fish, whole fish preparation (Fish #3 minus fillet sample)
COE 4 FILLET WITH SKIN	Suqi River, Dolly Varden, single anadramous returning fish, fillet with skin on preparation (Fish #4)
COE 4 REST OF FISH	Suqi River, Dolly Varden, single anadramous returning fish, whole fish preparation (Fish #4 minus fillet sample)
TRAP 2A-1 WHOLE	Suqi River, Dolly Varden, resident juvenile fish, whole fish (multiple specimens)
TRAP 2A-2 WHOLE	Suqi River, Dolly Varden, resident juvenile fish, whole fish (multiple specimens)
TRAP 2A-3 WHOLE	Suqi River, Dolly Varden, resident juvenile fish, whole fish (multiple specimens)
CULVERT WHOLE	Suqi River, Dolly Varden, resident juvenile fish, whole fish (multiple specimens)
01NE28SD 4111	Sediment sample, Site 28 (Drainage Basin)
01NE28SD 426	Sediment sample, Site 28 (Drainage Basin)
01NE28SD 451	Sediment sample, Site 28 (Drainage Basin)
01NE28SD 471	Sediment sample, Site 28 (Drainage Basin)
01NE28SD 463	Sediment sample, Site 28 (Drainage Basin)
01NE29SD 425	Sediment sample, Site 29 (Suqi River)
01NE29SD 427	Sediment sample, Site 29 (Suqi River)
01NE29SD 414	Sediment sample, Site 29 (Suqi River)
01NE29SD 426	Sediment sample, Site 29 (Suqi River)
01NE30SD 401	Sediment sample, Site 30 (Background)
01NE30SD 402	Sediment sample, Site 30 (Background)
01NE28SW411	Water sample, Site 28 (Drainage Basin)
01NE29SW417	Water sample, Site 29 (Suqi River)
01NE30SW401	Water sample, Site 30 (Background)
01NE30SW402	Water sample, Site 30 (Background)

SEDIMENT

all results in ug/kg

Sample Number	PCB-1016 Code	PCB-1221 Code	PCB-1232 Code	PCB-1242 Code	PCB-1248 Code	PCB-1254 Code	PCB-1260 Code
01NE28SD 4111	ND (64.8)	ND (64.8)	ND (64.8)	1,856 B	ND (64.8)	ND (64.8)	106
01NE28SD 426	ND (47.2)	ND (47.2)	ND (47.2)	321 B	ND (47.2)	ND (47.2)	17.5 J
01NE28SD 451	ND (12.2)	ND (12.2)	ND (12.2)	181 B	ND (12.2)	ND (12.2)	59
01NE28SD 471	ND (57.6)	ND (57.6)	ND (57.6)	441 B	ND (57.6)	ND (57.6)	41.7 J
01NE28SD 463	ND (11.9)	116					
01NE29SD 425	ND (11.2)	ND (11.2)	ND (11.2)	70.4 B	ND (11.2)	ND (11.2)	6.57 J
01NE29SD 427	ND (16.0)	ND (16.0)	ND (16.0)	517 B	ND (16.0)	ND (16.0)	18.8
01NE29SD 414	ND (14.9)	ND (14.9)	ND (14.9)	49.4 B	ND (14.9)	ND (14.9)	6.73 J
01NE29SD 426	ND (12.6)	ND (12.6)	ND (12.6)	185 B	ND (12.6)	ND (12.6)	9.92 J
01NE30SD 401	ND (30.1)	ND (30.1)	ND (30.1)	229 B	ND (30.1)	ND (30.1)	42.1
01NE30SD 402	ND (39.9)	ND (39.9)	ND (39.9)	5,755 B	ND (39.9)	ND (39.9)	415
METHOD BLANK 01	ND (8.33)	ND (8.33)	ND (8.33)	7.24 JB	ND (8.33)	ND (8.33)	ND (8.33)
LCS 01	129	NA	NA	NA	NA	NA	85.2
% Recovery	161.7%						106.4%
Duplicate	98.2						85.5
QC % SDUPL	122.7%						106.9%
QC RPD	27.4						0.5

CODES

В	compound present in method blank
J	estimated concentration of analyte that is above MDL but below the LRL
С	analyte identifed by retention time on both analytical columns but concentration is reported as an estimate due to congener co-elution on second column
MDL	analyte method detection limit determined according to procedures in 40CFR
LRL	laboratory reporting limit based on low calibration standard
LCS	laboratory control sample
ND()	not detected (method detection limit)
NA	not analyzed
NR	analyte cannot be resolved due to co-elution with other analytes
QC	quality control
SDUPL	second duplicate
RPD	relative percent difference

Laboratory: Waterways Experiment Station, U.S. Army Corps of Engineers, Vicksburg, MS Data Collected: September 2001

SEDIMENT

Sample Number	TcIXYL-S	Code DCLBP	Code PCB-7	Code PCB-8	Code PCB-18	Code	PCB-28	Code	PCB-31	Code
01NE28SD 4111	81.8%	72.1%	ND (2.59)	133	177	B	229	С	208	С
01NE28SD 426	75.8%	70.0%	ND (1.89)	47.3	55.7	В	60	С	60.2	С
01NE28SD 451	58.8%	82.7%	ND (4.90)	ND (4.90)	ND (4.90))	8.62	С	11.5	С
01NE28SD 471	76.4%	85.4%	ND (2.30)	43.4	49.1	В	48	С	48	С
01NE28SD 463	56.4%	81.9%	ND (4.75)	ND (4.75)	ND (4.75))	6.46	С	10.1	С
01NE29SD 425	86.5%	69.2%	ND (0.45)	5.37	6.83	В	7.02	С	6.84	С
01NE29SD 427	94.3%	79.0%	ND (0.64)	45	47.1	В	53.8	С	49.6	С
01NE29SD 414	82.9%	70.0%	ND (0.60)	5.09	4.21	В	4.53	С	4.45	С
01NE29SD 426	90.3%	72.6%	ND (0.51)	10.2	12.8	В	13.7	С	13.4	С
01NE30SD 401	103.0%	89.2%	ND (1.20)	15.1	18.7	В	21.7	С	21.2	С
01NE30SD 402	118.0%	74.6%	ND (1.60)	229	469	В	582	С	559	С
METHOD BLANK 01	94.8%	85.1%	ND (0.33)	ND (0.33)	0.439)	ND (0.33)		ND (0.33)	
LCS 01	95.9%	86.6%	4.46	NA	NA		NA		NA	
% Recovery			135.0%							
Duplicate	101.2%	91.4%	5.18							
QC % SDUPL			157.0%							
QC RPD			15.1							

SEDIMENT

Sample Number	PCB-40	Code	PCB-44	Code	PCB-49	Code	PCB-50	Code	PCB-52	Code	PCB-54	Code	PCB-60	Code
01NE28SD 4111	19.9	С	85.3	В	75.8	B	ND (2.59)		93.4	В	ND (2.59)		NF	
01NE28SD 426	6.24		26.7	В	20.5	БВ	ND (1.89)		26.2	В	ND (1.89)		NF	1
01NE28SD 451	ND (4.90)		ND (4.90)		ND (4.90))	ND (4.90)		7.03	В	ND (4.90)		ND (4.90))
01NE28SD 471	4.45		19.2	В	17.7	Β	ND (2.30)		21	В	ND (2.30)		NF	1
01NE28SD 463	ND (4.75)		ND (4.75)		ND (4.75))	ND (4.75)		6.98	В	ND (4.75)		NF	1
01NE29SD 425	0		2.8	В	2.67	Β	ND (0.45)		3.23	В	ND (0.45)		NF	1
01NE29SD 427	0.67		20.9	В	16.4	в	ND (0.64)		19.4	В	ND (0.64)		NF	2
01NE29SD 414	5.56		1.77	В	1.8	вВ	ND (0.60)		20.6	В	ND (0.60)		0.742	CB
01NE29SD 426	0.335		5.41	В	4.69	В	ND (0.51)		5.96	В	ND (0.51)		ND (0.51))
01NE30SD 401	1.27		8.54	В	10.1	В	ND (1.20)		11.6	В	ND (1.20)		NF	2
01NE30SD 402	1.98		235	В	201	В	ND (1.60)		221	В	ND (1.60)		NF	2
METHOD BLANK 01	ND (0.33)		0.26	J	0.213	i J	ND (0.33)		0.231	J	ND (0.33)		0.198	; J
LCS 01	NA		NA		NA		NA	۱	NA		NA		NA	
% Recovery														
Duplicate														
QC % SDUPL														
QC RPD														

SEDIMENT

Sample Number	PCB-70	Code PCB-77	Code	PCB-82	Code	PCB-86	Code	PCB-87	Code	PCB-97	Code	PCB-101	Code
01NE28SD 4111	85.8	ND (2.59)		4.45	С	ND (2.59)		10.3		ND (2.59))	NR	
01NE28SD 426	28.1	ND (1.89)		2.18	С	ND (1.89)		3.93		ND (1.89))	NR	
01NE28SD 451	ND (4.90)	ND (4.90)		1.66	CJ	ND (4.90)		ND (4.90)		ND (4.90))	NR	
01NE28SD 471	18.8	ND (2.30)		ND (2.30)		ND (2.30)		2.39		ND (2.30))	NR	
01NE28SD 463	3.53	ND (4.75)		9.81		NR		ND (4.75)		ND (4.75))	NR	
01NE29SD 425	2.99	ND (0.45)		ND (0.45)		NR		0.378	J	ND (0.45))	NR	
01NE29SD 427	20.7	ND (0.64)		ND (0.64)		NR		3.1		ND (0.64)		NR	
01NE29SD 414	1.81	ND (0.60)		ND (0.60)		ND (0.60)		0.267	J	ND (0.60)		NR	
01NE29SD 426	5.63	ND (0.51)		ND (0.51)		ND (0.51)		0.766		ND (0.51)		NR	
01NE30SD 401	9.78	ND (1.20)		ND (1.20)		NR		1.79		ND (1.20)		NR	
01NE30SD 402	280	ND (1.60)		22.4		NR		43.6		6.12	С	NR	
METHOD BLANK 01	ND (0.33)	ND (0.33)		ND (0.33)		ND (0.33)		ND (0.33)		ND (0.33)		ND (0.33)	
LCS 01	NA	NA		NA		NA		NA		NA		NA	
% Recovery													
Duplicate													
QC % SDUPL													
QC RPD													

SEDIMENT

Sample Number	PCB-103	Code PCB-105 Code	PCB-114	Code PCB-118	Code PCB-121	Code PCB-128	Code PCB-129 Code
01NE28SD 4111	ND (2.59)	ND (2.59)	ND (2.59)	17.3	ND (2.59)	2.12	CJ ND (2.59)
01NE28SD 426	ND (1.89)	ND (1.89)	ND (1.89)	ND (4.61)	ND (1.89)	ND (1.89)	ND (1.89)
01NE28SD 451	ND (4.90)	ND (4.90)	ND (4.90)	ND (4.90)	ND (4.90)	ND (4.90)	ND (4.90)
01NE28SD 471	ND (2.30)	ND (2.30)	ND (2.30)	3.48	ND (2.30)	ND (2.30)	ND (2.30)
01NE28SD 463	ND (4.75)	ND (4.75)	ND (4.75)	ND (4.75)	ND (4.75)	1.83	CJ ND (4.75)
01NE29SD 425	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)
01NE29SD 427	ND (0.64)	ND (0.64)	ND (0.64)	4.03	ND (0.64)	1.28	C ND (0.64)
01NE29SD 414	ND (0.60)	ND (0.60)	ND (0.60)	0.464	J ND (0.60)	ND (0.60)	ND (0.60)
01NE29SD 426	ND (0.51)	ND (0.51)	ND (0.51)	0.846	ND (0.51)	ND (0.51)	ND (0.51)
01NE30SD 401	ND (1.20)	ND (1.20)	ND (1.20)	3.54	ND (1.20)	ND (1.20)	ND (1.20)
01NE30SD 402	ND (1.60)	ND (1.60)	ND (1.60)	91.0	ND (1.60)	9.19	C 3.58 C
METHOD BLANK 01	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.33)
LCS 01	NA	NA	3.60	NA	NA	3.37	NA
% Recovery			109.0%			102.0%	
Duplicate			4.19			4.13	
QC % SDUPL			127.0%			125.0%	
QC RPD			15.3			20.3	

SEDIMENT

Sample Number	PCB-136	Code	PCB-137	Code	PCB-138	Code	PCB-141	Code	PCB-143	Code	PCB-151	Code	PCB-153	Code
01NE28SD 4111	ND (2.59)		ND (2.59)		9.58		ND (2.59)		ND (2.59)		4.42	C	NR	
01NE28SD 426	ND (1.89)		ND (1.89)		3.28		1.11	J	ND (1.89)		1.40	CJ	NR	
01NE28SD 451	1.68	CJ	ND (4.90)		5.2		ND (4.90)		ND (4.90)		1.75	i CJ	ND (4.90)	
01NE28SD 471	ND (2.30)		ND (2.30)		2.77		ND (2.30)		ND (2.30)		0.831	CJ	NR	
01NE28SD 463	ND (4.75)		ND (4.75)		30.5		ND (4.75)		ND (4.75)		12.3	C	ND (4.75)	
01NE29SD 425	0.174	CJ	ND (0.45)		0.48		ND (0.45)		ND (0.45)		0.161	CJ	NR	
01NE29SD 427	0.564	CJ	ND (0.64)		2.15		ND (0.64)		ND (0.64)		0.666	C	ND (0.64)	
01NE29SD 414	ND (0.60)		ND (0.60)		0.504	J	ND (0.60)		ND (0.60)		ND (0.60))	NR	
01NE29SD 426	ND (0.51)		ND (0.51)		0.688		ND (0.51)		ND (0.51)		0.250	CJ	NR	
01NE30SD 401	0.712	CJ	ND (1.20)		2.66		1.18	J	ND (1.20)		0.677	, C1	ND (1.20)	
01NE30SD 402	10.2	С	3.80	С	48.5		ND (1.60)		ND (1.60)		16.3	С	ND (1.60)	
METHOD BLANK 01	ND (0.33)		ND (0.33))	ND (0.33)									
LCS 01	NA		3.57	,	NA									
% Recovery											108.0%)		
Duplicate											4.85	;		
QC % SDUPL											147.0%)		
QC RPD											30.6	5		

SEDIMENT

Sample Number	PCB-154	Code PCB-156	Code PCB-159	Code PCB-167	Code PCB-170	Code	PCB-171 Code	PCB-173 Code
01NE28SD 4111	ND (2.59)	ND (2.59)	ND (2.59)	ND (2.59)	2.08	CJ	0.916 J	ND (2.59)
01NE28SD 426	ND (1.89)	ND (1.89)	NR	ND (1.89)	0.685	CJ	ND (1.89)	ND (1.89)
01NE28SD 451	ND (4.90)	ND (4.90)	ND (4.90)	ND (4.90)	ND (4.90)		ND (4.90)	ND (4.90)
01NE28SD 471	ND (2.30)	ND (2.30)	ND (2.30)	ND (2.30)	ND (2.30)		ND (2.30)	ND (2.30)
01NE28SD 463	ND (4.75)	ND (4.75)	NR	ND (4.75)	10.3	С	ND (4.75)	ND (4.75)
01NE29SD 425	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)		ND (0.45)	ND (0.45)
01NE29SD 427	ND (0.64)	0.244	J ND (0.64)	ND (0.64)	0.426	CJ	ND (0.64)	ND (0.64)
01NE29SD 414	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)		ND (0.60)	ND (0.60)
01NE29SD 426	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)		ND (0.51)	ND (0.51)
01NE30SD 401	0.741	CJ ND (1.20)	ND (1.20)	ND (1.20)	0.830	CJ	ND (1.20)	ND (1.20)
01NE30SD 402	ND (1.60)	4.77	ND (1.60)	ND (1.60)	12.8	С	6.36	ND (1.60)
METHOD BLANK 01	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.33)		ND (0.33)	ND (0.33)
LCS 01	NA	3.30	NA	NA	NA		NA	NA
% Recovery		99.9%						
Duplicate		5.51						
QC % SDUPL		167.0%						
QC RPD		50.3						

SEDIMENT

Sample Number	PCB-180 Code	PCB-182 Code	PCB-183 Code	PCB-185 Code	PCB-187 Code	PCB-189 Code	PCB-191 Code
01NE28SD 4111	5.36 C	ND (2.59)	1.40 J	ND (2.59)	3.32 C	ND (2.59)	ND (2.59)
01NE28SD 426	1.70 CJ	ND (1.89)	ND (1.89)	ND (1.89)	1.10 CJ	ND (1.89)	ND (1.89)
01NE28SD 451	3.53 CJ	ND (4.90)	ND (4.90)	ND (4.90)	2.59 CJ	ND (4.90)	ND (4.90)
01NE28SD 471	0.915 CJ	ND (2.30)					
01NE28SD 463	31.5 C	ND (4.75)	7.75 C	1.60 CJ	17.5 C	ND (4.75)	ND (4.75)
01NE29SD 425	0.308 CJ	ND (0.45)					
01NE29SD 427	0.924 C	ND (0.64)	0.247 CJ	ND (0.64)	0.649 C	ND (0.64)	ND (0.64)
01NE29SD 414	0.319 CJ	ND (0.60)	ND (0.60)	0.571 CJ	ND (0.60)	ND (0.60)	ND (0.60)
01NE29SD 426	0.396 CJ	ND (0.51)	ND (0.51)	ND (0.51)	0.270 CJ	ND (0.51)	ND (0.51)
01NE30SD 401	2.05 C	ND (1.20)	0.526 CJ	ND (1.20)	0.990 CJ	ND (1.20)	ND (1.20)
01NE30SD 402	30.3 C	ND (1.60)	8.25 C	2.72 C	17.0 C	1.89 Code	ND (1.60)
METHOD BLANK 01	ND (0.33)						
LCS 01	NA	NA	NA	NA	NA	NA	3.53
% Recovery							107.0%
Duplicate							3.93
QC % SDUPL							119.0%
QC RPD							10.6

SEDIMENT

Sample Number	PCB-194 C	ode PCB-195 Code	PCB-196 Co	de PCB-199 Code	PCB-201 Code	PCB-202 C	Code PCB-203 Code
01NE28SD 4111	ND (2.59)	ND (2.59)	ND (2.59)	ND (2.59)	1.13 CJ	ND (2.59)	ND (2.59)
01NE28SD 426	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)
01NE28SD 451	ND (4.90)	ND (4.90)	ND (4.90)	ND (4.90)	ND (4.90)	ND (4.90)	ND (4.90)
01NE28SD 471	ND (2.30)	ND (2.30)	ND (2.30)	ND (2.30)	ND (2.30)	ND (2.30)	ND (2.30)
01NE28SD 463	5.57	2.84 J	3.61 CJ	ND (4.75)	6.60 C	ND (4.75)	4.08 CJ
01NE29SD 425	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)
01NE29SD 427	ND (0.64)	ND (0.64)	ND (0.64)	ND (0.64)	0.243 CJ	ND (0.64)	ND (0.64)
01NE29SD 414	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
01NE29SD 426	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
01NE30SD 401	0.883 J	ND (1.20)	ND (1.20)	ND (1.20)	0.550 CJ	ND (1.20)	0.525 CJ
01NE30SD 402	7.84	3.97 C	ND (1.60)	2.13 C	7.18 C	ND (1.60)	ND (1.60)
METHOD BLANK 01	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.33)
LCS 01	3.43	NA	NA	NA	NA	NA	NA
% Recovery	104.0%						
Duplicate	3.70						
QC % SDUPL	112.0%						
QC RPD	7.4						

SEDIMENT

Sample Number	PCB-205 (Code PCB-206 Co	de PCB-207	Code PCB-208	Code PCB-66	Code	PCB-155	Code PCB-184 Code	le
01NE28SD 4111	ND (2.59)	2.64	ND (2.59)	ND (2.59)	13.5	С	ND (2.59)	ND (2.59)	
01NE28SD 426	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	3.09	С	ND (1.89)	ND (1.89)	
01NE28SD 451	ND (4.90)	ND (4.90)	ND (4.90)	ND (4.90)	ND (4.90)		ND (4.90)	ND (4.90)	
01NE28SD 471	ND (2.30)	2.36	ND (2.30)	ND (2.30)	2.75	С	ND (2.30)	ND (2.30)	
01NE28SD 463	ND (4.75)	ND (4.75)	ND (4.75)	ND (4.75)	ND (4.75)		ND (4.75)	ND (4.75)	
01NE29SD 425	ND (0.45)	0.567	ND (0.45)	ND (0.45)	1.97	С	ND (0.45)	ND (0.45)	
01NE29SD 427	ND (0.64)	0.938	ND (0.64)	ND (0.64)	2.76	С	ND (0.64)	ND (0.64)	
01NE29SD 414	ND (0.60)	0.838	ND (0.60)	ND (0.60)	0.267	CJ	ND (0.60)	ND (0.60)	
01NE29SD 426	ND (0.51)	0.714	ND (0.51)	ND (0.51)	0.660	С	ND (0.51)	ND (0.51)	
01NE30SD 401	ND (1.20)	1.51	ND (1.20)	ND (1.20)	1.84	С	ND (1.20)	ND (1.20)	
01NE30SD 402	ND (1.60)	2.65	ND (1.60)	0.996	CJ 39.4	С	ND (1.60)	ND (1.60)	
METHOD BLANK 01	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.33)		ND (0.33)	ND (0.33)	
LCS 01	NA	3.66	NA	3.43	NA		NA	NA	
% Recovery		111.0%		104.0%					
Duplicate		3.86		3.73					
QC % SDUPL		117.0%		113.0%					
QC RPD		5.3		8.3					

SEDIMENT

Sample Number	PCB 190 Code	PCB-198 Code	PCB-200 Code	PCB-126 Code	PCB-169 Code
01NE28SD 4111	ND (2.59)				
01NE28SD 426	ND (1.89)				
01NE28SD 451	ND (4.90)				
01NE28SD 471	ND (2.30)				
01NE28SD 463	NR	ND (4.75)	ND (4.75)	ND (4.75)	ND (4.75)
01NE29SD 425	NR	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.45)
01NE29SD 427	NR	ND (0.64)	ND (0.64)	ND (0.64)	ND (0.64)
01NE29SD 414	ND (0.60)				
01NE29SD 426	ND (0.51)				
01NE30SD 401	NR	ND (1.20)	ND (1.20)	ND (1.20)	ND (1.20)
01NE30SD 402	NR	ND (1.60)	ND (1.60)	ND (1.60)	ND (1.60)
METHOD BLANK 01	ND (0.33)				
LCS 01	NA	NA	NA	3.23	3.76
% Recovery				98.0%	114.0%
Duplicate				4.03	4.13
QC % SDUPL				122.0%	125.0%
QC RPD				21.8	9.2

WATER

all results in ug/L (ppb)

Sample Number	PCB-1016 Code	PCB-1221 Code	PCB-1232 Code	PCB-1242 Code	PCB-1248 Code	PCB-1254 Code
01NE28SW411	ND (0.26)					
01NE29SW417	ND (0.26)					
01NE30SW401	ND (0.25)					
01NE30SW402	ND (0.26)					
METHOD BLANK 01	ND (0.25)					
LCS 01	0.24	NA	NA	NA	NA	NA
% Recovery	94.4%					
Duplicate	0.24					
QC % SDUPL	95.2%					
QC RPD	0.8					

CODES

CODES	
В	compound present in method blank
J	estimated concentration of analyte that is above MDL but below the LRL
С	analyte identifed by retention time on both analytical columns but concentration
	is reported as an estimate due to congener co-elution on second column
MDL	analyte method detection limit determined according to procedures in 40CFR
LRL	laboratory reporting limit based on low calibration standard
LCS	laboratory control sample
ND()	not detected (method detection limit)
NA	not analyzed
NR	analyte cannot be resolved due to co-elution with other analytes
QC	quality control
SDUPL	second duplicate
RPD	relative percent difference

WATER

Sample Number	PCB-1260 Code	TcIXYL-S Code	DCLBP Code	PCB-7 Code	PCB-8 Code	PCB-15 Code
01NE28SW411	ND (0.26)	61.9%	95.8%	ND (0.011)	ND (0.011)	ND (0.011)
01NE29SW417	ND (0.26)	64.7%	97.0%	ND (0.010)	ND (0.010)	ND (0.010)
01NE30SW401	ND (0.25)	60.5%	89.4%	ND (0.010)	ND (0.010)	ND (0.010)
01NE30SW402	ND (0.26)	63.7%	95.1%	ND (0.010)	ND (0.010)	ND (0.010)
METHOD BLANK 01	ND (0.25)	63.5%	93.0%	ND (0.010)	ND (0.010)	ND (0.010)
LCS 01	0.24	71.0%	93.0%	NA	0.11	NA
% Recovery	96.4%				112.0%	
Duplicate	0.24	71.0%	95.7%		0.12	
QC % SDUPL	97.6%				119.0%	
QC RPD	1.2				6.1	

WATER

Sample Number	PCB-18	Code	PCB-28	Code	PCB-31	Code	PCB-40	Code	PCB-44	Code	PCB-49	Code
01NE28SW411	ND (0.011)											
01NE29SW417	ND (0.010)											
01NE30SW401	ND (0.010)											
01NE30SW402	ND (0.010)											
METHOD BLANK 01	ND (0.010)											
LCS 01	0.096		0.099		NA		NA		0.090)	0.096	
% Recovery	96.1%		99.1%						90.3%)	95.9%	
Duplicate	0.096		0.098						0.091		0.096	
QC % SDUPL	95.9%		97.9%						90.7%)	95.5%	
QC RPD	0.2		1.2						0.4		0.4	

WATER

Sample Number	PCB-50	Code	PCB-52	Code	PCB-54	Code	PCB-60	Code	PCB-70	Code	PCB-77	Code
01NE28SW411	ND (0.011)											
01NE29SW417	ND (0.010)											
01NE30SW401	ND (0.010)											
01NE30SW402	ND (0.010)											
METHOD BLANK 01	ND (0.010)											
LCS 01	NA		0.091		NA		NA		0.090)	NA	
% Recovery			90.5%	1					90.4%	1		
Duplicate			0.091						0.091			
QC % SDUPL			90.5%	1					91.1%			
QC RPD			0						0.8			

WATER

Sample Number	PCB-82	Code	PCB-86	Code	PCB-87	Code	PCB-97	Code	PCB-101	Code	PCB-103	Code
01NE28SW411	ND (0.011)											
01NE29SW417	ND (0.010)											
01NE30SW401	ND (0.010)											
01NE30SW402	ND (0.010)											
METHOD BLANK 01	ND (0.010)											
LCS 01	NA											
% Recovery												
Duplicate												
QC % SDUPL												
QC RPD												
QC RPD												

WATER

Sample Number	PCB-105	Code	PCB-114	Code	PCB-118	Code	PCB-121	Code	PCB-128	Code	PCB-129	Code
01NE28SW411	ND (0.011)											
01NE29SW417	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	1	ND (0.010)	
01NE30SW401	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	1	ND (0.010)	
01NE30SW402	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	1	ND (0.010)	
METHOD BLANK 01	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	1	ND (0.010)	
LCS 01	NA		0.088	3	0.095		NA		0.083	3	NA	
% Recovery			88.2%)	94.7%				83.3%)		
Duplicate			0.090)	0.096				0.085	5		
QC % SDUPL			89.5%)	95.6%				84.9%)		
QC RPD			1.5	5	0.9				1.9)		

WATER

Sample Number	PCB-136	Code	PCB-137	Code	PCB-138	Code	PCB-141	Code	PCB-143	Code	PCB-151	Code
01NE28SW411	ND (0.011)		ND (0.011)		ND (0.011)		ND (0.011)		ND (0.011))	ND (0.011)	
01NE29SW417	ND (0.010)		ND (0.010)	1	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	
01NE30SW401	ND (0.010)		ND (0.010)	1	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	
01NE30SW402	ND (0.010)		ND (0.010)	1	ND (0.010)		ND (0.010)		ND (0.010)	1	ND (0.010)	
METHOD BLANK 01	ND (0.010)		ND (0.010)	1	ND (0.010)		ND (0.010)		ND (0.010))	ND (0.010)	
LCS 01	NA		0.090)								
% Recovery											89.6%)
Duplicate											0.091	
QC % SDUPL											91.1%)
QC RPD											1.7	,

WATER

Sample Number	PCB-153	Code	PCB-154	Code	PCB-156	Code	PCB-159	Code	PCB-167	Code	PCB-170	Code
01NE28SW411	ND (0.011)											
01NE29SW417	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	1	ND (0.010)	
01NE30SW401	ND (0.010)											
01NE30SW402	ND (0.010)											
METHOD BLANK 01	ND (0.010)											
LCS 01	NA		NA		0.081		NA		NA		NA	
% Recovery					81.3%							
Duplicate					0.083							
QC % SDUPL					82.6%							
QC RPD					1.6							

WATER

Sample Number	PCB-171	Code	PCB-173	Code	PCB-180	Code	PCB-182	Code	PCB-183	Code	PCB-185	Code
01NE28SW411	ND (0.011)		ND (0.011)		ND (0.011)		ND (0.011)		ND (0.011))	ND (0.011)	
01NE29SW417	ND (0.010)											
01NE30SW401	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	1	ND (0.010)	
01NE30SW402	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	1	ND (0.010)	
METHOD BLANK 01	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010))	ND (0.010)	
LCS 01	NA											
% Recovery												
Duplicate												
QC % SDUPL												
QC RPD												

WATER

Sample Number	PCB-187	Code	PCB-189	Code	PCB-191	Code	PCB-194	Code	PCB-195	Code	PCB-196	Code
01NE28SW411	ND (0.011)											
01NE29SW417	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	1	ND (0.010)	
01NE30SW401	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	1	ND (0.010)	
01NE30SW402	ND (0.010)											
METHOD BLANK 01	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	1	ND (0.010)	
LCS 01	NA		NA		0.088		0.081		NA		NA	
% Recovery					87.6%		81.1%)				
Duplicate					0.090		0.084	ŀ				
QC % SDUPL					89.7%		84.0%)				
QC RPD					2.4		3.5	5				

WATER

Sample Number	PCB-199	Code	PCB-201	Code	PCB-202	Code	PCB-203	Code	PCB-205	Code	PCB-206	Code
01NE28SW411	ND (0.011)		ND (0.011)		ND (0.011)		ND (0.011)		ND (0.011))	ND (0.011)	
01NE29SW417	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	1	ND (0.010)		ND (0.010)	
01NE30SW401	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	1	ND (0.010)		ND (0.010)	
01NE30SW402	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	1	ND (0.010)	1	ND (0.010)	
METHOD BLANK 01	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	1	ND (0.010)	1	ND (0.010)	
LCS 01	NA		NA		NA		NA		0.079)	0.087	
% Recovery									78.5%)	86.5%	1
Duplicate									0.082	2	0.088	
QC % SDUPL									81.6%)	87.6%	1
QC RPD									3.9)	1.3	

WATER

Sample Number	PCB-207	Code	PCB-208	Code	PCB-66	Code	PCB-155	Code	PCB-184	Code	PCB 190	Code
01NE28SW411	ND (0.011)		0.003	JB	ND (0.011)		ND (0.011)		ND (0.011)		ND (0.011)	
01NE29SW417	ND (0.010)		0.003	JB	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	
01NE30SW401	ND (0.010)		0.003	JB	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	
01NE30SW402	ND (0.010)		0.003	JB	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	
METHOD BLANK 01	ND (0.010)		0.004	J	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	
LCS 01	NA		0.086	i	NA		NA		NA		NA	
% Recovery			85.7%	1								
Duplicate			0.087	•								
QC % SDUPL			86.7%	,								
QC RPD			1.2	2								

WATER

Sample Number	PCB-198	Code	PCB-200	Code	PCB-126	Code	PCB-169	Code
01NE28SW411	ND (0.011)		ND (0.011)		ND (0.011)		ND (0.011)	
01NE29SW417	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	
01NE30SW401	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	
01NE30SW402	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	
METHOD BLANK 01	ND (0.010)		ND (0.010)		ND (0.010)		ND (0.010)	
LCS 01	NA		NA		0.105		0.091	
% Recovery					105.0%	1	90.6%	
Duplicate					0.109)	0.092	
QC % SDUPL					109.0%		91.9%	
QC RPD					3.7		1.4	

FISH TISSUE

Lab ID	Field Description	PCB-1016 Code	PCB-1221 Code	PCB-1232 Code	PCB-1242 Code	PCB-1248 Code	PCB-1254 Code
100390	COE 1 WHOLE	ND (32.4)					
100391	COE 2 WHOLE	ND (32.9)					
100392	COE 3 FILLET WITH SKIN	ND (32.6)					
100393	COE 3 REST OF FISH	ND (32.6)					
100394	COE 4 FILLET WITH SKIN	ND (32.7)					
100395	COE 4 REST OF FISH	ND (31.8)					
100396	TRAP 2A-1 WHOLE	ND (53.8)					
100397	TRAP 2A-2 WHOLE	ND (32.9)					
100398	TRAP 2A-3 WHOLE	ND (32.3)					
100399	CULVERT WHOLE	ND (32.9)					
BL#01	METHOD BLANK 01	ND (8.33)					
BL#02	LCS 01	80.7	N/A	N/A	N/A	N/A	N/A
BL#02	% Recovery	96.8%					

В	compound present in method blank
J	estimated concentration of analyte that is above MDL but below the LRL
С	analyte identifed by retention time on both analytical columns but concentration is reported as an estimate due to congener co-elution on second column
MDL	analyte method detection limit determined according to procedures in 40CFR
LRL	laboratory reporting limit based on low calibration standard
LCS	laboratory control sample
ND()	not detected (method detection limit)
N/A	not analyzed
NR	analyte cannot be resolved due to co-elution with other analytes

FISH TISSUE

Lab ID	Field Description	PCB-1260 Code	TcIXYL-S C	Code	DCLBP	Code	PCB 7	Code	PCB 8	Code	PCB 15	Code
100390	COE 1 WHOLE	ND (32.4)	38.60%		28.70%		ND (0.97)		ND (0.97)		ND (0.97))
100391	COE 2 WHOLE	ND (32.9)	46.80%		23.40%		ND (0.97)		ND (0.97))	ND (0.97)	
100392	COE 3 FILLET WITH SKIN	ND (32.6)	69.80%		69.20%		ND (0.98)		ND (0.98))	ND (0.98)	
100393	COE 3 REST OF FISH	ND (32.6)	13.60%		10.60%		ND (0.98)		ND (0.98))	ND (0.98)	
100394	COE 4 FILLET WITH SKIN	ND (32.7)	68.90%		71.60%		ND (0.98)		ND (0.98))	ND (0.98)	
100395	COE 4 REST OF FISH	ND (31.8)	42.60%		34.50%		ND (1.27)		ND (1.27))	ND (1.27)	
100396	TRAP 2A-1 WHOLE	ND (53.8)	40.10%		24.10%		ND (3.22)		ND (3.22))	ND (3.22)	
100397	TRAP 2A-2 WHOLE	ND (32.9)	27.40%		15.20%		ND (1.31)		ND (1.31))	ND (1.31)	
100398	TRAP 2A-3 WHOLE	ND (32.3)	26.40%		20.00%		ND (1.00)		ND (1.00))	ND (1.00)	
100399	CULVERT WHOLE	ND (32.9)	27.20%		33.70%		ND (0.99)		ND (0.99))	ND (0.99)	
BL#01	METHOD BLANK 01	ND (8.33)	106%		81.20%		ND (0.33)		ND (0.33))	ND (0.33))
BL#02	LCS 01	78.0	103%		77.60%		2.46		4.13		N/A	
BL#02	% Recovery	93.6%					74.4%		125.0%			

FISH TISSUE

Lab ID	Field Description	PCB 18	Code	PCB 28	Code	PCB 31	Code	PCB 40	Code	PCB 44	Code	PCB 49	Code
100390	COE 1 WHOLE	ND (0.97)											
100391	COE 2 WHOLE	ND (0.97)											
100392	COE 3 FILLET WITH SKIN	ND (0.98)											
100393	COE 3 REST OF FISH	ND (0.98)											
100394	COE 4 FILLET WITH SKIN	ND (0.98)											
100395	COE 4 REST OF FISH	ND (1.27)											
100396	TRAP 2A-1 WHOLE	ND (3.22)											
100397	TRAP 2A-2 WHOLE	ND (1.31)											
100398	TRAP 2A-3 WHOLE	ND (1.00)											
100399	CULVERT WHOLE	ND (0.99)											
BL#01	METHOD BLANK 01	ND (0.33)											
BL#02	LCS 01	3.33		3.63		N/A		N/A		3.29		3.57	
BL#02	% Recovery	101.0%		110.0%						99.4%		108.0%	

FISH TISSUE

Lab ID	Field Description	PCB 50	Code	PCB 52	Code	PCB 54	Code	PCB 60	Code	PCB 70	Code	PCB 77	Code
100390	COE 1 WHOLE	ND (0.97)											
100391	COE 2 WHOLE	ND (0.97)											
100392	COE 3 FILLET WITH SKIN	ND (0.98)											
100393	COE 3 REST OF FISH	ND (0.98)											
100394	COE 4 FILLET WITH SKIN	ND (0.98)											
100395	COE 4 REST OF FISH	ND (1.27)											
100396	TRAP 2A-1 WHOLE	ND (3.22)											
100397	TRAP 2A-2 WHOLE	ND (1.31)											
100398	TRAP 2A-3 WHOLE	ND (1.00)											
100399	CULVERT WHOLE	ND (0.99)											
BL#01	METHOD BLANK 01	ND (0.33)											
BL#02	LCS 01	N/A		3.29		N/A		N/A		3.4		N/A	
BL#02	% Recovery			99.6%						103.0%			

FISH TISSUE

Lab ID	Field Description	PCB 82 Code	PCB 86 Code	PCB 87 Code	PCB 97 Code	PCB 101 Code	PCB 103 Code
100390	COE 1 WHOLE	ND (0.97)	ND (0.97)				
100391	COE 2 WHOLE	ND (0.97)	ND (0.97)				
100392	COE 3 FILLET WITH SKIN	ND (0.98)	ND (0.98)				
100393	COE 3 REST OF FISH	ND (0.98)	ND (0.98)				
100394	COE 4 FILLET WITH SKIN	ND (0.98)	ND (0.98)				
100395	COE 4 REST OF FISH	ND (1.27)	ND (1.27)				
100396	TRAP 2A-1 WHOLE	ND (3.22)	ND (3.22)				
100397	TRAP 2A-2 WHOLE	ND (1.31)	ND (1.31)				
100398	TRAP 2A-3 WHOLE	ND (1.00)	ND (1.00)				
100399	CULVERT WHOLE	ND (0.99)	ND (0.99)				
BL#01	METHOD BLANK 01	ND (0.33)	ND (0.33)				
BL#02	LCS 01	N/A	N/A	N/A	N/A	N/A	N/A
BL#02	% Recovery						

FISH TISSUE

Lab ID	Field Description	PCB 105 Code	PCB 114 Code	PCB 118 Code	PCB 121 Code	PCB 128 Code	PCB 129 Code
100390	COE 1 WHOLE	ND (0.97)					
100391	COE 2 WHOLE	ND (0.97)					
100392	COE 3 FILLET WITH SKIN	ND (0.98)					
100393	COE 3 REST OF FISH	ND (0.98)					
100394	COE 4 FILLET WITH SKIN	ND (0.98)					
100395	COE 4 REST OF FISH	ND (1.27)					
100396	TRAP 2A-1 WHOLE	ND (3.22)					
100397	TRAP 2A-2 WHOLE	ND (1.31)					
100398	TRAP 2A-3 WHOLE	ND (1.00)					
100399	CULVERT WHOLE	ND (0.99)					
BL#01	METHOD BLANK 01	ND (0.33)					
BL#02	LCS 01	N/A	3.29	3.6	N/A	3.08	N/A
BL#02	% Recovery		99.8%	109.0%		93.3%	

FISH TISSUE

Lab ID	Field Description	PCB 136 Code	PCB 137 Code	PCB 138 Code	PCB 141 Code	PCB 143 Code	PCB 151 Code
100390	COE 1 WHOLE	ND (0.97)					
100391	COE 2 WHOLE	ND (0.97)					
100392	COE 3 FILLET WITH SKIN	ND (0.98)					
100393	COE 3 REST OF FISH	ND (0.98)					
100394	COE 4 FILLET WITH SKIN	ND (0.98)					
100395	COE 4 REST OF FISH	ND (1.27)					
100396	TRAP 2A-1 WHOLE	ND (3.22)					
100397	TRAP 2A-2 WHOLE	ND (1.31)					
100398	TRAP 2A-3 WHOLE	ND (1.00)					
100399	CULVERT WHOLE	ND (0.99)					
BL#01	METHOD BLANK 01	ND (0.33)					
BL#02	LCS 01	N/A	N/A	N/A	N/A	N/A	3.21
BL#02	% Recovery						97.4%

FISH TISSUE

Lab ID	Field Description	PCB 153 Code	PCB 154 Code	PCB 156 Code	PCB 159 Code	PCB 167 Code	PCB 170 Code
100390	COE 1 WHOLE	ND (0.97)					
100391	COE 2 WHOLE	ND (0.97)					
100392	COE 3 FILLET WITH SKIN	ND (0.98)					
100393	COE 3 REST OF FISH	ND (0.98)					
100394	COE 4 FILLET WITH SKIN	ND (0.98)					
100395	COE 4 REST OF FISH	ND (1.27)					
100396	TRAP 2A-1 WHOLE	ND (3.22)					
100397	TRAP 2A-2 WHOLE	ND (1.31)					
100398	TRAP 2A-3 WHOLE	ND (1.00)					
100399	CULVERT WHOLE	ND (0.99)					
BL#01	METHOD BLANK 01	ND (0.33)					
BL#02	LCS 01	N/A	N/A	3.09	N/A	N/A	N/A
BL#02	% Recovery			93.6%			

FISH TISSUE

Lab ID	Field Description	PCB 171 Code	PCB 173 Code	PCB 180 Code	PCB 182 Code	PCB 183 Code	PCB 185 Code
100390	COE 1 WHOLE	ND (0.97)					
100391	COE 2 WHOLE	ND (0.97)					
100392	COE 3 FILLET WITH SKIN	ND (0.98)					
100393	COE 3 REST OF FISH	ND (0.98)					
100394	COE 4 FILLET WITH SKIN	ND (0.98)					
100395	COE 4 REST OF FISH	ND (1.27)					
100396	TRAP 2A-1 WHOLE	ND (3.22)					
100397	TRAP 2A-2 WHOLE	ND (1.31)					
100398	TRAP 2A-3 WHOLE	ND (1.00)					
100399	CULVERT WHOLE	ND (0.99)					
BL#01	METHOD BLANK 01	ND (0.33)					
BL#02	LCS 01	N/A	N/A	N/A	N/A	N/A	N/A
BL#02	% Recovery						

FISH TISSUE

Lab ID	Field Description	PCB 187 Code	PCB 189 Code	PCB 191 Code	PCB 194 Code	PCB 195 Code	PCB 196 Code
100390	COE 1 WHOLE	ND (0.97)					
100391	COE 2 WHOLE	ND (0.97)					
100392	COE 3 FILLET WITH SKIN	ND (0.98)					
100393	COE 3 REST OF FISH	ND (0.98)					
100394	COE 4 FILLET WITH SKIN	ND (0.98)					
100395	COE 4 REST OF FISH	ND (1.27)					
100396	TRAP 2A-1 WHOLE	ND (3.22)					
100397	TRAP 2A-2 WHOLE	ND (1.31)					
100398	TRAP 2A-3 WHOLE	ND (1.00)					
100399	CULVERT WHOLE	ND (0.99)					
BL#01	METHOD BLANK 01	ND (0.33)					
BL#02	LCS 01	N/A	N/A	3.24	3.04	N/A	N/A
BL#02	% Recovery			98.2%	92.2%		

FISH TISSUE

Lab ID	Field Description	PCB 199 Code	PCB 201 Code	PCB 202 Code	PCB 203 Code	PCB 205 Code	PCB 206	Code
100390	COE 1 WHOLE	ND (0.97)	ND (0.97)					
100391	COE 2 WHOLE	ND (0.97)	3.03	В				
100392	COE 3 FILLET WITH SKIN	ND (0.98)	ND (0.98)					
100393	COE 3 REST OF FISH	ND (0.98)	ND (0.98)					
100394	COE 4 FILLET WITH SKIN	ND (0.98)	ND (0.98)					
100395	COE 4 REST OF FISH	ND (1.27)	ND (1.27)					
100396	TRAP 2A-1 WHOLE	ND (3.22)	ND (3.22)					
100397	TRAP 2A-2 WHOLE	ND (1.31)	ND (1.31)					
100398	TRAP 2A-3 WHOLE	ND (1.00)	ND (1.00)					
100399	CULVERT WHOLE	ND (0.99)	ND (0.99)					
BL#01	METHOD BLANK 01	ND (0.33)	0.277	J				
BL#02	LCS 01	N/A	N/A	N/A	N/A	2.92	3.13	
BL#02	% Recovery					88.6%	94.8%	

FISH TISSUE

Lab ID	Field Description	PCB 207 Code	PCB 208 Code	PCB 66 Code	PCB 155 Code	PCB 184 Code	PCB 190 Code
100390	COE 1 WHOLE	ND (0.97)	ND (0.97)	ND (0.97)	ND (0.97)	ND (0.97)	ND (0.97)
100391	COE 2 WHOLE	ND (0.97)	ND (0.97)	ND (0.97)	ND (0.97)	ND (0.97)	ND (0.97)
100392	COE 3 FILLET WITH SKIN	ND (0.98)	ND (0.98)	ND (0.98)	ND (0.98)	ND (0.98)	ND (0.98)
100393	COE 3 REST OF FISH	ND (0.98)	ND (0.98)	ND (0.98)	ND (0.98)	ND (0.98)	ND (0.98)
100394	COE 4 FILLET WITH SKIN	ND (0.98)	ND (0.98)	ND (0.98)	ND (0.98)	ND (0.98)	ND (0.98)
100395	COE 4 REST OF FISH	ND (1.27)	ND (1.27)	ND (1.27)	ND (1.27)	ND (1.27)	ND (1.27)
100396	TRAP 2A-1 WHOLE	ND (3.22)	ND (3.22)	ND (3.22)	ND (3.22)	ND (3.22)	ND (3.22)
100397	TRAP 2A-2 WHOLE	ND (1.31)	ND (1.31)	ND (1.31)	ND (1.31)	ND (1.31)	ND (1.31)
100398	TRAP 2A-3 WHOLE	ND (1.00)	ND (1.00)	ND (1.00)	ND (1.00)	ND (1.00)	ND (1.00)
100399	CULVERT WHOLE	ND (0.99)	ND (0.99)	ND (0.99)	ND (0.99)	ND (0.99)	ND (0.99)
BL#01	METHOD BLANK 01	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.33)
BL#02	LCS 01	N/A	3.14	2.86	N/A	N/A	N/A
BL#02	% Recovery		95.3%	86.6%			

FISH TISSUE

Lab IDField DescriptionPCB 198CodePCB 200CodePCB 126CodePCB 169CodeLIPIDS100390COE 1 WHOLEND (0.97)ND (0.97)ND (0.97)ND (0.97)ND (0.97)0.87%100391COE 2 WHOLEND (0.97)ND (0.97)ND (0.97)ND (0.97)ND (0.97)1.20%100392COE 3 FILLET WITH SKINND (0.98)ND (0.98)ND (0.98)ND (0.98)3.90%100393COE 3 REST OF FISHND (0.98)ND (0.98)ND (0.98)ND (0.98)0.60%100394COE 4 FILLET WITH SKINND (0.98)ND (0.98)ND (0.98)ND (0.98)6.10%100395COE 4 REST OF FISHND (1.27)ND (1.27)ND (1.27)ND (1.27)3.70%100396TRAP 2A-1 WHOLEND (3.22)ND (3.22)ND (3.22)ND (3.22)0.14%100397TRAP 2A-2 WHOLEND (1.31)ND (1.31)ND (1.31)ND (1.31)0.23%100398TRAP 2A-3 WHOLEND (0.99)ND (0.99)ND (0.99)ND (0.99)0.29%100399CULVERT WHOLEND (0.33)ND (0.33)ND (0.33)ND (0.33)0.06%10402LCS 01N/AN/A3.163.430.99%BL#02% Recovery95.9%104.0%104.2%	anresu	is in uy/ky					
100390COE 1 WHOLEND (0.97)ND (0.97)ND (0.97)ND (0.97)ND (0.97)0.87%100391COE 2 WHOLEND (0.97)ND (0.97)ND (0.97)ND (0.97)ND (0.97)1.20%100392COE 3 FILLET WITH SKINND (0.98)ND (0.98)ND (0.98)ND (0.98)3.90%100393COE 3 REST OF FISHND (0.98)ND (0.98)ND (0.98)ND (0.98)0.60%100394COE 4 FILLET WITH SKINND (0.98)ND (0.98)ND (0.98)ND (0.98)6.10%100395COE 4 REST OF FISHND (1.27)ND (1.27)ND (1.27)ND (1.27)3.70%100396TRAP 2A-1 WHOLEND (3.22)ND (3.22)ND (3.22)ND (3.22)0.14%100397TRAP 2A-2 WHOLEND (1.31)ND (1.31)ND (1.31)0.23%100398TRAP 2A-3 WHOLEND (0.99)ND (0.99)ND (0.99)0.29%100399CULVERT WHOLEND (0.99)ND (0.99)ND (0.99)0.29%BL#01METHOD BLANK 01ND (0.33)ND (0.33)ND (0.33)0.06%BL#02½% Recovery%95.9%104.0%104.2%	Lab ID	Field Description	PCB 198 Code	PCB 200 Code	PCB 126 Code	PCB 169 Code	LIPIDS
100391COE 2 WHOLEND (0.97)ND (0.97)ND (0.97)ND (0.97)1.20%100392COE 3 FILLET WITH SKINND (0.98)ND (0.98)ND (0.98)ND (0.98)3.90%100393COE 3 REST OF FISHND (0.98)ND (0.98)ND (0.98)ND (0.98)0.60%100394COE 4 FILLET WITH SKINND (0.98)ND (0.98)ND (0.98)ND (0.98)0.60%100395COE 4 REST OF FISHND (1.27)ND (1.27)ND (1.27)ND (1.27)3.70%100396TRAP 2A-1 WHOLEND (3.22)ND (3.22)ND (3.22)ND (3.22)0.14%100397TRAP 2A-2 WHOLEND (1.31)ND (1.31)ND (1.31)0.23%100398TRAP 2A-3 WHOLEND (1.00)ND (1.00)ND (1.00)0.35%100399CULVERT WHOLEND (0.99)ND (0.99)ND (0.99)0.29%BL#01METHOD BLANK 01ND (0.33)ND (0.33)ND (0.33)ND (0.33)0.06%BL#02& Recovery%%95.9%104.0%104.2%	100390	COE 1 WHOLE	ND (0.97)	ND (0.97)	ND (0.97)	ND (0.97)	0.87%
100392COE 3 FILLET WITH SKINND (0.98)ND (0.98)ND (0.98)ND (0.98)ND (0.98)3.90%100393COE 3 REST OF FISHND (0.98)ND (0.98)ND (0.98)ND (0.98)ND (0.98)0.60%100394COE 4 FILLET WITH SKINND (0.98)ND (0.98)ND (0.98)ND (0.98)ND (0.98)6.10%100395COE 4 REST OF FISHND (1.27)ND (1.27)ND (1.27)ND (1.27)3.70%100396TRAP 2A-1 WHOLEND (3.22)ND (3.22)ND (3.22)ND (3.22)0.14%100397TRAP 2A-2 WHOLEND (1.31)ND (1.31)ND (1.31)ND (1.31)0.23%100398TRAP 2A-3 WHOLEND (1.00)ND (1.00)ND (1.00)ND (1.00)0.35%100399CULVERT WHOLEND (0.99)ND (0.99)ND (0.99)0.29%BL#01METHOD BLANK 01ND (0.33)ND (0.33)ND (0.33)ND (0.33)0.06%BL#02LCS 01N/AN/A3.163.430.99%BL#02% Recovery95.9%104.0%104.2%	100391	COE 2 WHOLE	ND (0.97)	ND (0.97)	ND (0.97)	ND (0.97)	1.20%
100393COE 3 REST OF FISHND (0.98)ND (0.98)ND (0.98)ND (0.98)ND (0.98)0.60%100394COE 4 FILLET WITH SKINND (0.98)ND (0.98)ND (0.98)ND (0.98)ND (0.98)6.10%100395COE 4 REST OF FISHND (1.27)ND (1.27)ND (1.27)ND (1.27)3.70%100396TRAP 2A-1 WHOLEND (3.22)ND (3.22)ND (3.22)ND (3.22)0.14%100397TRAP 2A-2 WHOLEND (1.31)ND (1.31)ND (1.31)ND (1.31)0.23%100398TRAP 2A-3 WHOLEND (1.00)ND (1.00)ND (1.00)ND (1.00)0.35%100399CULVERT WHOLEND (0.99)ND (0.99)ND (0.99)0.29%BL#01METHOD BLANK 01ND (0.33)ND (0.33)ND (0.33)0.06%BL#02LCS 01N/AN/A3.163.430.99%BL#02% Recovery95.9%104.0%104.2%	100392	COE 3 FILLET WITH SKIN	ND (0.98)	ND (0.98)	ND (0.98)	ND (0.98)	3.90%
100394COE 4 FILLET WITH SKINND (0.98)ND (0.98)ND (0.98)ND (0.98)6.10%100395COE 4 REST OF FISHND (1.27)ND (1.27)ND (1.27)ND (1.27)3.70%100396TRAP 2A-1 WHOLEND (3.22)ND (3.22)ND (3.22)ND (3.22)0.14%100397TRAP 2A-2 WHOLEND (1.31)ND (1.31)ND (1.31)ND (1.31)0.23%100398TRAP 2A-3 WHOLEND (1.00)ND (1.00)ND (1.00)ND (1.00)0.35%100399CULVERT WHOLEND (0.99)ND (0.99)ND (0.99)ND (0.99)0.29%BL#01METHOD BLANK 01ND (0.33)ND (0.33)ND (0.33)ND (0.33)0.06%BL#02LCS 01N/AN/A3.163.430.99%BL#02% Recovery95.9%104.0%104.2%	100393	COE 3 REST OF FISH	ND (0.98)	ND (0.98)	ND (0.98)	ND (0.98)	0.60%
100395COE 4 REST OF FISHND (1.27)ND (1.27)ND (1.27)ND (1.27)3.70%100396TRAP 2A-1 WHOLEND (3.22)ND (3.22)ND (3.22)ND (3.22)0.14%100397TRAP 2A-2 WHOLEND (1.31)ND (1.31)ND (1.31)ND (1.31)0.23%100398TRAP 2A-3 WHOLEND (1.00)ND (1.00)ND (1.00)ND (1.00)0.35%100399CULVERT WHOLEND (0.99)ND (0.99)ND (0.99)ND (0.99)0.29%BL#01METHOD BLANK 01ND (0.33)ND (0.33)ND (0.33)ND (0.33)0.06%BL#02LCS 01N/AN/A3.163.430.99%BL#02% Recovery95.9%104.0%104.2%	100394	COE 4 FILLET WITH SKIN	ND (0.98)	ND (0.98)	ND (0.98)	ND (0.98)	6.10%
100396TRAP 2A-1 WHOLEND (3.22)ND (3.22)ND (3.22)0.14%100397TRAP 2A-2 WHOLEND (1.31)ND (1.31)ND (1.31)ND (1.31)0.23%100398TRAP 2A-3 WHOLEND (1.00)ND (1.00)ND (1.00)ND (1.00)0.35%100399CULVERT WHOLEND (0.99)ND (0.99)ND (0.99)ND (0.99)0.29%BL#01METHOD BLANK 01ND (0.33)ND (0.33)ND (0.33)ND (0.33)0.06%BL#02LCS 01N/AN/A3.163.430.99%BL#02% Recovery95.9%104.0%104.2%	100395	COE 4 REST OF FISH	ND (1.27)	ND (1.27)	ND (1.27)	ND (1.27)	3.70%
100397 TRAP 2A-2 WHOLE ND (1.31) ND (1.31) ND (1.31) ND (1.31) 0.23% 100398 TRAP 2A-3 WHOLE ND (1.00) ND (1.00) ND (1.00) ND (1.00) 0.35% 100399 CULVERT WHOLE ND (0.99) ND (0.99) ND (0.99) ND (0.99) 0.29% BL#01 METHOD BLANK 01 ND (0.33) ND (0.33) ND (0.33) 0.06% BL#02 LCS 01 N/A N/A 3.16 3.43 0.99% BL#02 % Recovery 95.9% 104.0% 104.2%	100396	TRAP 2A-1 WHOLE	ND (3.22)	ND (3.22)	ND (3.22)	ND (3.22)	0.14%
100398 TRAP 2A-3 WHOLE ND (1.00) ND (1.00) ND (1.00) ND (1.00) 0.35% 100399 CULVERT WHOLE ND (0.99) ND (0.99) ND (0.99) ND (0.99) 0.29% BL#01 METHOD BLANK 01 ND (0.33) ND (0.33) ND (0.33) ND (0.33) 0.06% BL#02 LCS 01 N/A N/A 3.16 3.43 0.99% BL#02 % Recovery 95.9% 104.0% 104.2%	100397	TRAP 2A-2 WHOLE	ND (1.31)	ND (1.31)	ND (1.31)	ND (1.31)	0.23%
100399CULVERT WHOLEND (0.99)ND (0.99)ND (0.99)ND (0.99)0.29%BL#01METHOD BLANK 01ND (0.33)ND (0.33)ND (0.33)ND (0.33)0.06%BL#02LCS 01N/AN/A3.163.430.99%BL#02% Recovery95.9%104.0%104.2%	100398	TRAP 2A-3 WHOLE	ND (1.00)	ND (1.00)	ND (1.00)	ND (1.00)	0.35%
BL#01 METHOD BLANK 01 ND (0.33) ND (0.33) ND (0.33) 0.06% BL#02 LCS 01 N/A N/A 3.16 3.43 0.99% BL#02 % Recovery 95.9% 104.0% 104.2%	100399	CULVERT WHOLE	ND (0.99)	ND (0.99)	ND (0.99)	ND (0.99)	0.29%
BL#02 LCS 01 N/A N/A 3.16 3.43 0.99% BL#02 % Recovery 95.9% 104.0% 104.2%	BL#01	METHOD BLANK 01	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.33)	0.06%
BL#02 % Recovery 95.9% 104.0% 104.2%	BL#02	LCS 01	N/A	N/A	3.16	3.43	0.99%
	BL#02	% Recovery			95.9%	104.0%	104.2%