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Section 3

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PCB Aroclor and Chlorinated Pesticide Results

QA/QC Narratives
Tree Swallow Tissue and QC Results

QA/QC Narratives

**PCB Aroclor/Pesticide QA/QC Summary
QC Batch 01-380 -- Tree Swallow Nestlings**

PROJECT: USACE NAE Delivery Order #01 Centredale
PARAMETER: PCB Aroclor and Chlorinated Pesticides
LABORATORY: Battelle, Duxbury, MA
MATRIX: Tree swallow nestlings
SAMPLE CUSTODY: Tree swallow nestlings were collected by USGS between May 30 and June 12, 2001. Samples were received for processing at Battelle MSL on July 11, 2001. Swallow nestling samples were freeze-dried, homogenized and a sub-sample shipped to Battelle Duxbury for PCB Aroclor and chlorinated pesticides analyses.

Freeze-dried, nestling homogenates were received at Battelle Duxbury on August 31, 2001. Samples arrived after normal business hours and were not logged into the laboratory until September 3, 2001. The cooler was at room temperature upon login. Battelle does not believe that the samples were compromised since they had already been freeze-dried.

QA/QC MEASUREMENT PERFORMANCE CRITERIA:

	Reference Method	Surrogate Blank	Surrogate Recovery	LCS/MS Recovery	SRM % Diff.	MS/MSD Replicate Relative Precision	Achieved RL (ng/g wet)	Project Goals * (ng/g wet)
PCB/ PEST	L-9 Battelle SOP 5-128	<QL ^a	40-125% Recovery	40-120% Recovery ^b	≤30% PD ^c	≤30% RPD ^{b,d}	Aroclor: 28.3 to 87.4 Pest: 2.26 to 6.99 Technical Chlordane: 283 to 873 Toxaphene: 73.7 to 175	Aroclor: 0.48 to 17 Pest: 0.0565 to 6020 Technical Chlordane: NA Toxaphene: 0.873

^a Or associated samples >10x blank values.

^b For 90% of analytes; Analyte concentration in MS/MSD must be >5x background to be used for data quality assessment

^c From a range of certified values; using surrogate corrected data; certified values in SRM must be >3x the detection limit to be used for data quality assessment

^d Sample duplicate -- detected values must be >3x the detection limit to be used for data quality assessment

* Project detection limit goals vary by analyte -- see Worksheet #9b in the project QAPP (Battelle, 2001) for detection limit goals by analyte.

METHOD: Freeze-dried nestling samples were prepared and analyzed for PCB Aroclor and chlorinated pesticides following methods described in Battelle's Quality Assurance Project Plan (Battelle, 2001). Briefly,

Sample Preparation -- Tissues were extracted and cleaned following procedures in Battelle SOP 5-190, which are methods developed by Battelle in support of NOAA's National Status and Trends Mussel Watch Project (Peven and Uhler, 1993a). Approximately 2-g of freeze-dried nestling homogenate was weighed into a Teflon extraction jar, spiked with the appropriate surrogate internal standard (SIS) compounds, combined with 75 mL DCM and sodium sulfate, macerated with a Tissuermizer and centrifuged. The extract was decanted into an Erlenmeyer flask. This process was

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METHOD
(cont):

repeated a second time using an additional 75 mL DCM. A third extraction was performed on the sample using 50 mL DCM and shaking on a shaker table for approximately 30 minutes. The sample was then centrifuged a third time and the solvent decanted into the Erlenmeyer with the rest of the sample extract. The combined extract was dried over sodium sulfate and concentrated by Kuderna-Danish (KD) technique to approximately 10 mL. A measured aliquot of extract was removed for lipid determination (above). The remaining extract was concentrated to approximately 2 to 3 mLs and processed through an alumina column (40 g F20 2% deactivated) and HPLC cleanup.

The post-HPLC extract was concentrated under nitrogen, solvent exchanged into hexane to approximately 1 mL, and spiked with recovery internal standard (RIS) compounds. The extract was transferred to GC/ECD for chlorinated pesticides /PCB Aroclors analysis.

GC/ECD Analysis -- PCB Aroclors and chlorinated pesticides were analyzed by GC/ECD (Hewlett Packard 5890 Series 2 GC) using a 60-m DB5 column and hydrogen as the carrier gas. A minimum of a five-point calibration curve was used for pesticide analysis ranging from approximately 0.008 to 0.3 µg/mL. A single point calibration at approximately 2 µg/mL was used for Technical Chlordane and PCB Aroclors analysis. And a single point calibration at approximately 4 µg/mL was used for Toxaphene analysis

GC/ECD Calibration Issues -- One continuing calibration analyzed with the sequence failed for several pesticides. The failure was due to low argon/methane pressure and affected the continuing calibration and instrument control check only. No samples were affected. The next continuing calibration met criteria for all compounds except Endrin (30% PD from initial).

Estimated Pesticide Data -- Most samples contained high levels of Aroclor 1254 and Technical Chlordane, resulting in co-elution with some chlorinated pesticides. Co-elution between high-level contaminants (e.g., PCB Aroclor) and relatively lower level contaminants such as chlorinated pesticides can lead to less accurate peak integrations for the affected pesticides. As a result, chlorinated pesticide results for the nestling samples should be considered estimates.

Total Aroclor -- was determined as the most predominant Aroclor formulation, or mixture of two major Aroclor formulations. The predominant Aroclor formulation (>80%) was Aroclor 1254, with relatively lower levels of Aroclor 1268.

HOLDING
TIMES:

Samples were prepared for analysis in one analytical batch. Samples were extracted within 5 months of collection and analyzed within 20 days of extraction.

<u>Batch</u>	<u>Extraction Date</u>	<u>Analysis Date</u>
01-380	10/16/2001	11/2 - 5/2001

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DETECTION LIMITS:

PCB Aroclor and chlorinated pesticide results are reported relative to the sample-specific reporting limits (also referred to as QL in the QAPP) for that compound. The sample-specific RL is based on the low calibration standard and adjusted for sample specific processing factors and volumes, as follow:

$$RL = (\text{Concentration in Low Std.} \times \text{final extract volume} \times \text{dilution factors}) / \text{Sample size}$$

Where,

Concentration in Low Std. = approximately 0.008 µg/mL for pesticides and PCB congeners; 1 µg/mL Technical Chlordane; 0.1 µg/mL for Aroclor; and 0.2 µg/mL for Toxaphene.**

Final Extract Volume = 1,100 µL

Dilution Factor = approximately 4 to 5

Sample Size = approximately 30-g wet

** Note that a mid-level, single point calibration was analyzed for Technical Chlordane (2 µg/mL), PCB Aroclor (2 µg/mL) and Toxaphene (4 µg/mL). However, the RL was based on the low range of the calibration curve, which was not analyzed with the samples. A full curve (for Technical Chlordane and Aroclor) had been analyzed within 11-weeks of the samples, thereby demonstrating that the instrument is sensitive at a lower level. Calculation of RLs is consistent with the methods specified in the QAPP (see Worksheet #9a).

Achieved RLs for most pesticides either met or were below the project detection limit goals. Achieved RLs for PCB Aroclor and Toxaphene did not meet the project detection limit goals. As noted in the QAPP, the project detection limit goals are provided for perspective rather than as a requirement for the analytical methods. If detection limits cannot be achieved, this will be addressed in the uncertainty discussions in the risk assessment.

BLANKS:

One laboratory procedural blank (PB) was prepared with the analytical batch. The blank was analyzed to ensure that the sample extraction and analysis methods were free of contamination.

01-380 -- PCB Aroclors/chlorinated pesticides were undetected in the laboratory blank.

LABORATORY CONTROL SAMPLE

Two laboratory control samples (LCS) were prepared with the analytical batch. One LCS sample was fortified with PCB congeners and chlorinated pesticides. The other LCS was fortified with PCB Aroclor 1016 and 1260. The percent recoveries of PCB Aroclor and chlorinated pesticides were calculated to measure data quality in terms of accuracy.

01-380 -- With the single exception of Endrin aldehyde, PCB Aroclor and chlorinated pesticides were recovered within the control limits specified in QAPP.

Recoveries ranged from:

	Pesticides	PCB Aroclor
ZL76LCS#1	39 -- 79%	not spiked
ZL77LCS#2	not spiked	60 -- 72%

Correction Action -- Endrin aldehyde was recovered at 39%, just below the lower limit of the measurement performance criteria (MPC). Endrin aldehyde was likely lost on the alumina cleanup column. Sample data for Endrin aldehyde should be considered biased low.

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MATRIX SPIKES:

A matrix spike (MS)/matrix spike duplicate (MSD) sample was prepared with the analytical batch. Chlorinated pesticides and PCB congeners were fortified into the MS/MSD, not Aroclor. Aroclor was only fortified into the LCS sample in accordance with the QAPP.

The percent recoveries of pesticides in the MS/MSD were calculated to measure data quality in terms of accuracy. The relative percent difference (RPD) between percent recoveries of pesticides in the MS and MSD were calculated to measure data quality in terms of precision.

01-380 -- 15 out of 20 pesticides were recovered within the QC limits specified in the QAPP.

Recoveries ranged from:

	<u>Pesticides</u>
ZL78MS	4 -- 71%
ZL79MSD	5 -- 69%
RPDs	0.8 -- 28.0%

QC exceedences included:

- Endosulfan I -- 4% and 5% in the MS and MSD, respectively
- Endosulfan II -- 36% and 27% in the MS and MSD, respectively
- Endrin aldehyde -- 26% and 27% in the MS and MSD respectively
- Alpha-BHC -- 40% in the MSD

Correction Action -- The under-recovery of Endosulfan I appear to be sample related, and associated with a matrix interference that is causing low response of Endosulfan I in the MS/MSD. The chromatograms and peak integrations for Endosulfan II were reviewed, but no cause for the under-recovery was apparent. The under-recovery of Endrin aldehyde may be attributed to losses on the alumina cleanup column. Sample data should be biased low for these three pesticides. QC exceedences are flagged on the final report tables.

PCB Aroclor/Pesticide QA/QC Summary
QC Batch 01-380 -- Tree Swallow Nestlings

SURROGATES: Four PCB surrogate compounds were added to each sample prior to extraction, including PCBs 14, 34, 104, and 112. Recovery data for PCBs 34 and 112 were calculated to measure data quality in terms of accuracy (extraction efficiency). Recovery data for the other two PCB surrogate compounds are not reported, as these are used as alternative surrogates in cases of interferences.

01-380 -- PCB112 was under-recovered in all but 4 study samples; PCB34 was recovered within the QC limits in all but 5 study samples.

Correction Action -- The under-recovery of PCB112 appears to be sample related and associated with interferences from co-eluting PCBs and/or Technical Chlordane. Note that all laboratory QC samples (e.g. blank, LCS, SRM) had acceptable recoveries of both PCB surrogates.

Three samples had low recoveries of both PCB surrogate compounds, including:

- A-TS-35-N (Battelle ID W6488)
- A-TS-57-N (Battelle ID W6492)
- G-TS-02-N (Battelle ID W6493)
- L-TS-63-N (Battelle ID W6499)

These 4 samples will be re-extracted provide sufficient material is available for re-extraction. *Samples were re-extracted with batch 01-672. Re-extract results reported. DMahli 6/19/02.*

REPLICATES: A laboratory duplicate was prepared with the batch. The RPD between laboratory replicate analyses for PCB Aroclor and chlorinated pesticides was calculated to measure data quality in terms of precision.

01-380 -- RPDs were within the control limits specified in the QAPP for all target compounds except 4,4'-DDT (30.5% RPD).

RPDs ranged from:

	<u>Pesticides</u>	<u>PCB Aroclor</u>
Duplicate	17.3 -- 30.5%	22.4 -- 23.5%

SRM: A standard reference material (SRM, NIST 1974a) was prepared with each analytical batch. The percent difference (PD) between detected concentrations and certified values (lower and upper range) was calculated to measure data quality in terms of accuracy. *Note* -- if the detected value fell within the certified range, then the PD is 0.0%.

01-380 -- All 5 certified pesticides had PD values < 30%.

PDs ranged from:

	<u>Certified Pesticides</u>
ZL80SRM	0.0 -- 28.5%

REFERENCES: Battelle 2001. *Centredale Manor Restoration Project Superfund Site Baseline Risk Assessment, Initial Project Planning and Support*. Tasks 19-22 QAPP prepared under contract to USACE NAE. Delivery Order #59. May 23, 2001. 509pp + apps.

PCB Aroclor/Pesticide QA/QC Summary QC Batch 01-568 -- Tree Swallow Eggs

PROJECT: USACE NAE Delivery Order #01 Centredale
PARAMETER: PCB Aroclor and Chlorinated Pesticides
LABORATORY: Battelle, Duxbury, MA
MATRIX: Tree swallow eggs
SAMPLE CUSTODY: Tree swallow egg samples were collected by USGS between May 21 and June 22, 2001. Swallow eggs were received at Battelle Duxbury on July 11, 2001. Samples were received in good condition and the cooler temperature upon receipt was -10.7 °C.

QA/QC MEASUREMENT PERFORMANCE CRITERIA:

PCB/ PEST	Reference Method	Surrogate Blank	Surrogate Recovery	LCS/MS Recovery	SRM % Diff.	MS/MSD Replicate Relative Precision	Achieved RL (ng/g wet)	Project Goals * (ng/g wet)
		L-9 Battelle SOP 5-128	<QL ^a	40-125% Recovery	40-120% Recovery ^b	≤30% PD ^c	≤30% RPD ^{b,d}	Aroclor: 98.3 to 151 Pest: 2.90 to 12.0 Technical Chlordane: 983 to 1505 Toxaphene: 197 to 301

^a Or associated samples >10× blank values.

^b For 90% of analytes; Analyte concentration in MS/MSD must be >5× background to be used for data quality assessment

^c From a range of certified values; using surrogate corrected data; certified values in SRM must be >3× the detection limit to be used for data quality assessment

^d Sample duplicate -- detected values must be >3× the detection limit to be used for data quality assessment

* Project detection limit goals vary by analyte -- see Worksheet #9b in the project QAPP (Battelle, 2001) for detection limit goals by analyte.

METHOD: Swallow egg samples were prepared and analyzed for PCB Aroclor and chlorinated pesticides following methods described in Battelle's Quality Assurance Project Plan (Battelle, 2001). Briefly,

Sample Preparation -- Tissues were extracted and cleaned following procedures in Battelle SOP 5-190, which are methods developed by Battelle in support of NOAA's National Status and Trends Mussel Watch Project (Peven and Uhler, 1993a). Approximately 2-g of well mixed, wet swallow egg was weighed into a Teflon extraction jar, spiked with the appropriate surrogate internal standard (SIS) compounds, combined with 75 mL DCM and sodium sulfate, macerated with a Tissuermizer and centrifuged. The extract was decanted into an Erlenmeyer flask. This process was repeated a second time using an additional 75 mL DCM. A third extraction was performed on the sample using 50 mL DCM and shaking on a shaker table for approximately 30 minutes. The sample was then centrifuged a third time and the solvent decanted into the Erlenmeyer with the rest of the sample extract. The combined extract was dried over sodium sulfate and concentrated by Kuderna-Danish (KD) technique to approximately 10 mL. A measured aliquot of extract was removed for

PCB Aroclor/Pesticide QA/QC Summary QC Batch 01-568 -- Tree Swallow Eggs

**METHOD
(cont):**

lipid determination (above). The remaining extract was concentrated to approximately 2 to 3 mLs and processed through an alumina column (40 g F20 2% deactivated) and HPLC cleanup.

The post-HPLC extract was concentrated under nitrogen, solvent exchanged into hexane to approximately 1 mL, and spiked with recovery internal standard (RIS) compounds. The extract was transferred to GC/ECD for chlorinated pesticides /PCB Aroclors analysis.

GC/ECD Analysis -- PCB Aroclors and chlorinated pesticides were analyzed by GC/ECD (Hewlett Packard 5890 Series 2 GC) using a 60-m DB5 column and hydrogen as the carrier gas. A minimum of a five-point calibration curve was used for pesticide analysis ranging from approximately 0.008 to 0.3 µg/mL. A single point calibration at approximately 2 µg/mL was used for Technical Chlordane and PCB Aroclors analysis. And a single point calibration at approximately 4 µg/mL was used for Toxaphene analysis

GC/ECD Calibration Issues -- alpha-BHC over-responded slightly in the last continuing calibration analyzed with the sequence, resulting in a 33% PD from the initial calibration. Alpha-BHC was undetected in the study samples and the calibration exceedence is not expected to impact data quality as a result.

Estimated Pesticide Data -- Most samples contained high levels of Aroclor 1254, resulting in co-elution with some chlorinated pesticides. Co-elution between high-level contaminants (e.g., PCB Aroclor) and relatively lower level contaminants such as chlorinated pesticides can lead to less accurate peak integrations for the affected pesticides. As a result, chlorinated pesticide results for the nestling samples should be considered estimates.

Total Aroclor -- was determined as the most predominant Aroclor formulation, or mixture of two major Aroclor formulations. The predominant Aroclor formulation (>75%) was Aroclor 1254, with relatively lower levels of Aroclor 1268.

**HOLDING
TIMES:**

Samples were prepared for analysis in one analytical batch. Samples were extracted within 5 months of collection and analyzed within 22 days of extraction.

<u>Batch</u>	<u>Extraction Date</u>	<u>Analysis Date</u>
01-568	10/23/2001	11/12 -- 14/2001

PCB Aroclor/Pesticide QA/QC Summary
QC Batch 01-568 -- Tree Swallow Eggs

DETECTION LIMITS:

PCB Aroclor and chlorinated pesticide results are reported relative to the sample-specific reporting limits (also referred to as QL in the QAPP) for that compound. The sample-specific RL is based on the low calibration standard and adjusted for sample specific processing factors and volumes, as follow:

$$RL = (\text{Concentration in Low Std.} \times \text{final extract volume} \times \text{dilution factors}) / \text{Sample size}$$

Where,

Concentration in Low Std. = approximately 0.008 µg/mL for pesticides and PCB congeners; 1 µg/mL Technical Chlordane; 0.1 µg/mL for Aroclor; and 0.2 µg/mL for Toxaphene**

Final Extract Volume = 1,100 µL

Dilution Factor = approximately 1.7

Sample Size = approximately 2-g wet (and 5.06 g for SRM)

** Note that a mid-level, single point calibration was analyzed for Technical Chlordane (2 µg/mL), PCB Aroclor (2 µg/mL) and Toxaphene (4 µg/mL). However, the RL was based on the low range of the calibration curve, which was not analyzed with the samples. A full curve (for Technical Chlordane and Aroclor) had been analyzed within 12-weeks of the samples, thereby demonstrating that the instrument is sensitive at a lower level. Calculation of RLs is consistent with the methods specified in the QAPP (see Worksheet #9a).

Achieved RLs for PCB Aroclor, Toxaphene, and approximately half the target pesticides did not meet the project detection limit goals, in part due to the small sample size available for extraction (2-g vs. 30-g wet target). As noted in the QAPP, the project detection limit goals are provided for perspective rather than as a requirement for the analytical methods. If detection limits cannot be achieved, this will be addressed in the uncertainty discussions in the risk assessment.

BLANKS:

One laboratory procedural blank (PB) was prepared with the analytical batch. The blank was analyzed to ensure that the sample extraction and analysis methods were free of contamination.

01-568 -- PCB Aroclors/chlorinated pesticides were undetected in the laboratory blank.

LABORATORY CONTROL SAMPLE

Two laboratory control samples (LCS) were prepared with the analytical batch. One LCS sample was fortified with PCB congeners and chlorinated pesticides. The other LCS was fortified with PCB Aroclor 1016 and 1260. The percent recoveries of PCB Aroclor and chlorinated pesticides were calculated to measure data quality in terms of accuracy.

01-568 -- With the single exception of Endrin aldehyde, PCB Aroclor and chlorinated pesticides were recovered within the control limits specified in QAPP.

Recoveries ranged from:

	<u>Pesticides</u>	<u>PCB Aroclor</u>
ZM06LCS#1	38 -- 80%	not spiked
ZM07LCS#2	not spiked	59 -- 82%

Correction Action -- Endrin aldehyde was recovered at 39%, just below the lower limit of the measurement performance criteria (MPC). Endrin aldehyde was likely lost on the alumina cleanup column. Sample data for Endrin aldehyde should be considered biased low.

PCB Aroclor/Pesticide QA/QC Summary
QC Batch 01-568 -- Tree Swallow Eggs

MATRIX SPIKES:

A matrix spike (MS) sample was prepared with the analytical batch. A matrix spike duplicate (MSD) was not prepared with the batch due to limited sample material available. Chlorinated pesticides and PCB congeners were fortified into the MS, not Aroclor. Aroclor was only fortified into the LCS sample in accordance with the QAPP.

The percent recoveries of pesticides in the MS were calculated to measure data quality in terms of accuracy.

01-568 -- With the single exception of 4,4'-DDE, chlorinated pesticides were recovered within the control limits specified in QAPP.

Recoveries ranged from:

	<u>Pesticides</u>
ZM08MS	48 -- 362%*

* Recoveries ranged from 48 -- 105% excluding 4,4'-DDE.

Correction Action -- The concentration of 4,4'-DDE in the MS was not above five times background levels, and as a result should not be used to assess data quality.

SURROGATES:

Four PCB surrogate compounds were added to each sample prior to extraction, including PCBs 14, 34, 104, and 112. Recovery data for PCBs 34 and 112 were calculated to measure data quality in terms of accuracy (extraction efficiency). Recovery data for the other two PCB surrogate compounds are not reported, as these are used as alternative surrogates in cases of interferences.

01-568 -- All PCB surrogates were recovered within the control limits specified in the QAPP for all study samples. Note that PCB surrogates were not recovered in the procedural blank prepared with the batch.

Correction Action -- It appears that the blank was not fortified with surrogate compounds prior to extraction, as both PCB surrogates were recovered at 0% in the blank. The blank did not contain any target pesticides or PCBs, however this is unrelated to the failure to fortify the blank with surrogate compounds. Blank contamination for PCB/pesticide analysis is rare. As a result, Battelle believes that the target pesticide and PCB data for the blank is not impacted by the low PCB surrogate recoveries and the data are considered usable. No further corrective action was taken.

REPLICATES:

A laboratory duplicate was prepared with the batch. The RPD between laboratory replicate analyses for PCB Aroclor and chlorinated pesticides was calculated to measure data quality in terms of precision.

01-568 -- With the exception of Aroclor 1254, RPDs were within the control limits specified in the QAPP for all target compounds detected at levels above 3x the RL.

RPDs ranged from:

	<u>Pesticides</u>	<u>PCB Aroclor</u>
Duplicate	21.7 -- 73.8%	7.9 -- 31.5%

Correction Action -- The RPD between concentrations of Aroclor 1254 in the laboratory duplicates just exceeded the RPD criteria (31.5% vs. 30% goal). The chromatograms were reviewed and a reason for the elevated RPD was not evident, beyond sample non-homogeneity.

PCB Aroclor/Pesticide QA/QC Summary
QC Batch 01-568 -- Tree Swallow Eggs

SRM: A standard reference material (SRM, NIST 1974a) was prepared with each analytical batch. The percent difference (PD) between detected concentrations and certified values (lower and upper range) was calculated to measure data quality in terms of accuracy. *Note* -- if the detected value fell within the certified range, then the PD is 0.0%.

01-568 -- All 5 certified pesticides had PD values < 30%.

PDs ranged from:

	<u>Certified Pesticides</u>
ZM09SRM	0.0 -- 29.2%

REFERENCES: Battelle 2001. *Centredale Manor Restoration Project Superfund Site Baseline Risk Assessment, Initial Project Planning and Support*. Tasks 19-22 QAPP prepared under contract to USACE NAE. Delivery Order #59. May 23, 2001. 509pp + apps.

Tree Swallow Tissue and QC Results

SAMPLE NO	LAB ID	LABORATORY	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CASE	SDS	PARAMETER	CAS NO	CLASS	METHOD	LAB RESULT	UNITS	LAB QUAL	IDL
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	4,4'-DDD	90-29-3			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	4,4'-DDE	72-54-8			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	4,4'-DDT	72-55-9			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Aldrin	309-00-2			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	alpha-BHC	319-84-6			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	alpha-Chlordane	5103-71-9			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	beta-BHC	319-85-7			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	delta-BHC	319-86-8			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Dieldrin	60-57-1			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Endosulfan I	959-99-8			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Endosulfan II	33213-65-9			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Endosulfan Sulfate	1031-07-8			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Endrin	72-20-8			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Endrin Aldehyde	7421-93-4			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Endrin Ketone	53494-70-5			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	gamma-BHC	58-89-9			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	gamma-Chlordane	5103-74-2			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Heptachlor	76-44-6			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Heptachlor Epoxide	1024-57-3			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Methoxychlor	72-43-5			BAID SOP 5 128	2.93	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Technical chlordane	57-74-9			BAID SOP 5 128	365.97	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Toxaphene	8001-35-2			BAID SOP 5 128	73.19	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Aroclor-1018	12674-11-2			BAID SOP 5 128	36.60	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Aroclor-1221	1104-28-2			BAID SOP 5 128	36.60	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Aroclor-1232	11141-16-5			BAID SOP 5 128	36.60	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Aroclor-1242	53493-21-8			BAID SOP 5 128	36.60	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Aroclor-1248	12672-25-8			BAID SOP 5 128	36.60	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Aroclor-1254	11067-00-1			BAID SOP 5 128	36.60	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Aroclor-1260	11095-82-5			BAID SOP 5 128	36.60	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	Aroclor-1268	11100-14-4			BAID SOP 5 128	36.60	ng/g	wet wt	U
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	CS(34)	37690-69-5			BAID SOP 5 128	84	%RECOVERY		
NA	ZL75PB	BAID	P BLANK	NA	10/16/01	11/02/01	01-360	CS(112)	74472-98-9			BAID SOP 5 128	72	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	4,4'-DDD	90-29-3			BAID SOP 5 128	73	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	4,4'-DDE	72-54-8			BAID SOP 5 128	74	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	4,4'-DDT	72-55-9			BAID SOP 5 128	77	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	Aldrin	309-00-2			BAID SOP 5 128	66	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	alpha-BHC	319-84-6			BAID SOP 5 128	63	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	alpha-Chlordane	5103-71-9			BAID SOP 5 128	70	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	beta-BHC	319-85-7			BAID SOP 5 128	66	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	beta-BHC	319-86-8			BAID SOP 5 128	67	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	Dieldrin	60-57-1			BAID SOP 5 128	72	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	Endosulfan I	959-99-8			BAID SOP 5 128	52	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	Endosulfan II	33213-65-9			BAID SOP 5 128	51	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	Endosulfan Sulfate	1031-07-8			BAID SOP 5 128	72	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	Endrin	72-20-8			BAID SOP 5 128	72	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	Endrin Aldehyde	7421-93-4			BAID SOP 5 128	39	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	Endrin Ketone	53494-70-5			BAID SOP 5 128	73	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	gamma-BHC	58-89-9			BAID SOP 5 128	65	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	gamma-Chlordane	5103-74-2			BAID SOP 5 128	78	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	Heptachlor	76-44-6			BAID SOP 5 128	64	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	Heptachlor Epoxide	1024-57-3			BAID SOP 5 128	57	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	Methoxychlor	72-43-5			BAID SOP 5 128	79	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	Technical chlordane	57-74-9			BAID SOP 5 128	NA	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	Toxaphene	8001-35-2			BAID SOP 5 128	NA	%RECOVERY		
NA	ZL76LCS#1	BAID	LCS	NA	10/16/01	11/02/01	01-360	Aroclor-1016	12674-11-2			BAID SOP 5 128	NA	%RECOVERY		

SAMPLE NO	LAB ID	LABORATORY	LOC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CASE	SDS	PARAMETER	CAS NO	CLASS	METHOD	LAB RESULT UNITS	LAB QUAL ID
NA	ZL76LCS#1	BAID	LOS	NA	10/16/01	11/02/01	1104-28-2	01-360	Acetol-1232	1104-28-2	BAID	SDP 5 128	NA %RECOVERY	
NA	ZL76LCS#1	BAID	LOS	NA	10/16/01	11/02/01	1141-16-5	01-360	Acetol-1242	1141-16-5	BAID	SDP 5 128	NA %RECOVERY	
NA	ZL76LCS#1	BAID	LOS	NA	10/16/01	11/02/01	53469-21-9	01-360	Acetol-1248	53469-21-9	BAID	SDP 5 128	NA %RECOVERY	
NA	ZL76LCS#1	BAID	LOS	NA	10/16/01	11/02/01	12672-29-6	01-360	Acetol-1248	12672-29-6	BAID	SDP 5 128	NA %RECOVERY	
NA	ZL76LCS#1	BAID	LOS	NA	10/16/01	11/02/01	11097-68-1	01-360	Acetol-1254	11097-68-1	BAID	SDP 5 128	NA %RECOVERY	
NA	ZL76LCS#1	BAID	LOS	NA	10/16/01	11/02/01	11096-92-5	01-360	Acetol-1260	11096-92-5	BAID	SDP 5 128	NA %RECOVERY	
NA	ZL76LCS#1	BAID	LOS	NA	10/16/01	11/02/01	11100-14-4	01-360	Acetol-1268	11100-14-4	BAID	SDP 5 128	NA %RECOVERY	
NA	ZL76LCS#1	BAID	LOS	NA	10/16/01	11/02/01	37690-68-5	01-360	Total Aroclor	37690-68-5	BAID	SDP 5 128	NA %RECOVERY	
NA	ZL76LCS#1	BAID	LOS	NA	10/16/01	11/02/01	74472-36-9	01-360	Chl(12)	74472-36-9	BAID	SDP 5 128	61 %RECOVERY	
NA	ZL76LCS#1	BAID	LOS	NA	10/16/01	11/02/01	50-29-3	01-360	Chl(112)	50-29-3	BAID	SDP 5 128	72 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	4-4-DDD	01-360	4,4-DDD	50-29-3	BAID	SDP 5 128	52 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	4,4-DDE	01-360	4,4-DDE	72-54-8	BAID	SDP 5 128	71 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	4,4-DDT	01-360	4,4-DDT	72-55-9	BAID	SDP 5 128	59 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Aldrin	01-360	Aldrin	309-00-2	BAID	SDP 5 128	49 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	alpha-BHC	01-360	alpha-BHC	519-84-6	BAID	SDP 5 128	41 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	alpha-Chlordane	01-360	alpha-Chlordane	5103-71-9	BAID	SDP 5 128	48 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	beta-BHC	01-360	beta-BHC	319-85-7	BAID	SDP 5 128	47 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	delta-BHC	01-360	delta-BHC	319-96-8	BAID	SDP 5 128	45 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Dieldrin	01-360	Dieldrin	60-57-1	BAID	SDP 5 128	52 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Endosulfen I	01-360	Endosulfen I	959-98-8	BAID	SDP 5 128	41 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Endosulfen II	01-360	Endosulfen II	33213-65-9	BAID	SDP 5 128	36 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Endosulfen Sulfate	01-360	Endosulfen Sulfate	1031-07-8	BAID	SDP 5 128	59 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Endrin	01-360	Endrin	72-20-8	BAID	SDP 5 128	52 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Gamma-BHC	01-360	Gamma-BHC	53494-70-5	BAID	SDP 5 128	28 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Heptachlor Epoxide	01-360	Heptachlor Epoxide	59-89-9	BAID	SDP 5 128	57 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Heptachlor	01-360	Heptachlor	5103-74-2	BAID	SDP 5 128	55 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Methoxychlor	01-360	Methoxychlor	76-44-8	BAID	SDP 5 128	49 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Technical chlordane	01-360	Technical chlordane	72-43-5	BAID	SDP 5 128	51 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Toxaphene	01-360	Toxaphene	97-74-9	BAID	SDP 5 128	NA %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Acetol-1016	01-360	Acetol-1016	6001-35-2	BAID	SDP 5 128	NA %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Acetol-1232	01-360	Acetol-1232	12674-11-2	BAID	SDP 5 128	NA %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Acetol-1248	01-360	Acetol-1248	1104-28-2	BAID	SDP 5 128	NA %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Acetol-1254	01-360	Acetol-1254	1141-16-5	BAID	SDP 5 128	NA %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Acetol-1260	01-360	Acetol-1260	53469-21-9	BAID	SDP 5 128	NA %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Acetol-1268	01-360	Acetol-1268	12672-29-6	BAID	SDP 5 128	NA %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Total Aroclor	01-360	Total Aroclor	11097-68-1	BAID	SDP 5 128	NA %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Chl(12)	01-360	Chl(12)	11096-92-5	BAID	SDP 5 128	NA %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	4,4-DDD	01-360	4,4-DDD	37690-68-5	BAID	SDP 5 128	49 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	4,4-DDE	01-360	4,4-DDE	74472-36-9	BAID	SDP 5 128	34 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	4,4-DDT	01-360	4,4-DDT	50-29-3	BAID	SDP 5 128	53 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Aldrin	01-360	Aldrin	72-54-8	BAID	SDP 5 128	84 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	alpha-BHC	01-360	alpha-BHC	72-55-9	BAID	SDP 5 128	61 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	alpha-Chlordane	01-360	alpha-Chlordane	309-00-2	BAID	SDP 5 128	48 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	beta-BHC	01-360	beta-BHC	519-84-6	BAID	SDP 5 128	40 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	delta-BHC	01-360	delta-BHC	5103-71-9	BAID	SDP 5 128	44 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Dieldrin	01-360	Dieldrin	319-85-7	BAID	SDP 5 128	47 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Endosulfen I	01-360	Endosulfen I	319-96-8	BAID	SDP 5 128	42 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Endosulfen II	01-360	Endosulfen II	60-57-1	BAID	SDP 5 128	51 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Endosulfen Sulfate	01-360	Endosulfen Sulfate	959-98-8	BAID	SDP 5 128	5 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Endrin	01-360	Endosulfen II	33213-65-9	BAID	SDP 5 128	27 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Gamma-BHC	01-360	Endosulfen Sulfate	1031-07-8	BAID	SDP 5 128	69 %RECOVERY	
LTS-70-N	ZL76MS	BAID	MS	06/07/01	10/16/01	11/02/01	Heptachlor Epoxide	01-360	Endrin	72-20-8	BAID	SDP 5 128	54 %RECOVERY	

SAMPLE NO	LAB ID	LABORATORY	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CASE	SDG	PARAMETER	CAS NO	CLASS	METHOD	LAB RESULT	UNITS	LAB ORIGIN
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Enflin Aldehyde	7471-83-4	BATD	SOP 5 128	53	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Enflin Ketone	53494-70-5	BATD	SOP 5 128	27	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	gamma-BHC	58-89-9	BATD	SOP 5 128	50	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	gamma-Chlordane	5103-74-2	BATD	SOP 5 128	53	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Heptachlor	76-44-6	BATD	SOP 5 128	44	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Heptachlor Epoxide	1024-67-3	BATD	SOP 5 128	36	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Methoxychlor	77-43-5	BATD	SOP 5 128	47	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Technical chlordane	57-74-9	BATD	SOP 5 128	NA	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Toxaphene	8001-35-2	BATD	SOP 5 128	NA	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Aroclor-1016	12674-11-2	BATD	SOP 5 128	NA	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Aroclor-1232	1114-16-5	BATD	SOP 5 128	NA	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Aroclor-1242	53469-21-9	BATD	SOP 5 128	NA	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Aroclor-1248	12672-29-6	BATD	SOP 5 128	NA	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Aroclor-1254	11097-69-1	BATD	SOP 5 128	NA	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Aroclor-1260	11096-87-5	BATD	SOP 5 128	NA	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Aroclor-1268	11100-14-4	BATD	SOP 5 128	NA	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Total Aroclor	37660-66-5	BATD	SOP 5 128	NA	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Chl(112)	74472-36-9	BATD	SOP 5 128	29	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	4,4'-DDD	50-29-3	BATD	SOP 5 128	7.1	%DIFFERENCE	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	4,4'-DDE	72-54-6	BATD	SOP 5 128	0.0	%DIFFERENCE	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	4,4'-DDT	72-55-9	BATD	SOP 5 128	0.0	%DIFFERENCE	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	alpha-Chlordane	5103-71-4	BATD	SOP 5 128	28.5	%DIFFERENCE	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	gamma-Chlordane	5103-74-2	BATD	SOP 5 128	15.7	%DIFFERENCE	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Chl(112)	74472-36-9	BATD	SOP 5 128	64	%RECOVERY	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	4,4'-DDD	50-29-3	BATD	SOP 5 128	4.90	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	4,4'-DDE	72-54-6	BATD	SOP 5 128	37.70	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	4,4'-DDT	72-55-9	BATD	SOP 5 128	0.64	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Aldrin	309-00-2	BATD	SOP 5 128	4.39	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	alpha-BHC	319-84-6	BATD	SOP 5 128	4.39	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	alpha-Chlordane	5103-71-9	BATD	SOP 5 128	2.65	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	beta-BHC	319-85-7	BATD	SOP 5 128	4.39	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	delta-BHC	319-86-8	BATD	SOP 5 128	4.39	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Dieldrin	50-57-1	BATD	SOP 5 128	11.57	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Endosulfan I	959-99-8	BATD	SOP 5 128	4.39	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Endosulfan II	33213-65-9	BATD	SOP 5 128	4.39	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Endosulfan Sulfate	1031-07-8	BATD	SOP 5 128	4.39	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Enflin	77-20-8	BATD	SOP 5 128	4.39	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Enflin Aldehyde	7421-93-4	BATD	SOP 5 128	4.39	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Enflin Ketone	53494-70-5	BATD	SOP 5 128	4.39	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	gamma-BHC	58-89-9	BATD	SOP 5 128	4.39	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	gamma-Chlordane	5103-74-2	BATD	SOP 5 128	4.39	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Heptachlor	76-44-6	BATD	SOP 5 128	3.61	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Heptachlor Epoxide	1024-67-3	BATD	SOP 5 128	4.39	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Methoxychlor	77-43-5	BATD	SOP 5 128	228.07	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Technical chlordane	57-74-9	BATD	SOP 5 128	109.61	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Toxaphene	8001-35-2	BATD	SOP 5 128	54.90	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Aroclor-1016	12674-11-2	BATD	SOP 5 128	54.90	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Aroclor-1232	1114-16-5	BATD	SOP 5 128	54.90	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Aroclor-1242	53469-21-9	BATD	SOP 5 128	54.90	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Aroclor-1248	12672-29-6	BATD	SOP 5 128	54.90	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Aroclor-1254	11097-69-1	BATD	SOP 5 128	58.72	ng/g - wet wt	U
LT-70N	ZL79MSD	BATD	MSD	06/07/01	10/16/01	11/02/01		01-360	Aroclor-1260	11096-87-5	BATD	SOP 5 128	54.90	ng/g - wet wt	U

SAMPLE NO	LAB ID	LABORATORY	OC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CASE	SDG	PARAMETER	CAS NO	CLASS	METHOD	LAB RESULT UNITS	LAB QUAL ID
LTS-89N	W6502DUP	BATD	DUPLICATE	06/12/01	10/16/01	11/05/01	11100-144	01-360	Aroclor-1268	11100-144		BATD SOP 5 128	51.19 ng/g - wet wt	J
LTS-89N	W6502DUP	BATD	DUPLICATE	06/12/01	10/16/01	11/05/01	37680-68-5	01-360	Total Aroclor	37680-68-5		BATD SOP 5 128	559.90 ng/g - wet wt	
LTS-89N	W6502DUP	BATD	DUPLICATE	06/12/01	10/16/01	11/05/01	44	01-360	OS(34)	44		BATD SOP 5 128	%RECOVERY	A
LTS-89N	W6502DUP	BATD	DUPLICATE	06/12/01	10/16/01	11/05/01	32	01-360	OS(112)	32		BATD SOP 5 128	%RECOVERY	A
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	500-29-3	01-360	4,4'-DDE	500-29-3		BATD SOP 5 128	4.64 ng/g - wet wt	
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	72-54-8	01-360	4,4'-DDE	72-54-8		BATD SOP 5 128	67.28 ng/g - wet wt	
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	72-55-9	01-360	4,4'-DDT	72-55-9		BATD SOP 5 128	1.04 ng/g - wet wt	J
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	309-00-2	01-360	Alrin	309-00-2		BATD SOP 5 128	4.18 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	319-84-6	01-360	alpha-BHC	319-84-6		BATD SOP 5 128	4.16 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	5102-71-9	01-360	alpha-Chlordane	5102-71-9		BATD SOP 5 128	3.13 ng/g - wet wt	J
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	319-85-7	01-360	beta-BHC	319-85-7		BATD SOP 5 128	4.18 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	319-86-8	01-360	delta-BHC	319-86-8		BATD SOP 5 128	4.16 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	80-67-1	01-360	Dieldrin	80-67-1		BATD SOP 5 128	9.80 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	959-99-8	01-360	Endosulfan I	959-99-8		BATD SOP 5 128	4.18 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	33213-65-9	01-360	Endosulfan II	33213-65-9		BATD SOP 5 128	4.18 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	1031-07-6	01-360	Endosulfan Sulfate	1031-07-6		BATD SOP 5 128	4.18 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	72-20-8	01-360	Endrin	72-20-8		BATD SOP 5 128	4.18 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	7421-93-4	01-360	Endrin Aldehyde	7421-93-4		BATD SOP 5 128	4.18 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	53494-70-5	01-360	Endrin Ketone	53494-70-5		BATD SOP 5 128	4.18 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	58-80-9	01-360	gamma-BHC	58-80-9		BATD SOP 5 128	4.16 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	5103-74-2	01-360	gamma-Chlordane	5103-74-2		BATD SOP 5 128	4.18 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	76-44-6	01-360	Heptachlor	76-44-6		BATD SOP 5 128	4.16 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	1024-57-3	01-360	Heptachlor Epoxide	1024-57-3		BATD SOP 5 128	7.97 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	72-43-5	01-360	Methoxychlor	72-43-5		BATD SOP 5 128	4.18 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	57-74-9	01-360	Technical chlordane	57-74-9		BATD SOP 5 128	314.12 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	8001-35-2	01-360	Toxaphene	8001-35-2		BATD SOP 5 128	104.57 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	1267-4-11-2	01-360	Aroclor-1016	1267-4-11-2		BATD SOP 5 128	52.29 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	1104-28-2	01-360	Aroclor-1221	1104-28-2		BATD SOP 5 128	52.29 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	11141-16-5	01-360	Aroclor-1232	11141-16-5		BATD SOP 5 128	52.29 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	53469-71-9	01-360	Aroclor-1242	53469-71-9		BATD SOP 5 128	52.29 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	12672-29-6	01-360	Aroclor-1248	12672-29-6		BATD SOP 5 128	52.29 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	11097-69-1	01-360	Aroclor-1254	11097-69-1		BATD SOP 5 128	798.12 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	11096-82-5	01-360	Aroclor-1260	11096-82-5		BATD SOP 5 128	52.29 ng/g - wet wt	U
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	11100-144	01-360	Total Aroclor	11100-144		BATD SOP 5 128	42.89 ng/g - wet wt	J
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	37680-68-5	01-360	OS(34)	37680-68-5		BATD SOP 5 128	451 %RECOVERY	A
LTS-70N	W6500	BATD	NORMAL	06/07/01	10/16/01	11/04/01	74472-36-9	01-360	OS(112)	74472-36-9		BATD SOP 5 128	281 %RECOVERY	A
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	50-29-3	01-360	4,4'-DDE	50-29-3		BATD SOP 5 128	5.94 ng/g - wet wt	
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	72-54-8	01-360	4,4'-DDE	72-54-8		BATD SOP 5 128	49.35 ng/g - wet wt	
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	72-55-9	01-360	4,4'-DDT	72-55-9		BATD SOP 5 128	9.87 ng/g - wet wt	J
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	309-00-2	01-360	Alrin	309-00-2		BATD SOP 5 128	4.03 ng/g - wet wt	U
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	319-84-8	01-360	alpha-BHC	319-84-8		BATD SOP 5 128	4.03 ng/g - wet wt	U
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	5103-71-9	01-360	alpha-Chlordane	5103-71-9		BATD SOP 5 128	3.34 ng/g - wet wt	J
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	319-65-7	01-360	beta-BHC	319-65-7		BATD SOP 5 128	4.03 ng/g - wet wt	U
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	319-66-8	01-360	delta-BHC	319-66-8		BATD SOP 5 128	4.03 ng/g - wet wt	U
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	80-67-1	01-360	Dieldrin	80-67-1		BATD SOP 5 128	13.96 ng/g - wet wt	U
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	959-99-8	01-360	Endosulfan I	959-99-8		BATD SOP 5 128	4.03 ng/g - wet wt	U
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	33213-65-9	01-360	Endosulfan II	33213-65-9		BATD SOP 5 128	4.03 ng/g - wet wt	U
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	1031-07-6	01-360	Endosulfan Sulfate	1031-07-6		BATD SOP 5 128	4.03 ng/g - wet wt	U
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	72-20-8	01-360	Endrin	72-20-8		BATD SOP 5 128	4.03 ng/g - wet wt	U
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	7421-93-4	01-360	Endrin Aldehyde	7421-93-4		BATD SOP 5 128	4.03 ng/g - wet wt	U
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	53494-70-5	01-360	Endrin Ketone	53494-70-5		BATD SOP 5 128	4.03 ng/g - wet wt	U
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	58-80-9	01-360	gamma-BHC	58-80-9		BATD SOP 5 128	4.03 ng/g - wet wt	U
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	5103-74-2	01-360	gamma-Chlordane	5103-74-2		BATD SOP 5 128	4.03 ng/g - wet wt	U
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	76-44-6	01-360	Heptachlor	76-44-6		BATD SOP 5 128	4.03 ng/g - wet wt	U
LTS-89N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	1024-57-3	01-360	Heptachlor Epoxide	1024-57-3		BATD SOP 5 128	4.54 ng/g - wet wt	

SAMPLE NO	LAB ID	LABORATORY	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CASE	SEQ	PARAMETER	CAS NO	CLASS	METHOD	LAB RESLT	UNITS	LAB QVAL	MDL
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Methoxychlor	57-49-5		BATD SOP 5 128	4.03	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Technical chlordane	72-74-9		BATD SOP 5 128	296.57	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Toxaphene	8001-35-2		BATD SOP 5 128	100.66	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Aroclor-1016	1267-4-11-2		BATD SOP 5 128	50.42	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Aroclor-1221	11141-16-5		BATD SOP 5 128	50.42	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Aroclor-1242	53469-21-9		BATD SOP 5 128	50.42	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Aroclor-1248	12672-29-6		BATD SOP 5 128	50.42	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Aroclor-1254	11097-69-1		BATD SOP 5 128	643.90	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Aroclor-1260	11096-82-5		BATD SOP 5 128	50.42	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Aroclor-1268	11100-14-4		BATD SOP 5 128	708.03	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Total Aroclor	37680-68-5		BATD SOP 5 128	52	%RECOVERY	A	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Chlordane	74472-36-9		BATD SOP 5 128	33	%RECOVERY	A	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	4,4'-DDE	50-29-3		BATD SOP 5 128	1.75	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	4,4'-DDD	72-84-8		BATD SOP 5 128	25.81	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	4,4'-DDT	72-55-9		BATD SOP 5 128	2.50	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Aldrin	309-00-2		BATD SOP 5 128	2.76	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	alpha-BHC	319-84-6		BATD SOP 5 128	2.76	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	beta-BHC	5103-71-9		BATD SOP 5 128	4.36	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	delta-BHC	319-86-8		BATD SOP 5 128	2.76	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Endosulfan I	50-67-1		BATD SOP 5 128	6.28	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Endosulfan II	368-88-8		BATD SOP 5 128	2.76	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Endosulfan Sulfate	1031-07-8		BATD SOP 5 128	2.76	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Endrin	172-20-8		BATD SOP 5 128	2.76	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Endrin Aldehyde	7421-89-4		BATD SOP 5 128	2.76	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Endrin Ketone	53494-70-5		BATD SOP 5 128	2.76	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	gamma-BHC	58-89-9		BATD SOP 5 128	2.76	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	gamma-Chlordane	5103-74-2		BATD SOP 5 128	2.76	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Heptachlor	76-44-8		BATD SOP 5 128	7.78	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Heptachlor Epoxide	1024-57-3		BATD SOP 5 128	2.76	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Methoxychlor	72-43-5		BATD SOP 5 128	337.55	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Technical chlordane	57-74-9		BATD SOP 5 128	69.09	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Toxaphene	8001-35-2		BATD SOP 5 128	34.54	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Aroclor-1016	12674-11-2		BATD SOP 5 128	34.54	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Aroclor-1271	1104-28-2		BATD SOP 5 128	34.54	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Aroclor-1232	11141-16-5		BATD SOP 5 128	34.54	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Aroclor-1242	53469-21-9		BATD SOP 5 128	34.54	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Aroclor-1248	12672-29-6		BATD SOP 5 128	34.54	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Aroclor-1254	11097-69-1		BATD SOP 5 128	258.53	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Aroclor-1260	11096-82-5		BATD SOP 5 128	34.54	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Aroclor-1268	11100-14-4		BATD SOP 5 128	21.19	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Total Aroclor	37680-68-5		BATD SOP 5 128	33	%RECOVERY	A	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Chlordane	74472-36-9		BATD SOP 5 128	34	%RECOVERY	A	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	4,4'-DDE	50-29-3		BATD SOP 5 128	4.26	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	4,4'-DDD	72-84-8		BATD SOP 5 128	25.81	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	4,4'-DDT	72-55-9		BATD SOP 5 128	3.06	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Aldrin	309-00-2		BATD SOP 5 128	2.99	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	alpha-BHC	319-84-6		BATD SOP 5 128	2.99	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	beta-BHC	5103-71-9		BATD SOP 5 128	4.60	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	delta-BHC	319-86-8		BATD SOP 5 128	2.99	ng/g - wet wt	U	
L-TS-89-N	W6502	BATD	NORMAL	06/12/01	10/16/01	11/05/01	01-360	01	Endrin	172-20-8		BATD SOP 5 128	6.28	ng/g - wet wt	U	

SAMPLE NO	LAB ID	LABORATORY	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CASE	SDG	PARAMETER	CAS NO	CLASS	METHOD	LAB RESULT	UNITS	LAB QUAL	IDL
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Endosulfan I	959-98-6	BATD	SOP 5, 128	2.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Endosulfan II	33213-65-9	BATD	SOP 5, 128	2.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Endosulfan Sulfate	11031-07-8	BATD	SOP 5, 128	2.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Endrin	72-20-8	BATD	SOP 5, 128	2.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Endrin Aldehyde	7421-89-4	BATD	SOP 5, 128	2.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Endrin Ketone	53494-70-5	BATD	SOP 5, 128	2.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	gamma-BHC	58-99-9	BATD	SOP 5, 128	2.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	gamma-Chlordane	5103-74-2	BATD	SOP 5, 128	2.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Heptachlor	76-44-8	BATD	SOP 5, 128	2.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Heptachlor Epoxide	1024-57-3	BATD	SOP 5, 128	13.57	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Methoxychlor	72-43-5	BATD	SOP 5, 128	2.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Technical chlordane	57-74-9	BATD	SOP 5, 128	42.37	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Toluene	9001-08-2	BATD	SOP 5, 128	74.78	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Aroclor-1016	12674-11-2	BATD	SOP 5, 128	37.37	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Aroclor-1221	1104-29-2	BATD	SOP 5, 128	37.37	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Aroclor-1242	53469-21-9	BATD	SOP 5, 128	37.37	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Aroclor-1248	12672-29-8	BATD	SOP 5, 128	633.59	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Aroclor-1254	11087-69-1	BATD	SOP 5, 128	37.37	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Aroclor-1260	11088-92-5	BATD	SOP 5, 128	37.37	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Aroclor-1268	11100-14-4	BATD	SOP 5, 128	690.78	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	Total Aroclor	37680-68-5	BATD	SOP 5, 128	48	%RECOVERY	3		
A-TS-46-N	W6489	BATD	NORMAL	06/09/01	10/16/01	11/03/01	01-360	CRE(112)	74472-36-9	BATD	SOP 5, 128	33	%RECOVERY	3		
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	4,4'-DDE	50-29-3	BATD	SOP 5, 128	3.56	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	4,4'-DDE	72-64-8	BATD	SOP 5, 128	25.20	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	4,4'-DDE	172-55-9	BATD	SOP 5, 128	2.25	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Aldrin	302-00-2	BATD	SOP 5, 128	6.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	alpha-BHC	319-64-6	BATD	SOP 5, 128	6.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	alpha-Chlordane	5103-71-9	BATD	SOP 5, 128	11.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	beta-BHC	319-99-7	BATD	SOP 5, 128	6.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	delta-BHC	319-86-8	BATD	SOP 5, 128	6.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Dieldrin	60-37-1	BATD	SOP 5, 128	11.40	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Endosulfan I	959-98-6	BATD	SOP 5, 128	6.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Endosulfan II	33213-65-9	BATD	SOP 5, 128	6.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Endosulfan Sulfate	1031-07-9	BATD	SOP 5, 128	6.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Endrin	72-20-8	BATD	SOP 5, 128	6.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Endrin Aldehyde	7421-89-4	BATD	SOP 5, 128	6.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Endrin Ketone	53494-70-5	BATD	SOP 5, 128	6.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	gamma-BHC	58-99-9	BATD	SOP 5, 128	6.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	gamma-Chlordane	5103-74-2	BATD	SOP 5, 128	6.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Heptachlor	76-44-8	BATD	SOP 5, 128	6.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Heptachlor Epoxide	1024-57-3	BATD	SOP 5, 128	18.76	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Methoxychlor	72-43-5	BATD	SOP 5, 128	6.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Technical chlordane	57-74-9	BATD	SOP 5, 128	6.99	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Toluene	9001-08-2	BATD	SOP 5, 128	174.75	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Aroclor-1016	12674-11-2	BATD	SOP 5, 128	97.38	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Aroclor-1221	1104-29-2	BATD	SOP 5, 128	67.38	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Aroclor-1242	53469-21-9	BATD	SOP 5, 128	97.38	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Aroclor-1248	12672-29-8	BATD	SOP 5, 128	87.38	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Aroclor-1254	11087-69-1	BATD	SOP 5, 128	443.93	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Aroclor-1260	11088-92-5	BATD	SOP 5, 128	97.38	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Aroclor-1268	11100-14-4	BATD	SOP 5, 128	21.04	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	Total Aroclor	37680-68-5	BATD	SOP 5, 128	404.97	ng/g	- wet wt	U	
A-TS-46-N	W6489	BATD	NORMAL	06/07/01	10/16/01	11/03/01	01-360	CRE(34)	37680-68-5	BATD	SOP 5, 128	30	%RECOVERY	3		

SAMPLE_NO	LAB_ID	LABORATORY	LOC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	CASE	ISDG	PARAMETER	CAS_NO	CLASS	METHOD	LAB_RESULT	UNITS	LAB_QUAL	IDR
A-TS-49-N	W6490	BATD	NORMAL	10/16/01	10/16/01	11/03/01	101-360	01-360	01-360	74472-36-9	BATD	SOP 5_128	48	%RECOVERY		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	14'-DDD	50-29-3	BATD	SOP 5_128	3.63	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	14'-DDE	72-94-8	BATD	SOP 5_128	25.65	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	14'-DDD	172-55-9	BATD	SOP 5_128	1.98	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Alkln	309-00-2	BATD	SOP 5_128	3.62	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	alpha-BHC	319-84-6	BATD	SOP 5_128	3.62	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	alpha-Chlordane	5103-71-9	BATD	SOP 5_128	3.16	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	beta-BHC	319-85-7	BATD	SOP 5_128	3.62	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	delta-BHC	319-96-6	BATD	SOP 5_128	3.62	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Dieldrin	60-57-1	BATD	SOP 5_128	6.35	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Endosulfan I	959-98-8	BATD	SOP 5_128	3.62	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Endosulfan II	33213-95-9	BATD	SOP 5_128	3.62	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Endosulfan Sulfate	1031-07-8	BATD	SOP 5_128	3.62	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Erdln	72-20-8	BATD	SOP 5_128	3.62	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Erdln Aldehyde	7421-93-4	BATD	SOP 5_128	3.62	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Erdln Ketone	53494-70-5	BATD	SOP 5_128	3.62	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	gamma-BHC	58-89-9	BATD	SOP 5_128	3.62	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	gamma-Chlordane	5103-74-2	BATD	SOP 5_128	3.62	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Heptachlor	76-44-8	BATD	SOP 5_128	3.62	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Heptachlor Epoxide	1024-57-3	BATD	SOP 5_128	6.52	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Methoxychlor	172-43-5	BATD	SOP 5_128	3.62	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Technical chlordane	57-74-9	BATD	SOP 5_128	425.56	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Toxaphene	8001-35-2	BATD	SOP 5_128	95.47	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Aroclor 1016	12674-11-2	BATD	SOP 5_128	47.74	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Aroclor 1221	1484-28-2	BATD	SOP 5_128	47.74	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Aroclor 1232	11141-16-5	BATD	SOP 5_128	47.74	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Aroclor 1242	53465-21-9	BATD	SOP 5_128	47.74	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Aroclor 1248	12672-29-8	BATD	SOP 5_128	47.74	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Aroclor 1254	14967-69-1	BATD	SOP 5_128	469.99	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Aroclor 1260	11098-92-5	BATD	SOP 5_128	47.74	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Aroclor 1268	11100-14-4	BATD	SOP 5_128	30.71	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Total Aroclor	37680-88-5	BATD	SOP 5_128	500.89	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	C13(34)	74472-36-9	BATD	SOP 5_128	44	%RECOVERY		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	C15(112)	50-29-3	BATD	SOP 5_128	3.91	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	14'-DDD	72-54-8	BATD	SOP 5_128	21.50	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	14'-DDE	172-55-9	BATD	SOP 5_128	2.82	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Alkln	309-00-2	BATD	SOP 5_128	2.82	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	alpha-BHC	319-84-6	BATD	SOP 5_128	2.82	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	alpha-Chlordane	5103-71-9	BATD	SOP 5_128	30.61	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	beta-BHC	319-85-7	BATD	SOP 5_128	2.82	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	delta-BHC	319-96-6	BATD	SOP 5_128	2.82	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Dieldrin	60-57-1	BATD	SOP 5_128	6.61	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Endosulfan I	959-98-8	BATD	SOP 5_128	2.82	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Endosulfan II	33213-95-9	BATD	SOP 5_128	2.82	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Endosulfan Sulfate	1031-07-8	BATD	SOP 5_128	2.82	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Erdln	72-20-8	BATD	SOP 5_128	2.82	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Erdln Aldehyde	7421-93-4	BATD	SOP 5_128	2.82	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Erdln Ketone	53494-70-5	BATD	SOP 5_128	2.82	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	gamma-BHC	58-89-9	BATD	SOP 5_128	2.82	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	gamma-Chlordane	5103-74-2	BATD	SOP 5_128	1.85	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Heptachlor	76-44-8	BATD	SOP 5_128	2.82	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Heptachlor Epoxide	1024-57-3	BATD	SOP 5_128	17.73	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Methoxychlor	172-43-5	BATD	SOP 5_128	2.82	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Technical chlordane	57-74-9	BATD	SOP 5_128	835.88	ng/g - wet wt		
A-TS-49-N	W6491	BATD	NORMAL	06/12/01	10/16/01	11/03/01	101-360	01-360	Toxaphene	8001-35-2	BATD	SOP 5_128	70.62	ng/g - wet wt		

SAMPLE NO	LAB ID	LABORATORY	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CASE	ISQS	PARAMETER	CAS NO.	CLASS	METHOD	LAB RESULT	UNITS	LAB QUAL ID
A-TS-01-N	W6492	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-380	01-380	Aroclor-1016	12874-11-2	BATD	SOP 5 128	35.31	ng/g - wet wt	U
A-TS-01-N	W6492	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-380	01-380	Aroclor-1221	1104-28-2	BATD	SOP 5 128	35.31	ng/g - wet wt	U
A-TS-01-N	W6492	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-380	01-380	Aroclor-1232	11141-16-5	BATD	SOP 5 128	35.31	ng/g - wet wt	U
A-TS-01-N	W6492	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-380	01-380	Aroclor-1242	53469-21-9	BATD	SOP 5 128	35.31	ng/g - wet wt	U
A-TS-01-N	W6492	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-380	01-380	Aroclor-1248	12672-29-8	BATD	SOP 5 128	35.31	ng/g - wet wt	U
A-TS-01-N	W6492	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-380	01-380	Aroclor-1254	11097-69-1	BATD	SOP 5 128	569.77	ng/g - wet wt	U
A-TS-01-N	W6492	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-380	01-380	Aroclor-1260	11096-82-5	BATD	SOP 5 128	35.31	ng/g - wet wt	U
A-TS-01-N	W6492	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-380	01-380	Total Aroclor	11100-14-4	BATD	SOP 5 128	27.39	ng/g - wet wt	U
A-TS-01-N	W6492	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-380	01-380	Total Aroclor	37690-68-5	BATD	SOP 5 128	568.15	ng/g - wet wt	U
A-TS-01-N	W6492	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-380	01-380	CB(112)	74472-36-9	BATD	SOP 5 128	34	%RECOVERY	3
A-TS-01-N	W6492	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-380	01-380	4,4'-DDE	80-29-3	BATD	SOP 5 128	2.69	ng/g - wet wt	3
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	4,4'-DDE	72-54-8	BATD	SOP 5 128	10.58	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	4,4'-DDT	72-55-9	BATD	SOP 5 128	1.03	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Aldrin	308-00-2	BATD	SOP 5 128	2.43	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	alpha-BHC	519-64-6	BATD	SOP 5 128	2.43	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	alpha-Chlordane	5103-71-9	BATD	SOP 5 128	8.71	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	beta-BHC	319-85-7	BATD	SOP 5 128	2.43	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	delta-BHC	319-86-8	BATD	SOP 5 128	2.43	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Dieldrin	60-57-1	BATD	SOP 5 128	2.82	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Endosulfan I	959-98-6	BATD	SOP 5 128	2.43	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Endosulfan II	33213-65-9	BATD	SOP 5 128	2.43	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Endosulfan Sulfate	1031-07-8	BATD	SOP 5 128	2.43	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Endrin	72-20-8	BATD	SOP 5 128	2.43	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Endrin Aldehyde	7421-93-4	BATD	SOP 5 128	2.43	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Gamma-BHC	53469-70-5	BATD	SOP 5 128	2.43	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	gamma-Chlordane	5103-74-2	BATD	SOP 5 128	0.66	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Heptachlor	76-44-8	BATD	SOP 5 128	2.43	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Heptachlor Epoxide	1024-57-3	BATD	SOP 5 128	5.49	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Methodochlor	72-43-5	BATD	SOP 5 128	2.43	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Technical chlordane	57-74-9	BATD	SOP 5 128	203.97	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Toxaphene	6001-35-2	BATD	SOP 5 128	60.70	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Aroclor-1016	12874-11-2	BATD	SOP 5 128	30.35	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Aroclor-1221	1104-28-2	BATD	SOP 5 128	30.35	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Aroclor-1232	11141-16-5	BATD	SOP 5 128	30.35	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Aroclor-1242	53469-21-9	BATD	SOP 5 128	30.35	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Aroclor-1248	12672-29-8	BATD	SOP 5 128	30.35	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Aroclor-1254	11097-69-1	BATD	SOP 5 128	109.39	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Aroclor-1260	11096-82-5	BATD	SOP 5 128	30.35	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Total Aroclor	11100-14-4	BATD	SOP 5 128	24.01	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Total Aroclor	37690-68-5	BATD	SOP 5 128	193.48	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	CB(112)	74472-36-9	BATD	SOP 5 128	37	%RECOVERY	3
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	4,4'-DDE	50-29-3	BATD	SOP 5 128	33	%RECOVERY	3
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	4,4'-DDE	72-54-8	BATD	SOP 5 128	2.05	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	4,4'-DDT	72-55-9	BATD	SOP 5 128	17.63	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Aldrin	308-00-2	BATD	SOP 5 128	2.10	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	alpha-BHC	5103-71-9	BATD	SOP 5 128	3.70	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	alpha-Chlordane	5103-71-9	BATD	SOP 5 128	6.03	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	beta-BHC	319-85-7	BATD	SOP 5 128	3.70	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	delta-BHC	319-86-8	BATD	SOP 5 128	3.70	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Dieldrin	60-57-1	BATD	SOP 5 128	6.89	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Endosulfan I	959-98-6	BATD	SOP 5 128	3.70	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Endosulfan II	33213-65-9	BATD	SOP 5 128	3.70	ng/g - wet wt	U
G-TS-02-N	W6493	BATD	NORMAL	05/30/01	10/16/01	11/04/01	01-380	01-380	Endosulfan Sulfate	1031-07-8	BATD	SOP 5 128	3.70	ng/g - wet wt	U

SAMPLE NO	LAB ID	LABORATORY	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CASE	SRG	PARAMETER	CAS NO	CLASS	METHOD	LAB RESULT	UNITS	LAB_QUAL	UCL
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	Endrin	72-20-6		BATD SOP 5 128	3.70	ng/g	wet wt	U
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	Endrin Aldehyde	7421-93-4		BATD SOP 5 128	3.70	ng/g	wet wt	U
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	Endrin Ketone	53469-70-5		BATD SOP 5 128	3.70	ng/g	wet wt	U
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	gamma-BHC	58-89-9		BATD SOP 5 128	3.70	ng/g	wet wt	U
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	gamma-Chlordane	5103-74-2		BATD SOP 5 128	3.70	ng/g	wet wt	U
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	Heptachlor	76-44-6		BATD SOP 5 128	3.70	ng/g	wet wt	U
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	Heptachlor Epoxide	1024-57-3		BATD SOP 5 128	7.51	ng/g	wet wt	U
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	Methoxychlor	72-43-5		BATD SOP 5 128	3.70	ng/g	wet wt	U
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	Technical chlordane	57-74-9		BATD SOP 5 128	190.49	ng/g	wet wt	J
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	Toxaphene	8001-35-2		BATD SOP 5 128	92.51	ng/g	wet wt	U
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	Aroclor-1016	12674-11-2		BATD SOP 5 128	46.25	ng/g	wet wt	U
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	Aroclor-1221	1104-28-2		BATD SOP 5 128	46.25	ng/g	wet wt	U
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	Aroclor-1252	11141-16-5		BATD SOP 5 128	46.25	ng/g	wet wt	U
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	Aroclor-1242	53469-21-9		BATD SOP 5 128	46.25	ng/g	wet wt	U
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	Aroclor-1248	12672-29-6		BATD SOP 5 128	46.25	ng/g	wet wt	U
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	Aroclor-1254	11067-69-1		BATD SOP 5 128	134.45	ng/g	wet wt	U
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	Aroclor-1260	11096-82-5		BATD SOP 5 128	46.25	ng/g	wet wt	U
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	Aroclor-1268	11100-14-4		BATD SOP 5 128	29.16	ng/g	wet wt	J
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	Total Aroclor			BATD SOP 5 128	162.61	ng/g	wet wt	J
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	CB(34)	37680-89-5		BATD SOP 5 128	41	%RECOVERY		
G-TS-04-N	W6494	BATD	NORMAL	06/09/01	10/16/01	11/04/01		01-380	CB(112)	74472-36-9		BATD SOP 5 128	43	%RECOVERY		
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	4,4'-DDE	50-29-3		BATD SOP 5 128	3.10	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	4,4'-DDD	72-54-8		BATD SOP 5 128	16.16	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	4,4'-DDE	72-54-8		BATD SOP 5 128	1.39	ng/g	wet wt	J
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	4,4'-DDD	72-55-9		BATD SOP 5 128	2.26	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Adrin	309-00-2		BATD SOP 5 128	2.26	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	alpha-BHC	319-84-6		BATD SOP 5 128	2.26	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	beta-BHC	319-85-7		BATD SOP 5 128	2.26	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	delta-BHC	319-86-6		BATD SOP 5 128	2.26	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Dieldrin	60-57-1		BATD SOP 5 128	3.87	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Endosulfan I	959-38-4		BATD SOP 5 128	2.26	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Endosulfan II	33213-65-9		BATD SOP 5 128	2.26	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Endosulfan Sulfate	1031-07-6		BATD SOP 5 128	2.26	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Endrin	72-20-6		BATD SOP 5 128	2.26	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Endrin Aldehyde	7421-93-4		BATD SOP 5 128	2.26	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Endrin Ketone	53469-70-5		BATD SOP 5 128	2.26	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	gamma-Chlordane	58-89-9		BATD SOP 5 128	2.26	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Heptachlor	76-44-6		BATD SOP 5 128	1.01	ng/g	wet wt	J
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Heptachlor Epoxide	1024-57-3		BATD SOP 5 128	2.26	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Methoxychlor	72-43-5		BATD SOP 5 128	15.87	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Technical chlordane	57-74-9		BATD SOP 5 128	755.50	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Toxaphene	8001-35-2		BATD SOP 5 128	56.56	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Aroclor-1016	12674-11-2		BATD SOP 5 128	29.28	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Aroclor-1221	1104-28-2		BATD SOP 5 128	29.28	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Aroclor-1232	11141-16-5		BATD SOP 5 128	29.28	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Aroclor-1242	53469-21-9		BATD SOP 5 128	29.28	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Aroclor-1248	12672-29-6		BATD SOP 5 128	29.28	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Aroclor-1254	11067-69-1		BATD SOP 5 128	160.46	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Aroclor-1260	11096-82-5		BATD SOP 5 128	29.28	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Aroclor-1268	11100-14-4		BATD SOP 5 128	41.35	ng/g	wet wt	U
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	Total Aroclor			BATD SOP 5 128	201.60	ng/g	wet wt	J
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	CB(34)	37680-89-5		BATD SOP 5 128	57	%RECOVERY		
G-TS-07-N	W6495	BATD	NORMAL	06/30/01	10/16/01	11/04/01		01-380	CB(112)	74472-36-9		BATD SOP 5 128	43	%RECOVERY		
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01		01-380	4,4'-DDE			BATD SOP 5 128	3.22	ng/g	wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01		01-380	4,4'-DDD			BATD SOP 5 128	24.58	ng/g	wet wt	U

SAMPLE NO	LAB ID	MDL	CRCL CRCL	IDL FACTOR	POI MOIST	COMMENTS	SAMPLE SIZE	SAMPLE SIZE UNITS	FINAL RESULT	FINAL QUAL	VALID COMMENT	FRACTION
G-TS-04-N	W6494	3.70		1.724	62.44		4.10 G WET		3.70 U			T
G-TS-04-N	W6494	3.70		1.724	62.44		4.10 G WET		3.70 U			T
G-TS-04-N	W6494	3.70		1.724	62.44		4.10 G WET		3.70 U			T
G-TS-04-N	W6494	3.70		1.724	62.44		4.10 G WET		3.70 U			T
G-TS-04-N	W6494	3.70		1.724	62.44		4.10 G WET		3.70 U			T
G-TS-04-N	W6494	3.70		1.724	62.44		4.10 G WET		7.51			T
G-TS-04-N	W6494	462.54		1.724	62.44		4.10 G WET		3.70 U			T
G-TS-04-N	W6494	92.51		1.724	62.44		4.10 G WET		196.45 U			T
G-TS-04-N	W6494	46.25		1.724	62.44		4.10 G WET		92.51 U			T
G-TS-04-N	W6494	46.25		1.724	62.44		4.10 G WET		46.25 U			T
G-TS-04-N	W6494	46.25		1.724	62.44		4.10 G WET		46.25 U			T
G-TS-04-N	W6494	46.25		1.724	62.44		4.10 G WET		46.25 U			T
G-TS-04-N	W6494	46.25		1.724	62.44		4.10 G WET		46.25 U			T
G-TS-04-N	W6494	46.25		1.724	62.44		4.10 G WET		134.45			T
G-TS-04-N	W6494	46.25		1.724	62.44		4.10 G WET		46.25 U			T
G-TS-04-N	W6494	46.25		1.724	62.44		4.10 G WET		26.16 U			T
G-TS-04-N	W6494	370.03		1.724	62.44		4.10 G WET		162.61 U			T
G-TS-04-N	W6494						4.10 G WET					T
G-TS-04-N	W6494						4.10 G WET					T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		3.10			T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		16.18			T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		1.39 U			T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		2.26 U			T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		2.26 U			T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		23.04			T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		2.26 U			T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		2.26 U			T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		3.87			T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		2.26 U			T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		2.26 U			T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		2.26 U			T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		2.26 U			T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		2.26 U			T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		2.26 U			T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		2.26 U			T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		1.01 U			T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		2.26 U			T
G-TS-07-N	W6495	2.26		1.724	71.52		6.71 G WET		15.87			T
G-TS-07-N	W6495	282.79		1.724	71.52		6.71 G WET		755.50 U			T
G-TS-07-N	W6495	56.56		1.724	71.52		6.71 G WET		56.56 U			T
G-TS-07-N	W6495	28.28		1.724	71.52		6.71 G WET		28.28 U			T
G-TS-07-N	W6495	28.28		1.724	71.52		6.71 G WET		28.28 U			T
G-TS-07-N	W6495	28.28		1.724	71.52		6.71 G WET		28.28 U			T
G-TS-07-N	W6495	28.28		1.724	71.52		6.71 G WET		28.28 U			T
G-TS-07-N	W6495	28.28		1.724	71.52		6.71 G WET		160.46			T
G-TS-07-N	W6495	28.28		1.724	71.52		6.71 G WET		28.28 U			T
G-TS-07-N	W6495	28.28		1.724	71.52		6.71 G WET		41.35			T
G-TS-07-N	W6495	226.23		1.724	71.52		6.71 G WET		201.60 U			T
G-TS-07-N	W6495						6.71 G WET					T
G-TS-07-N	W6495						6.71 G WET					T
G-TS-22-N	W6496	2.95		1.724	61.70		5.14 G WET		3.22 U			T
G-TS-22-N	W6496	2.95		1.724	61.70		5.14 G WET		24.56 U			T

SAMPLE NO	LAB ID	LABORATORY	LOC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CASE	ISDG	PARAMETER	CAS NO	CLASS	METHOD	LAB RESULT UNITS	LAB_QUAL ID#
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	4,4'-DDT	Endosulfan I	72-55-9	BATD	SOP 5 128	4.00 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Alrin	Endosulfan II	309-00-2	BATD	SOP 5 128	2.95 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	alpha-BHC	Endrin	319-84-6	BATD	SOP 5 128	2.95 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	alpha-Chlordane	Endrin	1910-71-9	BATD	SOP 5 128	3.55 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	beta-BHC	Endrin	319-85-7	BATD	SOP 5 128	2.95 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	delta-BHC	Endrin	319-86-8	BATD	SOP 5 128	2.95 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Endosulfan I	Endosulfan I	60-57-1	BATD	SOP 5 128	7.41 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Endosulfan II	Endosulfan II	33213-85-9	BATD	SOP 5 128	2.95 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Endosulfan Sulfate	Endosulfan Sulfate	1031-07-8	BATD	SOP 5 128	2.95 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Endrin	Endrin	72-20-8	BATD	SOP 5 128	2.95 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Endrin Alkalyde	Endrin Alkalyde	7471-93-4	BATD	SOP 5 128	2.95 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Endrin Ketone	Endrin Ketone	50494-70-5	BATD	SOP 5 128	2.95 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	gamma-BHC	gamma-BHC	58-89-9	BATD	SOP 5 128	2.95 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	gamma-Chlordane	gamma-Chlordane	16103-74-2	BATD	SOP 5 128	2.95 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Heptachlor	Heptachlor	76-44-8	BATD	SOP 5 128	2.95 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Heptachlor Epoxide	Heptachlor Epoxide	1024-57-3	BATD	SOP 5 128	6.91 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Methoxychlor	Methoxychlor	172-43-5	BATD	SOP 5 128	2.95 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Technical chlordane	Technical chlordane	57-74-9	BATD	SOP 5 128	362.12 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Toxaphene	Toxaphene	18001-35-2	BATD	SOP 5 128	73.73 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Aroclor-1016	Aroclor-1016	12674-11-2	BATD	SOP 5 128	36.87 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Aroclor-1221	Aroclor-1221	1104-28-2	BATD	SOP 5 128	36.87 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Aroclor-1232	Aroclor-1232	11141-16-5	BATD	SOP 5 128	36.87 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Aroclor-1242	Aroclor-1242	50499-21-9	BATD	SOP 5 128	36.87 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Aroclor-1248	Aroclor-1248	12672-29-6	BATD	SOP 5 128	36.87 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Aroclor-1254	Aroclor-1254	11087-69-1	BATD	SOP 5 128	235.86 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Aroclor-1260	Aroclor-1260	11056-92-5	BATD	SOP 5 128	36.87 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Aroclor-1268	Aroclor-1268	11100-14-4	BATD	SOP 5 128	46.11 ng/g - wet wt	U
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Cis(3/4)	Total Aroclor	37690-58-5	BATD	SOP 5 128	54 %RECOVERY	J
G-TS-22-N	W6496	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Cis(11/2)	Total Aroclor	74472-30-9	BATD	SOP 5 128	34 %RECOVERY	J
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	4,4'-DDD	4,4'-DDD	50-29-3	BATD	SOP 5 128	2.44 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	4,4'-DDE	4,4'-DDE	72-54-8	BATD	SOP 5 128	18.31 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	4,4'-DDT	4,4'-DDT	72-55-9	BATD	SOP 5 128	0.58 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Alrin	Alrin	309-00-2	BATD	SOP 5 128	2.71 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	alpha-BHC	alpha-BHC	319-84-6	BATD	SOP 5 128	2.71 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	alpha-Chlordane	alpha-Chlordane	15103-71-9	BATD	SOP 5 128	1.99 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	beta-BHC	beta-BHC	319-85-7	BATD	SOP 5 128	2.71 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	delta-BHC	delta-BHC	319-86-8	BATD	SOP 5 128	2.71 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Dielskin	Dielskin	60-57-1	BATD	SOP 5 128	8.65 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Endosulfan I	Endosulfan I	660-98-8	BATD	SOP 5 128	2.71 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Endosulfan II	Endosulfan II	33213-85-9	BATD	SOP 5 128	2.71 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Endosulfan Sulfate	Endosulfan Sulfate	1031-07-8	BATD	SOP 5 128	2.71 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Endrin	Endrin	72-20-8	BATD	SOP 5 128	2.71 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Endrin Alkalyde	Endrin Alkalyde	7471-93-4	BATD	SOP 5 128	2.71 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Endrin Ketone	Endrin Ketone	50494-70-5	BATD	SOP 5 128	2.71 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	gamma-BHC	gamma-BHC	58-89-9	BATD	SOP 5 128	2.71 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	gamma-Chlordane	gamma-Chlordane	16103-74-2	BATD	SOP 5 128	2.71 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Heptachlor	Heptachlor	76-44-8	BATD	SOP 5 128	2.71 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Heptachlor Epoxide	Heptachlor Epoxide	1024-57-3	BATD	SOP 5 128	3.28 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Methoxychlor	Methoxychlor	172-43-5	BATD	SOP 5 128	2.71 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Technical chlordane	Technical chlordane	57-74-9	BATD	SOP 5 128	156.11 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Toxaphene	Toxaphene	18001-35-2	BATD	SOP 5 128	67.72 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Aroclor-1016	Aroclor-1016	12674-11-2	BATD	SOP 5 128	33.66 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Aroclor-1221	Aroclor-1221	1104-28-2	BATD	SOP 5 128	33.66 ng/g - wet wt	U
G-TS-22-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	Aroclor-1232	Aroclor-1232	11141-16-5	BATD	SOP 5 128	33.66 ng/g - wet wt	U

SAMPLE NO	LAB ID	LABORATORY	CO TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CASE	ISG	PARAMETER	CAS NO	CLASS	METHOD	LAB RESULT UNITS	LAB CHIAL	HL
G-TS-29-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	1247	1247	53469-21-9	BATD	SOP 5.126	33.86 ng/g	U	U
G-TS-29-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	1248	1248	12672-29-6	BATD	SOP 5.126	33.86 ng/g	U	U
G-TS-29-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	1254	1254	11087-69-1	BATD	SOP 5.126	165.93 ng/g	U	U
G-TS-29-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	1260	1260	11085-82-5	BATD	SOP 5.126	33.86 ng/g	U	U
G-TS-29-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	1268	1268	11100-14-4	BATD	SOP 5.126	38.06 ng/g	U	U
G-TS-29-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	1268	1268	11100-14-4	BATD	SOP 5.126	203.99 ng/g	U	U
G-TS-29-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	1268	1268	11100-14-4	BATD	SOP 5.126	41.36 RECOVERY	U	U
G-TS-29-N	W6497	BATD	NORMAL	06/07/01	10/16/01	11/04/01	101-360	1268	1268	11100-14-4	BATD	SOP 5.126	33.33 RECOVERY	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	50-29-3	BATD	SOP 5.126	3.63 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	72-54-8	BATD	SOP 5.126	30.91 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	72-54-8	BATD	SOP 5.126	0.45 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	395-00-2	BATD	SOP 5.126	2.87 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	319-84-5	BATD	SOP 5.126	2.87 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	5103-71-9	BATD	SOP 5.126	4.26 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	319-85-7	BATD	SOP 5.126	2.87 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	319-85-7	BATD	SOP 5.126	2.87 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	60-57-1	BATD	SOP 5.126	6.14 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	599-98-8	BATD	SOP 5.126	2.87 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	33213-65-9	BATD	SOP 5.126	2.87 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	1031-07-8	BATD	SOP 5.126	2.87 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	72-20-8	BATD	SOP 5.126	2.87 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	72-20-8	BATD	SOP 5.126	2.87 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	7421-83-4	BATD	SOP 5.126	2.87 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	53494-70-5	BATD	SOP 5.126	2.87 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	58-89-9	BATD	SOP 5.126	2.87 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	5103-74-2	BATD	SOP 5.126	2.87 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	76-44-8	BATD	SOP 5.126	2.87 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	1024-57-3	BATD	SOP 5.126	5.09 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	72-43-5	BATD	SOP 5.126	2.87 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	57-74-9	BATD	SOP 5.126	226.62 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	8001-35-2	BATD	SOP 5.126	71.75 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	12674-11-2	BATD	SOP 5.126	35.88 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	11141-16-5	BATD	SOP 5.126	35.88 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	53499-21-9	BATD	SOP 5.126	35.88 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	12672-29-6	BATD	SOP 5.126	35.88 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	11087-69-1	BATD	SOP 5.126	754.29 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	11086-82-5	BATD	SOP 5.126	46.64 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	11100-14-4	BATD	SOP 5.126	800.93 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	37650-68-6	BATD	SOP 5.126	45.14 RECOVERY	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	74472-36-9	BATD	SOP 5.126	27.14 RECOVERY	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	50-29-3	BATD	SOP 5.126	3.61 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	72-54-8	BATD	SOP 5.126	24.20 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	72-54-8	BATD	SOP 5.126	1.24 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	309-00-2	BATD	SOP 5.126	3.19 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	319-84-6	BATD	SOP 5.126	3.19 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	5103-71-9	BATD	SOP 5.126	2.92 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	319-85-7	BATD	SOP 5.126	3.19 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	319-86-8	BATD	SOP 5.126	3.19 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	60-57-1	BATD	SOP 5.126	5.24 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	599-98-8	BATD	SOP 5.126	3.19 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	33213-65-9	BATD	SOP 5.126	3.19 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	1031-07-8	BATD	SOP 5.126	3.19 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	72-20-8	BATD	SOP 5.126	3.19 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	7421-83-4	BATD	SOP 5.126	3.19 ng/g	U	U
G-TS-29-N	W6498	BATD	NORMAL	06/08/01	10/16/01	11/04/01	101-360	1268	1268	53494-70-5	BATD	SOP 5.126	3.19 ng/g	U	U

SAMPLE NO	LAB ID	MDL	ORCL ORCL	DIL FACTOR	POT MOIST	COMMENTS	SAMPLE SIZE	SAMPLE SIZE UNITS	FINAL RESULT	FINAL QVAL	VALID	COMMENT	FRACTION
G-TS-29-N	W6497	33.86	1.724	1.724	64.65		5.60 G WET		33.86 UU				T
G-TS-29-N	W6497	33.86	1.724	1.724	64.65		5.60 G WET		33.86 UU				T
G-TS-29-N	W6497	33.86	1.724	1.724	64.65		5.60 G WET		165.93 J				T
G-TS-29-N	W6497	33.86	1.724	1.724	64.65		5.60 G WET		33.86 UU				T
G-TS-29-N	W6497	33.86	1.724	1.724	64.65		5.60 G WET		38.06 J				T
G-TS-29-N	W6497	270.67	1.724	1.724	64.65		5.60 G WET		203.99 J				T
G-TS-29-N	W6497				64.65		5.60 G WET						T
G-TS-29-N	W6497				64.65		5.60 G WET						T
L-TS-62-N	W6498	2.87	1.724	1.724	61.60		5.29 G WET		3.83 J				T
L-TS-62-N	W6498	2.87	1.724	1.724	61.60		5.29 G WET		30.91 J				T
L-TS-62-N	W6498	2.87	1.724	1.724	61.60		5.29 G WET		0.46 J				T
L-TS-62-N	W6498	2.87	1.724	1.724	61.60		5.29 G WET		2.87 UU				T
L-TS-62-N	W6498	2.87	1.724	1.724	61.60		5.29 G WET		2.87 UU				T
L-TS-62-N	W6498	2.87	1.724	1.724	61.60		5.29 G WET		4.26 J				T
L-TS-62-N	W6498	2.87	1.724	1.724	61.60		5.29 G WET		2.87 UU				T
L-TS-62-N	W6498	2.87	1.724	1.724	61.60		5.29 G WET		2.87 UU				T
L-TS-62-N	W6498	2.87	1.724	1.724	61.60		5.29 G WET		6.14 J				T
L-TS-62-N	W6498	2.87	1.724	1.724	61.60		5.29 G WET		2.87 UU				T
L-TS-62-N	W6498	2.87	1.724	1.724	61.60		5.29 G WET		2.87 UU				T
L-TS-62-N	W6498	2.87	1.724	1.724	61.60		5.29 G WET		2.87 UU				T
L-TS-62-N	W6498	2.87	1.724	1.724	61.60		5.29 G WET		2.87 UU				T
L-TS-62-N	W6498	2.87	1.724	1.724	61.60		5.29 G WET		5.96 J				T
L-TS-62-N	W6498	2.87	1.724	1.724	61.60		5.29 G WET		2.87 UU				T
L-TS-62-N	W6498	358.76	1.724	1.724	61.60		5.29 G WET		225.62 J				T
L-TS-62-N	W6498	71.75	1.724	1.724	61.60		5.29 G WET		71.75 UU				T
L-TS-62-N	W6498	35.88	1.724	1.724	61.60		5.29 G WET		35.88 UU				T
L-TS-62-N	W6498	35.88	1.724	1.724	61.60		5.29 G WET		35.88 UU				T
L-TS-62-N	W6498	35.88	1.724	1.724	61.60		5.29 G WET		35.88 UU				T
L-TS-62-N	W6498	35.88	1.724	1.724	61.60		5.29 G WET		35.88 UU				T
L-TS-62-N	W6498	35.88	1.724	1.724	61.60		5.29 G WET		35.88 UU				T
L-TS-62-N	W6498	35.88	1.724	1.724	61.60		5.29 G WET		754.29 J				T
L-TS-62-N	W6498	35.88	1.724	1.724	61.60		5.29 G WET		48.84 J				T
L-TS-62-N	W6498	267.01	1.724	1.724	61.60		5.29 G WET		600.93 J				T
L-TS-62-N	W6498				61.60		5.29 G WET						T
L-TS-63-N	W6499	3.19	1.724	1.724	62.18	Sample re-extracted with batch 01-672	4.76 G WET		3.61 J				T
L-TS-63-N	W6499	3.19	1.724	1.724	62.18	Sample re-extracted with batch 01-672	4.76 G WET		24.20 J				T
L-TS-63-N	W6499	3.19	1.724	1.724	62.18	Sample re-extracted with batch 01-672	4.76 G WET		1.94 J				T
L-TS-63-N	W6499	3.19	1.724	1.724	62.18	Sample re-extracted with batch 01-672	4.76 G WET		3.19 UU				T
L-TS-63-N	W6499	3.19	1.724	1.724	62.18	Sample re-extracted with batch 01-672	4.76 G WET		3.19 UU				T
L-TS-63-N	W6499	3.19	1.724	1.724	62.18	Sample re-extracted with batch 01-672	4.76 G WET		2.97 J				T
L-TS-63-N	W6499	3.19	1.724	1.724	62.18	Sample re-extracted with batch 01-672	4.76 G WET		3.19 UU				T
L-TS-63-N	W6499	3.19	1.724	1.724	62.18	Sample re-extracted with batch 01-672	4.76 G WET		3.19 UU				T
L-TS-63-N	W6499	3.19	1.724	1.724	62.18	Sample re-extracted with batch 01-672	4.76 G WET		3.19 UU				T
L-TS-63-N	W6499	3.19	1.724	1.724	62.18	Sample re-extracted with batch 01-672	4.76 G WET		3.19 UU				T
L-TS-63-N	W6499	3.19	1.724	1.724	62.18	Sample re-extracted with batch 01-672	4.76 G WET		3.19 UU				T
L-TS-63-N	W6499	3.19	1.724	1.724	62.18	Sample re-extracted with batch 01-672	4.76 G WET		3.19 UU				T
L-TS-63-N	W6499	3.19	1.724	1.724	62.18	Sample re-extracted with batch 01-672	4.76 G WET		3.19 UU				T
L-TS-63-N	W6499	3.19	1.724	1.724	62.18	Sample re-extracted with batch 01-672	4.76 G WET		3.19 UU				T

SAMPLE NO	LAB ID	LABORATORY	IOC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CASE ISDG	PARAMETER	CAS NO	CLASS	METHOD	LAB_RESULT	UNITS	LAB_QUAL	IDL
LTS-63-N	W6499	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-360	gamma-BHC	58-68-9	BATD	SOP 5 128	3.19	ng/g - wet wt	U	
LTS-63-N	W6499	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-360	gamma-Chlordane	5103-74-2	BATD	SOP 5 128	3.19	ng/g - wet wt	U	
LTS-63-N	W6499	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-360	Heptachlor	76-44-6	BATD	SOP 5 128	3.19	ng/g - wet wt	U	
LTS-63-N	W6499	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-360	Heptachlor Epoxide	1024-57-3	BATD	SOP 5 128	4.65	ng/g - wet wt	U	
LTS-63-N	W6499	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-360	Methoxychlor	72-43-5	BATD	SOP 5 128	3.19	ng/g - wet wt	U	
LTS-63-N	W6499	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-360	Technical chlordane	57-74-9	BATD	SOP 5 128	189.28	ng/g - wet wt	J	
LTS-63-N	W6499	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-360	Toxaphene	9001-35-2	BATD	SOP 5 128	79.70	ng/g - wet wt	U	
LTS-63-N	W6499	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-360	Aroclor-1016	12674-11-2	BATD	SOP 5 128	39.85	ng/g - wet wt	U	
LTS-63-N	W6499	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-360	Aroclor-1221	1104-28-2	BATD	SOP 5 128	39.85	ng/g - wet wt	U	
LTS-63-N	W6499	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-360	Aroclor-1232	11141-16-5	BATD	SOP 5 128	39.85	ng/g - wet wt	U	
LTS-63-N	W6499	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-360	Aroclor-1242	534689-21-9	BATD	SOP 5 128	39.85	ng/g - wet wt	U	
LTS-63-N	W6499	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-360	Aroclor-1248	12672-29-6	BATD	SOP 5 128	39.85	ng/g - wet wt	U	
LTS-63-N	W6499	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-360	Aroclor-1254	11097-69-1	BATD	SOP 5 128	52.152	ng/g - wet wt	U	
LTS-63-N	W6499	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-360	Aroclor-1260	11066-82-5	BATD	SOP 5 128	39.85	ng/g - wet wt	U	
LTS-63-N	W6499	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-360	Aroclor-1268	11100-14-4	BATD	SOP 5 128	31.25	ng/g - wet wt	J	
LTS-63-N	W6499	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-360	Total Aroclor	37680-66-5	BATD	SOP 5 128	592.67	ng/g - wet wt	3	
LTS-63-N	W6499	BATD	NORMAL	06/08/01	10/16/01	11/04/01	01-360	CIS(34)	74472-36-9	BATD	SOP 5 128	32	%RECOVERY	4	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	4,4'-DDE	50-29-3	BATD	SOP 5 128	5.80	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	4,4'-DDE	72-54-8	BATD	SOP 5 128	24.79	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	4,4'-DDT	72-55-9	BATD	SOP 5 128	1.03	ng/g - wet wt	J	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Aldrin	309-00-2	BATD	SOP 5 128	2.80	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	alpha-BHC	319-84-6	BATD	SOP 5 128	2.80	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	alpha-Chlordane	5103-71-9	BATD	SOP 5 128	2.65	ng/g - wet wt	J	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	beta-BHC	319-85-7	BATD	SOP 5 128	2.80	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	delta-BHC	319-86-8	BATD	SOP 5 128	2.80	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Dieldrin	60-57-1	BATD	SOP 5 128	4.14	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Endosulfan I	959-96-6	BATD	SOP 5 128	2.80	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Endosulfan II	1031-07-8	BATD	SOP 5 128	2.80	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Endrin	72-20-8	BATD	SOP 5 128	2.80	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Enfrin Aldehyde	7421-93-4	BATD	SOP 5 128	2.80	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Enfrin Ketone	53494-70-5	BATD	SOP 5 128	2.80	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	gamma-BHC	58-69-9	BATD	SOP 5 128	2.80	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	gamma-Chlordane	5103-74-2	BATD	SOP 5 128	2.80	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Heptachlor	76-44-8	BATD	SOP 5 128	2.80	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Heptachlor Epoxide	1024-57-3	BATD	SOP 5 128	2.80	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Methoxychlor	72-43-5	BATD	SOP 5 128	2.80	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Technical chlordane	57-74-9	BATD	SOP 5 128	226.19	ng/g - wet wt	J	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Toxaphene	9001-35-2	BATD	SOP 5 128	34.98	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Aroclor-1016	12674-11-2	BATD	SOP 5 128	34.98	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Aroclor-1221	1104-28-2	BATD	SOP 5 128	34.98	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Aroclor-1232	11141-16-5	BATD	SOP 5 128	34.98	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Aroclor-1242	534689-21-9	BATD	SOP 5 128	34.98	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Aroclor-1248	12672-29-6	BATD	SOP 5 128	34.98	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Aroclor-1254	11097-69-1	BATD	SOP 5 128	480.58	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Aroclor-1260	11066-82-5	BATD	SOP 5 128	34.98	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Aroclor-1268	11100-14-4	BATD	SOP 5 128	49.32	ng/g - wet wt	U	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Total Aroclor	37680-66-5	BATD	SOP 5 128	529.90	ng/g - wet wt	42	%RECOVERY
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	CIS(112)	74472-36-9	BATD	SOP 5 128	24	%RECOVERY	4	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	4,4'-DDE	50-29-3	BATD	SOP 5 128	NA	%RECOVERY	4	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	4,4'-DDT	72-54-8	BATD	SOP 5 128	NA	%RECOVERY	4	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	4,4'-DDT	72-55-9	BATD	SOP 5 128	NA	%RECOVERY	4	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	Aldrin	309-00-2	BATD	SOP 5 128	NA	%RECOVERY	4	
LTS-64-N	W6501	BATD	NORMAL	06/09/01	10/16/01	11/05/01	01-360	alpha-BHC	319-84-6	BATD	SOP 5 128	NA	%RECOVERY	4	

SAMPLE NO	LAB ID	LABORATORY	QC TYPE	SAMP DATE	EXIR DATE	ANAL DATE	CASE	SDG	PARAMETER	CAS NO	CLASS	METHOD	LAB RESULT	UNITS	LAB QUAL ID
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Beta-Chloridene	5103-71-9		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Beta-BHC	319-85-7		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	delta-BHC	319-86-8		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Chlornin	60-57-1		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Ethnosulfen I	959-99-8		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Endosulfan II	35213-65-9		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Endosulfan Sulfate	1031-07-8		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Ethrin	72-20-8		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Endrin Aldehyde	7421-93-4		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Ethrin Ketone	53464-70-5		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	gamma-BHC	58-89-9		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	gamma-Chloridene	5103-74-2		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Heptachlor	76-44-6		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Heptachlor Epoxide	1024-57-3		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Methoxychlor	72-43-5		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Technical chloridene	57-74-9		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Toxaphene	6001-35-2		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Aroclor-1016	12674-11-2		BATD SOP 5 128	60	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Aroclor-1221	1104-28-2		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Aroclor-1232	11141-16-5		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Aroclor-1248	53469-21-9		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Aroclor-1248	12672-29-6		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Aroclor-1254	11897-69-1		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Aroclor-1260	11696-92-3		BATD SOP 5 128	72	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Aroclor-1268	11100-14-4		BATD SOP 5 128	NA	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	Total Aroclor			BATD SOP 5 128	68	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	CX(C4)	37660-69-5		BATD SOP 5 128	62	%RECOVERY	
NA	ZL77LCS#2	BATD	LCS	10/16/01	11/02/01	11/02/01		01-360	CE(112)	74472-36-9		BATD SOP 5 128	65	%RECOVERY	

SAMPLE NO	LAB ID	LABORATORY	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CASE	SDG	PARAMETER	CAS NO	CLASS	METHOD	LAB RESULT	UNITS	LAB QVAL	IDL
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	4,4'-DDD	50-29-3		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	4,4'-DDE	72-54-8		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	4,4'-DDT	72-56-9		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Aldrin	309-84-2		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	alpha-Chlordane	319-84-6		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	beta-BHC	5103-71-9		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	delta-BHC	319-85-7		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Dieldrin	319-90-8		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Endosulfan I	62-57-1		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Endosulfan II	959-98-8		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Endosulfan Sulfate	33213-65-9		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Endrin	1031-07-6		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Endrin Aldehyde	72-20-8		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Gamma-Chlordane	7421-93-4		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	gamma-Chlordane	53494-70-5		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	gamma-Chlordane	58-89-9		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	gamma-Chlordane	5103-74-2		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Heptachlor	76-44-8		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Heptachlor Epoxide	1024-57-3		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Methoxychlor	72-43-5		BATD_SOP_5_128	8.54	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Technical Chlordane	67-74-9		BATD_SOP_5_128	167.35	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Toxaphene	9001-35-2		BATD_SOP_5_128	213.47	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Arochlor-1016	12674-11-2		BATD_SOP_5_128	106.73	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Arochlor-1221	1104-26-2		BATD_SOP_5_128	106.73	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Arochlor-1232	11141-16-5		BATD_SOP_5_128	106.73	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Arochlor-1242	53499-21-9		BATD_SOP_5_128	106.73	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Arochlor-1248	12672-33-6		BATD_SOP_5_128	106.73	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Arochlor-1254	11097-69-1		BATD_SOP_5_128	106.73	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Arochlor-1260	11056-92-5		BATD_SOP_5_128	106.73	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Arochlor-1268	11100-14-4		BATD_SOP_5_128	106.73	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Total Arochlor	37860-68-5		BATD_SOP_5_128	853.68	ng/g	wet wt	U
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Chlordane	74472-36-9		BATD_SOP_5_128	0	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	4,4'-DDE	50-29-3		BATD_SOP_5_128	80	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	4,4'-DDE	72-54-8		BATD_SOP_5_128	77	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	4,4'-DDE	72-56-9		BATD_SOP_5_128	80	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Aldrin	309-84-2		BATD_SOP_5_128	84	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	alpha-BHC	319-84-6		BATD_SOP_5_128	60	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	alpha-Chlordane	5103-71-9		BATD_SOP_5_128	72	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	beta-BHC	319-85-7		BATD_SOP_5_128	70	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	delta-BHC	319-86-8		BATD_SOP_5_128	67	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Dieldrin	60-57-1		BATD_SOP_5_128	76	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Endosulfan I	959-98-8		BATD_SOP_5_128	64	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Endosulfan II	33213-65-9		BATD_SOP_5_128	63	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Endosulfan Sulfate	1031-07-6		BATD_SOP_5_128	75	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Endrin	72-20-8		BATD_SOP_5_128	74	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Endrin Aldehyde	7421-93-4		BATD_SOP_5_128	34	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Endrin Ketone	53494-70-5		BATD_SOP_5_128	75	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	gamma-BHC	58-89-9		BATD_SOP_5_128	63	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	gamma-Chlordane	5103-74-2		BATD_SOP_5_128	76	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Heptachlor	76-44-8		BATD_SOP_5_128	67	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Heptachlor Epoxide	1024-57-3		BATD_SOP_5_128	59	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Methoxychlor	72-43-5		BATD_SOP_5_128	76	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Technical Chlordane	57-74-9		BATD_SOP_5_128	NA	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Toxaphene	9001-35-2		BATD_SOP_5_128	NA	%RECOVERY		A
NA	ZM0SPB	BATD	P BLANK	NA	10/23/01	11/12/01		01-568	Arochlor-1016	12674-11-2		BATD_SOP_5_128	NA	%RECOVERY		A

SAMPLE NO	LAB ID	LABORATORY	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CASE NO	PARAMETER	CAS NO	CLASS	METHOD	LAB RESULT	UNITS	LAB QUAL ID	
NA	ZM06LCS#1	BAID	LCS	NA	10/23/01	11/12/01	01-568	Aroclor-1221	1104-28-2		BATD_SOP_5_128	NA	%RECOVERY		
NA	ZM06LCS#1	BAID	LCS	NA	10/23/01	11/12/01	11141-16-5	Aroclor-1231	11141-16-5		BATD_SOP_5_128	NA	%RECOVERY		
NA	ZM06LCS#1	BAID	LCS	NA	10/23/01	11/12/01	53469-21-9	Aroclor-1242	53469-21-9		BATD_SOP_5_128	NA	%RECOVERY		
NA	ZM06LCS#1	BAID	LCS	NA	10/23/01	11/12/01	12672-29-6	Aroclor-1248	12672-29-6		BATD_SOP_5_128	NA	%RECOVERY		
NA	ZM06LCS#1	BAID	LCS	NA	10/23/01	11/12/01	11097-89-1	Aroclor-1254	11097-89-1		BATD_SOP_5_128	NA	%RECOVERY		
NA	ZM06LCS#1	BAID	LCS	NA	10/23/01	11/12/01	11056-82-5	Aroclor-1260	11056-82-5		BATD_SOP_5_128	NA	%RECOVERY		
NA	ZM06LCS#1	BAID	LCS	NA	10/23/01	11/12/01	11100-14-4	Total Aroclor	11100-14-4		BATD_SOP_5_128	NA	%RECOVERY		
NA	ZM06LCS#1	BAID	LCS	NA	10/23/01	11/12/01	37660-66-5	CIS(112)	37660-66-5		BATD_SOP_5_128	65	%RECOVERY		
NA	ZM06LCS#1	BAID	LCS	NA	10/23/01	11/12/01	74472-36-9	CIS(34)	74472-36-9		BATD_SOP_5_128	74	%RECOVERY		
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	4,4'-DDE	50-29-3		BATD_SOP_5_128	50-29-3	57	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	4,4'-DDE	72-54-8		BATD_SOP_5_128	72-54-8	62	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	4,4'-DDT	72-55-9		BATD_SOP_5_128	72-55-9	63	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Aldrin	305-90-2		BATD_SOP_5_128	305-90-2	74	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	alpha-Chlordane	319-84-6		BATD_SOP_5_128	319-84-6	70	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	beta-BHC	5103-71-9		BATD_SOP_5_128	5103-71-9	78	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	delta-BHC	319-85-7		BATD_SOP_5_128	319-85-7	77	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Dieldrin	60-57-1		BATD_SOP_5_128	60-57-1	71	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Endosulfan I	959-98-8		BATD_SOP_5_128	959-98-8	56	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Endosulfan II	33213-85-9		BATD_SOP_5_128	33213-85-9	63	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Endosulfan Sulfate	1031-07-8		BATD_SOP_5_128	1031-07-8	105	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Erdrin	72-26-6		BATD_SOP_5_128	72-26-6	77	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Endrin Alderhyde	7471-93-4		BATD_SOP_5_128	7471-93-4	48	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Endrin Ketone	53494-70-5		BATD_SOP_5_128	53494-70-5	76	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	gamma-BHC	56-86-9		BATD_SOP_5_128	56-86-9	73	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	gamma-Chlordane	5103-74-2		BATD_SOP_5_128	5103-74-2	79	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Heptachlor	76-44-8		BATD_SOP_5_128	76-44-8	76	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Heptachlor Epoxide	1024-57-3		BATD_SOP_5_128	1024-57-3	57	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Methoxychlor	72-43-5		BATD_SOP_5_128	72-43-5	68	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Technical chlordane	9571-74-9		BATD_SOP_5_128	9571-74-9	NA	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Toxaphene	9601-35-2		BATD_SOP_5_128	9601-35-2	NA	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Aroclor-1016	12674-11-2		BATD_SOP_5_128	12674-11-2	NA	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Aroclor-1221	1104-28-2		BATD_SOP_5_128	1104-28-2	NA	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Aroclor-1232	11141-16-5		BATD_SOP_5_128	11141-16-5	NA	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Aroclor-1242	53469-21-9		BATD_SOP_5_128	53469-21-9	NA	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Aroclor-1248	12672-29-6		BATD_SOP_5_128	12672-29-6	NA	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Aroclor-1254	11097-89-1		BATD_SOP_5_128	11097-89-1	NA	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Aroclor-1260	11056-82-5		BATD_SOP_5_128	11056-82-5	NA	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	Total Aroclor	11100-14-4		BATD_SOP_5_128	11100-14-4	NA	%RECOVERY	
A-TS-33-P	ZM06MS	BAID	MS	06/09/01	10/23/01	11/12/01	01-568	CIS(34)	37660-66-5		BATD_SOP_5_128	37660-66-5	69	%RECOVERY	
A-TS-33-P	ZM06SRM	BAID	SRM	06/09/01	10/23/01	11/12/01	01-568	CIS(112)	74472-36-9		BATD_SOP_5_128	74472-36-9	71	%RECOVERY	
NA	ZM06SRM	BAID	SRM	NA	10/23/01	11/13/01	01-568	4,4'-DDE	50-29-3		BATD_SOP_5_128	50-29-3	0.0	%DIFFERENCE	
NA	ZM06SRM	BAID	SRM	NA	10/23/01	11/13/01	01-568	4,4'-DDT	72-54-8		BATD_SOP_5_128	72-54-8	0.0	%DIFFERENCE	
NA	ZM06SRM	BAID	SRM	NA	10/23/01	11/13/01	01-568	alpha-Chlordane	5103-71-9		BATD_SOP_5_128	5103-71-9	29.2	%DIFFERENCE	
NA	ZM06SRM	BAID	SRM	NA	10/23/01	11/13/01	01-568	gamma-Chlordane	5103-74-2		BATD_SOP_5_128	5103-74-2	0.0	%DIFFERENCE	
NA	ZM06SRM	BAID	SRM	NA	10/23/01	11/13/01	01-568	CIS(34)	37660-66-5		BATD_SOP_5_128	37660-66-5	66	%RECOVERY	
NA	ZM06SRM	BAID	SRM	NA	10/23/01	11/13/01	01-568	CIS(112)	74472-36-9		BATD_SOP_5_128	74472-36-9	75	%RECOVERY	
LTS-73-P	W4947DUP	BAID	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	4,4'-DDE	50-29-3		BATD_SOP_5_128	50-29-3	4.55	mg/g - wet wt	J
LTS-73-P	W4947DUP	BAID	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	4,4'-DDE	72-54-8		BATD_SOP_5_128	72-54-8	185	10 mg/g - wet wt	J
LTS-73-P	W4947DUP	BAID	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	4,4'-DDT	72-55-9		BATD_SOP_5_128	72-55-9	5.16	mg/g - wet wt	J
LTS-73-P	W4947DUP	BAID	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Aldrin	305-90-2		BATD_SOP_5_128	305-90-2	6.87	mg/g - wet wt	U
LTS-73-P	W4947DUP	BAID	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	alpha-BHC	319-84-6		BATD_SOP_5_128	319-84-6	6.87	mg/g - wet wt	U
LTS-73-P	W4947DUP	BAID	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	alpha-Chlordane	5103-71-9		BATD_SOP_5_128	5103-71-9	6.23	mg/g - wet wt	J

SAMPLE NO	LAB ID	LABORATORY	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	LOOSE	SIGS	PARAMETER	CAS_NO	CLASS	METHOD	LAB_RESULT	UNITS	LAB_QUAL	ID
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Delta-BHC	319-85-7	BATD SOP 5.128	BATD SOP 5.128	6.87	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	delta-BHC	319-85-8	BATD SOP 5.128	BATD SOP 5.128	6.87	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Deltram	800-57-1	BATD SOP 5.128	BATD SOP 5.128	13.01	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Endosulfan I	959-99-8	BATD SOP 5.128	BATD SOP 5.128	6.87	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Endosulfan II	33213-65-9	BATD SOP 5.128	BATD SOP 5.128	6.87	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Endosulfan Sulfate	1031-07-8	BATD SOP 5.128	BATD SOP 5.128	8.87	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Erdrin	72-20-8	BATD SOP 5.128	BATD SOP 5.128	8.87	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Erdrin Aldehyde	7421-93-4	BATD SOP 5.128	BATD SOP 5.128	8.87	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Erdrin Ketone	53494-70-5	BATD SOP 5.128	BATD SOP 5.128	8.87	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	gamma-BHC	58-89-9	BATD SOP 5.128	BATD SOP 5.128	8.87	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	gamma-Chlordane	5103-74-2	BATD SOP 5.128	BATD SOP 5.128	8.87	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Heptachlor	76-44-8	BATD SOP 5.128	BATD SOP 5.128	8.87	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Heptachlor Epoxide	1024-57-3	BATD SOP 5.128	BATD SOP 5.128	12.28	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Methoxychlor	72-43-5	BATD SOP 5.128	BATD SOP 5.128	8.87	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Technical chlordane	57-74-9	BATD SOP 5.128	BATD SOP 5.128	312.31	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Toxaphene	8001-35-2	BATD SOP 5.128	BATD SOP 5.128	221.80	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Aroclor 1016	12674-11-2	BATD SOP 5.128	BATD SOP 5.128	110.90	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Aroclor 1221	1104-28-2	BATD SOP 5.128	BATD SOP 5.128	110.90	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Aroclor 1232	11141-18-5	BATD SOP 5.128	BATD SOP 5.128	110.90	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Aroclor 1242	53469-21-9	BATD SOP 5.128	BATD SOP 5.128	110.90	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Aroclor 1248	12672-29-6	BATD SOP 5.128	BATD SOP 5.128	110.90	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Aroclor 1254	11037-69-1	BATD SOP 5.128	BATD SOP 5.128	1287.06	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Aroclor 1260	11056-92-5	BATD SOP 5.128	BATD SOP 5.128	110.90	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Aroclor 1268	11100-14-4	BATD SOP 5.128	BATD SOP 5.128	133.97	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	Total Aroclor	1421.04	BATD SOP 5.128	BATD SOP 5.128	1421.04	ng/g	west wt	U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	74 RECOVERY	37690-99-5	BATD SOP 5.128	BATD SOP 5.128	74	RECOVERY		U	
L-TS-73P	W4947DUP	BATD	DUPLICATE	05/30/01	10/23/01	11/14/01	01-568	77 RECOVERY	74472-99-9	BATD SOP 5.128	BATD SOP 5.128	77	RECOVERY		U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	4,4'-DDD	50-29-3	BATD SOP 5.128	BATD SOP 5.128	6.08	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	4,4'-DDE	72-54-8	BATD SOP 5.128	BATD SOP 5.128	262.14	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	4,4'-DDT	72-55-9	BATD SOP 5.128	BATD SOP 5.128	7.87	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Aldrin	309-00-2	BATD SOP 5.128	BATD SOP 5.128	12.04	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	alpha-BHC	319-84-8	BATD SOP 5.128	BATD SOP 5.128	12.04	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	alpha-Chlordane	5103-71-9	BATD SOP 5.128	BATD SOP 5.128	4.43	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	beta-BHC	319-85-7	BATD SOP 5.128	BATD SOP 5.128	12.04	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	delta-BHC	319-86-8	BATD SOP 5.128	BATD SOP 5.128	12.04	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Deltram	800-57-1	BATD SOP 5.128	BATD SOP 5.128	14.80	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Endosulfan I	959-99-8	BATD SOP 5.128	BATD SOP 5.128	12.04	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Endosulfan II	33213-65-9	BATD SOP 5.128	BATD SOP 5.128	12.04	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Endosulfan Sulfate	1031-07-8	BATD SOP 5.128	BATD SOP 5.128	12.04	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Erdrin Aldehyde	7421-93-4	BATD SOP 5.128	BATD SOP 5.128	12.04	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Erdrin Ketone	53494-70-5	BATD SOP 5.128	BATD SOP 5.128	12.04	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	gamma-BHC	58-89-9	BATD SOP 5.128	BATD SOP 5.128	12.04	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	gamma-Chlordane	5103-74-2	BATD SOP 5.128	BATD SOP 5.128	12.04	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Heptachlor	76-44-8	BATD SOP 5.128	BATD SOP 5.128	12.04	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Heptachlor Epoxide	1024-57-3	BATD SOP 5.128	BATD SOP 5.128	20.07	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Methoxychlor	72-43-5	BATD SOP 5.128	BATD SOP 5.128	12.04	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Technical chlordane	57-74-9	BATD SOP 5.128	BATD SOP 5.128	393.21	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Toxaphene	8001-35-2	BATD SOP 5.128	BATD SOP 5.128	301.02	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Aroclor 1016	12674-11-2	BATD SOP 5.128	BATD SOP 5.128	150.51	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Aroclor 1221	1104-28-2	BATD SOP 5.128	BATD SOP 5.128	150.51	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Aroclor 1232	11141-18-5	BATD SOP 5.128	BATD SOP 5.128	150.51	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Aroclor 1242	53469-21-9	BATD SOP 5.128	BATD SOP 5.128	150.51	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Aroclor 1248	12672-29-6	BATD SOP 5.128	BATD SOP 5.128	150.51	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Aroclor 1254	11037-69-1	BATD SOP 5.128	BATD SOP 5.128	1306.13	ng/g	west wt	U	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	01-568	Aroclor 1260	11056-92-5	BATD SOP 5.128	BATD SOP 5.128	150.51	ng/g	west wt	U	

SAMPLE NO	LAB ID	LABORATORY	QC TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	CASE	SDG	PARAMETER	CAS_NO	CLASS	METHOD	LAB_RESULT UNITS	LAB CRIAL #1
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	11100-144	01-568	Aroclor-1268			BATD SOP 5 128	373.00 ng/g - wet wt	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01		01-568	Total Aroclor			BATD SOP 5 128	1681.13 ng/g - wet wt	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	37680-68-5	01-568	CG(3)			BATD SOP 5 128	65%RECOVERY	
A-TS-33P	W4941	BATD	NORMAL	06/09/01	10/23/01	11/13/01	74472-36-9	01-568	CG(112)			BATD SOP 5 128	78%RECOVERY	
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	50-29-3	01-568	4,4'-DDE			BATD SOP 5 128	3.66 ng/g - wet wt	J
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	72-54-8	01-568	4,4'-DDE			BATD SOP 5 128	151.76 ng/g - wet wt	J
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	72-55-9	01-568	4,4'-DDT			BATD SOP 5 128	2.61 ng/g - wet wt	J
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	309-03-2	01-568	Aldrin			BATD SOP 5 128	8.72 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	319-84-6	01-568	alpha-BHC			BATD SOP 5 128	8.72 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	5103-71-9	01-568	alpha-Chlordane			BATD SOP 5 128	2.87 ng/g - wet wt	J
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	319-85-7	01-568	beta-BHC			BATD SOP 5 128	8.72 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	319-86-8	01-568	delta-BHC			BATD SOP 5 128	8.72 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	83-57-1	01-568	Dieldrin			BATD SOP 5 128	9.55 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	909-98-8	01-568	Endosulfan I			BATD SOP 5 128	8.72 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	33213-65-9	01-568	Endosulfan II			BATD SOP 5 128	8.72 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	1031-07-4	01-568	Endosulfan Sulfate			BATD SOP 5 128	8.72 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	72-20-6	01-568	Endrin			BATD SOP 5 128	8.72 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	7421-93-4	01-568	Endrin Aldetohyde			BATD SOP 5 128	8.72 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	53494-70-5	01-568	Endrin Ketone			BATD SOP 5 128	8.72 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	58-89-9	01-568	gamma-BHC			BATD SOP 5 128	8.72 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	5103-74-2	01-568	gamma-Chlordane			BATD SOP 5 128	8.72 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	76-44-8	01-568	Heptachlor			BATD SOP 5 128	8.72 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	1024-57-3	01-568	Heptachlor Epoxide			BATD SOP 5 128	8.95 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	72-43-5	01-568	Methoxychlor			BATD SOP 5 128	8.72 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	57-74-9	01-568	Technical chlordane			BATD SOP 5 128	232.15 ng/g - wet wt	J
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	6601-35-2	01-568	Toxaphene			BATD SOP 5 128	217.98 ng/g - wet wt	J
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	12674-11-2	01-568	Aroclor-1016			BATD SOP 5 128	105.99 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	1104-26-2	01-568	Aroclor-1231			BATD SOP 5 128	105.99 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	11141-16-5	01-568	Aroclor-1232			BATD SOP 5 128	105.99 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	53469-21-8	01-568	Aroclor-1242			BATD SOP 5 128	105.99 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	12672-29-6	01-568	Aroclor-1248			BATD SOP 5 128	105.99 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	11097-69-1	01-568	Aroclor-1254			BATD SOP 5 128	936.74 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	11096-82-5	01-568	Aroclor-1260			BATD SOP 5 128	105.99 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	11100-144	01-568	Aroclor-1268			BATD SOP 5 128	123.63 ng/g - wet wt	U
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	37680-68-5	01-568	Total Aroclor			BATD SOP 5 128	1060.57 ng/g - wet wt	
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01		01-568	CG(3)			BATD SOP 5 128	68%RECOVERY	
L-TS-73P	W4947	BATD	NORMAL	05/30/01	10/23/01	11/13/01	74472-36-9	01-568	CG(112)			BATD SOP 5 128	78%RECOVERY	
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	50-29-3	01-568	4,4'-DDE			BATD SOP 5 128	12.58 ng/g - wet wt	
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	72-54-8	01-568	4,4'-DDE			BATD SOP 5 128	480.85 ng/g - wet wt	D
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	72-55-9	01-568	4,4'-DDT			BATD SOP 5 128	4.49 ng/g - wet wt	J
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	309-03-2	01-568	Aldrin			BATD SOP 5 128	7.98 ng/g - wet wt	U
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	319-84-6	01-568	alpha-BHC			BATD SOP 5 128	7.98 ng/g - wet wt	U
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	5103-71-9	01-568	alpha-Chlordane			BATD SOP 5 128	32.92 ng/g - wet wt	U
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	319-85-7	01-568	beta-BHC			BATD SOP 5 128	7.98 ng/g - wet wt	U
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	319-86-8	01-568	delta-BHC			BATD SOP 5 128	7.98 ng/g - wet wt	U
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	83-57-1	01-568	Dieldrin			BATD SOP 5 128	24.41 ng/g - wet wt	U
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	969-98-8	01-568	Endosulfan I			BATD SOP 5 128	7.98 ng/g - wet wt	U
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	33213-65-9	01-568	Endosulfan II			BATD SOP 5 128	7.98 ng/g - wet wt	U
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	1031-07-4	01-568	Endosulfan Sulfate			BATD SOP 5 128	7.98 ng/g - wet wt	U
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	72-20-6	01-568	Endrin			BATD SOP 5 128	7.98 ng/g - wet wt	U
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	7421-93-4	01-568	Endrin Aldetohyde			BATD SOP 5 128	7.98 ng/g - wet wt	U
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	53494-70-5	01-568	Endrin Ketone			BATD SOP 5 128	7.98 ng/g - wet wt	U
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	58-89-9	01-568	gamma-BHC			BATD SOP 5 128	7.98 ng/g - wet wt	U
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	5103-74-2	01-568	gamma-Chlordane			BATD SOP 5 128	7.98 ng/g - wet wt	U
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	76-44-8	01-568	Heptachlor			BATD SOP 5 128	7.98 ng/g - wet wt	U
A-TS-39P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	1024-57-3	01-568	Heptachlor Epoxide			BATD SOP 5 128	40.61 ng/g - wet wt	U

SAMPLE NO	LAB ID	MDL	CRCL	CRCL	DIL	FACTOR	PCT	MOIST	COMMENTS	SAMPLE	SIZE	SIZE	UNITS	FINAL	RESULT	FINAL	QUAL	VALID	COMMENT	FRACTION
A-TS-33-P	WA6A1	150.51	1.724						NA	1.26	G	WET		373.00					T	
A-TS-33-P	WA6A1	1204.06	1.724						NA	1.26	G	WET		1681.33					T	
A-TS-33-P	WA6A1								NA	1.26	G	WET		85					T	
A-TS-33-P	WA6A1								NA	1.26	G	WET		78					T	
L-TS-73-P	WA6A7	6.72	1.724						NA	1.74	G	WET		2.66U					T	
L-TS-73-P	WA6A7	8.72	1.724						NA	1.74	G	WET		151.76					T	
L-TS-73-P	WA6A7	8.72	1.724						NA	1.74	G	WET		2.81U					T	
L-TS-73-P	WA6A7	8.72	1.724						NA	1.74	G	WET		8.72U					T	
L-TS-73-P	WA6A7	8.72	1.724						NA	1.74	G	WET		8.72U					T	
L-TS-73-P	WA6A7	8.72	1.724						NA	1.74	G	WET		2.87U					T	
L-TS-73-P	WA6A7	8.72	1.724						NA	1.74	G	WET		8.72U					T	
L-TS-73-P	WA6A7	8.72	1.724						NA	1.74	G	WET		8.72U					T	
L-TS-73-P	WA6A7	8.72	1.724						NA	1.74	G	WET		9.55U					T	
L-TS-73-P	WA6A7	8.72	1.724						NA	1.74	G	WET		8.72U					T	
L-TS-73-P	WA6A7	8.72	1.724						NA	1.74	G	WET		8.72U					T	
L-TS-73-P	WA6A7	8.72	1.724						NA	1.74	G	WET		8.72U					T	
L-TS-73-P	WA6A7	8.72	1.724						NA	1.74	G	WET		8.72U					T	
L-TS-73-P	WA6A7	8.72	1.724						NA	1.74	G	WET		8.72U					T	
L-TS-73-P	WA6A7	8.72	1.724						NA	1.74	G	WET		8.72U					T	
L-TS-73-P	WA6A7	8.72	1.724						NA	1.74	G	WET		8.72U					T	
L-TS-73-P	WA6A7	8.72	1.724						NA	1.74	G	WET		8.72U					T	
L-TS-73-P	WA6A7	8.72	1.724						NA	1.74	G	WET		8.72U					T	
L-TS-73-P	WA6A7	1099.89	1.724						NA	1.74	G	WET		292.16U					T	
L-TS-73-P	WA6A7	217.96	1.724						NA	1.74	G	WET		217.96U					T	
L-TS-73-P	WA6A7	106.99	1.724						NA	1.74	G	WET		106.99U					T	
L-TS-73-P	WA6A7	106.99	1.724						NA	1.74	G	WET		106.99U					T	
L-TS-73-P	WA6A7	106.99	1.724						NA	1.74	G	WET		106.99U					T	
L-TS-73-P	WA6A7	106.99	1.724						NA	1.74	G	WET		106.99U					T	
L-TS-73-P	WA6A7	106.99	1.724						NA	1.74	G	WET		996.74U					T	
L-TS-73-P	WA6A7	106.99	1.724						NA	1.74	G	WET		106.99U					T	
L-TS-73-P	WA6A7	106.99	1.724						NA	1.74	G	WET		123.83					T	
L-TS-73-P	WA6A7	871.91	1.724						NA	1.74	G	WET		1090.57U					T	
L-TS-73-P	WA6A7								NA	1.74	G	WET							T	
L-TS-73-P	WA6A7								NA	1.74	G	WET							T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		12.68					T	
A-TS-39-P	WA6A2	43.92	9.462						NA	1.90	G	WET		480.85					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		4.49U					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		7.96U					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		7.96U					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		32.97					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		7.96U					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		7.96U					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		7.96U					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		24.41					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		7.96U					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		7.96U					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		7.96U					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		7.96U					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		7.96U					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		7.96U					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		7.96U					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		7.96U					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		7.96U					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		7.96U					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		7.96U					T	
A-TS-39-P	WA6A2	7.96	1.724						NA	1.90	G	WET		40.81U					T	

SAMPLE_NO	LAB_ID	LABORATORY	OC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CASE	ISDC	PARAMETER	CAS NO	CLASS	METHOD	LAB RESULT	UNITS	LAB_QUAL	IDL
A-TS-39-P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	172-43-5	01-568	Technical chlordane	172-43-5	BATD	SOP 5_128	7.96	ng/g	wet wt	U
A-TS-39-P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	57-74-9	01-568	Technical chlordane	57-74-9	BATD	SOP 5_128	333.22	ng/g	wet wt	U
A-TS-39-P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	8001-35-2	01-568	Toxaphene	8001-35-2	BATD	SOP 5_128	188.62	ng/g	wet wt	U
A-TS-39-P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	12674-11-2	01-568	Aroclor-1016	12674-11-2	BATD	SOP 5_128	99.81	ng/g	wet wt	U
A-TS-39-P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	1104-28-2	01-568	Aroclor-1232	1104-28-2	BATD	SOP 5_128	99.81	ng/g	wet wt	U
A-TS-39-P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	11141-16-5	01-568	Aroclor-1246	11141-16-5	BATD	SOP 5_128	99.81	ng/g	wet wt	U
A-TS-39-P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	53469-21-9	01-568	Aroclor-1254	53469-21-9	BATD	SOP 5_128	99.81	ng/g	wet wt	U
A-TS-39-P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	12672-29-6	01-568	Aroclor-1248	12672-29-6	BATD	SOP 5_128	99.81	ng/g	wet wt	U
A-TS-39-P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	11097-49-1	01-568	Aroclor-1254	11097-49-1	BATD	SOP 5_128	1208.94	ng/g	wet wt	U
A-TS-39-P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	11096-82-5	01-568	Aroclor-1260	11096-82-5	BATD	SOP 5_128	99.81	ng/g	wet wt	U
A-TS-39-P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	11100-14-4	01-568	Aroclor-1268	11100-14-4	BATD	SOP 5_128	177.31	ng/g	wet wt	U
A-TS-39-P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	37680-58-5	01-568	Total Aroclor	37680-58-5	BATD	SOP 5_128	1366.25	ng/g	wet wt	U
A-TS-39-P	W4942	BATD	NORMAL	06/12/01	10/23/01	11/13/01	74472-36-9	01-568	CB(112)	74472-36-9	BATD	SOP 5_128	67	%RECOVERY		U
A-TS-39-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	50-29-3	01-568	4,4'-DDE	50-29-3	BATD	SOP 5_128	4.70	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	72-54-8	01-568	4,4'-DDE	72-54-8	BATD	SOP 5_128	152.94	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	72-55-9	01-568	4,4'-DDD	72-55-9	BATD	SOP 5_128	3.35	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	309-00-2	01-568	Aldrin	309-00-2	BATD	SOP 5_128	7.86	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	319-84-6	01-568	alpha-BHC	319-84-6	BATD	SOP 5_128	7.86	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	5103-71-9	01-568	alpha-Chlordane	5103-71-9	BATD	SOP 5_128	12.20	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	319-85-7	01-568	beta-BHC	319-85-7	BATD	SOP 5_128	7.86	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	319-86-8	01-568	delta-BHC	319-86-8	BATD	SOP 5_128	7.86	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	60-57-1	01-568	Dieldrin	60-57-1	BATD	SOP 5_128	14.94	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	989-98-9	01-568	Endosulfan I	989-98-9	BATD	SOP 5_128	7.86	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	34219-85-9	01-568	Endosulfan II	34219-85-9	BATD	SOP 5_128	7.86	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	1031-07-8	01-568	Endosulfan Sulfate	1031-07-8	BATD	SOP 5_128	7.86	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	72-20-8	01-568	Erathin	72-20-8	BATD	SOP 5_128	7.86	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	7471-93-4	01-568	Erathin Aldehyde	7471-93-4	BATD	SOP 5_128	7.86	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	53494-70-5	01-568	Erathin Ketone	53494-70-5	BATD	SOP 5_128	7.86	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	58-89-9	01-568	gamma-Chlordane	58-89-9	BATD	SOP 5_128	7.86	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	5103-74-7	01-568	gamma-Chlordane	5103-74-7	BATD	SOP 5_128	7.86	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	76-44-8	01-568	Heptachlor	76-44-8	BATD	SOP 5_128	7.86	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	1024-97-3	01-568	Heptachlor Epoxide	1024-97-3	BATD	SOP 5_128	29.62	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	72-43-5	01-568	Methoxychlor	72-43-5	BATD	SOP 5_128	7.86	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	57-74-9	01-568	Technical chlordane	57-74-9	BATD	SOP 5_128	601.41	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	8001-35-2	01-568	Toxaphene	8001-35-2	BATD	SOP 5_128	196.52	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	1104-28-2	01-568	Aroclor-1016	1104-28-2	BATD	SOP 5_128	98.26	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	11141-16-5	01-568	Aroclor-1232	11141-16-5	BATD	SOP 5_128	98.26	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	53469-21-9	01-568	Aroclor-1242	53469-21-9	BATD	SOP 5_128	98.26	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	12672-29-6	01-568	Aroclor-1246	12672-29-6	BATD	SOP 5_128	98.26	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	11097-49-1	01-568	Aroclor-1254	11097-49-1	BATD	SOP 5_128	788.88	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	11096-82-5	01-568	Aroclor-1260	11096-82-5	BATD	SOP 5_128	98.26	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	11100-14-4	01-568	Aroclor-1268	11100-14-4	BATD	SOP 5_128	92.30	ng/g	wet wt	U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	37680-58-5	01-568	Total Aroclor	37680-58-5	BATD	SOP 5_128	67	%RECOVERY		U
A-TS-428-P	W4943	BATD	NORMAL	06/07/01	10/23/01	11/13/01	74472-36-9	01-568	CB(112)	74472-36-9	BATD	SOP 5_128	71	%RECOVERY		U
G-TS-01-P	W4944	BATD	NORMAL	05/21/01	10/23/01	11/13/01	50-29-3	01-568	4,4'-DDD	50-29-3	BATD	SOP 5_128	3.60	ng/g	wet wt	U
G-TS-01-P	W4944	BATD	NORMAL	05/21/01	10/23/01	11/13/01	72-54-8	01-568	4,4'-DDE	72-54-8	BATD	SOP 5_128	286.99	ng/g	wet wt	U
G-TS-01-P	W4944	BATD	NORMAL	05/21/01	10/23/01	11/13/01	72-55-9	01-568	4,4'-DDD	72-55-9	BATD	SOP 5_128	5.94	ng/g	wet wt	U
G-TS-01-P	W4944	BATD	NORMAL	05/21/01	10/23/01	11/13/01	309-00-2	01-568	Aldrin	309-00-2	BATD	SOP 5_128	6.67	ng/g	wet wt	U
G-TS-01-P	W4944	BATD	NORMAL	05/21/01	10/23/01	11/13/01	319-84-6	01-568	alpha-BHC	319-84-6	BATD	SOP 5_128	6.67	ng/g	wet wt	U
G-TS-01-P	W4944	BATD	NORMAL	05/21/01	10/23/01	11/13/01	5103-71-9	01-568	alpha-Chlordane	5103-71-9	BATD	SOP 5_128	8.67	ng/g	wet wt	U
G-TS-01-P	W4944	BATD	NORMAL	05/21/01	10/23/01	11/13/01	319-85-7	01-568	beta-BHC	319-85-7	BATD	SOP 5_128	8.67	ng/g	wet wt	U
G-TS-01-P	W4944	BATD	NORMAL	05/21/01	10/23/01	11/13/01	319-86-8	01-568	delta-BHC	319-86-8	BATD	SOP 5_128	8.67	ng/g	wet wt	U
G-TS-01-P	W4944	BATD	NORMAL	05/21/01	10/23/01	11/13/01	60-57-1	01-568	Dieldrin	60-57-1	BATD	SOP 5_128	19.47	ng/g	wet wt	U

SAMPLE NO	LAB ID	MDL	ORDL_ORGL	OIL_FACTOR	PCT_MOIST	COMMENTS	SAMPLE_SIZE	UNITS	FINAL RESULT	FINAL QUAL	VALID	COMMENT	FRACTION
A-TS-39P	W4942	7.86		1.724		NA	1.901G	WET		7.86U			I
A-TS-39P	W4942	998.11		1.724		NA	1.901G	WET		333.22U			I
A-TS-39P	W4942	189.62		1.724		NA	1.901G	WET		156.62U			I
A-TS-39P	W4942	99.81		1.724		NA	1.901G	WET		99.81U			I
A-TS-39P	W4942	99.61		1.724		NA	1.901G	WET		99.61U			I
A-TS-39P	W4942	99.81		1.724		NA	1.901G	WET		99.81U			I
A-TS-39P	W4942	99.81		1.724		NA	1.901G	WET		99.81U			I
A-TS-39P	W4942	99.61		1.724		NA	1.901G	WET		99.61U			I
A-TS-39P	W4942	99.81		1.724		NA	1.901G	WET		99.81U			I
A-TS-39P	W4942	99.81		1.724		NA	1.901G	WET		99.81U			I
A-TS-39P	W4942	99.81		1.724		NA	1.901G	WET		99.81U			I
A-TS-39P	W4942	998.48		1.724		NA	1.901G	WET		1366.25			I
A-TS-39P	W4942					NA	1.901G	WET		67			I
A-TS-39P	W4942					NA	1.901G	WET		76			I
A-TS-42B-P	W4943	7.86		1.724		NA	1.931G	WET		4.70U			I
A-TS-42B-P	W4943	7.86		1.724		NA	1.931G	WET		152.94			I
A-TS-42B-P	W4943	7.86		1.724		NA	1.931G	WET		3.35U			I
A-TS-42B-P	W4943	7.86		1.724		NA	1.931G	WET		7.66U			I
A-TS-42B-P	W4943	7.86		1.724		NA	1.931G	WET		7.66U			I
A-TS-42B-P	W4943	7.86		1.724		NA	1.931G	WET		12.20			I
A-TS-42B-P	W4943	7.86		1.724		NA	1.931G	WET		7.66U			I
A-TS-42B-P	W4943	7.86		1.724		NA	1.931G	WET		7.66U			I
A-TS-42B-P	W4943	7.86		1.724		NA	1.931G	WET		14.94			I
A-TS-42B-P	W4943	7.86		1.724		NA	1.931G	WET		7.66U			I
A-TS-42B-P	W4943	7.86		1.724		NA	1.931G	WET		7.66U			I
A-TS-42B-P	W4943	7.86		1.724		NA	1.931G	WET		7.66U			I
A-TS-42B-P	W4943	7.86		1.724		NA	1.931G	WET		7.66U			I
A-TS-42B-P	W4943	7.86		1.724		NA	1.931G	WET		7.66U			I
A-TS-42B-P	W4943	7.86		1.724		NA	1.931G	WET		7.66U			I
A-TS-42B-P	W4943	7.86		1.724		NA	1.931G	WET		7.66U			I
A-TS-42B-P	W4943	992.59		1.724		NA	1.931G	WET		681.41U			I
A-TS-42B-P	W4943	196.52		1.724		NA	1.931G	WET		196.52U			I
A-TS-42B-P	W4943	99.26		1.724		NA	1.931G	WET		99.26U			I
A-TS-42B-P	W4943	99.26		1.724		NA	1.931G	WET		99.26U			I
A-TS-42B-P	W4943	99.26		1.724		NA	1.931G	WET		99.26U			I
A-TS-42B-P	W4943	99.26		1.724		NA	1.931G	WET		99.26U			I
A-TS-42B-P	W4943	99.26		1.724		NA	1.931G	WET		99.26U			I
A-TS-42B-P	W4943	99.26		1.724		NA	1.931G	WET		99.26U			I
A-TS-42B-P	W4943	99.26		1.724		NA	1.931G	WET		99.26U			I
A-TS-42B-P	W4943	99.26		1.724		NA	1.931G	WET		99.26U			I
A-TS-42B-P	W4943	99.26		1.724		NA	1.931G	WET		99.26U			I
A-TS-42B-P	W4943	786.07		1.724		NA	1.931G	WET		692.18U			I
A-TS-42B-P	W4943					NA	1.931G	WET		67			I
A-TS-42B-P	W4943					NA	1.931G	WET		71			I
G-TS-01P	W4944	8.67		1.724		NA	1.751G	WET		3.60U			I
G-TS-01P	W4944	8.67		1.724		NA	1.751G	WET		236.99			I
G-TS-01P	W4944	8.67		1.724		NA	1.751G	WET		5.94U			I
G-TS-01P	W4944	8.67		1.724		NA	1.751G	WET		8.67U			I
G-TS-01P	W4944	8.67		1.724		NA	1.751G	WET		8.67U			I
G-TS-01P	W4944	8.67		1.724		NA	1.751G	WET		1.16U			I
G-TS-01P	W4944	8.67		1.724		NA	1.751G	WET		8.67U			I
G-TS-01P	W4944	8.67		1.724		NA	1.751G	WET		8.67U			I
G-TS-01P	W4944	8.67		1.724		NA	1.751G	WET		19.47			I

SAMPLE NO	LAB ID	LABORATORY QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CASE	SIG	PARAMETER	ICAS NO	CLASS	METHOD	LAB RESULT UNITS	LAB QUAL ID
G-TS-01-P	W4944	BATD	05/21/01	10/23/01	11/13/01	01-568	Endosulfan I	1654-98-6	BATD_SOP_5_128	BATD_SOP_5_128	8.87 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	Endosulfan II	33213-85-9	BATD_SOP_5_128	BATD_SOP_5_128	8.87 ng/g - wet wt	U	
G-TS-01-P	W4944	BATD	05/21/01	10/23/01	11/13/01	01-568	Endosulfan Sulfate	1031-07-8	BATD_SOP_5_128	BATD_SOP_5_128	8.87 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	Endrin	72-20-8	BATD_SOP_5_128	BATD_SOP_5_128	8.87 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	Endrin Aldehyde	7421-93-4	BATD_SOP_5_128	BATD_SOP_5_128	8.87 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	Endrin Ketone	53484-70-5	BATD_SOP_5_128	BATD_SOP_5_128	8.87 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	gamma-BHC	58-80-9	BATD_SOP_5_128	BATD_SOP_5_128	8.87 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	gamma-Chlordane	5103-74-2	BATD_SOP_5_128	BATD_SOP_5_128	8.87 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	Heptachlor	76-44-8	BATD_SOP_5_128	BATD_SOP_5_128	8.87 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	Heptachlor Epoxide	1024-57-3	BATD_SOP_5_128	BATD_SOP_5_128	7.42 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	Methoxychlor	72-43-5	BATD_SOP_5_128	BATD_SOP_5_128	8.87 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	Technical chlordane	57-74-9	BATD_SOP_5_128	BATD_SOP_5_128	187.41 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	Toxaphene	1601-35-2	BATD_SOP_5_128	BATD_SOP_5_128	216.73 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	Aroclor 1016	12674-11-2	BATD_SOP_5_128	BATD_SOP_5_128	108.37 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	Aroclor 1221	1194-28-2	BATD_SOP_5_128	BATD_SOP_5_128	198.37 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	Aroclor 1232	11141-16-5	BATD_SOP_5_128	BATD_SOP_5_128	108.37 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	Aroclor 1242	53469-71-9	BATD_SOP_5_128	BATD_SOP_5_128	108.37 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	Aroclor 1248	12672-29-6	BATD_SOP_5_128	BATD_SOP_5_128	108.37 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	Aroclor 1254	11097-89-1	BATD_SOP_5_128	BATD_SOP_5_128	354.22 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	Aroclor 1260	11066-82-5	BATD_SOP_5_128	BATD_SOP_5_128	108.37 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	Total Aroclor	11100-14-4	BATD_SOP_5_128	BATD_SOP_5_128	108.12 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	Total Aroclor	37680-88-5	BATD_SOP_5_128	BATD_SOP_5_128	502.34 ng/g - wet wt	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	CB(34)	14474-36-9	BATD_SOP_5_128	BATD_SOP_5_128	73 %RECOVERY	U	
G-TS-01-P	W4944	NORMAL	05/21/01	10/23/01	11/13/01	01-568	CB(112)	74474-36-9	BATD_SOP_5_128	BATD_SOP_5_128	63 %RECOVERY	U	
G-TS-06-P	W4945	BATD	05/31/01	10/23/01	11/13/01	01-568	4,4'-DDE	50-29-3	BATD_SOP_5_128	BATD_SOP_5_128	9.58 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	4,4'-DDE	72-54-8	BATD_SOP_5_128	BATD_SOP_5_128	653.15 ng/g - wet wt	U	
G-TS-06-P	W4945	BATD	05/31/01	10/23/01	11/13/01	01-568	4,4'-DDE	172-55-9	BATD_SOP_5_128	BATD_SOP_5_128	8.18 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Aladin	300-00-2	BATD_SOP_5_128	BATD_SOP_5_128	8.18 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	alpha-BHC	319-84-6	BATD_SOP_5_128	BATD_SOP_5_128	8.18 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	beta-BHC	5103-71-9	BATD_SOP_5_128	BATD_SOP_5_128	22.30 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	delta-BHC	319-85-7	BATD_SOP_5_128	BATD_SOP_5_128	8.18 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Dieldrin	60-57-1	BATD_SOP_5_128	BATD_SOP_5_128	21.07 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Endosulfan I	1654-98-6	BATD_SOP_5_128	BATD_SOP_5_128	8.18 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Endosulfan II	33213-85-9	BATD_SOP_5_128	BATD_SOP_5_128	8.18 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Endosulfan Sulfate	1031-07-8	BATD_SOP_5_128	BATD_SOP_5_128	8.18 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Endrin	72-20-8	BATD_SOP_5_128	BATD_SOP_5_128	8.18 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Endrin Aldehyde	7421-93-4	BATD_SOP_5_128	BATD_SOP_5_128	8.18 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Endrin Ketone	53484-70-5	BATD_SOP_5_128	BATD_SOP_5_128	8.18 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	gamma-BHC	58-80-9	BATD_SOP_5_128	BATD_SOP_5_128	8.18 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	gamma-Chlordane	5103-74-2	BATD_SOP_5_128	BATD_SOP_5_128	8.18 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Heptachlor	76-44-8	BATD_SOP_5_128	BATD_SOP_5_128	8.18 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Heptachlor Epoxide	1024-57-3	BATD_SOP_5_128	BATD_SOP_5_128	40.75 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Technical chlordane	72-43-5	BATD_SOP_5_128	BATD_SOP_5_128	8.18 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Toxaphene	57-74-9	BATD_SOP_5_128	BATD_SOP_5_128	8.18 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Toxaphene	8001-35-2	BATD_SOP_5_128	BATD_SOP_5_128	203.91 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Aroclor 1016	12674-11-2	BATD_SOP_5_128	BATD_SOP_5_128	101.98 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Aroclor 1221	1104-28-2	BATD_SOP_5_128	BATD_SOP_5_128	101.98 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Aroclor 1232	1141-16-5	BATD_SOP_5_128	BATD_SOP_5_128	101.98 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Aroclor 1242	53469-71-9	BATD_SOP_5_128	BATD_SOP_5_128	101.98 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Aroclor 1248	12672-29-6	BATD_SOP_5_128	BATD_SOP_5_128	101.98 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Aroclor 1254	11097-89-1	BATD_SOP_5_128	BATD_SOP_5_128	1512.28 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Aroclor 1260	11096-82-5	BATD_SOP_5_128	BATD_SOP_5_128	101.98 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Total Aroclor	11100-14-4	BATD_SOP_5_128	BATD_SOP_5_128	359.93 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	Total Aroclor	37680-88-5	BATD_SOP_5_128	BATD_SOP_5_128	1872.18 ng/g - wet wt	U	
G-TS-06-P	W4945	NORMAL	05/31/01	10/23/01	11/13/01	01-568	CB(34)	14474-36-9	BATD_SOP_5_128	BATD_SOP_5_128	63 %RECOVERY	U	

SAMPLE_NO	LAB_ID	LABORATORY	QC_TYPE	SAMP_DATE	EXPIR_DATE	ANAL_DATE	CASE	SDS	PARAMETER	CAS_NO	CLASS METHOD	LAB RESULT UNITS	LAB_QUAL	IDR
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	CIS(112)	74472-36-9	BATD SOP 5 128	%RECOVERY	7.15	RECOVERY	J
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	4,4'-DDE	50-29-3	BATD SOP 5 128	ng/g - wet wt	623.52	ng/g - wet wt	D
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	4,4'-DDE	72-54-6	BATD SOP 5 128	ng/g - wet wt	6.28	ng/g - wet wt	J
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	4,4'-DDE	72-55-9	BATD SOP 5 128	ng/g - wet wt	9.03	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Aldrin	308-00-2	BATD SOP 5 128	ng/g - wet wt	21.36	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	alpha-BHC	319-84-6	BATD SOP 5 128	ng/g - wet wt	9.03	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	beta-BHC	5103-71-9	BATD SOP 5 128	ng/g - wet wt	9.03	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	delta-BHC	319-98-8	BATD SOP 5 128	ng/g - wet wt	28.59	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Dieldrin	60-57-1	BATD SOP 5 128	ng/g - wet wt	9.01	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Endosulfan I	959-98-5	BATD SOP 5 128	ng/g - wet wt	9.03	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Endosulfan II	332-13-65-9	BATD SOP 5 128	ng/g - wet wt	9.03	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Endosulfan Sulfate	1031-07-6	BATD SOP 5 128	ng/g - wet wt	9.03	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Ethin	72-20-8	BATD SOP 5 128	ng/g - wet wt	9.03	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Ethin Aldehyde	7471-93-4	BATD SOP 5 128	ng/g - wet wt	9.03	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Endrin Ketone	53494-70-5	BATD SOP 5 128	ng/g - wet wt	9.03	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	gamma-BHC	58-89-9	BATD SOP 5 128	ng/g - wet wt	9.03	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Heptachlor	76-44-8	BATD SOP 5 128	ng/g - wet wt	37.84	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Heptachlor Epoxide	1024-57-3	BATD SOP 5 128	ng/g - wet wt	747.25	ng/g - wet wt	J
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Methoxychlor	72-43-5	BATD SOP 5 128	ng/g - wet wt	225.76	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Technical chlordane	57-74-9	BATD SOP 5 128	ng/g - wet wt	112.88	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Toxaphene	9001-35-2	BATD SOP 5 128	ng/g - wet wt	112.88	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Aroclor-1016	12674-11-2	BATD SOP 5 128	ng/g - wet wt	1331.64	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Aroclor-1221	1184-28-2	BATD SOP 5 128	ng/g - wet wt	112.88	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Aroclor-1242	11141-16-5	BATD SOP 5 128	ng/g - wet wt	112.88	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Aroclor-1248	52469-21-9	BATD SOP 5 128	ng/g - wet wt	112.88	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Aroclor-1254	11067-89-1	BATD SOP 5 128	ng/g - wet wt	346.44	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Aroclor-1260	11068-92-5	BATD SOP 5 128	ng/g - wet wt	1678.06	ng/g - wet wt	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	Total Aroclor	11100-14-4	BATD SOP 5 128	ng/g - wet wt	72	%RECOVERY	U
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	11/13/01	01-568	CIS(34)	37680-88-5	BATD SOP 5 128	ng/g - wet wt	71	%RECOVERY	U
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	11/13/01	01-568	4,4'-DDE	50-29-3	BATD SOP 5 128	ng/g - wet wt	284.13	ng/g - wet wt	J
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	11/13/01	01-568	4,4'-DDE	72-54-9	BATD SOP 5 128	ng/g - wet wt	6.93	ng/g - wet wt	J
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	11/13/01	01-568	Aldrin	308-00-2	BATD SOP 5 128	ng/g - wet wt	9.31	ng/g - wet wt	U
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	11/13/01	01-568	alpha-BHC	319-84-6	BATD SOP 5 128	ng/g - wet wt	18.50	ng/g - wet wt	U
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	11/13/01	01-568	beta-BHC	5103-71-9	BATD SOP 5 128	ng/g - wet wt	9.31	ng/g - wet wt	U
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	11/13/01	01-568	delta-BHC	319-86-8	BATD SOP 5 128	ng/g - wet wt	13.45	ng/g - wet wt	U
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	11/13/01	01-568	Dieldrin	60-57-1	BATD SOP 5 128	ng/g - wet wt	9.31	ng/g - wet wt	U
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	11/13/01	01-568	Endosulfan I	959-98-8	BATD SOP 5 128	ng/g - wet wt	9.31	ng/g - wet wt	U
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	11/13/01	01-568	Endosulfan II	33213-65-9	BATD SOP 5 128	ng/g - wet wt	9.31	ng/g - wet wt	U
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	11/13/01	01-568	Endosulfan Sulfate	1031-07-8	BATD SOP 5 128	ng/g - wet wt	9.31	ng/g - wet wt	U
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	11/13/01	01-568	Ethin	72-20-8	BATD SOP 5 128	ng/g - wet wt	9.31	ng/g - wet wt	U
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	11/13/01	01-568	Ethin Aldehyde	53494-70-5	BATD SOP 5 128	ng/g - wet wt	9.31	ng/g - wet wt	U
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	11/13/01	01-568	gamma-BHC	58-89-9	BATD SOP 5 128	ng/g - wet wt	9.31	ng/g - wet wt	U
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	11/13/01	01-568	Heptachlor	76-44-8	BATD SOP 5 128	ng/g - wet wt	9.31	ng/g - wet wt	U
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	11/13/01	01-568	Heptachlor Epoxide	1024-57-3	BATD SOP 5 128	ng/g - wet wt	9.31	ng/g - wet wt	U
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	11/13/01	01-568	Methoxychlor	72-43-5	BATD SOP 5 128	ng/g - wet wt	9.31	ng/g - wet wt	U
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	11/13/01	01-568	Technical chlordane	57-74-9	BATD SOP 5 128	ng/g - wet wt	720.49	ng/g - wet wt	J
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	11/13/01	01-568	Toxaphene	8001-35-2	BATD SOP 5 128	ng/g - wet wt	737.69	ng/g - wet wt	U

SAMPLE_NO	LAB_ID	LABORATORY	LOC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	CASE	ISQG	PARAMETER	CAS_NO	CLASS	METHOD	LAB_RESULT	UNITS	LAB_QUAL	ID
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Aroclor-1016	12674-11-2		BA1D_SOP_5_128	116.34	ng/g - wet wt	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Aroclor-1271	1104-28-2		BA1D_SOP_5_128	116.34	ng/g - wet wt	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Aroclor-1232	11141-16-5		BA1D_SOP_5_128	116.34	ng/g - wet wt	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Aroclor-1242	53469-21-9		BA1D_SOP_5_128	116.34	ng/g - wet wt	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Aroclor-1248	12672-29-8		BA1D_SOP_5_128	116.34	ng/g - wet wt	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Aroclor-1254	11097-69-1		BA1D_SOP_5_128	1362.90	ng/g - wet wt	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Aroclor-1260	11096-82-5		BA1D_SOP_5_128	116.34	ng/g - wet wt	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Aroclor-1268	11100-14-4		BA1D_SOP_5_128	165.91	ng/g - wet wt	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Total Aroclor			BA1D_SOP_5_128	1558.61	ng/g - wet wt	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	CB(34)	37660-66-5		BA1D_SOP_5_128	66	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	CB(112)	74472-36-9		BA1D_SOP_5_128	70	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	4,4'-DDE	50-29-3		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	4,4'-DDD	72-54-8		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	4,4'-DDE	72-54-8		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	4,4'-DDT	72-55-9		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Alatin	309-00-2		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	alpha-BHC	319-84-6		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	alpha-Chlordane	5103-71-9		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	beta-BHC	319-85-7		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	delta-BHC	319-86-8		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Dieldrin	60-57-1		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Endosulfan I	959-98-6		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Endosulfan II	33213-65-9		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Endosulfan Sulfate	1031-07-4		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Endrin	72-20-8		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Endrin Aldehyde	7421-93-4		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Endrin Ketone	53494-70-5		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	gamma-BHC	58-88-9		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	gamma-Chlordane	5103-74-2		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Heptachlor	76-44-6		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Heptachlor Epoxide	1024-67-3		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Methoxychlor	72-43-5		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Technical chlordane	57-74-9		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Toxaphene	8001-35-2		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Aroclor-1016	12674-11-2		BA1D_SOP_5_128	59	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Aroclor-1221	1104-28-2		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Aroclor-1232	11141-16-5		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Aroclor-1242	53469-21-9		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Aroclor-1248	12672-29-8		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Aroclor-1254	11097-69-1		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Aroclor-1260	11096-82-5		BA1D_SOP_5_128	82	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Aroclor-1268	11100-14-4		BA1D_SOP_5_128	NA	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	Total Aroclor			BA1D_SOP_5_128	71	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	CB(34)	37660-66-5		BA1D_SOP_5_128	63	%RECOVERY	U	
LTS-65-P	W4948	BA1D	NORMAL	06/14/01	10/23/01	11/13/01	01-568	01-568	CB(112)	74472-36-9		BA1D_SOP_5_128	73	%RECOVERY	U	

SAMPLE_NO	LAB_ID	ORGL_CRDL	DIL_FACTOR	POT_MCHST	COMMENTS	SAMPLE_SIZE	SAMPLE_SIZE_UNITS	FINAL_RESULT	FINAL_QUAL	VALID_COMMENT	FRACTION
LPX-LB-4003-0000-01	ZR04MSD1	1.667	80.17		Matrix Fish	5.02	G WET				F
LPX-LB-4003-0000-01	ZR04MSD1	1.667	80.17		Matrix Fish	5.02	G WET				F
LPX-LB-4003-0000-01	ZR04MSD1	1.667	80.17		Matrix Fish	5.02	G WET				F
LPX-LB-4003-0000-01	ZR04MSD1	1.667	80.17		Matrix Fish	5.02	G WET				F
LPX-LB-4003-0000-01	ZR04MSD1	1.667	80.17		Matrix Fish	5.02	G WET				F
LPX-LB-4003-0000-01	ZR04MSD1	1.667	80.17		Matrix Fish	5.02	G WET				F
LPX-LB-4003-0000-01	ZR04MSD1	1.667	80.17		Matrix Fish	5.02	G WET				F
LPX-LB-4003-0000-01	ZR04MSD1	1.667	80.17		Matrix Fish	5.02	G WET				F
LPX-LB-4003-0000-01	ZR04MSD1	1.667	80.17		Matrix Fish	5.02	G WET				F
LPX-LB-4003-0000-01	ZR04MSD1	1.667	80.17		Matrix Fish	5.02	G WET				F
NA	ZR04SRM	1.667	80.40			7.94	G WET				T
NA	ZR04SRM	1.667	80.40			7.94	G WET				T
NA	ZR04SRM	1.667	80.40			7.94	G WET				T
NA	ZR04SRM	1.667	80.40			7.94	G WET				T
NA	ZR04SRM	1.667	80.40			7.94	G WET				T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	3.13			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	63.95			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	3.34			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	1.53 U			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	1.53 U			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	11.67			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	1.53 U			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	1.53 U			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	11.00			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	1.53 U			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	1.53 U			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	1.53 U			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	9.28			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	1.53 U			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	1.53 U			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	19.66			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	1.53 U			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	365.27			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	19.15 U			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	19.15 U			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	19.15 U			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	19.15 U			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	420.47			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	19.15 U			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	455.76			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	59.20			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	60.95			T
A-TS-35-N	WP4498-1	1.667	59.93		Re-extract result	3.92	G WET	6.07			T
A-TS-57-N	WP4492-1	1.667	64.25		Re-extract result	2.49	G WET	51.43			T
A-TS-57-N	WP4492-1	1.667	64.25		Re-extract result	2.49	G WET	5.58			T
A-TS-57-N	WP4492-1	1.667	64.25		Re-extract result	2.49	G WET	2.41 U			T
A-TS-57-N	WP4492-1	1.667	64.25		Re-extract result	2.49	G WET	2.41 U			T
A-TS-57-N	WP4492-1	1.667	64.25		Re-extract result	2.49	G WET	70.60			T
A-TS-57-N	WP4492-1	1.667	64.25		Re-extract result	2.49	G WET	2.41 U			T
A-TS-57-N	WP4492-1	1.667	64.25		Re-extract result	2.49	G WET	2.41 U			T
A-TS-57-N	WP4492-1	1.667	64.25		Re-extract result	2.49	G WET	16.42			T
A-TS-57-N	WP4492-1	1.667	64.25		Re-extract result	2.49	G WET	2.41 U			T
A-TS-57-N	WP4492-1	1.667	64.25		Re-extract result	2.49	G WET	2.41 U			T

SAMPLE NO	LAB ID	LABORATORY	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CASE NO	SIG	PARAMETER	CAS NO	CLASS	METHOD	LAB RESULT	UNITS	LAB QUAL	IDL	INDL
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	4'-DDT	72-54-6	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	4'-DDT	72-54-6	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	alpha-BHC	309-00-2	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	gamma-BHC	319-84-6	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	beta-BHC	319-85-7	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	delta-BHC	319-88-9	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Endosulfan I	50-67-1	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Endosulfan II	959-99-6	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Endosulfan Sulfate	33213-65-9	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Endrin	1031-07-8	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Endrin Aldehyde	72-20-6	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Endrin Ketone	7421-93-4	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	gamma-BHC	53494-70-5	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Technical chlordane	58-99-8	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Heptachlor	78-44-6	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Heptachlor Epoxide	1024-67-3	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Methoxychlor	72-43-6	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Technical chlordane	57-74-9	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Toxaphene	5001-35-2	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Arccol-1221	12874-11-2	PEST/PCB	BATD SOP 5 128	61.21	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Arccol-1016	1104-28-2	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Arccol-1232	11141-16-5	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Arccol-1242	53469-21-9	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Arccol-1245	12672-29-6	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Arccol-1254	11097-69-1	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	Arccol-1260	11095-82-5	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
NA	ZR14LC32	BATD	LCS	NA	12/27/02	01/21/02	01-672	OM(112)	37660-66-6	PEST/PCB	BATD SOP 5 128	62.55	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	4'-DDT	72-54-6	PEST/PCB	BATD SOP 5 128	74.04	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	4'-DDT	72-54-6	PEST/PCB	BATD SOP 5 128	115.98	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	alpha-BHC	309-00-2	PEST/PCB	BATD SOP 5 128	73.71	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	beta-BHC	319-84-6	PEST/PCB	BATD SOP 5 128	68.82	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	gamma-BHC	319-85-7	PEST/PCB	BATD SOP 5 128	85.95	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	delta-BHC	319-88-9	PEST/PCB	BATD SOP 5 128	69.25	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	Endosulfan I	33213-65-9	PEST/PCB	BATD SOP 5 128	63.83	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	Endosulfan Sulfate	53469-21-9	PEST/PCB	BATD SOP 5 128	63.71	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	Endrin	72-20-6	PEST/PCB	BATD SOP 5 128	71.85	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	Endrin Aldehyde	7421-93-4	PEST/PCB	BATD SOP 5 128	70.89	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	Endrin Ketone	53494-70-5	PEST/PCB	BATD SOP 5 128	61.43	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	gamma-BHC	58-99-9	PEST/PCB	BATD SOP 5 128	73.38	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	gamma-Chlordane	1503-74-2	PEST/PCB	BATD SOP 5 128	76.72	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	Heptachlor	76-44-6	PEST/PCB	BATD SOP 5 128	63.71	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	Heptachlor Epoxide	1024-67-3	PEST/PCB	BATD SOP 5 128	69.85	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	Methoxychlor	72-43-6	PEST/PCB	BATD SOP 5 128	55.10	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	Technical chlordane	57-74-9	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	Toxaphene	5001-35-2	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	Arccol-1016	12874-11-2	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	Arccol-1221	1141-16-5	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	Arccol-1232	11141-16-5	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	Arccol-1242	53469-21-9	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	Arccol-1245	12672-29-6	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	Arccol-1254	11097-69-1	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				
MS	ZR09MS2	BATD	MS	6/25/2001	12/27/02	01/18/02	01-672	Arccol-1260	11095-82-5	PEST/PCB	BATD SOP 5 128	NA	%RECOVERY				

SAMPLE NO	LAB ID	LABORATORY	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CARE	ISDG	PARAMETER	CAS NO	CLASS	METHOD	LAB RESULT	UNITS	LAB_QUAL	REL
CMS-EW-4005-0000-01	WSS-660UP	BATD	Duplicate	07/20/01	12/27/02	01/23/02	01-672	01-672	Methoxychlor	72-43-5	PEST#PCB	BATD SOP 5 126	0.60	mg/g - wet wt	U	0.60
CMS-EW-4005-0000-01	WSS-660UP	BATD	Duplicate	07/20/01	12/27/02	01/23/02	01-672	01-672	Triphenyl phosphine	57-74-9	PEST#PCB	BATD SOP 5 126	143.85	mg/g - wet wt	DJ	141.09
CMS-EW-4005-0000-01	WSS-660UP	BATD	Duplicate	07/20/01	12/27/02	01/23/02	01-672	01-672	Toxaphene	9001-35-2	PEST#PCB	BATD SOP 5 126	7.55	mg/g - wet wt	U	7.55
CMS-EW-4005-0000-01	WSS-660UP	BATD	Duplicate	07/20/01	12/27/02	01/23/02	01-672	01-672	Aroclor-1016	12874411-2	PEST#PCB	BATD SOP 5 126	7.55	mg/g - wet wt	U	7.55
CMS-EW-4005-0000-01	WSS-660UP	BATD	Duplicate	07/20/01	12/27/02	01/23/02	01-672	01-672	Aroclor-1221	1104-20-2	PEST#PCB	BATD SOP 5 126	7.55	mg/g - wet wt	U	7.55
CMS-EW-4005-0000-01	WSS-660UP	BATD	Duplicate	07/20/01	12/27/02	01/23/02	01-672	01-672	Aroclor-1242	11141-10-5	PEST#PCB	BATD SOP 5 126	7.55	mg/g - wet wt	U	7.55
CMS-EW-4005-0000-01	WSS-660UP	BATD	Duplicate	07/20/01	12/27/02	01/23/02	01-672	01-672	Aroclor-1248	53460-31-8	PEST#PCB	BATD SOP 5 126	7.55	mg/g - wet wt	U	7.55
CMS-EW-4005-0000-01	WSS-660UP	BATD	Duplicate	07/20/01	12/27/02	01/23/02	01-672	01-672	Aroclor-1254	12672-20-6	PEST#PCB	BATD SOP 5 126	7.55	mg/g - wet wt	U	7.55
CMS-EW-4005-0000-01	WSS-660UP	BATD	Duplicate	07/20/01	12/27/02	01/23/02	01-672	01-672	Aroclor-1260	11057-88-1	PEST#PCB	BATD SOP 5 126	131.93	mg/g - wet wt	DJ	131.09
CMS-EW-4005-0000-01	WSS-660UP	BATD	Duplicate	07/20/01	12/27/02	01/23/02	01-672	01-672	Aroclor-1268	11068-82-5	PEST#PCB	BATD SOP 5 126	7.55	mg/g - wet wt	U	7.55
CMS-EW-4005-0000-01	WSS-660UP	BATD	Duplicate	07/20/01	12/27/02	01/23/02	01-672	01-672	Total Aroclor	11100-14-4	PEST#PCB	BATD SOP 5 126	31.14	mg/g - wet wt	DJ	131.09
CMS-EW-4005-0000-01	WSS-660UP	BATD	Duplicate	07/20/01	12/27/02	01/23/02	01-672	01-672	CIS(94)	NA	PEST#PCB	BATD SOP 5 126	40.54	W/RECOVERY		60.44
CMS-EW-4005-0000-01	WSS-660UP	BATD	Duplicate	07/20/01	12/27/02	01/23/02	01-672	01-672	CIS(112)	37680-88-5	PEST#PCB	BATD SOP 5 126	30.37	W/RECOVERY		

SAMPLE NO	LAS ID	CRDL CRDL	DIL FACTOR	PCT	WST	COMMENTS	SAMPLE SIZE	SAMPLE SIZE UNITS	FINAL RESULT	FINAL QUAL	VALID COMMENT	FRACTION
CMS-EW-4005-0000-01	VARS450LUP		1.667	90.36		Meiotic Earthworm	9.93	G WET				T
CMS-EW-4005-0000-01	VARS450LUP		33.340	90.36		Meiotic Earthworm	9.93	G WET				T
CMS-EW-4005-0000-01	VARS450LUP		1.667	90.36		Meiotic Earthworm	9.93	G WET				T
CMS-EW-4005-0000-01	VARS450LUP		1.667	90.36		Meiotic Earthworm	9.93	G WET				T
CMS-EW-4005-0000-01	VARS450LUP		1.667	90.36		Meiotic Earthworm	9.93	G WET				T
CMS-EW-4005-0000-01	VARS450LUP		1.667	90.36		Meiotic Earthworm	9.93	G WET				T
CMS-EW-4005-0000-01	VARS450LUP		1.667	90.36		Meiotic Earthworm	9.93	G WET				T
CMS-EW-4005-0000-01	VARS450LUP		33.340	90.36		Meiotic Earthworm	9.93	G WET				T
CMS-EW-4005-0000-01	VARS450LUP		1.667	90.36		Meiotic Earthworm	9.93	G WET				T
CMS-EW-4005-0000-01	VARS450LUP		1.667	90.36		Meiotic Earthworm	9.93	G WET				T
CMS-EW-4005-0000-01	VARS450LUP		1.667	90.36		Meiotic Earthworm	9.93	G WET				T
CMS-EW-4005-0000-01	VARS450LUP		33.340	90.36		Meiotic Earthworm	9.93	G WET				T
CMS-EW-4005-0000-01	VARS450LUP		1.667	90.36		Meiotic Earthworm	9.93	G WET				T
CMS-EW-4005-0000-01	VARS450LUP		1.667	90.36		Meiotic Earthworm	9.93	G WET				T

Section 4
Metal and Methyl Mercury Results

Section 4

QA/QC Narrative
Tree Swallow Tissue and QC Results

QA/QC Narrative

METALS QA/QC SUMMARY
QC Batch 3 -- Tree Swallow Nestling Liver

PROGRAM: Centredale Manor, Tissues

PARAMETER: Metals and Methyl Mercury

LABORATORY: Battelle/Marine Sciences Laboratory, Sequim, Washington

MATRIX: Tree Swallow Nestling Livers

SAMPLE CUSTODY: Nestlings were collected by USGS between May 30 and June 12, 2001. Samples (15) were received at Battelle MSL on July 11, 2001 and were logged into Battelle's sample tracking system. Samples were held frozen until processing and analysis.

QA/QC DATA QUALITY OBJECTIVES

	Reference Method	Range of Recovery	SFM Accuracy	Relative Precision	Quantitation Limit (µg/g dry)
Beryllium	ICP/MS	70-130%	±25%	±30%	0.016
Aluminum	ICP/AES	70-130%	±25%	±30%	4.0
Vanadium	ICP/AES	70-130%	±25%	±30%	0.64
Chromium	ICP/AES	70-130%	±25%	±30%	0.96
Manganese	ICP/AES	70-130%	±25%	±30%	0.064
Iron	ICP/AES	70-130%	±25%	±30%	1.12
Cobalt	ICP/MS	70-130%	±25%	±30%	1.34
Nickel	ICP/MS	70-130%	±25%	±30%	1.14
Copper	ICP/MS	70-130%	±25%	±30%	0.26
Zinc	ICP/AES	70-130%	±25%	±30%	0.384
Arsenic	ICP/MS	70-130%	±25%	±30%	0.12
Selenium	FIAS	70-130%	±25%	±30%	1.6
Molybdenum	ICP/MS	70-130%	±25%	±30%	1.152
Silver	ICP/AES	70-130%	±25%	±30%	0.22
Cadmium	ICP/MS	70-130%	±25%	±30%	0.712
Antimony	ICP/MS	70-130%	±25%	±30%	0.12
Barium	ICP/MS	70-130%	±25%	±30%	0.04
Thallium	ICP/MS	70-130%	±25%	±30%	0.08
Lead	ICP/MS	70-130%	±25%	±30%	0.08
Mercury	CVAA	70-130%	±25%	±30%	0.008
MeHg	CVAF	70-130%	±25%	±30%	0.01

METHOD Twenty metals were analyzed: aluminum (Al), vanadium (V), chromium (Cr), manganese (Mn), iron (Fe), zinc (Zn), and silver (Ag) by inductively coupled plasma atomic emission spectroscopy (ICP/AES) according to Method L-44; Selenium (Se) by FIAS by SOP MSL-I-001; beryllium (Be), cobalt (Co), nickel (Ni), copper (Cu), arsenic (As), molybdenum (Mo), cadmium (Cd), antimony (Sb), barium (Ba), thallium (Tl), and lead (Pb) by inductively

METALS QA/QC SUMMARY
QC Batch 3 -- Tree Swallow Nestling Liver

METHOD (continued)

coupled plasma mass spectrometry (ICP/MS) following method L-42; mercury (Hg) using cold-vapor atomic absorption (CVAAS) according Method L-41. Methyl mercury (MeHg) was also analyzed according to Method L-40.

To prepare tissue samples for analysis, each was frozen then freeze-dried and homogenized using a Spex mixer-mill.

Approximately 0.3 gram aliquots of dried homogenous sample were digested for metals using SOP MSL-I-024, where concentrated nitric and hydrofluoric acids were used. Samples for MeHg were digested following method L-40.

All data were initially reported on a dry weight basis and converted to wet weight in spreadsheet. Dry weight results are included in the project file. Results for all study samples and laboratory duplicates are reported in the electronic data deliverable (EDD) on a $\mu\text{g/g}$ wet weight basis. Results for other laboratory QC (e.g., MS, SRM) are reported in the project file on a dry weight basis, and provided in the EDD on a percent recovery or percent difference basis. Blank data are also reported on a dry weight basis, as reporting these data on a wet weight basis is not appropriate given that there is no applicable percent dry weight for the blank. A percent dry weight is necessary to convert data from a dry to wet weight basis.

HOLDING TIMES

Samples were held frozen until freeze-dried, followed by digestion and analysis. All samples were digested and analyzed within the six month holding time for metals and the 28-day holding time for Hg (defined as beginning from the time that tissue samples were removed from the freezer for processing and ending once tissue homogenates were placed in the freeze-dryer). The following list summarizes all drying, digestion and analysis dates:

<u>Task</u>	<u>Date Digested</u>	<u>Date Analyzed</u>
HF:HNO3	8/27/01	
Hg		8/30/01
ICP-MS		8/31/01
ICP/AES		11/10/01
FIAS-Se		11/7/01
MeHg	8/30/01	9/4-5/01

METALS QA/QC SUMMARY
QC Batch 3 -- Tree Swallow Nestling Liver

DETECTION LIMITS The target quantitation limit was met for all metals. The MDL was determined by multiplying the standard deviation of the results of a minimum of 7 replicate low level spikes by the Student's t value at the 99th percentile. The QL was determined by multiplying the MDL by 4. The MDL has been provided on a wet weight basis.

METHOD BLANKS One blank was analyzed. Results were less than the QL for all metals, except As, Ba, and Pb. Sample results for these metals were not greater than ten times blank values and data have been B flagged on the final report tables.

Results are reported on a dry weight basis.

BLANK SPIKES One reagent water sample was spiked with all metals, except MeHg. All recoveries met the required QC criteria, except Fe.

Results are provided in $\mu\text{g/g}$ dry weight in the studyfile and on a percent recovery basis in the EDD.

MATRIX SPIKES One sample was spiked with all metals; a matrix spike and matrix spike duplicate was also prepared for MeHg. A matrix spike duplicate was not prepared for all metals due to limited sample volumes.

All recoveries met the required QC criteria, except Zn and Hg. For Zn, the spiking level was inappropriate to the native concentration. Hg was lost during digestion when a small crack developed in the Teflon bomb and Hg escaped. Other metals were not affected. Due to the small amount of sample available, there was not sufficient sample to redigest and reanalyze. Note that Hg results from other QC samples (blank spike and SRM) were acceptable, suggesting the procedure was in control.

Results are provided in $\mu\text{g/g}$ dry weight in the studyfile and on a percent recovery basis in the EDD.

REPLICATES One sample was analyzed in duplicate. RPD values for all metals were within the QC limits of $\pm 30\%$, except Al, Cr, Ni, As and Sb. All results were less than the reporting limit and some less than the detection limit for these metals. Due to the limited amount and texture of the samples, this could be an indication of poor homogeneity.

Results are provided in $\mu\text{g/g}$ dry weight in the studyfile and on a wet weight basis in the EDD.

METALS QA/QC SUMMARY
QC Batch 3 -- Tree Swallow Nestling Liver

SRM

One matrix-appropriate standard reference material (SRM) was analyzed; DOLT-2, Dogfish liver, obtained from the National Research Council of Canada (NRCC). DORM-2 was analyzed for MeHg.

SRM DOLT-2 has 14 certified metals. Recoveries for all metals except Cr were within the required criteria. The certified value for Cr is less than the reporting limit. Other QC for this metal are within the required criteria. No corrective action was taken. MeHg recovery was within the accepted criteria for DORM-2.

Results are provided in µg/g dry weight in the studyfile and on a percent difference basis in the EDD.

SAMPLE_NO	LAB_ID	LABORATORY	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	CASE_NO	SQS_PARAMETER	CAS_NO	CLASS	METHOD	LAB_RESULT	UNITS	LAB_QUAL	MDL
A-TS-35-L	1678*139	MSL	NORMAL	08/12/01	08/27/01	08/31/01	7440-41-7	BERYLLIUM		L-42	0.008	UG/G WET	U	0.005	
A-TS-35-L	1678*139	MSL	NORMAL	08/12/01	08/27/01	08/31/01	7440-41-7	ALUMINUM		L-44	0.974	UG/G WET	U	1.13	
A-TS-35-L	1678*139	MSL	NORMAL	08/12/01	08/27/01	08/31/01	7440-80-2	VANADIUM		L-44	0.0183	UG/G WET	U	0.120	
A-TS-35-L	1678*139	MSL	NORMAL	08/12/01	08/27/01	08/31/01	7440-47-3	CHROMIUM		L-44	0.0004	UG/G WET	U	0.271	
A-TS-35-L	1678*139	MSL	NORMAL	08/12/01	08/27/01	08/31/01	7439-98-5	MANGANESE		L-44	1.40	UG/G WET	U	0.018	
A-TS-35-L	1678*139	MSL	NORMAL	08/12/01	08/27/01	08/31/01	7439-98-5	IRON		L-44	208	UG/G WET	U	0.320	
A-TS-35-L	1678*139	MSL	NORMAL	08/12/01	08/27/01	08/31/01	7440-48-4	COBALT		L-42	0.0112	UG/G WET	U	0.079	
A-TS-35-L	1678*139	MSL	NORMAL	08/12/01	08/27/01	08/31/01	7440-48-4	NICKEL		L-42	4.45	UG/G WET	U	0.323	
A-TS-35-L	1678*139	MSL	NORMAL	08/12/01	08/27/01	08/31/01	7440-50-8	COPPER		L-42	18.5	UG/G WET	U	0.103	
A-TS-35-L	1678*139	MSL	NORMAL	08/12/01	08/27/01	08/31/01	7440-38-2	ZINC		L-42	0.0207	UG/G WET	U	0.004	
A-TS-35-L	1678*139	MSL	NORMAL	08/12/01	08/27/01	08/31/01	7439-98-5	ARSENIC		MSL-I-30	0.460	UG/G WET	U	0.451	
A-TS-35-L	1678*139	MSL	NORMAL	08/12/01	08/27/01	08/31/01	7440-49-2	SILVER		L-42	0.478	UG/G WET	U	0.325	
A-TS-35-L	1678*139	MSL	NORMAL	08/12/01	08/27/01	08/31/01	7440-38-2	CADMIUM		L-44	0.00424	UG/G WET	U	0.001	
A-TS-35-L	1678*139	MSL	NORMAL	08/12/01	08/27/01	08/31/01	7440-49-2	ANTIMONY		L-42	0.00704	UG/G WET	U	0.004	
A-TS-35-L	1678*139	MSL	NORMAL	08/12/01	08/27/01	08/31/01	7440-39-3	BARIUM		L-42	0.00766	UG/G WET	U	0.003	
A-TS-35-L	1678*139	MSL	NORMAL	08/12/01	08/27/01	08/31/01	7439-92-1	LEAD		L-42	0.0019	UG/G WET	U	0.003	
A-TS-35-L	1678*139	MSL	NORMAL	08/12/01	08/27/01	08/31/01	7439-92-1	MERCURY		L-41	0.0401	UG/G WET	U	0.0023	
A-TS-35-L	1678*139	MSL	NORMAL	08/12/01	08/27/01	08/31/01	7440-41-7	BERYLLIUM		L-42	0.0003	UG/G WET	U	0.0003	
A-TS-35-L	1678*140	MSL	NORMAL	08/26/01	08/27/01	08/31/01	7429-90-5	ALUMINUM		L-44	0.684	UG/G WET	U	1.13	
A-TS-35-L	1678*140	MSL	NORMAL	08/26/01	08/27/01	08/31/01	7440-80-2	VANADIUM		L-44	0.160	UG/G WET	U	0.160	
A-TS-35-L	1678*140	MSL	NORMAL	08/26/01	08/27/01	08/31/01	7440-47-3	CHROMIUM		L-44	0.0014	UG/G WET	U	0.271	
A-TS-35-L	1678*140	MSL	NORMAL	08/26/01	08/27/01	08/31/01	7439-98-5	MANGANESE		L-44	1.35	UG/G WET	U	0.018	
A-TS-35-L	1678*140	MSL	NORMAL	08/26/01	08/27/01	08/31/01	7439-98-5	IRON		L-44	233	UG/G WET	U	0.320	
A-TS-35-L	1678*140	MSL	NORMAL	08/26/01	08/27/01	08/31/01	7440-48-4	COBALT		L-42	0.0109	UG/G WET	U	0.079	
A-TS-35-L	1678*140	MSL	NORMAL	08/26/01	08/27/01	08/31/01	7440-48-4	NICKEL		L-42	0.0001	UG/G WET	U	0.004	
A-TS-35-L	1678*140	MSL	NORMAL	08/26/01	08/27/01	08/31/01	7440-50-8	COPPER		L-42	3.50	UG/G WET	U	0.073	
A-TS-35-L	1678*140	MSL	NORMAL	08/26/01	08/27/01	08/31/01	7440-38-2	ZINC		L-44	19.8	UG/G WET	U	0.105	
A-TS-35-L	1678*140	MSL	NORMAL	08/26/01	08/27/01	08/31/01	7440-49-2	ARSENIC		L-42	0.0774	UG/G WET	U	0.004	
A-TS-35-L	1678*140	MSL	NORMAL	08/26/01	08/27/01	08/31/01	7440-38-2	SELENIUM		MSL-I-30	0.595	UG/G WET	U	0.461	
A-TS-35-L	1678*140	MSL	NORMAL	08/26/01	08/27/01	08/31/01	7440-42-4	SILVER		L-42	0.680	UG/G WET	U	0.325	
A-TS-35-L	1678*140	MSL	NORMAL	08/26/01	08/27/01	08/31/01	7440-43-8	CADMIUM		L-44	0.0188	UG/G WET	U	0.001	
A-TS-35-L	1678*140	MSL	NORMAL	08/26/01	08/27/01	08/31/01	7440-39-3	ANTIMONY		L-42	0.0112	UG/G WET	U	0.004	
A-TS-35-L	1678*140	MSL	NORMAL	08/26/01	08/27/01	08/31/01	7440-38-2	BARIUM		L-42	0.0021	UG/G WET	U	0.011	
A-TS-35-L	1678*140	MSL	NORMAL	08/26/01	08/27/01	08/31/01	7439-92-1	LEAD		L-42	0.0110	UG/G WET	U	0.003	
A-TS-35-L	1678*140	MSL	NORMAL	08/26/01	08/27/01	08/31/01	7439-92-1	MERCURY		L-41	0.168	UG/G WET	U	0.003	
A-TS-35-L	1678*140	MSL	NORMAL	08/26/01	08/27/01	08/31/01	7440-41-7	BERYLLIUM		L-42	0.0011	UG/G WET	U	0.0003	
A-TS-35-L	1678*141	MSL	NORMAL	08/27/01	08/27/01	08/31/01	7440-41-7	BERYLLIUM		L-42	0.008	UG/G WET	U	0.005	
A-TS-35-L	1678*141	MSL	NORMAL	08/27/01	08/27/01	08/31/01	7429-90-5	ALUMINUM		L-44	0.266	UG/G WET	U	1.13	
A-TS-35-L	1678*141	MSL	NORMAL	08/27/01	08/27/01	08/31/01	7440-80-2	VANADIUM		L-44	0.0000	UG/G WET	U	0.160	
A-TS-35-L	1678*141	MSL	NORMAL	08/27/01	08/27/01	08/31/01	7440-47-3	CHROMIUM		L-44	0.0750	UG/G WET	U	0.271	
A-TS-35-L	1678*141	MSL	NORMAL	08/27/01	08/27/01	08/31/01	7439-98-5	MANGANESE		L-44	1.98	UG/G WET	U	0.018	
A-TS-35-L	1678*141	MSL	NORMAL	08/27/01	08/27/01	08/31/01	7439-98-5	IRON		L-44	268	UG/G WET	U	0.320	
A-TS-35-L	1678*141	MSL	NORMAL	08/27/01	08/27/01	08/31/01	7440-48-4	COBALT		L-42	0.00520	UG/G WET	U	0.079	
A-TS-35-L	1678*141	MSL	NORMAL	08/27/01	08/27/01	08/31/01	7440-48-4	NICKEL		L-42	0.0127	UG/G WET	U	0.004	
A-TS-35-L	1678*141	MSL	NORMAL	08/27/01	08/27/01	08/31/01	7440-50-8	COPPER		L-42	3.80	UG/G WET	U	0.073	
A-TS-35-L	1678*141	MSL	NORMAL	08/27/01	08/27/01	08/31/01	7440-49-2	ZINC		L-44	20.1	UG/G WET	U	0.106	
A-TS-35-L	1678*141	MSL	NORMAL	08/27/01	08/27/01	08/31/01	7439-98-5	ARSENIC		MSL-I-30	0.556	UG/G WET	U	0.461	
A-TS-35-L	1678*141	MSL	NORMAL	08/27/01	08/27/01	08/31/01	100308-00-0	YTDIUM		L-44	0.006	UG/G WET	U	0.325	
A-TS-35-L	1678*141	MSL	NORMAL	08/27/01	08/27/01	08/31/01	7440-48-4	SILVER		L-42	0.0000	UG/G WET	U	0.001	
A-TS-35-L	1678*141	MSL	NORMAL	08/27/01	08/27/01	08/31/01	7440-49-2	ANTIMONY		L-42	0.0160	UG/G WET	U	0.001	
A-TS-35-L	1678*141	MSL	NORMAL	08/27/01	08/27/01	08/31/01	7440-39-3	BARIUM		L-42	0.00040	UG/G WET	U	0.004	
A-TS-35-L	1678*141	MSL	NORMAL	08/27/01	08/27/01	08/31/01	7440-38-2	LEAD		L-42	0.0100	UG/G WET	U	0.011	

SAMPLE_NO	LAB_ID	ORDL_ORCL	DIL_FACTOR	POT_MOIST	COMMENTS	SAMPLE_SIZE	SIZE_UNITS	FINAL_RESULT	FINAL_QUAL	VALID_COMMENT	IFRACTION
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, ICP-MS	0.2961G	DRY	0.005U			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, AES	0.2961G	DRY	1.13U			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, AES	0.2961G	DRY	0.18U			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, AES	0.2961G	DRY	0.271U			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, AES	0.2961G	DRY	1.43			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, AES	0.2961G	DRY	2.85U			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, ICP-MS	0.2961G	DRY	0.379U			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, ICP-MS	0.2961G	DRY	0.323U			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, AES	0.2961G	DRY	4.48			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, ICP-MS	0.2961G	DRY	19.6U			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, ICP-MS	0.2961G	DRY	0.034U			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, FIAS	0.2961G	DRY	0.483U			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, ICP-MS	0.2961G	DRY	0.478			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, AES	0.2961G	DRY	0.081U			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, ICP-MS	0.2961G	DRY	0.201U			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, ICP-MS	0.2961G	DRY	0.034U			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, ICP-MS	0.2961G	DRY	0.0398U			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, ICP-MS	0.2961G	DRY	0.0623U			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, ICP-MS	0.2961G	DRY	0.0619U			T
A-TS-35-L	1678'139		0.650		74.3 Tree Swallow Nestling Liver, CVAA	0.2961G	DRY	0.0401			T
A-TS-35-L	1678'139		1.00		74.3 Tree Swallow Nestling Liver, CVAF	0.0771G	DRY	0.0329			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, ICP-MS	0.1971G	DRY	0.005U			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, AES	0.1971G	DRY	0.684U			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, AES	0.1971G	DRY	0.18U			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, AES	0.1971G	DRY	0.271U			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, AES	0.1971G	DRY	1.35			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, AES	0.1971G	DRY	233U			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, ICP-MS	0.1971G	DRY	0.379U			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, ICP-MS	0.1971G	DRY	0.323U			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, ICP-MS	0.1971G	DRY	3.85			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, AES	0.1971G	DRY	19.6U			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, ICP-MS	0.1971G	DRY	0.0774U			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, FIAS	0.1971G	DRY	0.535U			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, ICP-MS	0.1971G	DRY	0.589			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, AES	0.1971G	DRY	0.081U			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, ICP-MS	0.1971G	DRY	0.201U			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, ICP-MS	0.1971G	DRY	0.034U			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, ICP-MS	0.1971G	DRY	0.0321U			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, ICP-MS	0.1971G	DRY	0.0623U			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, CVAA	0.1971G	DRY	0.0501			T
A-TS-46-L	1678'140		1.02		70.5 Tree Swallow Nestling Liver, CVAF	0.0791G	DRY	0.0375			T
A-TS-46-L	1678'141		0.810		69.5 Tree Swallow Nestling Liver, ICP-MS	0.2471G	DRY	0.005U			T
A-TS-46-L	1678'141		0.810		69.5 Tree Swallow Nestling Liver, AES	0.2471G	DRY	1.13U			T
A-TS-46-L	1678'141		0.810		69.5 Tree Swallow Nestling Liver, AES	0.2471G	DRY	0.18U			T
A-TS-46-L	1678'141		0.810		69.5 Tree Swallow Nestling Liver, AES	0.2471G	DRY	0.271U			T
A-TS-46-L	1678'141		0.810		69.5 Tree Swallow Nestling Liver, AES	0.2471G	DRY	1.86			T
A-TS-46-L	1678'141		0.810		69.5 Tree Swallow Nestling Liver, AES	0.2471G	DRY	2.89U			T
A-TS-46-L	1678'141		0.810		69.5 Tree Swallow Nestling Liver, ICP-MS	0.2471G	DRY	0.379U			T
A-TS-46-L	1678'141		0.810		69.5 Tree Swallow Nestling Liver, ICP-MS	0.2471G	DRY	0.323U			T
A-TS-46-L	1678'141		0.810		69.5 Tree Swallow Nestling Liver, AES	0.2471G	DRY	3.83			T
A-TS-46-L	1678'141		0.810		69.5 Tree Swallow Nestling Liver, ICP-MS	0.2471G	DRY	20.1U			T
A-TS-46-L	1678'141		0.810		69.5 Tree Swallow Nestling Liver, FIAS	0.2471G	DRY	0.064U			T
A-TS-46-L	1678'141		0.810		69.5 Tree Swallow Nestling Liver, ICP-MS	0.2471G	DRY	0.555U			T
A-TS-46-L	1678'141		0.810		69.5 Tree Swallow Nestling Liver, AES	0.2471G	DRY	0.609			T
A-TS-46-L	1678'141		0.810		69.5 Tree Swallow Nestling Liver, AES	0.2471G	DRY	0.081U			T
A-TS-46-L	1678'141		0.810		69.5 Tree Swallow Nestling Liver, ICP-MS	0.2471G	DRY	0.201U			T
A-TS-46-L	1678'141		0.810		69.5 Tree Swallow Nestling Liver, ICP-MS	0.2471G	DRY	0.034U			T
A-TS-46-L	1678'141		0.810		69.5 Tree Swallow Nestling Liver, ICP-MS	0.2471G	DRY	0.039U			T
A-TS-46-L	1678'141		0.810		69.5 Tree Swallow Nestling Liver, ICP-MS	0.2471G	DRY	0.0623U			T

SAMPLE_NO	LAB_ID	LABORATORY	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	CASE	SPG_PARAMETER	CAS_NO	CLASS	METHOD	LAB_RESULT	UNITS	LAB_CLIA	IDL	MFL
A-TS-48-L	1678-141	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 THALLIUM	7440-28-0	M	L-42	0.00061	UG/G WET	J		0.023
A-TS-48-L	1678-141	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 LEAD	7439-92-1	M	L-42	0.01061	UG/G WET	J		0.023
A-TS-48-L	1678-141	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 MERCURY	7439-97-6	M	L-41	0.0421	UG/G WET	J		0.023
A-TS-48-L	1678-141	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 METHYL MERCURY	2987-92-6	M	L-40	0.0042	UG/G WET	J		0.0037
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 BERYLLIUM	7440-41-7	M	L-42	0.00105	UG/G WET	J		0.006
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 ALUMINUM	7429-90-5	M	L-44	0.207	UG/G WET	J		1.13
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 VANADIUM	7440-38-2	M	L-44	0.00478	UG/G WET	J		0.180
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 CHROMIUM	7440-47-3	M	L-44	0.0736	UG/G WET	J		0.271
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 MANGANESE	7439-96-5	M	L-44	1.52	UG/G WET	J		0.018
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 IRON	7439-98-6	M	L-44	4.65	UG/G WET	J		0.320
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 COBALT	7440-48-4	M	L-42	0.00912	UG/G WET	J		0.379
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 NICKEL	7440-32-0	M	L-42	0.0141	UG/G WET	J		0.323
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 COPPER	7440-50-8	M	L-42	3.82	UG/G WET	J		0.073
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 ZINC	7440-88-8	M	L-44	18.2	UG/G WET	J		0.108
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	11/07/01		3 ARSENIC	7439-92-1	M	L-42	0.0214	UG/G WET	J		0.024
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 SELENIUM	7439-92-1	M	MSL-I-30	0.553	UG/G WET	J		0.451
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 MOLYBDENUM	13858-06-5	M	L-42	0.825	UG/G WET	J		0.325
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 SILVER	7440-22-4	M	L-44	0.061	UG/G WET	J		0.061
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 CADMIUM	7440-43-8	M	L-42	0.0262	UG/G WET	J		0.201
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 ANTIMONY	7440-36-0	M	L-42	0.002810	UG/G WET	J		0.024
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 BARIUM	7440-38-3	M	L-42	0.0323	UG/G WET	J		0.011
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 THALLIUM	7440-28-0	M	L-42	0.00735	UG/G WET	J		0.023
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 LEAD	7439-92-1	M	L-41	0.0450	UG/G WET	J		0.022
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 MERCURY	7439-97-6	M	L-40	0.00263	UG/G WET	J		0.022
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 METHYL MERCURY	2987-92-6	M	L-40	0.002810	UG/G WET	J		0.023
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 BERYLLIUM	7440-41-7	M	L-40	0.00478	UG/G WET	J		0.037
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 ALUMINUM	7429-90-5	M	L-44	0.061	UG/G WET	J		0.005
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 VANADIUM	7440-38-2	M	L-44	0.00478	UG/G WET	J		1.13
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 CHROMIUM	7440-47-3	M	L-44	0.0736	UG/G WET	J		0.180
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 MANGANESE	7439-96-5	M	L-44	1.52	UG/G WET	J		0.018
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 IRON	7439-98-6	M	L-44	4.65	UG/G WET	J		0.320
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 COBALT	7440-48-4	M	L-42	0.00912	UG/G WET	J		0.379
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 NICKEL	7440-32-0	M	L-42	0.0141	UG/G WET	J		0.323
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 COPPER	7440-50-8	M	L-42	3.82	UG/G WET	J		0.073
A-TS-48-L	1678-142	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 ZINC	7440-88-8	M	L-44	18.2	UG/G WET	J		0.108
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 ARSENIC	7439-92-1	M	L-42	0.0214	UG/G WET	J		0.024
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 SELENIUM	7439-92-1	M	MSL-I-30	0.553	UG/G WET	J		0.451
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 MOLYBDENUM	13858-06-5	M	L-42	0.825	UG/G WET	J		0.325
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 SILVER	7440-22-4	M	L-44	0.061	UG/G WET	J		0.061
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 CADMIUM	7440-43-8	M	L-42	0.0262	UG/G WET	J		0.201
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 ANTIMONY	7440-36-0	M	L-42	0.002810	UG/G WET	J		0.024
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 BARIUM	7440-38-3	M	L-42	0.0323	UG/G WET	J		0.011
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 THALLIUM	7440-28-0	M	L-42	0.00735	UG/G WET	J		0.023
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 LEAD	7439-92-1	M	L-42	0.0450	UG/G WET	J		0.022
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 MERCURY	7439-97-6	M	L-40	0.00263	UG/G WET	J		0.022
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 METHYL MERCURY	2987-92-6	M	L-40	0.002810	UG/G WET	J		0.023
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 BERYLLIUM	7440-41-7	M	L-40	0.00478	UG/G WET	J		0.037
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 ALUMINUM	7429-90-5	M	L-44	0.061	UG/G WET	J		0.005
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 VANADIUM	7440-38-2	M	L-44	0.00478	UG/G WET	J		1.13
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 CHROMIUM	7440-47-3	M	L-44	0.0736	UG/G WET	J		0.180
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 MANGANESE	7439-96-5	M	L-44	1.52	UG/G WET	J		0.018
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 IRON	7439-98-6	M	L-44	4.65	UG/G WET	J		0.320
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 COBALT	7440-48-4	M	L-42	0.00912	UG/G WET	J		0.379
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 NICKEL	7440-32-0	M	L-42	0.0142	UG/G WET	J		0.323
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 COPPER	7440-50-8	M	L-42	3.83	UG/G WET	J		0.073
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 ZINC	7440-88-8	M	L-44	26.2	UG/G WET	J		0.108
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 ARSENIC	7439-92-1	M	L-42	0.0214	UG/G WET	J		0.024
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	11/07/01		3 SELENIUM	7439-92-1	M	MSL-I-30	0.774	UG/G WET	J		0.451
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 MOLYBDENUM	13858-06-5	M	L-42	0.788	UG/G WET	J		0.325
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	11/10/01		3 SILVER	7440-22-4	M	L-44	0.0173	UG/G WET	J		0.061
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 CADMIUM	7440-43-8	M	L-42	0.0526	UG/G WET	J		0.201
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 ANTIMONY	7440-36-0	M	L-42	0.0157	UG/G WET	J		0.024
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 BARIUM	7440-38-3	M	L-42	0.0740	UG/G WET	J		0.011
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 THALLIUM	7440-28-0	M	L-42	0.00915	UG/G WET	J		0.023
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 LEAD	7439-92-1	M	L-42	0.0285	UG/G WET	J		0.022
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 MERCURY	7439-97-6	M	L-41	0.0027	UG/G WET	J		0.022
A-TS-48-L	1678-143	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 METHYL MERCURY	2987-92-6	M	L-40	0.00478	UG/G WET	J		0.037
A-TS-48-L	1678-144	MSL	NORMAL	05/27/01	05/27/01	05/31/01		3 BERYLLIUM	7440-41-7	M	L-40	0.00263	UG/G WET	J		0.005
A-TS-48																

SAMPLE_NO	LAB_ID	ORDL_CORL_DIL_FACTOR	POT_HOIST_COMMENTS	SAMPLE_SIZE	SAMPLE_SIZE_UNITS	FINAL_RESULT	FINAL_QUAL	VALID	COMMENT	IFRACTION
A-TS-49-L	1678-141	0.610	69.5 Tree Swallow Nestling Liver, ICP-MS	0.247g	DRY	0.023U				T
A-TS-49-L	1678-141	0.610	69.5 Tree Swallow Nestling Liver, ICP-MS	0.247g	DRY	0.023U				T
A-TS-49-L	1678-141	0.610	69.5 Tree Swallow Nestling Liver, CVAA	0.247g	DRY	0.049J				T
A-TS-49-L	1678-141	1.00	69.5 Tree Swallow Nestling Liver, CVAF	0.084g	DRY	0.084J				T
A-TS-49-L	1678-142	0.671	61.7 Tree Swallow Nestling Liver, ICP-MS	0.295g	DRY	0.025U				T
A-TS-49-L	1678-142	0.671	61.7 Tree Swallow Nestling Liver, AES	0.295g	DRY	1.13U				T
A-TS-49-L	1678-142	0.671	61.7 Tree Swallow Nestling Liver, AES	0.295g	DRY	0.18U				T
A-TS-49-L	1678-142	0.671	61.7 Tree Swallow Nestling Liver, AES	0.295g	DRY	0.271U				T
A-TS-49-L	1678-142	0.671	61.7 Tree Swallow Nestling Liver, AES	0.295g	DRY	4.45J				T
A-TS-49-L	1678-142	0.671	61.7 Tree Swallow Nestling Liver, ICP-MS	0.295g	DRY	0.379U				T
A-TS-49-L	1678-142	0.671	61.7 Tree Swallow Nestling Liver, ICP-MS	0.295g	DRY	0.383U				T
A-TS-49-L	1678-142	0.671	61.7 Tree Swallow Nestling Liver, ICP-MS	0.295g	DRY	3.52				T
A-TS-49-L	1678-142	0.671	61.7 Tree Swallow Nestling Liver, ICP-MS	0.295g	DRY	16.2J				T
A-TS-49-L	1678-142	0.671	61.7 Tree Swallow Nestling Liver, AES	0.295g	DRY	0.034U				T
A-TS-49-L	1678-142	0.671	61.7 Tree Swallow Nestling Liver, ICP-MS	0.295g	DRY	0.023U				T
A-TS-49-L	1678-142	0.671	61.7 Tree Swallow Nestling Liver, ICP-MS	0.295g	DRY	0.283U				T
A-TS-49-L	1678-142	0.671	61.7 Tree Swallow Nestling Liver, CVAA	0.295g	DRY	0.049J				T
A-TS-49-L	1678-142	0.671	61.7 Tree Swallow Nestling Liver, AES	0.295g	DRY	0.038J				T
A-TS-57-L	1678-143	2.32	76.5 Tree Swallow Nestling Liver, ICP-MS	0.088g	DRY	0.005U				T
A-TS-57-L	1678-143	2.32	76.5 Tree Swallow Nestling Liver, AES	0.088g	DRY	1.13U				T
A-TS-57-L	1678-143	2.32	76.5 Tree Swallow Nestling Liver, AES	0.088g	DRY	0.18U				T
A-TS-57-L	1678-143	2.32	76.5 Tree Swallow Nestling Liver, AES	0.088g	DRY	0.289J				T
A-TS-57-L	1678-143	2.32	76.5 Tree Swallow Nestling Liver, AES	0.088g	DRY	1.84				T
A-TS-57-L	1678-143	2.32	76.5 Tree Swallow Nestling Liver, AES	0.088g	DRY	1.89J				T
A-TS-57-L	1678-143	2.32	76.5 Tree Swallow Nestling Liver, ICP-MS	0.088g	DRY	0.379U				T
A-TS-57-L	1678-143	2.32	76.5 Tree Swallow Nestling Liver, ICP-MS	0.088g	DRY	0.383U				T
A-TS-57-L	1678-143	2.32	76.5 Tree Swallow Nestling Liver, ICP-MS	0.088g	DRY	5.83				T
A-TS-57-L	1678-143	2.32	76.5 Tree Swallow Nestling Liver, AES	0.088g	DRY	26.2J				T
A-TS-57-L	1678-143	2.32	76.5 Tree Swallow Nestling Liver, ICP-MS	0.088g	DRY	0.0073U				T
A-TS-57-L	1678-143	2.32	76.5 Tree Swallow Nestling Liver, ICP-MS	0.088g	DRY	0.774J				T
A-TS-57-L	1678-143	2.32	76.5 Tree Swallow Nestling Liver, ICP-MS	0.088g	DRY	0.769				T
A-TS-57-L	1678-143	2.32	76.5 Tree Swallow Nestling Liver, AES	0.088g	DRY	0.0529J				T
A-TS-57-L	1678-143	2.32	76.5 Tree Swallow Nestling Liver, AES	0.088g	DRY	0.074U				T
A-TS-57-L	1678-143	2.32	76.5 Tree Swallow Nestling Liver, CVAF	0.088g	DRY	0.023U				T
A-TS-57-L	1678-143	2.32	76.5 Tree Swallow Nestling Liver, ICP-MS	0.088g	DRY	0.0285U				T
A-TS-57-L	1678-143	2.32	76.5 Tree Swallow Nestling Liver, CVAA	0.088g	DRY	0.0527				T
A-TS-57-L	1678-143	1.00	74.4 Tree Swallow Nestling Liver, ICP-MS	0.047g	DRY	0.0447				T
G-TS-02-L	1678-144	0.659	74.4 Tree Swallow Nestling Liver, AES	0.300g	DRY	0.006U				T
G-TS-02-L	1678-144	0.659	74.4 Tree Swallow Nestling Liver, AES	0.300g	DRY	1.13U				T
G-TS-02-L	1678-144	0.659	74.4 Tree Swallow Nestling Liver, AES	0.300g	DRY	0.18U				T
G-TS-02-L	1678-144	0.659	74.4 Tree Swallow Nestling Liver, AES	0.300g	DRY	0.271U				T
G-TS-02-L	1678-144	0.659	74.4 Tree Swallow Nestling Liver, AES	0.300g	DRY	1.08				T
G-TS-02-L	1678-144	0.659	74.4 Tree Swallow Nestling Liver, AES	0.300g	DRY	1.89U				T
G-TS-02-L	1678-144	0.659	74.4 Tree Swallow Nestling Liver, ICP-MS	0.300g	DRY	0.379U				T
G-TS-02-L	1678-144	0.659	74.4 Tree Swallow Nestling Liver, ICP-MS	0.300g	DRY	0.383U				T
G-TS-02-L	1678-144	0.659	74.4 Tree Swallow Nestling Liver, ICP-MS	0.300g	DRY	6.00				T
G-TS-02-L	1678-144	0.659	74.4 Tree Swallow Nestling Liver, ICP-MS	0.300g	DRY	22.8J				T
G-TS-02-L	1678-144	0.659	74.4 Tree Swallow Nestling Liver, AES	0.300g	DRY	0.034U				T
G-TS-02-L	1678-144	0.659	74.4 Tree Swallow Nestling Liver, ICP-MS	0.300g	DRY	0.004U				T
G-TS-02-L	1678-144	0.659	74.4 Tree Swallow Nestling Liver, ICP-MS	0.300g	DRY	0.489U				T
G-TS-02-L	1678-144	0.659	74.4 Tree Swallow Nestling Liver, ICP-MS	0.300g	DRY	0.54				T

SAMPLE_NO	LAB_ID	ORCL_ORCL	IDL_FACTOR	POT_MOIST	COMMENTS	SAMPLE_SIZE	SAMPLE_SIZE_UNITS	FINAL_RESULT	FINAL_QUAL	VALID_COMMENT	FRACTION
G-1S-02-L	1678144		0.659	74.4	Tree Swallow Nestling Liver, ICP-MS	0.300g	DRY	0.081U			T
G-1S-02-L	1678144		0.659	74.4	Tree Swallow Nestling Liver, ICP-MS	0.300g	DRY	0.201U			T
G-1S-02-L	1678144		0.659	74.4	Tree Swallow Nestling Liver, ICP-MS	0.300g	DRY	0.034U			T
G-1S-02-L	1678144		0.659	74.4	Tree Swallow Nestling Liver, ICP-MS	0.300g	DRY	0.0411U			T
G-1S-02-L	1678144		0.659	74.4	Tree Swallow Nestling Liver, ICP-MS	0.300g	DRY	0.023U			T
G-1S-02-L	1678144		0.659	74.4	Tree Swallow Nestling Liver, ICP-MS	0.300g	DRY	0.049U			T
G-1S-02-L	1678144		1.00	74.4	Tree Swallow Nestling Liver, CVAA	0.299g	DRY	0.026U			T
G-1S-02-L	1678144		0.652	66.7	Tree Swallow Nestling Liver, ICP-MS	0.299g	DRY	0.026U			T
G-1S-04-L	1678145		0.652	66.7	Tree Swallow Nestling Liver, AES	0.299g	DRY	1.13U			T
G-1S-04-L	1678145		0.652	66.7	Tree Swallow Nestling Liver, AES	0.299g	DRY	0.18U			T
G-1S-04-L	1678145		0.652	66.7	Tree Swallow Nestling Liver, AES	0.299g	DRY	0.271U			T
G-1S-04-L	1678145		0.652	66.7	Tree Swallow Nestling Liver, AES	0.299g	DRY	1.34			T
G-1S-04-L	1678145		0.652	66.7	Tree Swallow Nestling Liver, AES	0.299g	DRY	390J			T
G-1S-04-L	1678145		0.652	66.7	Tree Swallow Nestling Liver, ICP-MS	0.299g	DRY	0.379U			T
G-1S-04-L	1678145		0.652	66.7	Tree Swallow Nestling Liver, ICP-MS	0.299g	DRY	0.323U			T
G-1S-04-L	1678145		0.652	66.7	Tree Swallow Nestling Liver, ICP-MS	0.299g	DRY	4.70			T
G-1S-04-L	1678145		0.652	66.7	Tree Swallow Nestling Liver, AES	0.299g	DRY	19.6J			T
G-1S-04-L	1678145		0.652	66.7	Tree Swallow Nestling Liver, AES	0.299g	DRY	0.052U			T
G-1S-04-L	1678145		0.652	66.7	Tree Swallow Nestling Liver, AES	0.299g	DRY	0.461U			T
G-1S-04-L	1678145		0.652	66.7	Tree Swallow Nestling Liver, AES	0.299g	DRY	0.535			T
G-1S-04-L	1678145		0.652	66.7	Tree Swallow Nestling Liver, AES	0.299g	DRY	0.081U			T
G-1S-04-L	1678145		0.652	66.7	Tree Swallow Nestling Liver, ICP-MS	0.299g	DRY	0.201U			T
G-1S-04-L	1678145		0.652	66.7	Tree Swallow Nestling Liver, ICP-MS	0.299g	DRY	0.034U			T
G-1S-04-L	1678145		0.652	66.7	Tree Swallow Nestling Liver, ICP-MS	0.299g	DRY	0.0167U			T
G-1S-04-L	1678145		0.652	66.7	Tree Swallow Nestling Liver, ICP-MS	0.299g	DRY	0.023U			T
G-1S-04-L	1678145		0.652	66.7	Tree Swallow Nestling Liver, ICP-MS	0.299g	DRY	0.023U			T
G-1S-04-L	1678145		1.00	66.7	Tree Swallow Nestling Liver, CVAA	0.299g	DRY	0.026U			T
G-1S-07-L	1678146		0.677	66.6	Tree Swallow Nestling Liver, ICP-MS	0.298g	DRY	0.024U			T
G-1S-07-L	1678146		0.677	66.6	Tree Swallow Nestling Liver, AES	0.298g	DRY	1.13U			T
G-1S-07-L	1678146		0.677	66.6	Tree Swallow Nestling Liver, AES	0.298g	DRY	0.18U			T
G-1S-07-L	1678146		0.677	66.6	Tree Swallow Nestling Liver, AES	0.298g	DRY	0.271U			T
G-1S-07-L	1678146		0.677	66.6	Tree Swallow Nestling Liver, AES	0.298g	DRY	0.697			T
G-1S-07-L	1678146		0.677	66.6	Tree Swallow Nestling Liver, AES	0.298g	DRY	217J			T
G-1S-07-L	1678146		0.677	66.6	Tree Swallow Nestling Liver, ICP-MS	0.298g	DRY	0.379U			T
G-1S-07-L	1678146		0.677	66.6	Tree Swallow Nestling Liver, ICP-MS	0.298g	DRY	0.323U			T
G-1S-07-L	1678146		0.677	66.6	Tree Swallow Nestling Liver, AES	0.298g	DRY	6.46			T
G-1S-07-L	1678146		0.677	66.6	Tree Swallow Nestling Liver, AES	0.298g	DRY	19.5J			T
G-1S-07-L	1678146		0.677	66.6	Tree Swallow Nestling Liver, CVAA	0.298g	DRY	0.024U			T
G-1S-07-L	1678146		0.677	66.6	Tree Swallow Nestling Liver, ICP-MS	0.298g	DRY	0.024U			T
G-1S-07-L	1678146		0.677	66.6	Tree Swallow Nestling Liver, ICP-MS	0.298g	DRY	0.034U			T
G-1S-07-L	1678146		0.677	66.6	Tree Swallow Nestling Liver, ICP-MS	0.298g	DRY	0.0167U			T
G-1S-07-L	1678146		0.677	66.6	Tree Swallow Nestling Liver, ICP-MS	0.298g	DRY	0.023U			T
G-1S-07-L	1678146		0.677	66.6	Tree Swallow Nestling Liver, ICP-MS	0.298g	DRY	0.023U			T
G-1S-07-L	1678146		1.00	66.6	Tree Swallow Nestling Liver, CVAA	0.298g	DRY	0.026U			T
G-1S-22-L	1678147		0.654	69.2	Tree Swallow Nestling Liver, ICP-MS	0.293g	DRY	0.0357			T
G-1S-22-L	1678147		0.654	69.2	Tree Swallow Nestling Liver, AES	0.293g	DRY	1.13U			T
G-1S-22-L	1678147		0.654	69.2	Tree Swallow Nestling Liver, AES	0.293g	DRY	0.18U			T
G-1S-22-L	1678147		0.654	69.2	Tree Swallow Nestling Liver, AES	0.293g	DRY	0.271U			T
G-1S-22-L	1678147		0.654	69.2	Tree Swallow Nestling Liver, AES	0.293g	DRY	1.21			T
G-1S-22-L	1678147		0.654	69.2	Tree Swallow Nestling Liver, AES	0.293g	DRY	365J			T
G-1S-22-L	1678147		0.654	69.2	Tree Swallow Nestling Liver, ICP-MS	0.293g	DRY	0.379U			T
G-1S-22-L	1678147		0.654	69.2	Tree Swallow Nestling Liver, ICP-MS	0.293g	DRY	0.323U			T
G-1S-22-L	1678147		0.654	69.2	Tree Swallow Nestling Liver, ICP-MS	0.293g	DRY	3.29			T

SAMPLE_NO	LAB_ID	LABORATORY	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	CASE_NO	SDG_PARAMETER	GAS_NO	CLASS	METHOD	LAB_RESULT	UNITS	LAB_QUAL	INDI	MDL
G-7S-22-1	1678147	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7400-05-2	ZINC	7400-05-2	M	L-42	18.2	UG/G WET	J		0.108
G-7S-22-1	1678147	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7400-05-2	ARSENIC	7400-05-2	M	L-42	0.0942	UG/G WET	J		0.034
G-7S-22-1	1678147	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7782-49-2	SILICENIUM	7782-49-2	M	MSL-L-50	0.571	UG/G WET	J		0.451
G-7S-22-1	1678147	MSL	NORMAL	09/07/01	09/27/01	11/03/01	13838-06-5	SIMOLYBDENUM	13838-06-5	M	L-42	0.601	UG/G WET	J		0.365
G-7S-22-1	1678147	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-22-4	SILVER	7440-22-4	M	L-42	0.00849	UG/G WET	J		0.001
G-7S-22-1	1678147	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-08-8	CADMIUM	7440-08-8	M	L-42	0.00115	UG/G WET	J		0.201
G-7S-22-1	1678147	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-08-8	SANTIMONY	7440-08-8	M	L-42	0.000398	UG/G WET	J		0.034
G-7S-22-1	1678147	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-08-8	SILURIUM	7440-08-8	M	L-42	0.0174	UG/G WET	J		0.011
G-7S-22-1	1678147	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7439-92-1	LEAD	7439-92-1	M	L-42	0.00470	UG/G WET	J		0.023
G-7S-22-1	1678147	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7439-92-1	SILICENIUM	7439-92-1	M	L-42	0.0106	UG/G WET	J		0.023
G-7S-22-1	1678147	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7439-92-1	SILICENIUM	7439-92-1	M	L-42	0.0119	UG/G WET	J		0.023
G-7S-22-1	1678147	MSL	NORMAL	09/07/01	09/27/01	11/03/01	23867-82-6	SIMETHYLMERCURY	23867-82-6	M	L-40	0.00560	UG/G WET	J		0.0037
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7439-92-1	SILICENIUM	7439-92-1	M	L-42	0.00942	UG/G WET	J		0.005
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-47-3	SILICENIUM	7440-47-3	M	L-44	0.637	UG/G WET	J		1.13
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-47-3	SILICENIUM	7440-47-3	M	L-44	0.00632	UG/G WET	J		0.271
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7439-92-1	SILICENIUM	7439-92-1	M	L-44	1.22	UG/G WET	J		0.016
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7439-92-1	SILICENIUM	7439-92-1	M	L-44	0.21	UG/G WET	J		0.320
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-48-4	SILICENIUM	7440-48-4	M	L-42	0.00920	UG/G WET	J		0.376
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-48-4	SILICENIUM	7440-48-4	M	L-42	0.0157	UG/G WET	J		0.376
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-50-8	SILICENIUM	7440-50-8	M	L-42	0.00342	UG/G WET	J		0.079
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-50-8	SILICENIUM	7440-50-8	M	L-42	18.6	UG/G WET	J		0.108
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-50-8	SILICENIUM	7440-50-8	M	L-42	0.0073	UG/G WET	B		0.034
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7782-49-2	SILICENIUM	7782-49-2	M	MSL-L-50	0.568	UG/G WET	B		0.451
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	13838-06-5	SIMOLYBDENUM	13838-06-5	M	L-42	0.537	UG/G WET	J		0.292
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-22-4	SILVER	7440-22-4	M	L-44	0.00914	UG/G WET	J		0.051
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-22-4	SILVER	7440-22-4	M	L-42	0.00942	UG/G WET	J		0.034
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-08-8	SILICENIUM	7440-08-8	M	L-42	0.01653	UG/G WET	B		0.021
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-08-8	SILICENIUM	7440-08-8	M	L-42	0.00582	UG/G WET	J		0.023
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7439-92-1	SILICENIUM	7439-92-1	M	L-42	0.0137	UG/G WET	J		0.023
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7439-92-1	SILICENIUM	7439-92-1	M	L-40	0.00366	UG/G WET	J		0.0037
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	23867-82-6	SIMETHYLMERCURY	23867-82-6	M	L-40	0.000898	UG/G WET	J		0.005
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7439-92-1	SILICENIUM	7439-92-1	M	L-42	1.30	UG/G WET	J		1.13
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-62-2	SILICENIUM	7440-62-2	M	L-44	0.160	UG/G WET	U		0.160
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-62-2	SILICENIUM	7440-62-2	M	L-44	0.0702	UG/G WET	J		0.271
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7439-92-1	SILICENIUM	7439-92-1	M	L-44	1.15	UG/G WET	J		0.016
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7439-92-1	SILICENIUM	7439-92-1	M	L-44	2.44	UG/G WET	J		0.320
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-48-4	SILICENIUM	7440-48-4	M	L-42	0.0124	UG/G WET	J		0.376
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-08-8	SILICENIUM	7440-08-8	M	L-42	0.0228	UG/G WET	J		0.225
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-50-8	SILICENIUM	7440-50-8	M	L-42	20.2	UG/G WET	J		0.108
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-68-8	SILICENIUM	7440-68-8	M	L-44	0.0414	UG/G WET	B		0.034
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7782-49-2	SILICENIUM	7782-49-2	M	MSL-L-50	0.576	UG/G WET	J		0.451
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	13838-06-5	SIMOLYBDENUM	13838-06-5	M	L-42	0.566	UG/G WET	J		0.292
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-22-4	SILVER	7440-22-4	M	L-44	0.001	UG/G WET	U		0.051
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-08-8	SILICENIUM	7440-08-8	M	L-42	0.0125	UG/G WET	J		0.201
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-08-8	SILICENIUM	7440-08-8	M	L-42	0.00352	UG/G WET	J		0.034
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-28-0	SILICENIUM	7440-28-0	M	L-42	0.00378	UG/G WET	J		0.023
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7439-92-1	SILICENIUM	7439-92-1	M	L-42	0.181	UG/G WET	J		0.023
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	23867-82-6	SIMETHYLMERCURY	23867-82-6	M	L-40	0.00311	UG/G WET	J		0.0037
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-47-3	SILICENIUM	7440-47-3	M	L-42	0.0053	UG/G WET	U		0.005
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-47-3	SILICENIUM	7440-47-3	M	L-44	0.005	UG/G WET	J		0.005
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-62-2	SILICENIUM	7440-62-2	M	L-44	0.00221	UG/G WET	J		0.113
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7440-47-3	SILICENIUM	7440-47-3	M	L-44	0.0058	UG/G WET	J		0.271
G-7S-22-1	1678148	MSL	NORMAL	09/07/01	09/27/01	11/03/01	7439-92-1	SILICENIUM	7439-92-1	M	L-44	1.27	UG/G WET	J		0.016

SAMPLE_NO	LAS_ID	OPRD_CRCL	DIL_FACTOR	POT_MOIST	COMMENTS	SAMPLE_SIZE	SAMPLE_SIZE_UNITS	FINAL_RESULT	FINAL_QUAL	VALID_COMMENT	FRACTION
Q-15-29-L	1678147		0.654		69.2 Tree Swallow Nestling Layer, AES	0.303G	DRY	16.2J			T
Q-15-29-L	1678147		0.654		69.2 Tree Swallow Nestling Layer, ICP-MS	0.303G	DRY	0.094U			T
Q-15-29-L	1678147		0.654		69.2 Tree Swallow Nestling Layer, FIAS	0.303G	DRY	0.571U			T
Q-15-29-L	1678147		0.654		69.2 Tree Swallow Nestling Layer, ICP-AES	0.303G	DRY	0.601			T
Q-15-29-L	1678147		0.654		69.2 Tree Swallow Nestling Layer, AES	0.303G	DRY	0.081U			T
Q-15-29-L	1678147		0.654		69.2 Tree Swallow Nestling Layer, ICP-MS	0.303G	DRY	0.201U			T
Q-15-29-L	1678147		0.654		69.2 Tree Swallow Nestling Layer, ICP-MS	0.303G	DRY	0.034U			T
Q-15-29-L	1678147		0.654		69.2 Tree Swallow Nestling Layer, ICP-MS	0.303G	DRY	0.011U			T
Q-15-29-L	1678147		0.654		69.2 Tree Swallow Nestling Layer, ICP-MS	0.303G	DRY	0.023U			T
Q-15-29-L	1678147		0.654		69.2 Tree Swallow Nestling Layer, CVAA	0.303G	DRY	0.049U			T
Q-15-29-L	1678147		0.654		69.2 Tree Swallow Nestling Layer, CVAF	0.303G	DRY	0.023U			T
Q-15-29-L	1678147		0.654		69.2 Tree Swallow Nestling Layer, CVAA	0.303G	DRY	0.049U			T
Q-15-29-L	1678147		1.00		69.2 Tree Swallow Nestling Layer, CVAF	0.076G	DRY	0.0260			T
Q-15-29-L	1678148		0.705		69.5 Tree Swallow Nestling Layer, ICP-MS	0.295G	DRY	0.005U			T
Q-15-29-L	1678148		0.705		69.5 Tree Swallow Nestling Layer, AES	0.295G	DRY	1.18U			T
Q-15-29-L	1678148		0.705		69.5 Tree Swallow Nestling Layer, AES	0.295G	DRY	0.18U			T
Q-15-29-L	1678148		0.705		69.5 Tree Swallow Nestling Layer, AES	0.295G	DRY	0.271U			T
Q-15-29-L	1678148		0.705		69.5 Tree Swallow Nestling Layer, AES	0.295G	DRY	1.22			T
Q-15-29-L	1678148		0.705		69.5 Tree Swallow Nestling Layer, AES	0.295G	DRY	0.011U			T
Q-15-29-L	1678148		0.705		69.5 Tree Swallow Nestling Layer, ICP-MS	0.295G	DRY	0.379U			T
Q-15-29-L	1678148		0.705		69.5 Tree Swallow Nestling Layer, ICP-MS	0.295G	DRY	0.303U			T
Q-15-29-L	1678148		0.705		69.5 Tree Swallow Nestling Layer, ICP-MS	0.295G	DRY	5.60			T
Q-15-29-L	1678148		0.705		69.5 Tree Swallow Nestling Layer, ICP-MS	0.295G	DRY	16.5J			T
Q-15-29-L	1678148		0.705		69.5 Tree Swallow Nestling Layer, ICP-MS	0.295G	DRY	0.0573U			T
Q-15-29-L	1678148		0.705		69.5 Tree Swallow Nestling Layer, ICP-MS	0.295G	DRY	0.023U			T
Q-15-29-L	1678148		0.705		69.5 Tree Swallow Nestling Layer, ICP-MS	0.295G	DRY	0.023U			T
Q-15-29-L	1678148		0.705		69.5 Tree Swallow Nestling Layer, CVAA	0.295G	DRY	0.0366			T
Q-15-29-L	1678148		0.705		69.5 Tree Swallow Nestling Layer, CVAF	0.295G	DRY	0.0367			T
Q-15-29-L	1678148		1.00		71.5 Tree Swallow Nestling Layer, ICP-MS	0.297G	DRY	0.005U			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, AES	0.297G	DRY	1.8U			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, AES	0.297G	DRY	0.18U			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, AES	0.297G	DRY	0.271U			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, AES	0.297G	DRY	1.15			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, AES	0.297G	DRY	244J			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, AES	0.297G	DRY	0.379U			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, ICP-MS	0.297G	DRY	0.203U			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, ICP-MS	0.297G	DRY	20.2J			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, ICP-MS	0.297G	DRY	0.0414U			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, ICP-MS	0.297G	DRY	0.576U			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, ICP-MS	0.297G	DRY	0.508			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, AES	0.297G	DRY	0.081U			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, ICP-MS	0.297G	DRY	0.201U			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, ICP-MS	0.297G	DRY	0.034U			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, ICP-MS	0.297G	DRY	0.0375U			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, ICP-MS	0.297G	DRY	0.023U			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, CVAA	0.297G	DRY	0.181U			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, CVAF	0.297G	DRY	0.0511			T
Q-15-29-L	1678148		0.655		71.5 Tree Swallow Nestling Layer, CVAA	0.297G	DRY	0.0363			T
Q-15-29-L	1678150		0.655		71.4 Tree Swallow Nestling Layer, ICP-MS	0.301G	DRY	0.005U			T
Q-15-29-L	1678150		0.655		71.4 Tree Swallow Nestling Layer, AES	0.301G	DRY	1.13U			T
Q-15-29-L	1678150		0.655		71.4 Tree Swallow Nestling Layer, AES	0.301G	DRY	0.18U			T
Q-15-29-L	1678150		0.655		71.4 Tree Swallow Nestling Layer, AES	0.301G	DRY	0.271U			T
Q-15-29-L	1678150		0.655		71.4 Tree Swallow Nestling Layer, AES	0.301G	DRY	1.27			T

SAMPLE NO	LAB_ID	CRIDL_CRIDL	DIL_FACTOR	PCT_MOIST	COMMENTS	SAMPLE_SIZE	SAMPLE_SIZE_UNITS	FINAL_RESULT	FINAL_QUAL	INVALID	COMMENT	FRACTION
L-7S-63-L	1678*150		0.655		71.4 Tree Swallow Nestling Liver, AES	0.301G	DRY	100J				T
L-7S-63-L	1678*150		0.655		71.4 Tree Swallow Nestling Liver, ICP-MS	0.301G	DRY	0.378U				T
L-7S-63-L	1678*150		0.655		71.4 Tree Swallow Nestling Liver, ICP-MS	0.301G	DRY	0.323U				T
L-7S-63-L	1678*150		0.655		71.4 Tree Swallow Nestling Liver, ICP-MS	0.301G	DRY	5.19				T
L-7S-63-L	1678*150		0.655		71.4 Tree Swallow Nestling Liver, AES	0.301G	DRY	21.4J				T
L-7S-63-L	1678*150		0.655		71.4 Tree Swallow Nestling Liver, ICP-MS	0.301G	DRY	0.024U				T
L-7S-63-L	1678*150		0.655		71.4 Tree Swallow Nestling Liver, ICP-MS	0.301G	DRY	0.54U				T
L-7S-63-L	1678*150		0.655		71.4 Tree Swallow Nestling Liver, AES	0.301G	DRY	0.56				T
L-7S-63-L	1678*150		0.655		71.4 Tree Swallow Nestling Liver, ICP-MS	0.301G	DRY	0.061U				T
L-7S-63-L	1678*150		0.655		71.4 Tree Swallow Nestling Liver, ICP-MS	0.301G	DRY	0.201U				T
L-7S-63-L	1678*150		0.655		71.4 Tree Swallow Nestling Liver, ICP-MS	0.301G	DRY	0.034U				T
L-7S-63-L	1678*150		0.655		71.4 Tree Swallow Nestling Liver, ICP-MS	0.301G	DRY	0.041U				T
L-7S-63-L	1678*150		0.655		71.4 Tree Swallow Nestling Liver, ICP-MS	0.301G	DRY	0.023U				T
L-7S-63-L	1678*150		0.655		71.4 Tree Swallow Nestling Liver, ICP-MS	0.301G	DRY	0.023U				T
L-7S-63-L	1678*150		0.655		71.4 Tree Swallow Nestling Liver, AES	0.301G	DRY	0.0511				T
L-7S-63-L	1678*150		0.655		71.4 Tree Swallow Nestling Liver, CVAF	0.297G	DRY	0.0357				T
L-7S-63-L	1678*150		1.00		71.4 Tree Swallow Nestling Liver, CVAF	0.297G	DRY	0.005U				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, ICP-MS	0.296G	DRY	1.13U				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, AES	0.296G	DRY	0.18U				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, AES	0.296G	DRY	0.271U				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, AES	0.296G	DRY	1.27				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, AES	0.296G	DRY	397U				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, ICP-MS	0.296G	DRY	0.379U				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, ICP-MS	0.296G	DRY	0.323U				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, ICP-MS	0.296G	DRY	4.20				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, AES	0.296G	DRY	21.4J				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, ICP-MS	0.296G	DRY	0.034U				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, ICP-MS	0.296G	DRY	0.553U				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, ICP-MS	0.296G	DRY	0.804				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, AES	0.296G	DRY	0.061U				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, ICP-MS	0.296G	DRY	0.201U				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, ICP-MS	0.296G	DRY	0.034U				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, ICP-MS	0.296G	DRY	0.0205U				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, ICP-MS	0.296G	DRY	0.020U				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, ICP-MS	0.296G	DRY	0.023U				T
L-7S-70-L	1678*151		0.674		70.7 Tree Swallow Nestling Liver, CVAF	0.297G	DRY	0.0550				T
L-7S-70-L	1678*151		1.00		70.7 Tree Swallow Nestling Liver, CVAF	0.297G	DRY	0.0470				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, ICP-MS	0.297G	DRY	0.005U				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, AES	0.297G	DRY	1.13U				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, AES	0.297G	DRY	0.18U				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, AES	0.297G	DRY	0.271U				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, AES	0.297G	DRY	1.03				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, AES	0.297G	DRY	293J				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, ICP-MS	0.297G	DRY	0.379U				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, ICP-MS	0.297G	DRY	0.323U				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, ICP-MS	0.297G	DRY	5.27				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, AES	0.297G	DRY	17.6J				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, ICP-MS	0.297G	DRY	0.024U				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, ICP-MS	0.297G	DRY	0.463U				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, ICP-MS	0.297G	DRY	0.473				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, AES	0.297G	DRY	0.061U				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, ICP-MS	0.297G	DRY	0.201U				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, ICP-MS	0.297G	DRY	0.034U				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, ICP-MS	0.297G	DRY	0.023U				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, ICP-MS	0.297G	DRY	0.0111U				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, ICP-MS	0.297G	DRY	0.023U				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, ICP-MS	0.297G	DRY	0.0388U				T
L-7S-64-L	1678*152		0.672		66.0 Tree Swallow Nestling Liver, CVAF	0.297G	DRY	0.0265				T
L-7S-64-L	1678*152		1.00		66.0 Tree Swallow Nestling Liver, CVAF	0.296G	DRY	0.0201				T
L-7S-64-L	1678*153		0.664		70.1 Tree Swallow Nestling Liver, ICP-MS	0.296G	DRY	0.026U				T

SAMPLE_NO	LAB_ID	LABORATORY	OC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	CASE_NO	STD_PARAMETER	CAS_NO	CLASS	METHOD	LAB_RESULT	UNITS	LAB_QUAL_ID	MDL
L-TS-89-L	1678-153	MSL	NORMAL	06/12/01	06/27/01	11/10/01		3-ALUMINUM	7429-90-5	IM	L-44	0.774	UG/G WET	J	1.13
L-TS-89-L	1678-153	MSL	NORMAL	06/12/01	06/27/01	11/10/01		3-VANADIUM	7440-82-2	IM	L-44	0.0287	UG/G WET	J	0.160
L-TS-89-L	1678-153	MSL	NORMAL	06/12/01	06/27/01	11/10/01		3-CROMIUM	7440-47-3	IM	L-44	0.0507	UG/G WET	J	0.271
L-TS-89-L	1678-153	MSL	NORMAL	06/12/01	06/27/01	11/10/01		3-MANGANESE	7439-96-6	IM	L-44	1.04	UG/G WET	J	0.016
L-TS-89-L	1678-153	MSL	NORMAL	06/12/01	06/27/01	11/10/01		3-NICKEL	7440-48-4	IM	L-42	0.00594	UG/G WET	J	0.378
L-TS-89-L	1678-153	MSL	NORMAL	06/12/01	06/27/01	11/10/01		3-COPPER	7440-50-9	IM	L-42	7.61	UG/G WET	J	0.023
L-TS-89-L	1678-153	MSL	NORMAL	06/12/01	06/27/01	11/10/01		3-ZINC	7440-68-8	IM	L-44	0.0243	UG/G WET	J	0.108
L-TS-89-L	1678-153	MSL	NORMAL	06/12/01	06/27/01	11/10/01		3-ARSENIC	7782-49-2	IM	MSL-I-50	0.465	UG/G WET	J	0.451
L-TS-89-L	1678-153	MSL	NORMAL	06/12/01	06/27/01	11/10/01		3-MOLYBDENUM	7440-62-4	IM	L-42	0.563	UG/G WET	J	0.325
L-TS-89-L	1678-153	MSL	NORMAL	06/12/01	06/27/01	11/10/01		3-SILVER	7440-39-3	IM	L-42	0.0314	UG/G WET	J	0.081
L-TS-89-L	1678-153	MSL	NORMAL	06/12/01	06/27/01	11/10/01		3-CADMIUM	7440-38-5	IM	L-42	0.001762	UG/G WET	J	0.034
L-TS-89-L	1678-153	MSL	NORMAL	06/12/01	06/27/01	11/10/01		3-BARIUM	7440-28-0	IM	L-42	0.00445	UG/G WET	J	0.025
L-TS-89-L	1678-153	MSL	NORMAL	06/12/01	06/27/01	11/10/01		3-THALLIUM	7440-38-5	IM	L-42	0.0112	UG/G WET	J	0.023
L-TS-89-L	1678-153	MSL	NORMAL	06/12/01	06/27/01	11/10/01		3-MERCURY	7439-97-6	IM	L-41	0.0316	UG/G WET	J	0.023
L-TS-89-L	1678-153	MSL	NORMAL	06/12/01	06/27/01	11/10/01		3-METHYL MERCURY	22967-92-6	IM	L-40	0.00060	UG/G WET	J	0.0037
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-BERYLLIUM	7440-41-7	IM	L-42	0.00448	UG/G DRY	J	0.016
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-ALUMINUM	7429-90-5	IM	L-44	0.970	UG/G DRY	J	4.0
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-VANADIUM	7440-82-2	IM	L-44	0.0138	UG/G DRY	J	0.64
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-CROMIUM	7440-47-3	IM	L-44	0.0287	UG/G DRY	J	0.96
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-MANGANESE	7439-96-6	IM	L-44	0.094	UG/G DRY	J	0.004
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-IRON	7439-89-8	IM	L-44	0.0021	UG/G DRY	J	1.12
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-COBALT	7440-48-4	IM	L-42	0.00027	UG/G DRY	J	1.34
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-NICKEL	7440-48-4	IM	L-42	0.0182	UG/G DRY	J	1.14
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-COPPER	7440-50-9	IM	L-42	0.00118	UG/G DRY	J	0.226
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-ZINC	7440-68-8	IM	L-44	0.374	UG/G DRY	J	0.354
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-ARSENIC	7782-49-2	IM	L-42	0.194	UG/G DRY	J	0.12
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-SELENIUM	7782-49-2	IM	MSL-I-50	0.145	UG/G DRY	J	1.6
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-MOLYBDENUM	7440-62-4	IM	L-42	0.0514	UG/G DRY	J	1.15
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-SILVER	7440-39-3	IM	L-44	0.0284	UG/G DRY	J	0.216
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-CADMIUM	7440-43-9	IM	L-42	0.00088	UG/G DRY	J	0.712
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-ANTIMONY	7440-36-0	IM	L-42	0.0521	UG/G DRY	J	0.12
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-BARIUM	7440-39-3	IM	L-42	0.0571	UG/G DRY	J	0.04
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-THALLIUM	7440-28-0	IM	L-42	0.0115	UG/G DRY	J	0.06
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-LEAD	7439-92-1	IM	L-42	0.0086	UG/G DRY	J	0.06
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-MERCURY	7439-97-6	IM	L-41	0.009	UG/G DRY	J	0.008
BLANK R1	1678-153	MSL	P- BLANK	06/27/01	06/27/01	11/10/01		3-METHYL MERCURY	22967-92-6	IM	L-40	0.01	UG/G DRY	J	0.013
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-ALUMINUM	7429-90-5	IM	L-44	301	% DIFFERENCE	J	4.0
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-CROMIUM	7440-47-3	IM	L-44	335	% DIFFERENCE	J	0.96
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-MANGANESE	7439-96-6	IM	L-44	31	% DIFFERENCE	J	0.084
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-IRON	7439-89-8	IM	L-44	81	% DIFFERENCE	J	1.12
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-COBALT	7440-48-4	IM	L-42	14	% DIFFERENCE	J	1.34
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-NICKEL	7440-48-4	IM	L-42	18	% DIFFERENCE	J	1.14
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-COPPER	7440-50-9	IM	L-42	51	% DIFFERENCE	J	0.226
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-ZINC	7440-68-8	IM	L-44	51	% DIFFERENCE	J	0.354
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-ARSENIC	7782-49-2	IM	L-42	11	% DIFFERENCE	J	0.12
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-SELENIUM	7782-49-2	IM	MSL-I-50	18	% DIFFERENCE	J	1.6
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-MOLYBDENUM	7440-62-4	IM	L-42	11	% DIFFERENCE	J	1.15
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-SILVER	7440-39-3	IM	L-44	0.0284	UG/G DRY	J	0.216
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-CADMIUM	7440-43-9	IM	L-42	0.00088	UG/G DRY	J	0.712
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-ANTIMONY	7440-36-0	IM	L-42	0.0521	UG/G DRY	J	0.12
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-BARIUM	7440-39-3	IM	L-42	0.0571	UG/G DRY	J	0.04
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-THALLIUM	7440-28-0	IM	L-42	0.0115	UG/G DRY	J	0.06
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-LEAD	7439-92-1	IM	L-42	0.0086	UG/G DRY	J	0.06
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-MERCURY	7439-97-6	IM	L-41	0.009	UG/G DRY	J	0.008
DOCK-T-2 R1	1678-153	MSL	SRM	06/27/01	06/27/01	11/10/01		3-METHYL MERCURY	22967-92-6	IM	L-40	0.01	UG/G DRY	J	0.013
BLANK SPIKE	1678-153	MSL	LCS	06/27/01	06/27/01	11/10/01		3-BERYLLIUM	7440-41-7	IM	L-42	92	% RECOVERY	J	0.016
BLANK SPIKE	1678-153	MSL	LCS	06/27/01	06/27/01	11/10/01		3-ALUMINUM	7429-90-5	IM	L-44	92	% RECOVERY	J	4.0

SAMPLE NO	LAB ID	LABORATORY	QC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CASE	SDG	PARAMETER	CAS_NO	CLASS	METHOD	LAB_RESULT	UNITS	LAB_QUAL	IDL	MDL
A-TS-48L	BLANK SPIKE	MSL	LCS	06/27/01	06/27/01	11/10/01			VARADHUM	7440-82-2	M	L-44	105% RECOVERY		0.04		
A-TS-48L	BLANK SPIKE	MSL	LCS	06/27/01	06/27/01	11/10/01			CHROMIUM	7440-47-3	M	L-44	95% RECOVERY		0.95		
A-TS-48L	BLANK SPIKE	MSL	LCS	06/27/01	06/27/01	11/10/01			MANGANESE	7439-96-5	M	L-44	95% RECOVERY		0.95		
A-TS-48L	BLANK SPIKE	MSL	LCS	06/27/01	06/27/01	11/10/01			IRON	7439-89-6	M	L-44	141% RECOVERY		1.12		
A-TS-48L	BLANK SPIKE	MSL	LCS	06/27/01	06/27/01	11/10/01			COBALT	7440-48-4	M	L-42	104% RECOVERY		1.34		
A-TS-48L	BLANK SPIKE	MSL	LCS	06/27/01	06/27/01	11/10/01			NICKEL	7440-02-0	M	L-42	98% RECOVERY		1.14		
A-TS-48L	BLANK SPIKE	MSL	LCS	06/27/01	06/27/01	11/10/01			COPPER	7440-50-8	M	L-42	94% RECOVERY		0.95		
A-TS-48L	BLANK SPIKE	MSL	LCS	06/27/01	06/27/01	11/10/01			ZINC	7440-66-6	M	L-44	96% RECOVERY		0.96		
A-TS-48L	BLANK SPIKE	MSL	LCS	06/27/01	06/27/01	11/10/01			ARSENIC	7440-38-2	M	L-42	121% RECOVERY		1.12		
A-TS-48L	BLANK SPIKE	MSL	LCS	06/27/01	06/27/01	11/10/01			SELENIUM	7782-49-2	M	MSL-I-30	71% RECOVERY		1.5		
A-TS-48L	BLANK SPIKE	MSL	LCS	06/27/01	06/27/01	11/10/01			MOLYBDENUM	13858-06-5	M	L-42	100% RECOVERY		1.15		
A-TS-48L	BLANK SPIKE	MSL	LCS	06/27/01	06/27/01	11/10/01			SILVER	7440-22-4	M	L-44	100% RECOVERY		0.218		
A-TS-48L	BLANK SPIKE	MSL	LCS	06/27/01	06/27/01	11/10/01			CADMIUM	7440-43-9	M	L-42	95% RECOVERY		0.712		
A-TS-48L	BLANK SPIKE	MSL	LCS	06/27/01	06/27/01	11/10/01			ANTHRONY	7440-36-0	M	L-42	97% RECOVERY		0.12		
A-TS-48L	BLANK SPIKE	MSL	LCS	06/27/01	06/27/01	11/10/01			BARLIUM	7440-38-3	M	L-42	104% RECOVERY		0.04		
A-TS-48L	BLANK SPIKE	MSL	LCS	06/27/01	06/27/01	11/10/01			THALLIUM	7440-28-0	M	L-42	107% RECOVERY		0.08		
A-TS-48L	BLANK SPIKE	MSL	LCS	06/27/01	06/27/01	11/10/01			LEAD	7439-92-1	M	L-42	107% RECOVERY		0.09		
A-TS-48L	BLANK SPIKE	MSL	LCS	06/27/01	06/27/01	11/10/01			MERCURY	7439-97-6	M	L-41	90% RECOVERY		0.009		
A-TS-48L	BLANK SPIKE	MSL	MS	06/07/01	06/27/01	06/01/01			BERYLLIUM	7440-41-7	M	L-42	90% RECOVERY		0.016		
A-TS-48L	MATRIX SPIKE 1678141	MSL	MS	06/07/01	06/27/01	11/10/01			ALUMINIUM	7429-98-5	M	L-44	100% RECOVERY		4.0		
A-TS-48L	MATRIX SPIKE 1678141	MSL	MS	06/07/01	06/27/01	11/10/01			VARADHUM	7440-82-2	M	L-44	95% RECOVERY		0.94		
A-TS-48L	MATRIX SPIKE 1678141	MSL	MS	06/07/01	06/27/01	11/10/01			CHROMIUM	7440-47-3	M	L-44	102% RECOVERY		0.95		
A-TS-48L	MATRIX SPIKE 1678141	MSL	MS	06/07/01	06/27/01	11/10/01			MANGANESE	7439-96-5	M	L-44	97% RECOVERY		0.95		
A-TS-48L	MATRIX SPIKE 1678141	MSL	MS	06/07/01	06/27/01	11/10/01			IRON	7439-89-6	M	L-44	102% RECOVERY		1.12		
A-TS-48L	MATRIX SPIKE 1678141	MSL	MS	06/07/01	06/27/01	11/10/01			COBALT	7440-48-4	M	L-42	98% RECOVERY		1.34		
A-TS-48L	MATRIX SPIKE 1678141	MSL	MS	06/07/01	06/27/01	11/10/01			NICKEL	7440-02-0	M	L-42	91% RECOVERY		1.14		
A-TS-48L	MATRIX SPIKE 1678141	MSL	MS	06/07/01	06/27/01	11/10/01			COPPER	7440-50-8	M	L-42	94% RECOVERY		0.95		
A-TS-48L	MATRIX SPIKE 1678141	MSL	MS	06/07/01	06/27/01	11/10/01			ZINC	7440-66-6	M	L-44	96% RECOVERY		0.96		
A-TS-48L	MATRIX SPIKE 1678141	MSL	MS	06/07/01	06/27/01	11/10/01			ARSENIC	7440-38-2	M	L-42	97% RECOVERY		0.12		
A-TS-48L	MATRIX SPIKE 1678141	MSL	MS	06/07/01	06/27/01	11/10/01			SELENIUM	7782-49-2	M	MSL-I-30	68% RECOVERY		1.6		
A-TS-48L	MATRIX SPIKE 1678141	MSL	MS	06/07/01	06/27/01	11/10/01			MOLYBDENUM	13858-06-5	M	L-42	101% RECOVERY		1.15		
A-TS-48L	MATRIX SPIKE 1678141	MSL	MS	06/07/01	06/27/01	11/10/01			SILVER	7440-22-4	M	L-44	100% RECOVERY		0.216		
A-TS-48L	MATRIX SPIKE 1678141	MSL	MS	06/07/01	06/27/01	11/10/01			CADMIUM	7440-43-9	M	L-42	95% RECOVERY		0.712		
A-TS-48L	MATRIX SPIKE 1678141	MSL	MS	06/07/01	06/27/01	11/10/01			ANTHRONY	7440-36-0	M	L-42	100% RECOVERY		0.12		
A-TS-48L	MATRIX SPIKE 1678141	MSL	MS	06/07/01	06/27/01	11/10/01			BARLIUM	7440-38-3	M	L-42	104% RECOVERY		0.04		
A-TS-48L	MATRIX SPIKE 1678141	MSL	MS	06/07/01	06/27/01	11/10/01			THALLIUM	7440-28-0	M	L-42	107% RECOVERY		0.09		
A-TS-48L	MATRIX SPIKE 1678141	MSL	MS	06/07/01	06/27/01	11/10/01			LEAD	7439-92-1	M	L-42	105% RECOVERY		0.09		
G-TS-28-L	MATRIX SPIKE DUP 1678148	MSL	MSD	06/07/01	06/07/01	06/04/01			METHYL MERCURY	22667-92-6	M	L-40	104% RECOVERY		0.013		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	06/01/01			BERYLLIUM	7440-41-7	M	L-42	0.005 UG/G WET		0.005		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	11/10/01			ALUMINIUM	7429-98-5	M	L-44	1.37 UG/G WET		1.15		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	11/10/01			VARADHUM	7440-82-2	M	L-44	0.0419 UG/G WET		0.271		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	11/10/01			CHROMIUM	7440-47-3	M	L-44	0.121 UG/G WET		0.018		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	11/10/01			MANGANESE	7439-96-5	M	L-44	1.26 UG/G WET		0.108		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	11/10/01			IRON	7439-89-6	M	L-44	2.05 UG/G WET		0.360		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	11/10/01			NICKEL	7440-02-0	M	L-42	0.0028 UG/G WET		0.378		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	11/10/01			COPPER	7440-50-8	M	L-42	0.0127 UG/G WET		0.393		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	11/10/01			ZINC	7440-66-6	M	L-44	3.08 UG/G WET		0.073		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	11/10/01			ARSENIC	7440-38-2	M	L-42	19.7 UG/G WET		1.109		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	11/10/01			SELENIUM	7782-49-2	M	L-42	0.0499 UG/G WET		0.034		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	11/10/01			MOLYBDENUM	13858-06-5	M	MSL-I-30	0.527 UG/G WET		0.451		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	11/10/01			SILVER	7440-22-4	M	L-44	0.607 UG/G WET		0.325		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	11/10/01			CADMIUM	7440-43-9	M	L-42	0.0139 UG/G WET		0.061		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	11/10/01			ANTHRONY	7440-36-0	M	L-42	0.0048 UG/G WET		0.034		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	11/10/01			BARLIUM	7440-38-3	M	L-42	0.0411 UG/G WET		0.009		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	11/10/01			THALLIUM	7440-28-0	M	L-42	0.0020 UG/G WET		0.023		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	11/10/01			LEAD	7439-92-1	M	L-42	0.181 UG/G WET		0.023		
A-TS-48L	1678140 DUPLICATE	MSL	DUPLICATE	06/09/01	06/27/01	11/10/01			MERCURY	7439-97-6	M	L-41	0.0411 UG/G WET		0.0023		

SAMPLE_NO	LAB_ID	LABORATORY	OC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	CASE	SDG	PARAMETER	CAS_NO	CLASS	METHOD	LAB_RESULT	UNITS	LAB_QUAL	IDL	MDL
A-TS-46-L	1678740	DUPLICATE	DUPLICATE	06/06/01	06/06/01	06/06/01	06/06/01	3	METHYL MERCURY	22967-92-014	L40	L40	0.0003	UG/G WET			0.0007

SAMPLE_NO	LAB_ID	ORCL_ORCR	DIL_FACTOR	POT_MCRST	COMMENTS	SAMPLE_SIZE	SAMPLE_SIZE_UNITS	FINAL_RESULT	FINAL_QUAL	VALID_COMMENT	FRACTION
A-TS-48-L	11878748	DUPLICATE	1.00	70.0	Free Swallow Nestling Linet. CVAF	0.072	G_DRY				Y

Section 5
DCM Extractable Lipid
Content Results

Tree Swallow Tissue and QC Results

SAMPLE NO	LAB ID	LABORATORY	LOC TYPE	SAMP DATE	EXTR DATE	ANAL DATE	CASE	SDG	PARAMETER	CAS NO	CLASS	METHOD	LAB RESULT	UNITS	LAB_QUAL	IDL	MDL
L-TS-60-N	W6502UP	BATD	DUPLICATE	06/12/01	10/16/01	10/17/01	01-360	01-360	Lipid Content		Wet	BATD_SOP_5_190	4.00	%WET			0.01
L-TS-70-N	W6500	BATD	NORMAL	06/07/01	10/16/01	10/17/01	01-360	01-360	Lipid Content		Wet	BATD_SOP_5_190	7.00	%WET			0.01
L-TS-80-N	W6502	BATD	NORMAL	06/12/01	10/16/01	10/17/01	01-360	01-360	Lipid Content		Wet	BATD_SOP_5_190	5.90	%WET			0.01
A-TS-95-N	W6466	BATD	NORMAL	06/12/01	10/16/01	10/17/01	01-360	01-360	Lipid Content		Wet	BATD_SOP_5_190	5.36	%WET			0.01
A-TS-46-N	W6466	BATD	NORMAL	06/06/01	10/16/01	10/17/01	01-360	01-360	Lipid Content		Wet	BATD_SOP_5_190	9.51	%WET			0.01
A-TS-49-N	W6460	BATD	NORMAL	06/07/01	10/16/01	10/17/01	01-360	01-360	Lipid Content		Wet	BATD_SOP_5_190	3.55	%WET			0.01
A-TS-87-N	W6462	BATD	NORMAL	06/12/01	10/16/01	10/17/01	01-360	01-360	Lipid Content		Wet	BATD_SOP_5_190	4.22	%WET			0.01
A-TS-02-N	W6463	BATD	NORMAL	06/06/01	10/16/01	10/17/01	01-360	01-360	Lipid Content		Wet	BATD_SOP_5_190	2.59	%WET			0.01
G-TS-04-N	W6464	BATD	NORMAL	06/06/01	10/16/01	10/17/01	01-360	01-360	Lipid Content		Wet	BATD_SOP_5_190	4.66	%WET			0.01
G-TS-07-N	W6465	BATD	NORMAL	06/06/01	10/16/01	10/17/01	01-360	01-360	Lipid Content		Wet	BATD_SOP_5_190	6.31	%WET			0.01
G-TS-22-N	W6468	BATD	NORMAL	06/07/01	10/16/01	10/17/01	01-360	01-360	Lipid Content		Wet	BATD_SOP_5_190	6.18	%WET			0.01
G-TS-79-N	W6497	BATD	NORMAL	06/07/01	10/16/01	10/17/01	01-360	01-360	Lipid Content		Wet	BATD_SOP_5_190	11.19	%WET			0.01
L-TS-82-N	W6466	BATD	NORMAL	06/06/01	10/16/01	10/17/01	01-360	01-360	Lipid Content		Wet	BATD_SOP_5_190	6.19	%WET			0.01
L-TS-83-N	W6469	BATD	NORMAL	06/06/01	10/16/01	10/17/01	01-360	01-360	Lipid Content		Wet	BATD_SOP_5_190	8.51	%WET			0.01
L-TS-04-N	W6501	BATD	NORMAL	06/06/01	10/16/01	10/17/01	01-360	01-360	Lipid Content		Wet	BATD_SOP_5_190	5.42	%WET			0.01

SAMPLE_NO	LAS_ID	CRDL_ORCL	DIL_FACTOR	POT_MOST	COMMENTS	SAMPLE_SIZE	SAMPLE_SIZE_UNITS	FINAL_RESULT	FINAL_QUAL	VALID_COMMENT	FRACTION
L-TS-85-N	W65501		1.000	60.91	DCM Extractable Lipid	3.45 G	WET	4.00			T
L-TS-70-N	W65500		1.000	60.67	DCM Extractable Lipid	3.63 G	WET	7.03			T
L-TS-68-N	W65502		1.000	60.81	DCM Extractable Lipid	3.76 G	WET	5.80			T
A-TS-35-N	W6488		1.000	59.53	DCM Extractable Lipid	5.49 G	WET	5.96			T
A-TS-48-N	W6489		1.000	59.20	DCM Extractable Lipid	5.07 G	WET	6.51			T
A-TS-49-N	W6490		1.000	62.84	DCM Extractable Lipid	6.26 G	WET	3.55			T
A-TS-49-N	W6491		1.000	57.09	DCM Extractable Lipid	4.34 G	WET	4.22			T
A-TS-57-N	W6492		1.000	64.25	DCM Extractable Lipid	5.37 G	WET	3.24			T
G-TS-02-N	W6493		1.000	75.59	DCM Extractable Lipid	6.26 G	WET	2.59			T
G-TS-04-N	W6494		1.000	62.44	DCM Extractable Lipid	4.10 G	WET	4.66			T
G-TS-07-N	W6495		1.000	71.52	DCM Extractable Lipid	6.71 G	WET	6.31			T
G-TS-22-N	W6496		1.000	61.70	DCM Extractable Lipid	5.14 G	WET	6.19			T
G-TS-28-N	W6497		1.000	64.85	DCM Extractable Lipid	5.60 G	WET	11.19			T
L-TS-62-N	W6498		1.000	61.60	DCM Extractable Lipid	5.29 G	WET	6.19			T
L-TS-62-N	W6499		1.000	62.18	DCM Extractable Lipid	4.76 G	WET	6.51			T
L-TS-64-N	W6501		1.000	65.50	DCM Extractable Lipid	5.42 G	WET	5.42			T

SAMPLE_NO	LAB ID	LABORATORY	QC TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	CASE	ISDG	PARAMETER	CAS_NO	CLASS	METHOD	LAB_RESULT	UNITS	LAB_QUAL	IDL	MDL
L-TS-73-P	W4947DUP	BATD	DUPLICATE	06/30/01	10/23/01	10/25/01	01-568	01-568	Lipid Content		Wet	BATD SOP 5_190	5.79	%WET			0.01
A-TS-33-P	W4941	BATD	NORMAL	06/09/01	10/23/01	10/25/01	01-568	01-568	Lipid Content		Wet	BATD SOP 5_190	3.10	%WET			0.01
L-TS-73-P	W4947	BATD	NORMAL	05/30/01	10/23/01	10/25/01	01-568	01-568	Lipid Content		Wet	BATD SOP 5_190	4.48	%WET			0.01
A-TS-36-P	W4942	BATD	NORMAL	06/12/01	10/23/01	10/25/01	01-568	01-568	Lipid Content		Wet	BATD SOP 5_190	7.42	%WET			0.01
A-TS-42B-P	W4943	BATD	NORMAL	06/07/01	10/23/01	10/25/01	01-568	01-568	Lipid Content		Wet	BATD SOP 5_190	3.58	%WET			0.01
G-TS-01-P	W4944	BATD	NORMAL	05/21/01	10/23/01	10/25/01	01-568	01-568	Lipid Content		Wet	BATD SOP 5_190	11.31	%WET			0.01
G-TS-06-P	W4945	BATD	NORMAL	05/31/01	10/23/01	10/25/01	01-568	01-568	Lipid Content		Wet	BATD SOP 5_190	7.74	%WET			0.01
G-TS-19-P	W4946	BATD	NORMAL	06/11/01	10/23/01	10/25/01	01-568	01-568	Lipid Content		Wet	BATD SOP 5_190	16.96	%WET			0.01
L-TS-65-P	W4946	BATD	NORMAL	06/14/01	10/23/01	10/25/01	01-568	01-568	Lipid Content		Wet	BATD SOP 5_190	6.15	%WET			0.01

SAMPLE_NO	LAB_ID	ORCL_CRCL	DIL_FACTOR	POT_MOIST	COMMENTS	SAMPLE_SIZE	SAMPLE_SIZE_UNITS	FINAL_RESULT	FINAL_QUAL	VALID_COMMENT	FRACTION
L-TS-73-P	W4847DUP		1.000	NA	DCM Extractable Lipid	1.71	G, WET	5.79			T
A-TS-33-P	W4841		1.000	NA	DCM Extractable Lipid	1.28	G, WET	3.10			T
L-TS-73-P	W4847		1.000	NA	DCM Extractable Lipid	1.74	G, WET	4.48			T
A-TS-38-P	W4842		1.000	NA	DCM Extractable Lipid	1.90	G, WET	7.42			T
A-TS-42B-P	W4843		1.000	NA	DCM Extractable Lipid	1.93	G, WET	3.68			T
G-TS-01-P	W4844		1.000	NA	DCM Extractable Lipid	1.76	G, WET	11.31			T
G-TS-06-P	W4845		1.000	NA	DCM Extractable Lipid	1.86	G, WET	7.74			T
G-TS-19-P	W4846		1.000	NA	DCM Extractable Lipid	1.68	G, WET	16.06			T
L-TS-65-P	W4848		1.000	NA	DCM Extractable Lipid	1.63	G, WET	5.15			T

Section 6

Third Party Validation Reports

Validator findings reported here may include results from non-swallow samples (e.g., fish). Only validator findings specific to tree swallow samples are applicable to this data report.

Stana Stoykova
 US EPA Approval Signature

May 24, 2002
 Date

Ms. Christine Clark
 Regional Sample Control Custodian
 Office of Environmental Measurement and Evaluation
 U.S. EPA Region I
 11 Technology Drive
 North Chelmsford, MA 01863

May 10, 2002
 E-02-05-P-02
 Revised: May 23, 2002

Re: TO No. 04, Task No. 2, TDF No. 308
 Case No. Swallow Egg B10F2, SDG No. 48985-18 D/F
 Battelle Laboratories - Columbus, OH
 Centredale Manor, N. Providence, RI

Dioxin/Furan, TCX, and HCX: 18/Egg/A-TS-35-P, A-TS-38-P, A-TS-42a-P, A-TS-46-P,
 A-TS-48-P, A-TS-49-P, A-TS-51-P, A-TS-57-P,
 G-TS-02-P, G-TS-04-P, G-TS-07-P, G-TS-21-P,
 G-TS-22-P, G-TS-29-P, L-TS-70-P, L-TS-83-P,
 L-TS-84-P, L-TS-89-P

1/Fish Tissue SRM/CIL EDF 2526

Dear Ms. Clark:

A Tier III data validation was performed on the Dioxin/Furan, TCX and HCX analytical data for eighteen swallow egg tissue samples collected by the U.S. Geological Survey for the U.S. EPA at the Centredale Manor Site in N. Providence, RI. The samples were analyzed according to EPA Method 1613B, September 15, 1997. The samples were validated using first the criteria in the Centredale Manor Tasks 19-22 QAPP (5/23/01) prepared by Battelle Duxbury Operations, which includes the criteria in EPA Method 1613B, September 15, 1997, defaulting next to Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996 criteria, and to EPA Region I's Environmental Services Assistance Team Dioxin Data Validation SOP ESAT-01-0007 (01/31/01). The data were evaluated based on the following parameters:

- Overall Evaluation of Data and Potential Usability Issues
- Data Completeness (CSF Audit - Tier I)
- Preservation and Technical Holding Times
- PE Samples/Accuracy Check
- Window Defining Mix
- Initial and Continuing Calibrations
- Chromatographic Resolution
- Instrument Sensitivity Check
- Blanks
- Matrix Spike/Matrix Spike Duplicate
- Laboratory Control Sample

Ms. Christine Clark
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May 10, 2002
B-02-05-P-02
Revised: May 23, 2002

- Laboratory and Field Duplicates
- * • Internal/Clean-Up Standards
- * • Sample Analysis and Identification
- Sample Quantitation
- * • Estimated Detection Limits (EDL) and Estimated Maximum Possible Concentration (EMPC)
- 2378-TCDD Toxicity Equivalents (TE) and Isomer Specificity
- * • Required Sample Reruns and Second Column Confirmation
- System Performance

* - All criteria were met for this parameter.

The following information was used to generate the Data Validation Memorandum attachments:

Table I: Recommendation Summary Table - summarizes validation recommendations

Table II: Overall Evaluation of Data - summarizes site objectives and potential usability issues

Data Summary Tables - summarize accepted, qualified, and rejected data

Overall Evaluation of Data and Potential Usability Issues

The following is a summary of the site investigation/assessment objectives:

- To generate data of quality sufficient to be used for human health (HEIRA) and ecological risk assessments (ERA) at the site.

One Cambridge Isotope Laboratories (CIL) Standard Reference Material (SRM) sample was evaluated for this SDG (CIL EDF 2526 for Dioxin/Furan congeners in fish tissue). All congeners were outside the Centredale Manor Tasks 19-22 QAPP (5/23/01) specified criterion of less than 30 %D from the consensus value. Since all of the congeners had low recoveries, the results for dioxin/furan in all samples were estimated (J,U) due to the possibility of bias low results.

The method blanks exhibited low level contamination. This contamination problem does not have an impact on the usability of the data. Contaminants were found in both the blanks and the field samples. When the analyte concentrations in the field samples were less than the corresponding blank action level, the field sample results reported by the laboratory were qualified as non-detected (U) on the Data Summary Table. See Table I for a summary of the qualifiers applied due to blank contamination.

Data Validation indicated minor data quality problems which do not significantly impact the usability of the data. See the discussion below for details. The reported results are usable for the site objectives.

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Data Completeness (CSF Audit - Tier II)

The following data or information in the data package had discrepancies and/or was missing:

1. The original chain of custody form was requested from the field sampling contractor or from Battelle Ocean Sciences, Duxbury, MA. There was no information in the data package indicating the date that these samples were collected.
2. The laboratory was asked to submit the run log for the analysis of sample A-TS-57-P (lab # 48985-18-09, file: 4888338A), analyzed on August 9, 2001.
3. The laboratory was asked to verify the extraction date of 07/30/01 for sample A-TS-57-P (lab # 48985-18-09) on pages 1471 and 1472, and submit corrected result reports if necessary. All of the samples appear to have been extracted on 07/27/01. c/c. EDF
not affected.
DJD
5/23/02
4. The laboratory was asked to submit the missing quantitation report and chromatograms for the fish SRM sample (lab # 48985-18-22) analyzed on 08/08/01, file: 4888337A, S10.
5. The laboratory was asked to submit the missing initial calibration data (file: 4888402, 08/08/01) for the DB225 confirmation analysis.
6. The laboratory was asked to submit the % Lipids results for this SDG/batch.
7. Most of the qualifiers used on the Form I report for sample A-TS-57-P (48985-18-09) (page 1720) were incorrect. The laboratory was asked to resubmit the Form I report for this sample with corrected qualifiers.
8. The laboratory was asked to submit the spreadsheets summarizing the measured concentrations and recoveries for the MS pair (G-TS-21-P/G-TS-21-P MS; 48985-18-20/48985-18-21), LCS (48985-18-23), and SRM (Fish SRM CIL EDF 2526, 48985-18-22).
9. The laboratory was asked to submit the spreadsheet summarizing the measured concentrations and RPDs for the laboratory duplicate pair (G-TS-07-P/G-TS-07-P DUP; 48985-18-18/48985-18-19)

Item 1 was requested via the TOPO on November 19, 2001, December 12, 2001, and March 1, 2002. Items 2 through 5 were requested via the TOPO on November 19, 2001. Item 6 was requested via the TOPO on January 18, 2002, and March 1, 2002. Items 7 through 9 were requested via the TOPO on April 1, 2002. Items 2 through 5 were received via the TOPO on December 12, 2001. Items 1 and 6 were received via the TOPO on March 15, 2002. Items 7 through 9 were received via the TOPO on April 26, 2002. All items were adequately addressed.

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PE Samples/Accuracy Check

One Cambridge Isotope Laboratories (CIL) Standard Reference Material (SRM) sample was evaluated for this SDG (CIL EDF 2526 for Dioxin/Furan congeners in fish tissue). All congeners were outside the Centredale Manor Tasks 19-22 QAPP (5/23/01) specified criterion of 30 %D from the consensus value.

The following table summarizes the SRM sample (48985-18-22 FISH SRM) results which did not meet the criterion and the resulting sample qualifications.

PE Sample Number	Congener	%D	Action	
			Positive Detects	NDs
CIL EDF 2526	2378-TCDD	62	J	UJ
CIL EDF 2526	12378-PeCDD	68	J	UJ
CIL EDF 2526	123478-HxCDD	74	J	UJ
CIL EDF 2526	123678-HxCDD	71	J	UJ
CIL EDF 2526	123789-HxCDD	74	J	UJ
CIL EDF 2526	1234678-HpCDD	71	J	UJ
CIL EDF 2526	OCDD	66	J	UJ
CIL EDF 2526	2378-TCDF	51	J	UJ
CIL EDF 2526	12378-PeCDF	65	J	UJ
CIL EDF 2526	23478-PeCDF	67	J	UJ
CIL EDF 2526	123478-HxCDF	68	J	UJ
CIL EDF 2526	123678-HxCDF	69	J	UJ
CIL EDF 2526	123789-HxCDF	72	J	UJ
CIL EDF 2526	234678-HxCDF	69	J	UJ
CIL EDF 2526	1234678-HpCDF	70	J	UJ
CIL EDF 2526	1234789-HpCDF	69	J	UJ
CIL EDF 2526	OCDF	65	J	UJ

Since all congeners had low recoveries as indicated by the large %Ds, the results for dioxin/furans in all the samples were estimated (J,UJ) due to the possibility of biased low results.

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The laboratory documented in their report that the low recoveries of the congeners in the SRM may be due to the lipid content. The laboratory indicated that for future analyses of associated samples the SRM preparation procedures will be modified.

Initial and Continuing Calibrations

Initial Calibration

The following table summarizes the Initial Calibration (IC) results which did not meet the criterion specified in the Centredale Manor Tasks 19-22 QAPP (5/23/01) of RSD $\leq 25\%$ and the resulting sample qualifications:

IC Date	Compound	% RSD	Action		Affected Samples
			Positive Detects	NDS	
07/19/01	TCX	30	J	UJ	All

The data associated with the noncompliant initial calibrations are qualified due to the high variability. The quantitation of the analytes in the samples could be biased.

Continuing Calibration

The following table summarizes the Calibration Verification (VER) result which did not meet Centredale Manor Tasks 19-22 QAPP (5/23/01) recovery criterion and the resulting sample qualifications:

VER Date	Compound	Recovery (ng/mL)	Acceptable Recovery Range (ng/mL)	Action		Affected Samples
				Positive Detects	NDS	
06/08/01	¹²³⁴⁷⁸⁹ -HpCDF	131	77-129	J	UJ	G-15-21-P, L-15-09-P

The data associated with the noncompliant calibration verification are qualified due to the high recovery. The quantitation of the associated analyte (¹²³⁴⁷⁸⁹-HpCDF) in the samples could be biased.

Chromatographic Resolution

The hexachloroxanthene (HCX) peaks exhibit poor chromatography, i.e., broad shape. The broad peak shape created irregularities in the response factors used to calculate the concentrations of HCX. Therefore, professional judgment was used to estimate (J, UJ) all HCX results due to the poor chromatography.

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Blanks

All of the blanks associated with this SDG were evaluated for contamination. The following tables list the highest concentration of analytes found in the various blanks associated with these samples. The table lists the contamination found in the blanks along with the action levels and the affected samples:

Coagener	Type of Blank	Blank Concentration ^a (Total pg)	Action Level ^b (Total pg)	Affected Samples
OCDD	Method Blank (8/5/01)	27	270	A-TS-51-P
2378-TCDF	Method Blank (8/10/01)	2.3	12	G-TS-02-P, G-TS-07-P
12378-PeCDF	Method Blank (8/5/01)	1.4	7.0	A-TS-42a-P, A-TS-46-P, A-TS-48-P, A-TS-49-P, G-TS-02-P, G-TS-04-P, G-TS-22-P, L-TS-89-P
23478-PeCDF	Method Blank (8/5/01)	1.0	5.0	G-TS-02-P, G-TS-07-P
123478-HxCDF	Method Blank (8/5/01)	1.4	7.0	G-TS-07-P, G-TS-21-P
123678-HxCDF	Method Blank (8/5/01)	0.75	3.8	G-TS-07-P
234678-HxCDF	Method Blank (8/5/01)	0.55	2.8	G-TS-07-P
1234789-HpCDF	Method Blank (8/6/01)	0.60	3.0	A-TS-38-P, A-TS-42a-P, A-TS-48-P, G-TS-04-P, G-TS-21-P
OCDF	Method Blank (8/5/01)	1.6	16	A-TS-38-P, A-TS-42a-P, A-TS-51-P, G-TS-07-P, G-TS-29-P
Total PeCDD	Method Blank (8/7/01)	4.7	47	A-TS-35-P, A-TS-42a-P, A-TS-46-P, A-TS-48-P, A-TS-49-P, A-TS-51-P, A-TS-57-P, G-TS-02-P, G-TS-04-P, G-TS-21-P, G-TS-29-P, L-TS-70-P, L-TS-84-P, L-TS-89-P
Total PeCDF	Method Blank (8/5/01)	2.4	24	A-TS-46-P, A-TS-48-P, A-TS-49-P, A-TS-57-P, G-TS-02-P, G-TS-04-P, G-TS-07-P, G-TS-21-P, G-TS-22-P, L-TS-84-P, L-TS-89-P
Total HxCDF	Method Blank (8/5/01)	2.8	28	G-TS-07-P, G-TS-21-P
Total HpCDF	Method Blank (8/6/01)	2.0	20	A-TS-51-P

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* Blank values and action levels are listed in units of total pg because the sample weights vary from 1.2 to 7.0 grams. The affected samples were determined by comparing the total pg of each congener in the samples to its respective action level.

Blank actions are based on Region I, EPA-NEL Data Validation Functional Guidelines for Evaluating Environmental Analysis, December 1996 and EPA Region I's Environmental Services Assistance Team Dioxin Data Validation SOP ESAT-01-0007 (01/31/01) criteria. Blank action levels are calculated as ten times the highest concentration of the contaminant determined in any blank for common contaminants (OCDD/OCDF and Total Homologues) and five times the highest concentration for all other analytes. The positive sample results that are less than the blank action level are reported as non-detects (U) at the reported concentration on the Data Summary Table.

Matrix Spike/Matrix Spike Duplicate

One MS sample was evaluated for this SDG: G-TS-21-P MS. No Matrix Spike Duplicate (MSD) was performed with this SDG. The MS/MSD precision (RPD) could not be evaluated.

The following table summarizes the egg tissue MS result which did not meet the recovery criterion of 50-120% as documented in the Centredale Manor Tasks 19-22 QAPP (5/23/01):

G-TS-21-P					
Congener	MS % Rec.	MSD % Rec.	RPD	Action	
				Positive Detect	NDs
TCX	15	NA	NA	J	Raise Detection Limit

NA Not Applicable

Due to the low % recovery of the TCX in the Matrix Spike (MS) and the Lab Control Sample (LCS), professional judgment was used to estimate (J) the positive result in sample A-TS-48-P and to raise the detection limits for the non-detected results to the corresponding level of the TCX in the LCS.

Laboratory Control Sample

The laboratory extracted and analyzed one OPR/LCS with this group of samples. The following table summarizes the Ongoing Precision and Recovery (OPR) results which did not meet the Centredale Manor Tasks 19-22 QAPP (5/23/01) criterion and the resulting sample qualifications:

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OPR Date	Compound	% Recovery	% Recovery Range	Action		Affected Samples
				Positive Detect	NDs	
08/5/01	TCX	43	50-120	J	Raise Detection Limit	All

Due to the low % recovery of the TCX in the Matrix Spike (MS) and the Lab Control Sample (LCS), professional judgment was used to estimate (J) the positive result in sample A-TS-48-P and to raise the detection limits for the non-detected results to the corresponding level of the TCX in the LCS.

Laboratory and Field Duplicates

One laboratory duplicate pair was evaluated for this SDG (G-TS-07-P/G-TS-07-P DUP).

The table below summarizes the egg laboratory duplicate results which did not meet the duplicate criterion of Relative Percent Difference (RPD) < 30% for the Centredale Manor Tasks 19-22 QAPP (5/23/01).

G-TS-07-P					
Congener	Sample Conc. (ng/Kg)	Duplicates Conc. (ng/Kg)	RPD	Action	Affected Sample
				Positive Detects	
1234678-HpCDD	292.99	474.74	47	J	G-TS-07-P
OCDD	637.85	1013.81	46	J	G-TS-07-P

The positive results were estimated (J) for 1234678-HpCDD and OCDD in sample G-TS-07-P since the laboratory duplicate precision was outside criterion.

Sample Quantitation

Concentrations quantitated and reported by the laboratory below the lowest calibration standard are flagged (J) on the Data Summary Table. Quantitation is not accurate when the reported results are below the lowest calibration standard. The percent solids/lipids were not analyzed due to the limited amount of sample available, and are listed as (NA) on the Data Summary Table.

The detection limits for HCH correspond to the concentration in the lowest HCH calibration standard.

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2379-TCDD Toxicity Equivalents (TE) and Isomer Specificity

All TE values were calculated by the ESAT data validator using the validated data discussed above in this report. The validated data accounts for blank contamination. The TE calculations include the reported EMPC values. TE values in the Data Summary Table differ slightly from the values reported by the laboratory. The validator used the Bird TEF values published in Environmental Health Perspectives, Volume 106, Number 12, December 1998, "Toxic Equivalency factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and Wildlife."

Requiced Sample Reruns and Second Column Confirmation


Concentrations reported from the confirmation analysis are flagged with a (\$) on the Data Summary Table.


System Performance

No trends were noted with the dioxin/furan analysis. The results for HCX and TCX indicated analytical problems. The problems included: noncompliant initial calibration for TCX; poor HCX chromatography; low LCS/OPR recovery for TCX; and low MS recovery for TCX. Professional judgment was used to estimate (J) the positive TCX result and to raise the detection limits for the non-detects to the level of the TCX in the LCS.

Very truly yours,

LOCKHEED ENVIRONMENTAL


Robert Peary
Scientist


Louis Mucci
ESAT Program Manager

cc: Cornell Rosiu, EPA RPM (DV Memorandum, Data Summary Table)

Attachments: Table I: Recommendation Summary Table
Table II: Overall Evaluation of Data
Data Summary Tables
Data Validation Worksheets
PE Score Reports
Analytical Method
Communications
Field Sampling Notes

Table I
 Recommendation Summary Table for Dioxins/Furans
 Centeale Manor Site
 Case No.: Swallow Egg and Diet B10F2 / SDG No.: 48985-18 D/F

Compound	A-TS-35-P	A-TS-38-P	A-TS-42a-P	A-TS-46-P	A-TS-48-P	A-TS-49-P	A-TS-51-P	A-TS-57-P	G-TS-02-P
237E-TCDD	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
1237E-PeCDD	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
12347E-HxCDD	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
12367E-HxCDD	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
12378E-HxCDD	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
123467E-HxCDD	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
OCDD	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
237E-TCDF	Y ¹	Y ¹	Y ^{1.5}	Y ^{1.5}	Y ^{1.5}	Y ^{1.5}	Y ^{1.5}	Y ^{1.5}	Y ^{1.5}
1237E-PeCDF	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ^{1.5}
2347E-PeCDF	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ^{1.5}
12347E-HxCDF	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
12367E-HxCDF	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
12378E-HxCDF	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
23467E-HxCDF	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
123467E-HxCDF	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
123478E-HxCDF	Y ¹	Y ^{1.5}	Y ^{1.5}	Y ¹	Y ^{1.5}	Y ¹	Y ¹	Y ¹	Y ¹
OCDF	Y ¹	Y ^{1.5}	Y ^{1.5}	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
HCB	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
TCX	Y ^{1.5}	Y ^{2.5}	Y ^{2.5}	Y ^{1.5}	Y ^{1.5}	Y ^{1.5}	Y ^{1.5}	Y ^{1.5}	Y ^{1.5}

Table 1
Recommendation Summary Table for Dioxins/Furans

A	-	Accept results.
J ¹	-	SRM %D outside criterion; J detects, UJ non-detects.
J ²	-	Initial calibration outside criterion; J detects, UJ non-detects.
J ³	-	Continuing calibration outside criterion; J detects, UJ non-detects.
J ⁴	-	Poor chromatography; J detects, UJ non-detects.
J ⁵	-	Method blank contamination; positive sample results less than the blank action level are reported as non-detects (L) at the concentration reported.
J ⁶	-	MS recovery outside criterion; J detects.
J ⁷	-	OPR/LCS recovery outside criterion; J detects.
J ⁸	-	Laboratory duplicate precision (%D) outside criteria; J detects.
J ⁹	-	The detection limits were raised due to poor MS and LCS recoveries.

BPANIE - Data Validation Worksheet
 Overall Evaluation of Data - Data Validation Memorandum - Table II

Dioxin/Furan ANALYSIS		Dioxin/Furan ANALYSIS		Sampling Variability	Potential Usability Issues
DQO (list all DQOs)	Sampling* and/or Analytical Method Appropriate Yes or No	Measurement Error	Sampling Error		
To generate data of quality sufficient to be used for human health (HHPRA) and ecological risk assessments (EPA) at the site.	Yes, Sampling Method appropriate for all samples Yes, Analytical Method appropriate for all samples.	Refer to qualification in R/S Key on Table I: 1, 2, 3, 4, 5, 6, 7, 8	Refer to qualification in R/S Key on Table I: None	**	One Cambridge Isotope Laboratories (CIL) Standard Reference Material (SRM) sample was evaluated for this SDG (CIL, ID# 2576 for Dioxin/Furan congeners in fish tissue). All operations were outside the Cambridge Memoranda 19-22 QAPP (5/23/01) specified criteria of less than 30% D from the consensus value. Since all of the congeners had low recoveries, the results for dioxin/furan in all samples were estimated (U,U) due to the possibility of bias low results. The method blanks exhibited low level contamination. This contamination problem does not have an impact on the usability of the data. Contaminants were found in both the blanks and the field samples. When the analyte concentrations in the field samples were less than the corresponding blank concentration level, the field sample results reported by the laboratory were qualified as non-detect (U) on the Data Summary Table. See Table I for a summary of the qualifiers applied due to blank contamination. Data Validation indicated minor data quality problems which do not significantly impact the usability of the data. See the discussion in the data validation memorandum for details. The reported results are usable for the site objectives.

** The evaluation of "sampling error" cannot be completely assessed in the data validation. Sampling variability is not assessed in data validation.

Validator: *Pat Mosey*

Date: *5/23/02*

STN: Cambridge Meter - H Providence, RI
 CASE NO: Station Meter and Data 34972
 LABORATORY: Boston - Cambridge, MA

Date Summary Table
 Conversion Factors - (kg samples only)

STATION LOCATION	STATION	Turbidity	A-TS-SEP		A-TS-SEP		A-TS-SEP		A-TS-SEP		A-TS-SEP	
			mg/L	DU	mg/L	DU	mg/L	DU	mg/L	DU	mg/L	DU
POUGHKEEPS COVO.	070701	1.0	41.82 J	186.00 J	410.36 J	188.80 J	178.97 J	378.72 J	328.70 J	182.51 J	422.52 J	
1.2.17.2-POUGH	070701	1.0	5.46 J	28.09 J	5.65 J	4.88 J	4.88 J	4.84 J	4.84 J	4.84 J	4.84 J	
1.2.17.2-POUGH	070701	0.86	6.44 J	33.88 J	5.71 J	3.79 J	3.79 J	3.79 J	3.79 J	3.79 J	3.79 J	
1.2.17.2-POUGH	070701	0.81	48.24 J	187.31 J	97.85 J	92.88 J	92.88 J	92.88 J	92.88 J	92.88 J	92.88 J	
1.2.17.2-POUGH	070701	0.1	8.28 J	41.51 J	4.18 J	5.69 J	5.69 J	5.69 J	5.69 J	5.69 J	5.69 J	
1.2.17.2-POUGH	070701	0.8091	344.71 J	200.58 J	187.82 J	184.07 J	184.07 J	184.07 J	184.07 J	184.07 J	184.07 J	
070701	070701	0.8091	878.83 J	328.99 J	188.80 J	188.80 J	378.72 J	328.70 J	328.70 J	328.70 J	328.70 J	
2.3.7.2-POUGH	070701	1.0	2.65 J	8.80 J	19.91 J	5.87 J	5.87 J	7.97 J	7.97 J	8.97 J	8.97 J	
1.2.17.2-POUGH	070701	0.1	3.75 J	6.01 J	6.01 J	4.01 J	2.84 J	3.20 J	3.20 J	3.20 J	3.20 J	
2.3.47.2-POUGH	070701	1.0	4.58 J	12.08 J	4.58 J	3.72 J	3.72 J	3.72 J	3.72 J	3.72 J	3.72 J	
1.2.17.2-POUGH	070701	0.1	7.62 J	7.59 J	4.58 J	3.82 J	3.82 J	3.82 J	3.82 J	3.82 J	3.82 J	
1.2.17.2-POUGH	070701	0.1	5.91 J	7.83 J	3.87 J	3.87 J	3.87 J	3.87 J	3.87 J	3.87 J	3.87 J	
1.2.17.2-POUGH	070701	0.1	0.45 J	0.56 J	0.56 J	0.56 J	0.56 J	0.56 J	0.56 J	0.56 J	0.56 J	
2.3.47.2-POUGH	070701	0.1	4.12 J	4.85 J	2.22 J	2.22 J	2.22 J	2.22 J	2.22 J	2.22 J	2.22 J	
1.2.17.2-POUGH	070701	0.01	46.47 J	21.82 J	28.88 J	82.88 J	82.88 J	82.88 J	82.88 J	82.88 J	82.88 J	
1.2.17.2-POUGH	070701	0.01	2.81 J	0.64 J	0.64 J	1.76 J	1.76 J	1.76 J	1.76 J	1.76 J	1.76 J	
1.2.17.2-POUGH	070701	0.0091	37.88 J	1.88 J	1.88 J	1.88 J	11.50 J	8.92 J	8.92 J	8.92 J	8.92 J	
070701	070701	0.0091	37.88 J	1.88 J	1.88 J	1.88 J	11.50 J	8.92 J	8.92 J	8.92 J	8.92 J	
TOTAL TSS10			41.82 J	186.00 J	410.36 J	188.80 J	178.97 J	378.72 J	328.70 J	182.51 J	422.52 J	
TOTAL TSS20			6.46 J	33.88 J	6.01 J	4.88 J	4.88 J	4.84 J	4.84 J	4.84 J	4.84 J	
TOTAL TSS50			345.97 J	201.58 J	187.31 J	184.07 J	184.07 J	184.07 J	184.07 J	184.07 J	184.07 J	
TOTAL TSS100			12.88 J	10.74 J	10.94 J	4.88 J	4.88 J	4.88 J	4.88 J	4.88 J	4.88 J	
TOTAL TSS1000			12.92 J	18.40 J	24.08 J	13.95 J	14.81 J	11.94 J	11.94 J	11.94 J	11.94 J	
TOTAL TSS2000			38.80 J	24.87 J	24.87 J	24.87 J	24.87 J	24.87 J	24.87 J	24.87 J	24.87 J	
TOTAL TSS5000			106.72 J	23.45 J	23.45 J	23.45 J	23.45 J	23.45 J	23.45 J	23.45 J	23.45 J	
TSS10 - Turbidity			41.82 J	186.00 J	410.36 J	188.80 J	178.97 J	378.72 J	328.70 J	182.51 J	422.52 J	
TSS20 - Turbidity			6.46 J	33.88 J	6.01 J	4.88 J	4.88 J	4.84 J	4.84 J	4.84 J	4.84 J	
TSS50 - Turbidity			345.97 J	201.58 J	187.31 J	184.07 J	184.07 J	184.07 J	184.07 J	184.07 J	184.07 J	
TSS100 - Turbidity			12.88 J	10.74 J	10.94 J	4.88 J	4.88 J	4.88 J	4.88 J	4.88 J	4.88 J	
TSS1000 - Turbidity			12.92 J	18.40 J	24.08 J	13.95 J	14.81 J	11.94 J	11.94 J	11.94 J	11.94 J	
TSS2000 - Turbidity			38.80 J	24.87 J	24.87 J	24.87 J	24.87 J	24.87 J	24.87 J	24.87 J	24.87 J	
TSS5000 - Turbidity			106.72 J	23.45 J	23.45 J	23.45 J	23.45 J	23.45 J	23.45 J	23.45 J	23.45 J	
TSS10 - Turbidity			41.82 J	186.00 J	410.36 J	188.80 J	178.97 J	378.72 J	328.70 J	182.51 J	422.52 J	
TSS20 - Turbidity			6.46 J	33.88 J	6.01 J	4.88 J	4.88 J	4.84 J	4.84 J	4.84 J	4.84 J	
TSS50 - Turbidity			345.97 J	201.58 J	187.31 J	184.07 J	184.07 J	184.07 J	184.07 J	184.07 J	184.07 J	
TSS100 - Turbidity			12.88 J	10.74 J	10.94 J	4.88 J	4.88 J	4.88 J	4.88 J	4.88 J	4.88 J	
TSS1000 - Turbidity			12.92 J	18.40 J	24.08 J	13.95 J	14.81 J	11.94 J	11.94 J	11.94 J	11.94 J	
TSS2000 - Turbidity			38.80 J	24.87 J	24.87 J	24.87 J	24.87 J	24.87 J	24.87 J	24.87 J	24.87 J	
TSS5000 - Turbidity			106.72 J	23.45 J	23.45 J	23.45 J	23.45 J	23.45 J	23.45 J	23.45 J	23.45 J	

The values in this column are either the Detection Limit (DL) of the Standard Addition Procedure Concentration (SAC), the SAC or results are reported with a "U". The DL values are indicated in the column headers and are not indicated with a "U" since they are already indicated.

The Turbidity Measurement Concentration are indicated with the Turbidity Scattering Factor (TSF) for each sample in Turbidity Scattering Factor (TSF) as per EPA Method 180.0. The TSF values for the samples are indicated in the column headers.

The expected upper limit of the TSF values for the samples is 1.0.

The results reported from this summary are:

The results reported from this summary are:

The results reported from this summary are:

The results reported from this summary are:

Comments requested by the laboratory include the amount indicated are flagged (U) on the Data Summary Table as indicated above. All other necessary qualifications are indicated in Tables 1 and 2. A full analytical due to the low amount of sample available.

Data Summary Table

STP: Commodity Name - All Production, RI
Case No: 2002-001-0000-18 DPF
LABORATORY: BSA - Columbia, OH

5000 #10: 48855-18 DPF

STP: Commodity Name - All Production, RI	Case No: 2002-001-0000-18 DPF	LABORATORY: BSA - Columbia, OH	5000 #10: 48855-18 DPF	A-70-41-P		A-70-41-P		C-70-40-P		C-70-41-P		C-70-41-P		C-70-41-P	
				Equity	Equity	Equity	Equity	Equity	Equity	Equity	Equity	Equity	Equity	Equity	Equity
2.8781000	1.0	428.84 J	600.83 J	614 J	4.14 J	13.81 J	50.88 J	1.94	40.82 J	294.87 J	7.10 J	4.41 J	1.74		
1.231781000	1.0	7.79 J	9.44 J	2.08 J	4.85 J	6.01 J	2.71 J	1.56	6.72 J	5.72 J	5.72 J	5.72 J			
1.231781000	0.01	8.77 J	10.27 J	4.07 J	6.01 J	2.25 J	16.40 J	2.36	27.24 J	27.24 J	27.24 J	27.24 J			
1.231781000	0.1	3.29 J	8.17 J	91.88 J	22.05 J	5.81 J	3.87 J	2.05	5.81 J	5.81 J	5.81 J	5.81 J			
1.231781000	0.0001	28.83 J	428.84 J	428.00 J	118.50 J	118.50 J	270.24 J	1.00	270.24 J	270.24 J	270.24 J	270.24 J			
2.8781000	1.0	428.84 J	600.83 J	614 J	4.14 J	13.81 J	50.88 J	1.94	40.82 J	294.87 J	7.10 J	4.41 J	1.74		
1.231781000	0.1	2.90 J	5.08 J	5.08 J	2.05 J	2.05 J	2.46 J	0.85	5.08 J	5.08 J	5.08 J	5.08 J			
1.231781000	0.1	8.40 J	10.27 J	4.07 J	6.01 J	2.25 J	16.40 J	2.36	27.24 J	27.24 J	27.24 J	27.24 J			
1.231781000	0.1	2.90 J	5.08 J	5.08 J	2.05 J	2.05 J	2.46 J	0.85	5.08 J	5.08 J	5.08 J	5.08 J			
2.8781000	0.1	2.90 J	5.08 J	5.08 J	2.05 J	2.05 J	2.46 J	0.85	5.08 J	5.08 J	5.08 J	5.08 J			
1.231781000	0.01	1.98 J	4.84 J	2.19 J	1.48 J	1.48 J	2.46 J	0.85	4.84 J	4.84 J	4.84 J	4.84 J			
1.231781000	0.01	2.71 J	7.10 J	4.87 J	3.82 J	3.82 J	2.46 J	0.85	7.10 J	7.10 J	7.10 J	7.10 J			
1.231781000	0.0001	0.87	84.94 J	14.88 J	14.88 J	14.88 J	14.88 J	7.40	14.88 J	14.88 J	14.88 J	14.88 J			
TOTAL TONN		428.84 J	600.83 J	614 J	4.14 J	13.81 J	50.88 J	1.94	40.82 J	294.87 J	7.10 J	4.41 J	1.74		
TOTAL POUNDS		600.83 J	849.16 J	862.22 J	58.12 J	193.82 J	718.88 J	2.73	58.12 J	418.87 J	100.00 J	62.82 J	2.43		
TOTAL FACTOR		1.00	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40		
TOTAL TONN		428.84 J	600.83 J	614 J	4.14 J	13.81 J	50.88 J	1.94	40.82 J	294.87 J	7.10 J	4.41 J	1.74		
TOTAL POUNDS		600.83 J	849.16 J	862.22 J	58.12 J	193.82 J	718.88 J	2.73	58.12 J	418.87 J	100.00 J	62.82 J	2.43		
TOTAL FACTOR		1.00	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40		
TOTAL TONN		428.84 J	600.83 J	614 J	4.14 J	13.81 J	50.88 J	1.94	40.82 J	294.87 J	7.10 J	4.41 J	1.74		
TOTAL POUNDS		600.83 J	849.16 J	862.22 J	58.12 J	193.82 J	718.88 J	2.73	58.12 J	418.87 J	100.00 J	62.82 J	2.43		
TOTAL FACTOR		1.00	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40		

* The values in this column are either the Detection Limit (DL) or the Estimated Minimum Feasible Concentration (EMFC). The EMFC values are defined with a ... The DL values are unrounded.

The EMFC values are not rounded with a "0" when they are already unrounded.

(*) The Total Equivalency Concentration (TEC) values are calculated with the Toxicity Equivalency Factors (TEFs) for the data found in "Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs, etc. Humans and Wildlife" - Environmental Health Perspectives, Volume 100, Number 52, December 1994, Table 3, page 752.

* The rounded upper limit of the TEF values for the congeners in this table.

0 = Risked reported from contamination survey.

Commodities reported by the laboratory below the lowest reported and flagged (*) on the Data Summary Table are unrounded values. All other commodity quantities are unrounded in Table 1.

NA = Not Analyzed due to below amount of sample available.

SRHS - Columbus Water - N. Providence, RI
Case No. 00192 and 00197
Laboratory Name - Columbus, OH

SRHS NO. 4899-18 DCR

Table Summary Table
Check/Status Analyzed - Edge Samples Analyzed and Reported

STATION LOCATION	STATION	STATION	STATION	STATION	STATION	STATION	STATION	STATION	STATION
DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE
TIME	TIME	TIME	TIME	TIME	TIME	TIME	TIME	TIME	TIME
DEPTH	DEPTH	DEPTH	DEPTH	DEPTH	DEPTH	DEPTH	DEPTH	DEPTH	DEPTH
PARAMETER	PARAMETER	PARAMETER	PARAMETER	PARAMETER	PARAMETER	PARAMETER	PARAMETER	PARAMETER	PARAMETER
UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS
2.0/2.0-TOP	2.0/2.0-TOP	2.0/2.0-TOP	2.0/2.0-TOP	2.0/2.0-TOP	2.0/2.0-TOP	2.0/2.0-TOP	2.0/2.0-TOP	2.0/2.0-TOP	2.0/2.0-TOP
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4.28/7.8-HANDOFF	4.28/7.8-HANDOFF	4.28/7.8-HANDOFF	4.28/7.8-HANDOFF	4.28/7.8-HANDOFF	4.28/7.8-HANDOFF	4.28/7.8-HANDOFF	4.28/7.8-HANDOFF	4.28/7.8-HANDOFF	4.28/7.8-HANDOFF
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF
0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
2.0/2.0-TOP	2.0/2.0-TOP	2.0/2.0-TOP	2.0/2.0-TOP	2.0/2.0-TOP	2.0/2.0-TOP	2.0/2.0-TOP	2.0/2.0-TOP	2.0/2.0-TOP	2.0/2.0-TOP
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4.28/7.8-HANDOFF	4.28/7.8-HANDOFF	4.28/7.8-HANDOFF	4.28/7.8-HANDOFF	4.28/7.8-HANDOFF	4.28/7.8-HANDOFF	4.28/7.8-HANDOFF	4.28/7.8-HANDOFF	4.28/7.8-HANDOFF	4.28/7.8-HANDOFF
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF	1.25/4.7-HANDOFF
0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION
208.85 J	208.85 J	208.85 J	208.85 J	208.85 J	208.85 J	208.85 J	208.85 J	208.85 J	208.85 J
TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND
4.18 J	4.18 J	4.18 J	4.18 J	4.18 J	4.18 J	4.18 J	4.18 J	4.18 J	4.18 J
TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND
72.98 J	72.98 J	72.98 J	72.98 J	72.98 J	72.98 J	72.98 J	72.98 J	72.98 J	72.98 J
TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION
15.48 J	15.48 J	15.48 J	15.48 J	15.48 J	15.48 J	15.48 J	15.48 J	15.48 J	15.48 J
TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND
5.03 J	5.03 J	5.03 J	5.03 J	5.03 J	5.03 J	5.03 J	5.03 J	5.03 J	5.03 J
TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION
201 J	201 J	201 J	201 J	201 J	201 J	201 J	201 J	201 J	201 J
TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND	TOTAL BOND
20.84 J	20.84 J	20.84 J	20.84 J	20.84 J	20.84 J	20.84 J	20.84 J	20.84 J	20.84 J
TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION	TOTAL TORSION
157.81 J	157.81 J	157.81 J	157.81 J	157.81 J	157.81 J	157.81 J	157.81 J	157.81 J	157.81 J

SRHS - Columbus Water - N. Providence, RI
Case No. 00192 and 00197
Laboratory Name - Columbus, OH

SRHS NO. 4899-18 DCR
Table Summary Table
Check/Status Analyzed - Edge Samples Analyzed and Reported

The values in this column are either the Parameter Label (PL) or the Equivalent Parameter Label (EPL) for the Parameter being measured. The EPL values are identified by a "P" in the first column. The PL values are identified by a "C" in the first column. The EPL values are identified by a "P" in the first column. The PL values are identified by a "C" in the first column.

Stena Stojala

US EPA Approval Signature

4/26/02

Date

April 19, 2002

B-02-04-Y-1

Revised: April 25, 2002

Ms. Christine Clark
 Regional Sample Control Custodian
 Office of Environmental Measurement and Evaluation
 U.S. EPA Region I
 11 Technology Drive
 North Chelmsford, MA 01863

Re: TO No. 04, Task No. 2, TDF No. 0418
 Case No. Swallow Egg and Diet B2OF2, SDG No. 48985-25 D/F
 Battelle Laboratories - Columbus, OH
 Centredale Manor, North Providence, RI

Dioxin/Furan, HCB and TCX:13/Egg and Diet/A-TS-45-P, A-TS-47-P, A-TS-52-P,
 A-TS-53-P, A-TS-54-P, DIET-AP,
 DIET-GP, DIET-LP, L-TS-62-P,
 L-TS-63-P, L-TS-67-P, L-TS-69-P,
 L-TS-90-P

1/Fish Tissue SRM/CIL EDF 2526

Dear Ms. Clark:

A Tier III data validation was performed on the Dioxin/Furan, HCB, and TCX analytical data for 10 swallow eggs and three diet samples collected by USGS for the U.S. EPA at the Centredale Manor Site in North Providence, RI. The samples were analyzed according to EPA Method 1613B, September 15, 1997. The samples were validated using first the criteria in the Centredale Manor Tasks 19-22 QAPP (5/23/01) prepared by Battelle Duxbury Operations which include the criteria in EPA Method 1613B, September 15, 1997, defaulting next to Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996 criteria, and to EPA Region I's Environmental Services Assistance Team Dioxin Data Validation SOP ESAT-01-0007 (01/31/01). The criteria for HCB and TCX are documented in Battelle's December 7, 2001 letter to EPA. See the Supporting Documentation section. The data were evaluated based on the following parameters:

- Overall Evaluation of Data and Potential Usability Issues
- Data Completeness (CSF Audit - Tier I)
- Preservation and Technical Holding Times
- PE Samples/Accuracy Check
- Window Defining Mix
- Initial and Continuing Calibrations
- Chromatographic Resolution
- Instrument Sensitivity Check

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- Blanks
- Matrix Spike/Matrix Spike Duplicate
- Laboratory Control Sample/Laboratory Control Sample Duplicate
- Laboratory and Field Duplicates
- Internal/Clean-up Standards
- Sample Analysis and Identification
- Sample Quantitation
- Estimated Detection Limits (EDL) and Estimated Maximum Possible Concentration (EMPC)
- 2,3,7,8-TCDD Toxicity Equivalents (TE) and Isomer Specificity
- Required Sample Reruns and Second Column Confirmation
- System Performance

* - All criteria were met for this parameter.

The following information was used to generate the Data Validation Memorandum attachments:

Table I: Recommendation Summary Table - summarizes validation recommendations

Table II: Overall Evaluation of Data - summarizes site objectives and potential usability issues

Data Summary Tables - summarize accepted, qualified, and rejected data

Overall Evaluation of Data and Potential Usability Issues

The following is a summary of the site investigation/assessment objectives as found in Centredale Manor Tasks 19-22 QAPP (5/23/01):

- To generate data of quality to be used for human health (HHRA) and ecological risk assessments (ERA).

One Cambridge Isotope Laboratories (CIL) Standard Reference Material (SRM) sample was evaluated for this SDG (CIL EDF 2526 for Dioxin/Furan congeners in fish tissue). All congeners were outside the Centredale Manor Tasks 19-22 QAPP (5/23/01) specified criterion of 30 %D from the consensus value. Since all of the congeners had low recoveries, the results for dioxin/furan in all samples were estimated (J, UJ) due to the possibility of biased low results.

The TCX results indicated analytical problems. The problems included noncompliant initial calibration for TCX, low OPR TCX recovery, and low MS recovery for TCX. All non-detected TCX results were rejected due to noncompliant OPR and MS recoveries.

The method blanks exhibited low level contamination. This contamination problem does not have an impact on the usability of the dioxin/furan data. Contaminants were found in both the blanks and the field samples. When the analyte concentrations in the field samples were less than the corresponding blank action level, the field sample results reported by the laboratory are qualified as non-detected (U) on the Data Summary Table. See Table I for a summary of the qualifiers applied due to blank contamination.

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Data validation indicated minor data quality problems which do not significantly impact the usability of the dioxin/furan data. However, the TCX data were rejected. See the discussion in this memorandum for details. The reported results are usable for the site objectives.

Data Completeness (CSF Audit - TCR.D)

The following data or information in the data package had discrepancies and/or were missing:

1. The Laboratory was asked to submit original COC from the sampler showing the sampling dates and the original date the egg samples were first received.
2. The laboratory was asked to submit their original sample log in forms with the dates the samples were first received.
3. The laboratory was asked to submit the % lipids for this SDG.

Items 1, 2, and 3 were requested via the TOPO on March 1, 2002. Items 1, 2, and 3 were received via the TOPO on March 13, 2002. All items were adequately addressed.

PE Samples/Accuracy Check

One CIL Standard Reference Material (SRM) sample was evaluated for this SDG (CIL EDF 2526 for Dioxin/Furan congeners in fish tissue). All congeners were outside the Centredale Manor Tasks 19-22 QAPP (5/23/01) specified criterion of 30 %D from the consensus value.

The following table summarizes the SRM sample (48985-25-18 FISH SRM) results which did not meet the criterion and the resulting sample qualifications:

PR Sample Number	Congener	%D from the consensus value	Action	
			Positive Detects	NDs
CIL EDF 2526	2378-TCDD	43	J	UJ
CIL EDF 2526	12378-PeCDD	54	J	UJ
CIL EDF 2526	123478-HxCDD	56	J	UJ
CIL EDF 2526	123678-HxCDD	59	J	UJ
CIL EDF 2526	123789-HxCDD	60	J	UJ
CIL EDF 2526	1234678-HpCDD	57	J	UJ
CIL EDF 2526	OCDD	54	J	UJ
CIL EDF 2526	2378-TCDF	39	J	UJ
CIL EDF 2526	12378-PeCDF	49	J	UJ

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PE Sample Number	Congener	%D from the consensus value	Action	
			Positive Detects	NDs
CIL EDF 2526	23478-PeCDF	51	J	UJ
CIL EDF 2526	123478-HcCDF	51	J	UJ
CIL EDF 2526	123678-HcCDF	54	J	UJ
CIL EDF 2526	123789-HcCDF	55	J	UJ
CIL EDF 2526	234678-HcCDF	51	J	UJ
CIL EDF 2526	1234678-HpCDF	55	J	UJ
CIL EDF 2526	1234789-HpCDF	54	J	UJ
CIL EDF 2526	OCDF	54	J	UJ

Since all of the congeners had low recoveries as indicated by the large %D, the results for dioxin/furans in all samples were estimated (J, UJ) due to the possibility of biased low results.

The laboratory documented in their report that the low recoveries of the congeners in the SRM may be due to the lipid content. The laboratory indicated that for future analyses of associated samples the SRM preparation procedures will be modified.

Initial and Continuing Calibrations

The following table summarizes the Initial Calibration (IC) which did not meet the criterion specified in Centredale Manor Tasks 19-22 QAPP (5/23/01) of RSD $\leq 25\%$ and the resulting sample qualifications:

IC Date	Compound	% RSD	Action		Affected Samples
			Positive Detects	NDs	
07/20/01	TCX	30	J	UJ	All

The data associated with the noncompliant initial calibration are qualified due to the variability. The quantitation of the associated analyte in the samples could be biased.

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The following table summarizes the Calibration Verification (VER) results which did not meet Method 1613B recovery criterion and the resulting sample qualifications:

VER Date	Compound	Recovery (ng/ml)	Recovery Range (ng/ml)	Action		Affected Samples
				Positive Detects	NDs	
08/07/01 (Ending)	¹² C ₁₂ -1234789-HxCDF	131	77-129	J	UJ	A-TS-53-P, A-TS-54-P, L-TS-67-P, L-TS-69-P
08/08/01 (Beginning)	123789-HxCDF	44	45-56	J	UJ	A-TS-45-P, A-TS-52-P, DIET-AP, DIET-GP, DIET-LP, L-TS-62-P

The data associated with the recoveries of noncompliant calibration verifications are qualified due to the recoveries outside acceptance range. The quantitation of the associated analytes in the samples could be biased.

Chromatographic Resolution

The hexachloroxanthene (HCX) peaks exhibit poor chromatography, i.e., broad shape. The broad peak shape created irregularities in the response factors used to calculate the concentrations of HCX. Therefore, professional judgement was used to estimate (J,UJ) all HCX results due to the poor chromatography.

Blanks

All of the blanks associated with this SDG were evaluated for possible sources of contamination. The following table summarizes the highest concentration of contamination that was detected in the blanks. The table lists the action levels/actions and the samples affected:

Congener	Type of Blank	Blank Concentration (2g sample size) ng/Kg	Action Level (2g sample size) ng/Kg	Samples Affected
12378-PeCDD	Method Blank (8/10/01)	0.81	4.0	DIET-AP, L-TS-62-P, L-TS-63-P
OCDD	Method Blank (8/10/01)	9.3	93	A-TS-45-P, A-TS-47-P, A-TS-52-P, A-TS-54-P
2378-TCDF	Method Blank (8/13/01) (Confirmation Runs)	7.0	35	A-TS-45-P, A-TS-47-P, A-TS-52-P, A-TS-53-P, A-TS-54-P, DIET-AP, DIET-LP, L-TS-62-P, L-TS-63-P, L-TS-67-P, L-TS-69-P, L-TS-90-P
123478-HxCDF	Method Blank (8/08/01)	0.47	2.4	DIET-GP, DIET-LP

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Congener	Type of Blank	Blank Concentration (2g sample size) ng/Kg	Action Level (2g sample size) ng/Kg	Samples Affected
1234789-HpCDF	Method Blank (8/10/01)	0.82	4.1	A-TS-45-P, A-TS-53-P, A-TS-54-P, DIET-AP, DIET-GP, DIET-LP, L-TS-62-P, L-TS-63-P, L-TS-67-P, L-TS-69-P, L-TS-90-P
OCDF	Method Blank (8/10/01)	4.5	45	A-TS-45-P, A-TS-53-P, A-TS-54-P, DIET-AP, DIET-GP, DIET-LP, L-TS-62-P, L-TS-63-P, L-TS-67-P, L-TS-69-P, L-TS-90-P
Total PeCDD	Method Blank (8/07/01)	2.4	24	A-TS-45-P, A-TS-47-P, A-TS-52-P, A-TS-53-P, A-TS-54-P, DIET-AP, DIET-LP, L-TS-62-P, L-TS-63-P, L-TS-67-P, L-TS-69-P
Total HxCDF	Method Blank (8/08/01)	0.47	4.7	DIET-GP
Total HpCDF	Method Blank (8/10/01)	1.3	13	A-TS-45-P, A-TS-47-P, A-TS-52-P, DIET-AP, DIET-GP, DIET-LP, L-TS-67-P

Blank actions are based on Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996 and EPA Region I's Environmental Services Assistance Team Dioxin Data Validation SOP ESAT-01-0007 (01/31/01) criteria. Blank action levels are calculated as ten times the highest concentration of the contaminant determined in any blank for common contaminants (OCDD/OCDF and Total Homologues) and five times the highest concentration for all other analytes. The positive sample results that are less than the blank action level are reported as non-detects (U) at the reported concentration on the Data Summary Table.

Matrix Spike/Matrix Spike Duplicate

One MS was evaluated for this SDG: L-TS-90-PMS.

The table below summarizes the tissue MS/MSD results which did not meet the recovery criterion of 50-120% as documented in the Centredale Manor Tasks 19-22 QAPP (5/23/01).

L-TS-90-P			
Congener	MS % Rec.	Action	
		Positive Detects	NDs
TCX	1	NA, no positive results	R

Professional judgement was used to reject (R) non-detected values for TCX in all samples since

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MS percent recovery was low.

Laboratory Control Sample

The laboratory extracted and analyzed one OPR/LCS with this group of samples. The following table summarizes the Ongoing Precision and Recovery (OPR) result which did not meet Centredale Manor Tasks 19-22 QAPP (5/23/01) recovery criterion and the resulting sample qualifications:

OPR Date	Compound	% Recovery	% Recovery Range	Action		Affected Samples
				Positive Detects	NDs	
07/30/01	TCX	5	50-120	NA no positive results	R	All

The data associated with low recoveries of a noncompliant (less than 10% recovery) OPR are rejected (R).

Laboratory and Field Duplicates

Two laboratory duplicate pairs were evaluated for this SDG A-TS-47-P/A-TS-47-PDup and DIET-AP/DIET-APDup. All criterion were met for A-TS-47-P/A-TS-47-PDup.

The table below summarizes the tissue duplicate results that did not meet the laboratory duplicate criterion of Relative Percent Difference (RPD) < 30% as specified in Centredale Manor Tasks 19-22 QAPP (5/23/01).

Congener	DIET-AP	DIET-APDup	RPD	Action		Affected Samples
	Sample Conc. (ng/Kg)	Duplicate Conc. (ng/Kg)		Positive Detects	Non-Detects	
2378-TCDD	218	33	148	J	UJ	All Diet
1234678-HpCDD	55	23	81	J	UJ	All Diet

Professional judgement was used to estimated (J, UJ) 2378-TCDD and 1234678-HpCDD in all Diet samples due to duplicate precision outside criterion.

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Internal/Clean-Up Standards

• Internal Standards

The following table summarizes the internal standard recovery that did not meet Centredale Manor Tasks 19-22 QAPP (5/23/01) of 25-150%:

Standard	% Recovery	Action		Affected Sample
		Positive Detects	NIDs	
¹⁴ C ₁₂ -12378-PeCDD	162	J	U	A-TS-47-P

The corresponding non-labeled congener results are estimated as shown in the table due to internal standard percent recoveries outside method acceptance criterion.

Sample Quantitation

Concentrations quantitated below the lowest calibration standard are flagged (J) on the Data Summary Tables. Quantitation is not accurate when the reported results are below the lowest calibration standard.

12378-TCDD Toxicity Equivalents (TE) and Isomer Specificity

All TE values reported on the Data Summary Tables have been calculated by the ESAT data validator using the validated data discussed above in this report. As a result, the TE values in the Data Summary Table differ slightly from the values reported by the laboratory. The validated data accounts for blank contamination. The TE calculations include the reported EMPC values. The Fish TEF values used by ESAT are the ones published in Environmental Health Perspectives, volume 106, Number 12, December 1998, "Toxic Equivalency factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and Wildlife."

System Performance

No trends were noted with the dioxin/furan analysis. The results for HCX and TCX indicated analytical problems. The problems included a noncompliant initial calibration for TCX, poor HCX chromatography, low OPR TCX recovery, and low MS recovery for TCX.

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Revised: April 25, 2002

Very truly yours,

LOCKHEED ENVIRONMENTAL



Janine Bartels
Principal Scientist


Louis Macri
ESAT Program Manager

cc: Cornell Rosiu, EPA RPM (DV Memorandum, Data Summary Table)

Attachments: Table I: Recommendation Summary Table
Table II: Overall Evaluation of Data
Data Summary Tables
Data Validation Worksheets
Analytical Method
PE Results
Communication/Phone Logs
Field Sampling Notes

Table I
Recommendation Summary Table for Dioxins/Furans

- A - Accept results.
- J¹ - SRM %D outside criterion; J detects, UJ non-detects.
- J² - Poor chromatography; J detects, UJ non-detects.
- J³ - Method blank contamination; positive sample results less than the blank action level are reported as non-detects (U) at the concentration reported.
- J⁴ - Laboratory duplicate precision outside criteria; J detects, UJ non-detects.
- J⁵ - Internal standard recovery outside criteria; J detects, UJ non-detects.
- J⁶ - VER recoveries outside criterion; J detects, UJ non-detects.
- R¹ - Low OPR recovery; R non-detects.
- R² - Low MS recovery; R non-detects.

HPA-NB - Data Validation Worksheet
Overall Evaluation of Data - Data Validation Memorandum - Table II

DOXYPURANIC TOXIC ANALYSIS

DRO (See H-1000)	Sampling method Analytical Method Appropriate Yes or No	Measurement Error		Sampling Variability	Potential Usability Issues
		Ascribed Error	Sampling Error		
<p>The following is a summary of the data from the analytical assessment objectives as found in Compliance Monitor Tables 19, 22 QAPP (2/2001):</p> <p>To generate data of quality to the extent for human health assessments (HAA).</p>	<p>Yes, Sampling Method appropriate for all samples.</p> <p>Yes, Analytical Method appropriate for all samples.</p>	<p>Refer to qualification in R/S Key on Table I.</p> <p>Yes, see R/S</p>	<p>Refer to qualification in R/S Key on Table I.</p> <p>NA</p>	<p>4</p>	<p>One Cambridge Isotopes Laboratory (CIL) Standard Reference Material (SRM) sample was evaluated for this DRO (CIL SRM 2916 for Dioxin/Furan congeners in fish tissue). All congeners were within the Compliance Monitor Tables 19-22 QAPP (2/2001) specified criteria of 50 %D from the consensus value. Since all of the congeners had low recoveries, the results for dioxin/furan in all samples were identified as (U) due to the possibility of biased low results.</p> <p>The TOX results indicated analytical problems. The problems included nonconformant initial calibration for TOX, low OPR TOX recovery, and low MS recovery for TOX. All non-detected TOX results were rejected due to nonconformant OPR and MS recoveries.</p> <p>The method blanks exhibited low level contamination. This contamination problem does not have an impact on the usability of the dioxin/furan data. Contaminants were found in both the blanks and the field samples. When the sample concentration in the field samples were less than the corresponding blank within level, the field sample results reported by the laboratory are qualified as non-detected (U) on the Data Summary Table. See Table I for a summary of the qualifiers applied due to blank contamination.</p> <p>Data validation indicated under data quality problems which do not significantly impact the usability of the dioxin/furan data. However, the TOX data were rejected. See the data validation memorandum for details. The rejected results are available for the data objectives.</p>

The evaluation of sampling error cannot be completely assessed in this data validation. Sampling variability is not assessed in data validation.

Validator: 

Date: 4/25/02

SITE: CHESAPEAKE BEACH, N. CAROLINA, NC
 CASE NO. BULKHEAD 599 AND/OR 5992 593 No. 444444-00-00
 LABORATORY: 1000

DATE: 04/26/02
 TIME: 15:01
 FAX: 04/26/02

STATION LOCATION MARKING	Turbidity Factor (1)	LTS 50-P LYNNVILLE POND		LTS 50-P LYNNVILLE POND	
		LOSS	RECOVER	LOSS	RECOVER
227 227000	1.0	1000.00 J	10.00	1000.00 J	10.00
1.2 227 227000	1.0	10.00 J	10.00	10.00 J	10.00
1.2 227 227000	0.05	11.00 J	14.76 J	14.76 J	14.76 J
1.2 227 227000	0.01	20.00 J	20.00 J	44.87 J	5.02 J
1.2 227 227000	0.1	4.76 J	40.80 J	5.02 J	200.00 J
1.2 227 227000	0.0001	24.12 J	207.00 J	200.00 J	200.00 J
0.000	0.0001	20.00 J	200.00 J	200.00 J	200.00 J
227 227000	1.0	10.00	10.00	10.00	10.00
1.2 227 227000	0.1	4.00 J	5.00 J	5.00 J	0.87
2.2 227 227000	1.0	7.00 J	9.00 J	9.00 J	0.81
1.2 227 227000	0.1	0.01 J	0.01 J	0.01 J	0.01
1.2 227 227000	0.1	0.00 J	0.02 J	0.02 J	0.02
1.2 227 227000	0.1	0.00 J	0.00 J	0.00 J	0.00
2.2 227 227000	0.1	2.00 J	2.00 J	2.00 J	1.61
1.2 227 227000	0.01	10.10 J	70.70 J	51.00 J	3.80
1.2 227 227000	0.01	0.00 J	0.00 J	0.00 J	0.70
0.000	0.0001	0.00 J	0.00 J	0.00 J	0.70
TOTAL LOSS		1000.00 J	200.10 J	600.01 J	
TOTAL RECOVER		74.00 J	118.00 J	51.00 J	
TOTAL LOSS		20.00 J	200.00 J	200.00 J	
TOTAL RECOVER		20.00 J	20.00 J	12.80 J	
TOTAL LOSS		10.00 J	50.00 J	10.00 J	0.04
TOTAL RECOVER		10.00 J	10.00 J	10.00 J	
TOTAL LOSS		02.00 J	40.71 J	02.00 J	
TOTAL RECOVER		02.00 J	02.00 J	02.00 J	
TOTAL LOSS		02.00 J	02.00 J	02.00 J	
TOTAL RECOVER		02.00 J	02.00 J	02.00 J	

NOTE: The values in the columns are after the Division Loss (DL) for the Division Station (DS) for the Division Station (DS). The DL values are indicated with a "J" and the values are indicated with a "R".

(1) The Turbidity Factor is determined by dividing the Turbidity Factor (TF) found in Table 1 by the Turbidity Factor (TF) found in Table 2.

(2) The Turbidity Factor (TF) is determined by dividing the Turbidity Factor (TF) found in Table 1 by the Turbidity Factor (TF) found in Table 2.

(3) The Turbidity Factor (TF) is determined by dividing the Turbidity Factor (TF) found in Table 1 by the Turbidity Factor (TF) found in Table 2.

(4) The Turbidity Factor (TF) is determined by dividing the Turbidity Factor (TF) found in Table 1 by the Turbidity Factor (TF) found in Table 2.

(5) The Turbidity Factor (TF) is determined by dividing the Turbidity Factor (TF) found in Table 1 by the Turbidity Factor (TF) found in Table 2.

(6) The Turbidity Factor (TF) is determined by dividing the Turbidity Factor (TF) found in Table 1 by the Turbidity Factor (TF) found in Table 2.

(7) The Turbidity Factor (TF) is determined by dividing the Turbidity Factor (TF) found in Table 1 by the Turbidity Factor (TF) found in Table 2.

(8) The Turbidity Factor (TF) is determined by dividing the Turbidity Factor (TF) found in Table 1 by the Turbidity Factor (TF) found in Table 2.

(9) The Turbidity Factor (TF) is determined by dividing the Turbidity Factor (TF) found in Table 1 by the Turbidity Factor (TF) found in Table 2.

(10) The Turbidity Factor (TF) is determined by dividing the Turbidity Factor (TF) found in Table 1 by the Turbidity Factor (TF) found in Table 2.

Steve Stodola
US EPA Approval Signature

11/08/02
Date
November 7, 2002

Ms. Christine Clark
Regional Sample Control Custodian
Office of Environmental Measurement and Evaluation
U.S. EPA Region I
11 Technology Drive
North Chelmsford, MA 01863

Re: TO No. 10, Task No. 2, TDF No. 0737
Case No. Nestling B10F1, SDG No. 49038-41 D/F
Battelle Laboratories - Columbus, OH
Centredale Manor, North Providence, RI

Dioxin/Furan, HCK and TCX:15/Nestling/A-TS-35-N, A-TS-46-N, A-TS-48-N,
A-TS-49-N, A-TS-57-N, G-TS-02-N,
G-TS-04-N, G-TS-07-N, G-TS-22-N,
G-TS-29-N, L-TS-62-N, L-TS-63-N,
L-TS-70-N, L-TS-84-N, L-TS-89-N

1/Fish Tissue SRM/CIL EDF 2526

Dear Ms. Clark:

A Tier III data validation was performed on the Dioxin/Furan, HCK, and TCX analytical data for 15 nestling samples collected by USGS for the U.S. EPA at the Centredale Manor Site in North Providence, RI. The samples were analyzed according to EPA Method 1613B, September 15, 1997. The samples were validated using first the criteria in the Centredale Manor Tasks 19-22 QAPP (5/23/01) prepared by Battelle Duxbury Operations which include the criteria in EPA Method 1613B, September 15, 1997, defaulting next to Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996 criteria, and to EPA Region I's Environmental Services Assistance Team Dioxin Data Validation SOP ESAT-01-0007 (01/31/01). The criteria for HCK and TCX are documented in Battelle's December 7, 2001 letter to EPA. See the Supporting Documentation section. The data were evaluated based on the following parameters:

- Overall Evaluation of Data and Potential Usability Issues
- Data Completeness (CSF Audit - Tier I)
- Preservation and Technical Holding Times
- PE Samples/Accuracy Check
- Window Defining Mix
- Initial and Continuing Calibrations
- Chromatographic Resolution
- Instrument Sensitivity Check

- Blanks
- Matrix Spike/Matrix Spike Duplicate
- * • Laboratory Control Sample/Laboratory Control Sample Duplicate
- * • Laboratory and Field Duplicates
- Internal/Clean-up Standards
- * • Sample Analysis and Identification
- Sample Quantitation
- * • Estimated Detection Limits (EDL) and Estimated Maximum Possible Concentration (EMPC)
- 2378-TCDD Toxicity Equivalents (TE) and Isomer Specificity
- * • Required Sample Returns and Second Column Confirmation
- System Performance

* - All criteria were met for this parameter.

The following information was used to generate the Data Validation Memorandum attachments:

Table I: Recommendation Summary Table - summarizes validation recommendations

Table II: Overall Evaluation of Data - summarizes site objectives and potential usability issues

Data Summary Tables - summarize accepted, qualified, and rejected data

Overall Evaluation of Data and Potential Usability Issues

The following is a summary of the site investigation/assessment objectives as found in Centredale Manor Tasks 19-22 QAPP (5/23/01):

- To generate data of quality sufficient to be used for human health (HHRA) and ecological risk assessments (ERA).

One Cambridge Isotope Laboratories (CIL) Standard Reference Material (SRM) sample was evaluated for this SDG (CIL EDF 2526 for Dioxin/Furan congeners in fish tissue). All congeners were outside the Centredale Manor Tasks 19-22 QAPP (5/23/01) specified criterion of 30 %D from the consensus value. Since all of the congeners had low recoveries, the results for dioxin/furan in all samples were estimated (J, UJ) due to the possibility of biased low results.

The TCX initial calibration % RSD was noncompliant. The laboratory did not perform additional quality control procedures, neither a laboratory control sample nor matrix spike samples, for the TCX analysis. Therefore, the results of the initial calibration standards were investigated. The low standards in the multi-point initial calibration had an erratic response. The laboratory used the lowest standard as the reporting limit for the non-detected results. The erratic response would indicate that this may not be an appropriate reporting limit. Therefore, the TCX results were rejected (R). (U)

The method blanks exhibited low level contamination. This contamination problem does not have an impact on the usability of the dioxin/furan data. Contaminants were found in both the blanks and the field samples. When the analyte concentrations in the field samples were less than

(U) Note that TCX analysis was for screening purposes only. An LCS/MS was not required for TCX per the QAPP. DTDahlen 11/25/02

the corresponding blank action level, the field sample results reported by the laboratory are qualified as non-detected (U) on the Data Summary Table. See Table I for a summary of the qualifiers applied due to blank contamination.

Data validation indicated minor data quality problems which do not significantly impact the usability of the dioxin/furan data. However, the TCX data were rejected. See the discussion below for details. The reported results are usable for the site objectives.

PE Samples/Accuracy Check

One CIL Standard Reference Material (SRM) sample was evaluated for this SDG (CIL EDF 2526 for Dioxin/Furan congeners in fish tissue). All congeners were outside the Centredale Manor Tasks 19-22 QAPP (5/23/01) specified criterion of 30 %D from the consensus value.

The following table summarizes the SRM sample (49038-41-20 FISH SRM) results which did not meet the criterion and the resulting sample qualifications:

PE Sample Number	Congener	%D from the consensus value	Action	
			Positive Detects	NDs
CIL EDF 2526	2378-TCDD	54	J	UJ
CIL EDF 2526	12378-PeCDD	59	J	UJ
CIL EDF 2526	123478-HxCDD	64	J	UJ
CIL EDF 2526	123678-HxCDD	64	J	UJ
CIL EDF 2526	123789-HxCDD	63	J	UJ
CIL EDF 2526	1234678-HpCDD	61	J	UJ
CIL EDF 2526	OCDD	54	J	UJ
CIL EDF 2526	2378-TCDF	43	J	UJ
CIL EDF 2526	12378-PeCDF	59	J	UJ
CIL EDF 2526	23478-PeCDF	58	J	UJ
CIL EDF 2526	123478-HxCDF	57	J	UJ
CIL EDF 2526	123678-HxCDF	56	J	UJ
CIL EDF 2526	123789-HxCDF	62	J	UJ
CIL EDF 2526	234678-HxCDF	57	J	UJ
CIL EDF 2526	1234678-HpCDF	59	J	UJ

PE Sample Number	Congener	%D from the consensus value	Action	
			Positive Detects	NDs
CIL EDF 2526	1234789-HpCDF	56	J	UJ
CIL EDF 2526	OCDF	53	J	UJ

Since all of the congeners had low recoveries as indicated by the large %Ds, the results for dioxin/furans in all samples were estimated (J, UJ) due to the possibility of biased low results.

The laboratory documented in their report that the low recoveries of the congeners in the SRM may be due to the lipid content. For this SDG, 1.0119 grams of SRM tissue, instead of 2 grams, were extracted in an attempt to bring the lipid content of the SRM in line with the lipid content of the samples. With this change the recoveries of the analytes still did not meet the %D criterion. The laboratory indicated that for future analyses of associated samples the SRM preparation procedures will be modified.

Initial and Continuing Calibrations

The following table summarizes the Initial Calibration (IC) which did not meet the criterion specified in Centredale Manor Tasks 19-22 QAPP (5/23/01) of RSD ≤ 25 % and the resulting sample qualifications:

IC Date	Compound	% RSD	Action		Affected Samples
			Positive Detects	NDs	
07/20/01	TCX	30	J*	UJ*	All

* See the following discussion.

The TCX initial calibration % RSD was noncompliant. The laboratory did not perform additional quality control procedures, neither a laboratory control sample nor matrix spike samples, for the TCX analysis. Therefore, the results of the initial calibration standards were investigated. The low standards in the multi-point initial calibration had an erratic response. The laboratory used the lowest standard as the reporting limit for the non-detected results. The erratic response would indicate that this may not be an appropriate reporting limit. Therefore, the TCX results were rejected (R).

Chromatographic Resolution

The hexachloroxanthene (HCX) peaks exhibit poor chromatography, i.e., broad shape. The broad peak shape created irregularities in the response factors used to calculate the concentrations of HCX. Therefore, professional judgement was used to estimate (J, UJ) all HCX results due to the poor chromatography.

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The laboratory flagged the 2378-TCDF values in samples A-TS-35-N, A-TS-46-N, A-TS-48-N, A-TS-49-N, A-TS-57-N, G-TS-02-N, G-TS-07-N, G-TS-22-N, G-TS-29-N, L-TS-62-N, L-TS-63-N, L-TS-70-N, L-TS-84-N, and L-TS-89-N with an "E" to indicate chromatographic interference. Estimate (J) the 2378-TCDF value in referenced samples due to chromatographic interference.

Blanks

All of the blanks associated with this SDG were evaluated for possible sources of contamination. The following table summarizes the highest concentration of contamination that was detected in the blanks. The table lists the action levels/actions and the samples affected:

Congener	Type of Blank	Blank Concentration ng/Kg	Action Level ng/Kg	Samples Affected
OCDD	Method Blank (10/11/01) (1.0g sample size)	10	100	A-TS-35-N, G-TS-04-N
OCDD	Method Blank (10/11/01) (2.0g sample size)	5.0	50	L-TS-62-N
OCDD	Method Blank (10/11/01) (5.0g sample size)	2.0	20	G-TS-22-N
OCDD	Method Blank (10/11/01) (8.0g sample size)	1.3	13	G-TS-02-N
123478-HxCDF	Method Blank (10/12/01) (1.0g sample size)	0.90	4.5	A-TS-35-N, G-TS-04-N
OCDF	Method Blank (10/11/01) (1.0g sample size)	2.6	26	A-TS-35-N, G-TS-04-N
OCDF	Method Blank (10/11/01) (2.0g sample size)	1.3	13	L-TS-62-N
OCDF	Method Blank (10/11/01) (5.0g sample size)	0.52	5.2	A-TS-46-N, A-TS-49-N, A-TS-57-N, G-TS-22-N, G-TS-29-N, L-TS-63-N, L-TS-70-N, L-TS-84-N, L-TS-89-N
OCDF	Method Blank (10/11/01) (8.0g sample size)	0.32	3.2	G-TS-02-N, G-TS-07-N
Total PeCDD	Method Blank (10/11/01) (1.0g sample size)	4.9	49	A-TS-35-N, G-TS-04-N

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Congener	Type of Blank	Blank Concentration ng/Kg	Action Level ng/Kg	Samples Affected
Total PeCDD	Method Blank (10/11/01) (2.0g sample size)	2.4	24	L-TS-62-N
Total PeCDD	Method Blank (10/11/01) (3.0g sample size)	0.98	9.8	A-TS-46-N, A-TS-48-N, A-TS-49-N, A-TS-57-N, G-TS-22-N, G-TS-29-N, L-TS-63-N, L-TS-70-N, L-TS-84-N, L-TS-89-N
Total PeCDD	Method Blank (10/11/01) (8.0g sample size)	0.61	6.1	G-TS-02-N, G-TS-07-N
Total HpCDD	Method Blank (10/11/01) (1.0g sample size)	4.2	42	A-TS-35-N, G-TS-04-N
Total TCDF	Method Blank (10/12/01) (1.0g sample size)	1.1	11	A-TS-35-N, G-TS-04-N
Total HxCDF	Method Blank (10/12/01) (1.0g sample size)	1.6	16	A-TS-35-N, G-TS-04-N
Total HpCDF	Method Blank (10/12/01) (1.0g sample size)	1.2	12	A-TS-35-N, G-TS-04-N
Total HpCDF	Method Blank (10/12/01) (5.0g sample size)	0.24	2.4	G-TS-22-N
Total HpCDF	Method Blank (10/12/01) (8.0g sample size)	0.15	1.5	G-TS-02-N

Blank actions are based on Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996 and EPA Region I's Environmental Services Assistance Team Dioxin Data Validation SOP ESAT-01-0007 (01/31/01) criterion. Blank action levels are calculated as ten times the highest concentration of the contaminant determined in any blank for common contaminants (OCDD/OCDF and Total Homologues) and five times the highest concentration for all other analytes. The positive sample results that are less than the blank action level are reported as non-detects (U) at the reported concentration on the Data Summary Table.

Matrix Spike/Matrix Spike Duplicate

One MS/MSD pair was evaluated for this SDG: G-TS-04-NMS/G-TS-04-NMSD.

The table below summarizes the tissue MS/MSD results which did not meet the recovery criteria

of 50-120% and/or Relative Percent Difference (RPD) \leq 30% as documented in the Centredale Manor Tasks 19-22 QAPP (5/23/01).

G-TS-04-N					
Congener	MS % Rec.	MSD % Rec.	%RPD	Action	
				Positive Detects	NDs
HCH	129	181	94	3	0

Professional judgement was used to estimated (J, UJ) values for HCH in all samples since percent recoveries and/or precision were outside the required criteria.

Internal/Clean-Up Standards

• Clean-Up Standards

The following table summarizes the clean-up standard which did not meet the recovery acceptance criterion of 25-150% as specified in Centredale Manor Tasks 19-22 QAPP (5/23/01).

Clean-Up Standard	% Recovery	Action		Affected Sample
		Positive Detects	NDs	
PCL-2978-PCOD	21	J	UJ	A-TS-04-N

Since low recoveries may indicate interference in the clean-up process, the sample was qualified as noted above for all congeners.

Sample Quantitation

Concentrations quantitated below the lowest calibration standard are flagged (J) on the Data Summary Tables. Quantitation is not accurate when the reported results are below the lowest calibration standard.

The detection limits reported on the Data Summary Table for HCH correspond to the concentration in the lowest HCH calibration standard.

2378-TCDD Toxicity Equivalents (TE) and Isomer Specificity

All TE values reported on the Data Summary Tables have been calculated by the ESAT data validator using the validated data discussed above in this report. As a result, the TE values in the Data Summary Table differ slightly from the values reported by the laboratory. The validated data accounts for blank contamination. The TE calculations include the reported EMPC values. The bird TEF values used by ESAT are the ones published in Environmental Health Perspectives, volume 106, Number 12, December 1998, "Toxic Equivalency factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and Wildlife."

November 7, 2002

System Performance

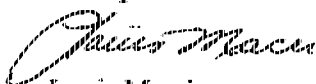
No trends were noted with the dioxin/furan analysis. The results for HCB and TCX indicated analytical problems. The problems included noncompliant initial calibration for TCX, poor HCB chromatography, high MS/MSD recovery for HCB, and poor MS/MSD precision for HCB. There were no additional quality control checks, such as MS/MSD or an LCS, to demonstrate that the method could recover TCX. Therefore, the non-detected results for TCX are rejected.

Very truly yours,

LOCKHEED ENVIRONMENTAL



Janine Bartels
Principal Scientist



Louis Macri
ESAT Program Manager

cc: Cornell Rosiu, EPA Project Manager (DV Memorandum, Data Summary Table)

Attachments: Table I: Recommendation Summary Table
Table II: Overall Evaluation of Data
Data Summary Tables
Data Validation Worksheets
Analytical Method
PE Results
Communication/Phone Logs
Field Sampling Notes

Table I
Recommendation Summary Table for Dioxins/Furans

A	-	Accept results.
J ¹	-	SRM %D outside criterion; J detects, UJ non-detects.
J ²	-	Poor chromatography; J detects, UJ non-detects.
J ³	-	Method blank contamination; positive sample results less than the blank action level are reported as non-detects (U) at the concentration reported.
J ⁴	-	Clean-up standard recovery outside criterion; J detects, UJ non-detects.
J ⁵	-	MS/MSD recovery and/or RPD outside criteria; J detects, UJ non-detects.
J ⁶	-	Chromatographic interference; J detects.
R ¹	-	Non-compliant method detection limits and recovery; R non-detects.

BP-A-NB - Data Validation Worksheet
 Overall Evaluation of Data - Data Validation Memorandum - Table II

DRYINBURGH/CE/CEX ANALYSIS

DQO (List all DQOs)	Sampling method Analytical procedure Appropriateness Yes or No	Measurement Error		Sampling Variability	Potential Sampling Issues
		Analytical Error	Sampling Error?		
<p>The following is a summary of the data: Invertebrate monitoring data reported as found in Connecticut Marine Table 19-24 QAPP (2012/2013)</p> <p>To provide data of quality sufficient to be used for human health (RTRCA) and ecological risk assessments (RTRCA).</p>	<p>Yes Sampling method appropriate for all samples. Analytical method appropriate for all samples.</p>	<p>Refer to qualification in %R Key on Table 1: 1/1/12, 2/1</p>	<p>Refer to qualification in %R Key on Table 1: NA</p>	<p>NA</p>	<p>One Connecticut Invertebrate (CIT) Standard Reference Material (SRM) sample was evaluated for this DQO (CIT, STD 2326 for Daphnia) from containers in fish tissue. All containers were within the Connecticut Marine Table 19-24 QAPP (2012/2013) specified criterion of 50 %R from the constant value since all of the containers had low recoveries, the results for dioxin were in all samples were estimated (1/1) due to the possibility of biased low results.</p> <p>The TCX initial calibration %RSD was over-compliance. The laboratory did not perform additional quality control procedures, neither a laboratory control sample nor matrix spike samples, for the TCX analysis. Therefore, the results of the initial calibration standards were investigated. The low standards in the matrix spike initial calibration had an erratic response. The laboratory used the lowest standard as the reporting limit for the non-detect results. The erratic response would indicate the data may not be an appropriate reporting limit. Therefore, the TCX results were reported (2).</p> <p>The method blanks exhibited low level contamination. This contamination problem does not have an impact on the usability of the dioxin/furan data. Contaminants were found in both the blanks and the field samples. When the sample concentrations in the field samples were less than the corresponding blank action level, the field sample results reported by the laboratory are qualified as non-detect (1) on the Data Summary Table. See Table 1 for a summary of the qualifiers reported due to blank contamination.</p> <p>Data validation indicated minor data quality problems which do not significantly impact the usability of the dioxin/furan data. However, the TCX data were rejected. See the data validation memorandum for details. The reported results are usable for the objectives.</p>

The evaluation of "sampling error" cannot be completely assessed in this data validation. Sampling variability is not assessed in data validation.

Validator: 

Date: 1/12/12

Data Summary Table
Downstream Analysis - Texas Springs (page 0000000)

SITE: Comstock Lake - N. Providence, RI
CASE NO: Nesting B-001
LABORATORY: Seabrook

SPS No. 4900441 DFR

STATION NAME	STATION LOCAL ID	MARKER	TOXICITY EQUIVALENCY FACTOR (TEF)	A-TS-49-N ALLENDALE POND NESTLING	A-TS-49-N ALLENDALE POND NESTLING	A-TS-49-N ALLENDALE POND NESTLING	A-TS-49-N ALLENDALE POND NESTLING	A-TS-49-N ALLENDALE POND NESTLING
TOXICOP CONC.				PPB	PPB	PPB	PPB	PPB
2,3,7,8-TCDF			1.0	591.41 J	592.03 J	1029.26 J	622.56 J	1752.66 J
1,2,3,7,8-PeCDD			1.0	2.65 J	3.86 J	3.86 J	3.51 J	4.15 J
1,2,3,4,7,8-PeCDD			0.05	3.23 J	2.70 J	3.67 J	3.59 J	3.80 J
1,2,3,6,7,8-PeCDD			0.01	10.92 J	6.50 J	15.19 J	14.80 J	12.78 J
1,2,3,7,8-PeCDD			0.1	2.32 J	4.15 J	4.15 J	3.16 J	3.02 J
1,2,3,4,6,7,8-PeCDD			<0.001	32.05 J	24.35 J	32.89 J	33.46 J	32.06 J
1,2,3,4,6,7,8-HxCDD			0.0001	0.0001	24.65 J	23.49 J	194.41 J	19.99 J
2,3,7,8-TCDF			1.0	0.98 J	0.65 J	0.59 J	5.50 J	6.25 J
1,2,3,7,8-PeCDD			0.1	1.87 J	1.18 J	1.74 J	1.27 J	1.07 J
2,3,4,7,8-PeCDD			1.0	2.49 J	2.33 J	6.25 J	2.08 J	2.43 J
1,2,3,4,7,8-PeCDD			0.1	0.0	1.53 J	3.06 J	2.18 J	2.71 J
1,2,3,6,7,8-PeCDD			0.1	2.00 J	1.90 J	2.24 J	2.45 J	2.99 J
1,2,3,7,8-PeCDD			0.1	1.01 J	0.88 J	1.27 J	1.02 J	1.13 J
2,3,4,6,7,8-PeCDD			0.01	5.79 J	3.99 J	4.80 J	9.49 J	6.47 J
1,2,3,4,6,7,8-PeCDD			0.01	0.27 J	0.27 J	0.65 J	0.60 J	0.90 J
1,2,3,4,7,8-PeCDD			0.0001	0.0001	0.27 J	11.01 J	0.60 J	0.90 J
TOTAL PCDD				691.41 J	692.03 J	1029.26 J	622.56 J	1752.66 J
TOTAL PCDF				18.15 J	13.40 J	56.26 J	21.15 J	29.26 J
TOTAL HxCDD				0.00	26.36 J	0.00	0.00	0.00
TOTAL HxCDF				0.00	0.18 J	0.00	0.00	0.00
TOTAL PCDF				6.99 J	6.56 J	23.87 J	7.67 J	9.30 J
TOTAL HxCDF				0.00	5.26 J	12.06 J	7.67 J	9.30 J
TOTAL HxCDF				0.00	4.80 J	8.90 J	40.80 J	6.65 J
HCV - Hexachlorocyclopentadiene				11.00 J	97.34 J	16.28 J	29.00 J	59.61 J
TCDF - Tetrachlorodibenzofuran				0.00	0.00	0.00	0.00	0.00
TOXIC EQUIVALENCY FACTOR (TEF)				500 J	1000 J	1000 J	500 J	1700 J
PERCENT SOLUBLE				40.3	40.6	37.4	42.9	36.3
PERCENT LIPOPHILIC				6.28	6.51	3.85	4.22	3.24
DI LIPROPHILIC FACTOR				1.0	1.0	4.0	1.0	1.0
DATE OF ANALYSIS				08/12/01	08/09/01	08/07/01	08/12/01	08/08/01
DATE OF RECEIPT				07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
SAMPLE EXTRACTION DATE				10/03/01	10/03/01	10/03/01	10/03/01	10/03/01
ANALYSIS DATE				10/12/01	10/11/01	10/12/01	10/12/01	10/12/01
LAB NAME				49030-41-14	49030-41-02	49030-41-03	49030-41-04	49030-41-05

* - The values in the columns are either the Detection Limit (DL) or the Estimated Maximum Possible Concentration (EMPC). The EMPC results were rounded with a "0". The DL values are underlined.
The EMPC values are not qualified with a "0" since they are already estimated.
(1) The Toxic Equivalent Concentration is calculated with the Toxic Equivalency Factors (TEFs) found in Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and Wildlife, Environmental Health Perspectives, Volume 105, Number 12, December 1998, Table A, page 782.
Concentrations reported by the laboratory follow the lowest standard and are rounded (J) on the Data Summary Table as indicated unless otherwise noted. All other necessary qualifications are defined in Table L.
< - The expected upper limit of the TEF values for the congeners in Table L.

Date Summary Table
 Contractor Address - (Please See Note 10)

SITE: Cambridge Mass - N. Providence RI
 CASE NO. Assling 810P1 SDC No. 48024-41 DCF
 LABORATORY: Seattle

SAMPLE NUMBER	STATION/LOCATION	EQUIPMENT	TOXICITY FACTORS (1)	LTS-20-N		LTS-20-N		LTS-20-N		LTS-20-N		
				LYMANVILLE POND	HESTLING	LYMANVILLE POND	HESTLING	LYMANVILLE POND	HESTLING	LYMANVILLE POND	HESTLING	
TOXICITY CONC.				P/P	D/L	P/P	D/L	P/P	D/L	P/P	D/L	
2.2.7.6.TCDD			1.0	1600.87 J		1726.9 J		1516.46 J		844.37 J		1026.36 J
1.2.3.7.PCDD			1.0	3.29 J		3.01 J		4.33 J		4.24 J		4.44 J
1.2.3.4.7.PCDD			0.05	0.09 J		2.46 J		4.51 J		4.59 J		4.41 J
1.2.3.6.7.PCDD			0.01	0.03 J		5.46 J		14.00 J		17.30 J		14.62 J
1.2.3.7.8.PCDD			0.1	2.18 J		1.68 J		2.29 J		2.16 J		2.40 J
1.2.3.4.7.9.PCDD			<0.001	23.14 J		16.29 J		24.11 J		22.93 J		44.87 J
0.000			0.0001	169		26.20 J		21.33 J		61.97 J		65.21 J
2.2.7.6.TCOP			1.0	4.79 J		6.12 J		6.21 J		7.02 J		7.24 J
1.2.3.1.7.PCOP			0.1	1.48 J		0.92 J		2.35 J		1.44 J		1.33 J
2.2.4.7.7.PCOP			1.0	2.29 J		0.00 J		6.79 J		2.40 J		2.29 J
1.2.3.4.7.8.PCOP			0.1	2.88 J		2.22 J		3.02 J		2.94 J		2.87 J
1.2.3.6.7.8.PCOP			0.1	2.88 J		1.97 J		2.87 J		1.98 J		2.01 J
2.2.4.8.7.8.PCOP			0.1	0.92 J		0.60 J		0.98 J		0.84 J		0.88 J
1.2.3.4.8.7.8.PCOP			0.01	0.72 J		0.18 J		6.88 J		5.42 J		4.82 J
1.2.3.4.7.8.PCOP			0.01	0.95 J		1.76 J		0.29 J		0.42 J		0.32 J
0.000			0.0001	109		0.95 J		1.15 J		0.00 J		0.00 J
TOTAL TOXICITY				1600.87 J		1745.2 J		1616.46 J		844.37 J		1026.36 J
TOTAL PCDD				14.26 J		8.22 J		22.16 J		20.99 J		23.04 J
TOTAL PCOP				24.14 J		21.06 J		54.85 J		46.31 J		49.21 J
TOTAL TOXICITY				12.83 J		7.29 J		32.14 J		9.87 J		9.87 J
TOTAL PCDD				7.43 J		4.25 J		40.86 J		5.19 J		5.19 J
TOTAL PCOP				6.40 J		10.11 J		9.28 J		6.68 J		6.68 J
TOTAL TOXICITY				5.46 J		6.97 J		8.80 J		7.19 J		8.25 J

HDX - Heavy Metals

TOXIC EQUIVALENTS											
PERCENT TOXICITY	DATE OF RECEIPT	ANALYSIS DATE	48024-41-19	48024-41-19	48024-41-19	48024-41-19	48024-41-19	48024-41-19	48024-41-19	48024-41-19	48024-41-19
1000 J	07/11/01	10/12/01									
38.4	07/11/01	10/12/01									
6.51	07/11/01	10/12/01									
1.0	07/11/01	10/12/01									
4.0	07/11/01	10/12/01									
37.8	07/11/01	10/12/01									
7.03	07/11/01	10/12/01									
5.82	07/11/01	10/12/01									
1.0	07/11/01	10/12/01									
39.1	07/11/01	10/12/01									
5.80	07/11/01	10/12/01									
1.0	07/11/01	10/12/01									

* The values in this table are either the Detection Limit (DL) or the Estimated Maximum Possible Concentration (EMPC). The EMPC results are marked with a "U". The DL values are unmarked.
 The EMPC values are not qualified with a "P", since they are already estimated.
 (1) The Toxic Equivalency Factor (TEF) used in this summary table is based on the Toxic Equivalency Factors (TEFs) listed in "Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs, dioxins and furans", Environmental Health Perspectives, Volume 100, Number 12, December 1992, Table 3, page 742.
 Concentrations reported by the laboratory include the lowest standard use factor (1) on the Date Summary Table as estimated values. All other necessary qualifications are defined in Table 1.
 * The reported upper limit of the TEF values for the compound in this table.

Stena Strohala
US EPA Approval Signature

July 31, 2002
Date

July 24, 2002
B-02-07-Y-3

Revised: July 29, 2002

Ms. Christine Clark
Regional Sample Control Custodian
Office of Environmental Measurement and Evaluation
U.S. EPA Region I
11 Technology Drive
North Chelmsford, MA 01863

Re: TO No. 010, Task No. 2, TDF No. 0452
Case No. Swallow Egg/Diet B1OF1, SDG No. 48985-25 PCB
Battelle Laboratories - Columbus, OH
Centredale Manor, North Providence, RI

209 PCB Congeners: 6/Tissue/A-TS-45-P, A-TS-47-P, A-TS-52-P, L-TS-62-P, L-TS-63-P, L-TS-90-P

1/Fish Tissue SRM/CIL EDF 2526

Dear Ms. Clark:

A Tier III data validation was performed on the 209 PCB congeners analytical data for six swallow egg samples collected by USGS for the U.S. EPA at the Centredale Manor Site in North Providence, RI. The samples were analyzed according to EPA Method 1668A, December 1999, as outlined in the Centredale Manor Tasks 19-22 QAPP (5/23/01). The samples were validated using first the criteria in the Centredale Manor Tasks 19-22 QAPP (5/23/01) prepared by Battelle Duxbury Operations which include the criteria in EPA Method 1668A, December 1999, defaulting next to Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996 criteria, and to EPA Region I's Environmental Services Assistance Team PCB Congener Data Validation ESAT-01-0008 Draft (8/31/01). The data were evaluated based on the following parameters:

- Overall Evaluation of Data and Potential Usability Issues
- Data Completeness (CSF Audit - Tier I)
- Preservation and Technical Blotting Times
- PE Samples/Accuracy Check
- Window Defining Mix
- Initial and Continuing Calibrations
- Chromatographic Resolution
- Instrument Sensitivity Check
- Blanks
- Matrix Spike/Matrix Spike Duplicate
- Laboratory Control Sample

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- Laboratory and Field Duplicates
- Internal/Clean-up Standards
- * • Sample Analysis and Identification
- Sample Quantitation
- * • Estimated Detection Limits (EDL) and Estimated Maximum Possible Concentration (EMPC)
- 2378-TCDD Toxicity Equivalents (TE) and Isomer Specificity
- * • Required Sample Retuns and Second Column Confirmation
- System Performance

* - All criteria were met for this parameter.

The following information was used to generate the Data Validation Memorandum attachments:

Table I: Recommendation Summary Table - summarizes validation recommendations

Table II: Overall Evaluation of Data - summarizes site objectives and potential usability issues

Data Summary Tables - summarize accepted, qualified, and rejected data

Overall Evaluation of Data and Potential Usability Issues

The following is a summary of the site investigation/assessment objectives as found in Centredale Manor Tasks 19-22 QAPP (5/23/01):

- To generate data of quality sufficient to be used for human health (HHRA) and ecological risk assessments (ERA) at the site.

One Cambridge Isotope Laboratories (CIL) Standard Reference Material (SRM) sample was evaluated for this SDG (CIL EDF 2526 for PCB congeners in fish tissue). Three out of five congeners were outside the Centredale Manor Tasks 19-22 QAPP (5/23/01) specified criterion of 30 %D from the consensus value. Since three out of five of the congeners had low recoveries, the results for all congeners in all samples were estimated (J, UJ) due to the possibility of biased low results.

The method blank had low level contamination. However, the concentration in the method blank was insignificant when compared to the concentration found in the field samples. Therefore, the method blank contamination does not impact data usability. When the analyte concentrations in the field samples were less than the corresponding blank action level, the field sample results reported by the laboratory are qualified as non-detected (U) on the Data Summary Table. See Table I for a summary of the qualifiers applied due to blank contamination.

Data validation indicated minor data quality problems which do not significantly impact the usability of the data. See the discussion below for details. The reported results are usable for the site objectives.

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Data Completeness (CSF Audit - Tier II)

The following data or information in the data package had discrepancies and/or were missing:

1. The laboratory was asked to submit 48514-03-15 M1668 PCB 209 mix for 9/26/01 and 9/27/01.
2. The laboratory was asked to submit the percent solids for this batch of samples.

Items 1 and 2 were requested via the TOPO on June 21, 2002. Item 1 was received via the TOPO on July 16, 2002. Item 1 was adequately addressed. The laboratory indicated that percent solids determinations were not performed on the diet samples.

PE Samples/Accuracy Check

One Cambridge Isotope Laboratories (CIL) Standard Reference Material (SRM) sample was evaluated for this SDG (CIL EDF 2526 for PCB congeners in fish tissue). Three out of five congeners were outside the Centredale Minor Tasks 19-22 QAPP (5/23/01) specified criterion of 30 %D from the consensus value.

The following table summarizes the SRM sample (48985-25-18 FISH SRM) results which did not meet the criterion and the resulting sample qualifications:

PE Sample Number	Congener	%D from the consensus value	Action	
			Positive Detects	NDs
CIL EDF 2526	PCB-77	41	J	UJ
CIL EDF 2526	PCB-126	50	J	UJ
CIL EDF 2526	PCB-169	46	J	UJ

Professional judgement was used to estimate (J, UJ) all the results since three out of five of the congeners had low recoveries indicating the possibility of biased low results.

The laboratory documented in their report that the low recoveries of the congeners in the SRM may be due to the lipid content. The laboratory indicated that for future analyses of associated samples the SRM preparation procedures will be modified.

Ms. Christine Clark
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Initial and Continuing Calibrations

The following table summarizes the Calibration Verification (VER) results which did not meet Method 1668A recovery criterion and the resulting sample qualifications:

VER Date	Compound	Recovery (ng/ml)	Acceptable Recovery Range (ng/ml)	Action		Affected Samples
				Positive Detects	NDs	
9/26/01 (Beginning)	¹²⁶ C ₁₂ -PCB-126	159	50-150	J	UJ	A-TS-45-P, A-TS-52-P, L-TS-62-P, L-TS-63-P
9/27/01 (Ending)	¹⁰⁵ C ₁₂ -PCB-105	171	50-150	J	UJ	A-TS-45-P, A-TS-52-P, L-TS-62-P, L-TS-63-P
9/27/01 (Ending)	¹²⁶ C ₁₂ -PCB-126	173	50-150	J	UJ	A-TS-45-P, A-TS-52-P, L-TS-62-P, L-TS-63-P
9/27/01 (Ending)	¹⁶⁹ C ₁₂ -PCB-169	170	50-150	J	UJ	A-TS-45-P, A-TS-52-P, L-TS-62-P, L-TS-63-P

The data associated with recoveries of noncompliant calibration verifications are qualified due to the high variability. The quantitation of the associated analytes in the samples could be biased.

Chromatographic Resolution

Many PCB congeners coeluted on the SPB-Octyl gas chromatography column used for this project. This situation was documented in Centredale Manor Tasks 19-22 QAPP (5/23/01). The laboratory reported the coeluting concentrations as totals. These totals are reported on the Data Summary Tables in this report and are not affected by the coelution of the congeners. Three of the "toxic congeners" with TEF values coeluted: PCB-123, PCB-156, and PCB-157.

Coeluting Congeners	Reported as on the Data Summary Table:
PCB-12, PCB-13	PCB-12/PCB-13
PCB-18, PCB-30	PCB-18/PCB-30
PCB-20, PCB-21, PCB-28, PCB-33	PCB-20/PCB-21/PCB-28/PCB-33
PCB-24, PCB-27	PCB-24/PCB-27
PCB-26, PCB-29	PCB-26/PCB-29
PCB-40, PCB-41, PCB-71	PCB-40/PCB-41/PCB-71
PCB-43, PCB-52, PCB-73	PCB-43/PCB-52/PCB-73
PCB-44, PCB-47, PCB-65	PCB-44/PCB-47/PCB-65
PCB-45, PCB-51	PCB-45/PCB-51
PCB-49, PCB-69	PCB-49/PCB-69
PCB-50, PCB-53	PCB-50/PCB-53

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Coeluting Compomers	Reported as on the Data Summary Table:
PCB-59, PCB-62, PCB-75	PCB-59/PCB-62/PCB-75
PCB-61, PCB-70, PCB-74, PCB-76	PCB-61/PCB-70/PCB-74/PCB-76
PCB-83, PCB-99	PCB-83, PCB-99
PCB-85, PCB-116, PCB-117	PCB-85/PCB-116/PCB-117
PCB-86, PCB-87, PCB-97, PCB-109, PCB-119, PCB-125	PCB-86/PCB-87/PCB-97/PCB-109/PCB-119/PCB-125
PCB-90, PCB-101, PCB-113	PCB-90/PCB-101/PCB-113
PCB-88, PCB-91	PCB-88/PCB-91
PCB-93, PCB-95, PCB-98, PCB-100, PCB-102	PCB-93/PCB-95/PCB-98/PCB-100/PCB-102
PCB-108, PCB-124	PCB-108/PCB-124
PCB-110, PCB-115	PCB-110/PCB-115
PCB-106, PCB-107, PCB-123	PCB-106/PCB-107/23445-PentaCB (#123)
PCB-128, PCB-166	PCB-128/PCB-166
PCB-129, PCB-138, PCB-160, PCB-163	PCB-129/PCB-138/PCB-160/PCB-163
PCB-134, PCB-143	PCB-134/PCB-143
PCB-135, PCB-151, PCB-154	PCB-135/PCB-151/PCB-154
PCB-137, PCB-164	PCB-137/PCB-164
PCB-146, PCB-161	PCB-146/PCB-161
PCB-147, PCB-149	PCB-147/PCB-149
PCB-153, PCB-168	PCB-153/PCB-168
PCB-156, PCB-157	233'44'5-HexaCB(#156)/233'44'5'-HexaCB(#157)
PCB-171, PCB-173	PCB-171/PCB-173
PCB-180, PCB-193	PCB-180/PCB-193
PCB-198, PCB-199	PCB-198/PCB-199

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Blanks

The blank associated with this SDG was evaluated for possible sources of contamination. The following table lists the highest concentration of contamination that was detected in the blank. The table lists the action levels and the samples affected:

Congener	Type of Blank	Blank Concentration (ng/Kg) 1.6g Sample	Action Level (ng/Kg) 1.6g Sample	Sample Affected
PCB-1	Method Blank (9/26/01)	29	140	A-TS-45-P, A-TS-52-P, L-TS-62-P, L-TS-63-P, L-TS-90-P
PCB-3	Method Blank (9/26/01)	24	120	A-TS-45-P, A-TS-52-P, L-TS-62-P, L-TS-63-P, L-TS-90-P
PCB-4	Method Blank (9/26/01)	40	200	All
PCB-6	Method Blank (9/26/01)	23	120	All
PCB-8	Method Blank (9/26/01)	124	620	All
PCB-12/PCB-13	Method Blank (9/26/01)	24	120	All
PCB-16	Method Blank (9/26/01)	35	180	A-TS-45-P, A-TS-47-P, A-TS-52-P, L-TS-63-P, L-TS-90-P
PCB-17	Method Blank (9/26/01)	32	160	A-TS-45-P, A-TS-52-P
PCB-18/PCB-30	Method Blank (9/26/01)	65	320	A-TS-45-P, A-TS-52-P
PCB-19	Method Blank (9/26/01)	8.3	42	A-TS-45-P, A-TS-52-P, L-TS-63-P, L-TS-90-P
PCB-22	Method Blank (9/26/01)	66	330	A-TS-45-P, A-TS-52-P, L-TS-62-P, L-TS-63-P, L-TS-90-P
PCB-32	Method Blank (9/26/01)	21	105	L-TS-63-P
PCB-46	Method Blank (9/26/01)	8.1	40	A-TS-52-P, L-TS-90-P
PCB-56	Method Blank (9/26/01)	72	360	A-TS-52-P

Blank actions are based on Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996 and EPA Region I's Environmental

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Services Assistance Team PCB Congener data Validation ESAT-01-0008 Draft (8/31/01) criteria. Blank action levels are calculated as five times the highest concentration of the contaminant determined in any blank. The positive sample results that are less than the blank action level are reported as non-detects (U) at the reported concentration on the Data Summary Table.

Laboratory Control Sample

The laboratory extracted and analyzed one OPR/LCS with this group of samples. The following table summarizes the Ongoing Precision and Recovery (OPR) result which did not meet Centredale Manor Tasks 19-22 QAPP (5/23/01) recovery criterion and the resulting sample qualifications:

OPR Date	Compound	% Recovery	% Recovery Range	Action		Affected Samples
				Positive Detects	NDs	
09/26/01	PCB-118	176	30-150	J	A	All

The data associated with high recoveries of a noncompliant OPR/LCS are estimated (J).

Laboratory and Field Duplicates

One laboratory duplicate pair was evaluated for this SDG (A-TS-47-P/A-TS-47-PDup).

The table below summarizes the laboratory duplicate results which did not meet the duplicate criterion of Relative Percent Difference (RPD) < 30% as specified by Centredale Manor Tasks 19-22 QAPP (5/23/01).

Congener	A-TS-47-P	A-TS-47-P	RPD	Action		Affected Samples
	Sample Conc. (ng/Kg)	Duplicate Conc. (ng/Kg)		Positive Detects	Non-Detects	
PCB-81	870	ND	NC	J	UJ	All

NC RPD is not calculated when one concentration is non-detected.

Professional judgment was used to estimate (J, UJ) results for PCB-81 in all samples since PCB-81 congener's laboratory duplicate precision was outside criterion.

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Internal/Clean-up Standards:

• Clean-up Standards

The following table summarizes the Clean-up standard with recovery values which did not meet the Centredale Manor Tasks 19-22 QAPP (5/23/01) acceptance criterion of 30-135%:

Clean-up Standard	% Recovery	Action		Affected Samples
		Positive Detects	NDs	
¹² C ₁₂ -PCB-28	161	J	UJ	A-TS-45-P
¹² C ₁₈ -PCB-28	153	J	UJ	L-TS-63-P

Since high recoveries may indicate interference in the clean-up process, the sample was qualified as noted above for all congeners.

Sample Quantitation

Concentrations quantitated below the lowest calibration standard are flagged (J) on the Data Summary Tables. Quantitation is not accurate when the reported results are below the lowest calibration standard.

2378-TCDD Toxicity Equivalents (TE) and Isomer Specificity

TE values were not calculated by the laboratory. All TE values reported on the Data Summary Tables have been calculated by the ESAT data validator using the validated data discussed above in this report. The validated data accounts for blank contamination. The bird TEF values for the PCBs are published in "Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and Wildlife", Environmental Health Perspectives, Volume 106, Number 12, December 1998, Table 3, page 782.

System Performance

No trends noted.

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Very truly yours,

LOCKHEED ENVIRONMENTAL



Janine Bartels
Principal Scientist



Louis Macri
ESAT Program Manager

cc: Cornell Rosiu, EPA Project Manager (DV Memorandum, Data Summary Table)

Attachments: Table I: Recommendation Summary Table
Table II: Overall Evaluation of Data
Data Summary Tables
Data Validation Worksheets
Analytical Method
PE Scores
Communication/Phone Logs
Field Sampling Notes

Table I
 Recommendation Summary Table for 209 PCB Congeners
 Centeada Manor Site
 Case No.: Swallow Egg/Diet B1071/SDG No. 48985-25 PCB

Sample Nos.	A-TS-45-P	A-TS-47-P	A-TS-52-P	L-TS-62-P	L-TS-63-P	L-TS-90-P
Compound						
PCB-1	YAS	Y	YAS	YAS	YAS	YAS
PCB-3	YAS	Y	YAS	YAS	YAS	YAS
PCB-4	YAS	YAS	YAS	YAS	YAS	YAS
PCB-5	Y4	Y	Y	Y	Y4	Y
PCB-6	YAS	YAS	YAS	YAS	YAS	YAS
PCB-7	Y4	Y	Y	Y	Y4	Y
PCB-8	YAS	YAS	YAS	YAS	YAS	YAS
PCB-9	Y4	Y	Y	Y	Y4	Y
PCB-10	Y4	Y	Y	Y	Y4	Y
PCB-12/PCB-13	YAS	YAS	YAS	YAS	YAS	YAS
PCB-16	YAS	YAS	YAS	Y	YAS	YAS
PCB-17	YAS	Y	YAS	Y	Y4	Y
PCB-18/PCB-30	YAS	Y	YAS	Y	Y4	Y
PCB-19	YAS	Y	YAS	Y	YAS	YAS
PCB-20/PCB-21/PCB-28/PCB-33	Y4	Y	Y	Y	Y4	Y
PCB-22	YAS	Y	YAS	YAS	YAS	YAS
PCB-24/PCB-27	Y4	Y	Y	Y	Y4	Y
PCB-25	Y4	Y	Y	Y	Y4	Y
PCB-26/PCB-29	Y4	Y	Y	Y	Y4	Y

Table I

Recommendation Summary Table for 209 PCB Congeners
 Centdale Manor Site

Case No.: Swallow Egg/Diel BIOR/SDG No. 48985-25 PCB

Sample Nos. Compound	A-TS-45-P	A-TS-47-P	A-TS-52-P	L-TS-62-P	L-TS-63-P	L-TS-90-P
PCB-31	Y ⁴	Y ¹	Y ¹	Y ²	Y ⁴	Y ¹
PCB-32	Y ⁴	Y ¹	Y ²	Y ²	Y ⁴⁵	Y ¹
PCB-40/PCB-41/PCB-71	Y ⁴	Y ¹	Y ²	Y ¹	Y ⁴	Y ¹
PCB-42	Y ⁴	Y ¹	Y ²	Y ¹	Y ⁴	Y ¹
PCB-43/PCB-52/PCB-73	Y ⁴	Y ²	Y ²	Y ¹	Y ⁴	Y ¹
PCB-44/PCB-47/PCB-65	Y ⁴	Y ²	Y ²	Y ¹	Y ⁴	Y ¹
PCB-45/PCB-51	Y ⁴	Y ²	Y ²	Y ¹	Y ⁴	Y ¹
PCB-46	Y ⁴	Y ²	Y ⁴⁵	Y ²	Y ⁴	Y ⁴⁵
PCB-48	Y ⁴	Y ²	Y ²	Y ²	Y ⁴	Y ¹
PCB-49/PCB-69	Y ⁴	Y ¹	Y ¹	Y ²	Y ⁴	Y ¹
PCB-50/PCB-53	Y ⁴	Y ¹	Y ¹	Y ²	Y ⁴	Y ¹
PCB-56	Y ⁴	Y ¹	Y ⁴⁵	Y ²	Y ⁴	Y ¹
PCB-59/PCB-62/PCB-75	Y ⁴	Y ¹	Y ¹	Y ¹	Y ⁴	Y ¹
PCB-60	Y ⁴	Y ¹	Y ¹	Y ²	Y ⁴	Y ¹
PCB-63	Y ⁴	Y ¹	Y ¹	Y ¹	Y ⁴	Y ¹
PCB-64	Y ⁴	Y ¹	Y ¹	Y ¹	Y ⁴	Y ¹
PCB-66	Y ⁴	Y ¹	Y ¹	Y ¹	Y ⁴	Y ¹
PCB-61/PCB-70/PCB-74/PCB-76	Y ⁴	Y ¹	Y ¹	Y ¹	Y ⁴	Y ¹
33AA-7naCB (777)	Y ⁴	Y ¹	Y ¹	Y ¹	Y ⁴	Y ¹

Table 1
 Recommendation Summary Table for 209 PCB Congeners
 Centredale Manor Site
 Case No.: Swallow Egg/Diet BIOR1/SDG No. 48985-25 PCB

Compound	A-TS-45-P	A-TS-47-P	A-TS-52-P	L-TS-62-P	L-TS-63-P	L-TS-90-P
3445-TetraCB (#81)	Y ₂₄	Y ₁	Y ₂	Y ₂	Y ₂₄	Y ₂
PCB-82	Y ₂₄	Y ₁	Y ₂	Y ₂	Y ₂₄	Y ₁
PCB-83/PCB-99	Y ₂₄	Y ₁	Y ₂	Y ₂	Y ₂₄	Y ₁
PCB-94	Y ₂₄	Y ₁	Y ₂	Y ₂	Y ₂₄	Y ₁
PCB-95/PCB-116/PCB-117	Y ₂₄	Y ₁	Y ₂	Y ₂	Y ₂₄	Y ₁
PCB-86/PCB-87/PCB-97/PCB-109/PCB-119/PCB-125	Y ₂₄	Y ₁	Y ₂	Y ₂	Y ₂₄	Y ₁
PCB-89	Y ₂₄	Y ₁	Y ₂	Y ₂	Y ₂₄	Y ₁
PCB-90/PCB-101/PCB-113	Y ₂₄	Y ₁	Y ₂	Y ₂	Y ₂₄	Y ₁
PCB-88/PCB-91	Y ₂₄	Y ₁	Y ₂	Y ₂	Y ₂₄	Y ₁
PCB-92	Y ₂₄	Y ₁	Y ₂	Y ₂	Y ₂₄	Y ₁
PCB-93/PCB-95/PCB-98/PCB-100/PCB-102	Y ₂₄	Y ₁	Y ₂	Y ₂	Y ₂₄	Y ₁
23344-PentaCB (#105)	Y ₂₄	Y ₁	Y ₂	Y ₂	Y ₂₄	Y ₁
PCB-108/PCB-124	Y ₂₄	Y ₁	Y ₂	Y ₂	Y ₂₄	Y ₁
PCB-110/PCB-115	Y ₂₄	Y ₁	Y ₂	Y ₂	Y ₂₄	Y ₁
23445-PentaCB (#114)	Y ₂₄	Y ₁	Y ₁	Y ₁	Y ₂₄	Y ₁
23445-PentaCB (#118)	Y ₂₄	Y ₂	Y ₂	Y ₂	Y ₂₄	Y ₂
PCB-106/PCB-107/23445-PentaCB (#123)	Y ₂₄	Y ₁	Y ₂	Y ₂	Y ₂₄	Y ₁
33445-PentaCB (#126)	Y ₂₄	Y ₁	Y ₂	Y ₂	Y ₂₄	Y ₁

Table I

Recommendation Summary Table for 209 PCB Congeners

Centredale Manor Site

Case No.: Swallow Egg/Diet B1 OF1/SDG No. 48985-25 PCB

Sample Nos.	A-TS-45-P	A-TS-47-P	A-TS-52-P	L-TS-62-P	L-TS-63-P	L-TS-90-P
Compound						
PCB-128/PCB-166	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a
PCB-129/PCB-138/PCB-166/PCB-163	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a
PCB-130	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a
PCB-131	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a
PCB-132	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a
PCB-134/PCB-143	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a
PCB-135/PCB-151/PCB-154	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a
PCB-136	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a
PCB-137/PCB-164	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a
PCB-141	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a
PCB-144	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a
PCB-146/PCB-161	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a
PCB-147/PCB-149	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a
PCB-153/PCB-168	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a
233445-HexCB (#156)/233445-HexCB (#157)	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a
PCB-158	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a
234455-HexCB (#157)	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a
334455-HexCB (#159)	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a
PCB-170	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a	Y ^a

Table I
 Recommendation Summary Table for 209 PCB Congeners
 Centedale Manor Site
 Case No.1 Swallow Egg/Diet BIOPI/SDG No. 48985-25 PCB

Sample Nos.	A-TS-45-P	A-TS-47-P	A-TS-52-P	L-TS-62-P	L-TS-63-P	L-TS-90-P
Compound						
PCB-171/PCB-173	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-172	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-174	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-175	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-176	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-177	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-178	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-180/PCB-193	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-182	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-183	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-184	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-185	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-187	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
2394435-HemPCB (#189)						
PCB-190	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-191	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-194	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-195	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-196	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-197	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹

Table 1

Recommendation Summary Table for 209 PCB Congeners
 Centredale Manor Site

Case No.: Swallow Egg/Diet B10F1/SDG No. 48985-25 PCB

Compound	A-TS-45-P	A-TS-47-P	A-TS-52-P	L-TS-62-P	L-TS-63-P	L-TS-90-P
PCB-188/PCB-189	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-200	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-201	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-203	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-205	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-206	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-207	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹
PCB-209	Y ¹⁴	Y ¹	Y ¹	Y ¹	Y ¹⁴	Y ¹

Table I
Recommendation Summary Table for PCB Congeners

A	-	Accept all results.
J ¹	-	PE %D outside criterion; J detects, UJ non-detects.
J ²	-	Duplicate precision outside criterion; J detects, UJ non-detects.
J ³	-	VER recoveries outside criterion; J detects, UJ non-detects.
J ⁴	-	Clean-up standard recoveries outside criterion; J detects, UJ non-detects.
J ⁵	-	Method blank contamination; positive sample results less than the blank action level are reported as non-detects (U) at the concentration reported.
J ⁶	-	OPR/LCS recovery outside criterion; J detects.

BP&NE - Data Validation Worksheet
Overall Evaluation of Data - Data Validation Memorandum - Table II

DOQ (per all DOQs)		Measurement Error		Sampling Variability	Residual Usability Issues
Sampling made for Analytical Method Appropriate Yes or No		Analytical Error	Sampling Error		
<p>The following is a summary of the data verification/assessment observations as stated in Certificate Number (Table 19-21 QAPC (9/2/01)):</p> <p>To generate data of quality sufficient to be used for human health (FHRA) and ecological risk assessments (EIRA) at the site.</p>		<p>Yes. Sampling method appropriate for all samples.</p>	<p>Refer to qualification in R/S Key on Table 19-21 QAPC.</p>	<p>Refer to qualification in R/S Key on Table 19-21 QAPC.</p>	<p>One Cambridge Isotope Laboratories (CIL) Standard Reference Material (SRM) sample was evaluated for this SDC (CIL ED9 126 for PCB congeners in fish tissue). Three out of five congeners were outside the Certificate Number Table 19-21 QAPC (9/2/01) specified criterion of 30 %SD from the consensus value. Since three out of five of the congeners had low recoveries, the results for all congeners in all samples were estimated (E, U) due to the possibility of biased low results.</p> <p>The method itself had low level contamination. However, the contamination in the method blank was insignificant when compared to the concentrations found in the field samples. Therefore, the method blank contamination does not impact data usability. When the same level concentrations on the field samples were less than the corresponding blank, the field sample results reported by the laboratory are qualified as non-detect (N) on the Data Summary Table. See Table 1 for a summary of the qualifiers reported due to blank contamination.</p> <p>Data validation indicated minor data quality problems which do not significantly impact the usability of the data. See the data validation memorandum for details. The reported results are deemed for the site objectives.</p>

The evaluation of "sampling error" cannot be completely assessed in the data validation. Sampling variability is not assessed in data validation.

Validator

Date: 7/29/02

Steve Strobel
US EPA Approval Signature

July 3, 2002
Date
June 14, 2002
L-02-06-Z-05
Revised: July 3, 2002

Ms. Christine Clark
Regional Sample Control Custodian
Office of Environmental Measurement and Evaluation
U.S. EPA Region I
11 Technology Drive
North Chelmsford, MA 01863

Re: TO No. 010, Task No. 2, TDF No. 0454B
Case No. Nestling B10F1, SDG No. 49038-41 PCB
Battelle Laboratories - Columbus, OH
Centredale Manor, North Providence, RI

209 PCB Congeners: 3/Tissue/A-TS-35-N, G-TS-04-N, L-TS-62-N

1/Fish Tissue SRM/CIL EDF 2526

Dear Ms. Clark:

A Tier III data validation was performed on the 209 PCB congeners analytical data for three Swallow Nestlings tissue samples collected by USGS for the U.S. EPA at the Centredale Manor Site in North Providence, RI. The samples were analyzed according to EPA Method 1668A, December 1999, as outlined in the Centredale Manor Tasks 19-22 QAPP (5/23/01). The samples were validated using first the criteria in the Centredale Manor Tasks 19-22 QAPP (5/23/01) prepared by Battelle Duxbury Operations which include the criteria in EPA Method 1668A, December 1999, defaulting next to Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996 criteria, and to EPA Region I's Environmental Services Assistance Team PCB Congener Data Validation ESAT-01-0008 Draft (8/31/01). The data were evaluated based on the following parameters:

- Overall Evaluation of Data and Potential Usability Issues
- Data Completeness (CSF Audit - Tier I)
- Preservation and Technical Holding Times
- PE Samples/Accuracy Check
- Window Defining Mtr
- Initial and Continuing Calibrations
- Chromatographic Resolution
- Instrument Sensitivity Check
- Blanks
- Matrix Spike/Matrix Spike Duplicate

- * • Laboratory Control Sample
- * • Laboratory and Field Duplicates
- Internal/Clean-up Standards
- * • Sample Analysis and Identification
- Sample Quantification
- * • Estimated Detection Limits (EDL) and Estimated Maximum Possible Concentration (EMPC)
- 2378-PCDD Toxicity Equivalents (TE) and Isomer Specificity
- * • Required Sample Recurs and Second Column Confirmation
- System Performance

* - All criteria were met for this parameter.

The following information was used to generate the Data Validation Memorandum attachments:

Table I: Recommendation Summary Table - summarizes validation recommendations

Table II: Overall Evaluation of Data - summarizes site objectives and potential usability issues

Data Summary Tables - summarize accepted, qualified, and rejected data

Overall Evaluation of Data and Potential Usability Issues

The following is a summary of the site investigation/assessment objectives as found in Centredale Manor Tasks 19-22 QAPP (5/23/01):

- To generate data of quality sufficient to be used for human health (HHRA) and ecological risk assessments (ERA) at the site.

One Cambridge Isotope Laboratories (CIL) Standard Reference Material (SRM) sample was evaluated for this SDG (CIL EDF 2526 for PCB congeners in fish tissue). Since the majority of congeners were outside the Centredale Manor Tasks 19-22 QAPP (5/23/01) specified criterion of 30 %D from the consensus value and all of the congeners had low recoveries, the results for all congeners in all samples were estimated (J, U) due to the possibility of biased low results.

The method blank had low level contamination. However, the concentration in the method blank was insignificant when compared to the concentration found in the field samples. Therefore, the method blank contamination does not impact data usability. When the analyte concentrations in the field samples were less than the corresponding blank action level, the field sample results reported by the laboratory are qualified as non-detected (U) on the Data Summary Table. See Table I for a summary of the qualifiers applied due to blank contamination.

Data validation indicated minor data quality problems which do not significantly impact the usability of the data. See the discussion below for details. The reported results are usable for the site objectives.

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Data Completeness (CSSE Audit - Tier II)

The following data or information in the data package had discrepancies and/or were missing:

1. The laboratory was asked to submit the original Chain-of-Custody completed by the sampler and received by the laboratory for this batch of samples.
2. The laboratory was asked to submit internal Chain-of-Custody records showing custody of the samples throughout the laboratory: from the time they were received at Battelle MSL to their arrival at Battelle Columbus on August 11, 2001. In addition, the laboratory was asked to provide records indicating conditions/temperature of the sample storage.
3. The laboratory was asked to submit tabulated results of percent recoveries and RPD values for the matrix spike and matrix spike duplicate samples.
4. The laboratory was asked to submit tabulated results for SRM associated with this batch of samples.
5. The laboratory was asked to provide the SOP for PCB analysis Using Modified Method 1668, Revision A.
6. The laboratory was asked to provide the quantitation reference for PCB congeners (if this reference was not included in the SOP).

All items were requested via the TOPO on March 5, 2002. The response was received via the TOPO on March 20, 2002. All items were adequately addressed.

PE Samples/Accuracy Check

One Cambridge Isotope Laboratories (CIL) Standard Reference Material (SRM) sample was evaluated for this SDG (CIL EDF 2526 for PCB congeners in fish tissue). Three out of five congeners were outside the Centredale Manor Tasks 19-22 QAPP (5/23/01) specified criterion of 30 %D from the consensus value.

The following table summarizes the SRM sample (49038-41-20 FISEI SRM) results which did not meet the criterion and the resulting sample qualifications:

PE Sample Number	Congener	%D from consensus value	Action	
			Positive Detects	NDs
CIL EDF 2526	PCB-77	60.7	J	UJ
CIL EDF 2526	PCB-126	64.1	J	UJ
CIL EDF 2526	PCB-169	56.2	J	UJ

Since the majority of congeners had low recoveries and non-compliant %Ds, the results for all PCB congeners in all samples were estimated (J, UJ) due to the possibility of biased low results.

The laboratory documented in their report that the low recoveries of the congeners in the SRM may be due to the lipid content. The laboratory indicated that for future analyses of associated samples the SRM preparation procedures will be modified.

Initial and Continuing Calibrations

The following table summarizes the Calibration Verification (VER) results which did not meet Method 1668A recovery criterion and the resulting sample qualifications:

VER Date	Compound	Recovery (ng/ml)	Acceptable Recovery Range (ng/ml)	Action		Affected Samples
				Positive Detects	NDs	
12/09/01 (Ending)	¹³ C ₁₂ -PCB-19	152	50-150	J	UJ	All

The data associated with recoveries of noncompliant calibration verifications are qualified due to the high variability. The quantitation of the associated analytes in the samples could be biased.

Chromatographic Resolution

Many PCB congeners coeluted on the SPB-Octyl column used for the analysis. The laboratory reported the total concentration for the coeluting PCBs. These total concentrations are reported on the Data Summary Table. Three of the "toxic congeners" with TEF values coeluted: PCB-123, PCB-156, and PCB-157.

Coeluting Congeners	Reported as on the Data Summary Table:
PCB-12, PCB-13	PCB-12/PCB-13
PCB-16, PCB-24, PCB-27	PCB-16/PCB-24/PCB-27
PCB-18, PCB-30	PCB-18/PCB-30
PCB-20, PCB-21, PCB-28, PCB-33	PCB-20/PCB-21/PCB-28/PCB-33
PCB-26, PCB-29	PCB-26/PCB-29
PCB-40, PCB-41, PCB-71	PCB-40/PCB-41/PCB-71
PCB-43, PCB-52, PCB-73	PCB-43/PCB-52/PCB-73
PCB-44, PCB-47, PCB-65	PCB-44/PCB-47/PCB-65
PCB-45, PCB-51	PCB-45/PCB-51
PCB-49, PCB-69	PCB-49/PCB-69
PCB-50, PCB-53	PCB-50/PCB-53

Coeluting Congeners	Reported as on the Data Summary Table:
PCB-59, PCB-62, PCB-75	PCB-59/PCB-62/PCB-75
PCB-61, PCB-70, PCB-74, PCB-76	PCB-61/PCB-70/PCB-74/PCB-76
PCB-83, PCB-99, PCB-112	PCB-83/PCB-99/PCB-112
PCB-85, PCB-116, PCB-117	PCB-85/PCB-116/PCB-117
PCB-86, PCB-87, PCB-97, PCB-109, PCB-119, PCB-125	PCB-86/PCB-87/PCB-97/PCB-109/PCB-119/PCB-125
PCB-90, PCB-101, PCB-113	PCB-90/PCB-101/PCB-113
PCB-88, PCB-91	PCB-88/PCB-91
PCB-93, PCB-98, PCB-100, PCB-102	PCB-93/PCB-98/PCB-100/PCB-102
PCB-108, PCB-124	PCB-108/PCB-124
PCB-110, PCB-115	PCB-110/PCB-115
PCB-106, PCB-107, PCB-123	PCB-106/PCB-107/23445-PentaCB (#123)
PCB-128, PCB-166	PCB-128/PCB-166
PCB-129, PCB-138, PCB-160, PCB-163	PCB-129/PCB-138/PCB-160/PCB-163
PCB-134, PCB-143	PCB-134/PCB-143
PCB-135, PCB-151, PCB-154	PCB-135/PCB-151/PCB-154
PCB-137, PCB-164	PCB-137/PCB-164
PCB-146, PCB-161	PCB-146/PCB-161
PCB-147, PCB-149	PCB-147/PCB-149
PCB-153, PCB-168	PCB-153/PCB-168
PCB-156, PCB-157	23344'5-HexaCB(#156)/233'44'5'-HexaCB(#157)
PCB-171, PCB-173	PCB-171/PCB-173
PCB-174, PCB-183, PCB-185	PCB-174/PCB-183/PCB-185
PCB-180, PCB-193	PCB-180/PCB-193
PCB-197, PCB-200	PCB-197/PCB-200
PCB-198, PCB-199	PCB-198/PCB-199

Blanks

One blank was associated with this SDG and was evaluated for possible sources of contamination. The following table lists the highest concentration of contamination that was detected in this blank. The table lists the action levels/actions and the samples affected:

Congener	Type of Blank	Blank Concentration ng/Kg	Action Level ng/Kg	Samples Affected
PCB-1	Method Blank (10/03/01)	16	81	A-TS-35-N, L-TS-62-N
PCB-3	Method Blank (10/03/01)	21	100	A-TS-35-N, L-TS-62-N
PCB-4	Method Blank (10/03/01)	40	200	A-TS-35-N
PCB-8	Method Blank (10/03/01)	70	350	All samples
PCB-197/PCB-200	Method Blank (10/03/01)	53	270	A-TS-35-N, G-TS-04-N

Blank actions are based on Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996 and EPA Region I's Environmental Services Assistance Team PCB Congener data Validation ESAT-01-0008 Draft (8/31/01) criteria. Blank action levels are calculated as five times the highest concentration of the contaminant determined in any blank. The positive sample results that are less than the blank action level are reported as non-detects (U) at the reported concentration on the Data Summary Table.

Internal/Clean-up Standards

• Internal Standards

The following table summarizes the internal standard recoveries that did not meet Centredale Manor Tasks 19-22 QAPP (5/23/01) acceptance criterion of 25-150%:

Standard	% Recovery	Action		Affected Sample
		Positive Detects	NDs	
¹⁴ C ₁₂ -PCB-209	24	J	U	L-TS-62-N

The corresponding non-labeled congener results are estimated as shown in the table due to internal standard percent recoveries outside method acceptance criterion.

Ms. Christine Clark
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June 14, 2002
L-02-06-Z-05
Revised: July 3, 2002

Sample Quantitation

Concentrations quantitated below the lowest calibration standard are flagged (J) on the Data Summary Tables. Quantitation is not accurate when the reported results are below the lowest calibration standard.

2378-TCDD Toxicity Equivalents (TE) and Isomer Specificity

All TE values reported on the Data Summary Tables have been calculated by the ESAT data validator using the validated data discussed above in this report. The validated data accounts for blank contamination. The TE calculations include the reported EMPC values. The fish TEF values for the PCBs are published in "Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and Wildlife", Environmental Health Perspectives, Volume 106, Number 12, December 1998, Table 2, page 780.

System Performance

No trends noted.

Very truly yours,

LOCKHEED ENVIRONMENTAL



Maria E. Baca
Senior Scientist



Uguis Macri
ESAT Program Manager

cc: Cornell Rosiu, EPA RPM (DV Memorandum, Data Summary Table)

Attachments: Table I: Recommendation Summary Table
Table II: Overall Evaluation of Data
Data Summary Tables
Data Validation Worksheets
Analytical Method
PE Scores
Communication/Phone Logs
Field Sampling Notes

Table I
 Recommendation Summary Table for 209 PCB Congeners
 Centredale Manor Site
 Case No.: Nestling B10F1/SDG No. 49038-41 PCB

Sample Nos.	A-TS-35-N	G-TS-04-N	L-TS-62-N
Compound			
PCB-1	y ₁₂	y ₁	y ₁₂
PCB-3	y ₁₂	y ₁	y ₁₂
PCB-4	y ₁₂	y ₁	y ₁
PCB-5	y ₁	y ₁	y ₁
PCB-6	y ₁	y ₁	y ₁
PCB-7	y ₁	y ₁	y ₁
PCB-8	y ₁₂	y ₁₂	y ₁₂
PCB-9	y ₁	y ₁	y ₁
PCB-10	y ₁	y ₁	y ₁
PCB-12/PCB-13	y ₁	y ₁	y ₁
PCB-16/PCB-24/PCB-27	y ₁₂	y ₁₂	y ₁₂
PCB-17	y ₁₂	y ₁₂	y ₁₂
PCB-18/PCB-30	y ₁₂	y ₁₂	y ₁₂
PCB-19	y ₁₂	y ₁₂	y ₁₂
PCB-20/PCB-21/PCB-28/PCB-33	y ₁₂	y ₁₂	y ₁₂
PCB-22	y ₁₂	y ₁₂	y ₁₂
PCB-25	y ₁₂	y ₁₂	y ₁₂
PCB-26/PCB-29	y ₁₂	y ₁₂	y ₁₂
PCB-31	y ₁₂	y ₁₂	y ₁₂
PCB-32	y ₁₂	y ₁₂	y ₁₂
PCB-40/PCB-41/PCB-71	y ₁	y ₁	y ₁
PCB-42	y ₁	y ₁	y ₁

Table 1
 Recommendation Summary Table for 209 PCB Congeners
 Centredale Manor Site
 Case No.: Nestling B10F1/SDG No. 49038-41 PCB

Sample Nos.	A-TS-35-N	O-TS-04-N	L-TS-62-N
Compound			
PCB-43/PCB-52/PCB-73	Y	Y	Y
PCB-44/PCB-47/PCB-65	Y	Y	Y
PCB-45/PCB-51	Y	Y	Y
PCB-46	Y	Y	Y
PCB-48	Y	Y	Y
PCB-49/PCB-69	Y	Y	Y
PCB-50/PCB-53	Y	Y	Y
PCB-56	Y	Y	Y
PCB-59/PCB-62/PCB-75	Y	Y	Y
PCB-60	Y	Y	Y
PCB-63	Y	Y	Y
PCB-64	Y	Y	Y
PCB-66	Y	Y	Y
PCB-61/PCB-70/PCB-74/PCB-76	Y	Y	Y
33/44-186/6B (877)	Y	Y	Y
34/45-186/6B (881)	Y	Y	Y
PCB-82	Y	Y	Y
PCB-83/PCB-99/PCB-112	Y	Y	Y
PCB-84	Y	Y	Y
PCB-85/PCB-116/PCB-117	Y	Y	Y
PCB-86/PCB-87/PCB-97/PCB-109/PCB-119/PCB-125	Y	Y	Y
PCB-89	Y	Y	Y

Table I
 Recommendation Summary Table for 209 PCB Congeners
 Centredale Manor Site
 Case No.: Nestling B1071/SDG No. 49038-41 PCB

Sample Nos	A-TS-35-N	C-TS-04-N	L-TS-62-N
Compound			
PCB-90/PCB-101/PCB-113	Y	Y	Y
PCB-88/PCB-91	Y	Y	Y
PCB-92	Y	Y	Y
PCB-93/PCB-98/PCB-100/PCB-102	Y	Y	Y
PCB-95	Y	Y	Y
23144-TetraCB (#105)	Y	Y	Y
PCB-108/PCB-124	Y	Y	Y
PCB-110/PCB-115	Y	Y	Y
23445-PentaCB (#114)	Y	Y	Y
23445-PentaCB (#118)	Y	Y	Y
PCB-106/PCB-107/23445-PentaCB (#123)	Y	Y	Y
23445-PentaCB (#126)	Y	Y	Y
PCB-122/PCB-166	Y	Y	Y
PCB-129/PCB-138/PCB-160/PCB-163	Y	Y	Y
PCB-130	Y	Y	Y
PCB-131	Y	Y	Y
PCB-132	Y	Y	Y
PCB-134/PCB-143	Y	Y	Y
PCB-135/PCB-151/PCB-154	Y	Y	Y
PCB-136	Y	Y	Y
PCB-137/PCB-164	Y	Y	Y
PCB-141	Y	Y	Y

Table I
 Recommendation Summary Table for 209 PCB Congeners
 Centretale Manor Site
 Case No.: Nestling B10F1/SDG No. 49038-41 PCB

Sample Nos.	A-TS-35-N	G-TS-04-N	L-TS-02-N
PCB-144	Y	Y	Y
PCB-146/PCB-161	Y	Y	Y
PCB-147/PCB-149	Y	Y	Y
PCB-153/PCB-168	Y	Y	Y
233445-HexaCB (#156)/233445-HexaCB (#157)	Y	Y	Y
PCB-158	Y	Y	Y
234455-HexaCB (#167)	Y	Y	Y
234455-HeptaCB (#169)	Y	Y	Y
PCB-170	Y	Y	Y
PCB-171/PCB-172	Y	Y	Y
PCB-172	Y	Y	Y
PCB-174/PCB-183/PCB-185	Y	Y	Y
PCB-175	Y	Y	Y
PCB-176	Y	Y	Y
PCB-177	Y	Y	Y
PCB-178	Y	Y	Y
PCB-180/PCB-193	Y	Y	Y
PCB-182	Y	Y	Y
PCB-184	Y	Y	Y
PCB-187	Y	Y	Y
2334455-HeptaCB (#189)	Y	Y	Y
PCB-190	Y	Y	Y

Table I
 Recommendation Summary Table for 209 PCB Congeners
 Cathedral Manor Site
 Case No.: Nestling BIOFI/SDG No. 49038-41 PCB

Sample Nos.	A-TS-35-N	G-TS-04-N	L-TS-02-N
Compound			
PCB-191	Y ¹	Y ¹	Y ¹
PCB-194	Y ¹	Y ¹	Y ¹
PCB-195	Y ¹	Y ¹	Y ¹
PCB-196	Y ¹	Y ¹	Y ¹
PCB-197/PCB-200	Y ¹²	Y ¹³	Y ¹
PCB-198/PCB-199	Y ¹	Y ¹	Y ¹
PCB-201	Y ¹	Y ¹	Y ¹
PCB-203	Y ¹	Y ¹	Y ¹
PCB-205	Y ¹	Y ¹	Y ¹
PCB-206	Y ¹	Y ¹	Y ¹
PCB-207	Y ¹	Y ¹	Y ¹
PCB-209	Y ¹	Y ¹	Y ¹⁴

Table I
Recommendation Summary Table for PCB Congeners

A	-	Accept all results.
J ¹	-	PE %D outside criterion; J detects, UJ non-detects.
J ²	-	VER recoveries outside criterion; J detects, UJ non-detects.
J ³	-	Method blank contamination; positive sample results less than the blank action level are reported as non-detects (U) at the concentration reported.
J ⁴	-	Internal standard recoveries outside criterion; J detects, UJ non-detects.

EP-A-NE - Data Validation Worksheet
 Overall Evaluation of Data - Data Validation Memorandum - Table II

DOQ (All as DOQ)		Sampling under Analytical Method Appropriate Yes or No	Measurement Error	Sampling Error	Sampling Variability	Potential Usability Issues
<p>The following is a summary of the data from the initial performance observations as found in Cambridge Memor Task 19, 22 QAPP (4/2/89):</p> <p>26 general data of quality considered to be used for human health (GHH-A) and ecological data measurements (EE-A) in the site.</p>	<p>Yes, Sampling Method appropriate for all samples</p> <p>Yes, Analytical method appropriate for all samples</p>	<p>Refer to qualification in R-5, W-6, and Q-1 Table I</p> <p>Yes</p>	<p>Refer to qualification in R-5, W-6, and Q-1 Table I</p> <p>NA</p>	<p>NA</p>	<p>Over Cambridge Intake Laboratory (CI) Standard Reference Material (SRM) sample was evaluated for this SRM (CIL SDP 276 for PCB congeners in fish tissue). Since the majority of congeners were outside the Cambridge Memor Task 19-22 QAPP (4/2/89) specified retention of 20 years from the consensus value and all of the congeners had low recoveries, the results for all congeners in all samples were set as (U) due to the possibility of biased low results.</p> <p>This method had low level contamination. However, the concentration in the method blank was insignificant when compared to the concentration found in the field samples. Therefore, the method blank contamination does not impact data usability. When the sample concentrations in the field samples were less than the corresponding blank action level, the field sample results reported by the laboratory are qualified as non-detect (U) on the Data Summary Table. See Table 1 for a summary of the qualifiers applied due to blank contamination.</p> <p>Data validation indicated minor data quality problems which do not significantly impact the usability of the data. See the data validation memoranda for details. The reported results are ready for use as objectives.</p>	

The estimation of "sampling error" cannot be completely assessed in the data validation. Sampling variability is not assessed in data validation.

Validator: Howie Rose

Date: 7/3/02

STATE OF TEXAS
 LABORATORY BATTLE

Police Summary Table
 Police Summary Analysis - Texas Sample (unit weight)

STATION	STATION NAME	STATION TYPE	1-75-62-H		1-75-62-H		PLACEMENT
			Quantity	Value	Quantity	Value	
STATION 1	STATION 1	STATION 1	10	100	10	100	
STATION 2	STATION 2	STATION 2	20	200	20	200	
STATION 3	STATION 3	STATION 3	30	300	30	300	
STATION 4	STATION 4	STATION 4	40	400	40	400	
STATION 5	STATION 5	STATION 5	50	500	50	500	
STATION 6	STATION 6	STATION 6	60	600	60	600	
STATION 7	STATION 7	STATION 7	70	700	70	700	
STATION 8	STATION 8	STATION 8	80	800	80	800	
STATION 9	STATION 9	STATION 9	90	900	90	900	
STATION 10	STATION 10	STATION 10	100	1000	100	1000	
STATION 11	STATION 11	STATION 11	110	1100	110	1100	
STATION 12	STATION 12	STATION 12	120	1200	120	1200	
STATION 13	STATION 13	STATION 13	130	1300	130	1300	
STATION 14	STATION 14	STATION 14	140	1400	140	1400	
STATION 15	STATION 15	STATION 15	150	1500	150	1500	
STATION 16	STATION 16	STATION 16	160	1600	160	1600	
STATION 17	STATION 17	STATION 17	170	1700	170	1700	
STATION 18	STATION 18	STATION 18	180	1800	180	1800	
STATION 19	STATION 19	STATION 19	190	1900	190	1900	
STATION 20	STATION 20	STATION 20	200	2000	200	2000	
STATION 21	STATION 21	STATION 21	210	2100	210	2100	
STATION 22	STATION 22	STATION 22	220	2200	220	2200	
STATION 23	STATION 23	STATION 23	230	2300	230	2300	
STATION 24	STATION 24	STATION 24	240	2400	240	2400	
STATION 25	STATION 25	STATION 25	250	2500	250	2500	
STATION 26	STATION 26	STATION 26	260	2600	260	2600	
STATION 27	STATION 27	STATION 27	270	2700	270	2700	
STATION 28	STATION 28	STATION 28	280	2800	280	2800	
STATION 29	STATION 29	STATION 29	290	2900	290	2900	
STATION 30	STATION 30	STATION 30	300	3000	300	3000	
STATION 31	STATION 31	STATION 31	310	3100	310	3100	
STATION 32	STATION 32	STATION 32	320	3200	320	3200	
STATION 33	STATION 33	STATION 33	330	3300	330	3300	
STATION 34	STATION 34	STATION 34	340	3400	340	3400	
STATION 35	STATION 35	STATION 35	350	3500	350	3500	
STATION 36	STATION 36	STATION 36	360	3600	360	3600	
STATION 37	STATION 37	STATION 37	370	3700	370	3700	
STATION 38	STATION 38	STATION 38	380	3800	380	3800	
STATION 39	STATION 39	STATION 39	390	3900	390	3900	
STATION 40	STATION 40	STATION 40	400	4000	400	4000	
STATION 41	STATION 41	STATION 41	410	4100	410	4100	
STATION 42	STATION 42	STATION 42	420	4200	420	4200	
STATION 43	STATION 43	STATION 43	430	4300	430	4300	
STATION 44	STATION 44	STATION 44	440	4400	440	4400	
STATION 45	STATION 45	STATION 45	450	4500	450	4500	
STATION 46	STATION 46	STATION 46	460	4600	460	4600	
STATION 47	STATION 47	STATION 47	470	4700	470	4700	
STATION 48	STATION 48	STATION 48	480	4800	480	4800	
STATION 49	STATION 49	STATION 49	490	4900	490	4900	
STATION 50	STATION 50	STATION 50	500	5000	500	5000	

Section 1 Quality Assurance Review

A. Organic Data

The organic analyses of 61 tissue samples (including QC samples) were performed by Battelle Laboratories of Duxbury, Massachusetts. The samples were analyzed for pesticide/PCB compounds by Battelle Method SOP 5-128-05. These analyses are specified on Table 1. The laboratory organized the samples into four sample delivery groups (SDGs 01-380, 01-568, 01-571, and 01-587).

These represent Swallow

The findings in this report are based upon a US EPA Region I Tier II (Tier II) review of holding times, condition of samples upon laboratory receipt, blank analysis results, laboratory control sample (LCS) recoveries, matrix spike (MS)/matrix spike duplicate (MSD) recoveries and precision, surrogate recoveries, laboratory and field duplicate/split sample precision, instrument sensitivity, analytical sequence, calibrations, overall system performance, and quantitation of positive results.

SDGs.

DDW/lan

8/8/02

Overall, the organic data quality is satisfactory. The data reviewer has edited the laboratory-reported data and QC forms based on the deficiencies and comments listed in this QA review. Analytical and reporting requirements defined in the QAPP were met for this data set, with the exception of the items identified in the following sections of this QA review; it should be emphasized that these items do not necessarily impact data usability. Based upon a Tier II review of the data provided, the organic data qualifiers associated with the samples that underwent limited data validation are presented in the subsequent Organic Data Qualifiers section. These qualifiers should not be applied to any organic results that did not undergo data validation. Data usability issues represent an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the validation guidelines specify areas of the data that require qualification, yet the methods used for analysis do not require any corrective action by the laboratory. Accordingly, the data usability issues that follow should not necessarily be construed as an indication of laboratory performance.

Noncorrectable Deficiencies

1. For the pesticide/PCB fractions of all SDGs, the laboratory quantitated several samples for pesticides using response factors generated from an initial calibration that was analyzed after the samples had been analyzed. According to Battelle Duxbury Method 5-128-05 (Section 3.1), a valid multi-point initial calibration should be analyzed at the beginning of each set of continuous sample analyses. The laboratory did analyze an initial calibration at the beginning of the analytical sequence. The laboratory, however, indicated that due to the nature of the sample matrix, a loss of instrument sensitivity was observed in the associated pesticide CCV standards (see Non-Correctable Deficiency #4). The laboratory recalibrated the instrument (as required, due to the non-compliant CCV standards) but did not reanalyze the samples analyzed prior to the recalibration because the laboratory concluded that the sample matrix negatively impacted the instrument's column condition (as evidenced by the non-compliant pesticide CCV standards that followed the second initial calibration in the sequence). Battelle laboratory personnel indicated to the data reviewer that these sample analyses already represented reextractions and that the initial extractions and analyses exhibited similar matrix problems that impacted calibration stability. Reanalysis of project samples, therefore, was not warranted because similar

conditions would likely be encountered. Based on an evaluation of both initial calibrations and all CCV standards in the analytical sequence, the laboratory determined that the second initial calibration was the "better" of the two calibrations. The results for all samples and standards in the analytical sequence were processed against the response factors generated from this calibration. Qualification of data due to loss of instrument sensitivity is addressed in the subsequent Organic Data Qualifiers section.

2. For SDG 01-568, the laboratory did not reextract and reanalyze all samples associated with a preparation blank that exhibited zero percent surrogate recoveries. According to the QAPP (Worksheet #24a), the corrective action for surrogate recoveries outside of performance criteria is to reextract and/or reanalyze associated samples. The laboratory stated in the Case Narrative that it appeared that the aforementioned preparation blank had not been fortified with surrogate compounds and that target pesticide/PCB compound contamination is rare in preparation blanks; thus, no further corrective action was taken. Acceptable surrogate recoveries were observed in all investigative sample analyses in SDG 01-568. Qualification of data was not warranted due to this issue.
3. For SDG 01-380, the laboratory did not reanalyze the independent check standard (ICS) in which the majority of target analytes did not meet QC acceptance criteria (percent difference [%D] <15%). Although stipulated in the QAPP (Worksheet #24a) that the ICS is an internal QC check, the failure of the majority of target analytes to meet QC acceptance criteria demonstrates that the instrument conditions were not optimized prior to sample analyses. The laboratory performed a second initial calibration (see Noncorrectable Deficiency #1); consequently, only those samples analyzed after the aforementioned ICS and prior to the second initial calibration (specifically, samples A-TS-35-N and A-TS-46-N) were impacted. Qualification of data due to high %Ds in the ICS is addressed in the Organic Data Qualifiers section.
4. For SDG 01-380, the laboratory did not reanalyze samples A-TS-35-N and A-TS-46-N, which were bracketed by a non-compliant (i.e., %Ds>25%) continuing calibration check standard. According to Battelle SOP 5-128-05 (Section 3.4), if the check standard fails to meet calibration check criteria, the check standard and associated samples must be reanalyzed. Qualification of data due to high percent differences in the aforementioned check standard is addressed in the Organic Data Qualifiers section. *A-TS-35-N re-extracted with batch 01-472. DTBahl 6/29/02*
5. For SDGs 01-380 and 01-587, the temperature of the samples upon laboratory receipt was 19.7°C. According to the QAPP (Worksheet #22a), samples must be frozen when shipped. Due to the stability of the target compounds at temperatures less than 20°C, qualification of data was not warranted due to the elevated sample temperature.

Comments

1. For SDG 01-587, the Case Narrative states that the tissue samples were not immediately logged in upon receipt at Battelle Duxbury laboratory and were allowed to warm to room temperature. Due to the stability of the target analytes, the data reviewer did not qualify data due to this issue.

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① Not relevant to swab data packages.

RL 5-29-02



2. For SDGs 01-571 and 01-587, the sample collection dates were not recorded on the associated Chain-of-Custody forms. The data reviewer was able to obtain the sample collection dates from the electronic disk deliverables provided.
3. For SDG 01-587, the laboratory received split samples for samples LPX-CF-4001-0000-01 (W6480 and W6835), LPX-CF-4004-0000-01 (W6484 and W6836), and WRL-CF-4005-000-01 (W6485 and W6834) from the Battelle Columbus laboratory (see Project Correspondence). The Environmental Standards data reviewer considered the sample splits as field duplicates for data evaluation purposes. The Environmental Standards data reviewer has referred to the split samples by using the client sample identifier followed by the laboratory sample identifier in parentheses in this report.

With respect to data usability, the principal areas of concern include high check standard percent differences (%Ds), low LCS recoveries, high continuing calibration %Ds, low surrogate standard recoveries, high and low MS/MSD recoveries, high MS/MSD relative percent differences (RPDs), laboratory duplicate and field imprecision, and quantitation of results below the project-required quantitation limits. Based on the Tier II review of the data provided, the following organic data qualifiers are offered. The following data usability issues represent an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the data validation guidelines routinely specify areas of the data that require qualification, yet the methods used for analysis may not require corrective action by the laboratory. Accordingly, the following data usability issues should not be construed as an indication of laboratory performance.

Organic Data Qualifiers

- The analysis for endosulfan I in SDG 01-380 sample L-TS-70-N should be considered unusable, and the "not-detected" result has been flagged "R" on the data tables. Very low recoveries (<10%) were observed for endosulfan I in the associated MS/MSD analyses.
- The quantitation limits for the following compounds in the samples listed on the table below may be biased low, and the "not-detected" results have been flagged "UJ" (unless previously flagged "R") on the data tables. In addition, any reported positive results for these compounds should be considered estimated and have been flagged "J" on the data tables. High %Ds (>25%) were observed for these compounds in the associated independent check standard.

Compound(s)	SDG	Samples With Qualified Quantitation Limits ("UJ") or Estimated Positive Results ("J")
All single-component pesticides except 4,4'-DDE	01-380	A-TS-35-N, and A-TS-46-N
heptachlor epoxide	01-588	All samples

* Sample re-extracted with batch 01-672. DTDahl 6/20/02

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① Not relevant to swallow data packages. BL 5-29-02



The quantitation limits for the following compounds in the samples listed below may be biased low, and the "not-detected" results have been flagged "UJ" (unless previously flagged "R") on the data tables. In addition, any reported positive results for these compounds should be considered estimated and have been flagged "J" on the data tables. High %Ds (>25%) were observed for these compounds in the associated continuing calibration verification standards.

Compounds	SDG	Samples With Qualified Quantitation Limits ("UJ") or Estimated Positive Results ("J")	
All single-component pesticides except 4,4'-DDE	01-380	A-TS-35-N and A-TS-46-N	* samples re-extracted with batch 01-672. DTP 6/20/02
endrin	01-380	L-TS-62-N, L-TS-63-N, L-TS-70-N, L-TS-84-N, and L-TS-89-N	

The quantitation limits for all pesticide/PCB compounds and total Aroclors in the samples listed below may be higher than reported, and the "not-detected" results have been flagged "UJ" (unless previously flagged "R") on the data tables. In addition, the reported positive results for the following compounds in the samples listed below should be considered estimated and have been flagged "J" on the data tables. Low recoveries (<40%) were observed for one or more of the surrogate compounds in the analyses of these samples.

Compounds	SDG	Samples With Qualified Quantitation Limits ("UJ") and/or Estimated Positive Results ("J")
All compounds	01-380	L-TS-70-N, L-TS-89-N, A-TS-35-N, A-TS-46-N, A-TS-48-N, A-TS-57-N, G-TS-02-N, G-TS-22-N, G-TS-29-N, L-TS-62-N, L-TS-63-N, and L-TS-84-N
All compounds	01-571	GMS-EW-4003-0000-01, LPX-EW-4004-0000-01, GMS-EW-4002-0000-01, and GMS-EW-4005-0000-01

* Samples A-TS-35-N, A-TS-57-N, G-TS-02-N, and L-TS-63-N were re-extracted with batch 01-672. DTP 6/20/02

The quantitation limits for the following compounds in the samples listed below may be higher than reported, and the "not-detected" results have been flagged "UJ" on the data tables. Low recoveries (<40%) were observed for these compounds in the associated LCS analyses.

Compound	SDG	Samples With Qualified Quantitation Limits ("UJ")
endrin aldehyde	01-380	All samples
	01-568	All samples
endosulfan-II	01-571	All samples

① Not relevant to swallow data packages. BL 5-28-02



The quantitation limits for the following compounds in the samples listed below may be higher than reported, and the "not-detected" results have been flagged "UJ" on the data tables. In addition, the reported positive results for the following compounds in the samples listed below should be considered estimated and have been flagged "J" on the data tables. Low recoveries (<40%) were observed for these compounds in the associated MS/MSD analyses.

Compound(s)	SDG	Samples With Qualified Quantitation Limits ("UJ") and/or Estimated Positive Results ("J")
endosulfan II and endrin aldehyde	01-380	L-TS-70-N
4,4'-DDE, aldrin, alpha-BHC, alpha-chlordane, beta-BHC, delta-BHC, endosulfan I, endosulfan II, endrin aldehyde, gamma-BHC, gamma-chlordane, heptachlor, and heptachlor-epoxide	01-571	RWR-EW-5002-0000-01
endosulfan I	01-587	RWR-CF-5003-0000-01

The quantitation limits for 4,4-DDD; 4,4-DDE; 4,4-DDT; alpha-chlordane; endosulfan II; endrin aldehyde; endrin ketone; gamma-chlordane; heptachlor; and heptachlor epoxide in SDG 01-571 sample RWR-EW-5002-0000-01 may be higher than reported, and the "not-detected" results have been flagged "UJ" on the data tables. In addition, the reported positive results for 4,4-DDD; 4,4-DDE; alpha-chlordane, and gamma-chlordane in SDG 01-571 sample RWR-EW-5002-0000-01 should be considered estimated and have been flagged "J" on the data tables. High RPDs (>30%) were observed between the results for these compounds in the associated MS/MSD analyses.

The reported positive results for dieldrin, heptachlor epoxide, Aroclor-1254, and total Aroclors in SDG 01-568 sample L-TS-73-P should be considered estimated and have been flagged "J" on the data tables. High RPDs (>30%) were observed between the results for dieldrin, heptachlor, epoxide, and Aroclor-1254 in the associated laboratory duplicate analyses. True - except that concentrations of dieldrin and heptachlor epoxide in the lab duplicate were 4.3x the detection limit. DID 6/20/02.

The reported positive result for 4,4'-DDE in SDG 01-568 sample A-TS-33-P should be considered estimated and has been flagged "J" on the data tables. A high recovery (>120%) was observed for 4,4'-DDE in the associated MS analysis. True - but the concentration of 4,4'-DDE in the MS was 2.5x background levels. DID 6/20/02.

The reported positive results for Total Aroclor in all samples with estimated positive results (flagged "J"), for Aroclor-1254, and/or for Aroclor-1268 should be considered estimated and have been flagged "J" on the data tables. The laboratory-reported results for Total Aroclor represent the sum of the observed positive results for all Aroclor compounds.

Three split sample pairs [SDG 01-587 sample LPX-CF-4001-01 (W6485) and its split sample LPX-CF-4001-01 (W6834), SDG 01-587 sample LPX-CF-4004-0000-01 (W6480) and its split sample LPX-CF-4004-0000-01 (W6835), and SDG 01-587 sample

Ⓞ Not relevant to suballow data packages. BL 5-29-02



WRL-CF-4005-0000-01 (W6484) and its split duplicate, sample LPX-CF-4004-0005-01^① (W6836) were submitted to the laboratory with this data set. Acceptable precision and sample representativeness were demonstrated by the correlation observed between the results in the split sample pairs (i.e., when both results were $\geq 3\times$ the quantitation limit, the RPD was $\leq 50\%$ or when one of the results was $\leq 3\times$ the quantitation limit, the difference between results was $\leq 3\times$ the quantitation limit). Complete comparisons of the quantitatively confident positive results in the split sample pairs have been included in Section 3.

One field duplicate pair (SDG 01-571 sample CMS-EW-4001-0000-01 and its field duplicate sample CMS-DU-072001-A) was submitted to the laboratory with this data set. Acceptable precision and sample representativeness were demonstrated by all reported results in these field QC samples except the results for dieldrin and methoxychlor. A positive result for methoxychlor was reported in sample CMS-DU-072001-A and methoxychlor was not observed in sample CMS-EW-4001-0000-01. The quantitation limit for methoxychlor in SDG 01-571 sample CMS-EW-4001-0000-01 may be higher than reported, and the "not-detected" result has been flagged "UJ" on the data tables. In addition, the reported positive results for dieldrin and methoxychlor in SDG 01-571 sample CMS-DU-072001-A and for dieldrin in SDG 01-571 sample CMS-EW-4001-0000-01 should be considered estimated and have been flagged "J" on the data tables. The differences between the reported results for these compounds were greater than three-times the quantitation limit and at least one of the results was less than five-times the quantitation limit.

Based on the project-specific reporting requirements, all reported positive results with concentrations between the laboratory method detection limit and the project quantitation limit should be considered estimated and have been flagged "J" on the data tables.

Complete support documentation for this organic QA review is presented in Section 3 of this report. The cover sheet for this section is a checklist of all QA procedures required by the methods and examined in this data review.

① Not relevant to swallow data packages

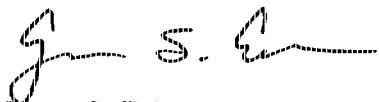
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C. Conclusions

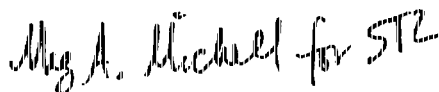
Overall, the data quality is satisfactory. Based on this QA review, one organic result was qualified as unusable due to very low matrix spike/matrix spike duplicate recoveries. In addition, several organic results were qualified as estimated due to high check standard %Ds, low laboratory control sample recoveries, high continuing calibration %Ds, low surrogate standard recoveries, low matrix spike/matrix spike duplicate recoveries, high matrix spike/matrix spike duplicate RPDs, laboratory and field duplicate imprecision, and quantitation of results below the project-required quantitation limits. Overall, the data are acceptable for use, provided the data user understands the limitations and qualifications stated in this QA review. The Laboratory Case Narratives, Chain-of-Custody Records, and Project Correspondence are presented in Sections 4, 5, and 6, respectively.

Report prepared by:



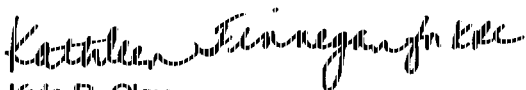
Glenn S. Esler
Quality Assurance Chemist

Report reviewed by:



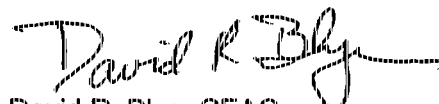
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Date: 2/7/02



Swallow Re-extract
Batch (01-672) for
Rest/PCB
D Dahlen 8/14/02

Section 1 Quality Assurance Review

A. Organic Data

The organic analyses of 20 tissue samples (including QC samples) were performed by Battelle Laboratories (Battelle) of Duxbury, Massachusetts. The samples were collectively analyzed for select polynuclear aromatic hydrocarbons (PAH) by selective ion monitoring by Battelle Method SOP 5-157-05 and for pesticide/PCB compounds by Battelle Method SOP 5-128-05. These analyses are specified on Table 1. The laboratory organized the samples into one sample delivery group (SDG 01-672). ⇒ Re-extract batch - D Dahlen 8/14/02

The findings in this report are based upon a rigorous review of holding times, condition of samples upon laboratory receipt, blank analysis results, laboratory control sample (LCS) recoveries, matrix spike (MS)/matrix spike duplicate (MSD) recoveries and precision, laboratory duplicate precision, surrogate recoveries, instrument sensitivity, analytical sequence, and calibrations.

Overall, the organic data quality appears to be acceptable. Analytical and reporting requirements defined in the QAPP were met for this data set, with the exception of the items identified in the following sections of this QA review; it should be emphasized that these items do not necessarily impact data usability. Based upon a Tier II review of the data provided, the organic data qualifiers associated with the samples that underwent limited data validation are presented in the subsequent Organic Data Qualifiers section. These qualifiers should not be applied to any organic results that did not undergo data validation. Data usability issues represent an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the validation guidelines specify areas of the data that require qualification, yet the methods used for analysis do not require any corrective action by the laboratory. Accordingly, the data usability issues that follow should not necessarily be construed as an indication of laboratory performance.

Noncorrectable Deficiencies

1. High percent differences (%Ds > 25%) were observed for *gamma*-BHC and *delta*-BHC in continuing calibration verifications (CCVs) associated with project samples. According to the QAPP (Worksheet #21), the laboratory should reanalyze the Check Standard Solution or recalibrate the system if any percent difference is greater than 25%. The laboratory did not reanalyze the standards or recalibrate the system. The impact on data usability due to the high %Ds is addressed in the subsequent Organic Data Qualifiers section.
2. The reported sample cooler temperature upon laboratory receipt for the sample cooler containing samples A-TS-35-N, A-TS-57-N, G-TS-02-N, and L-TS-63-N was 19.7°C. According to the QAPP (Worksheet #22A), samples must be frozen when shipped. Due to the stability of the target compounds at temperatures less than 20°C, qualification of data was not warranted due to the elevated sample temperature upon receipt.

Comments

1. For the PAH fraction, the tentatively identified compounds (TICs) reported for the project samples were evaluated for the presence of target compounds or surrogate standards. Target compounds and surrogate standards were not reported as TICs for the project samples.
2. The laboratory did not provide sample receipt information (sample custody records, Sample Receipt Forms, and sample log-in reports) for samples LPX-LB-4004-0000-01, GMP-LB-5005-0000-01, and MAP-LB-4001-0000-01. The data reviewer was able to obtain these data from other project data packages.

With respect to data usability, the principal areas of concern include blank contamination, MS/MSD results, laboratory duplicate imprecision, a continuing calibration issue, and quantitation of results below the project-required quantitation limit. Based on a Tier II review of the data provided, the following organic data qualifiers are offered. The following data usability issues represent an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the data validation guidelines routinely specify areas of the data that require qualification, yet the methods used for analysis may not require corrective action by the laboratory. Accordingly, the following data usability issues should not be construed as an indication of laboratory performance.

Organic Data Qualifiers

- Due to the trace-level presence of the following compounds in the associated method blanks, the reported positive results for the following compounds in the samples listed below should be considered "not-detected" and have been flagged "U" on the data tables. Furthermore, results that were reported below the sample-specific quantitation limit were replaced with the quantitation limit and the appropriate "U" qualifier. It should be noted that sample weights were taken into consideration when evaluating blank contamination.

<u>Compound(s)</u>	<u>Sample(s) With Results Qualified as "Not-Detected" ("U")</u>
biphenyl and naphthalene	all samples
2-methylnaphthalene	GMP-LB-5005-0000-01 and LPX-LB-4004-0000-01
anthracene and fluoranthene	LPX-LB-4004-0000-01 and MAP-LB-4001-0000-01
chrysene and pyrene	GMP-LB-5005-0000-01, LPX-LB-4004-0000-01, and MAP-LB-4001-0000-01
phenanthrene	LPX-LB-4004-0000-01

- The quantitation limits for endrin aldehyde in sample LPX-LB-4003-0000-01; for endosulfan I, endosulfan II, and endrin aldehyde in sample GMP-LB-5005-0000-01; and for endosulfan I and endrin aldehyde in sample CMS-EW-4003-0000-01 may be higher

Not related to Swallow Data Report. BL 8-12-02

than reported and have been flagged "UJ" on the data tables. Low recoveries (<40%) were observed for endosulfan I, endosulfan II, and endrin aldehyde in the associated MS/MSD analyses.

- ~~The reported positive result for 4,4'-DDE in sample GMP-LB-5005-0000-01 should be considered estimated and has been flagged "J" on the data tables. High recoveries (>125%) was observed for 4,4'-DDE in the associated MS/MSD analyses.~~ ①
- ~~The reported positive result for *alpha*-chlordane in sample GMP-LB-5005-0000-01 should be considered estimated and has been flagged "J" on the data tables. A high relative percent difference (RPD>30%) was observed for *alpha*-chlordane in the associated MS/MSD analyses.~~ ①
- ~~The reported positive results for fluoranthene, phenanthrene, and Total PAHs in sample GMP-LB-5005-0000-01 and for phenanthrene in sample LPX-LB-4003-0000-01 should be considered estimated and have been flagged "J" on the data tables. High RPDs (>30%) were observed for these compounds in the associated laboratory duplicate analyses.~~ ①
- ~~The reported positive results for Aroclor-1254, Aroclor-1268, Total Aroclor, and technical chlordane in sample LPX-LB-4003-0000-01; for 4,4'-DDT; *alpha*-chlordane, dieldrin, Aroclor-1254, Aroclor-1268, Total Aroclor; and technical chlordane in sample GMP-LB-5005-0000-01; and for *alpha*-chlordane, *gamma*-chlordane, technical chlordane, Aroclor-1254, and Total Aroclor in sample CMS-EW-4005-0000-01 should be considered estimated and have been flagged "J" on the data tables. High RPDs (>30%) were observed for these compounds in the associated laboratory duplicate analyses.~~ ①
- The quantitation limits for *gamma*-BHC and *delta*-BHC in all samples may be higher than reported, and the "not-detected" results have been flagged "UJ" on the data tables. High percent differences (%Ds>25%) were observed for these compounds in associated continuing calibration standards.
- The reported positive results for Total Aroclor in all samples with estimated positive results (flagged "J"), for Aroclor-1254, and/or for Aroclor-1268 should be considered estimated and have been flagged "J" on the data tables. The laboratory-reported results for Total Aroclor represent the sum of the observed positive results for all Aroclor compounds.
- ~~The reported positive results for Total PAHs in all samples with estimated positive results (flagged "J") for any PAH compound should be considered estimated and have been flagged "J" on the data tables. The laboratory-reported results for Total PAHs represent the sum of the observed positive results for all PAH compounds.~~ ①
- Based on the project-specific reporting requirements, all reported positive results with concentrations between the laboratory method detection limit and the project quantitation limit should be considered estimated and have been flagged "J" on the data tables.

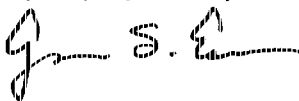
① Not related to Swallow Data Report. BL 8-12-02

Complete support documentation for this organic QA review is presented in Section 3 of this report. The cover sheet for this section is a checklist of all QA procedures required by the methods and examined in this data review.

B. Conclusions

Overall, the data quality is acceptable. Based on this QA review, several PAH results were qualified as "not-detected" due to blank contamination. In addition, several PAH and pesticide/PCB results were qualified as estimated due to MS/MSD results, a continuing calibration issue, laboratory duplicate imprecision, and quantitation of results below the project-required reporting limit. Overall, the data are acceptable for use, provided the data user understands the limitations and qualifications stated in this QA review. The Laboratory Case Narratives, and Chain-of-Custody Records are presented in Sections 4 and 5 respectively.

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Date: 3/6/02

Section 1 Quality Assurance Review

A. Inorganic Data

The inorganic analyses of 19 tissue samples (including QC samples) 16 crayfish samples (including QC samples), 18 worm samples (including QC samples), and 204 fish samples (including QC samples) were performed by Battelle Marine Sciences Laboratory (MSL) of Sequim, Washington. The samples were collectively analyzed for beryllium, aluminum, vanadium, chromium, manganese, iron, zinc, and silver by Battelle-MSL Method MSL-I-027-03; for cobalt, nickel, arsenic, molybdenum, copper, cadmium, antimony, thallium, barium, and lead by Battelle-MSL Method MSL-I-022-04; for methylmercury by Battelle Method MSL-I-015-05; for selenium by Battelle-MSL Method MSL-I-029-03; and for mercury by Battelle-MSL Method MSL-I-016-03. These analyses are specified on Table 1. The laboratory organized the samples into one SDG (SDG 1678).

The findings in this report are based upon a Tier II review of sample holding times, condition of samples upon laboratory receipt, blank analysis results, laboratory and field duplicate precision, blank spike recoveries, matrix spike/matrix spike duplicate (MS/MSD) recoveries and precision, standard reference material (SRM) results, instrument sensitivity, method detection limits (MDLs), and calibrations.

Overall, the inorganic appears to be acceptable. The data reviewer has edited the QC forms based on the deficiencies listed in this QA review. Analytical and reporting requirements defined in the QAPP were met for this data set, with the exception of the items identified in the following sections of this QA review; it should be emphasized that these items do not necessarily impact data usability. Based upon a Tier II review of the data provided, the inorganic data qualifiers associated with the samples that underwent a Tier II review are presented in the subsequent Inorganic Data Qualifiers Section. These qualifiers should not be applied to any inorganic results that did not undergo a Tier II review. Data usability issues represent an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the validation guidelines specify areas of the data that require qualification, yet the methods used for analysis do not require any corrective action by the laboratory. Accordingly, the data usability issues that follow should not necessarily be construed as an indication of laboratory performance.

Correctable Deficiencies

1. The laboratory-reported sequence numbers on the ICP/MS Sample Entry Report and on the Data Set summary for data set 1678-3 do not correspond. The data reviewer was able to determine the sequence numbers are "off" by six.
2. The laboratory did not report all of the samples analyzed on 11/10/01 on the associated ICP Analytical Sequence form.
3. The laboratory did not summarize the results of the initial calibrations for the majority of the analyses in this data set. The data reviewer was unable to evaluate the linearity of the calibrations for these analyses. All continuing calibration verification (CCV) standard recoveries were within the acceptance limits; therefore, data were not qualified due to this issue.

4. The laboratory did not summarize calibration blank results for any of the analyses in this data set. The data reviewer used the procedural blank results to evaluate the usability of the project sample data.
5. The laboratory did not summarize the internal standard responses for the ICPMS analyses performed by Battelle-MSL Method MSL-I-022-04. According to the method (Section 6.8), the internal standard responses should be within 60-125% of the original response in the calibration blank. The data reviewer could not evaluate the internal standard responses for compliance.
6. The laboratory flagged the lead results with a "U" on the sample results summary form ^① for several fish tissue samples analyzed on 9/10/01. The levels of lead in these samples were above the MDL and the results should not have been flagged "U". The data reviewer deleted the "U" flags from the data tables.
7. The laboratory reported sample IDs of "LPX-LB-4009-0000-00" and "LPX-LB-4010-0000-00" on the sample results summary form for samples LPX-LB-4009-0000-01 and LPX-LB-4010-0000-01.
8. The laboratory did not summarize the calibration verification standard, calibration blank, interference check sample, and/or serial dilution results for the ICP analyses performed on 9/12/01 and 9/25/01. The data reviewer was able to evaluate these QC samples only on a pass/fail basis using the results reported on the analytical sequence lists.
9. The laboratory reported a collection date of "6/23/01" on the Sample Login form for samples GMP-LB-5003-0000-01F, GMP-LB-5003-0000-01O, GMP-LB-5004-0000-01F, GMP-LB-5004-0000-01O, GMP-LB-5005-0000-01F, GMP-LB-5005-0000-01O, GMP-LB-5006-0000-01F, GMP-LB-5006-0000-01O, GMP-LB-5007-0000-01F, GMP-LB-5007-0000-01O, GMP-LB-5008-0000-01F, GMP-LB-5008-0000-01O, GMP-LB-5009-0000-01F, GMP-LB-5009-0000-01O, GMP-LB-5010-0000-01F, GMP-LB-5010-0000-01O, and GMP-AE-5010-0000-01. According to the Chain-of-Custody record, these samples were collected on 6/25/01. ^①

Noncorrectable Deficiencies

1. The laboratory analyzed more than 10 samples between calibration verification standards for the methylmercury sequences analyzed on 8/8/01 and 9/4/01. According to Battelle Method MSL-I-015-05 (Table 1), methylmercury calibration verification standards must be analyzed every 10 samples. The associated project samples were bracketed by QC-compliant verification standards; therefore, qualification of data was not warranted due to this issue.
2. The laboratory did not perform serial dilution analyses in association with the ICP samples analyzed on 9/20/01, 9/25/01, 11/10/01, 11/11/01, and 11/12/01. According to Battelle-MSL Method MSL-I-027-03 (Section 7.2.1), a serial dilution analysis must be performed with each batch of samples. The Environmental Standards data reviewer was

unable to assess chemical or physical interferences that would be demonstrated by serial dilution results. Serial dilutions were run if instrument problem(s) were suspected; serial dilutions, if any, were identified with sample ID.

- 3. The temperatures of the coolers received by the laboratory on 6/22/01 were 14.5°C and 8.3°C. In addition, laboratory comments on the Chain-of-Custody records indicated that the samples received on 6/29/01 were frozen. According to the QAPP (Worksheet #22a), the cooler temperature for tissue samples must be < 6°C and the samples must be visually inspected upon receipt to determine if the samples are frozen. Data were not qualified due to this deficiency.

L. in
SOP
will be
revised
and
modified
to account
describe
this
procedure
DBattle
6/21/02

Comments

- 1. The laboratory reported all observed detections as positive results. Battelle project management indicated to the Environmental Standards data reviewer that this reporting convention was consistent with project requirements. US EPA reporting conventions typically dictate that results with concentrations less than the MDL or the instrument detection limit (IDL) are reported as "not-detected" results. As part of this Tier II review, the Environmental Standards data reviewer did not alter the laboratory-reported results. The impact of this reporting issue on data quality is addressed in the Inorganic Data Qualifiers section.
- 2. Samples DYP-AE-5001-0000-01, DYP-AE-5002-0000-01, and DYP-AE-5003-0000-01 were reported with 4000-series ID numbers on the data tables. The 5000-series ID numbers were used to refer to these samples in this QA review. As instructed by Battelle personnel, the Environmental Standards data reviewer did not edit the sample identifications on the electronic data deliverables or data tables.
- 3. The laboratory noted on the Chain-of-Custody record that the samples received on 6/26/01 were mislabeled with 4000-series ID numbers and that the samples should have been labeled with 5000-series IDs. The 5000-series IDs were used to refer to the samples in question in this QA review. As instructed by Battelle personnel, the Environmental Standards data reviewer did not edit the sample identifications on the electronic data deliverables or data tables.

With respect to data usability, the principal areas of concern are blank contamination, laboratory and field duplicate imprecision, low and high MS/MSD recoveries, MS/MSD imprecision, SRM imprecision, low and high blank spike recoveries, and results below the MDL. Based on a rigorous review of the data provided, the following inorganic and wet chemistry data qualifiers are offered. The following data usability issues represent an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the data validation guidelines routinely specify areas of the data that require qualification, yet the methods used for analysis may not require corrective action by the laboratory. Accordingly, the following data usability issues should not be construed as an indication of laboratory performance.

① Not relevant to swallow data packages. PL 5-31-02

Inorganic Data Qualifiers

Due to the trace-level presence of the following compounds in the associated method blanks and/or calibration blanks, the reported positive results for the following compounds in the samples listed below should be considered "not-detected" and have been flagged "U" on the data tables. Furthermore, results that were reported below the sample specific detection limits were replaced with the detection limit and the appropriate "U" qualifier. It should be noted that sample weights were taken into consideration when evaluating blank contamination.

Analyte

Samples With Positive Results Qualified as "Not-Detected" ("U")

chromium

WWS-LB-4001-0000-01F, WWS-LB-4002-0000-01F, LPX-DU-062101-0000-DF, GMP-CF-5001-0000-01, GMP-CF-5002-0000-01, RW/R-CF-5004-0000-01, GMS-CF-4003-0000-01, LPX-CF-4004-0000-01, LPX-CF-4005-0000-01, LPX-CF-4006-0000-01, LPX-CF-4007-0000-01, LPX-CF-4008-0000-01, LPX-CF-4009-0000-01, GMP-LB-5006-0000-01F, RAB-LB-5002-0000-01F, RAB-LB-5003-0000-01F, GMP-LB-5007-0000-01F, GMP-LB-5010-0000-01F, BWP-AE-5001-0000-01, BWP-AE-5002-0000-01, RAB-LB-5003-0000-01F, RAB-AE-5004-0000-01, RAB-LB-5004-0000-01C, RAB-AE-5006-0000-01, LPX-LB-4009-0000-01F, MAP-LB-4003-0000-01F, GMP-LB-5001-0000-01F, GMP-LB-5002-0000-01F, GMP-LB-5003-0000-01F, GMP-LB-5004-0000-01F, GMP-LB-5005-0000-01F, GMP-LB-5009-0000-01F, RAB-LB-5001-0000-01F, and LPX-LB-4006-0000-01C

arsenic

All fish samples, except LPX-WS-4009-0000-01C
All crayfish samples

antimony

GMP-CF-5001-0000-01, RAB-CF-5004-0000-01, GMS-CF-4003-0000-01, LPX-CF-4004-0000-01, all fish samples except LPX-WS-4001-0000-01, LPX-WS-4002-0000-01, LPX-WS-4005-0000-01, LPX-WS-4007-0000-01, LPX-WS-4008-0000-01, LPX-WS-4009-0000-01, LPX-AE-4004-0000-01, LPX-LB-4008-0000-01F, LPX-LB-4008-0000-01C, LPX-DU-062101-0000-DF, LPX-DU-062101-0000-DC, GMP-WS-5001-0000-01, GMP-WS-5002-0000-01, GMP-WS-5003-0000-01, GMP-WS-5004-0000-01, GMP-WS-5005-0000-01, GMP-WS-5006-0000-01, GMP-WS-5007-0000-01, GMP-WS-5008-0000-01, GMP-WS-5009-0000-01, GMP-WS-5010-0000-01, GMP-AE-5001-0000-01, GMP-AE-5002-0000-01, GMP-AE-5003-0000-01, GMP-AE-5004-0000-01, GMP-AE-5005-0000-01, and GMP-AE-5006-0000-01

barium

LPX-LB-4006-0000-01F, MAP-LB-4002-0000-01F, MAP-LB-4003-0000-01F, GMP-LB-5002-0000-01F, GMP-LB-5003-0000-01F, GMP-LB-5005-0000-01F, GMP-LB-5006-0000-01F, GMP-LB-5007-0000-01F, GMP-LB-5010-0000-01F, LPX-LB-4009-0000-01F, RAB-LB-5001-0000-01F, RAB-LB-5003-0000-01F, and RAB-LB-5004-0000-01F

⓪ Not relevant to swallow data packages. R 5-31-02

Analyte Samples With Positive Results Qualified as "Not-Detected" ("U")

mercury

APC-AE-4001-0000-01, APC-AE-4002-0000-01, APC-AE-4003-0000-01, APC-AE-4004-0000-01, APC-DU-062101-0000-01, APC-AE-4005-0000-01, APC-AE-4006-0000-01, APC-AE-4009-0000-01, APC-AE-4010-0000-01, APC-WS-4001-0000-01, APC-WS-4002-0000-01, APC-WS-4003-0000-01, APC-WS-4004-0000-01, APC-WS-4005-0000-01, APC-WS-4006-0000-01, APC-WS-4007-0000-01, APC-WS-4008-0000-01, APC-DU-062101-0000-4, APC-WS-4009-0000-01, APC-WS-4010-0000-01, LPX-WS-4003-0000-01, LPX-WS-4004-0000-01, LPX-WS-4005-0000-01, LPX-DU-062101-A, LPX-AE-4001-0000-01, LPX-AE-4002-0000-01, LPX-AE-4003-0000-01, LPX-AE-4004-0000-01, LPX-AE-4005-0000-01, LPX-AE-4006-0000-01, LPX-AE-4007-0000-01, LPX-AE-4008-0000-01, LPX-AE-4009-0000-01, LPX-AE-4010-0000-01, LPX-LB-4001-0000-01, LPX-LB-4002-0000-01, LPX-LB-4003-0000-01, LPX-LB-4004-0000-01, LPX-LB-4005-0000-01, LPX-LB-4006-0000-01, LPX-LB-4007-0000-01, LPX-LB-4008-0000-01, LPX-LB-4009-0000-01, LPX-LB-4010-0000-01, LPX-LB-4001-0000-01, LPX-LB-4002-0000-01, LPX-LB-4003-0000-01, LPX-LB-4004-0000-01, LPX-LB-4005-0000-01, LPX-LB-4006-0000-01, LPX-LB-4007-0000-01, RAB-LB-5004-0000-01, MAP-LB-4001-0000-01, MAP-LB-4002-0000-01, MAP-LB-4003-0000-01, RAB-BB-5005-01, A-TS-49-L, G-TS-02-L, G-TS-22-L, G-TS-29-L, L-TS-62-L, L-TS-84-L, L-TS-89-L, and all crayfish samples.

chromium

APC-WS-4009-0000-01, APC-WS-4010-0000-01, LPX-WS-4003-0000-01, LPX-WS-4004-0000-01, LPX-DU-062101-A, LPX-AE-4001-0000-01, LPX-AE-4002-0000-01, LPX-AE-4003-0000-01, GMP-LB-5002-0000-01F, GMP-LB-5003-0000-01F, GMP-LB-5003-0000-10, GMP-LB-5004-0000-01F, GMP-LB-5004-0000-010, GMP-LB-5005-0000-01F, GMP-LB-5005-0000-010, GMP-LB-5006-0000-01F, GMP-LB-5006-0000-010, GMP-LB-5007-0000-01F, LPX-AE-4005-0000-01, LPX-DU-062101-B, LPX-AE-4006-0000-01, LPX-AE-4007-0000-01, LPX-AE-4008-0000-01, LPX-AE-4009-0000-01, LPX-AE-4010-0000-01, LPX-LB-4001-0000-01F, LPX-LB-4001-0000-010, LPX-LB-4002-0000-01F, LPX-LB-4002-0000-010, LPX-LB-4003-0000-01F, LPX-LB-4004-0000-01F, LPX-LB-4004-0000-010, LPX-DU-062101-0000-CF, LPX-DU-062101-0000-CO, LPX-LB-4005-0000-01F, LPX-LB-4005-0000-010, LPX-LB-4006-0000-01F, LPX-LB-4006-0000-010, LPX-LB-4007-0000-01F, LPX-LB-4007-0000-010, LPX-LB-4008-0000-01F, LPX-DU-062101-0000-DF, GMP-WS-5003-0000-01, GMP-WS-5005-0000-01, GMP-WS-5008-0000-01, GMP-WS-5009-0000-01, GMP-AE-5001-0000-01, GMP-AE-5002-0000-01, GMP-AE-5003-0000-01, GMP-AE-5006-0000-01, GMP-AE-5007-0000-01, GMP-AE-5008-0000-01, GMP-AE-5009-0000-01, GMP-LB-5001-0000-01F, GMP-LB-5007-0000-010, GMP-LB-5008-0000-01F, GMP-LB-5008-0000-010, GMP-LB-5009-0000-01F, RAB-AE-5004-0000-01, RAB-AE-5005-0000-01, MAP-LB-4002-0000-01F, RAB-AE-5006-0000-01, GMP-CF-5001-0000-01, RAB-CF-5004-0000-01, and LPX-CF-4004-0000-01

iron

GMP-LB-5003-0000-01F, GMP-LB-5004-0000-01F, RAB-LB-5003-0000-01F, RAB-LB-5004-0000-01F

Not relevant to swallow data packages. BL 5-31-02

Analyte Samples With Positive Results Qualified as "Not-Detected" ("U")

lead

APC-AE-4008-0000-01, APC-WS-4002-0000-01, APC-WS-4003-0000-01, APC-WS-4004-0000-01, APC-WS-4007-0000-01, GMP-LB-5001-0000-01F, GMP-LB-5002-0000-01F, GMP-LB-5003-0000-01F, GMP-LB-5004-0000-01F, GMP-LB-5006-0000-01F, GMP-LB-5007-0000-01F, GMP-LB-5008-0000-01F, GMP-LB-5009-0000-01F, GMP-LB-5010-0000-01F, LPX-LB-4009-0000-01F, RAB-LB-5001-0000-01F, RAB-LB-5002-0000-01F, RAB-LB-5003-0000-01F, RAB-LB-5003-0000-01O, RAB-LB-5004-0000-01F, MAP-LB-4002-0000-01F, MAP-LB-4003-0000-01F, RAB-AE-5006-0000-01, and GMP-LB-5005-0000-01F

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GMP-LB-5001-0000-01, GMP-LB-5002-0000-01, GMP-LB-5003-0000-01, GMP-LB-5003-0000-01O, GMP-LB-5004-0000-01F, GMP-LB-5004-0000-01O, GMP-LB-5005-0000-01F, GMP-LB-5005-0000-01O, GMP-LB-5006-0000-01F, GMP-LB-5006-0000-01O, GMP-LB-5007-0000-01F, GMP-LB-5007-0000-01O, GMP-LB-5008-0000-01F, GMP-LB-5008-0000-01O, GMP-LB-5009-0000-01F, LPX-LB-4009-0000-01F, RAB-LB-5003-0000-01F, and MAP-LB-4003-0000-01F

selenium

LPX-LB-4008-0000-01F, LPX-LB-4008-0000-01O, LPX-DU-062101-0000-DF, GMP-WS-5001-0000-01, GMP-WS-5002-0000-01, GMP-WS-5003-0000-01, GMP-WS-5004-0000-01, GMP-WS-5005-0000-01, GMP-WS-5006-0000-01, GMP-WS-5007-0000-01, GMP-WS-5008-0000-01, GMP-WS-5009-0000-01, GMP-WS-5010-0000-01, GMP-AE-5001-0000-01, GMP-AE-5002-0000-01, GMP-AE-5003-0000-01, GMP-AE-5004-0000-01, GMP-AE-5005-0000-01, GMP-AE-5006-0000-01, RAB-LB-5004-0000-01O, RAB-AE-5004-0000-01, RAB-AE-5005-0000-01, MAP-LB-4001-0000-01F, MAP-LB-4001-0000-01O, MAP-LB-4002-0000-01F, MAP-LB-4002-0000-01O, MAP-LB-4003-0000-01F, MAP-LB-4003-0000-01O, RAB-BB-5003-0000-01, RAB-AE-5006-0000-01, DYP-AE-5001-0000-01, DYP-AE-5002-0000-01, DYP-AE-5003-0000-01, GMP-LB-5003-0000-01F, GMP-LB-5006-0000-01F, and GMP-LB-5007-0000-01F

cadmium

LPX-LB-4001-0000-01F, LPX-LB-4002-0000-01F, LPX-LB-4003-0000-01F, LPX-LB-4004-0000-01F, LPX-DU-062101-0000-DF, LPX-LB-4005-0000-01F, LPX-LB-4006-0000-01F, LPX-LB-4007-0000-01F, GMP-LB-5001-0000-01F, GMP-LB-5002-0000-01F, GMP-LB-5003-0000-01F, GMP-LB-5004-0000-01F, GMP-LB-5005-0000-01F, GMP-LB-5006-0000-01F, GMP-LB-5007-0000-01F, GMP-LB-5009-0000-01F, GMP-LB-5010-0000-01F, LPX-LB-4009-0000-01F, RAB-LB-5001-0000-01F, RAB-LB-5002-0000-01F, MAP-LB-4001-0000-01F, and MAP-LB-4003-0000-01F

① Not relevant to swallow data packages. BL 5-31-02

Analyte Samples With Positive Results Qualified as "Not-Detected" ("U")

mercury

LPX-AE-4007-0000-01, LPX-AE-4008-0000-01, LPX-AE-4009-0000-01, LPX-AE-4010-0000-01, LPX-LB-4001-0000-01F, LPX-LB-4001-0000-01O, LPX-LB-4002-0000-01F, LPX-LB-4002-0000-01O, LPX-LB-4003-0000-01F, LPX-LB-4003-0000-01O, LPX-LB-4004-0000-01F, LPX-LB-4004-0000-01O, LPX-DU-062101-0000-CF, LPX-DU-062101-0000-CO, LPX-LB-4005-0000-01F, LPX-LB-4005-0000-01O, LPX-LB-4006-0000-01F, LPX-LB-4006-0000-01O, LPX-LB-4007-0000-01F, LPX-LB-4007-0000-01O, GMP-AE-5002-0000-01, GMP-AE-5004-0000-01, GMP-AE-5005-0000-01, and GMP-AE-5006-0000-01

APC-AE-4001-0000-01, APC-AE-4002-0000-01, APC-AE-4003-0000-01, APC-AE-4005-0000-01, APC-AE-4006-0000-01, APC-AE-4007-0000-01, APC-AE-4008-0000-01, APC-AE-4009-0000-01, APC-AE-4010-0000-01, APC-WS-4001-0000-01, APC-WS-4002-0000-01, APC-WS-4003-0000-01, APC-WS-4004-0000-01, APC-WS-4005-0000-01, APC-WS-4006-0000-01, APC-WS-4007-0000-01, GMP-AE-5008-0000-01, GMP-AE-5009-0000-01, GMP-LB-5001-0000-01F, GMP-LB-5001-0000-01O, GMP-LB-5002-0000-01F, GMP-LB-5002-0000-01O, GMP-LB-5003-0000-01F, GMP-LB-5003-0000-01O, GMP-LB-5004-0000-01F, GMP-LB-5004-0000-01O, GMP-LB-5005-0000-01F, GMP-LB-5005-0000-01O, GMP-LB-5006-0000-01F, GMP-LB-5006-0000-01O, GMP-LB-5007-0000-01F, GMP-LB-5007-0000-01O, GMP-LB-5008-0000-01F, GMP-LB-5008-0000-01O, GMP-LB-5009-0000-01F, GMP-LB-5009-0000-01O, GMP-LB-5010-0000-01F, GMP-LB-5010-0000-01O, GMP-AE-5010-0000-01, LPX-LB-4009-0000-01F, LPX-LB-4009-0000-01O, LPX-LB-4010-0000-01F, LPX-LB-4010-0000-01O, RAB-LB-5001-0000-01F, RAB-LB-5001-0000-01O, RAB-LB-5002-0000-01F, RAB-LB-5002-0000-01O, LPX-AE-4001-0000-01, LPX-AE-4002-0000-01, LPX-AE-4003-0000-01, LPX-DU-062101-B, LPX-AE-4006-0000-01, LPX-AE-4007-0000-01, LPX-AE-4008-0000-01, LPX-AE-4009-0000-01, LPX-AE-4010-0000-01, LPX-LB-4001-0000-01F, LPX-LB-4002-0000-01F, LPX-LB-4003-0000-01F, LPX-LB-4004-0000-01F, LPX-DU-062101-0000-CF, LPX-LB-4005-0000-01F, LPX-LB-4006-0000-01F, LPX-LB-4007-0000-01O, LPX-LB-4008-0000-01F, LPX-LB-4008-0000-01O, LPX-DU-062101-0000-DF, LPX-DU-062101-0000-CO, RAB-BB-5001-0000-01, RAB-BB-5002-0000-01, RAB-AE-5001-0000-01, RAB-AE-5002-0000-01, RAB-AE-5003-0000-01, RAB-LB-5003-0000-01F, RAB-LB-5003-0000-01O, RAB-LB-5004-0000-01F, RAB-AE-5004-0000-01, GMP-WS-5001-0000-01, GMP-WS-5002-0000-01, GMP-WS-5003-0000-01, GMP-WS-5004-0000-01, GMP-WS-5005-0000-01, GMP-WS-5006-0000-01, GMP-WS-5007-0000-01, GMP-WS-5008-0000-01, GMP-WS-5009-0000-01, GMP-WS-5010-0000-01, GMP-AE-5001-0000-01, GMP-AE-5002-0000-01, GMP-AE-5003-0000-01, GMP-AE-5004-0000-01, GMP-AE-5005-0000-01, GMP-AE-5006-0000-01, GMP-AE-5006-0000-01, GMP-AE-5007-0000-01, RAB-LB-5005-0000-01, RAB-LB-4001-0000-01F, MAT-LB-1002-0000-01F, MAT-LB-1003-0000-01, RAB-AE-5006-0000-01, DYP-AE-5001-0000-01, DYP-WS-5002-0000-01, and DYP-AE-5003-0000-01

Not relevant to swallow cloth packages. BL 5-31-02

Analyte Samples With Positive Results Qualified as "Not-Detected" ("U")

thallium

APC-AE-4001-0000-01, APC-AE-4002-0000-01, APC-AE-4003-0000-01,
 APC-AE-4004-0000-01, APC-DU-062101-0000-B, APC-AE-4005-0000-01,
 APC-AE-4006-0000-01, APC-AE-4007-0000-01, APC-AE-4008-0000-01,
 APC-AE-4009-0000-01, APC-AE-4010-0000-01, APC-WS-4001-0000-01,
 APC-WS-4002-0000-01, APC-WS-4003-0000-01, APC-WS-4004-0000-01,
 APC-WS-4005-0000-01, APC-WS-4006-0000-01, APC-WS-4007-0000-01,
 APC-WS-4008-0000-01, APC-DU-062101-0000-4, APC-WS-4009-0000-01,
 APC-WS-4010-0000-01, LPX-WS-4001-0000-01, LPX-WS-4002-0000-01,
 LPX-WS-4003-0000-01, LPX-WS-4004-0000-01, LPX-WS-4005-0000-01,
 LPX-DU-062101-A, LPX-WS-4006-0000-01, LPX-WS-4007-0000-01,
 LPX-WS-4008-0000-01, LPX-WS-4009-0000-01, LPX-WS-4010-0000-01,
 LPX-AE-4001-0000-01, LPX-AE-4002-0000-01, LPX-AE-4003-0000-01,
 LPX-AE-4004-0000-01, LPX-AE-4005-0000-01, LPX-DU-062101-B,
 LPX-AE-4006-0000-01, GMP-AE-5010-0000-01, RAB-BB-5001-0000-01,
 RAB-AE-5003-0000-01, RAB-AE-5005-0000-01, MAP-LB-4002-0000-01F,
 MAP-LB-4003-0000-01F, RAB-BB-5003-0000-01, RAB-AE-5006-0000-01,
 DYP-AE-5001-0000-01, DYP-AE-5002-0000-01, DYP-AE-5003-0000-01,
 GMP-WS-5001-0000-01, GMP-WS-5006-0000-01, GMP-WS-5010-0000-01,
 CMS-CF-4006-0000-01, CMS-CF-4006-0000-01, and LPX-CF-4002-0000-01

silver

APC-DU-062101-0000-B, APC-AE-4005-0000-01, APC-AE-4007-0000-01,
 APC-AE-4008-0000-01, APC-AE-4010-0000-01, APC-WS-4001-0000-01,
 APC-WS-4002-0000-01, APC-WS-4003-0000-01, APC-WS-4004-0000-01,
 APC-WS-4005-0000-01, GMP-AE-5004-0000-01, GMP-AE-5005-0000-01,
 GMP-AE-5006-0000-01, GMP-AE-5007-0000-01, GMP-AE-5008-0000-01,
 GMP-AE-5009-0000-01, GMP-LB-5001-0000-01F, GMP-LB-5001-0000-01O,
 GMP-LB-5002-0000-01F, GMP-LB-5002-0000-01O, GMP-LB-5003-0000-01F,
 GMP-LB-5003-0000-01O, GMP-LB-5004-0000-01F, GMP-LB-5004-0000-01O,
 GMP-LB-5005-0000-01F, GMP-LB-5005-0000-01O, GMP-LB-5006-0000-01O,
 GMP-LB-5007-0000-01F, GMP-LB-5007-0000-01O, GMP-LB-5008-0000-01F,
 GMP-LB-5008-0000-01O, GMP-LB-5009-0000-01F, MAP-LB-4003-0000-01F,
 MAP-LB-4003-0000-01O, RAB-BB-5003-0000-01, RAB-AE-5006-0000-01,
 DYP-AE-5001-0000-01, DYP-AE-5002-0000-01, DYP-AE-5003-0000-01,
 RAB-LB-5001-0000-01O, RAB-AE-5004-0000-01, RAB-AE-5005-0000-01,
 MAP-LB-4001-0000-01F, MAP-LB-4001-0000-01O, MAP-LB-4002-0000-01F,
 MAP-LB-4002-0000-01O, LPX-AE-4007-0000-01, LPX-AE-4008-0000-01,
 LPX-AE-4009-0000-01, LPX-AE-4010-0000-01, LPX-LB-4001-0000-01F,
 LPX-LB-4001-0000-01O, LPX-LB-4002-0000-01F, LPX-LB-4002-0000-01O,
 LPX-LB-4003-0000-01F, LPX-LB-4003-0000-01O, LPX-LB-4004-0000-01F,
 LPX-LB-4004-0000-01O, LPX-DU-062101-0000-01, LPX-DU-062101-0000-01O,
 LPX-LB-4005-0000-01F, LPX-LB-4005-0000-01O, LPX-LB-4006-0000-01F,
 LPX-LB-4006-0000-01O, LPX-LB-4007-0000-01F, LPX-LB-4007-0000-01O,
 LPX-DU-062101-0000-01, LPX-DU-062101-0000-01O, LPX-WS-4001-0000-01,
 GMP-WS-5001-0000-01, GMP-WS-5002-0000-01, GMP-WS-5003-0000-01,
 GMP-WS-5004-0000-01, GMP-WS-5005-0000-01, GMP-WS-5006-0000-01,
 GMP-WS-5007-0000-01, GMP-WS-5008-0000-01, GMP-WS-5009-0000-01,

Not relevant to swallow data packages. BL 5-31-02

Samples With Qualified Detection Limits ("UJ")
or Estimated Positive Results ("J")

Analyte

allantoin

APC-AE-4001-0000-01, APC-AE-4002-0000-01, APC-AE-4003-0000-01, APC-AE-4004-0000-01, APC-AE-4005-0000-01, APC-AE-4006-0000-01, APC-AE-4007-0000-01, APC-AE-4008-0000-01, APC-AE-4009-0000-01, APC-AE-4010-0000-01, APC-WS-4001-0000-01, APC-WS-4002-0000-01, APC-WS-4003-0000-01, APC-WS-4004-0000-01, APC-WS-4005-0000-01, APC-WS-4006-0000-01, APC-WS-4007-0000-01, APC-WS-4008-0000-01, APC-WS-4009-0000-01, APC-WS-4010-0000-01, and all grayfish samples, and all mussel samples.

selenium

LPX-AE-4007-0000-01, LPX-AE-4008-0000-01, LPX-AE-4009-0000-01, LPX-AE-4010-0000-01, LPX-LB-4001-0000-01F, LPX-LB-4001-0000-01O, LPX-LB-4002-0000-01F, LPX-LB-4002-0000-01O, LPX-LB-4003-0000-01F, LPX-LB-4003-0000-01O, LPX-LB-4004-0000-01F, LPX-LB-4004-0000-01O, LPX-DU-062101-0000-CF, LPX-DU-062101-0000-CO, LPX-LB-4005-0000-01F, LPX-LB-4005-0000-01O, LPX-LB-4006-0000-01F, LPX-LB-4006-0000-01O, LPX-LB-4007-0000-01F, LPX-LB-4007-0000-01O, LPX-LB-4008-0000-01F, LPX-LB-4008-0000-01O, LPX-DU-062101-0000-DF, LPX-DU-062101-0000-DO, GMP-WS-5001-0000-01, GMP-WS-5002-0000-01, GMP-WS-5003-0000-01, GMP-WS-5004-0000-01, GMP-WS-5005-0000-01, GMP-WS-5006-0000-01, GMP-WS-5007-0000-01, GMP-WS-5008-0000-01, GMP-WS-5009-0000-01, GMP-WS-5010-0000-01, GMP-AE-5001-0000-01, GMP-AE-5002-0000-01, GMP-AE-5003-0000-01, GMP-AE-5004-0000-01, GMP-AE-5005-0000-01, GMP-AE-5006-0000-01, GMP-LB-5009-0000-01O, GMP-LB-5010-0000-01F, GMP-LB-5010-0000-01O, GMP-AE-5010-0000-01, LPX-LB-4009-0000-01F, LPX-LB-4009-0000-01O, LPX-4010-0000-01F, LPX-4010-0000-01O, RAB-LB-5001-0000-01F, RAB-LB-5001-0000-01O, RAB-LB-5002-0000-01F, RAB-LB-5002-0000-01O, RAB-BB-5001-0000-01, RAB-BB-5002-0000-01, RAB-AE-5001-0000-01, RAB-AE-5002-0000-01, RAB-AE-5003-0000-01, RAB-LB-5003-0000-01F, RAB-LB-5003-0000-01O, and RAB-LB-5004-0000-01F

The reported positive results for the following analytes in the samples listed below should be considered estimated and have been flagged "J" (unless previously flagged "U") on the data tables. High %Ds (>25%), couple with a bias towards higher recoveries, were obtained between the observed and true concentrations of these analytes in the associated SRM analyses.

① Not relevant to jawallaw data packages, BL 5-11-02

Analyte(s)

Samples With Estimated Positive Results ("J")

~~aluminum, selenium, and lead~~

~~All tissue samples and all water samples~~

lead

APC-WS-4009-0000-01, APC-WS-4010-0000-01, LPX-WS-4001-0000-01, LPX-WS-4002-0000-01, LPX-WS-4003-0000-01, LPX-WS-4004-0000-01, LPX-WS-4005-0000-01, LPX-DU-062101-A, LPX-WS-4006-0000-01, LPX-WS-4007-0000-01, LPX-WS-4008-0000-01, LPX-WS-4009-0000-01, LPX-WS-4010-0000-01, LPX-AE-4001-0000-01, LPX-AE-4002-0000-01, LPX-AE-4003-0000-01, LPX-AE-4004-0000-01, LPX-AE-4005-0000-01, LPX-DU-062101-B, LPX-AE-4006-0000-01, GMP-LB-5010-0000-01F, LMP-LB-4009-0000-01F, RAB-LB-5001-0000-01F, RAB-LB-5002-0000-01F, RAB-LB-5003-0000-01F, RAB-LB-5004-0000-01F, GMP-LB-5009-0000-01O, GMP-LB-5010-0000-01O, GMP-AE-5010-0000-01, LPX-LB-4009-0000-01O, LPX-LB-4010-0000-01F, LPX-LB-4010-0000-01O, RAB-LB-5001-0000-01O, RAB-LB-5002-0000-01O, RAB-BB-5001-0000-01, RAB-BB-5002-0000-01, RAB-AE-5001-0000-01, RAB-AE-5002-0000-01, RAB-AE-5003-0000-01, and RAB-LB-5003-0000-01O

~~lead, iron, and zinc~~

~~LPX-AE-4007-0000-01, LPX-AE-4008-0000-01, LPX-AE-4009-0000-01, LPX-AE-4010-0000-01, LPX-LB-4001-0000-01F, LPX-LB-4001-0000-01O, LPX-LB-4002-0000-01F, LPX-LB-4002-0000-01O, LPX-LB-4003-0000-01F, LPX-LB-4003-0000-01O, LPX-LB-4004-0000-01F, LPX-LB-4004-0000-01O, LPX-LB-4005-0000-01F, LPX-LB-4005-0000-01O, LPX-LB-4006-0000-01F, LPX-LB-4006-0000-01O, LPX-LB-4007-0000-01F, and LPX-LB-4007-0000-01O~~

~~aluminum and chromium~~

~~All tissue samples~~

The detection limits for the following analytes in the samples listed below may be higher than reported, and the "not-detected" results have been flagged "UJ" on the data tables. In addition, any reported positive results for these analytes in the samples listed below should be considered estimated and have been flagged "J" (unless previously flagged "U") on the data tables. Low recoveries (<70%) and/or high RPDs (>30%) were observed for these analytes in the associated MS/MSD analyses.

① Not relevant to swallow data packages. BL 5-31-02

Samples With Biased Detection Limits ("UJ")
or Estimated Positive Results ("J")

Analyte
manganese

APC-AE-4001-0000-01, APC-AE-4002-0000-01, APC-AE-4003-0000-01,
APC-AE-4004-0000-01, APC-DU-062001-0000-B, APC-AE-4005-0000-01,
APC-AE-4006-0000-01, APC-AE-4008-0000-01, APC-AE-4009-0000-01,
APC-AE-4010-0000-01, APC-WS-4001-0000-01, APC-WS-4002-0000-01,
APC-WS-4003-0000-01, APC-WS-4004-0000-01, APC-WS-4005-0000-01,
APC-WS-4006-0000-01, APC-WS-4007-0000-01, APC-WS-4008-0000-01,
and APC-DU-062101-0000-4

mercury

GMP-AE-5007-0000-01, GMP-AE-5008-0000-01, GMP-AE-5009-0000-01,
GMP-LB-5001-0000-01F, GMP-LB-5001-0000-01O, GMP-LB-5002-0000-01F,
GMP-LB-5002-0000-01O, GMP-LB-5003-0000-01F, GMP-LB-5003-0000-01O,
GMP-LB-5004-0000-01F, GMP-LB-5004-0000-01O, GMP-LB-5005-0000-01F,
GMP-LB-5005-0000-01O, GMP-LB-5006-0000-01F, GMP-LB-5006-0000-01O,
GMP-LB-5007-0000-01F, GMP-LB-5007-0000-01O, GMP-LB-5008-0000-01F,
GMP-LB-5008-0000-01O, GMP-LB-5009-0000-01F, GMP-LB-5009-0000-01O,
GMP-LB-5010-0000-01F, GMP-LB-5010-0000-01O, GMP-AE-5010-0000-01,
LPX-LB-4009-0000-01F, LPX-LB-4009-0000-01O, LPX-LB-4010-0000-01F,
LPX-LB-4010-0000-01O, RAB-LB-5001-0000-01F, RAB-LB-5001-0000-01O,
RAB-LB-5002-0000-01F, RAB-LB-5002-0000-01O, RAB-BB-5002-0000-01,
RAB-AE-5001-0000-01, RAB-AE-5002-0000-01, RAB-AE-5003-0000-01,
RAB-LB-5003-0000-01F, and RAB-LB-5004-0000-01F

zinc

LPX-AE-4007-0000-01, LPX-AE-4008-0000-01, LPX-AE-4009-0000-01,
LPX-AE-4010-0000-01, LPX-LB-4001-0000-01F, LPX-LB-4001-0000-01O,
LPX-LB-4002-0000-01F, LPX-LB-4002-0000-01O, LPX-LB-4003-0000-01F,
LPX-LB-4003-0000-01O, LPX-LB-4004-0000-01F, LPX-LB-4004-0000-01O,
LPX-DU-062101-0000-CF, LPX-DU-062101-0000-CO, LPX-LB-4005-0000-01F,
LPX-LB-4005-0000-01O, LPX-LB-4006-0000-01F, LPX-LB-4006-0000-01O,
LPX-LB-4007-0000-01F, and LPX-LB-4007-0000-01O

beryllium,
aluminum,
vanadium,
barium,
chromium,
and selenium

All grayish samples

Not relevant to swallow data packages. BL 5-31-02

Samples With Biased Detection Limits ("U")
or Estimated Positive Results ("J")

Analyte

selenium

LPX-LB-4008-0000-01F, LPX-LB-4008-0000-01O, LPX-DU-062101-0000-DF,
LPX-DU-062101-0000-DO, GMP-WS-5001-0000-01, GMP-WS-5003-0000-01,
GMP-WS-5004-0000-01, GMP-WS-5005-0000-01, GMP-WS-5006-0000-01,
GMP-WS-5007-0000-01, GMP-WS-5008-0000-01, GMP-WS-5009-0000-01,
GMP-WS-5010-0000-01, GMP-AE-5002-0000-01, GMP-AE-5003-0000-01,
GMP-AE-5004-0000-01, GMP-AE-5005-0000-01, GMP-AE-5006-0000-01,
RAB-LB-5004-0000-01O, RAB-AE-5004-0000-01, RAB-AE-5005-0000-01,
MAP-LB-4001-0000-01F, MAP-LB-4001-0000-01O, MAP-LB-4002-0000-01F,
MAP-LB-4002-0000-01O, MAP-LB-4003-0000-01F, MAP-LB-4003-0000-01O,
RAB-BB-5003-0000-01, RAB-AE-5006-0000-01, DYP-AE-5001-0000-01,
DYP-AE-5002-0000-01, and DYP-AE-5003-0000-01

vanadium

GMP-AE-5007-0000-01, GMP-AE-5008-0000-01, GMP-AE-5009-0000-01,
GMP-LB-5001-0000-01F, GMP-LB-5001-0000-01O, GMP-LB-5002-0000-01F,
GMP-LB-5002-0000-01O, GMP-LB-5003-0000-01F, GMP-LB-5003-0000-01O,
GMP-LB-5004-0000-01F, GMP-LB-5004-0000-01O, GMP-LB-5006-0000-01F,
GMP-LB-5006-0000-01O, GMP-LB-5007-0000-01F, GMP-LB-5007-0000-01O,
GMP-LB-5008-0000-01F, GMP-LB-5008-0000-01O,
GMP-LB-5009-0000-01F, GMP-LB-5009-0000-01O, GMP-LB-5010-0000-01F,
GMP-LB-5010-0000-01O, GMP-AE-5010-0000-01, LPX-LB-4009-0000-01F,
LPX-LB-4009-0000-01O, LPX-LB-4010-0000-01F, LPX-LB-4010-0000-01O,
RAB-LB-5001-0000-01F, RAB-LB-5001-0000-01O, RAB-LB-5002-0000-01F,
RAB-LB-5002-0000-01O, RAB-BB-5001-0000-01, RAB-BB-5002-0000-01,
RAB-AE-5001-0000-01, RAB-AE-5002-0000-01, RAB-AE-5003-0000-01,
RAB-LB-5003-0000-01O, and RAB-LB-5004-0000-01F

The reported positive results for the following analytes in the samples listed below should be considered estimated and have been flagged "J" (unless previously flagged "U") on the data tables. High recoveries (>130%) and/or high RPDs (>30%) were observed for these analytes in the associated MS/MSD analyses.

Analyte

Samples With Estimated Positive Results ("J")

nickel

GMP-AE-5007-0000-01, GMP-AE-5008-0000-01, GMP-AE-5009-0000-01,
GMP-LB-5001-0000-01F, GMP-LB-5001-0000-01O, GMP-LB-5002-0000-01F,
GMP-LB-5002-0000-01O, GMP-LB-5003-0000-01F, GMP-LB-5003-0000-01O,
GMP-LB-5004-0000-01F, GMP-LB-5004-0000-01O, GMP-LB-5006-0000-01F,
GMP-LB-5006-0000-01O, GMP-LB-5007-0000-01F, GMP-LB-5007-0000-01O,
GMP-LB-5008-0000-01F, GMP-LB-5008-0000-01O, and GMP-LB-5009-0000-01F

copper

LPX-AE-4007-0000-01, LPX-AE-4008-0000-01, LPX-AE-4009-0000-01,
LPX-AE-4010-0000-01, LPX-LB-4001-0000-01F, LPX-LB-4001-0000-01O,
LPX-LB-4002-0000-01F, LPX-LB-4002-0000-01O, LPX-LB-4003-0000-01F, LPX-LB-
4003-0000-01O, LPX-LB-4004-0000-01F, LPX-LB-4004-0000-01O, LPX-DU-062101-
0000-CF, LPX-DU-062101-0000-CO, LPX-LB-4005-0000-01F,
LPX-LB-4005-0000-01O, LPX-LB-4006-0000-01F, LPX-LB-4006-0000-01O, LPX-LB-
4007-0000-01F, and LPX-LB-4007-0000-01O

Not relevant to swinlow data packages. BL 5-31-02

Samples With Qualified Detection Limits ("UJ")
or Estimated Positive Results ("J")

Analyte(s)

silver

LPX-AE-4007-0000-01, LPX-AE-4008-0000-01, LPX-AE-4009-0000-01,
LPX-AE-4010-0000-01, LPX-LB-4001-0000-01F, LPX-LB-4001-0000-01O,
LPX-LB-4002-0000-01F, LPX-LB-4002-0000-01O, LPX-LB-4003-0000-01F,
LPX-LB-4003-0000-01O, LPX-LB-4004-0000-01F, LPX-LB-4004-0000-01O,
LPX-DU-062101-0000-01F, LPX-DU-062101-0000-01O, LPX-LB-4005-0000-01F,
LPX-LB-4005-0000-01O, LPX-LB-4006-0000-01F, LPX-LB-4006-0000-01O,
LPX-LB-4007-0000-01F, and LPX-LB-4007-0000-01O

silver and mercury

GMP-AE-5007-0000-01, GMP-AE-5008-0000-01, GMP-AE-5009-0000-01,
GMP-LB-5001-0000-01F, GMP-LB-5001-0000-01O, GMP-LB-5002-0000-01F,
GMP-LB-5002-0000-01O, GMP-LB-5003-0000-01F, GMP-LB-5003-0000-01O,
GMP-LB-5004-0000-01F, GMP-LB-5004-0000-01O, GMP-LB-5005-0000-01F,
GMP-LB-5005-0000-01O, GMP-LB-5006-0000-01F, GMP-LB-5006-0000-01O,
GMP-LB-5007-0000-01F, GMP-LB-5007-0000-01O, GMP-LB-5008-0000-01F,
GMP-LB-5008-0000-01O, and GMP-LB-5009-0000-01F

The reported positive results for the following analytes in the samples listed below should be considered estimated and have been flagged "J" on the data tables. Large discrepancies were obtained for these analytes in the associated laboratory duplicate analyses.

Analyte

Sample(s) With Estimated Positive Results ("J")

barium

All fish samples except GMP-LB-4004-0000-01O, LPX-LB-4006-0000-01F,
LPX-LB-4010-0000-01O, RAB-AE-5004-0000-01, RAB-AE-5005-0000-01,
RAB-LB-4001-0000-01F, MAP-LB-4001-0000-01O, MAP-LB-4002-0000-01F,
MAP-LB-4002-0000-01O, MAP-LB-4003-0000-01F,
MAP-LB-4003-0000-01O, RAB-BB-5003-0000-01, RAB-AE-5006-0000-01,
DYP-AE-5001-0000-01, DYP-AE-5002-0000-01, and DYP-AE-5003-0000-01

beryllium

All worm samples... ①

copper

APC-AE-4001-0000-01, APC-AE-4002-0000-01, APC-AE-4003-0000-01,
APC-AE-4004-0000-01, APC-DU-062001-0000-B, APC-AE-4005-0000-01,
APC-AE-4006-0000-01, APC-AE-4007-0000-01, APC-AE-4008-0000-01,
APE-AE-4009-0000-01, APC-AE-4010-0000-01, APC-WS-4001-0000-01,
APC-WS-4002-0000-01, APC-WS-4003-0000-01, APC-WS-4004-0000-01,
APC-WS-4005-0000-01, APC-WS-4006-0000-01, APC-WS-4007-0000-01,
APC-DU-062001-0000-A, LPX-LB-4008-0000-01F, LPX-DU-062101-0000-DF,
LPX-DU-062101-0000-DC, GMP-WS-5001-0000-01, GMP-WS-5002-0000-01,
GMP-WS-5005-0000-01, GMP-WS-5004-0000-01, GMP-WS-5005-0000-01,
GMP-WS-5006-0000-01, GMP-WS-5007-0000-01, GMP-WS-5008-0000-01,
GMP-AE-5001-0000-01, GMP-AE-5010-0000-01, GMP-AE-5001-0000-01,
GMP-AE-5002-0000-01, GMP-AE-5003-0000-01, GMP-AE-5004-0000-01,
GMP-AE-5005-0000-01, and GMP-AE-5006-0000-01

① Not relevant to swallow data packages.

BL 5-31-02

Analyte	Sample(s) With Estimated Positive Results ("J")
iron	All crayfish samples
lead	APC-AE-4001-0000-01, APC-AE-4002-0000-01, APC-AE-4003-0000-01, APC-AE-4004-0000-01, APC-DU-062001-0000-B, APC-AE-4005-0000-01, APC-AE-4006-0000-01, APC-AE-4007-0000-01, APC-AE-4008-0000-01, APC-AE-4009-0000-01, APC-AE-4010-0000-01, APC-WS-4001-0000-01, APC-WS-4002-0000-01, APC-WS-4003-0000-01, APC-WS-4004-0000-01, APC-WS-4005-0000-01, APC-WS-4006-0000-01, APC-WS-4007-0000-01, APC-DU-062001-0000-4, LPX-LB-4008-0000-01O
manganese	APC-AE-4001-0000-01, APC-AE-4002-0000-01, APC-AE-4003-0000-01, APC-AE-4004-0000-01, APC-DU-062001-0000-B, APC-AE-4005-0000-01, APC-AE-4006-0000-01, APC-AE-4007-0000-01, APC-AE-4008-0000-01, APC-AE-4009-0000-01, APC-AE-4010-0000-01, APC-WS-4001-0000-01, APC-WS-4002-0000-01, APC-WS-4003-0000-01, APC-WS-4004-0000-01, APC-WS-4005-0000-01, APC-WS-4006-0000-01, APC-WS-4007-0000-01, APC-WS-4008-0000-01, APC-DU-062001-0000-4, LPX-LB-4008-0000-01F, LPX-DU-062101-0000-DF, LPX-DU-062101-0000-DO, GMP-WS-5001-0000-01, GMP-WS-5002-0000-01, GMP-WS-5003-0000-01, GMP-WS-5004-0000-01, GMP-WS-5005-0000-01, GMP-WS-5006-0000-01, GMP-WS-5007-0000-01, GMP-WS-5008-0000-01, GMP-WS-5009-0000-01, GMP-WS-5010-0000-01, GMP-AE-5001-0000-01, GMP-AE-5002-0000-01, GMP-AE-5003-0000-01, GMP-AE-5004-0000-01, GMP-AE-5005-0000-01, GMP-AE-5006-0000-01, GMP-LB-5009-0000-01F, GMP-LB-5009-0000-01O, GMP-LB-5010-0000-01F, GMP-LB-5010-0000-01O, GMP-AE-5010-0000-01, LPX-LB-4009-0000-01F, LPX-LB-4009-0000-01O, LPX-LB-4010-0000-01F, RAB-LB-5001-0000-01F, RAB-LB-5001-0000-01O, RAB-LB-5002-0000-01F, RAB-LB-5002-0000-01O, RAB-BB-5001-0000-01, RAB-BB-5002-0000-01, RAB-AE-5001-0000-01, RAB-AE-5002-0000-01, RAB-AE-5003-0000-01, RAB-LB-5003-0000-01F, RAB-LB-5003-0000-01O, and RAB-LB-5004-0000-01F
zinc	LPX-AE-4007-0000-01, LPX-AE-4008-0000-01, LPX-AE-4009-0000-01, LPX-AE-4010-0000-01, LPX-LB-4001-0000-01F, LPX-LB-4001-0000-01O, LPX-LB-4002-0000-01F, LPX-LB-4002-0000-01O, LPX-LB-4003-0000-01F, LPX-LB-4003-0000-01O, LPX-DU-062101-0000-CF, LPX-DU-062101-0000-CC, LPX-LB-4005-0000-01F, LPX-LB-4005-0000-01O, LPX-LB-4006-0000-01F, LPX-LB-4007-0000-01F, LPX-LB-4007-0000-01O, GMP-AE-5007-0000-01, GMP-AE-5008-0000-01, GMP-AE-5009-0000-01, GMP-LB-5001-0000-01F, GMP-LB-5001-0000-01O, GMP-LB-5002-0000-01F, GMP-LB-5002-0000-01O, GMP-LB-5003-0000-01F, GMP-LB-5003-0000-01O, GMP-LB-5004-0000-01F, GMP-LB-5004-0000-01O, GMP-LB-5005-0000-01F, GMP-LB-5005-0000-01O, GMP-LB-5006-0000-01F, GMP-LB-5006-0000-01O, GMP-LB-5007-0000-01F, GMP-LB-5007-0000-01O, GMP-LB-5008-0000-01F, GMP-LB-5008-0000-01O, and GMP-LB-5009-0000-01F

Ⓢ Not relevant to swallow data packages. PL 5-31-02

- The reported positive results for zinc in all tissue samples should be considered estimated and have been flagged "J" (unless previously flagged "U") on the data tables. Low recoveries (<70%) were observed for these analytes in the associated MS/MSD analyses.
- The reported positive results for iron in all tissue samples should be considered estimated and have been flagged "J" on the data tables. High recoveries (>125%) were observed for these analytes in the associated blank spike analyses.
- Nine field duplicate pairs (sample APC-AE-4004-0000-01 and its field duplicate, sample APC-DU-062001-0000-B; sample APC-WS-4008-0000-01 and its field duplicate, sample APC-DU-062001-0000-4; sample LPX-WS-4005-0000-01 and its field duplicate, sample LPX-DU-062101-A; sample LPX-AE-4005-0000-01 and its field duplicate, sample LPX-DU-062101-B; sample LPX-LB-4004-0000-01F and its field duplicate, sample LPX-DU-062101-0000-CF; sample LPX-LB-4004-0000-01O and its field duplicate, sample LPX-DU-062101-0000-CO; sample LPX-LB-4008-0000-01F and its field duplicate sample LPX-DU-062101-0000-DF; sample LPX-LB-4008-0000-01O and its field duplicate sample LPX-DU-062101-0000-DO; and sample CMS-EW-4001-0000-01 and its field duplicate, sample CMS-DU-072001-A) were submitted to the laboratory with this data set. Acceptable precision and sample representativeness were demonstrated by the reported positive results in these field QC samples with the following exceptions. The detection limits for the following analytes in the samples listed below may be higher than reported, and the "not-detected" results have been flagged "UJ" on the data tables. In addition, any reported positive results for these analytes in the samples listed below should be considered estimated and have been flagged "J" (unless previously flagged "U") on the data tables. Large discrepancies (RPD>40% when both results were $\geq 5 \times$ the MDL or difference >2x the MDL when one or both results was <5x the MDL) were observed between the results for these analytes in the field duplicate analyses. A complete comparison of the field duplicate results is included in Section 3.

Analyte(s)	Samples With Qualified Detection Limits ("UJ") or Estimated Positive Results ("J")
methylmercury and lead	LPX-LB-4008-0000-01O and LPX-DU-062101-0000-DO
aluminum, copper, manganese, and zinc	LPX-LB-4008-0000-01F and LPX-DU-062101-0000-DF

- Based on standard project reporting requirements, all positive results reported with concentrations below the project-required quantitation limits have been flagged "J" (unless previously flagged "U") on the data tables.

① Not relevant to swallow data packages.

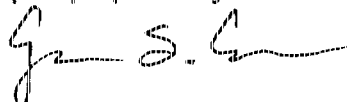
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Complete support documentation for this inorganic QA review is presented in Section 3 of this report. The cover sheet for this section is a checklist of all QA procedures required by the methods and examined in this data review.

B. Conclusions

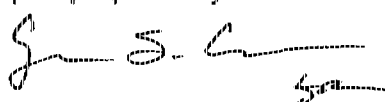
Overall, the data quality is satisfactory. Based on this QA review, several inorganic results were qualified due to blank contamination, laboratory and field duplicate imprecision, low and high MS/MSD recoveries, MS/MSD imprecision, SRM imprecision, low and high blank spike recoveries, and results below the MDL. Overall, the data are acceptable for use, provided the data user understands the limitations and qualifications stated in this QA review. The Laboratory Case Narratives and Chain-of-Custody Records are presented in Sections 4 and 5, respectively.

Report prepared by:



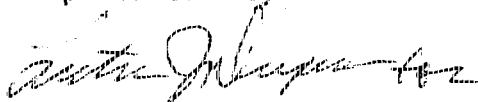
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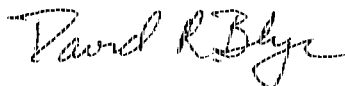
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